



REPORT ON THE 1998 WORK PROGRAM

CAM CLAIMS 1 - 146

084019

LIVINGSTONE AREA

WHITEHORSE MINING DISTRICT, YUKON

NTS 105 E/8

by

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Whitehorse, Yukon

December, 1998

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 29,200 ..

M. Bunker

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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INTRODUCTION:

1998 was the second year of work on the hardrock CAM Claims in the Livingstone placer camp. During 1997, soil sampling along the north rims of the placer creeks produced anomalous gold, copper, and arsenic values in areas where shear zones were expected. It was decided to confine work on the north rims of the creeks because they had little disturbance from placer workings, they would have less overburden than the south sides of the creeks because the glaciers traveled over the area from the south or southeast, and the north side of the creeks face south so would thaw more quickly and have fewer permafrost problems. The shear zones seen on the ground as well as in aerial photographs was confirmed with the use of ground VLF-EM surveys in several areas.

A detailed soil sampling grid with coincident gold, copper, and arsenic values which also contained shear zones confirmed with ground VLF-EM in the area of an old adit on the north side of Livingstone Creek was excavated with a total of 5 bulldozer trenches in early May, 1998. An additional 6 trenches (Ron, Windlass 1 & 2, and Mandy, Mandy West, and Mandy Southwest) were excavated at the same time (See trench drawings). These trenches are in the area of the headwaters of Summit Creek and on the ridge between Summit and Lake Creeks (See CAM Claims, 1998 Work Program – in pocket).

The general prospecting, rock and soil sampling performed during 1998 were chiefly directed at extending the strike lengths of known mineralization further toward the north from the creek rims explored during 1997. Good soil and rock

samples obtained during 1998 resulted in two days of additional bulldozer trenching in late October. One trench was placed over a soil sample having a high gold value (326 ppb.) north of Cottoneva Creek and two trenches were located north of Lake Creek in areas where rock and soil samples had returned high gold values (See trench drawings).

Knowledge of the property was aided by visits from Kennecott, Viceroy, YTG, and DIAND geologists. This report has been prepared to describe the 1998 work program and provide conclusions and recommendations for further work on the CAM Claims.

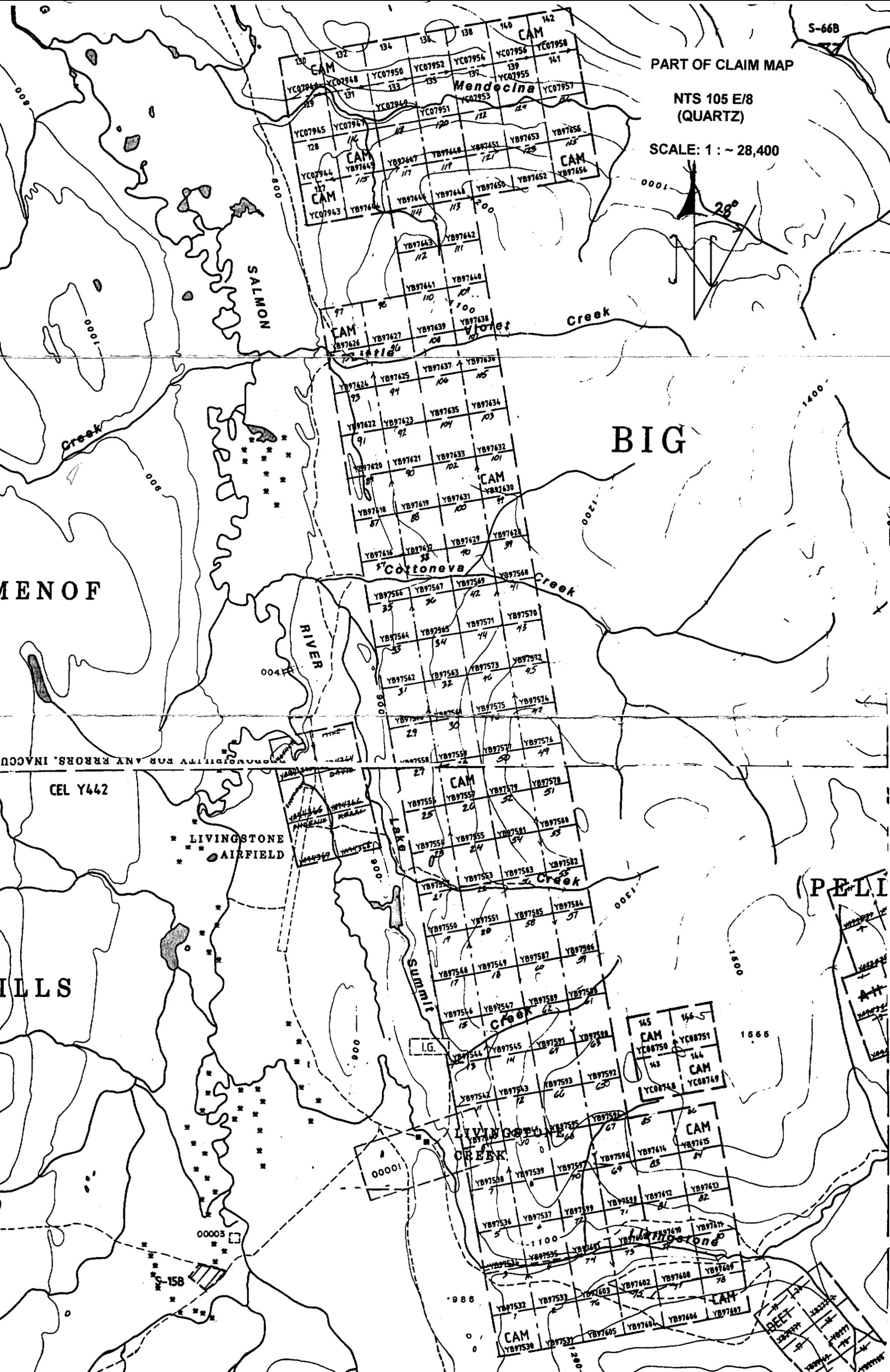
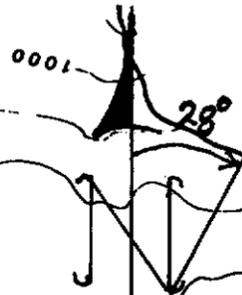
LOCATION, ACCESS AND CLAIMS:

The original 142 CAM Claims were staked in 1997 to cover 5 of the 6 placer creeks which make up the Livingstone placer camp. Mining of these creeks is still occurring 100 years after it first started. The CAM Claims are located on NTS Map Sheet 105 E/8 and are centered at approximately Latitude $61^{\circ} 19' N$; Longitude $134^{\circ} 17' W$ within the Whitehorse Mining District, Yukon (See Part of Claim Map 105 E/8 Quartz). An additional 4 claims were staked just east of the main block in May, 1998. These claims were staked to protect a trench, called the Ron Trench, excavated that month. The trench exposed a segment of a sheared quartz vein containing copper and gold values. The claims are owned 50% each by Larry W. Carlyle and Max Fuerstner of Whitehorse, Yukon.

PART OF CLAIM MAP

NTS 105 E/8
(QUARTZ)

SCALE: 1 : ~ 28,400



MENOF

BIG

RIVER

Cottonova

Creek

LIVINGSTONE
AIRFIELD

HILLS

(PELI

SUNNIT
CREEK

LIVINGSTONE
CREEK

CAM

CEL Y442

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The Livingstone Creek area is accessed by a 75-mile winter road from Lake Laberge. Several air strips exist in the Livingstone area so access is usually via fixed-wing aircraft from Whitehorse; approximately 50 air miles to the south southwest. The main Livingstone air strip is 4000 feet long and has had DC-3 and Caribou aircraft landed on it. The extensive placer mining which has taken place in the area has resulted in cat trails existing up most of the creeks within the claim block. These trails enable easy access to most areas by all-terrain vehicles.

The claims cover areas which extend from the rim extending along the eastern side of the Big Salmon Fault at an elevation of approximately 900 metres (2,950 ft.) to above timberline near the top of the hills above the headwaters of the creeks at an elevation of approximately 1500 metres (4,920 ft.). The claims are on rounded to steeply sloping hills; the creek canyons have the steepest slopes. Vegetation consists of black spruce, pine, willow and buckbrush.

<u>CLAIM NAME</u>	<u>GRANT NUMBERS</u>	<u>EXPIRY DATE</u>
CAM 1 - 126	YB 97530 - YB 97655	May 16, 1999
CAM 127 - 142	YC 07943 - YC 07958	July 22, 1999
CAM 143 - 146	YC 08748 - YC 08751	May 19, 1999

REGIONAL GEOLOGY:

The geology and the placer gold deposits of the Livingstone Creek area were first described by McConnell in 1901. Regional geological mapping was carried out by Cockfield, Lees, and Bostock between 1929 and 1934. This work resulted in Map 372 A being issued in 1936 (See Part of Map 372 A). Most of the camp was mapped as Unit 1, Precambrian quartzite, schists, limestone, gneiss, and greenstone. Along the headwaters of most of the creeks, they mapped a sheared granodiorite as Unit 2. This unit is unique and not found elsewhere on the map sheet. Further east they mapped a large zone of peridotite, hornblende, and serpentine as Unit 10. A small stock of Unit 11, probably a Cretaceous granite, granodiorite, monzonite, or diorite was mapped at the headwaters of Little Violet Creek (See Part of Map 372 A).

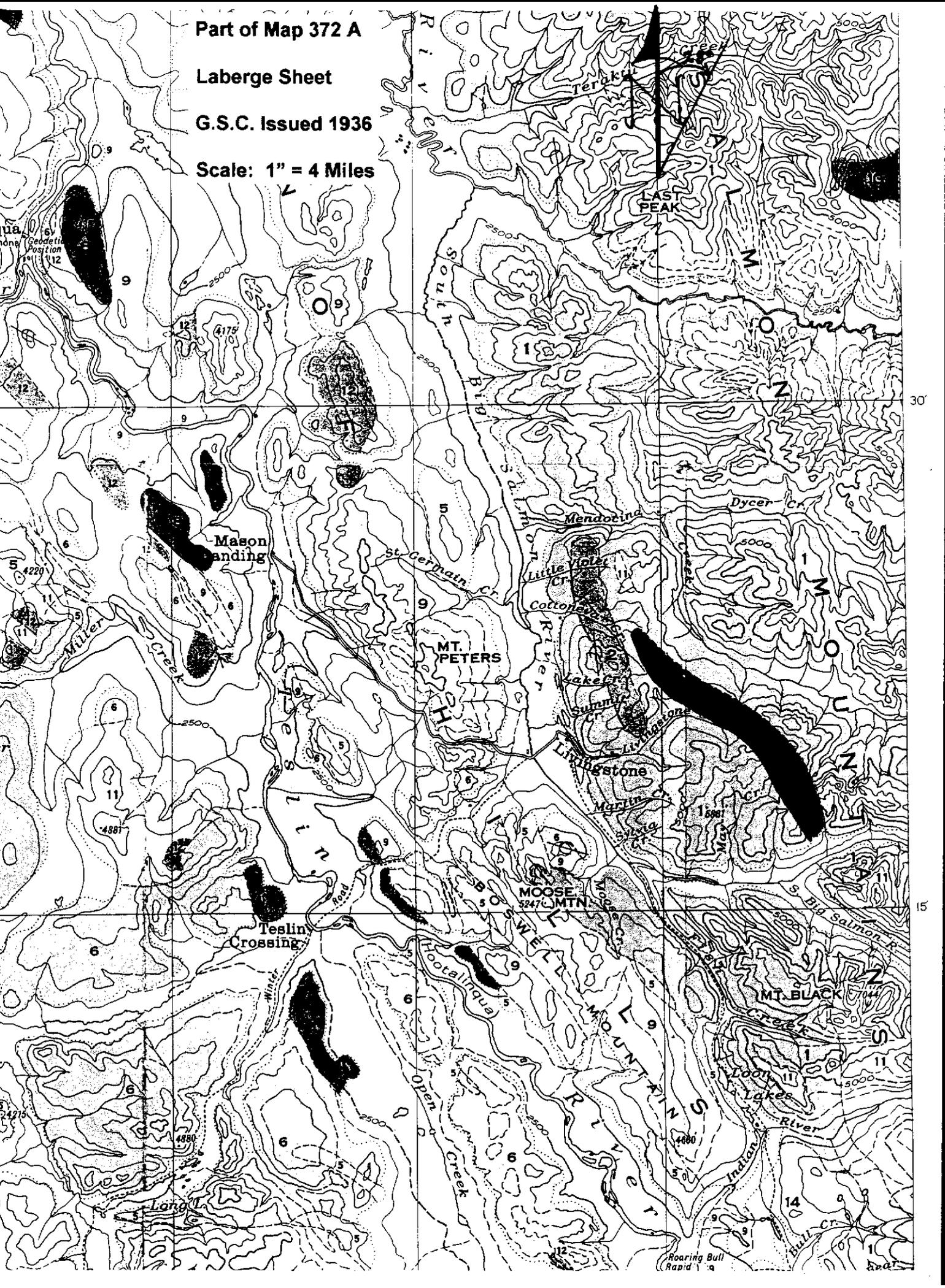
The regional geology was reinterpreted by Tempelman-Kluit in 1977-1979 (See Part of G.S.C. O.F. 1101). This interpretation identified the Big Salmon Fault, down which the South Big Salmon River flows and into which the placer creeks drain. During this mapping, Tempelman-Kluit identified the Teslin Fault (4 - 6 miles west of the Livingstone camp) as the ancient western margin of North America. Tempelman-Kluit obtained more accurate age dating for the rocks of the area; and has mapped most of the rocks as Carboniferous and/or Permian dark green, fine-grained amphibolite and amphibolitic greenstone (CP_{AV}). He has mapped Unit CP_{Ag}, a dioritic to quartz dioritic augen amphibole gneiss, in almost exactly the same location as the Unit 2 from the 1936 map.

Part of Map 372 A

Laberge Sheet

G.S.C. Issued 1936

Scale: 1" = 4 Miles



The rocks west of the Teslin Fault (also known as the Teslin Suture) were pressed against and over the original North America during the Early Cretaceous. His theory postulated that this action would cause the rocks east of the Big Salmon Fault to be raised in reverse faulted thrust blocks.

Tempelman-Kluit's westerly dipping subduction zone with North American rocks in the footwall and accreted arc terrane and oceanic rocks in its hanging wall has been reinterpreted. This reinterpretation, which has been developing from the mid-1980's to 1997, considers the Teslin zone as a zone of ductile thrusting, which includes thrust sheets of North American affinity and accreted rocks that have been complexly folded and displaced northeastward and then folded again. Rather than marking the western limit of rocks of North American origin, the zone is most likely underlain by North American basement that extends westward beneath the Intermontane Belt. Two facts strongly support this model over that of Tempelman-Kluit:

- the same metamorphosed stratigraphies can be traced along a strike length of at least 20 km. This would not be possible in the more chaotic jumble of rock blocks expected from collapsing hangingwall rocks into a subduction zone.
- most of the rocks in the area have green schist or amphibolite grade metamorphism. Rocks in a subduction zone would most probably have eclogite or blue schist grade metamorphism.

In the new model; Devonian-Mississippian granites and Permian intrusives are deformed, while Late Triassic to Early Jurassic plutons are undeformed; this would put the age of deformation and metamorphism between Late Permian and Late Triassic. Proponents of this model, suggest renaming the Teslin Suture

Zone, the Teslin Tectonic Zone. Rocks within the Teslin Tectonic Zone are correlated with sedimentary and volcanic rocks of the Yukon Tanana terrane and oceanic crustal rocks of the Slide Mountain terrane. Yukon Tanana terrane rocks range in age from Devonian to Permian. After their deformation and cooling, the Slide Mountain terrane rocks were emplaced over them along low-angle, post-metamorphic faults. In the Big Salmon Range (just north of Livingstone), the Teslin Tectonic Zone is 20 km. wide. Both Slide Mountain and Yukon Tanana rocks contain steeply dipping fabrics, unlike their counterparts in the rest of the Yukon and Alaska.

The steep north-south striking D'Abbadie fault has generally been taken to represent the eastern margin of the Teslin Zone. It is most probably a narrow zone of brittle deformation reflecting a period of upper crustal normal faulting superimposed on the ductile deformation which had occurred earlier. Last Peak granite has been dated at 98 Ma. and, on the basis of contact and structural relationships, is interpreted to have intruded while the D'Abbadie fault zone was active. Dextral shearing and gentle NW plunging of the stratigraphy are also believed to have occurred at this time.

PROPERTY GEOLOGY:

Rock outcrop is limited on the CAM Claims. Exposure is generally restricted to creek canyons and to west-facing rock bluffs running parallel to the Big Salmon Fault. Outcrop is also frequently found in strong depressions (notches) seen cutting across ridges and extending for considerable distances along the hillsides

above timberline. Most of the rocks seen on the property are metasediments of green schist or amphibolite metamorphic grade. These metasediments are dominated by strongly contorted biotite-chlorite-quartz schist. Some of the schist contains intercalated thin- and medium-bedded quartzite. Small very discontinuous patches of white to grey limestone are located in the area. Caliche is found frequently in fractures and along the bedding or schistosity of the rocks. Aerial magnetometer surveys show a couple of small magnetic highs. The first extends across Livingstone Creek in the area of Sheen's Gulch; the second extends across the lower end of Summit Creek. A ground magnetic survey over the area in Livingstone Creek showed the source to be a chlorite schist containing small magnetite crystals. This rock is believed to be the metamorphic equivalent of a basic volcanic.

White bull quartz-calcite veins or boudins are found in the depressions mentioned earlier. The quartz-calcite veins have widths from 4 inches up to 4 feet, but are most commonly 1 to 2 feet wide. The gold mineralization is believed to be in or associated with these quartz-calcite veins or boudins. The depressions are faults or shear zones having a strike between 320° - 340° Az. and appear to have westerly dips between 65° - 75° . The faults have widths of 2 - 10 metres but are usually 3 - 5 metres wide. The approach of a fault or shear zone is recognized by the alteration of biotite schist to chlorite schist then to sericite schist. This is accompanied by stronger shearing and increased light to dark brown iron oxide as a fault is approached. The faults are more closely spaced directly east of the Big Salmon Fault and more widely spaced further toward the east.

MINERALIZATION:

After having read Stroink and Friedrich (1992) the gold mineralization was believed to be in or associated with the quartz-calcite veins or boudins. Very little mineralization other than trace oxidized pyrite was seen in any of the quartz exposed on surface.

Pyrite, galena, and copper and silver sulphides were not present in the quartz from the ridges and gullies. This mineralization was only seen in vein quartz from the Horseshoe Adit (See 1998 Work Program, Cam Claims - in pocket) and from a quartz vein in the placer workings on Livingstone Creek.

At the beginning of the 1998 season, mineralization on the property was expected to be concentrated within fault or shear zones visible on the aerial photographs and within the "notches" seen on the ridges and along the hillsides as mentioned earlier. Trenching and soil sampling done in the shear zones during 1998 have shown that many of the shears contain thick deposits of glacial till or return low gold values. It is now thought that the shears provided the "plumbing system" for the mineralizing fluids which flowed out into fractures and shears in the surrounding country rock -- the main shears then rehealed. It is still probable that economic grade mineralization will be concentrated within "pockets" within the minor fractures and shears as well as the major shears.

1998 WORK PROGRAM:

The work undertaken in 1998 consisted of bulldozer trenching, rock sampling and soil sampling. The work was chiefly directed toward extending known mineralized zones north along strike from their locations on the north sides of the creeks.

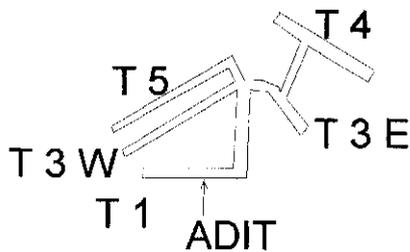
Trenching

Bulldozer trenching was undertaken at two times during 1998; in early May and again in late October. The prime focus for the trenching in May was to expose the bedrock source of mineralization north of the old Horseshoe Adit located with soil sampling and VLF-EM during 1997. Five trenches were excavated in the area to investigate this mineralization as well as to find out if mineralization was located within shear zones. This trenching located several narrow (approx. 1 ft. wide) zones of galena mineralization containing gold values up to 0.938 opt. (32.16 g/t) approximately 50 metres northwest of the adit in Trench 3W (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawings). Two zones within this trench possess economic gold values over mineable widths:

- a zone at 71 metres from the east end averages 1.44 g/t over 1.47 metres
- a zone at 89 metres from the east end averages 4.89 g/t over 2.84 metres

A single shear zone was located in Trench 4, Trench 3E, and Trench 2; the highest gold value obtained from the shear zone was 43 ppb. Au (Sample T4 S1).

While demobilizing the bulldozer, 6 additional trenches were excavated. The first of these was the Ron Trench located within a "notch" east of the ridge between

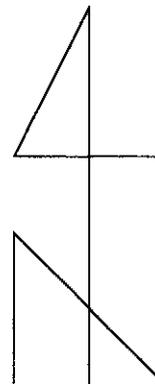
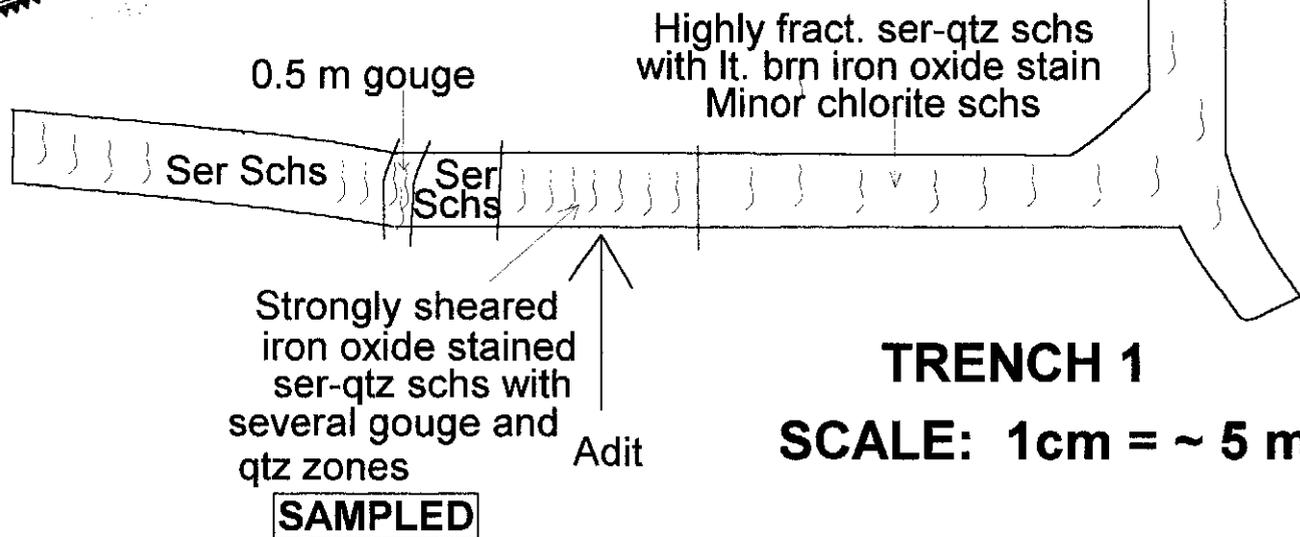
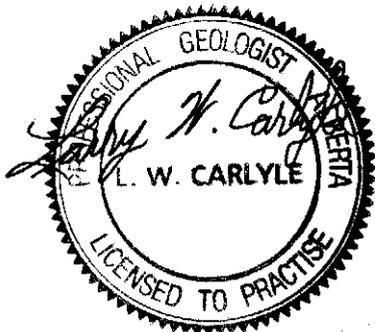


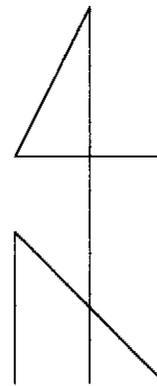
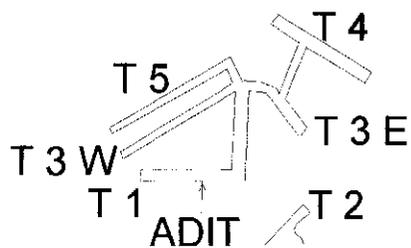
Sample # Width Grade

T1 S4	3.5 m	0.011 g
T1 S5	1.0 m	0.008 g
T1 S6	1.7 m	0.014 g
T1 S7	1.2 m	0.256 g
T1 S8	4.9 m	0.019 g

Average Grade

12.3 m @ 0.038 g





Contorted & sheared
ser. - qtzite schs
Limonite stained

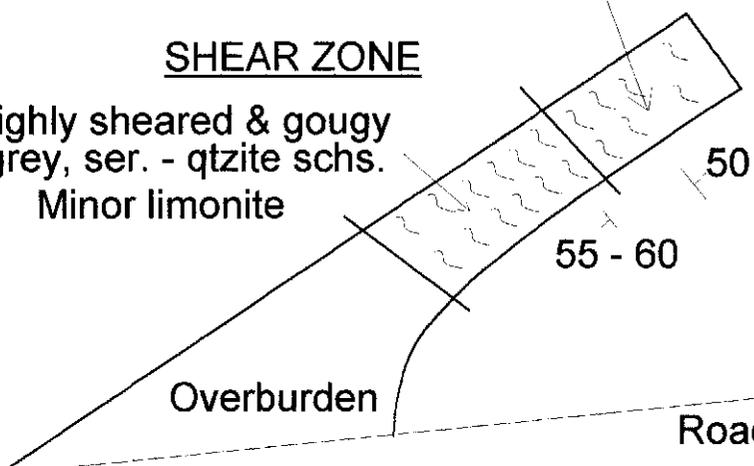


SHEAR ZONE

Highly sheared & gougy
grey, ser. - qtzite schs.
Minor limonite

Shear Zone Samples

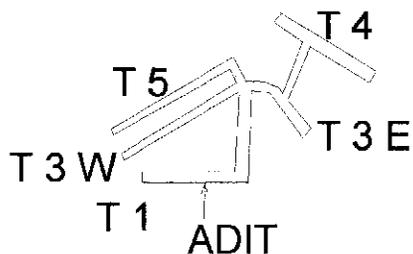
Sample #	Width	Grade
T2 S1	2.0 m	18 ppb. Au
T2 S2	2.0 m	28 ppb. Au



52 m. to Adit

TRENCH 2

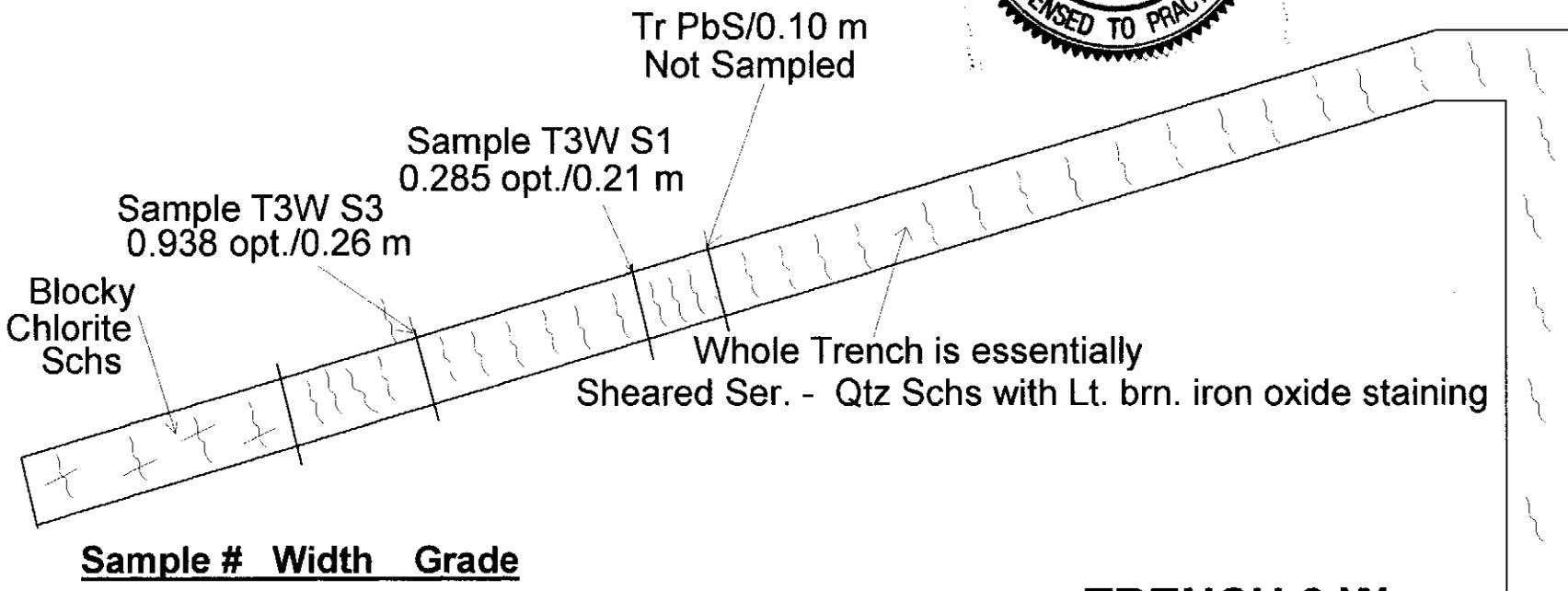
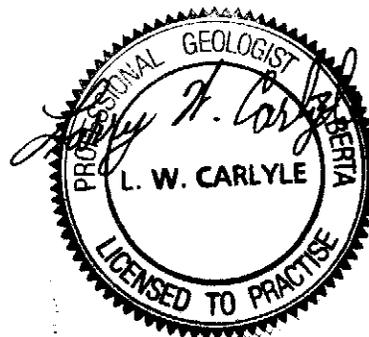
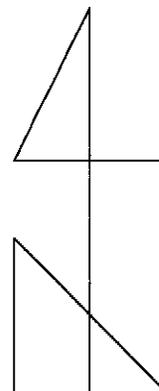
SCALE; 1 cm = ~ 5 m



<u>Sample #</u>	<u>Width</u>	<u>Grade</u>
T3W S4	0.18 m	0.022 g
T3W S5	1.1 m	4.918 g
T3W S3	0.26 m	32.162 g
T3W S6	1.3 m	0.085 g

Average Grade

2.84 m @ 4.890 g.



Sample # Width Grade

T3W S1	0.21 m	9.772 g
Not Sampled	1.0 m	0.000 g
T3W S2	0.26 m	0.254 g

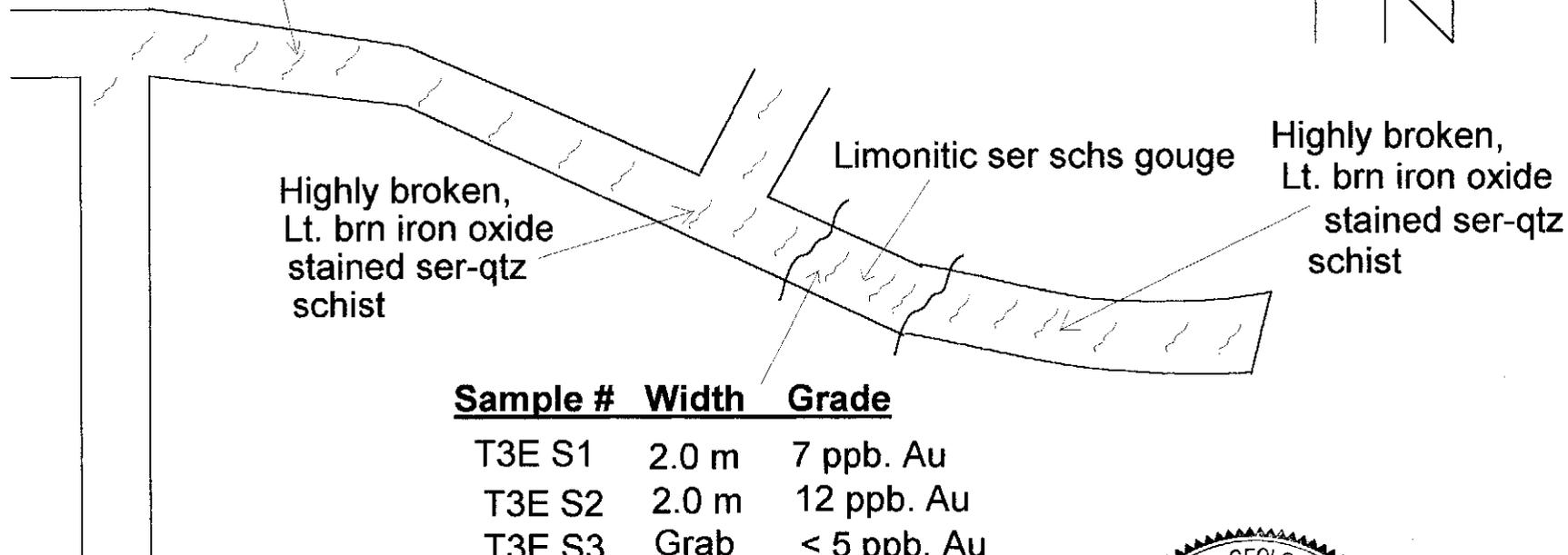
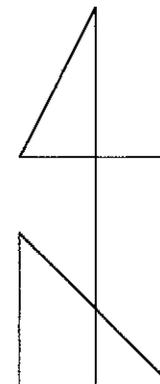
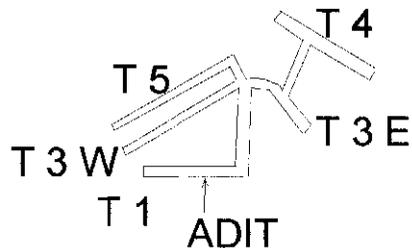
Average Grade

1.47 m @ 1.441 g.

TRENCH 3 W

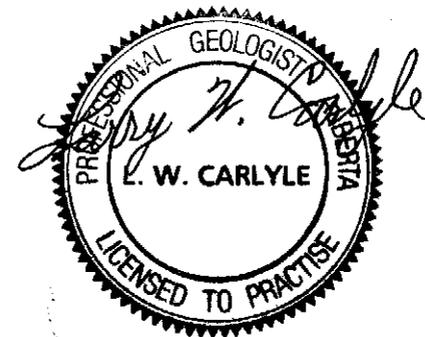
SCALE: 1 cm = ~ 5 m

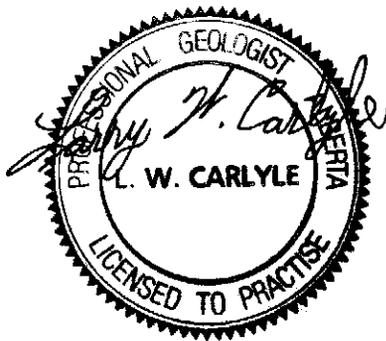
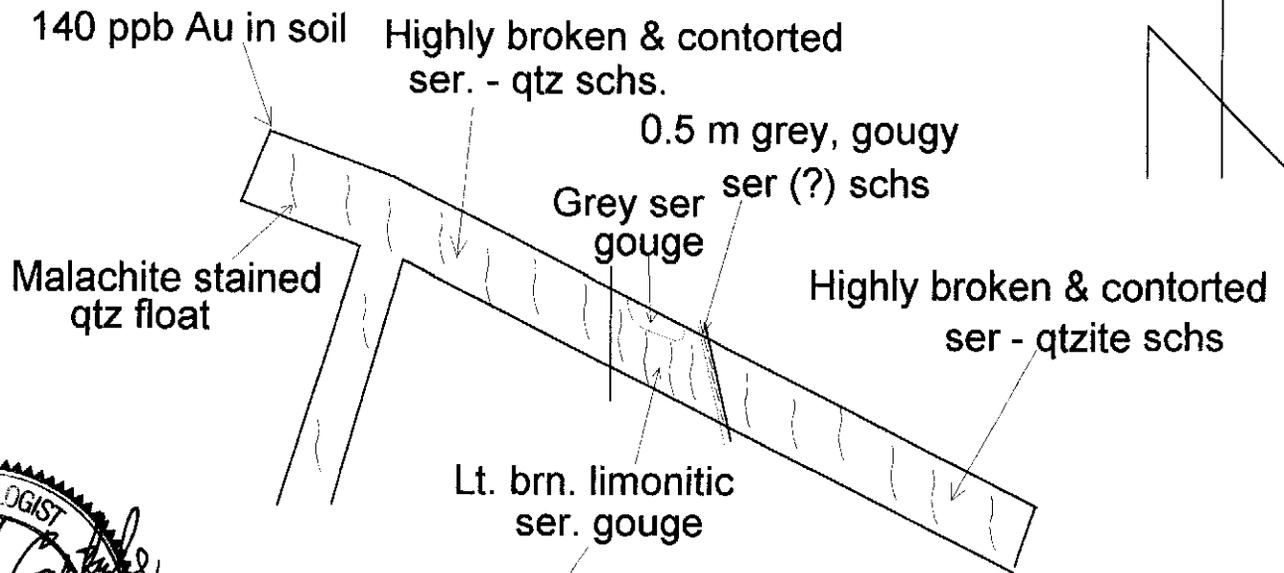
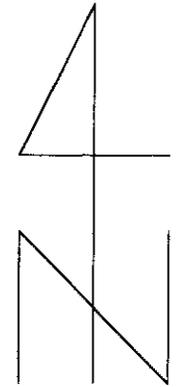
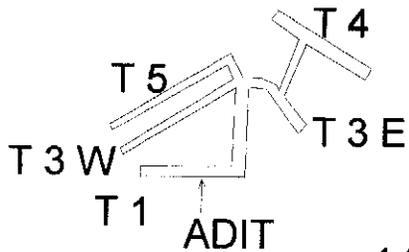
Lt. brn iron oxide stained ser-qtz schs with some chlorite schs patches



<u>Sample #</u>	<u>Width</u>	<u>Grade</u>
T3E S1	2.0 m	7 ppb. Au
T3E S2	2.0 m	12 ppb. Au
T3E S3	Grab	< 5 ppb. Au

TRENCH 3 E
SCALE: 1 cm = ~ 5 m

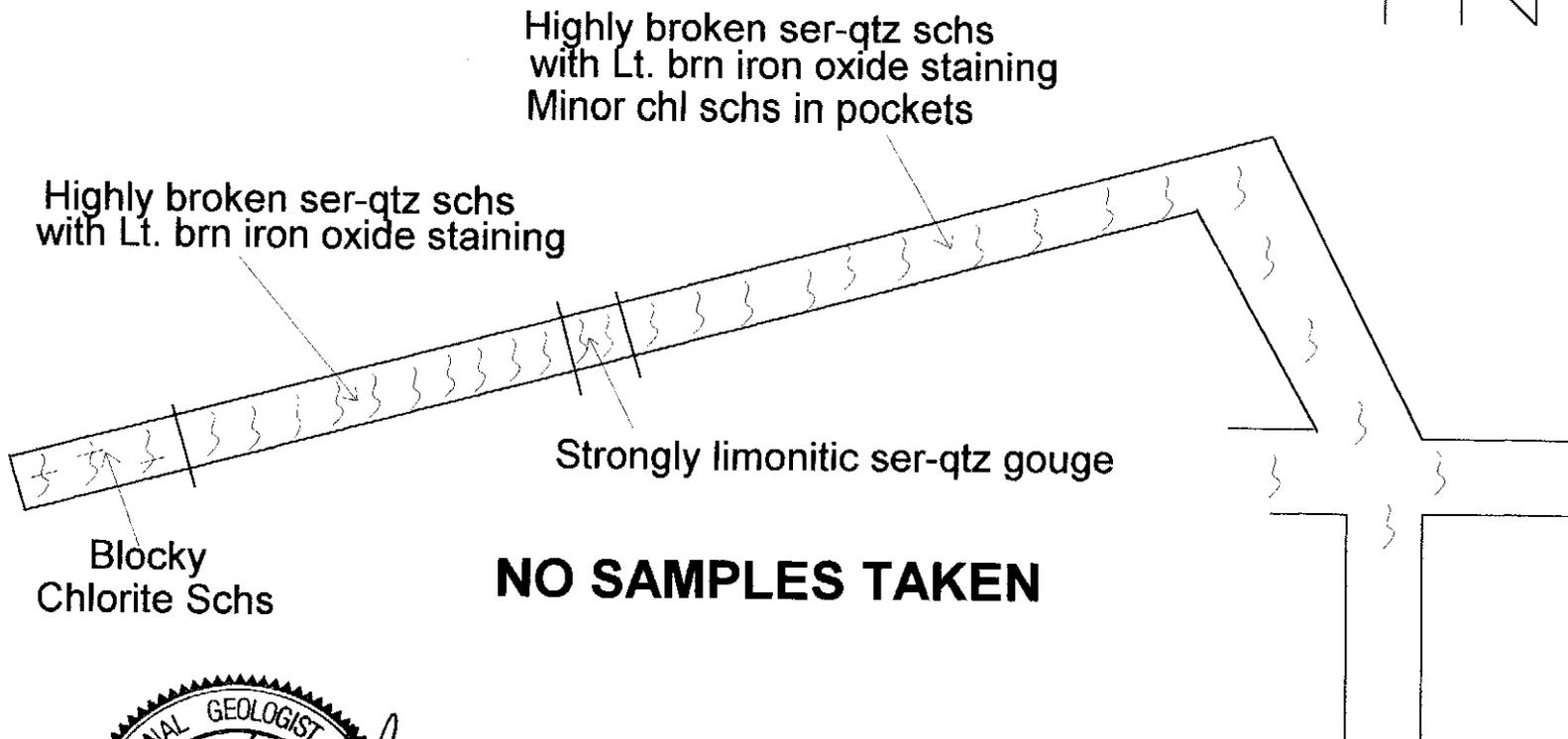
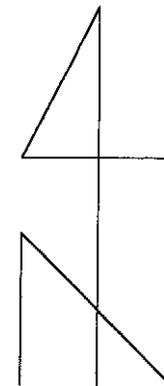
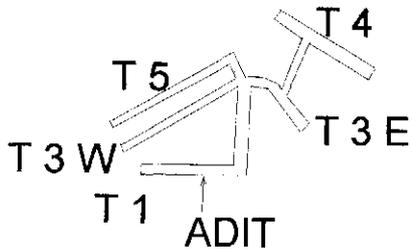




<u>Sample #</u>	<u>Width</u>	<u>Grade</u>
T4 S1	2.0 m	43 ppb. Au
T4 S2	2.0 m	29 ppb. Au
T4 S3	2.0 m	15 ppb. Au

TRENCH 4

SCALE; 1 cm = ~ 5 m



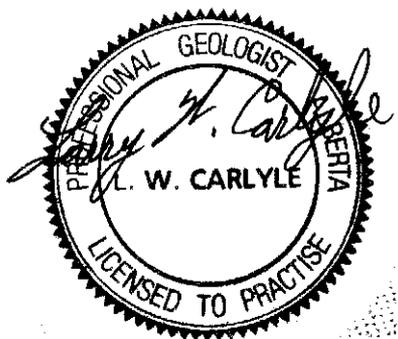
Highly broken ser-qtz schs
with Lt. brn iron oxide staining
Minor chl schs in pockets

Highly broken ser-qtz schs
with Lt. brn iron oxide staining

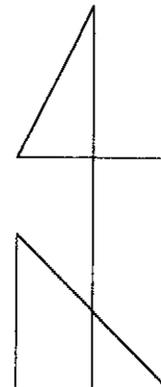
Strongly limonitic ser-qtz gouge

Blocky
Chlorite Schs

NO SAMPLES TAKEN



TRENCH 5
SCALE; 1 cm = ~ 5 m



1. m. thick
Vein Material

Sericitic schs + T.B. qtzite
Iron oxide staining

Sample # Width Grade

Ron 1 Grab 33 ppb. Au
Ron 2 Grab 5 ppb. Au

Kennecott

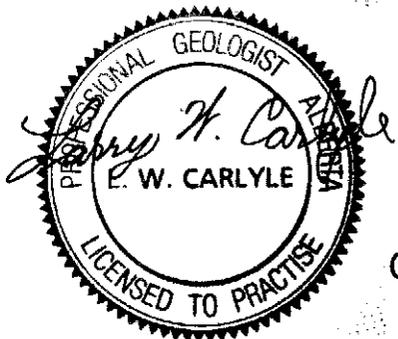
80887 Grab 105 ppb. Au

Viceroy

134015 Grab 45 ppb. Au

Graphitic qtzite (some schs)
with some patches of
sericitic qtzite (schs)

T.B. qtzite + ser.-graph. schs
Flat-lying



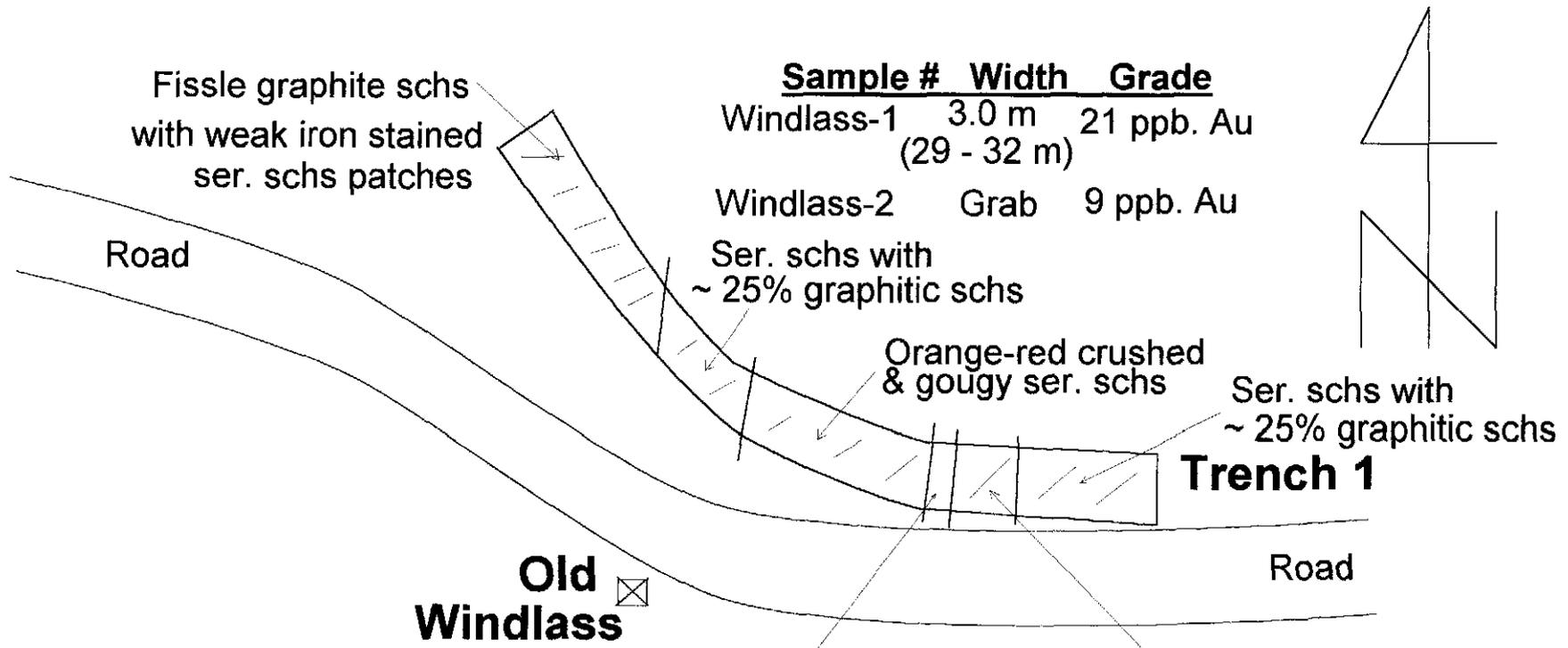
EAST RIB OF NORTH END OF TRENCH



Crushed ser-argillic
qtz schs V. M.

Sediments & vein appear to have
a plunge 6 TO NW V.M. strikes ~ 356 Az.
V.M. dips ~ 34 E (?)

RON TRENCH
SCALE; 1 cm = ~ 5 m



<u>Sample #</u>	<u>Width</u>	<u>Grade</u>
Windlass-1	3.0 m	21 ppb. Au
	(29 - 32 m)	

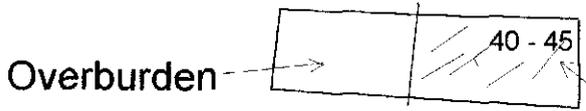
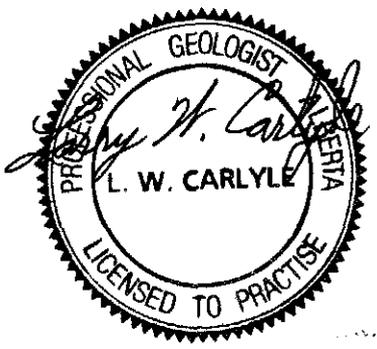
Windlass-2 Grab 9 ppb. Au

Trench 2

<u>Sample #</u>	<u>Width</u>	<u>Grade</u>
Windlass-3	Grab	20 ppb. Au

WINDLASS TRENCHES

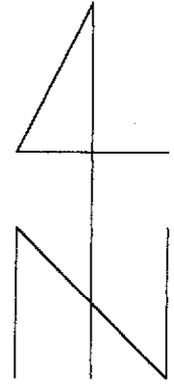
SCALE; 1 cm = ~ 5 m



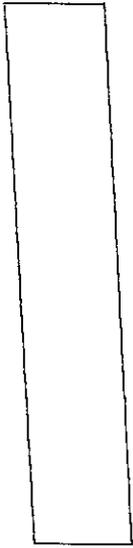
Ser schs with some zones of graph schs + weakly banded qtzite

MANDY TRENCHES

SCALE; 1 cm = ~ 5 m



**Mandy
W**



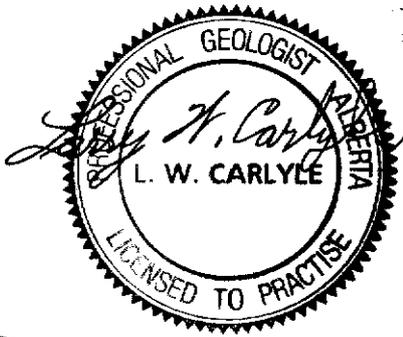
Whole trench
in overburden
~ 12 ft. deep on W side
~ 7 ft. deep on E side

Fissile, iron stained ser. schs
Minor chloritic & graphitic schs
Minor qtz sweats

52

Sample # Width Grade

Mandy-1 Float 98 ppb. Au



Mandy Trench

Road

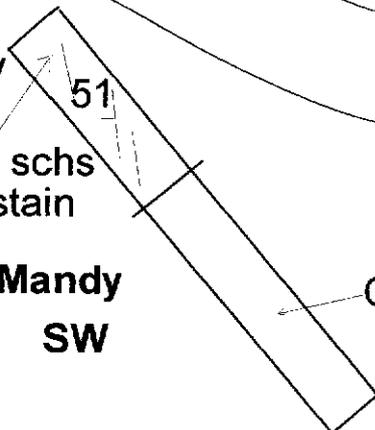
Road

Fissile to gougy
chloritic schs
Some altered to ser. schs
Weak iron oxide stain

51

**Mandy
SW**

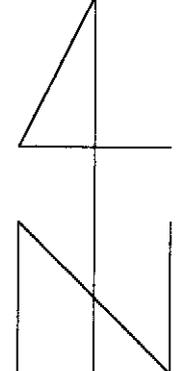
Overburden



Sheen's Gulch and Summit Creek (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). A 1 metre wide crushed sericite-quartz vein associated with a thin-bedded graphitic quartzite-graphite schist zone was exposed along approximately ten metres of its strike. The vein has trace pyrite and malachite mineralization containing gold values up to 0.1 g/t. Two Windlass Trenches were excavated in a "notch" where old-timers had sunk a shaft on which their windlass still existed. Deep overburden was encountered and rock samples returned low gold values (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). Three Mandy Trenches were excavated in the next "notch" toward the west (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). Again, deep overburden was encountered, and no shears were located. Sample Mandy-1, a piece of float, returned a gold value of 98 ppb.

In late October, another three trenches were excavated. The first was located approximately 200 metres north of Cottoneva Creek on soil sample C98-3 which returned a gold value of 326 ppb. Au (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). This was the second highest gold value obtained from a soil sample on the property. The highest was 898 ppb. Au (0.9 g/t) obtained in 1997 from Sample SC'-4 on Summit Creek.

Although a shear zone was exposed directly below the soil sample location, rock samples taken from the shear returned disappointing gold grades. During trenching, it was discovered that the soil sample was located on an esker of glacial till, so probably represents a transported anomaly.



Shear Zone

Weakly Limy friable graphitic schs
 Strong lt. brn to red-brn iron oxide
 Weakly gougy. No visible sulphides.

Minor qtz.

Friable Graph schs
 Weak iron oxide
 Specks Py ?
 Biotite ?

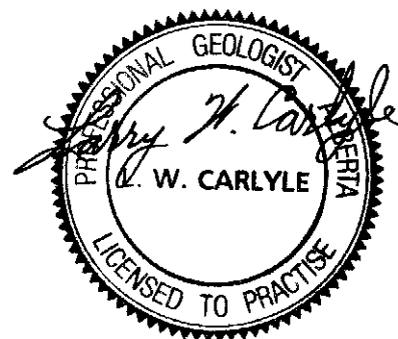
More blocky graphitic (biotite ?) schs
 Weakly Limy. Weaker iron oxide
 than in shear.
 Minor gouge &qtz lenses.

Cottoneva
 Creek
 ~ 200 m.

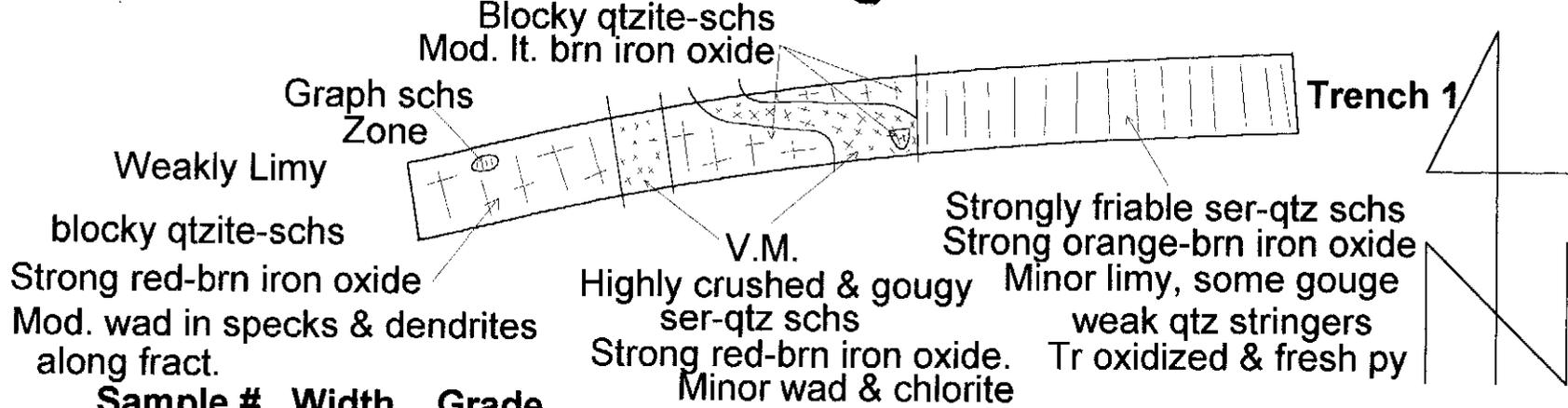
Max
 Fuerstner
 Camp
 ~ 100 m.

Sample # Width Grade

CT-1	2.5 m	<5 ppb Au
CT-2	2.0 m	<5 ppb Au
CT-3	2.0 m	8 ppb Au
CT-4	2.0 m	5 ppb Au
CT-5	2.0 m	5 ppb Au
CT-6	2.0 m	8 ppb Au
CT-7	1.3 m	7 ppb Au
CT-8	2.0 m	12 ppb Au
CT-9	2.0 m	12 ppb Au



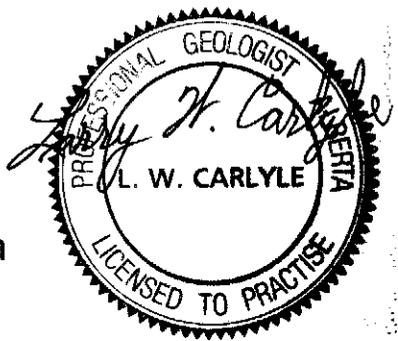
COTTONEVA TRENCH
SCALE: 1 cm = ~ 5 m



Sample # Width Grade

LT-1	5.0 m	26 ppb Au
LT-2	3.3 m	43 ppb Au
LT-3	5.1 m	62 ppb Au
LT-4	2.0 m	61 ppb Au
LT-5	2.0 m	44 ppb Au
LT-6	2.0 m	39 ppb Au
LT-7	2.0 m	13 ppb Au
LT-8	3.1 m	18 ppb Au
LT-9	5.0 m	31 ppb Au
LT-10	5.0 m	107 ppb Au
Lt-11	5.0 m	235 ppb Au
LT-12	5.0 m	74 ppb Au
LT-13	5.5 m	255 ppb Au

Average Grade
169.9 ppb. Au/20.5 m



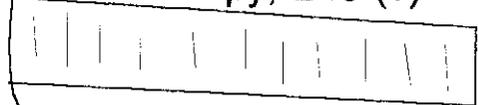
Former
Camp
Site

Sample # Width Grade

LT-14	5.0 m	58 ppb Au
LT-15	5.0 m	22 ppb Au
LT-16	5.0 m	190 ppb Au
LT-17	5.0 m	11 ppb Au
LT-18	5.0 m	27 ppb Au
LT-19	4.0 m	51 ppb Au

Average Grade
60.1 ppb. Au/ 29.0 m

Highly silicified ser. schs with qtz stringers
Lenses up to 1.5 ft. wide. Strong red & orange-brn iron oxide.
Weakly calcareous, minor wad in f.f.
Tr fresh py, ZnS (?)



Road Cut
Trench

Lk Camp-1
262 ppb. Au

Viceroy
3110 ppb. Au

LAKE CREEK TRENCHES
SCALE; 1 cm = ~ 5 m

The last two trenches were excavated north of Lake Creek. They were called Trench 1 and Road Cut Trench (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). Trench 1 was cut along a 1997 soil sample line on which Samples LAK-4, 5, and 6 returned gold values of 46, 149 and 87 ppb. respectively. Although anomalous gold values were located in the shear zone exposed in the trench, the best values (169.9 ppb. Au [0.17 g/t] over 20.5 metres) were obtained from the trench's east end (footwall ?) silicified sericite-quartz schist. The Road Cut Trench was excavated approximately 12 metres directly north of a road cut from which the writer had obtained a grab sample of highly silicified sericitic schist with quartz stringers which ran 262 ppb. Au but from which Viceroy geologists had obtained a grab sample which ran 3110 ppb. Au (3.1 g/t.). Samples from the entire trench averaged 60.1 ppb. Au (0.06 g/t.) over 29.0 m. However, a 5.0 m. segment returned 190 ppb. Au (0.19 g/t). The structures located within the two trenches appear to be along strike; the structure would, therefore, have a strike exposure of 90 - 100 metres.

The great difficulty in obtaining repeat gold values, ie: Ron Trench and Lake Creek road cut samples strongly suggests that nugget effect is present in the bedrock mineralization.

See Appendix A for Trench Rock Sample and Miscellaneous Rock Sample Values and Descriptions.

Rock Sampling

Rock samples, excluding trench samples, were not very numerous. The greatest number of samples were taken on Livingstone Creek primarily from the placer mine cut in the canyon on lower Livingstone Creek in an area known as Blake's Bar (See 1998 Work Program, Cam Claims - in pocket). During placer mining in this area, a 4-6 foot wide andesitic(?) dyke with large (up to 3 cm.) plagioclase (?) phenocrysts was broken through. The dyke was steeply dipping and has a strike of 300° to 340° Az. It is assumed that the old-timers thought the dyke was rim rock. Upon breaking through it, a zone of up to 30 feet wide of virgin pay gravels were discovered behind it. When the rim rock was reached; a wide shear zone of altered sericite schist-quartz having strong iron oxide alteration was located. This shear and a few miscellaneous samples from the area were sampled (See Rock Sample Table).

Sample SR - 1 was taken approximately $\frac{1}{4}$ mile up the Summit Falls Road from the Livingstone townsite. Samples L+IV - 1, LV-1, 2, and 3 were taken in the area of lower Little Violet Creek. Sample LV-1 is a garnet-actinolite skarn and is believed to be the first skarn mineralization located on the claims. Samples M-1, and 2 were taken from the canyon area of Mendocina Creek. The location of these samples has been placed on the 1998 Work Program, Cam Claims Map - in pocket. A table of these rock sample descriptions and mineral values has been included as Appendix A.

Soil Sampling

During 1998, soil sampling was again an important tool for the exploration of the CAM Claims. On May 4, 1998, 14 soil samples in two lines were taken north of the line of samples taken in 1997 at Cottoneva Creek (See 1998 Work Program, Cam Claims Map - in pocket). These samples were taken at 20 metre intervals along two lines separated by 50 metres. Both lines crossed a prominent "notch" directly east of Max Fuerstner's present camp and were obtained to further investigate the gold potential within these shear zones. The poor gold values obtained from the samples (Numbered Cot-1 to Cot-14 [See Soil Sample Table]) may have been the result of their having been taken too early in the season before the ground was sufficiently thawed.

On June 7, 1998, two more groups of soil samples were taken across two "notches" located on the ridge between Sheen's Gulch and Summit Creek. The first group were taken in a "notch" directly along strike from the lower segment of Sheen's Gulch where it runs into Livingstone Creek (See 1998 Work Program, Cam Claims Map - in pocket). These samples were prefixed by "SG". The second group were taken in a "notch" further toward the east; and were prefixed with "SGE". Although both "notches" were thought to not contain much overburden, the more easterly one had almost 50 foot vertical rock walls for much of its length. The presence of a thin layer of overburden is considered important since thick overburden may prevent a geochemical response to soil sampling (See Soil Sample Table). The low gold values obtained from these samples may again be the result of the ground being too frozen.

On June 8, 1998, 20 soil samples were taken in two lines with a sample spacing of 20 metres starting 50 metres north of the 1997 soil line at the Lake Creek "notch". There is 50 metres between the 1998 lines (See 1998 Work Program, Cam Claims Map - in pocket). These samples were prefixed with "Lk98" (See Soil Sample Table). These samples may also have been taken before the ground had sufficiently thawed.

On September 15, 1998, 13 soil samples were taken at 25 metre spacings at Little Violet Creek. These samples started at a point approximately 200 metres north of the bottom of the mine cut and followed a line of 80° Az. This direction resulted in the final sample (V98-13) being approximately 800 feet north of the edge of the mine cut (See 1998 Work Program, Cam Claims Map - in pocket). It was decided that this was too far from the edge of the cut so an additional line was started from the same point as the first line but samples were taken along a line at 90° Az [Samples V98-14 to 25] (See Soil Sample Table). While doing this work, the 1997 line of soils was located running along the northern edge of the mine cut where the overburden is a minimum of 70 feet thick. It is for this reason that those samples are thought not to have returned significant gold values.

On September 17, 1998, 16 soil samples were taken approximately 50 metres north of the 1997 line at Summit Creek. Samples were spaced at 25 metre intervals and were prefixed "S98" (See 1998 Work Program, Cam Claims Map - in pocket and Soil Sample Table). Samples from the 1998 line returned gold

SOIL SAMPLE TABLE

Summit Creek

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
S98 - 1	0 + 00 E	< 5	< 0.1	18	48	13	36
S98 - 2	0 + 25 E	< 5	< 0.1	28	40	4	30
S98 - 3	0 + 50 E	< 5	< 0.1	10	34	4	30
S98 - 4	0 + 75 E	< 5	< 0.1	16	35	6	31
S98 - 5	1 + 00 E	< 5	< 0.1	21	34	9	39
S98 - 6	1 + 25 E	5	0.2	52	59	14	63
S98 - 7	1 + 50 E	< 5	< 0.1	23	46	11	42
S98 - 8	1 + 75 E	< 5	< 0.1	29	47	10	49
S98 - 9	2 + 00 E	< 5	< 0.1	33	64	14	56
S98 - 10	2 + 25 E	12	< 0.1	39	48	13	52
S98 - 11	2 + 50 E	13	0.1	40	57	10	57
S98 - 12	2 + 75 E	14	0.2	51	67	15	84
S98 - 13	3 + 00 E	8	0.2	47	59	14	68
S98 - 14	3 + 25 E	7	< 0.1	48	52	13	58
S98 - 15	3 + 50 E	5	0.2	91	66	9	72
S98 - 16	3 + 75 E	8	0.3	108	74	4	73

Sheen's Gulch

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
SG - 1	L1 0+80 E	< 5	0.4	12	15	9	42
SG - 2	L1 0+60 E	5	0.2	15	18	14	50
SG - 3	L1 0+40 E	< 5	0.2	9	6	14	25
SG - 4	L1 0+20 E	< 5	0.4	7	8	< 2	17
SG - 5	L1 0+00 E	< 5	0.3	8	8	5	32
SG - 6	L2 0+00 E	< 5	0.3	27	20	27	101
SG - 7	L2 0+20 E	< 5	0.2	8	6	2	10
SG - 8	L2 0+40 E	7	0.3	19	12	7	34
SG - 9	L2 0+60 E	6	0.2	18	15	5	35

SOIL SAMPLE TABLE

Sheen's Gulch East

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
SGE - 1	L1 0+00 E	< 5	0.4	10	8	< 2	27
SGE - 2	L1 0+18 E	8	0.3	15	9	< 2	27
SGE - 3	L2 0+11 E	< 5	0.2	3	< 5	< 2	13
SGE - 4	L2 0+00 E	6	< 0.1	6	< 5	< 2	12
SGE - 5	L3 0+00 E	< 5	< 0.1	1	< 5	< 2	6
SGE - 6	L3 0+12 E	5	0.4	13	19	11	91
SGE - 7	L4 0+15 E	< 5	< 0.1	1	< 5	< 2	6
SGE - 8	L4 0+00 E	6	0.3	18	18	6	42

Lake Creek

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
Lk98 - 1	L1 0+00 E	< 5	0.2	4	< 5	< 2	10
Lk98 - 2	L1 0+20 E	< 5	0.1	8	5	< 2	8
Lk98 - 3	L1 0+40 E	< 5	0.2	8	< 5	< 2	12
Lk98 - 4	L1 0+60 E	< 5	0.2	10	10	9	29
Lk98 - 5	L1 0+80 E	< 5	0.2	7	10	6	23
Lk98 - 6	L1 1+00 E	< 5	0.2	5	9	5	19
Lk98 - 7	L1 1+20 E	< 5	< 0.1	2	< 5	< 2	7
Lk98 - 8	L1 1+40 E	< 5	< 0.1	4	< 5	< 2	12
Lk98 - 9	L1 1+60 E	< 5	0.2	24	7	2	14
Lk98 - 10	L1 1+80 E	31	0.3	19	5	6	18
Lk98 - 11	L2 1+80 E	6	0.3	18	12	11	27
Lk98 - 12	L2 1+60 E	< 5	0.2	22	13	8	36
Lk98 - 13	L2 1+40 E	< 5	0.3	22	< 5	< 2	33
Lk98 - 14	L2 1+20 E	5	0.2	9	< 5	4	19
Lk98 - 15	L2 1+00 E	< 5	0.2	19	13	7	36
Lk98 - 16	L2 0+80 E	9	0.3	4	< 5	< 2	10
Lk98 - 17	L2 0+60 E	< 5	0.3	8	16	14	25
Lk98 - 18	L2 0+40 E	< 5	0.3	3	< 5	< 2	12
Lk98 - 19	L2 0+20 E	9	0.3	13	10	5	34
Lk98 - 20	L2 0+00 E	< 5	0.2	4	< 5	7	13

SOIL SAMPLE TABLE

Cottoneva Creek

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
Cot - 1	L1 0+00 E	5	< 0.1	1	< 5	< 2	9
Cot - 2	L1 0+20 E	5	< 0.1	4	< 5	< 2	13
Cot - 3	L1 0+40 E	7	< 0.1	9	8	4	23
Cot - 4	L1 0+60 E	< 5	0.1	6	6	< 2	15
Cot - 5	L1 0+80 E	< 5	< 0.1	7	< 5	6	19
Cot - 6	L1 1+00 E	7	< 0.1	8	6	< 2	22
Cot - 7	L2 1+00 E	10	< 0.1	35	27	7	43
Cot - 8	L2 0+80 E	6	< 0.1	10	12	5	23
Cot - 9	L2 0+60 E	< 5	< 0.1	9	8	4	22
Cot - 10	L2 0+40 E	< 5	< 0.1	7	< 5	< 2	18
Cot - 11	L2 0+20 E	8	< 0.1	11	11	6	26
Cot - 12	L2 0+00 E	7	< 0.1	7	6	3	26
Cot - 13	L2 0+20 W	5	< 0.1	1	< 5	< 2	5
Cot - 14	L2 0+40 W	5	< 0.1	4	< 5	< 2	7

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
C98 - 1	L3 0+00 E	< 5	< 0.1	21	29	5	28
C98 - 2	L3 0+25 E	< 5	< 0.1	19	31	8	31
C98 - 3	L3 0+50 E	326	< 0.1	21	56	8	45
C98 - 4	L3 0+75 E	16	0.1	17	34	7	32
C98 - 5	L3 1+00 E	9	< 0.1	15	37	11	38
C98 - 6	L3 1+25 E	< 5	< 0.1	10	30	8	35
C98 - 7	L3 1+50 E	14	0.1	16	51	5	41
C98 - 8	L3 1+75 E	< 5	0.1	15	31	8	33
C98 - 9	L3 2+00 E	< 5	0.1	32	48	8	48
C98 - 10	L3 2+25 E	< 5	< 0.1	12	30	4	30
C98 - 11	L3 2+50 E	< 5	0.1	9	27	5	28
C98 - 12	L3 2+75 E	< 5	< 0.1	22	41	< 2	31
C98 - 13	L3 3+00 E	7	0.3	77	98	18	125
C98 - 14	L3 3+25 E	< 5	< 0.1	11	26	3	90
C98 - 15	L3 3+50 E	5	< 0.1	35	58	8	58
C98 - 16	L3 3+75 E	7	0.2	81	62	8	62
C98 - 17	L3 4+00 E	< 5	< 0.1	12	34	6	34
C98 - 18	L3 4+25 E	7	< 0.1	46	62	13	62

SOIL SAMPLE TABLE

Miscellaneous Cottonveva Creek

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
CT - 1	~200 m. E of Camp	6	0.3	28	23	9	37
CG - 1	South of Creek	9	0.3	14	16	10	30
CG - 2	"	25	0.2	27	22	6	46
CG - 3	"	9	0.4	29	13	< 2	43

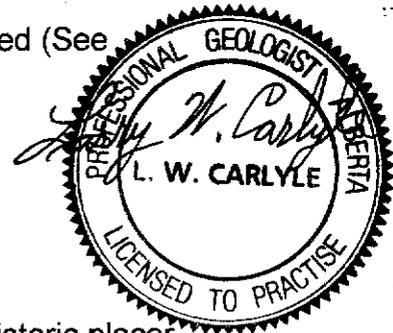
SOIL SAMPLE TABLE

Little Violet Creek

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)
V98 - 1	0+00 E	< 5	< 0.1	18	22	4	33
V98 - 2	0+25 E	< 5	< 0.1	14	26	3	21
V98 - 3	0+50 E	< 5	0.1	13	43	8	23
V98 - 4	0+75 E	< 5	0.1	36	53	7	34
V98 - 5	1+00 E	< 5	0.1	14	33	4	26
V98 - 6	1+25 E	< 5	< 0.1	10	23	4	23
V98 - 7	1+50 E	< 5	< 0.1	8	26	6	21
V98 - 8	1+75 E	< 5	< 0.1	25	32	7	33
V98 - 9	2+00 E	< 5	< 0.1	12	27	7	23
V98 - 10	2+25 E	< 5	< 0.1	37	53	10	45
V98 - 11	2+50 E	< 5	< 0.1	24	38	7	33
V98 - 12	2+75 E	< 5	< 0.1	11	26	9	27
V98 - 13	3+00 E	11	0.1	21	46	12	54
V98 - 14	0+25 E	< 5	0.1	16	26	6	27
V98 - 15	0+50 E	45	0.1	23	30	5	30
V98 - 16	0+75 E	9	< 0.1	38	33	5	38
V98 - 17	1+00 E	8	< 0.1	13	18	6	23
V98 - 18	1+25 E	< 5	< 0.1	11	22	10	25
V98 - 19	1+50 E	9	< 0.1	22	36	7	34
V98 - 20	1+75 E	< 5	< 0.1	8	20	5	19
V98 - 21	2+00 E	8	0.1	30	46	8	40
V98 - 22	2+25 E	< 5	< 0.1	17	27	8	29
V98 - 23	2+50 E	< 5	< 0.1	19	29	5	29
V98 - 24	2+75 E	16	< 0.1	26	33	9	32
V98 - 25	3+00 E	7	0.1	67	54	14	69

values up to only 14 ppb.; however, these values are along strike from the 898 ppb. Au value obtained in 1997.

The final line of soil samples for the season were taken approximately 200 metres north of Cottoneva Creek. They were taken at 25 metre spacings along an azimuth of 80° and were given the prefix "C98" (See 1998 Work Program, Cam Claims Map - in pocket and Soil Sample Table). Sample C98 - 3 of these samples returned a 326 ppb. Au value and was subsequently trenched (See appropriate trench drawing).



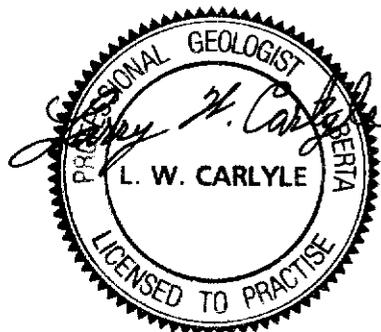
CONCLUSIONS:

1. Gold mineralization is present within the country rock of the historic placer creeks in the Livingstone Creek area.
2. For the moment, economic gold grades over mineable widths have only been located over a strike length of approximately 200 metres in the area of the old Horseshoe Adit on the north side of Livingstone Creek. However, sub-economic gold grades have been located in bedrock on the next three creeks toward the north: Summit, Lake, and Cottoneva Creeks.
3. Silicification is strongest at Livingstone Creek and appears to get progressively weaker toward the north. Skarn mineralization was located for the first time at Little Violet Creek. By the time Mendocina Creek is reached, at the north end of the property, relatively fresh sheared limestone is located (See 1998 Work Program, Cam Claims - in pocket).
4. The significant bismuth values obtained from rock samples T3W - S1, T3W - S3, and T3W - S5 and the lack of it within soil samples taken over the area; as well as the low gold values obtained from the shear zone exposed directly below the 326 ppb. Au value soil sample at Cottoneva Creek suggests that soil sample anomalies may have experienced glacial transport.

5. The relatively recent discovery of large tonnage intrusive hosted, low grade gold deposits in the Yukon (Brewery Creek, Dublin Guich) and Alaska (Fort Knox, Pogo) suggest a closer look should be given to the sheared granodiorite (Unit 2) of Map 372 A and the dioritic to quartz dioritic augen amphibole gneiss (Unit CP_{Ag}) of G.S.C. O.F. 1101. These units were mapped in the same locations, within the claim block, at the headwaters of the placer creeks by Cockfield, Lees, and Bostock between 1929 and 1934; as well as by Tempelman-Kluit in 1977-1979.

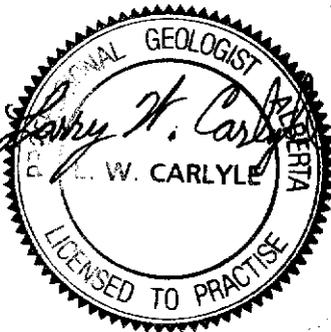
RECOMMENDATIONS:

1. Extending the known zone of mineralization at the Horseshoe Adit both north (uphill) and south (downhill) along strike with VLF-EM and soil sampling would advance the property significantly.
2. Bulk samples of approximately 100 to 150 pounds (45.5 - 68.2 kg.) should be obtained from the mineralized zone at the Horseshoe Adit and perhaps another area (possibly mineralized rock from Lake Creek) for petrographic, mineralogical, and metallurgical testing.
3. An attempt should be made to geologically map the property to:
 - investigate its potential for large tonnage intrusive hosted, low grade gold mineralization
 - determine if some feature, as yet unknown, controls whether the gold mineralization is of economic or sub-economic grade
 - investigate the extent of the newly discovered skarn rocks and their mineral potential
4. The direction and distance of potential glacial transport, discovered during 1998, should be determined.



STATEMENT OF COSTS:

Bulldozer Trenching (96.5 hrs @ \$185./hr)	\$ 17,852.50
Geologist Field Work (24 days @ \$300/day)	\$ 7,200.00
Assaying	\$ 3,828.56
Air Charters	\$ 1,818.40
Room & Board (53 person/days @ \$35/day)	\$ 1,855.00
ATV Rental (2 weeks @ \$125./wk)	\$ 250.00
Miscellaneous Fuels & Oil.	\$ 200.00
Field Supplies (Flagging, bags, hip chain twine, etc.)	\$ 200.00
Office Supplies (Photocopying, paper, etc.)	\$ 193.08
Report Writing	\$ 1,500.00
TOTAL	\$ 34,897.54



NOTE: These costs do not include any costs incurred on the property from the property visits made by Kennecott, Viceroy, YTG, and DIAND geologists.

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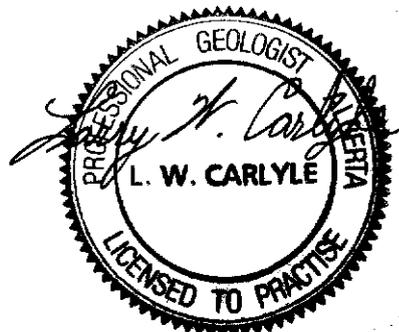
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STATEMENT OF QUALIFICATIONS

I, LARRY W. CARLYLE, do certify:

1. That I am a professional geologist; resident at 74 Tamarack Drive, Whitehorse, Yukon Y1A 4Y6.
2. That I hold a B. Sc. Degree in geology from the University of British Columbia (1970).
3. That I am a Fellow of the Geological Association of Canada (F - 4355).
4. That I am a Registered Professional Geologist in the Association of Professional Engineers, Geologists, and Geophysicists of the Province of Alberta (41097).
5. That I have practiced my profession as a mine and exploration geologist for over twenty years.
6. The conclusions and recommendations in the attached report are based on work I performed or supervised on the property, and on a review of the references cited.

DATED at Whitehorse, Yukon, this 11th day of December, 1998.



APPENDIX A

**TRENCH ROCK SAMPLE AND
MISCELLANEOUS ROCK SAMPLE
VALUES AND DESCRIPTIONS**

TRENCH ROCK SAMPLE TABLE

Adit Trench 1

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
T1 S2	12' E Adit	0.5	234	1.9	244	19	274	25	< 2	White qtz lenses. Very strong Wad. Tr Pbs, Chalc, & Py. Strong limonite. Tr goethite.
T1 S3	16 m W of Adit	0.5	< 5	0.2	4	< 5	< 2	8	< 2	Blocky, white vein quartz. Limonite & Wad in fract. No visible sulphides.
T1 S4	6 m W of Adit	3.5	11	0.6	41	10	42	54	< 2	Friable ser. schs + qtz ztringers. Strong iron oxide. No visible sulphides.
T1 S5	2.5 m W of Adit	1.0	8	< 0.1	20	9	73	32	< 2	Fract. vuggy, white vein qtz Strong limonite & goethite. No visible sulphides.
T1 S6	1.5 m W of Adit	1.7	14	0.4	31	13	83	32	< 2	Friable ser. schs with weak iron oxide. Some graphitic zones No visible sulphides
T1 S7	0.3 m E of Adit	1.2	256	2	63	413	169	23	< 2	Crushed & fract. vein qtz + friable ser. schs Strong limonite, minor wad & goethite. No visible sulphides.
T1 S8	1.5 m E of Adit	4.9	19	0.5	29	< 5	70	53	< 2	Friable, iron stained ser. schs. Strong vein qtz lenses. No visible sulphides.

Sample T1 S4 - T1 S8 == 0.038 g./ 12.3 m.

TRENCH ROCK SAMPLE TABLE

Adit Trench 2

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
T2 S1	23 m off road	2.0	18	< 0.1	32	< 5	10	68	< 2	Shear Zone - Highly sheared & gougy grey ser-qtzite schs. Minor limonite.
T2 S2	25 m off road	2.0	28	< 0.1	31	11	15	57	< 2	Shear Zone - Highly sheared & gougy grey ser-qtzite schs. Minor limonite.

Adit Trench 3E

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
T3E S1	W edge shear	2.0	7	0.2	27	5	11	56	< 2	Shear Zone -- Limonitic sericite schs gouge.
T3E S2	Next to East	2.0	12	< 0.1	33	9	8	62	< 2	Dark grey sericitic (?) schs gouge.
T3E S2	Quartz float	Grab	< 5	0.1	9	< 5	< 2	8	< 2	Large quartz boulder which fell into trench Tr vuggy, white vein qtz ? Strong lim-wad in fractures. No visible sulphides.

TRENCH ROCK SAMPLE TABLE

Adit Trench 3W

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
T3W S1	71.3 m from E end	0.21	9.77*	94.7	73	< 5	6427	4	119	* in grams. White quartz lense. Limonite & goethite in fract. <1% PbS.
T3W S2	70.0 m from E end	0.26	254	0.4	23	< 5	29	21	< 2	Gougy dark brn. limonite stained sericite-quartz schist.
T3W S3	89.0 m from E end	0.26	32.2*	100	86	< 5	15110	4	173	* in grams. Vuggy quartz lenses. Tr py Limonite & goethite f. f.
T3W S4	90.4 m from E End	0.18	22	0.7	13	< 5	82	8	< 2	Apparently barren white qtz. Limonite & wad f.f.
T3W S5	89.3 m from E End	1.1	4918	35.5	126	< 5	3430	17	34	Friable, iron stained sericite schist. Weak white qtz lenses. No visible sulphides.
T3W S6	88.7 m from E End	1.3	85	0.6	19	< 5	85	21	< 2	Sheared & gougy limonite stained sericite schist. Weak qtz lenses. No visible sulphides.

Sample T3W S4 - T3W S6 == 4.89 g./2.8 m

Sample T3W S1 - T3W S2 == 1.44 g./1.5 m

TRENCH ROCK SAMPLE TABLE

Adit Trench 4

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
T4 S1	15 m E of road	2.0	43	< 0.1	45	20	17	48	< 2	Lt. brn. limonitic sericitic gouge
T4 S2	17 m E of road	2.0	29	< 0.1	35	15	14	56	< 2	Lt. grey-brn. limonitic sericitic gouge
T4 S3	19 m E of road	2.0	15	< 0.1	29	< 5	12	51	< 2	Lt. brn. limonitic sericitic gouge

Ron Trench

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
Ron - 1	Vein	1.0	33	1.9	432	121	75	130	< 2	Crushed sericitic-argillic quartz schist Strong iron & manganese staining. Tr py, malachite & ZnS (?).
Ron - 2	Vein	1.0	5	0.2	141	23	11	23	< 2	As above
P134015	Vein	1.0	45	1.0	195	42	44	12	< 2	As above. <u>Viceroy</u>
80887	Vein	1.0	105	5.2	382	130	164	130	< 2	As above. <u>Kennecott</u>

TRENCH ROCK SAMPLE TABLE

Windlass Trench 1

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
Windlass S1	29 - 32 m from E End	3.0	21	< 0.1	47	21	16	83	< 2	Orange-red iron oxide gouge.
Windlass S2	45 m from E End	Grab	9	< 0.1	21	22	< 2	6	< 2	White bull vein quartz.

Windlass Trench 2

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
Windlass S3	10.4 m to 19.0 m	8.6	20	< 0.1	43	< 5	5	52	< 2	Sericite schist, some zones of graphite schist + weakly banded quartzite

Mandy Trench 2

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
Mandy - 1	Float	Grab	98	0.5	16	< 5	36	6	< 2	Compact, tr vuggy, silicified sericitic schist. < 1% iron & wad f.f. Tr oxidized py crystals. Tr black, sub-metallic mineral (biotite ?).

TRENCH ROCK SAMPLE TABLE

Cottoneva Trench

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
CT - 1	17.8 m from E End	Grab	< 5	< 0.1	31	15	3	18	< 2	1.5 ft. wide white-grey blocky bull qtz vein. Weak iron oxide f.f. No visible sulphides.
CT - 2	17.3 m from E End	2.0	< 5	0.2	59	46	10	88	< 2	Friable graphite (biotite ?) schist. 1/16" iron oxide specks (py ?). Red-brn iron oxide f.f. Some gouge & calcite.
CT - 3	15.3 m from E End	2.0	8	0.2	58	44	11	85	< 2	Limy, friable graphitic schist. Strong lt. brn. to red-brn iron oxide. Weakly gougy.
CT - 4	13.3 m from E End	2.0	5	< 0.1	51	34	16	69	< 2	Limy, friable graphitic schist. Strong lt. brn. to red-brn iron oxide. Weakly gougy.
CT - 5	11.3 m from E End	2.0	5	0.2	35	67	17	56	< 2	Limy, friable graphitic schist. Strong lt. brn. to red-brn iron oxide. Weakly gougy. Some minor quartz.
CT - 6	9.3 m from E End	2.0	8	0.2	25	121	9	42	< 2	Limy, friable graphitic schist. Strong lt. brn. to red-brn iron oxide. Weakly gougy. Some minor quartz.
CT - 7	7.3 m from E End	1.3	7	< 0.1	43	223	11	70	< 2	Limy, friable graphitic schist. Strong lt. brn. to red-brn iron oxide. Weakly gougy. Some minor quartz.

TRENCH ROCK SAMPLE TABLE

Cottoneva Trench

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
CT - 8	5.3 m from E End	2.0	12	0.6	73	44	96	85	< 2	Blocky graphitic (biotite ?) schist. Weakly limy. Weaker iron oxide f.f. Minor gouge.
CT - 9	3.3 m from E End	2	12	0.4	63	54	31	76	< 2	Blocky graphitic (biotite ?) schist. Weakly limy. Weaker iron oxide f.f. Minor gouge.

Lake Creek Trench 1

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
LT - 1	53 m from E End	5.0	26	0.3	21	9	7	15	< 2	Blocky qtzite-graph schs. Strong iron & wad in f.f.
LT - 2	48 m from E End	3.3	43	0.2	30	5	9	21	< 2	V. M.? Crushed & gougy ser-qtz schs. Strong iron oxide. Weak wad. No visible sulphides.
LT - 3	44.7 m from E End	5.1	62	0.6	15	6	42	19	< 2	Blocky qtzite-graph schs. Mod. lt. brn. iron oxide. Tr wad & chlorite.

TRENCH ROCK SAMPLE TABLE

Lake Creek Trench 1 (Continued)

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
LT - 4	39.6 m from E End	2.0	61	0.2	32	18	14	21	< 2	Vein Shear. Crushed & gougy ser-qtz schs. Strong red-brn iron oxide. Minor wad & Chlorite.
LT - 5	37.6 m from E End	2.0	44	< 0.1	33	19	10	23	< 2	Vein Shear. Crushed & gougy ser-qtz schs. Strong red-brn iron oxide. Minor wad & Chlorite.
LT - 6	35.6 m from E End	2.0	39	0.2	38	34	10	67	< 2	Vein Shear. Crushed & gougy ser-qtz schs. Strong red-brn iron oxide. Minor wad & Chlorite.
LT - 7	33.6 m from E End	2.0	13	< 0.1	70	9	7	20	< 2	Limy, blocky qtzite-graphite schist. Gougy V.M. along south side of trench.
LT - 8	31.6 m from E End	3.1	18	< 0.1	29	8	2	15	< 2	Limy, blocky qtzite-graphite schist.
LT - 9	28.5 m from E End	5.0	31	0.2	61	12	6	35	< 2	Strongly friable limy sericitic-qtz schs. Strong orange-brn iron oxide.
LT - 10	22.5 m from E End	5.0	107	0.4	50	7	20	38	< 2	Strongly friable limy sericitic-qtz schs. Strong orange-brn iron oxide.

TRENCH ROCK SAMPLE TABLE

Lake Creek Trench 1 (Continued)

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
LT - 11	17.5 m from E End	5.0	235	0.5	61	< 5	8	37	< 2	Strongly friable limy sericitic-qtz schs. Strong orange-brn iron oxide.
LT - 12	12.5 m from E End	5.0	74	0.4	48	7	7	30	< 2	Strongly friable limy sericitic-qtz schs. Strong orange-brn iron oxide.
LT - 13	7.5 m from E End	5.5	255	0.5	45	14	13	32	< 2	Strongly friable limy sericitic-qtz schs. Strong orange-brn iron oxide.
Samples LT - 10 to LT - 13 == 0.17g./ 20.5 m										

TRENCH ROCK SAMPLE TABLE

Road Cut Trench

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
LT - 14	E End	5.0	58	0.3	38	< 5	6	34	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?
LT - 15	5.0 m to W	5.0	22	0.2	19	8	3	14	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?
LT - 16	10.0 m to W	5.0	190	0.6	46	7	21	19	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?
LT - 17	15.0 m to W	5.0	11	0.2	15	5	5	12	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?
LT - 18	20.0 m to W	5.0	27	0.3	33	9	9	17	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?

TRENCH ROCK SAMPLE TABLE

Road Cut Trench (Continued)

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
LT - 19	25.0 m to W	4.0	51	0.2	29	7	12	29	< 2	Highly silicified sericite schist with quartz stringers & lenses up to 1.5 ft. wide. Weakly limy. Strong red & orange-brn iron oxide. Tr fresh py. Minor wad in f.f. ZnS ?
Whole Trench Averages 0.06 g./ 29.0 m										

MISCELLANEOUS ROCK SAMPLE TABLE

Livingstone Creek

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
L - 1	Blake's Bar	Grab	< 5	0.1	42	54	11	62	< 2	Grey to black fine to medium grained andesite ? Large white plag. phenos up to 1/2" long. Partially altered (saussuritized ?) Small (up to 1/8") blk-grn pyroxene (?) phen No visible sulphides.
L - 2	Blake's Bar	Grab	< 34	0.2	36	49	6	58	< 2	Green-brn chloritic & iron rich gouge. Seems to be mixed in with dyke and qtz veins. Seems to rest against dyke H.W.
L - 3	Blake's Bar	Grab	34	0.1	22	< 5	< 2	9	< 2	Fractured white qtz vein with strong lt. brn-orange f.f. of iron oxide. > 1% py cubes Possible Po, Chalco, & PbS.
L - 4	"	Grab	40	0.8	34	108	21	38	< 2	<u>Grab by Ken Galambos.</u> He called it a skarn. I think it is a f.g. grey silicified limestone. Tr fresh py. Weak brn iron oxide f.f.
L - 5	North Cut Rim	2.4	10	0.2	37	< 5	10	23	< 2	Crushed sericitic schs with qtz stringers. Strong orange-brn iron oxides. Tr py & wad.
L - 6	"	1.4	19	0.4	111	160	39	54	< 2	Crushed & gougy graphitic-ser. schs. (Chlorite ?) Minor iron oxide. No visible mineralization.

MISCELLANEOUS ROCK SAMPLE TABLE

Livingstone Creek (Continued)

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
L - 7	North Cut Rim	1.7	8	0.2	41	31	20	42	< 2	Highly crushed & contorted ser. schs. Strong orange-brn iron oxide. Tr qtz & gouge.
L - 8	"	1.8	8	0.2	14	< 5	12	42	< 2	Highly crushed ser. schs. Strong qtz lenses with < 1% fresh py. Strong orange-brn iron oxide.
L - 9	"	1.6	8	0.2	14	15	4	44	< 2	Strongly fract. ser schs. Less qtz than L-8. Strong orange-brn iron oxide. Mod. wad f.f.
L - 10	"	1.7	8	0.2	28	9	11	44	< 2	Crushed, weakly gougy ser schs. Strong orange-brn iron oxide. Weak qtz stringers. Tr wad.
L - 11	"	3.0	8	< 0.1	48	28	11	68	< 2	Highly fract. & crushed ser schs. Minor qtz lenses & wad.
L - 12	300 ft. to E	Grab	7	0.3	24	30	10	43	< 2	Calcite cemented gravels just above bedrock.
L - 13	South side of creek	Grab	9	0.7	25	19	7	67	< 2	Graphite schs with minor yellow-orange iron oxide f.f.

MISCELLANEOUS ROCK SAMPLE TABLE

Summit Creek

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
SR - 1	Liv.-Sum Trail	Grab	< 5	0.1	3	< 5	3	13	< 2	~ 1/4 mile up trail from Livingstone Ck. Grey qtzite with 1/4 - 2 1/2" ribbons of white qtz through it. No visible sulphides.

Little Violet Creek

Sample #	Location	Width	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
L + I.V.-1	South Cut edge	2.0	5	0.4	160	< 5	10	59	< 2	Fract., sheared & gougy sericitic qtzite. Strong red-orange iron oxides. Tr oxidized py ? No other visible sulphides.
LV - 1	~ 1/4 mi. N of Ck.	Grab	< 5	< 0.1	2	21	2	28	< 2	Sugary textured brn garnet & actinolite skarn. Tr epidote. No visible mineralization.
LV - 2	North Cut edge	Grab	< 5	0.2	28	25	4	18	< 2	Banded skarn (?). Epidote serpentine (?) Oxidized py crystals up to 1/8".
LV - 3	"	Grab	7	< 0.1	49	38	10	77	< 2	Skarn (?) Epidote-garnet-ser. schs. Some iron oxide. Strongly fract. @ high angle. W dip. No visible mineralization. iron oxide f.f.

MISCELLANEOUS ROCK SAMPLE TABLE

Mendocina Creek

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
M - 1	Top of canyon	Grab	< 5	0.1	1	< 5	11	10	< 2	From near biotite schist contact. Sheared sugary textured white-lt. grey limestone. Weakly silicified & banded. No visible sulphides.
M - 2	South of creek opposite canyon	Grab	< 5	0.1	14	50	5	59	< 2	Biotite-garnet-qtz schist with 2-3" qtz stringers. Tr pyrite.

APPENDIX B
ANALYTICAL CERTIFICATES

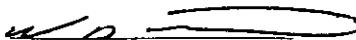
03/06/98

Assay Certificate

Page 1

Larry Carlyle

WO# 07978

Certified by 

Sample #	Au ppb	
ciot-1	5	
cot-2	5	
cot-3	7	
cot-4	< 5	
cot-5	< 5	
cot-6	7	
cot-7	10	
cot-8	6	
cot-9	< 5	
cot-10	< 5	
cot-11	8	
cot-12	7	
cot-13	5	
cot-14	5	
mandy-1	98	
ron-1	33	
T1-S2	234	
T2-S1	18	
T2-S2	28	
T3W-S1	> 7000	@ 74.0m
T3W-S2	254	@ 71.0m
T3W-S3	> 7000	@ 89.0m
T3W-S4	22	
T4-S1	43	
T4-S2	29	
T4-S3	15	
windlass 1	21	
windlass-2	9	
windlass-3	20	



12/06/98

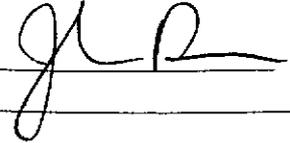
Assay Certificate

Page 1

Larry Carlyle

WO# 07989

Certified by



Sample #	Au oz/ton	
T3W - S1	0.285	(FA/AAS) @ 71.0m
T3W - S3	0.938	(FA/Gravimetric) @ 89m





CERTIFICATE OF ANALYSIS

iPL 98E0490

2036 Columbia Street
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 Canada V5Y 3E1
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 Fax (604) 879-7898

Client : Northern Analytical Laboratories
 Project: W.O. 7978

29 Samples
 29=Pulp

[049012:04:21:89052798]

Out: May 27, 1998
 In: May 25, 1998

Page 1 of 1
 Section 1 of 1

Sample Name	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
COT - 1	<	1	<	9	<	<	<	<	<	<	0.4	<	3	21	<	1	7	13	<	6	<	<	0.01	0.12	0.04	0.27	0.02	0.01	0.01	0.02
COT - 2	<	4	<	13	<	<	<	<	<	<	0.4	3	5	82	<	6	17	250	2	6	1	<	0.03	0.36	0.07	0.82	0.09	0.02	0.01	0.02
COT - 3	<	9	4	23	8	<	<	1	<	<	0.9	9	13	139	<	19	34	633	5	12	<	1	0.04	0.72	0.16	1.80	0.25	0.04	<	0.03
COT - 4	0.1	6	<	15	6	<	<	<	<	<	0.7	4	6	71	<	10	26	87	4	10	1	1	0.04	0.57	0.12	1.13	0.14	0.03	<	0.05
COT - 5	<	7	6	19	<	<	<	1	<	<	0.7	6	10	141	<	12	24	608	4	10	<	1	0.04	0.55	0.14	1.31	0.16	0.04	0.01	0.04
COT - 6	<	8	<	22	6	<	<	1	<	<	0.7	7	15	76	<	17	28	142	5	11	1	1	0.03	0.68	0.17	1.62	0.28	0.05	<	0.02
COT - 7	<	35	7	43	27	<	<	1	<	<	1.4	13	36	137	<	32	35	443	17	17	4	3	0.04	1.19	0.30	2.72	0.57	0.12	<	0.06
COT - 8	<	10	5	23	12	<	<	1	<	<	1.0	9	22	134	<	23	34	204	5	11	1	1	0.03	0.91	0.18	2.04	0.37	0.05	<	0.01
COT - 9	<	9	4	22	8	<	<	<	<	<	0.9	8	19	114	<	22	31	149	6	11	1	1	0.04	0.77	0.15	1.83	0.34	0.07	<	0.02
COT - 10	<	7	<	18	<	<	<	1	<	<	0.7	6	9	99	<	13	26	123	4	8	1	1	0.03	0.57	0.11	1.30	0.19	0.04	<	0.02
COT - 11	<	11	6	26	11	<	<	1	<	<	1.0	8	20	112	<	24	38	142	5	9	1	1	0.03	0.91	0.13	2.06	0.37	0.04	<	0.02
COT - 12	<	7	3	26	6	<	<	1	<	<	0.8	5	11	111	<	17	29	108	5	10	<	1	0.03	0.80	0.14	1.47	0.27	0.03	<	0.04
COT - 13	<	1	<	5	<	<	<	<	<	<	0.2	1	2	29	<	1	9	19	<	6	<	<	0.01	0.14	0.04	0.34	0.04	0.02	0.01	0.02
COT - 14	<	4	<	7	<	<	<	<	<	<	0.3	1	1	30	<	1	11	19	<	6	<	<	0.01	0.14	0.03	0.42	0.02	0.01	0.01	0.02
Mandy - 1	0.5	16	36	6	<	<	<	<	<	<	0.7	3	7	67	<	26	10	263	18	99	3	1	0.01	0.27	2.24	0.92	0.09	0.02	0.03	0.02
Ron - 1	1.9	432	75	130	121	26	<	5	<	<	3.1	5	31	147	<	153	18	271	<	4	<	1	<	0.10	0.03	3.99	0.02	<	<	0.04
T1 - S2	1.9	244	274	25	19	<	<	3	<	<	1.5	14	13	353	<	117	17	2621	3	25	7	1	<	0.14	0.16	2.61	0.02	0.02	<	0.07
T2 - S1	<	32	10	68	<	<	<	2	<	<	2.1	16	41	102	<	75	44	767	18	67	6	4	0.04	1.17	2.46	3.88	1.02	0.11	<	0.19
T2 - S2	<	31	15	57	11	<	<	2	<	<	1.8	16	55	99	<	90	40	720	14	56	9	4	0.04	1.14	2.78	3.33	1.03	0.15	<	0.11
T3W - S1	94.7	73	6427	4	<	<	<	1	<	119	1.0	1	5	555	<	139	3	52	<	17	3	<	<	0.07	0.02	1.58	0.02	0.03	<	<
T3W - S2	0.4	23	29	21	<	<	<	1	<	<	1.0	7	14	44	<	117	6	240	11	7	21	2	<	0.25	0.08	1.91	0.05	0.06	<	0.02
T3W - S3	0.1m	86	15110	4	<	<	<	4	<	173	2.3	2	6	225	<	138	2	50	<	15	5	<	<	0.05	0.01	2.63	0.01	<	<	<
T3W - S4	0.7	13	82	8	<	<	<	1	<	<	0.4	3	6	16	<	170	2	85	<	1	3	<	<	0.06	0.06	0.60	0.02	0.02	0.01	0.01
T4 - S1	<	45	17	48	20	<	<	2	<	<	1.6	14	38	118	<	112	25	780	17	12	10	3	0.01	1.05	0.21	2.99	0.89	0.11	<	0.06
T4 - S2	<	35	14	56	15	<	<	1	<	<	1.6	17	38	146	<	74	21	1072	21	12	12	3	0.01	0.99	0.20	2.97	0.86	0.10	<	0.06
T4 - S3	<	29	12	51	<	<	<	2	<	<	1.5	14	39	91	<	79	26	633	17	14	8	2	0.02	0.87	0.24	3.06	0.59	0.11	<	0.06
Windlass - 1	<	47	16	83	21	<	<	2	<	<	2.5	17	31	855	<	58	73	1127	11	30	9	12	0.01	1.00	0.52	4.65	0.36	0.21	<	0.14
Windlass - 2	<	21	<	6	22	<	<	1	<	<	0.5	3	12	99	<	119	3	157	<	3	2	1	<	0.06	0.02	0.73	0.02	0.02	<	0.01
Windlass - 3	<	43	5	52	16	<	<	4	<	<	1.6	17	81	43	<	130	53	457	4	14	2	6	<	0.61	0.42	3.46	0.50	0.05	<	0.08

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
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29/06/98

Assay Certificate

Page 1

Larry Carlyle

WO# 07998

Certified by *JR*

Sample #	Au ppb
L + I.V. - 1	5
RON - 2	5
T1 - S3	<5
T1 - S4	11
T1 - S5	8
T1 - S6	14
T1 - S7	256
T1 - S8	19
T3E - S1	7
T3E - S2	12
T3E - S3	<5
<i>T3W</i> T3E - S5	4918
<i>T3W</i> T3E - S6	85
CG - 1	9
CG - 2	25
CG - 3	9
CT - 1	6
LK98 - 1	<5
LK98 - 2	<5
LK98 - 3	<5
LK98 - 4	<5
LK98 - 5	<5
LK98 - 6	<5
LK98 - 7	<5
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LK98 - 11	6
LK98 - 12	<5
LK98 - 13	<5



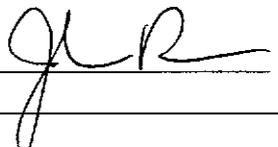
29/06/98

Assay Certificate

Page 2

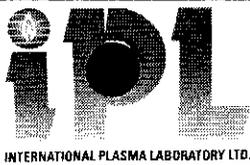
Larry Carlyle

WO# 07998

Certified by 

Sample #	Au ppb
LK98 - 14	5
LK98 - 15	<5
LK98 - 16	9
LK98 - 17	<5
LK98 - 18	<5
LK98 - 19	9
LK98 - 20	<5
SG - 1	<5
SG - 2	5
SG - 3	<5
SG - 4	<5
SG - 5	<5
SG - 6	<5
SG - 7	<5
SG - 8	7
SG - 9	6
SGE - 1	<5
SGE - 2	8
SGE - 3	<5
SGE - 4	6
SGE - 5	<5
SGE - 6	5
SGE - 7	<5
SGE - 8	6





INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS

IP# 8F0575

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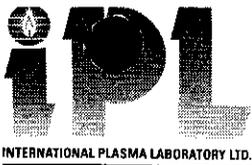
Client : Northern Analytical Laboratories
Project: WO#7998

54 Samples
54=Pulp

[057513:31:57:89062598] Out: Jun 25, 1998 Page 1 of 2
In : Jun 18, 1998 Section 1 of 1

Table with columns: Sample Name, Ag ppm, Cu ppm, Pb ppm, Zn ppm, As ppm, Sb ppm, Hg ppm, Mo ppm, Tl ppm, Bi ppm, Cd ppm, Co ppm, Ni ppm, Ba ppm, W ppm, Cr ppm, V ppm, Mn ppm, La ppm, Sr ppm, Zr ppm, Sc ppm, Ti %, Al %, Ca %, Fe %, Mg %, K %, Na %, P %. Rows include samples like CG-1, LK98-1, LK98-2, etc.

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
Max Reported* 99.9 20000 20000 20000 9999 999 9999 999 999 9999 99.9 9999 9999 9999 999 9999 9999 9999 9999 9999 9999 9999 9999 1.00 9.99 9.99 9.99 9.99 9.99 5.00 5.00
Method ICP ICP
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CERTIFICATE OF ANALYSIS

iPL 98F0575

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 Fax (604) 879-7898

Client : Northern Analytical Laboratories
 Project: WO#7998

54 Samples
 54=Pulp

[057513:31:57:89062598]

Out: Jun 25, 1998
 In : Jun 18, 1998

Page 2 of 2
 Section 1 of 1

Sample Name	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
SGE-5	P <	1	<	6	<	<	<	<	<	<	0.2	1	1	13	<	<	11	27	<	6	<	<	0.01	0.09	0.03	0.40	0.01	0.03	0.03	0.02
SGE-6	P 0.4	13	11	91	19	<	<	<	<	<	0.9	5	8	171	<	6	9	909	17	89	2	1	0.02	0.39	1.82	0.64	0.10	0.05	0.02	0.12
SGE-7	P <	1	<	6	<	<	<	<	<	<	0.3	2	2	19	<	<	8	20	<	9	<	<	0.02	0.12	0.08	0.27	0.04	0.03	0.04	0.01
SGE-8	P 0.3	18	6	42	18	<	<	<	<	<	1.2	9	17	110	<	18	29	221	20	20	<	<	0.01	0.91	0.38	2.04	0.34	0.06	0.01	0.16
TI-S3	P 0.2	4	<	8	<	<	<	<	1	<	0.4	2	6	35	<	187	2	236	4	5	5	<	<	0.09	0.12	0.76	0.02	0.04	0.01	0.01
TI-S4	P 0.6	41	42	54	10	<	<	2	<	<	1.4	13	24	138	<	120	6	745	30	7	12	1	<	0.28	0.15	2.83	0.04	0.20	<	0.03
TI-S5	P <	20	73	32	9	<	<	5	<	<	2.2	6	16	300	<	105	6	2482	7	36	17	5	<	0.27	8.00	2.18	0.56	0.05	<	0.03
TI-S6	P 0.4	31	83	32	13	<	<	2	<	<	1.1	6	13	142	<	95	5	1031	12	17	14	1	<	0.18	3.74	1.85	0.24	0.13	<	0.02
TI-S7	P 2.0	63	169	23	413	22	<	2	<	<	0.9	6	13	57	<	118	3	415	13	6	12	1	<	0.17	0.09	1.66	0.03	0.16	<	0.02
TI-S8	P 0.5	29	70	53	<	<	<	3	<	<	1.7	12	16	121	<	98	17	730	25	22	11	1	<	0.39	0.26	3.29	0.06	0.18	<	0.09
T3E-S1	P 0.2	27	11	56	5	<	<	3	<	<	1.5	13	28	77	<	82	11	581	34	15	18	2	0.01	0.46	0.22	3.03	0.21	0.21	<	0.04
T3E-S2	P <	33	8	62	9	<	<	3	<	<	1.9	18	56	104	<	111	42	783	20	51	8	4	0.05	1.32	2.46	3.57	1.23	0.22	<	0.11
T3E-S3	P 0.1	9	<	8	<	<	<	1	<	<	0.4	3	8	49	<	191	4	357	6	3	4	<	0.01	0.13	0.06	0.96	0.05	0.07	0.01	0.01
T3E-S5	P 35.5	126	3430	17	<	<	<	2	<	34	1.6	5	10	44	<	142	4	316	13	13	14	1	<	0.24	0.05	2.23	0.05	0.13	<	0.01
T3E-S6	P 0.6	19	85	21	<	<	<	2	<	<	1.1	7	15	117	<	125	5	999	16	10	21	2	<	0.31	0.13	1.87	0.06	0.08	0.01	0.02

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
 Max Reported* 99.9 20000 20000 20000 9999 999 9999 999 999 9999 99.9 9999 9999 9999 999 9999 9999 9999 9999 9999 9999 9999 9999 1.00 9.99 9.99 9.99 9.99 9.99 5.00 5.00
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13/11/98

Certificate of Analysis

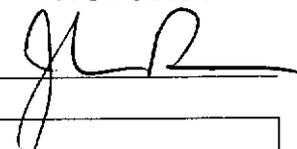
Page 1

Larry Carlyle

WO# 05625

Livingstone Assays

Certified by



Sample #	Au ppb
r CT-1	<5
r CT-2	<5
r CT-3	8
r CT-4	5
r CT-5	5
r CT-6	8
r CT-7	7
r CT-8	12
r CT-9	12
r L-4	40
r L-5	10
r L-6	19
r L-7	8
r L-8	8
r L-9	8
r L-10	8
r L-11	8
r L-12	7
r L-13	9
r LT-1	26
r LT-2	43
r LT-3	62
r LT-4	61
r LT-5	44
r LT-6	39
r LT-7	13
r LT-8	18
r LT-9	31
r LT-10	107
r LT-11	235

13/11/98

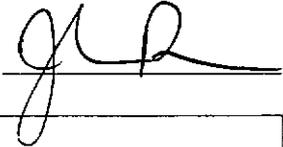
Certificate of Analysis

Page 2

Larry Carlyle

WO# 05625

Certified by



Sample #	Au ppb
r LT-12	74
r LT-13	255
r LT-14	58
r LT-15	22
r LT-16	190
r LT-17	11
r LT-18	27
r LT-19	51
r LV-2	<5
r LV-3	7
r SR-1	<5
r M-2	<5



INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS

iPL 98K1195

2036 Columbia Street
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
Fax (604) 879-7898

Client : Northern Analytical Laboratories
Project: W.O. 5625

42 Samples
42=Pulp

[119513:45:58:89111098]

Out: Nov 10, 1998
In : Nov 05, 1998
Page 2 of 2
Section 1 of 1

Sample Name	Ag ppm	Cu ppm	Pb ppm	Zn ppm	As ppm	Sb ppm	Hg ppm	Mo ppm	Tl ppm	Bi ppm	Cd ppm	Co ppm	Ni ppm	Ba ppm	W ppm	Cr ppm	V ppm	Mn ppm	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
LV - 3	P <	49	10	77	38	<	<	2	<	<	6.6	13	36	163	<	51	36	659	25	37	3	2	0.07	1.36	0.43	3.14	1.14	0.19	0.01	0.07
M - 2	P 0.1	14	5	59	50	<	<	2	<	<	6.3	18	8	263	<	47	72	569	4	39	2	3	0.12	1.79	1.31	2.95	1.56	0.87	0.01	0.04
SR - 1	P 0.1	3	3	13	<	<	<	5	<	<	0.8	1	6	30	<	43	5	545	3	58	2	1	<	0.05	13%	0.37	6.42	0.01	0.02	0.02

Min Limit 0.1 1 2 1 5 5 3 1 10 2 0.1 1 1 2 5 1 2 1 2 1 1 1 1 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01 0.01
Max Reported* 99.9 20000 20000 20000 9999 999 9999 999 999 9999 99.9 9999 9999 9999 999 9999 9999 9999 9999 9999 9999 9999 9999 1.00 9.99 9.99 9.99 9.99 9.99 5.00 5.00
Method ICP
---=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No Sample P=Pulp

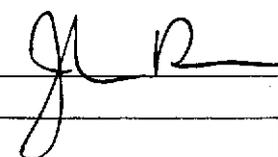
25/09/98

Certificate of Analysis

Page 1

Larry Carlyle

WO# 05614

Certified by 

Sample #	Au ppb
s C98-1	<5
s C98-2	<5
s C98-3	326
s C98-4	16
s C98-5	9
s C98-6	<5
s C98-7	14
s C98-8	<5
s C98-9	<5
s C98-10	<5
s C98-11	<5
s C98-12	<5
s C98-13	7
s C98-14	<5
s C98-15	5
s C98-16	7
s C98-17	<5
s C98-18	7
s S98-1	<5
s S98-2	<5
s S98-3	<5
s S98-4	<5
s S98-5	<5
s S98-6	5
s S98-7	<5
s S98-8	<5
s S98-9	<5
s S98-10	12
s S98-11	13
s S98-12	14

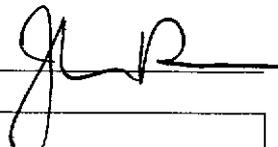
25/09/98

Certificate of Analysis

Page 2

Larry Carlyle

WO# 05614

Certified by 

	Sample #	Au ppb
s	S98-13	8
s	S98-14	7
s	S98-15	5
s	S98-16	8
s	V98-1	<5
s	V98-2	<5
s	V98-3	<5
s	V98-4	<5
s	V98-5	<5
s	V98-6	<5
s	V98-7	<5
s	V98-8	<5
s	V98-9	<5
s	V98-10	<5
s	V98-11	<5
s	V98-12	<5
s	V98-13	11
s	V98-14	<5
s	V98-15	45
s	V98-16	9
s	V98-17	8
s	V98-18	<5
s	V98-19	9
s	V98-20	<5
s	V98-21	8
s	V98-22	<5
s	V98-23	<5
s	V98-24	16
s	V98-25	7
r	L-1	<5

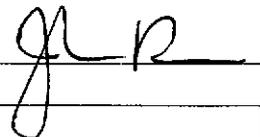
25/09/98

Certificate of Analysis

Page 3

Larry Carlyle

WO# 05614

Certified by 

Sample #	Au ppb
LV-1	<5
M-1	<5

05/10/98

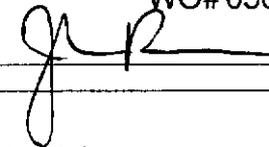
Certificate of Analysis

Page 1

Larry Carlyle

WO# 05614a

Certified by



Sample #	total pulp wt gm	wt of +150 gm	Au in -150 oz/ton	Au in +150 mg	total Au oz/ton
r L-2	273.7	28.863	<0.001	<0.001	<0.001
r L-3	303.2	28.915	0.001	<0.001	0.001

Livingstone Assays

APPENDIX C
INVOICES SUPPORTING
STATEMENT OF COSTS

LIVINGSTONE PLACER LTD.

Bulldozer Trenching (96.5 hrs @ \$185./hr)	\$ 17,852.50
Air Charters	\$ 1,059.70
Room & Board (53 person/days @ \$35/day)	\$ 1,855.00
Miscellaneous Fuels & Oil	\$ 200.00
ATV Rental (2 wks. @ \$125/wk)	\$ 250.00
	<hr/>
TOTAL	\$ 21,217.20

**LIVINGSTONE PLACER LTD.
BULLDOZER INVOICE**

Bulldozer: Terex D 800 Series (D - 9 equivalent)
Equipped with U-Blade and Rippers

Bulldozer was utilized from May 1 - 8 for at least 10 hrs/day for road clearing,
trench construction, as well as mob and demob.

Bulldozer use 80 hours @ \$185./hr \$ 14,800.00

**LIVINGSTONE PLACER LTD.
BULLDOZER INVOICE**

Bulldozer: Terex D 800 Series (D - 9 equivalent)
Equipped with U-Blade and Rippers

Bulldozer was utilized from October 23 - 24 for trench construction, as well as
mob and demob.

Bulldozer use 16.5 hours @ \$185./hr \$ 3,052.50

CARLYLE INVOICE

LIVINGSTONE CREEK PROJECT

Geologist Field Work (24 days @ \$300/day)	\$ 7,200.00
Assaying	\$ 3,828.56
Report Writing	\$ 1,500.00
Air Charters	\$ 758.70
Field Supplies (Flagging, bags, hip chain twine, etc.)	\$ 200.00
Office Supplies (Photocopying, paper, etc.)	\$ 193.08
<hr/>	
TOTAL	\$13,680.34

CARLYLE FIELD WORK INVOICE

Carlyle Wages (May 4 - 8 @ \$300./day)	\$ 1,500.00
Carlyle Wages (June 6 - 10 @ \$300./day)	\$ 1,500.00
<hr/>	
TOTAL	\$ 3,000.00

CARLYLE FIELD WORK INVOICE

Carlyle Wages (October 23 - 25 @ \$300./day)	\$ 900.00
<hr/>	<hr/>
TOTAL	\$ 900.00

CARLYLE FIELD WORK INVOICE

Carlyle Wages (September 14 - 19 @ \$300./day)	\$ 1,800.00
<u>Carlyle Wages (September 28 - October 2 @ \$300./day)</u>	<u>\$ 1,500.00</u>
TOTAL	\$ 3,300.00

Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 03/06/98

WO# 07978

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
7	Sample Preparation: Sample Drying	2.50	17.50
14	Soil/Sediment Sample Preparation	2.00	28.00
15	Rock	5.00	75.00
29	Analyses: Au + 30	16.00	464.00

PAID CHQ # 296.

Subtotal 584.50
 GST @7% (R 121285662) 40.92

Livingstone Assays

Total due on receipt of invoice **\$625.42**

2% per month charged on overdue accounts

LESS 15 COUPONS <172.50>
TOTAL 452.92.



Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 12/06/98

WO# 07989

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Analyses: Au 1AT FA/AAS	11.00	11.00
1	Au 1AT FA/Gravimetric	12.00	12.00

Subtotal 23.00

GST @7% (R 121285662) 1.61

Total due on receipt of invoice **\$24.61**

2% per month charged on overdue accounts

Livingstone Assays

PAID CASH *JR*



Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 18/06/98

WO# 07998

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
13	Sample Preparation: Rock/D.C. Sample Preparation	5.00	65.00
41	Soil/Sediment Sample Preparation	2.00	82.00
54	Analyses: Au + 30	16.00	864.00

Subtotal 1011.00

GST @7% (R 121285662) 70.77

Total due on receipt of invoice **\$1,081.77**

2% per month charged on overdue accounts

Livingstone Assays

13 ASSAY COUPONS (\$273.00)

NET \$808.77

PAID
CK # 030

JR



Invoice for Analytical Services

To:

Invoice Date: 25/09/98

Larry Carlyle

WO# 05614

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
5	Sample Preparation: Rock/D.C. Sample Preparation	5.00	25.00
59	Soil/Sediment Sample Preparation	2.00	118.00
62	Analyses: Au + 30	16.00	992.00
2	Au Metallics Fire Assay + ICP-30	37.25	74.50

Livingstone
PAID CR #048
JR

Subtotal	1209.50
GST @7% (R 121285662)	84.67
22 Assay Coupons	(\$226.75)
Total due on receipt of invoice	\$1,067.42
2% per month charged on overdue accounts	

Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 13/11/98

WO# 05625

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
42	Sample Preparation: Rock/D.C. Sample Preparation	5.00	210.00
32	Sample Drying	2.50	80.00
42	Analyses: Au + 30	16.00	672.00

*PAID CHQ 052.
W.D.*

Subtotal 962.00
 GST @7% (R 121285662) 67.34

*Livingstone
Assays.*

Total due on receipt of invoice **\$1,029.34**

2% per month charged on overdue accounts

BIG SALMON AIR

668-4608
P.O. Box 6001
Whitehorse, Yukon Y1A 5L7

CHARTER TICKET
No 2395

AC CESSNA 206 JSR DATE June 11, 98
NAME LIVINGSTONE PLACER
ADDRESS WHITEHORSE

From	Miles	Hours	Cargo	Passenger-Remarks
To <u>LY</u>				
<u>LY</u>				<u>Alma</u>
				<u>+</u>
				<u>Polde</u>

Special Instructions	at	Per Hour		
	at	Per Mile	<u>220.00</u>	
Waiting Time	at	Per Hour		
Fuel	gals @	Per Gallon		
GST # R126985522			<u>15.40</u>	
TOTAL CHARGES			<u>\$235.40</u>	

David Young
Pilot's Signature

Base

Larry K. Corbett
Charterer's Authorization

BIG SALMON AIR

668-4608
P.O. Box 6001
Whitehorse, Yukon Y1A 5L7

CHARTER TICKET
No 2109

AC CESSNA 206 JSR DATE Oct 23, 98
NAME LIVINGSTONE PLACER
ADDRESS WHITEHORSE

From	Miles	Hours	Cargo	Passenger-Remarks
To <u>LY</u>				
<u>LY</u>				<u>LARRY</u>
				<u>+</u>
				<u>gas</u>
				<u>+</u>
				<u>gear</u>

Special Instructions	at	Per Hour		
	at	Per Mile	<u>210.00</u>	
Waiting Time	at	Per Hour		
Fuel	gals @	Per Gallon		
GST # R126985522			<u>15.00</u>	
TOTAL CHARGES			<u>\$235.00</u>	

David Young
Pilot's Signature

Base

Mr. Frost
Charterer's Authorization

BIG SALMON AIR

668-4608

P.O. Box 6001

Whitehorse, Yukon Y1A 5L7

CHARTER TICKET

№ 2315

ACCESSNA 206 JSR DATE May 8, 98

NAME LIVINGSTONE PLACE

ADDRESS WHITEHORSE

From	Miles	Hours	Cargo	Passenger-Remarks
<u>XX</u>				
To <u>LIVINGSTONE</u>				
<u>XX</u>				<u>frum gear</u>
				<u>8</u>
				<u>gear</u>

Special Instructions	at	Per Hour		
	at	Per Mile	<u>220.00</u>	
	Waiting Time	at	Per Hour	
	Fuel	gals @	Per Gallon	
	GST # R126985522			<u>15 80</u>
TOTAL CHARGES			<u>235.80</u>	

David Young
Pilot's Signature

Base

Max Frost
Charterer's Authorization

BIG SALMON AIR

668-4608

P.O. Box 6001

Whitehorse, Yukon Y1A 5L7

CHARTER TICKET

№ 2313

ACCESSNA 206 JSR DATE May 4, 98

NAME LIVINGSTONE PLACE

ADDRESS WHITEHORSE

From	Miles	Hours	Cargo	Passenger-Remarks
<u>XY</u>				
To <u>LIV</u>				<u>WARR T</u>
<u>XY</u>				<u>gear</u>

Special Instructions	at	Per Hour		
	at	Per Mile	<u>220.00</u>	
	100	at 2.20 Per Mile	<u>220.00</u>	
	Waiting Time	at	Per Hour	
	Fuel	gals @	Per Gallon	
GST # R126985522			<u>15 80</u>	
TOTAL CHARGES			<u>\$235.80</u>	

David Young
Pilot's Signature

Base

Max Frost
Charterer's Authorization

PacBlue Digital Reprographics Inc.

1595 West 6th Avenue
 Vancouver BC V6J 1R1
 CANADA

Invoice

Telephone: (604) 714-3288 Fax: (604) 714-3289

Invoice #: 00000904

GST #: 13281 2538

Invoice Date: 98/6/9

Bill To:

Ship To:

CASH SALES
 1595 West 6th Ave.
 Vancouver, B.C. V6J 1R1

Larry W. Carlyle
 74 Tamarack Drive
 Whitehorse Yukon Y1A 4Y6

SALESPERSON	PROJECT * ORDER No.	SHIP DATE	TERMS	DUE DATE	PG	
	40652		C.O.D.	98/6/9	1	
ITEM NO.	QUANTITY	DESCRIPTION			AMOUNT	TAX

C-N912-1-5	1 each	S.Master Negative 9x12" 1-5	\$9.25	\$9.25	G
C-FM-11+	13 sq ft	Matte Film Print 11+ sq ft.	\$8.45	\$109.85	G

Good NISA

*Livingstone Claim Area
 Topo map blown up from
 1:50,000 to 1:10,000 scale.*

CODE	PST RATE	AMOUNT	GST RATE	AMOUNT	SALE AMOUNT		
G	0%	\$0.00	7%	\$8.69	\$124.10	SALE AMOUNT	\$119.10
						DELIVERY	\$5.00 G
						GST	\$8.69
						PST	\$0.00
						TOTAL	\$132.79
						PAID TODAY	\$0.00
						BALANCE DUE	\$132.79

