REPORT ON THE 1998 WORK PROGRAM

CAM CLAIMS 1 - 146

LIVINGSTONE AREA

WHITEHORSE MINING DISTRICT, YUKON

NTS 105 E/8

by

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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.

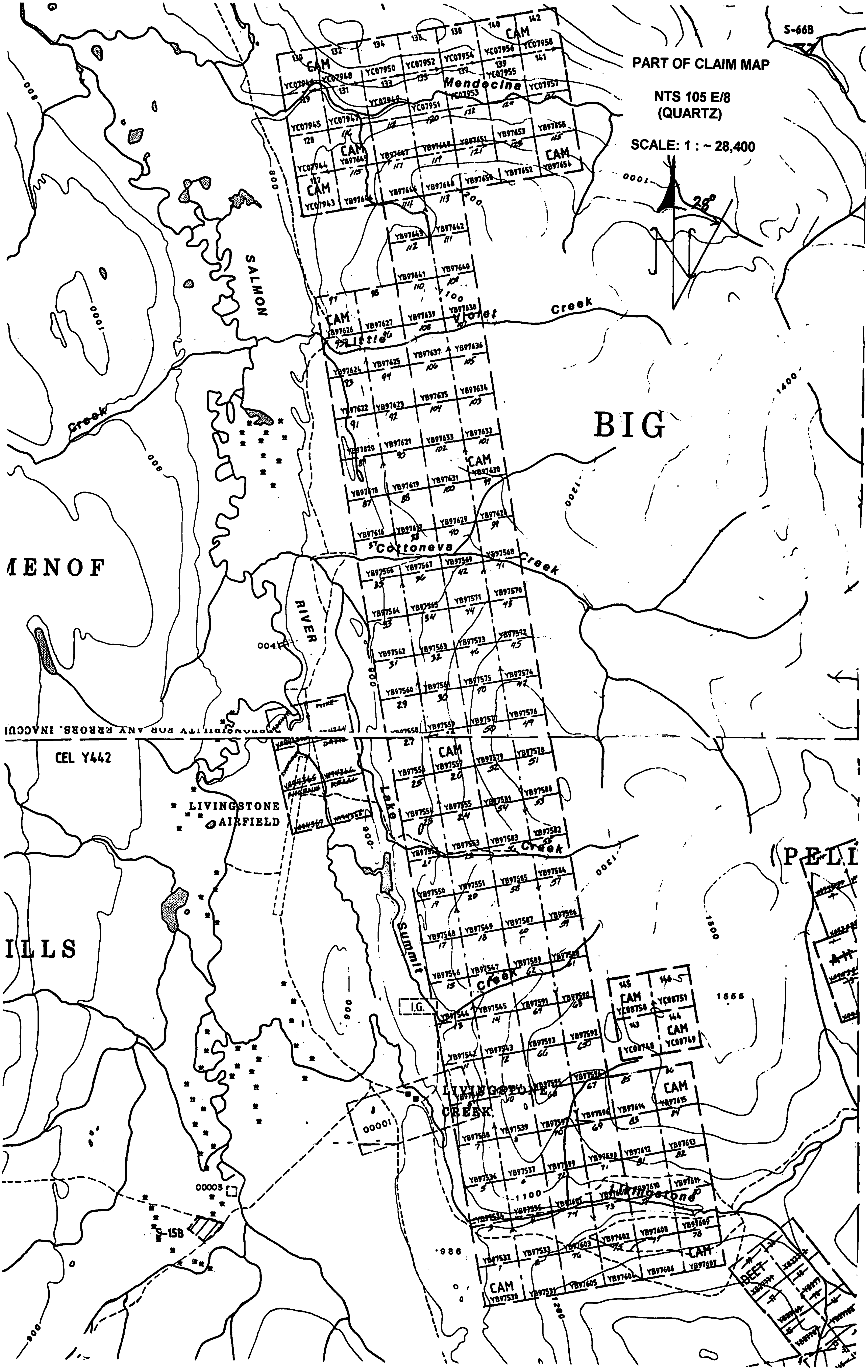
A detailed soil sampling grid with coincident gold, copper, and arsenic values which also contained shear zones confirmed with ground VLF-EM in the area of an old adit on the north side of Livingstone Creek was excavated with a total of 5 bulldozer trenches in early May, 1998. An additional 6 trenches (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 61^0 19' N; Longitude 134^0 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)
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ILLS
(PELI
SALMON
RIVER
Mendocina
Little Violet Creek
Creek
Cottoneva Creek
Lake
Summit Creek
Creek
LIVINGSTONE CREEK
Livingstone
LIVINGSTONE AIRFIELD
CEL Y442
C-158
I.G.
00001
00003
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BEET
CAM
YC07943
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1280

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.

CLAIM NAME	GRANT NUMBERS	EXPIRY DATE
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, hornblendite, 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).

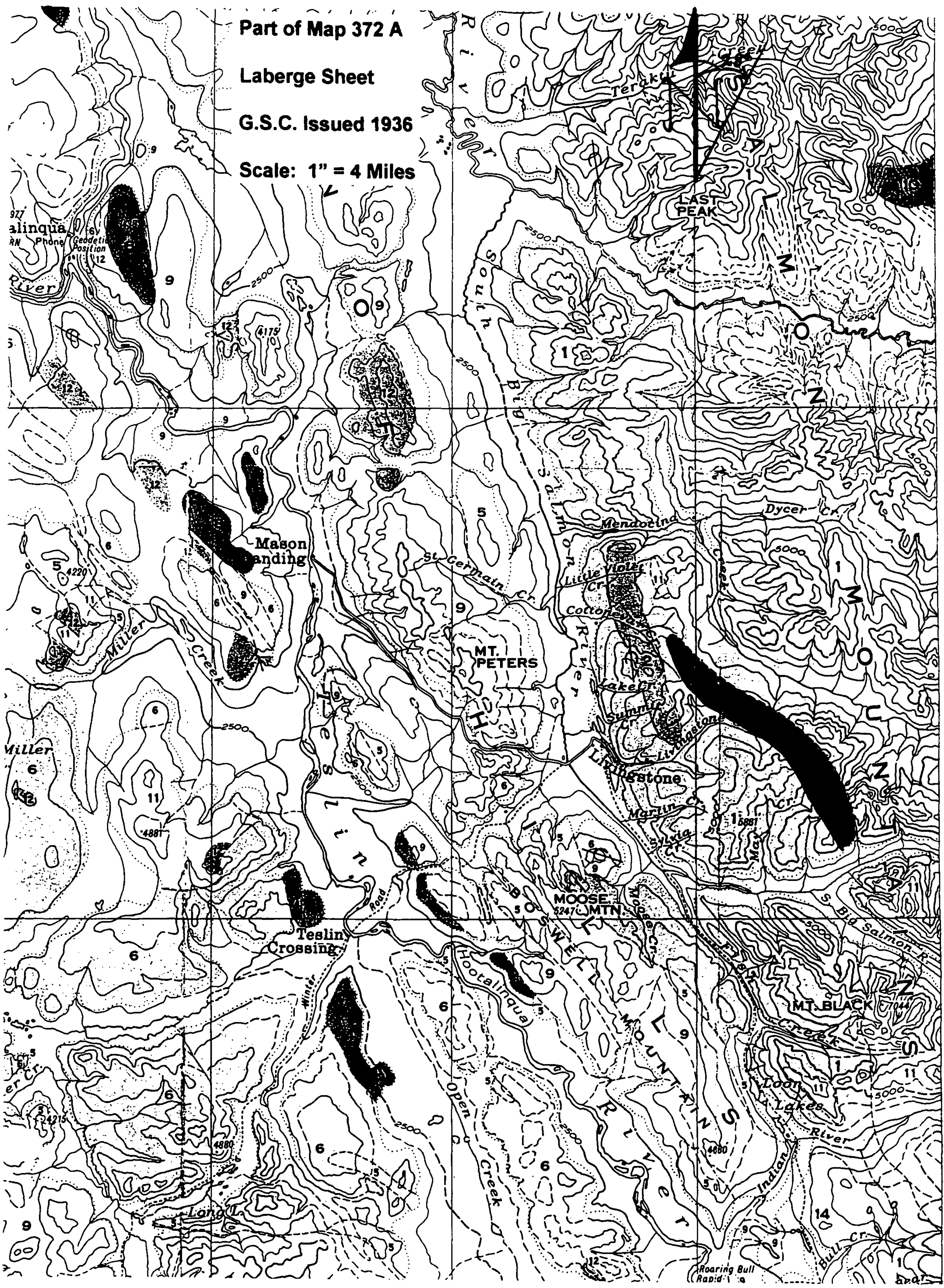
The regional geology was reinterpreted by Tempelman-Kluit in 1977-1979 (See Part of G.S.C. O.F. 1101). This interpretation identified the Big Salmon Fault, down which the South Big Salmon River flows and into which the placer creeks drain. During this mapping, Tempelman-Kluit identified the Teslin Fault (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

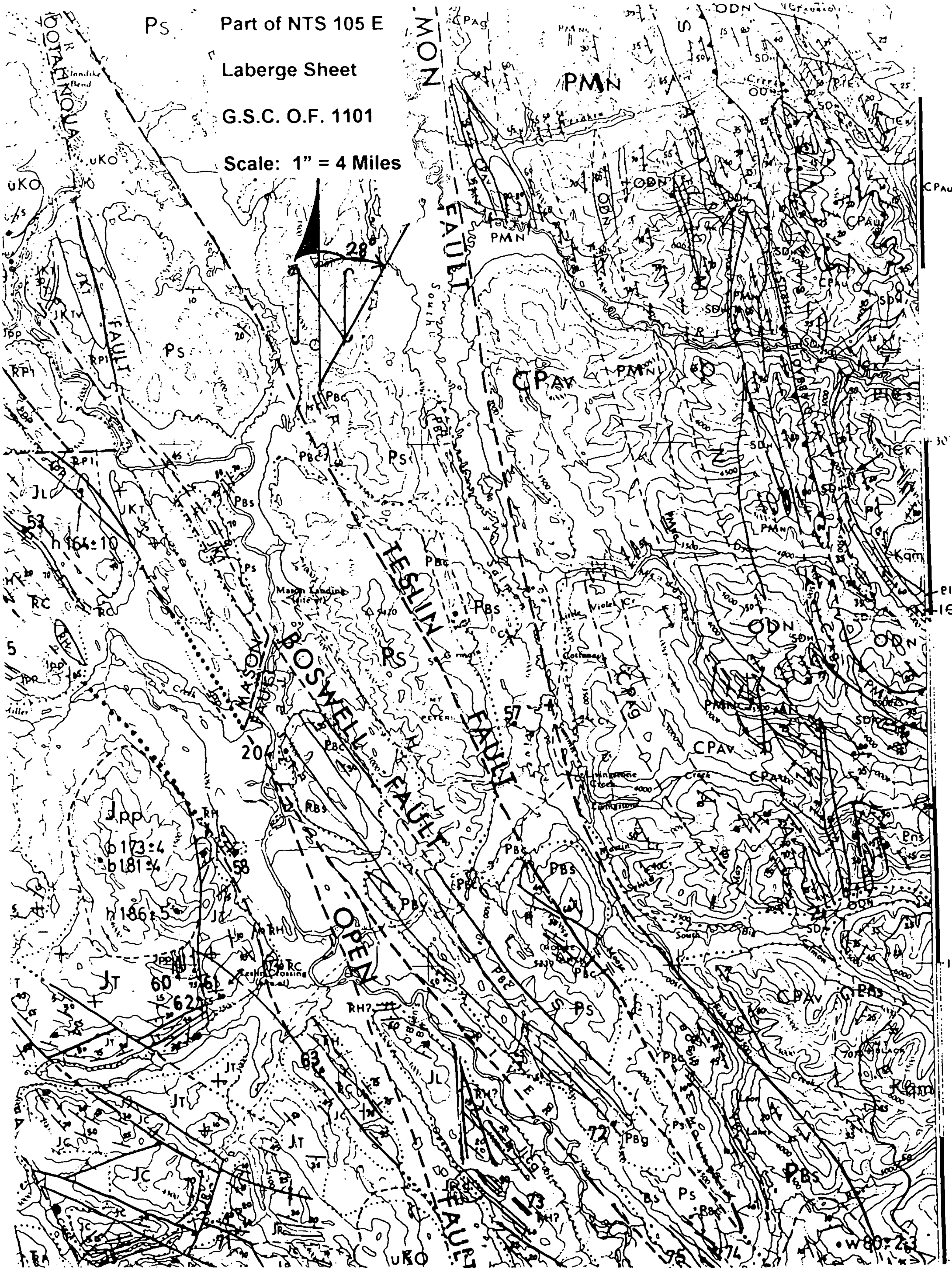


The rocks west of the Teslin Fault (also known as the Teslin Suture) were pressed against and over the original North America during the Early Cretaceous. His theory postulated that this action would cause the rocks east of the Big Salmon Fault to be raised in reverse faulted thrust blocks.

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


Part of NTS 105 E

Laberge Sheet

G.S.C. O.F. 1101

Scale: 1" = 4 Miles

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 320^0 - 340^0 Az. and appear to have westerly dips between 65 - 75^0. 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.

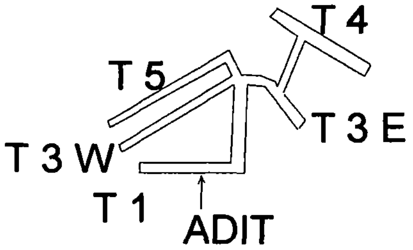
Trenching

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:

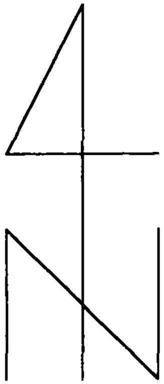
- a zone at 71 metres from the east end averages 1.44 g/t over 1.47 metres
- a zone at 89 metres from the east end averages 4.89 g/t over 2.84 metres

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

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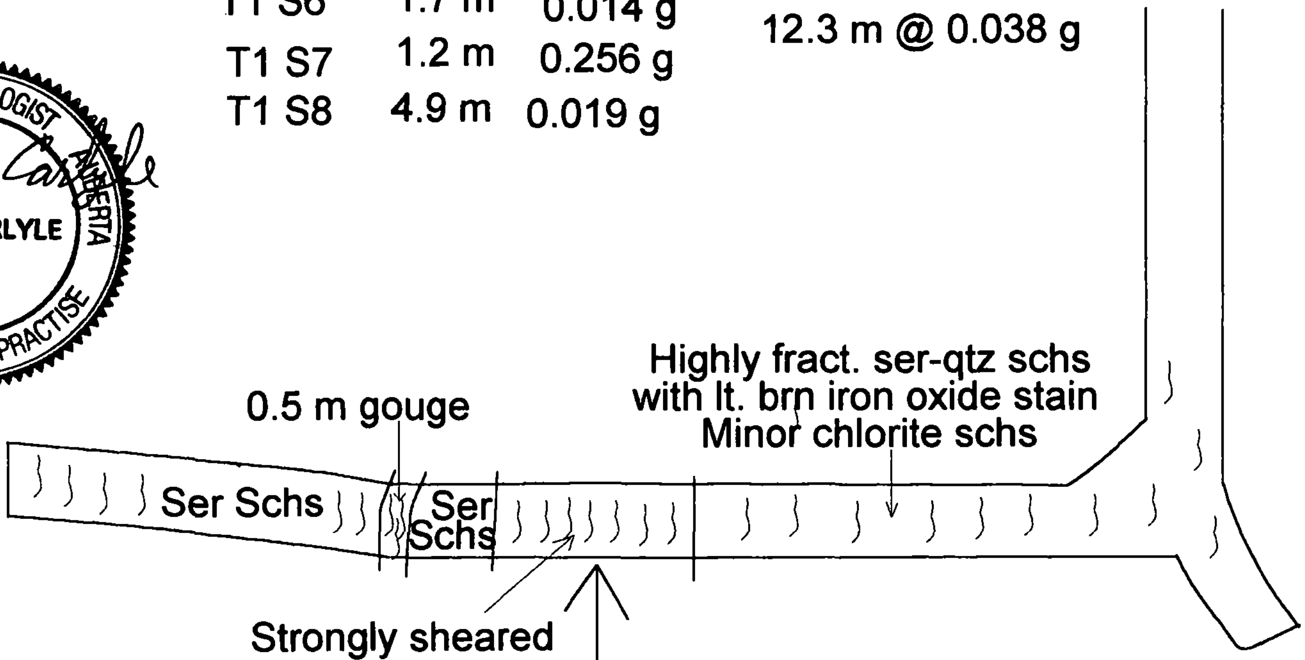
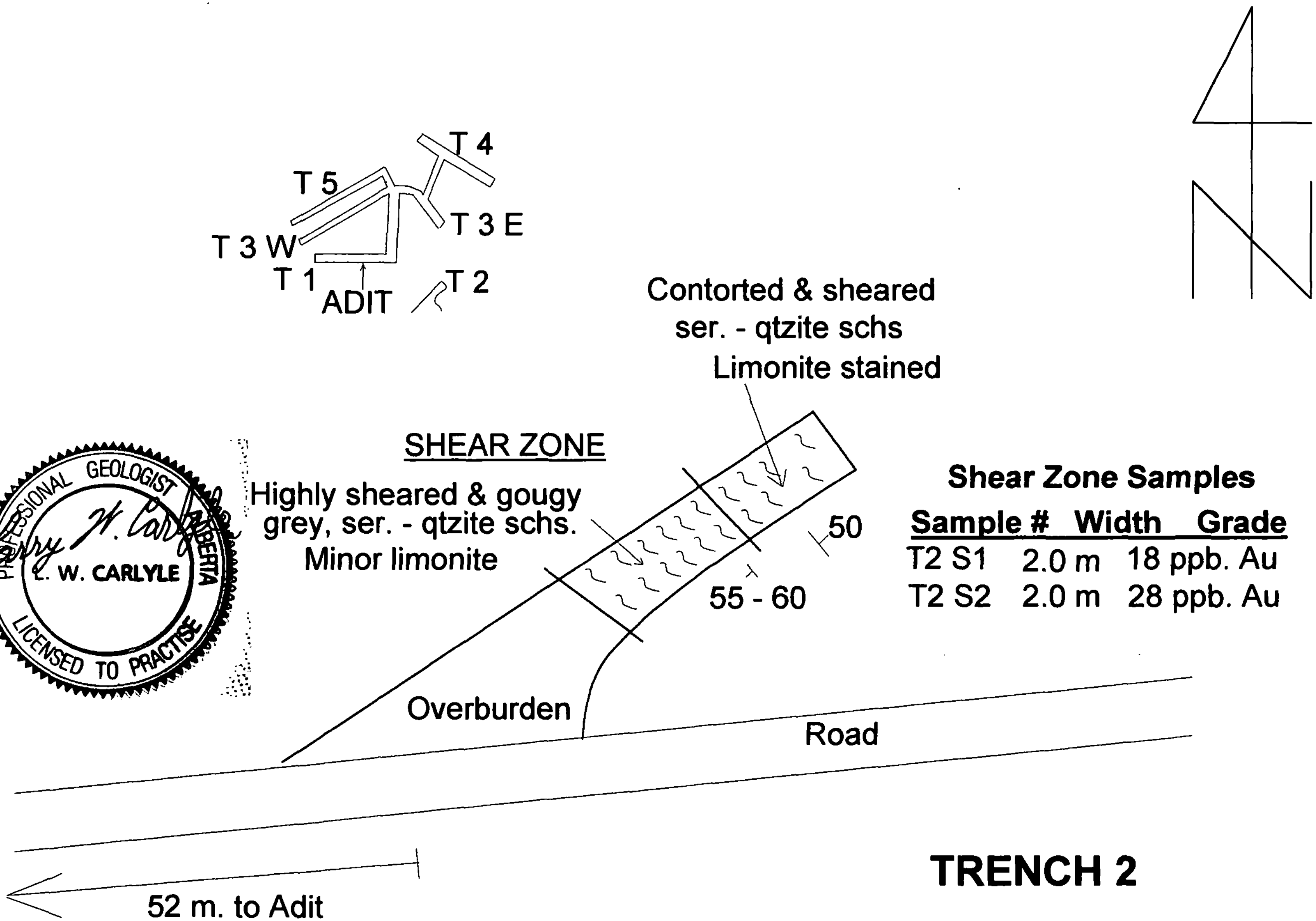


TRENCH 1

SCALE: 1cm = ~ 5 m



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Shear Zone Samples

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

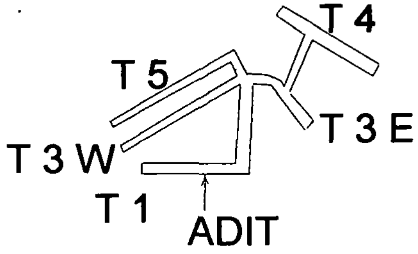
TRENCH 2

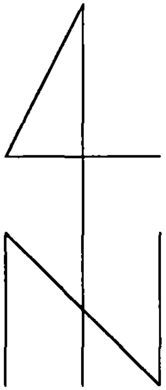
SCALE; 1 cm = ~ 5 m

Sample #	Width	Grade
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.





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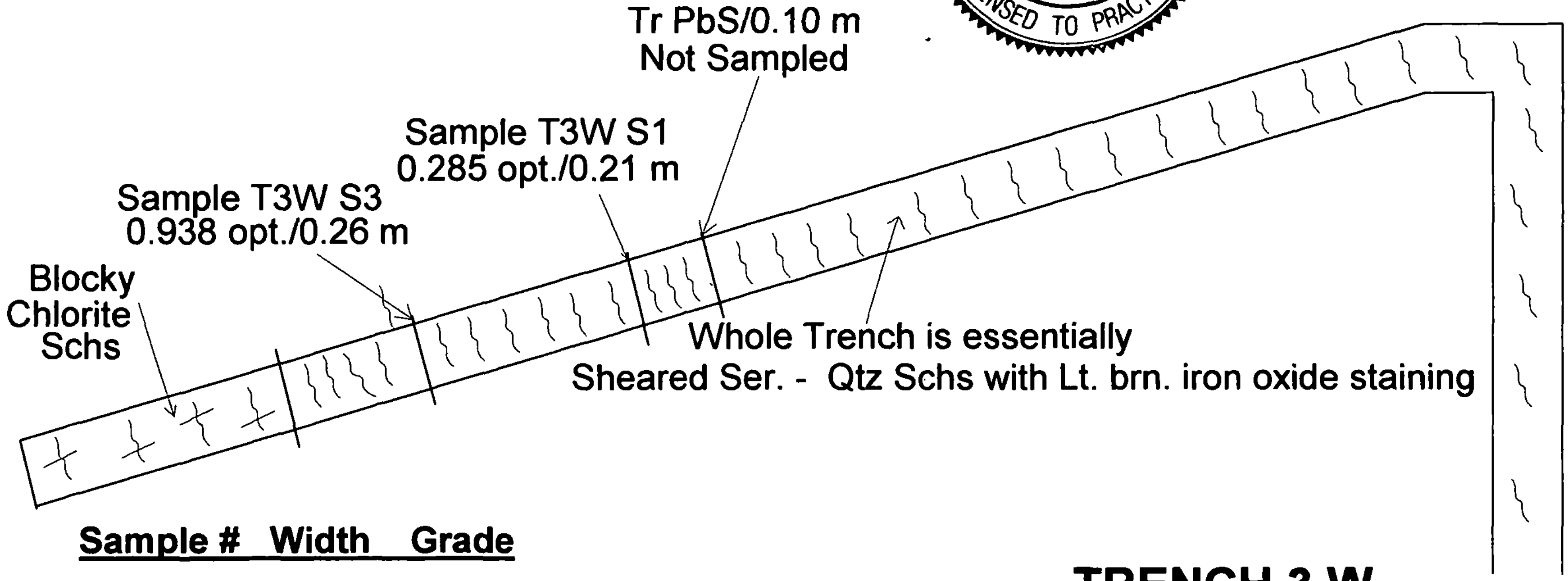


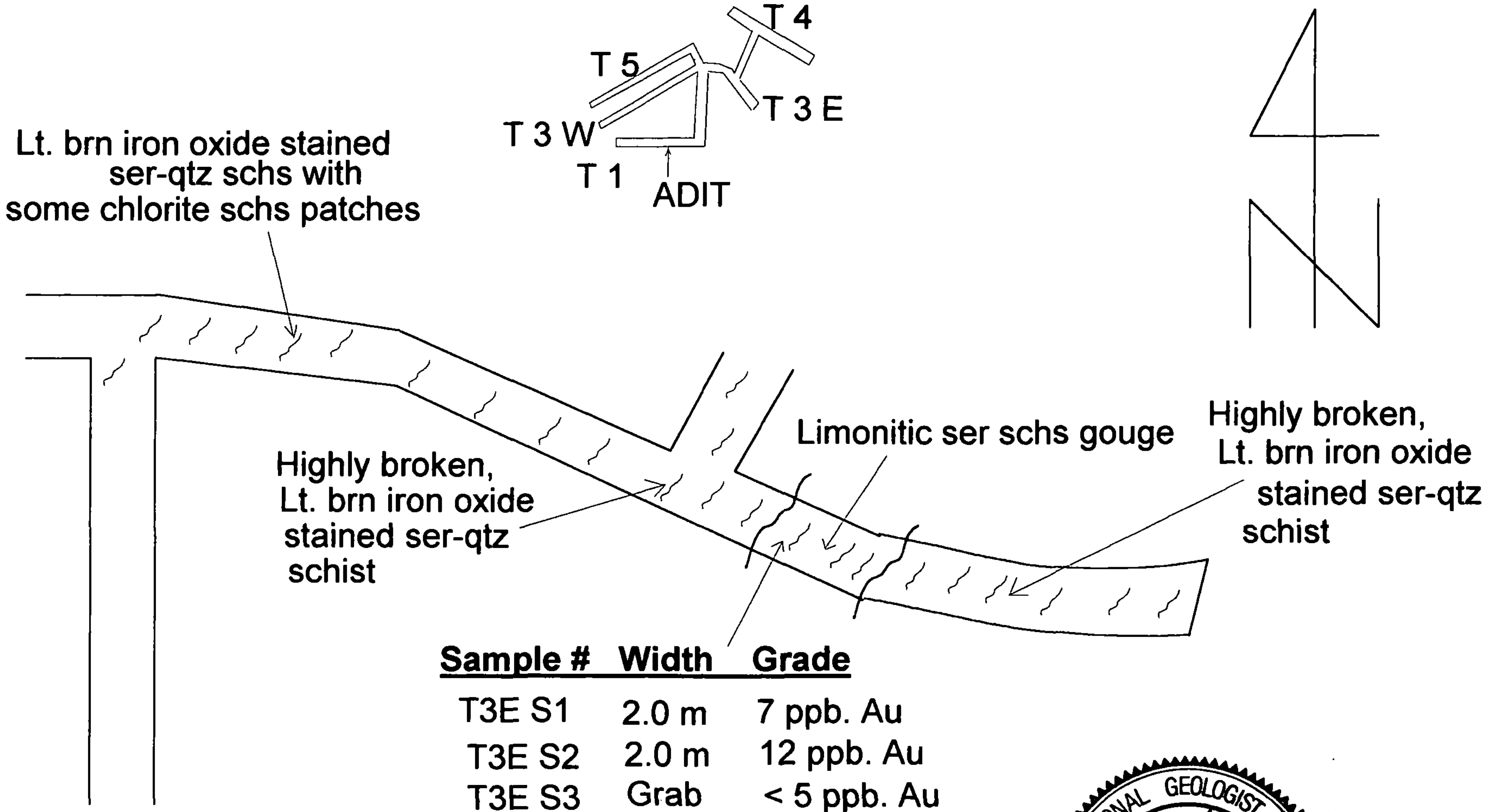
Sample #	Width	Grade
T3W S1	0.21 m	9.772 g
Not Sampled	1.0 m	0.000 g
T3W S2	0.26 m	0.254 g

Average Grade

1.47 m @ 1.441 g.

TRENCH 3 W

SCALE: 1 cm = ~ 5 m



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

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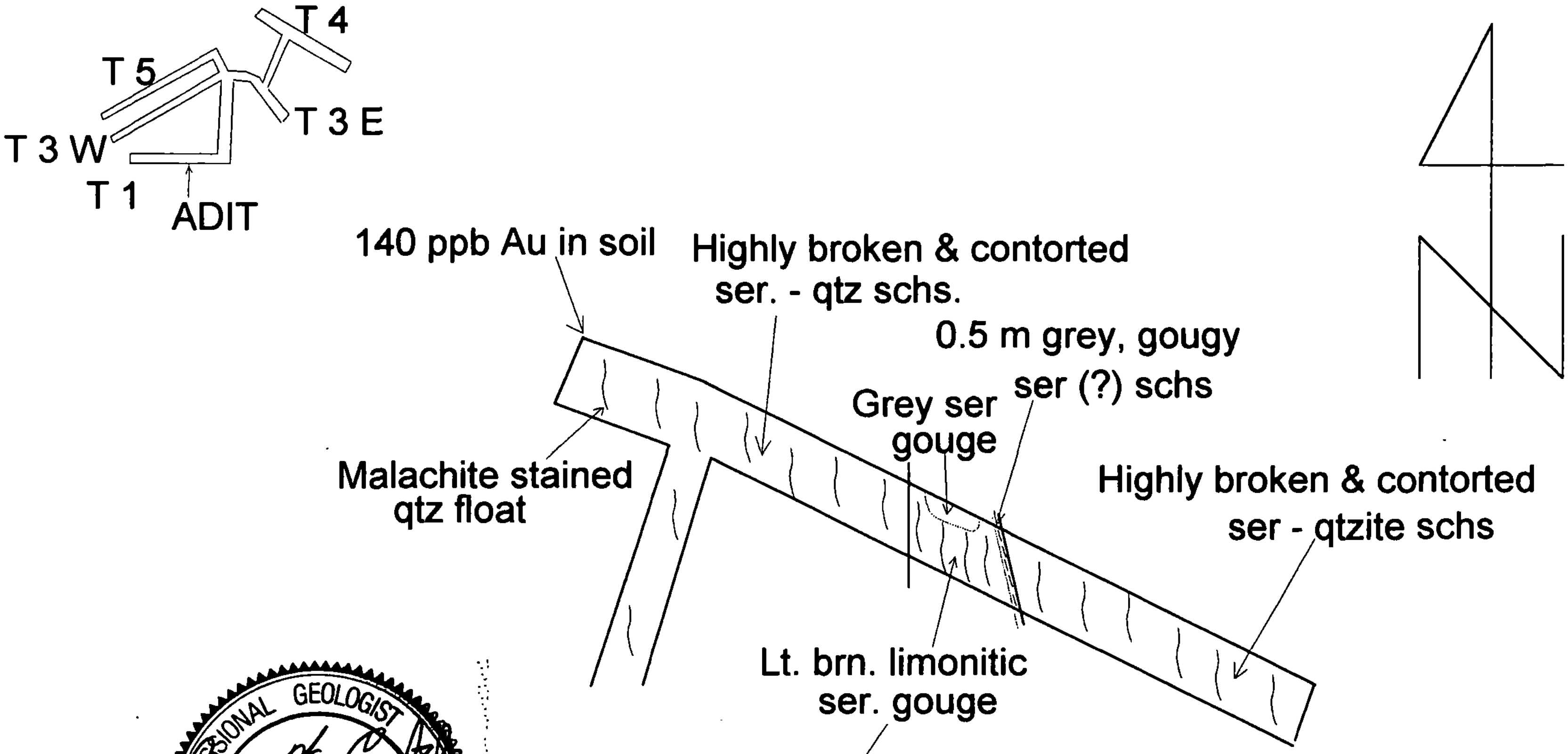
TRENCH 3 E

SCALE: 1 cm = ~ 5 m



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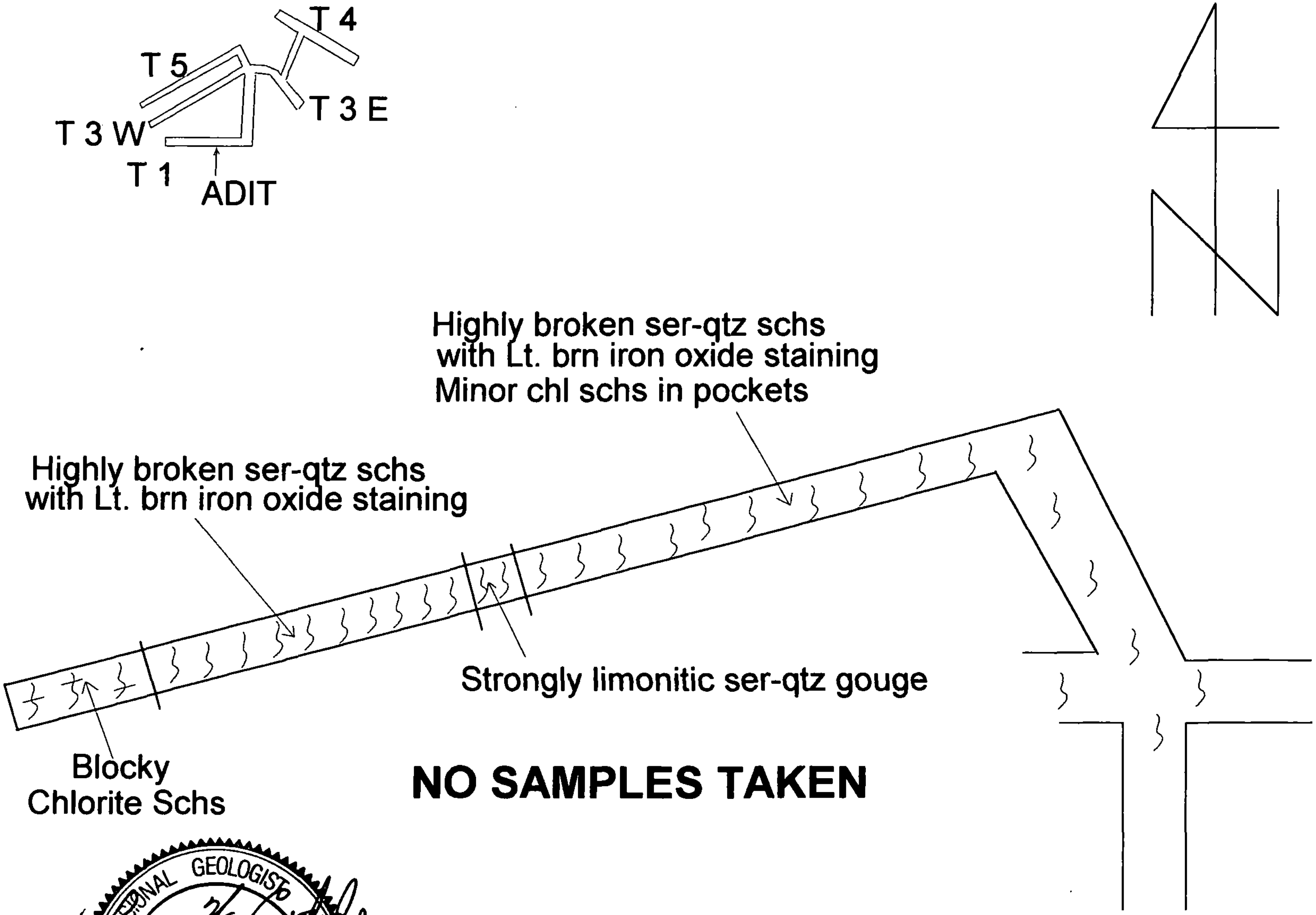
Sample #	Width	Grade
T4 S1	2.0 m	43 ppb. Au
T4 S2	2.0 m	29 ppb. Au
T4 S3	2.0 m	15 ppb. Au

TRENCH 4

SCALE; 1 cm = ~ 5 m



NO SAMPLES TAKEN

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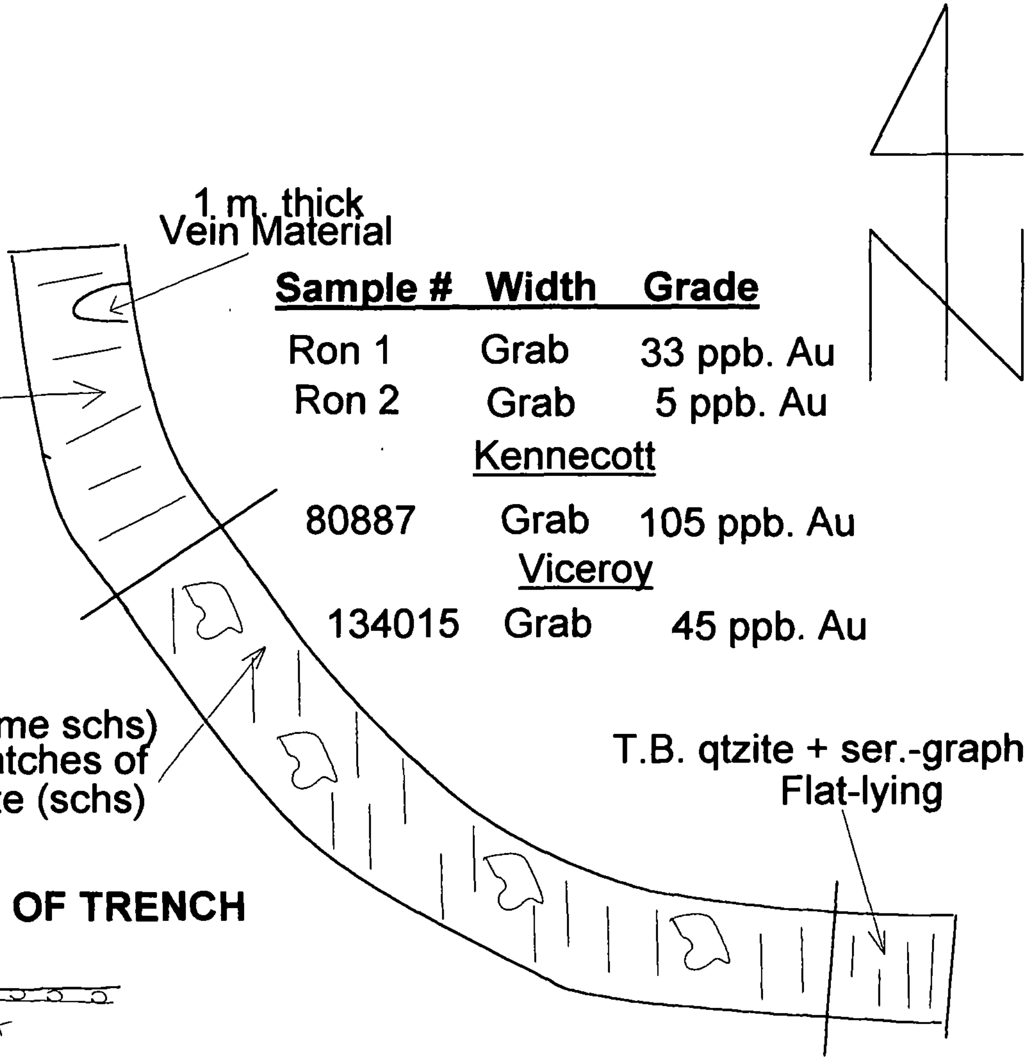
TRENCH 5

SCALE; 1 cm = ~ 5 m



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

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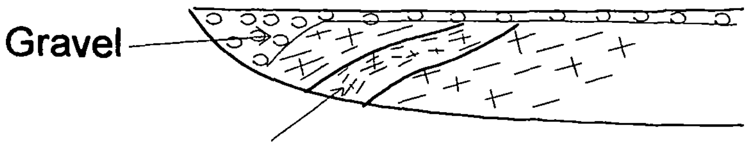
EAST RIB OF NORTH END OF TRENCH

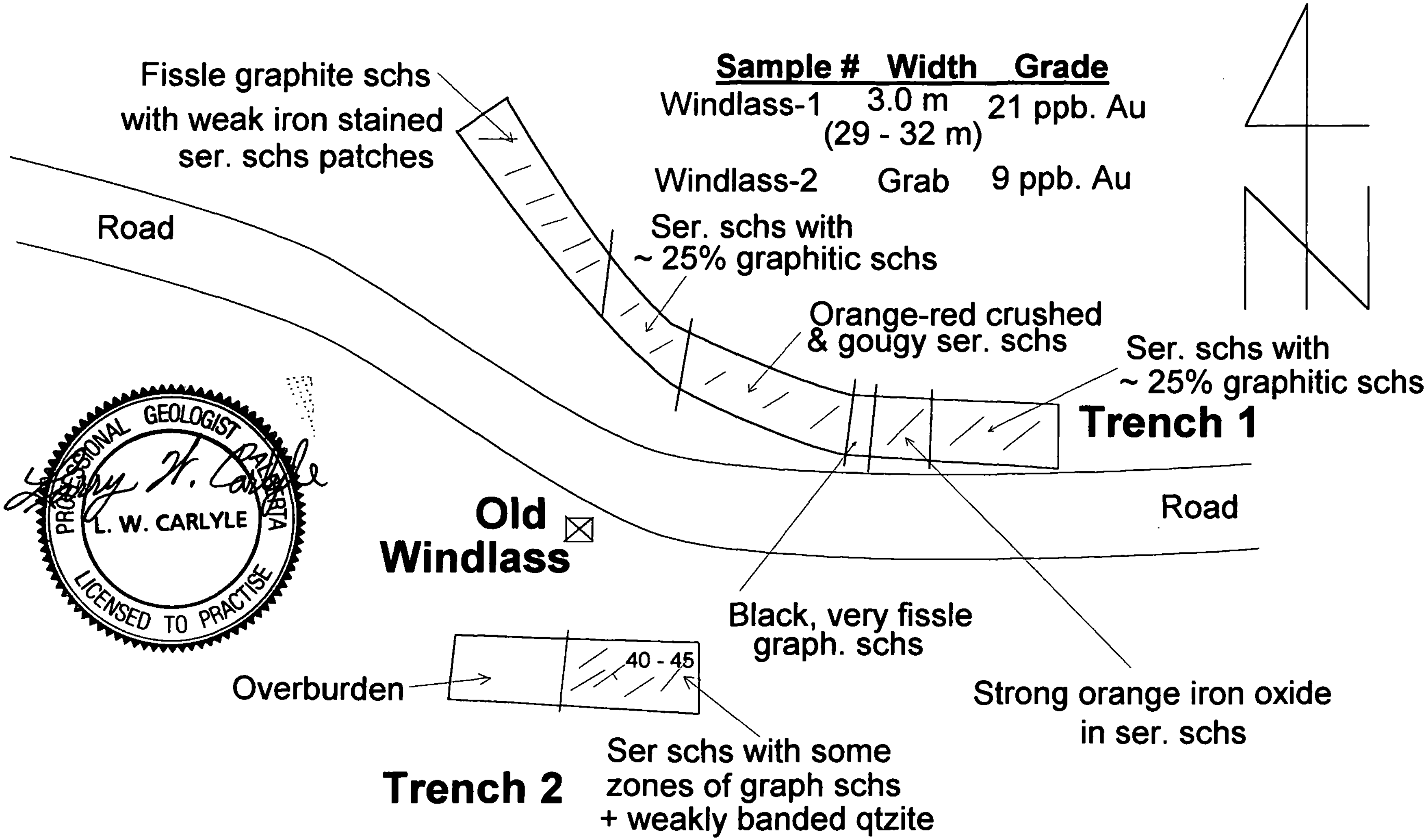


Crushed ser-argillic
qtz schs V. M.

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



Sample #	**Width**	**Grade**
Windlass-1	3.0 m (29 - 32 m)	21 ppb. Au
Windlass-2	Grab	9 ppb. Au

Sample #	**Width**	**Grade**
Windlass-3	Grab	20 ppb. Au

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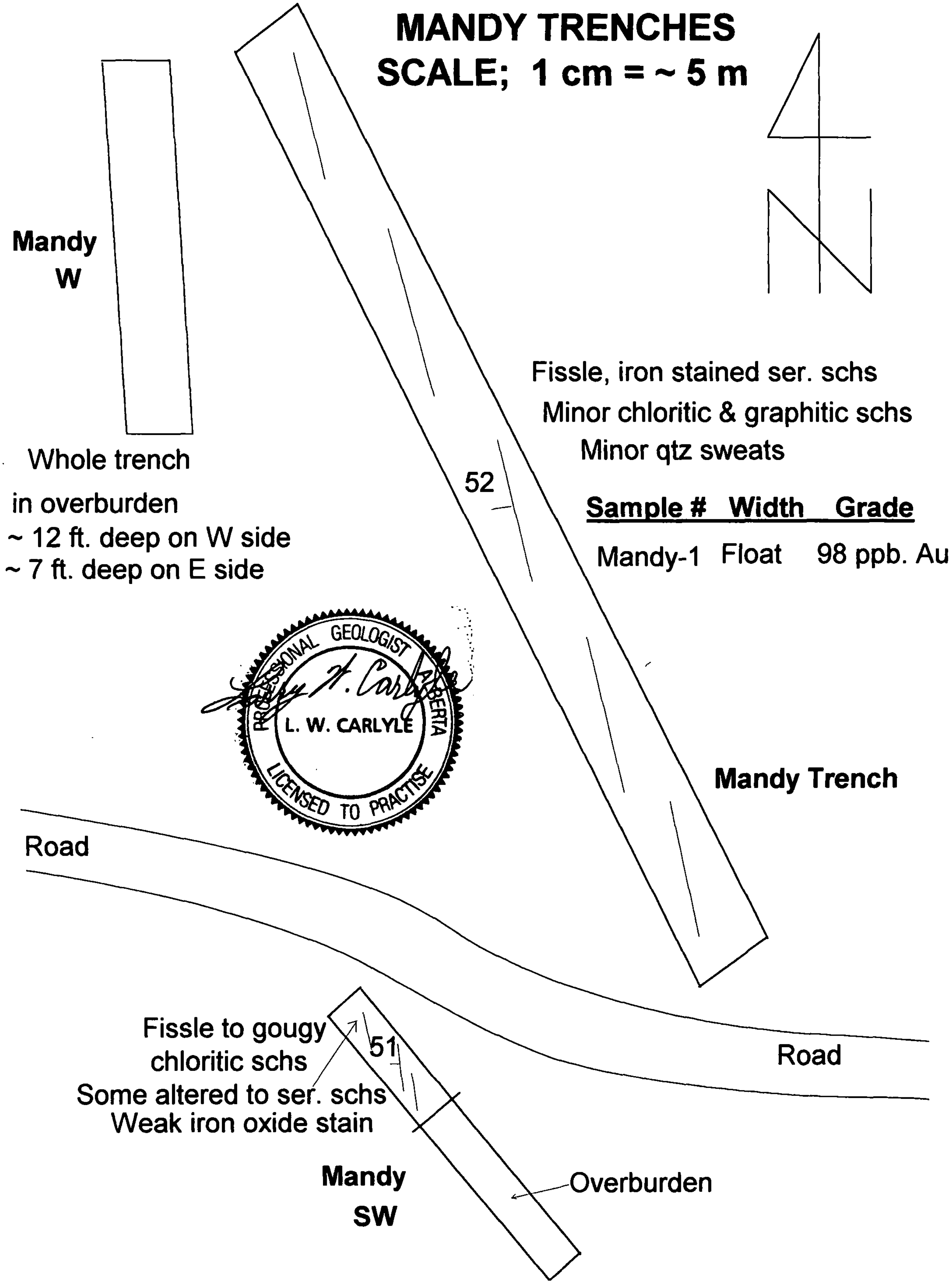
WINDLASS TRENCHES
SCALE; 1 cm = ~ 5 m

MANDY TRENCHES
SCALE; 1 cm = ~ 5 m



Sample #	Width	Grade
Mandy-1	Float	98 ppb. Au

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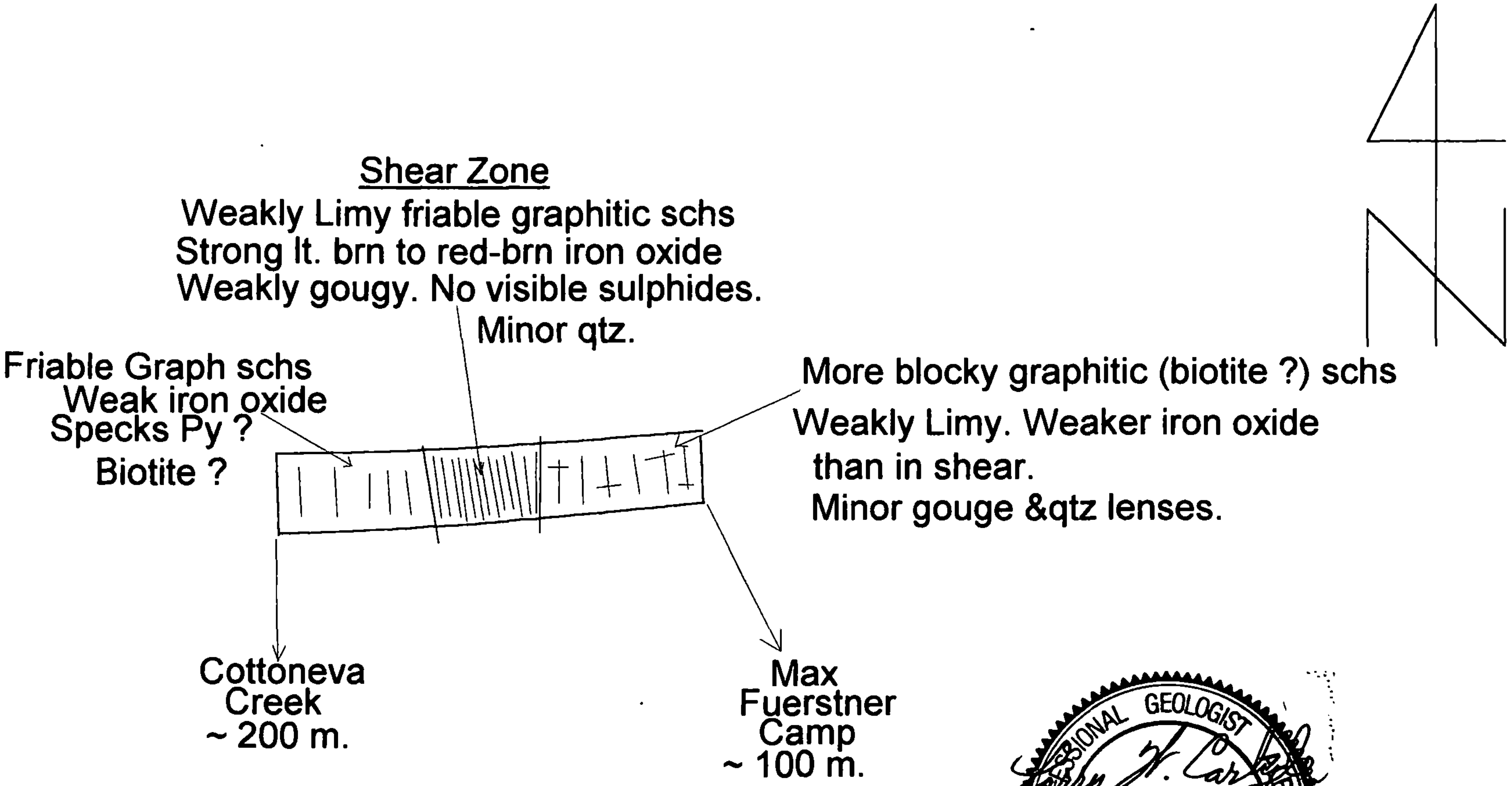
Sheen's Gulch and Summit Creek (See 1998 Work Program, Cam Claims - in pocket; as well as appropriate trench drawing). A 1 metre wide crushed sericite-quartz vein associated with a thin-bedded graphitic quartzite-graphite schist zone was exposed along approximately ten metres of its strike. The vein 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.



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

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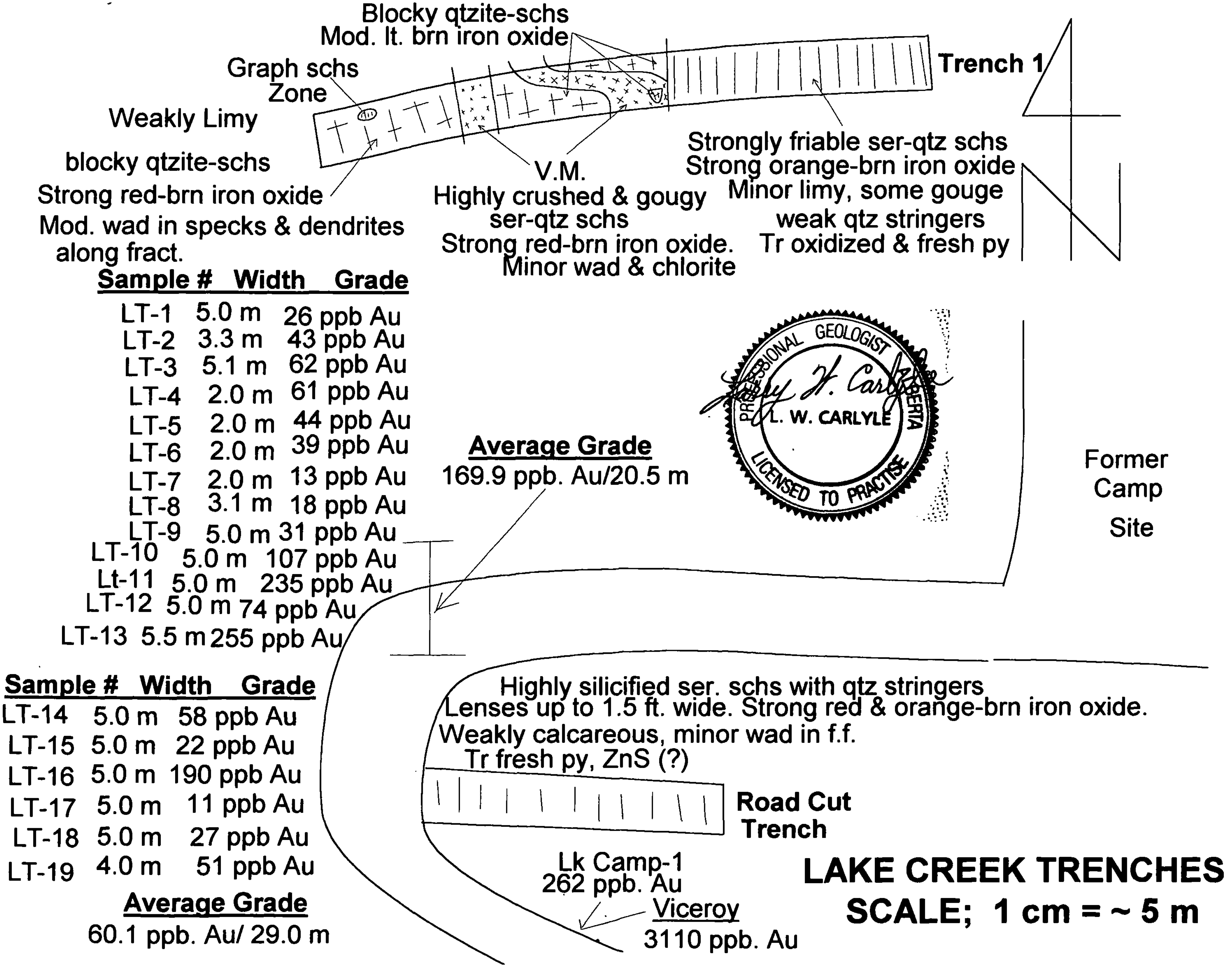
COTTONEVA TRENCH

SCALE: 1 cm = ~ 5 m

LAKE CREEK TRENCHES
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

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

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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 300^0 to 340^0 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 ¼ 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 80^0 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 90^0 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 Cottoneva 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 80^0 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).

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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 Gulch) 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.

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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**

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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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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.

L. W. CARLYLE

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	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
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	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
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. Viceroy
80887	Vein	1.0	105	5.2	382	130	164	130	< 2	As above. Kennecott

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 (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Bi (ppm)	Description
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	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
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	Grab by Ken Galambos. 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 ornage-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	Au	Ag	Cu	As	Pb	Zn	Bi	Description
		(m)	(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	
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

Northern
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13/11/98

Certificate of Analysis

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

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 8K1195

2036 Columbia Street
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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 1 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 %
CT - 1	P	<	31	3	18	15	<	<	2	<	<	2.1	4	16	23	<	183	11	222	2	34	1	1	<	0.17	1.31	0.96	0.41	0.04	0.01	<
CT - 2	P	0.2	59	10	88	46	<	<	2	<	<	7.3	14	55	103	<	58	44	806	16	79	4	6	0.02	1.10	3.06	3.50	1.08	0.20	<	0.05
CT - 3	P	0.2	58	11	85	44	<	<	3	<	<	8.1	13	50	54	7	41	39	1023	11	87	2	8	<	0.53	5.53	3.82	0.34	0.09	<	0.04
CT - 4	P	<	51	16	69	34	<	<	3	<	<	5.7	11	41	91	<	48	30	860	20	45	3	6	<	0.56	2.03	2.80	0.30	0.17	<	0.06
CT - 5	P	0.2	35	17	56	67	<	<	2	<	<	5.8	10	41	75	<	60	31	878	14	90	3	6	<	0.51	2.99	2.84	0.67	0.10	<	0.06
CT - 6	P	0.2	25	9	42	121	<	<	3	<	<	5.2	7	32	60	<	70	20	877	8	153	2	4	<	0.44	3.47	2.42	0.92	0.09	<	0.04
CT - 7	P	<	43	11	70	223	<	<	2	<	<	6.4	12	52	72	<	46	28	968	9	151	2	6	<	0.51	4.10	3.18	0.92	0.11	<	0.04
CT - 8	P	0.6	73	96	85	44	<	<	2	<	<	6.2	13	67	112	<	51	31	659	26	43	4	6	<	0.84	1.81	2.95	0.58	0.17	<	0.07
CT - 9	P	0.4	63	31	76	54	<	<	2	<	<	6.8	14	47	113	<	48	41	432	20	25	3	5	0.01	1.38	0.61	3.33	0.77	0.14	<	0.06
L - 4	P	0.8	34	21	38	108	<	<	2	<	<	7.0	8	23	22	<	59	6	674	3	32	5	1	<	0.20	1.58	3.40	0.68	0.12	<	0.01
L - 5	P	0.2	37	10	23	<	<	<	9	<	<	6.7	9	28	113	<	50	8	197	10	14	17	2	<	0.25	0.20	3.55	0.10	0.08	0.01	0.03
L - 6	P	0.4	111	39	54	160	<	<	7	<	<	6.9	33	66	54	<	23	6	462	11	19	15	2	<	0.29	0.87	3.65	0.15	0.19	<	0.03
L - 7	P	0.2	41	20	42	31	<	<	6	<	<	6.9	16	37	78	<	24	5	980	10	33	7	3	<	0.40	4.17	3.32	0.35	0.13	<	0.07
L - 8	P	0.2	14	12	42	<	<	<	6	<	<	6.3	12	34	84	<	38	9	1345	5	117	15	4	<	0.22	5.62	3.02	2.17	0.06	<	0.05
L - 9	P	0.2	14	4	44	15	<	<	5	<	<	6.0	22	41	113	<	26	12	1341	9	70	7	4	<	0.40	3.16	2.91	1.10	0.19	<	0.08
L - 10	P	0.2	28	11	44	9	<	<	6	<	<	6.2	22	44	47	<	38	10	879	12	66	12	5	<	0.37	2.50	3.00	1.07	0.18	<	0.06
L - 11	P	<	48	11	68	28	<	<	5	<	<	6.6	18	38	752	<	55	42	431	16	38	8	4	0.01	0.99	0.89	3.26	0.69	0.21	<	0.08
L - 12	P	0.3	24	10	43	30	<	<	2	<	<	5.0	12	52	107	<	71	36	456	8	47	6	3	0.05	0.96	6.33	2.22	1.22	0.11	0.01	0.05
L - 13	P	0.7	25	7	67	19	<	<	6	<	<	3.5	4	26	61	<	34	5	180	3	25	10	2	<	0.18	2.24	1.68	1.01	0.12	<	0.04
LT - 1	P	0.3	21	7	15	9	<	<	2	<	<	2.1	4	10	45	<	55	3	604	20	127	12	1	<	0.26	4.33	1.05	0.11	0.09	0.02	0.01
LT - 2	P	0.2	30	9	21	5	<	<	3	<	<	2.9	6	14	47	<	48	5	551	22	130	10	1	<	0.34	3.70	1.43	0.16	0.12	0.01	0.02
LT - 3	P	0.6	15	42	19	6	<	<	2	<	<	2.0	4	9	48	<	64	6	552	20	75	11	2	<	0.33	2.93	1.05	0.29	0.10	0.01	0.01
LT - 4	P	0.2	32	14	21	18	<	<	2	<	<	2.9	6	16	50	<	56	11	743	27	49	11	3	<	0.60	2.53	1.38	0.26	0.10	0.01	0.02
LT - 5	P	<	33	10	23	19	<	<	3	<	<	2.5	5	11	47	<	56	7	507	30	32	10	2	<	0.56	1.47	1.32	0.18	0.10	0.01	0.02
LT - 6	P	0.2	38	10	67	34	<	<	3	<	<	7.5	26	46	136	6	91	53	868	47	18	13	11	0.03	1.53	0.64	3.72	0.79	0.29	<	0.03
LT - 7	P	<	70	7	20	9	<	<	1	<	<	3.1	6	11	62	<	50	4	356	31	38	10	1	<	0.42	1.11	1.63	0.12	0.12	0.01	0.02
LT - 8	P	<	29	2	15	8	<	<	2	<	<	2.1	5	10	36	<	59	4	430	20	57	9	1	<	0.28	2.16	1.01	0.12	0.11	0.01	0.01
LT - 9	P	0.2	61	6	35	12	<	<	2	<	<	4.6	9	18	51	<	40	6	334	26	26	9	1	<	0.64	1.81	2.32	0.27	0.13	<	0.02
LT - 10	P	0.4	50	20	38	7	<	<	1	<	<	4.8	13	25	51	<	38	9	599	37	22	11	2	<	0.49	1.32	2.61	0.24	0.17	<	0.03
LT - 11	P	0.5	61	8	37	<	<	<	3	<	<	5.8	14	26	45	<	44	20	586	27	26	12	4	<	0.41	2.45	2.88	0.25	0.14	<	0.03
LT - 12	P	0.4	48	7	30	7	<	<	4	<	<	4.2	7	16	55	<	43	6	425	22	18	12	2	<	0.39	2.92	2.16	0.16	0.13	<	0.02
LT - 13	P	0.5	45	13	32	14	<	<	2	<	<	4.5	10	19	64	<	37	6	456	34	25	11	2	<	0.57	1.98	2.24	0.13	0.16	<	0.03
LT - 14	P	0.3	38	6	34	<	<	<	1	<	<	3.7	5	10	74	<	50	5	451	15	31	8	1	<	0.33	2.32	1.80	0.59	0.08	0.01	0.02
LT - 15	P	0.2	19	3	14	8	<	<	3	<	<	2.2	4	8	46	<	74	5	523	11	24	11	1	<	0.20	2.05	1.01	0.49	0.06	0.01	0.01
LT - 16	P	0.6	46	21	19	7	<	<	2	<	<	3.3	4	9	40	<	46	4	686	14	107	16	2	<	0.19	4.32	1.59	0.49	0.06	0.01	0.01
LT - 17	P	0.2	15	5	12	5	<	<	2	<	<	2.1	3	8	36	<	86	2	516	12	46	10	1	<	0.15	1.82	0.96	0.33	0.05	0.01	0.01
LT - 18	P	0.3	33	9	17	9	<	<	2	<	<	2.4	5	9	51	10	63	3	497	16	79	13	1	<	0.21	2.43	1.23	0.20	0.06	0.01	0.02
LT - 19	P	0.2	29	12	29	7	<	<	2	<	<	3.2	6	16	47	<	59	6	477	22	44	10	2	<	0.33	1.55	1.61	0.25	0.11	0.01	0.02
LV - 2	P	0.2	28	4	18	25	<	<	2	<	<	2.1	14	22	98	<	33	13	247	20	90	7	1	0.11	0.56	2.41	0.92	0.22	0.02	0.02	0.06
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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

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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	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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

——=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

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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

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

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25/09/98 Certificate of Analysis

Larry Carlyle

WO# 05614

Certified by

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

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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

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
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Client : Northern Analytical Laboratories
Project: W.O. 5614

64 Samples
64=Pulp

[103913:19:35:89100298]

Out: Oct 02, 1998
In : Sep 25, 1998

Page 1 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 %
C98 - 1	P	<	21	5	28	29	<	<	2	<	<	4.6	8	22	121	<	26	43	163	9	13	2	2	0.05	0.88	0.20	2.25	0.37	0.06	<	0.02
C98 - 2	P	<	19	8	31	31	<	<	2	<	<	5.0	11	27	64	<	31	43	157	10	13	3	2	0.06	0.89	0.21	2.44	0.41	0.06	<	0.03
C98 - 3	P	<	21	8	45	56	<	<	1	<	<	6.9	14	44	80	<	53	56	226	12	11	2	3	0.05	1.37	0.17	3.45	0.72	0.09	<	0.04
C98 - 4	P	0.1	17	7	32	34	<	<	1	<	<	4.6	9	23	91	<	26	43	167	13	11	1	2	0.04	0.97	0.15	2.40	0.38	0.06	<	0.03
C98 - 5	P	<	15	11	38	37	<	<	1	<	<	5.3	14	23	139	<	30	51	365	10	19	3	2	0.07	1.17	0.25	2.57	0.36	0.07	<	0.04
C98 - 6	P	<	10	8	35	30	<	<	1	<	<	4.6	7	12	93	<	27	52	238	9	13	1	2	0.06	1.01	0.17	2.36	0.32	0.05	<	0.06
C98 - 7	P	0.1	16	5	41	51	<	<	<	<	<	5.9	12	19	150	<	30	63	262	9	21	1	3	0.09	1.52	0.31	2.90	0.64	0.09	<	0.05
C98 - 8	P	0.1	15	8	33	31	<	<	<	<	<	4.5	8	17	105	<	28	45	150	9	15	1	2	0.05	0.94	0.19	2.23	0.39	0.06	<	0.04
C98 - 9	P	0.1	32	8	48	48	<	<	2	<	<	6.3	14	35	92	<	37	58	257	11	31	5	3	0.09	1.42	0.34	3.10	0.65	0.11	<	0.04
C98 - 10	P	<	12	4	30	30	<	<	1	<	<	3.7	9	20	129	<	27	40	255	8	16	1	2	0.07	0.90	0.24	1.99	0.37	0.09	0.01	0.03
C98 - 11	P	0.1	9	5	28	27	<	<	1	<	<	3.1	6	15	115	<	19	32	186	6	13	1	1	0.06	0.79	0.22	1.52	0.26	0.06	0.02	0.03
C98 - 12	P	<	22	<	31	41	<	<	2	<	<	3.4	8	22	135	<	21	30	216	7	15	3	2	0.05	0.95	0.29	1.74	0.40	0.15	0.03	0.04
C98 - 13	P	0.3	77	18	125	98	<	<	2	<	<	10.2	24	69	348	<	71	65	1012	28	41	7	7	0.05	2.55	1.11	4.58	1.19	0.41	<	0.10
C98 - 14	P	<	11	3	90	26	<	<	1	<	<	3.8	8	14	147	<	21	41	826	11	17	1	2	0.05	0.92	0.23	1.80	0.21	0.05	0.01	0.05
C98 - 15	P	<	35	8	58	58	<	<	1	<	<	6.4	15	45	120	<	43	47	433	24	27	3	4	0.06	1.36	0.55	3.16	0.78	0.18	<	0.11
C98 - 16	P	0.2	81	8	63	62	<	<	1	<	<	6.7	14	50	245	<	40	45	687	19	44	2	4	0.04	1.45	1.41	2.92	0.74	0.20	0.01	0.13
C98 - 17	P	<	12	6	24	34	<	<	2	<	<	3.4	8	20	75	<	21	34	170	6	14	1	1	0.06	0.85	0.21	1.76	0.33	0.09	0.02	0.01
C98 - 18	P	<	46	13	54	62	<	<	2	<	<	6.9	17	52	123	<	45	47	479	25	20	6	5	0.06	1.41	0.40	3.40	0.69	0.22	<	0.06
S98 - 1	P	<	18	13	36	48	<	<	1	<	<	5.0	11	30	129	<	36	46	331	13	16	3	3	0.06	1.25	0.32	2.55	0.54	0.10	<	0.02
S98 - 2	P	<	28	4	30	40	<	<	2	<	<	4.3	7	20	128	<	22	38	161	15	16	1	2	0.02	1.18	0.29	2.13	0.38	0.08	0.01	0.02
S98 - 3	P	<	10	4	30	34	<	<	1	<	<	3.5	6	12	156	<	19	36	256	6	16	1	2	0.04	0.89	0.42	1.67	0.29	0.06	0.01	0.03
S98 - 4	P	<	16	6	31	35	<	<	1	<	<	3.8	8	13	238	<	25	39	408	10	17	1	2	0.04	1.06	0.32	1.97	0.38	0.06	0.01	0.04
S98 - 5	P	<	21	9	39	34	<	<	1	<	<	3.9	9	27	169	<	28	35	289	12	23	1	2	0.05	0.93	0.43	1.99	0.44	0.08	0.02	0.05
S98 - 6	P	0.2	52	14	63	59	<	<	1	<	<	7.4	20	56	320	<	57	54	801	25	32	2	4	0.07	1.60	0.92	3.56	0.94	0.18	<	0.08
S98 - 7	P	<	23	11	42	46	<	<	2	<	<	5.9	14	40	139	<	46	53	335	16	17	2	3	0.08	1.43	0.33	2.87	0.68	0.14	0.01	0.03
S98 - 8	P	<	29	10	49	47	<	<	1	<	<	5.0	14	35	254	<	37	42	884	14	35	1	2	0.06	1.21	0.69	2.45	0.56	0.17	0.01	0.11
S98 - 9	P	<	33	14	56	64	<	<	2	<	<	7.4	18	54	199	<	61	58	379	21	20	1	4	0.05	1.75	0.28	3.61	0.88	0.14	<	0.05
S98 - 10	P	<	39	13	52	48	<	<	1	<	<	6.8	18	54	79	<	57	50	300	23	14	7	4	0.07	1.41	0.21	3.47	0.80	0.22	<	0.02
S98 - 11	P	0.1	40	10	57	57	<	<	2	<	<	6.4	16	51	187	<	49	38	466	19	136	4	3	0.04	1.34	5.95	2.84	1.15	0.14	<	0.09
S98 - 12	P	0.2	51	15	84	67	<	<	3	<	<	10.5	32	142	270	<	138	86	1041	21	34	3	5	0.06	1.95	0.71	4.96	1.58	0.41	<	0.10
S98 - 13	P	0.2	47	14	68	59	<	<	2	<	<	7.6	20	62	209	<	56	51	780	23	39	3	3	0.03	1.50	0.79	3.55	0.88	0.25	<	0.14
S98 - 14	P	<	48	13	58	52	<	<	1	<	<	7.0	19	66	154	<	62	47	650	20	27	3	3	0.03	1.37	0.94	3.48	0.86	0.18	<	0.08
S98 - 15	P	0.2	91	9	72	66	<	<	2	<	<	9.5	25	104	157	<	107	71	1130	28	41	3	3	0.04	1.94	1.13	4.33	1.37	0.18	<	0.20
S98 - 16	P	0.3	108	7	73	74	<	<	2	<	<	12.1	35	175	249	<	228	103	1516	19	52	3	6	0.04	2.16	1.43	5.62	1.96	0.23	<	0.17
V98 - 1	P	<	18	4	33	22	<	<	1	<	<	3.1	8	16	140	<	19	34	683	16	20	1	1	0.06	0.77	0.41	1.64	0.29	0.14	0.02	0.03
V98 - 2	P	<	14	3	21	26	<	<	1	<	<	3.5	10	27	70	<	40	37	147	7	18	2	2	0.09	0.79	0.37	1.89	0.44	0.08	0.01	0.01
V98 - 3	P	0.1	13	8	23	43	<	<	2	<	<	3.8	8	19	100	<	29	40	183	8	20	2	2	0.08	1.00	0.43	1.92	0.37	0.11	0.01	0.01
V98 - 4	P	0.1	36	7	34	53	<	3	1	<	<	5.4	12	40	186	<	39	49	464	14	20	4	4	0.07	1.51	0.43	2.65	0.49	0.18	0.01	0.02
V98 - 5	P	0.1	14	4	26	33	<	<	1	<	<	3.5	8	22	71	<	26	35	172	7	16	2	2	0.06	0.88	0.26	1.79	0.40	0.07	0.01	0.03
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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPI 3I1039

2036 Columbia Street
Vancouver, B.C
Canada V5Y 3E1
Phone (604) 879-7878
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Client : Northern Analytical Laboratories
Project: W.O. 5614

64 Samples
64=Pulp

[103913:19:35:89100298]

Out: Oct 02, 1998
In : Sep 25, 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 %
V98 - 6	P	<	10	4	23	23	<	<	1	<	<	3.3	7	19	59	<	22	32	140	5	11	2	1	0.06	0.71	0.17	1.62	0.33	0.06	0.01	0.01
V98 - 7	P	<	8	6	21	26	<	<	2	<	<	3.1	6	14	72	<	23	36	120	6	14	2	2	0.06	0.75	0.23	1.59	0.31	0.05	0.01	0.01
V98 - 8	P	<	25	7	33	32	<	<	1	<	<	4.5	12	53	96	<	49	40	290	8	19	2	3	0.07	0.89	0.45	2.22	0.67	0.16	0.01	0.03
V98 - 9	P	<	12	7	23	27	<	<	1	<	<	3.9	10	20	79	<	34	35	195	6	16	1	2	0.07	0.79	0.27	1.88	0.50	0.09	0.01	0.01
V98 - 10	P	<	37	10	45	53	<	<	2	<	<	5.6	13	33	143	<	34	43	443	14	18	3	4	0.05	1.34	0.35	2.76	0.65	0.23	<	0.04
V98 - 11	P	<	24	7	33	38	<	<	1	<	<	4.0	9	20	82	<	22	36	282	10	14	3	2	0.06	0.97	0.24	2.06	0.46	0.12	0.01	0.03
V98 - 12	P	<	11	9	27	26	<	<	1	<	<	3.4	8	16	105	<	28	40	159	8	15	2	2	0.08	0.96	0.23	1.85	0.43	0.11	0.01	0.02
V98 - 13	P	0.1	21	12	54	46	<	<	2	<	<	5.4	14	26	53	<	38	56	285	6	13	3	2	0.11	1.35	0.24	2.73	0.86	0.55	<	0.01
V98 - 14	P	0.1	16	6	27	26	<	<	1	<	<	3.8	9	26	94	<	37	36	206	13	14	2	2	0.07	0.90	0.30	1.93	0.45	0.13	0.01	0.01
V98 - 15	P	0.1	23	5	30	30	<	<	3	<	<	4.0	10	29	105	<	35	36	279	10	16	3	3	0.07	0.92	0.35	2.09	0.50	0.17	0.01	0.01
V98 - 16	P	<	38	5	38	33	<	<	1	<	<	4.6	12	35	97	<	38	41	341	9	19	2	2	0.05	1.01	0.52	2.34	0.65	0.15	<	0.04
V98 - 17	P	<	13	6	23	18	<	<	<	<	<	3.3	10	32	42	<	42	33	136	4	10	1	2	0.07	0.65	0.19	1.78	0.50	0.04	0.01	0.01
V98 - 18	P	<	11	10	25	22	<	<	1	<	<	3.5	11	31	70	<	46	34	261	5	14	1	2	0.07	0.77	0.24	1.80	0.53	0.09	0.01	0.02
V98 - 19	P	<	22	7	34	36	<	<	2	<	<	4.8	15	55	60	<	61	40	300	9	15	2	9	0.06	0.89	0.27	2.39	0.76	0.12	<	0.02
V98 - 20	P	<	8	5	19	20	<	<	1	<	<	3.3	8	19	65	<	28	32	144	5	16	1	1	0.06	0.66	0.24	1.60	0.37	0.08	0.01	0.01
V98 - 21	P	0.1	30	8	40	46	<	<	1	<	<	5.1	13	31	123	<	32	45	449	12	22	2	3	0.07	1.23	0.40	2.60	0.60	0.18	0.01	0.04
V98 - 22	P	<	17	8	29	27	<	<	1	<	<	4.1	11	28	85	<	37	37	209	7	17	1	2	0.07	0.88	0.32	2.09	0.55	0.10	0.01	0.03
V98 - 23	P	<	19	5	29	29	<	<	1	<	<	3.7	10	28	79	<	29	34	334	7	16	1	2	0.06	0.81	0.27	1.90	0.47	0.08	0.01	0.03
V98 - 24	P	<	26	9	32	33	<	<	1	<	<	4.1	10	28	46	<	33	34	190	11	16	3	3	0.05	0.86	0.30	2.14	0.53	0.08	<	0.05
V98 - 25	P	0.1	67	14	69	54	<	<	<	<	<	7.6	19	54	119	<	49	59	645	25	30	5	6	0.06	1.58	0.71	3.70	0.97	0.24	<	0.07
L - 1	P	0.1	42	11	62	54	<	<	3	<	<	7.5	16	37	89	<	103	96	793	11	72	6	7	0.08	1.92	2.59	3.46	1.78	0.15	0.02	0.15
L - 2	P	0.2	36	6	58	49	<	<	2	<	<	3.8	6	15	111	<	24	31	990	9	167	15	3	0.05	1.43	11%	1.58	2.78	0.18	<	0.05
L - 3	P	0.1	22	<	9	<	<	<	1	<	<	2.4	8	25	18	<	16	2	155	<	49	3	1	<	0.03	1.72	1.26	0.48	0.01	0.01	0.01
LV - 1	P	<	2	2	28	21	<	<	1	<	<	1.2	2	4	4	<	53	9	330	10	44	7	1	0.07	0.69	7.40	0.50	0.11	<	0.01	0.04
M - 1	P	0.1	1	11	10	<	<	<	4	<	<	0.4	<	<	10	<	11	<	147	2	102	1	<	<	0.06	17%	0.09	5.95	<	0.01	0.16
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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

Northern
Analytical
Laboratories ltd.

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	@71.0m
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	

NAL Northern Analytical Laboratories ltd.

12/06/98

Assay Certificate

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

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPL 98E0490

2036 Columbi et
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
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	P	<	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	P	<	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	P	<	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	P	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	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	P	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	P	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	P	<	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	P	<	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	P	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	P	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	P	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	P	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	P	<	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	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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No Sample P=Pulp

NAL Northern Analytical Laboratories ltd.

29/06/98 Assay Certificate Page 1

Larry Carlyle WO# 07998

Certified by

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
T3W ~~T3E~~ - S5	4918
T3W ~~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
LK98 - 8	<5
LK98 - 9	<5
LK98 - 10	31
LK98 - 11	6
LK98 - 12	<5
LK98 - 13	<5

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

29/06/98 Assay Certificate

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
iPL 8F0575

2036 Columbia Street
Vancouver, B.C
Canada V5Y 3E
Phone (604) 879-7878
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 1 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 %
CG-1	P	0.3	14	10	30	16	<	<	2	<	<	1.6	9	20	98	<	26	59	107	7	13	1	2	0.07	1.11	0.17	2.60	0.33	0.06	<	0.01
CG-2	P	0.2	27	6	46	22	<	<	2	<	<	1.5	12	32	121	<	34	47	250	10	11	2	3	0.06	1.36	0.16	2.91	0.63	0.08	<	0.04
CG-3	P	0.4	29	<	43	13	<	<	1	<	<	0.7	4	21	453	<	13	15	259	7	109	2	1	0.02	0.53	3.26	0.82	0.29	0.08	0.02	0.08
CT-1	P	0.3	28	9	37	23	<	<	2	<	<	1.2	11	33	101	<	32	40	263	11	15	1	3	0.06	1.14	0.25	2.37	0.46	0.17	<	0.02
L+IV-1	P	0.4	160	10	59	<	<	<	4	<	<	1.6	13	20	109	<	108	31	753	16	16	1	5	<	0.56	0.50	2.66	0.18	0.11	<	0.03
LK98- 1	P	0.2	4	<	10	<	<	<	<	<	<	0.4	3	3	32	<	2	16	75	<	7	<	<	0.04	0.22	0.05	0.64	0.06	0.03	0.03	0.02
LK98- 2	P	0.1	8	<	8	5	<	<	1	<	<	0.5	4	4	66	<	4	17	323	3	16	<	<	0.03	0.33	0.23	0.68	0.08	0.03	0.03	0.03
LK98- 3	P	0.2	8	<	12	<	<	<	<	<	<	0.5	4	8	57	<	8	22	198	6	11	<	1	0.03	0.44	0.14	1.02	0.13	0.05	0.02	0.02
LK98- 4	P	0.2	10	9	29	10	<	<	1	<	<	1.0	7	12	129	<	18	39	325	7	16	<	1	0.04	0.89	0.21	1.75	0.26	0.06	0.01	0.03
LK98- 5	P	0.2	7	6	23	10	<	<	1	<	<	0.9	6	11	77	<	16	39	189	8	10	<	1	0.06	0.74	0.13	1.42	0.26	0.06	0.01	0.02
LK98- 6	P	0.2	5	5	19	9	<	<	1	<	<	0.8	7	8	103	<	13	35	438	5	11	<	1	0.04	0.83	0.13	1.41	0.21	0.04	0.01	0.02
LK98- 7	P	<	2	<	7	<	<	<	<	<	<	0.4	2	4	18	<	3	15	32	<	5	<	<	0.02	0.12	0.03	0.49	0.04	0.03	0.03	0.01
LK98- 8	P	<	4	<	12	<	<	<	1	<	<	0.5	3	6	39	<	5	14	113	3	8	<	<	0.01	0.22	0.09	0.61	0.07	0.03	0.03	0.02
LK98- 9	P	0.2	24	2	14	7	<	<	1	<	<	0.4	3	7	127	<	3	9	346	5	63	1	<	0.02	0.55	1.67	0.49	0.10	0.03	0.03	0.06
LK98-10	P	0.3	19	6	18	5	<	<	2	<	<	0.8	7	14	59	<	12	25	217	9	17	1	2	0.03	0.63	0.34	1.71	0.18	0.16	0.01	0.01
LK98-11	P	0.3	18	11	27	12	<	<	2	<	<	1.3	8	15	60	<	23	45	370	22	9	<	2	0.04	1.17	0.10	2.30	0.32	0.07	<	0.02
LK98-12	P	0.2	22	8	36	13	<	<	1	<	<	1.4	12	24	72	<	24	34	688	25	14	1	2	0.03	1.20	0.19	2.62	0.44	0.09	<	0.02
LK98-13	P	0.3	22	<	33	<	<	<	<	<	<	1.0	3	7	113	<	3	12	188	3	80	1	<	0.02	0.39	1.55	0.59	0.13	0.04	0.03	0.04
LK98-14	P	0.2	9	4	19	<	<	<	1	<	<	0.7	5	14	57	<	17	24	143	8	9	<	1	0.03	0.51	0.09	1.33	0.22	0.06	0.02	0.02
LK98-15	P	0.2	19	7	36	13	<	<	2	<	<	1.5	9	25	88	<	28	49	203	11	12	1	2	0.04	1.25	0.14	2.89	0.41	0.07	<	0.02
LK98-16	P	0.3	4	<	10	<	<	<	1	<	<	0.5	3	7	40	<	9	21	89	5	8	<	<	0.04	0.36	0.10	0.79	0.12	0.05	0.02	0.02
LK98-17	P	0.3	8	14	25	16	<	<	1	<	<	0.9	5	13	84	<	19	33	132	8	10	<	1	0.04	0.81	0.14	1.52	0.30	0.05	0.01	0.02
LK98-18	P	0.3	3	<	12	<	<	<	1	<	<	0.3	3	3	81	<	2	13	507	4	22	<	<	0.03	0.33	0.38	0.55	0.10	0.03	0.04	0.05
LK98-19	P	0.3	13	5	34	10	<	<	1	<	<	1.1	10	29	41	<	28	29	262	15	15	<	2	0.04	0.79	0.27	2.22	0.53	0.05	<	0.08
LK98-20	P	0.2	4	7	13	<	<	<	1	<	<	0.5	3	8	34	<	8	22	56	10	7	<	1	0.05	0.35	0.08	0.70	0.17	0.04	0.02	0.01
RON-2	P	0.2	141	11	23	23	5	<	2	<	<	1.2	9	26	60	<	182	18	116	5	2	1	2	<	0.15	0.02	1.22	0.04	0.04	<	0.02
SG-1	P	0.4	12	9	42	15	<	<	2	<	<	1.5	10	26	93	<	39	53	291	12	15	1	2	0.06	1.31	0.25	2.85	0.57	0.08	<	0.04
SG-2	P	0.2	15	14	50	18	<	<	2	<	<	1.7	16	27	144	<	43	54	728	13	14	1	3	0.06	1.59	0.23	3.13	0.56	0.10	<	0.04
SG-3	P	0.2	9	14	25	6	<	<	1	<	<	0.9	6	14	48	<	19	29	260	8	9	<	1	0.04	0.58	0.10	1.61	0.26	0.06	0.02	0.06
SG-4	P	0.4	7	<	17	8	<	<	<	<	<	0.5	3	7	70	<	11	23	100	6	12	<	<	0.02	0.61	0.19	1.06	0.19	0.04	0.02	0.07
SG-5	P	0.3	8	5	32	8	<	<	1	<	<	1.4	6	13	73	<	21	60	208	7	10	<	1	0.06	0.98	0.12	2.48	0.32	0.05	<	0.03
SG-6	P	0.3	27	27	101	20	<	<	2	<	<	2.0	32	27	96	<	21	31	2585	34	13	<	<	0.01	0.92	0.13	3.18	0.42	0.12	<	0.12
SG-7	P	0.2	8	2	10	6	<	<	<	<	<	0.5	2	5	61	<	6	13	51	5	7	<	<	<	0.43	0.05	0.63	0.05	0.03	0.03	0.06
SG-8	P	0.3	19	7	34	12	<	<	2	<	<	1.4	8	27	66	<	30	49	226	14	9	<	2	0.04	1.10	0.10	2.68	0.42	0.07	<	0.04
SG-9	P	0.2	18	5	35	15	<	<	1	<	<	1.4	12	30	155	<	38	53	363	23	10	<	3	0.04	1.18	0.13	2.83	0.53	0.08	<	0.04
SGE-1	P	0.4	10	<	27	8	<	<	1	<	<	0.6	3	7	81	<	8	16	489	15	21	<	<	0.01	0.59	0.48	1.01	0.12	0.04	0.02	0.07
SGE-2	P	0.3	15	<	27	9	<	<	1	<	<	0.7	7	7	67	<	11	24	518	36	18	<	1	0.04	0.82	0.36	1.25	0.23	0.07	0.03	0.08
SGE-3	P	0.2	3	<	13	<	<	<	1	<	<	0.3	3	4	27	<	3	14	72	14	13	<	<	0.03	0.31	0.23	0.69	0.14	0.04	0.04	0.07
SGE-4	P	<	6	<	12	<	<	<	1	<	<	0.4	2	3	37	<	3	16	83	2	7	<	<	<	0.22	0.12	0.69	0.05	0.03	0.03	0.07
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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICA OF ANALYSIS
iPL 98F0575

2036 Columbia .et
Vancouver, B.C.
Canada V5Y 3E1
Phone (604) 879-7878
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	<	<	1	<	<	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	<	<	<	1	<	<	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	<	<	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	1.00	9.99	9.99	9.99	9.99	9.99	5.00	5.00
Method		ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP	ICP

—=No Test Ins=Insufficient Sample Del=Delay Max=No Estimate Rec=ReCheck m=x1000 %=Estimate % NS=No SampleP=Pulp

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
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
	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
	TOTAL	$ 3,000.00

CARLYLE FIELD WORK INVOICE

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

CARLYLE FIELD WORK INVOICE

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

NAL
Northern
Analytical
Laboratories ltd.

Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 03/06/98

WO# 07978

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
	Sample Preparation:		
7	Sample Drying	2.50	17.50
14	Soil/Sediment Sample Preparation	2.00	28.00
15	Rock	5.00	75.00
	Analyses:		
29	Au + 30	16.00	464.00
	Paid CHQ #296.		

Subtotal	584.50
GST @7% (R 121285662)	40.92
Total due on receipt of invoice	$625.42

Livingstone Assays

2% per month charged on overdue accounts

LESS 15 COUPONS <172.50>

TOTAL 452.92.

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

NAL Northern Analytical Laboratories ltd.

Invoice for Analytical Services

To:
Larry Carlyle

Invoice Date: 12/06/98

WO# 07989

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
	Analyses:		
1	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

Livingstone Assays

2% per month charged on overdue accounts

PAID CASH

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

Northern
Analytical
Laboratories ltd.

Invoice for Analytical Services

To:

Larry Carlyle

Invoice Date: 18/06/98

WO# 07998

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

Subtotal	1011.00
GST @7% (R 121285662)	70.77
Total due on receipt of invoice	$1,081.77

Livingstone Assays

PAID
Ck#030

2% per month charged on overdue accounts

13 ASSAY COUPONS ($273.00)

NET $808.77

105 Copper Road, Whitehorse, YT, Y1A 2Z7 Ph: (403) 668-4968 Fax: (403) 668-4890

NAL Northern Analytical Laboratories ltd.

105 Copper Road
Whitehorse, Yukon
Y1A 2Z7
Ph: (867) 668-4968
Fax: (867) 668-4890
E-mail: NAL@hypertech.yk.ca

Invoice for Analytical Services

To:
Larry Carlyle

Invoice Date: 25/09/98

WO# 05614

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

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

Livingstone

PAID CK#048

NAL Northern Analytical Laboratories ltd.

105 Copper Road
Whitehorse, Yukon
Y1A 2Z7
Ph: (867) 668-4968
Fax: (867) 668-4890
E-mail: NAL@hypertech.yk.ca

Invoice for Analytical Services

To:
Larry Carlyle

Invoice Date: 13/11/98

WO# 05625

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

PAID CHQ 052.
W.M.

Subtotal	962.00
GST @7% (R 121285662)	67.34
Total due on receipt of invoice	$1,029.34

2% per month charged on overdue accounts

Livingstone
Assays.

BIG SALMON AIR

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

CHARTER TICKET
№ 2086

AC CESSNA 206 DATE Sept 28,

NAME LARRY CARLYLE

ADDRESS WHITEHORSE

	Miles	Hours	Cargo	Passenger-Remarks
From XY				
To LIC				
XY				
			Paid cheque	

Special Instructions			
	at Per Hour		
	at Per Mile	117	70
	Waiting Time at Per Hour		
	Fuel gals @ Per Gallon		
	GST # R126985522		
	TOTAL CHARGES	117	70

Pilot's Signature

Base

Charterer's Authorization

Willow Printers

BIG SALMON AIR

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

CHARTER TICKET
№ 2395

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

From XY	Miles	Hours	Cargo	Passenger-Remarks
To LIV				Alma
XY				+
				Poldie.

Special Instructions

at Per Hour		
at Per Mile	220.	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	40
TOTAL CHARGES $	235	40

David Young
Pilot's Signature

Base

Larry W. Carlyle
Charterer's Authorization

Willow Printers

BIG SALMON AIR

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

CHARTER TICKET
№ 2109

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

From XY	Miles	Hours	Cargo	Passenger-Remarks
To LIVINGSTONE				
XY				LARRY
				+
				gas
				+
				gear.

Special Instructions

at Per Hour		
at Per Mile	210	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	00
TOTAL CHARGES $	235	00

David Young
Pilot's Signature

Base

Max Fuerst
Charterer's Authorization

Willow Printers

BIG SALMON AIR

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

CHARTER TICKET
№ 2388

AC CESSNA 206 JSR DATE June 6, 98
NAME LARRY CARLYLE
ADDRESS WHITEHORSE

From / To	Miles	Hours	Cargo	Passenger-Remarks

Paid Cheque Contract Flying

Special Instructions

at Per Hour		
at Per Mile		
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522		
TOTAL CHARGES	$641	00

David Young
Pilot's Signature

Base

Charterer's Authorization

Willow Printers

PD # 2228

BIG SALMON AIR

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

CHARTER TICKET
№ 2110

AC CESSNA 206 DATE Oct 26, 98
NAME Livingstone PLACER
ADDRESS WHITEHORSE

From / To	Miles	Hours	Cargo	Passenger-Remarks
XY				
LIV				ALMA
XY				+
				LARRY.

Special Instructions

at Per Hour		
at Per Mile	110	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	7	70
TOTAL CHARGES	$117	70

David Young
Pilot's Signature

Base

Larry W Carlyle
Charterer's Authorization

Willow Printers

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

CHARTER TICKET
№ 2315

AC CESSNA 206 JSR DATE May 8, 98
NAME LIVINGSTONE PLACER
ADDRESS WHITEHORSE

From / To	Miles	Hours	Cargo	Passenger-Remarks
From XY				
To LIVINGSTONE				
XY				passenger
				&
				gear

Paid

Special Instructions			
at Per Hour			
at Per Mile	220	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	80
TOTAL CHARGES	235	80

David Young
Pilot's Signature

Base

Max Fuerst
Charterer's Authorization

r Printers

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

CHARTER TICKET
№ 2313

AC CESSNA 206 JSR DATE May 4, 98
NAME LIVINGSTONE PLACER
ADDRESS WHITEHORSE

From / To	Miles	Hours	Cargo	Passenger-Remarks
From XY				
To LIV				2 [illegible]
XY				gears

Paid

Special Instructions		
at Per Hour		
100 at 2.20 Per Mile	220	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	80
TOTAL CHARGES	$235	80

David Young
Pilot's Signature

Base

Max Fuerst
Charterer's Authorization

Willow Printers

PacBlue Digital Reprographics Inc.

1595 West 6th Avenue
Vancouver BC V6J 1R1
CANADA

Invoice

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

GST #: 13281 2538

Invoice #: 00000904

Invoice Date: 98/6/9

Bill To:

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

Ship To:

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

Paid VISA

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	

inte graphics ltd.
YUKON'S COMPLETE QUALITY PRINTING CENTRE

411D Strickland Street
Whitehorse, Yukon
Y1A 2K3
Phone: (867) 667-4639
Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 44897

DATE IN: 19 June 98

CUSTOMER: Larry Carlyle

DATE REQ'D.: ASAP.

ADDRESS:

RUSH: ☐

JOB OR PROJ.:

CONTACT:

PHONE: 3-3910

P.O. NO.: Cash Sale

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO		1	2	BLACK / [✓ BLUE LINE]	30x61	25.4	.25	6.35
				BLACK / BLUE LINE				
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER								
	PAID							
	Livingstone Prints							

SUB TOTAL	6.35
G.S.T.	.44
TOTAL	6.79

G.S.T. REG. NO. 102500287 RT

TERMS: Net 30 Days from Date of Invoice 2% Per Month
Charged on Overdue Accounts

Docket No.

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Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 44545

DATE IN: May 26/98

CUSTOMER: Larry Carlyle

DATE REQ'D.:

ADDRESS:

RUSH: ☐

JOB OR PROJ.:

CONTACT:

PHONE:

P.O. NO.:

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO				BLACK / BLUE LINE				
				BLACK / BLUE LINE				
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER	1 - Kimdura Loose Leaf							13.00
	1 - S. Mars Retractable Pencil							7.95
	1 - Miruki Metric Hav. Protractor							6.50
	Paid - Visa							

Livingstone

SUB TOTAL	27.45
G.S.T.	1.92
TOTAL	29.37

G.S.T. REG. NO. 102500287 RT

TERMS: Net 30 Days from Date of Invoice 2% Per Month
Charged on Overdue Accounts

Docket No.

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'UKON'S COMPLETE QUALITY PRINTING CENTRE

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Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 44252

DATE IN: MAY1/98
CUSTOMER: CARLYLE
DATE REQ'D.:
ADDRESS:
RUSH: ☐
JOB OR PROJ.:
CONTACT:
PHONE:
P.O. NO.:

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO				BLACK / BLUE LINE				
				BLACK / BLUE LINE				
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER								
	FL. O. SPRAYPAINT					6	6.50	39.00
	FLAGGING					10	2.25	22.50
	PAID VISA							

Livingstone

SUB TOTAL	61.50
G.S.T.	4.31
TOTAL	65.81

G.S.T. REG. NO. 102500287 RT
TERMS: Net 30 Days from Date of Invoice 2% Per Month Charged on Overdue Accounts

Docket No.

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Whitehorse, Yukon
Y1A 2K3
Phone: (867) 667-4639
Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 46449

DATE IN: OCT. 28/98

CUSTOMER: LARRY CARLYLE

DATE REQ'D.: THURSDAY

ADDRESS:

RUSH: ☐

JOB OR PROJ.:

CONTACT:

PHONE: 3-3910

P.O. NO.: Cash Sale

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO	Livingstone	1	6	BLACK / [✓ BLUE LINE]	30x61	76.2	.25	19.05
	Mt. Byng	3	5	[✓ BLACK] / BLUE LINE ?		67.5	.25	16.88
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER	PAID VISA							

SUB TOTAL	35.93
G.S.T.	2.52
TOTAL	38.45

G.S.T. REG. NO. 102500287 RT

TERMS: Net 30 Days from Date of Invoice 2% Per Month
Charged on Overdue Accounts

Docket No.

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Y1A 2K3
Phone: (867) 667-4639
Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 43215

DATE IN: 2 Feb 98
CUSTOMER:
DATE REQ'D.: 2 Feb 98
ADDRESS:
RUSH: ☐
JOB OR PROJ.:
CONTACT: Larry Carlisle
PHONE: 633-3910
P.O. NO.: Cash Sale

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO		2	2	BLACK / [✓ BLUE LINE]	21x24	14	.25	3.50
				BLACK / BLUE LINE				
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER								
	PAID							

SUB TOTAL	3.50
G.S.T.	.25
TOTAL	3.75

G.S.T. REG. NO. 102500287 RT
TERMS: Net 30 Days from Date of Invoice 2% Per Month
Charged on Overdue Accounts

Docket No.

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Whitehorse, Yukon
Y1A 2K3
Phone: (867) 667-4639
Fax: (867) 668-2734
E-Mail: integraphics@yukon.net

INVOICE: 44659

DATE IN: June 3/98

CUSTOMER: Larry Carlysle

DATE REQ'D.:

ADDRESS:

RUSH: ☐

JOB OR PROJ.:

CONTACT:

PHONE:

P.O. NO.: Cash Sale

	DRAWING TITLE OR JOB NO.	NO. OF ORIG'S	NO. OF COPIES	DESCRIPTION	SIZE	SQ FT/ TOTALS	UNIT PRICE	TOTAL PRICE
DIAZO				BLACK / BLUE LINE				
				BLACK / BLUE LINE				
				DILAR BLK SEPIA				
				STAPLE / TAPE				
				FOLDED				
2520				BOND / VELLUM / FILM				
				BOND / VELLUM / FILM				
PHOTOCOPY				SS DS				
				SS DS				
				SS DS				
				CERLOXBOUND/COIL				
				COVERS Card Acetate				
LASER								
SUPPLIES / OTHER	Flare Projector					1		45.50
	PAID							
	VISA							

SUB TOTAL	45.50
G.S.T.	3.19
TOTAL	48.69

G.S.T. REG. NO. 102500287 RT

TERMS: Net 30 Days from Date of Invoice 2% Per Month
Charged on Overdue Accounts

Docket No.

CAM CLAIMS
NTS MAP 105 E/8
SCALE 1:10,000
1998 WORK PROGRAM

Larry W. Carlyle

PROFESSIONAL GEOLOGIST
L. W. CARLYLE
ALBERTA
LICENSED TO PRACTISE

98-004

LIVINGSTONE CREEK

Max Fuerstner, L. Carlyle
Claims: CAM 1 - 142
NTS: 105 E/8
Coordinates: 61° 19' N; 134° 17' W

Area: **Whitehorse**
Access: Fixed-wing aircraft to Livingstone airstrip; winter road from Lake Laberge
Commodities: Au

INTRODUCTION:

The Livingstone Creek placer camp has been worked for about 100 years. Its production is estimated to be approximately 70,000 ounces (30,000 oz. from lower Livingstone Creek). Much of this production has been large nuggets (up to 39 oz.) having a purity of 860 - 895 fineness. It was believed that nuggets of this size and quality could not have migrated far from their source. It was also surprising that so little hard rock exploration had been done in an area with such an extensive placer mining history.

HISTORY:

Prospecting during 1996 revealed prominent white bull quartz veins having widths from 4 inches up to 4 feet, but most commonly having a width of 1 to 2 feet, located within faults having a strike about 320° Az.(almost perpendicular to the placer streams with steep west dips). Faults were evident by the existence of sharp depressions which could be traced for significant distances across the hillsides. Further evidence of the faults was increased alteration of the biotite schist to chlorite then to sericite as the faults were approached. Strong shearing and light to dark brown iron oxide occurs within the faults. Very little mineralization other than trace oxidized pyrite was seen in any of the quartz exposed on surface. The best gold, arsenic, and copper values seemed to come from samples which had strong iron and manganese staining and/or the presence of graphitic material in them.

Strong pyrite, galena, as well as copper and silver sulphides were not present in the quartz on the ridges and gullies. This mineralization was only seen in vein quartz from the Horseshoe Adit (See 1997 Work Areas on Cam Claims) and vein quartz from the placer workings on Livingstone Creek. It was concluded that the mineralization had been concentrated by some means below a certain elevation; possibly a paleo-watertable.

I confirmed to Larry Carlyle (50% owner of the claims) that I believed the gold is coming from these structures. I have placer mined on Livingstone, Lake, and Cottoneva Creeks for the past 25 years. As I mine upstream, I encounter the greatest amount of gold at these structures and less gold between structures. It is my belief that the gold from one structure migrates downstream only as far as the next structure. Most of the gold is found in the decomposed bedrock rather than in the overlying gravels.

A study of air photos showed the structures as strong lineations running parallel the Big Salmon and Teslin Faults. The faults are known to contain gold-bearing quartz-carbonate lenses and boudins. The lineations are stronger and closer together near the bottom of the placer creeks where there is less overburden. This fact could make open pit mining along the faults economic.

Claim staking started on April 30, 1997. The first 126 claims were recorded on May 16, 1997. An additional 16 claims were recorded on July 22, 1997.

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.

The regional geology was reinterpreted by Tempelman-Kluit in 1978-1979. This interpretation identified the Big Salmon Fault down which the South Big Salmon River flows and into which the placer creeks drain. Tempelman-Kluit, during this mapping, was the first to identify the Teslin Suture (4 - 6 miles west of the Livingstone camp) as the ancient western margin of North America (GSC Open File 1101). The rocks west of the Teslin Suture were pressed against and over the original North America during the Early Cretaceous. This action caused the rocks east of the Big Salmon Fault to be raised in reverse faulted thrust blocks (See Drawing from Tempelman-Kluit's 1979 Report). It is probable that this process caused the gold mineralization in the faults.

During the 1997 Geoscience Forum, a talk was given by Martin de Keijzer, a graduate student at the University of New Brunswick. His talk described some of the conclusions he has arrived at concerning the geological framework of the Teslin Zone and the Eastern Cassiar Terrace. He believes that Late Triassic or Early Jurassic Stikinia and Early Mississippian or older Yukon-Tanana Terranes were complexly folded into recumbent folds toward the east to lie unconformably over Devono-Mississippian Cassiar Platform rocks. This interpretation would imply a collision similar to that suggested by Tempelman-Kluit. He was unclear as to where the implied collision occurred but it can be assumed it was in the area of the Big Salmon Fault or the Teslin Fault as suggested by Tempelman-Kluit. The collision would have had to occur after Early Jurassic time; perhaps earlier than the Early Cretaceous suggested by Tempelman-Kluit. The folding would have resulted in the high grade metamorphism seen in the rocks today. He believes the D'Abbadie Fault is steeply dipping like the Big Salmon Fault rather than being a thrust fault as interpreted by Tempelman-Kluit. It is interesting to note that most, if not all, of the creeks which have had placer production are between these two faults. This new interpretation does not change the probability that the gold is coming from the faults; their genesis may be all that has changed. They may be axial plane faults produced from the folding or faults formed simply parallel the Big Salmon and D'Abbadie Faults by interactions between them; instead of thrust faults as interpreted by Tempelman-Kluit.

CURRENT WORK:

The work undertaken in 1997 consisted of some rock sampling, soil sampling and ground VLF-EM surveying. Most of these data are included as part of this submission. Soil samples were taken in undisturbed ground along the north rims of all of the creeks in the claim block since the overburden was expected to be thinner there as well as permafrost free. A significant number of samples returned sporadic gold values above an arbitrary 10 ppb. background. Soil samples having greater than 100 ppb.(0.1 g/t) values in gold were returned from the adit area of Livingstone Creek, and Summit, Lake, and Cottoneva Creeks. Ground VLF-EM surveys done along Livingstone, Summit, and Lake Creeks; as well as along the ridges between Livingstone and Summit Creeks and Summit and Lake Creeks (not included in submission); confirmed the existence of the faults seen as air photo lineations.

The best soil sample had a grade of 898 ppb.(0.9 g/t) and came from Summit Creek. The best rock sample came from a 0.5 m. quartz veinlet in Summit Creek and had a gold grade of 1446 ppb.(1.4 g/t). These samples are located in the area marked "B" and are very likely on the same fault as the Lake Creek Notch area marked "C". The Lake Creek Notch area returned a significant number of gold values over 100 ppb. and also showed a strong VLF response. The Notch area is expected to extend to the lower portions of Cottoneva Creek because it contains strong air photo lineations (See Drawing). The "oldtimers" also had a wagon road through the area connecting the two creeks.

The main area of interest on Cottoneva Creek is located approximately ½ mile upstream from where this road left the creek. The area marked "D" is located near a cabin at this site.

DISCUSSION:

The Livingstone property appears to have several similarities to the Macraes Mine in New Zealand. The similarities provided below will be followed up with exploration during 1998.

Similarities with the Macraes Mine:

1. East-west compressional plate collision; green schist to amphibolite grade metamorphism with rapid uplift.
2. Long shear length 20 - 30 km.; shear width usually 3 - 5 m.
3. Early Cretaceous mineralization age; mineralization native gold and 2 - 3% sulphides.
4. Best gold values found in areas of high graphitic content.

Statistics on Macraes Mine:

Production: 12 months ending June 30, 1997 128,797 oz. Au from 3 million tonnes of ore.

Reserves: 105.47 million tonnes @ 1.44 g/t. (Cut off 0.7 g/t.)tonnes.

PROPOSED WORK PROGRAM:

The work done during 1997 has demonstrated that mineralization does exist within the faults. The ground VLF-EM surveying has confirmed the air photo lineations on the ground. The 1998 work shall be concentrated in areas "A" through "D" (See 1997 Work Areas Map):

In area "**A**" around the old adit where VLF and grid soil sampling has shown a strong structure with coincident gold, arsenic and copper values (See drawings). The soil sampling and VLF grid will be extended to increase the size of the anomalies. The grid in this area has lines spaced at 50 metres in the north-south direction and samples separated by 20 metres. The grid will be extended 150 metres to the north. The sampling may be followed by bulldozer trenching to expose mineralization for chip sampling.

Additional claim staking may be necessary on the eastern side of the present claim block to protect the extension of structures extending from this area toward Summit Creek.

Area "**B**" has already provided the best gold values obtained during the 1997 program. Additional soil sampling and VLF surveying will be undertaken to extend the structure(s) toward Lake Creek where it is expected to join with area "**C**" (See drawings). Soil sampling with sample spacing of 25 metres has been effective in this area. Additional lines will be spaced at 50 metre intervals toward the north.

Area "**C**" will receive additional soil sampling and VLF surveying to extend the anomalies through the "Notch" toward Cottoneva along the "oldtimers" wagon road. Soil sampling along the north side of this creek was quite discontinuous because of the placer mining occurring in the vicinity. The line of soil samples taken just north of the camp (approximately 100 metres north of the creek) indicated that two structures extend toward Cottoneva Creek (See drawings). The grid will have soil samples at intervals of 20 metres along lines spaced at 50 metre intervals. Should work in this area extend its high potential, backhoe or bulldozer trenching may be warranted.

Soil samples taken along the north rim of Cottoneva Creek in Area "**D**" returned several gold values of interest. Area "**D**" will receive VLF surveying to locate structures extending toward Little Violet Creek. Once this is done, additional soil sampling will be employed to locate anomalous gold assays in the direction of Little Violet Creek. The grid in this area is expected to have sample intervals of 25 metres along lines separated by 50 metres. If the structures extending between Lake and Cottoneva Creeks are as strong as anticipated, VLF and grid soil sampling may need to be extended downstream from area "D" to explore them.

The 1997 work left some puzzles to be solved. The biggest of these is; why does VLF surveying over lower Livingstone Creek (where most of the placer gold has come from) show strong structures but soil sampling over them return unexpectedly low gold values? The low gold values obtained from soil sampling done at Little Violet and Mendocina Creeks also are unexpected. Additional prospecting, rock and soil sampling will needed in these areas to find explanations.

Final Submission:

At the completion of the 1998 work program, a final report will be prepared describing the work done, location of samples taken with results, conclusions, recommendations, references, statement of costs, and statement of qualifications. The report will contain appendices of assay certificates and invoices supporting statement of costs.

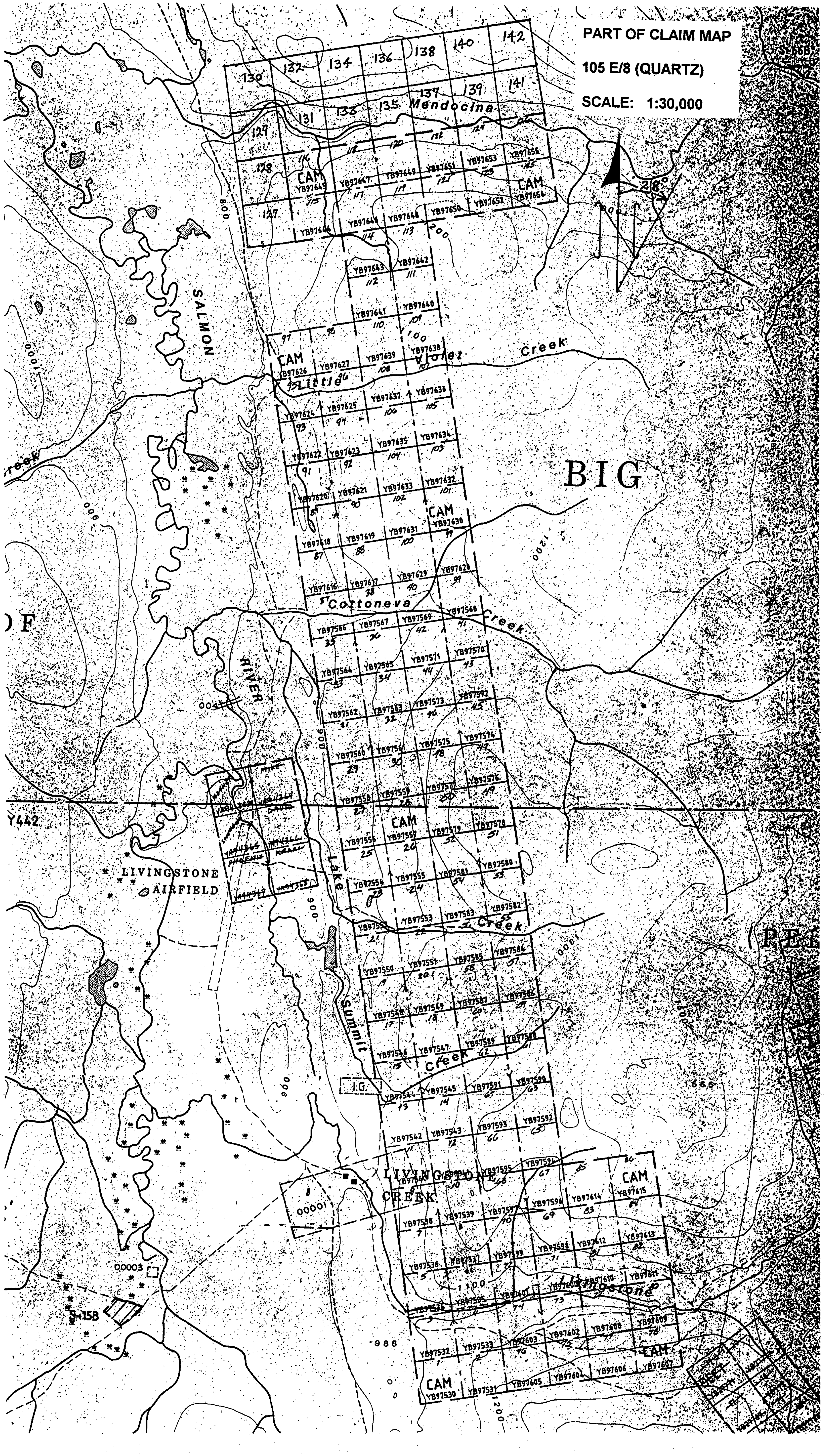
RECLAMATION:

Any trenching or other environmental disturbance resulting from work on the property will be rehabilitated as required by the new Mining Land Use Regulations when they are passed by parliament and become law. Such rehabilitation will definitely form part of the assessment credits applied for on the properties.

PART OF CLAIM MAP

105 E/8 (QUARTZ)

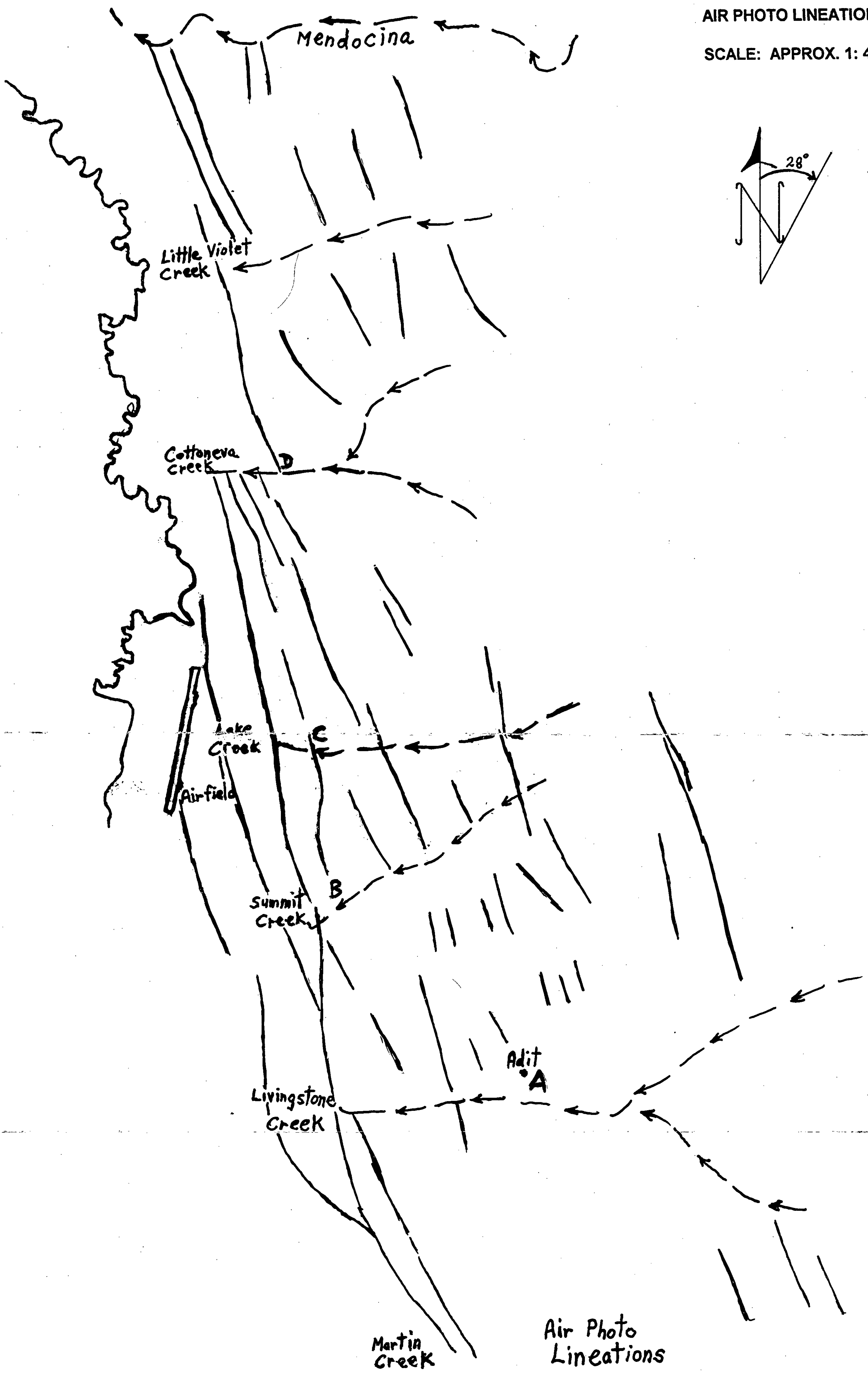
SCALE: 1:30,000

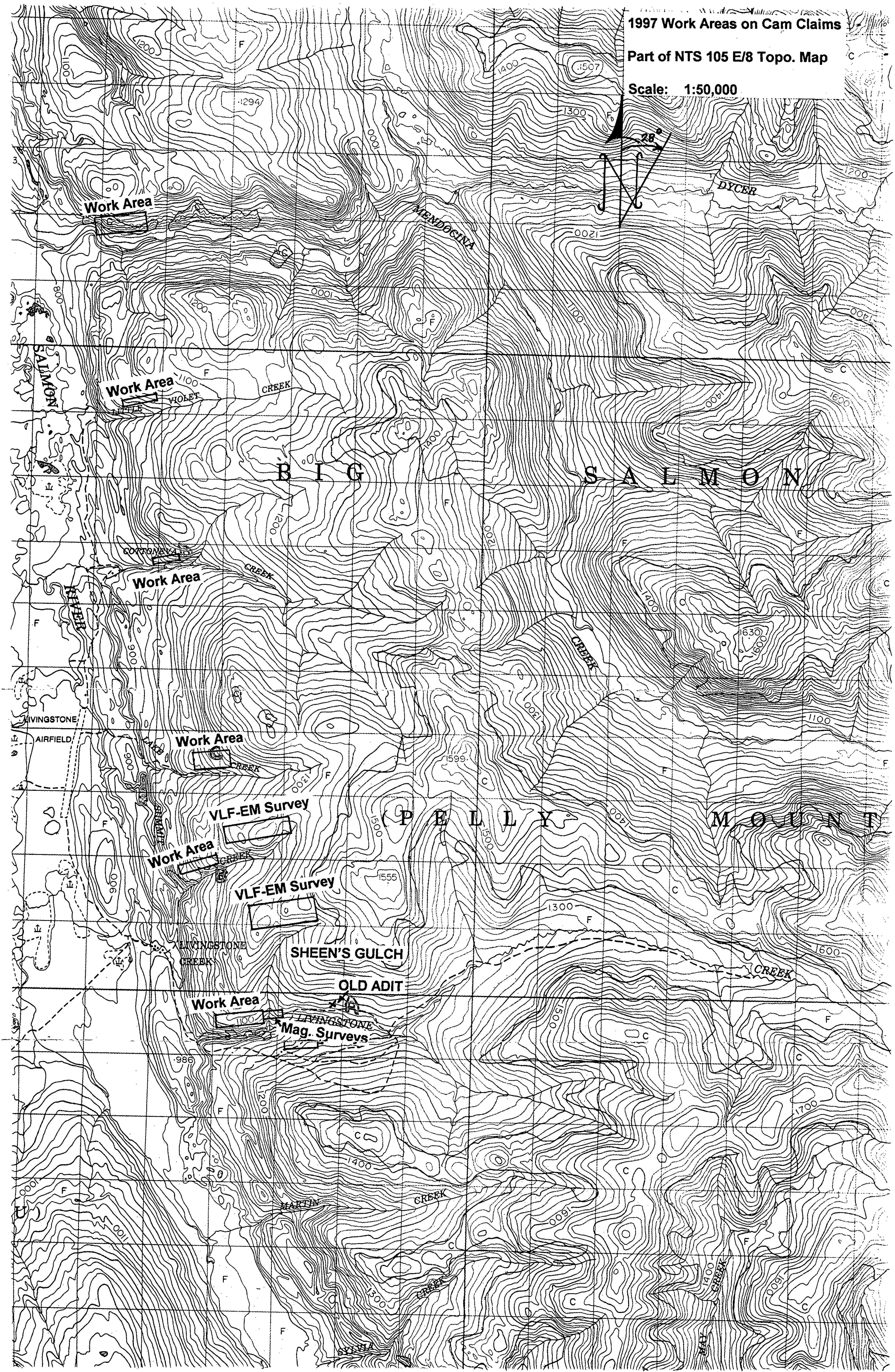


TRACINGS OF

AIR PHOTO LINEATIONS

SCALE: APPROX. 1: 40,000

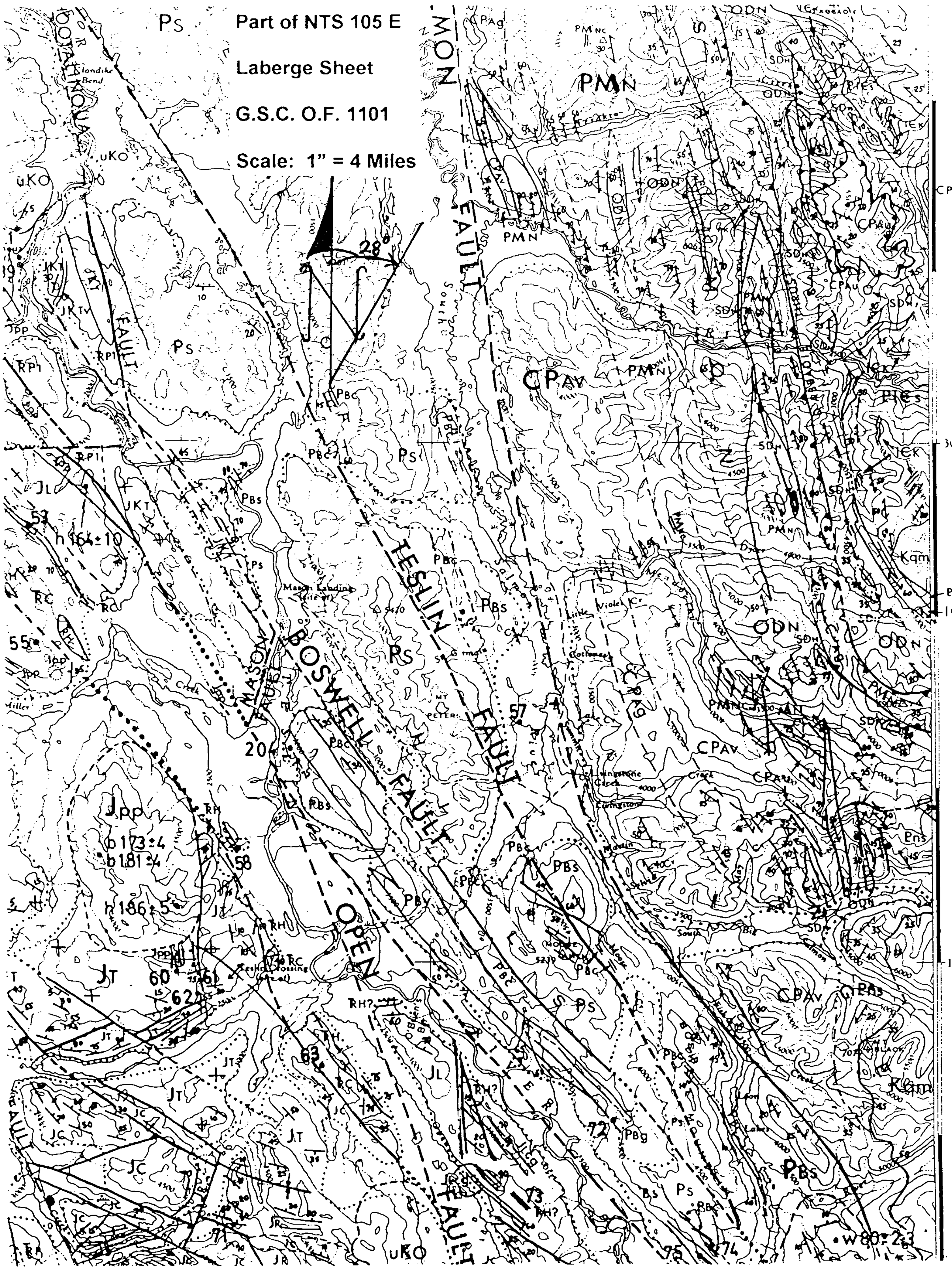




1997 Work Areas on Cam Claims

Part of NTS 105 E/8 Topo. Map

Scale: 1:50,000

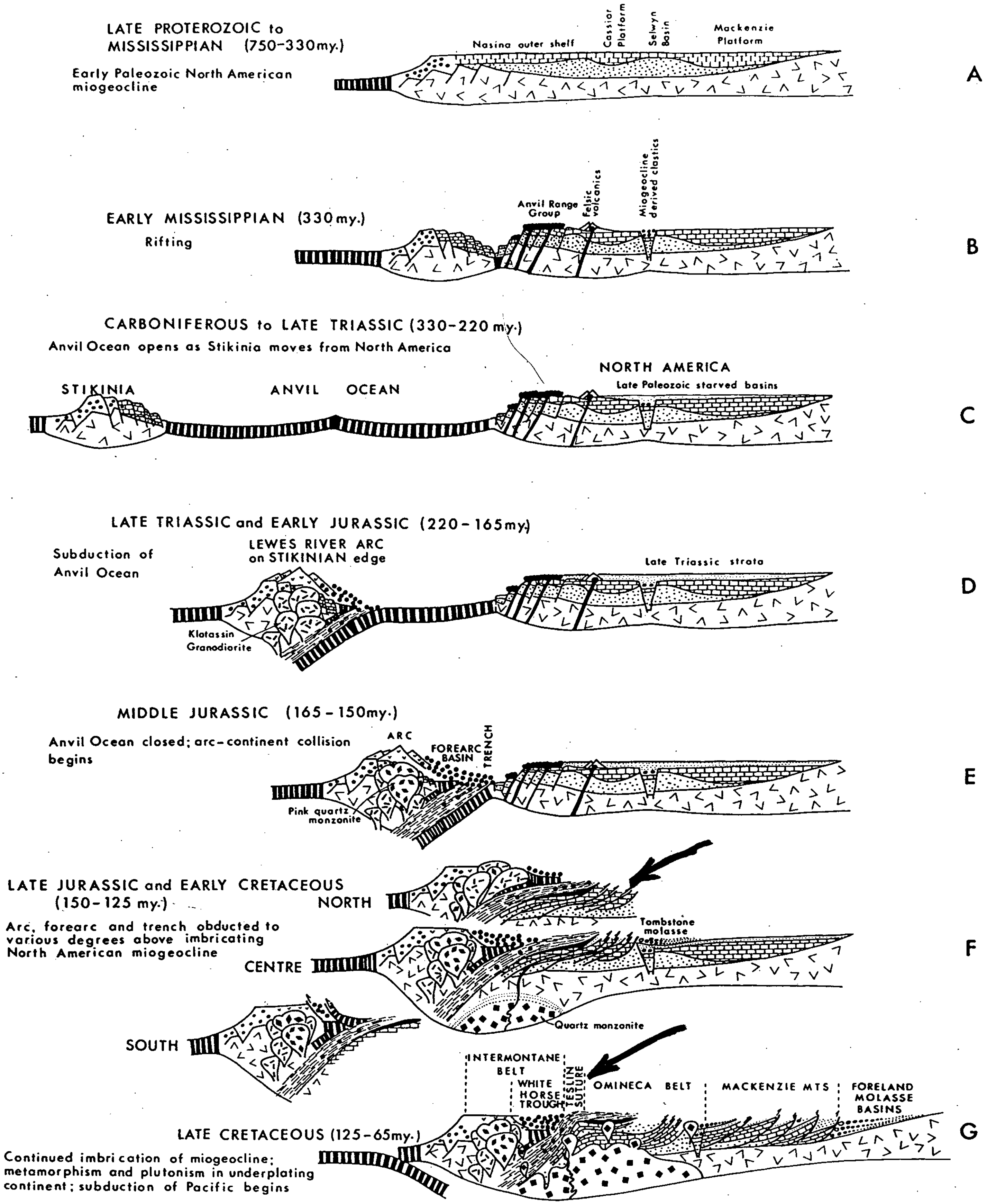


Part of NTS 105 E

Laberge Sheet

G.S.C. O.F. 1101

Scale: 1" = 4 Miles



LATE PROTEROZOIC to MISSISSIPPIAN (750-330my.)

Early Paleozoic North American miogeocline

EARLY MISSISSIPPIAN (330 my.)

Rifting

CARBONIFEROUS to LATE TRIASSIC (330-220 my.)

Anvil Ocean opens as Stikinia moves from North America

LATE TRIASSIC and EARLY JURASSIC (220-165my.)

Subduction of Anvil Ocean

MIDDLE JURASSIC (165-150my.)

Anvil Ocean closed; arc-continent collision begins

LATE JURASSIC and EARLY CRETACEOUS (150-125 my.)

Arc, forearc and trench obducted to various degrees above imbricating North American miogeocline

LATE CRETACEOUS (125-65my.)

Continued imbrication of miogeocline; metamorphism and plutonism in underplating continent; subduction of Pacific begins

Comparison of
Livingstone Property
with
Macraes Mine, New Zealand

	Macraes	Livingstone
Tectonic Setting	Compressional	Compressional
Direction	East-West	West to East
Fault Timing	Late Tertiary	Early Cretaceous
Mineralization Age	Early Cretaceous	Early Cretaceous
Mineralization	Native Au or	Native Au
	Free Milling Au	? ?
	2 - 3% sulphides	Low sulphides
Mineralization P-T	325-375^{0}C, 3+/-1kbars	Unknown
	Rapid Uplift	Probable
Shear Length	25 km.	20 - 30 km.
Shear Dip	10-26^{0} NE	26-75^{0} SW
Shear Width	Few cm. to 125 m.	Few cm. to 15 m.
	Usually 5 m.	Usually 3 - 5 m.
Metamorphic Grade	Greenschist	Greenschist
	Amphibolite	Amphibolite

Best gold values found in areas of high graphitic content at both sites.

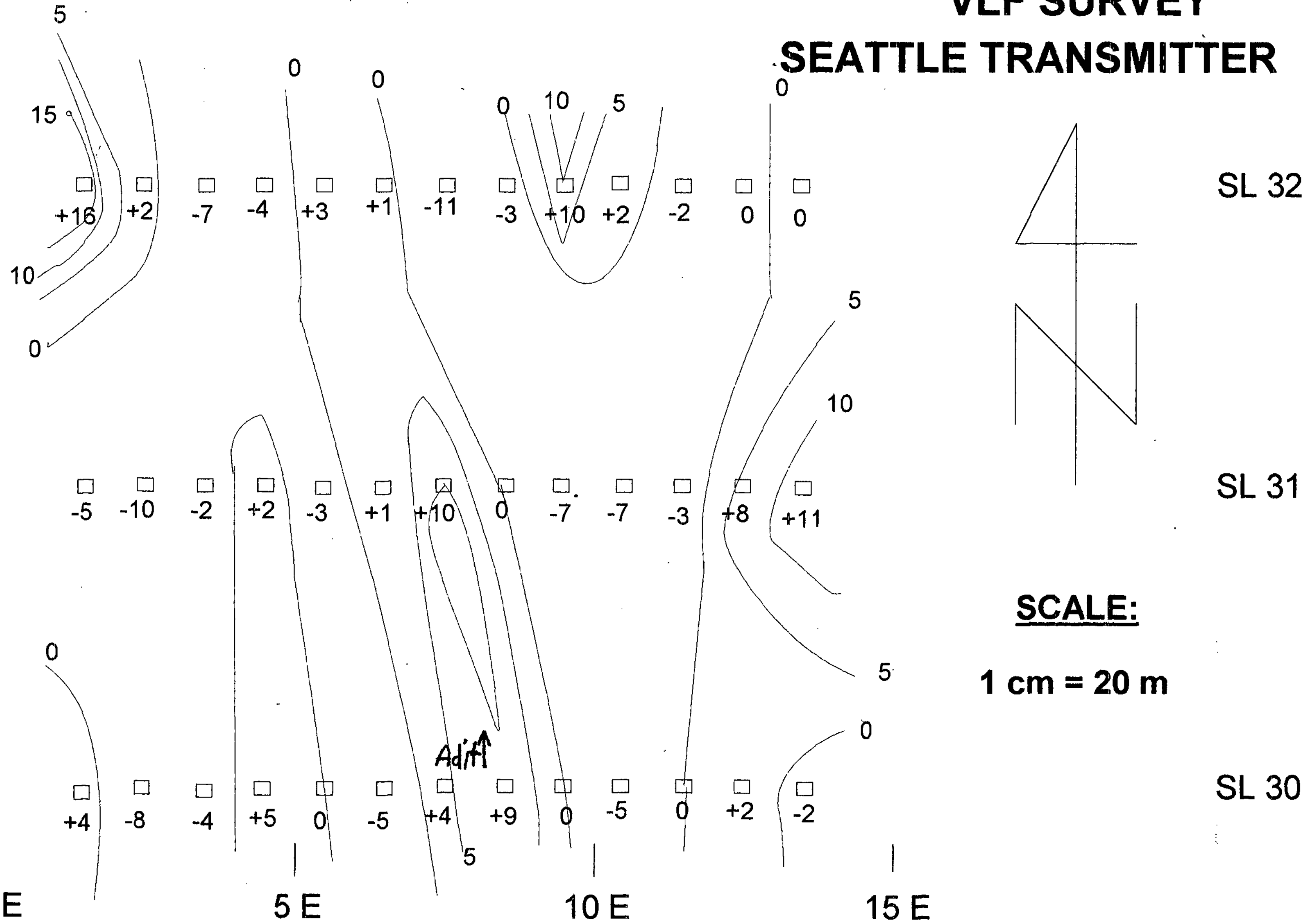
Tempelman-Kluit Mapping (O.F. 1101)

CP_{AV} – Carboniferous and/or Permian dark green, fine-grained amphibolite.

CP_{Ag} – Carboniferous and/or Permian dioritic augen amphibole gneiss.

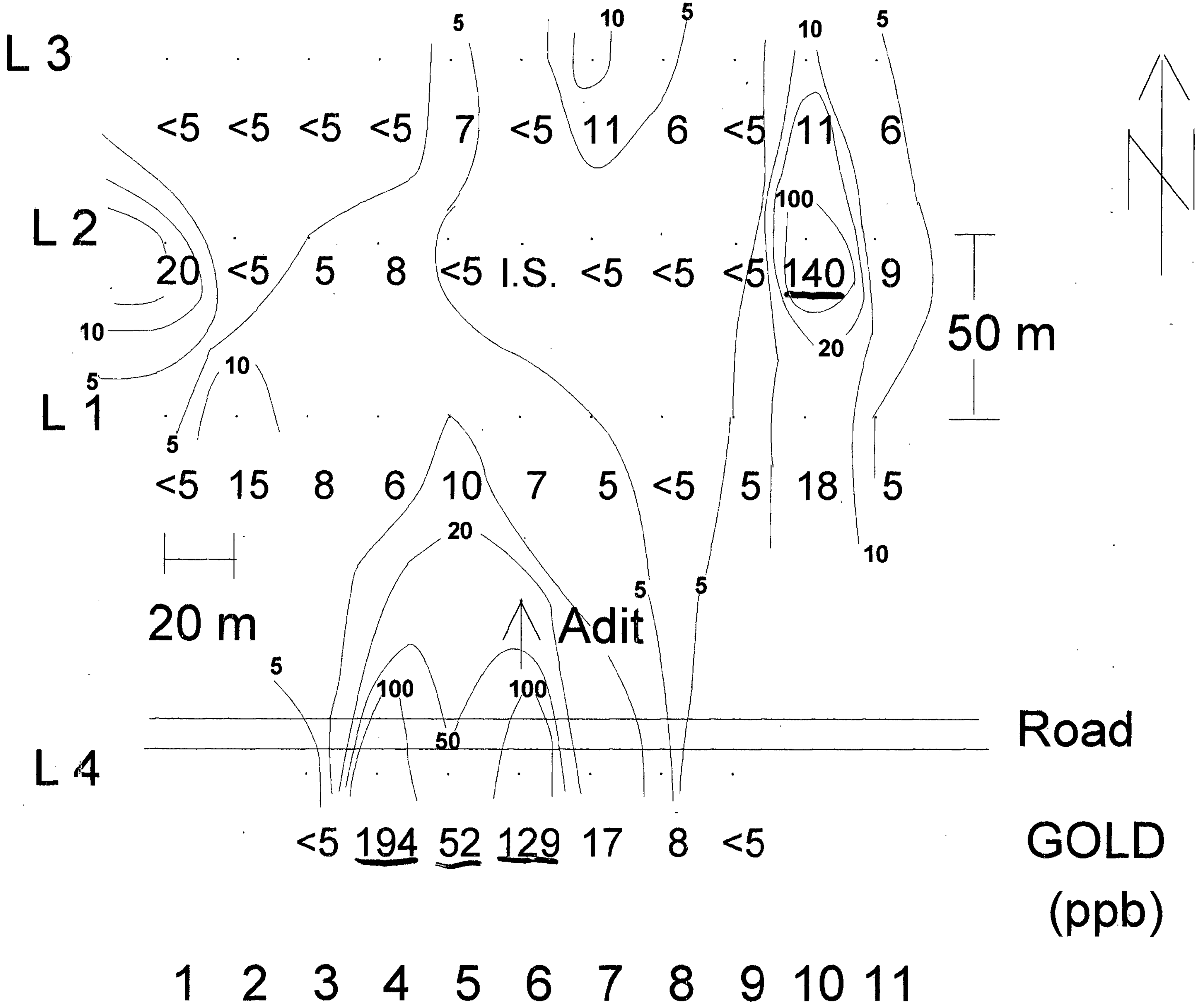
PM_{N} – Paleozoic or Mesozoic pale green, strongly foliated muscovite-quartz schist.

ADIT AREA
FRASER FILTERED
VLF SURVEY
SEATTLE TRANSMITTER

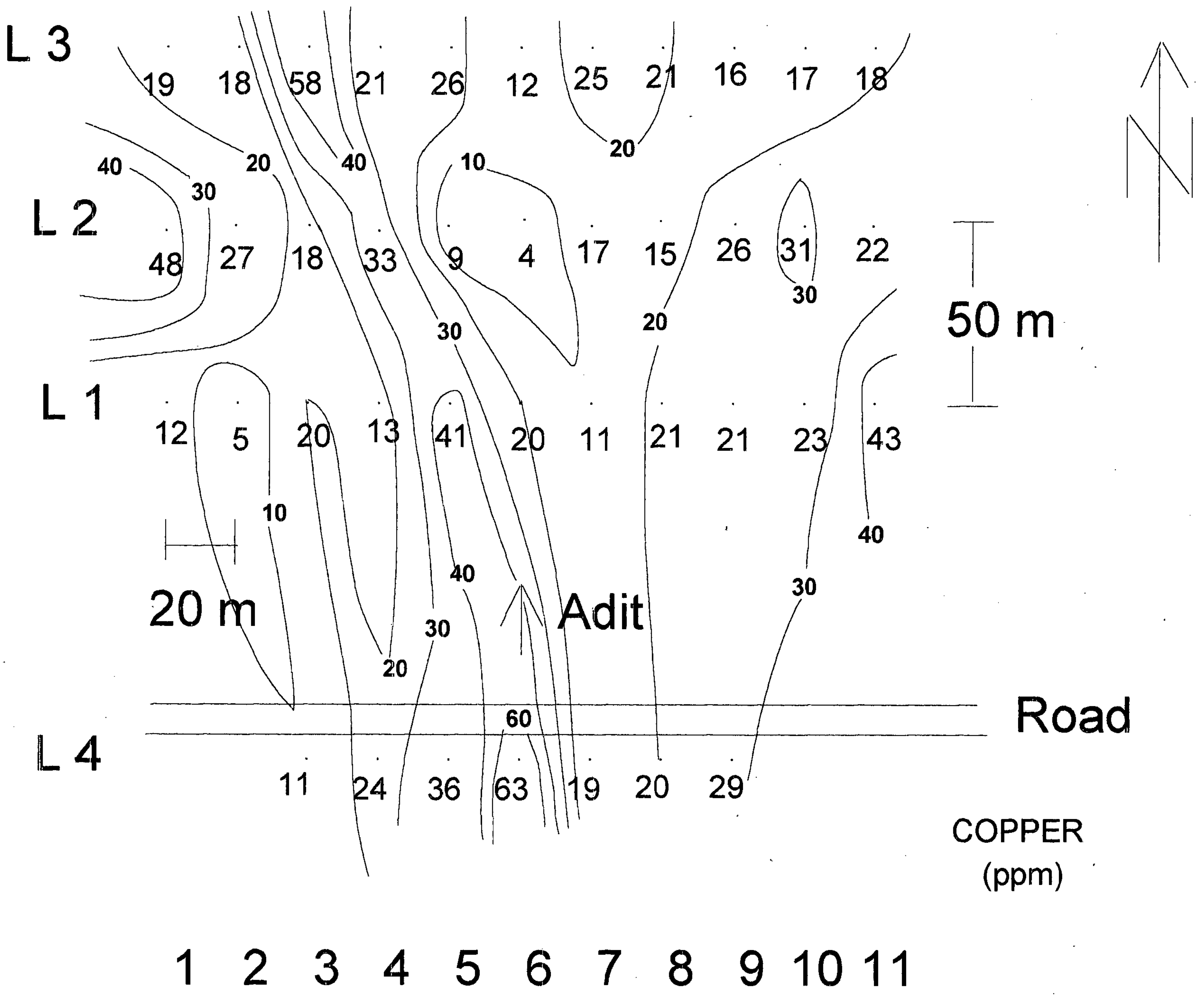


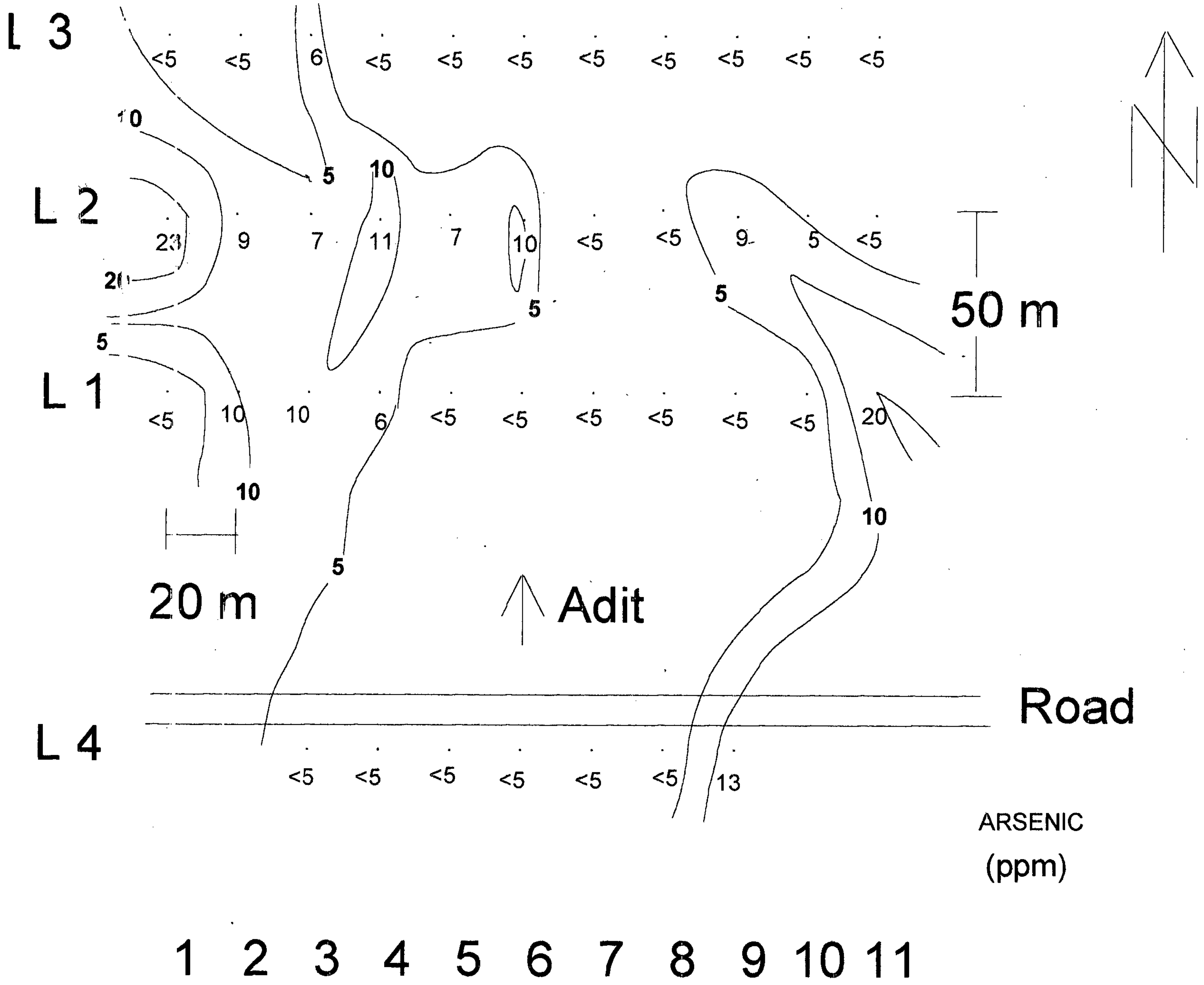
SCALE:

1 cm = 20 m



L 3
<5 <5 <5 <5 7 <5 11 6 <5 11 6
L 2
20 <5 5 8 <5 I.S. <5 <5 <5 140 9
L 1
<5 15 8 6 10 7 5 <5 5 18 5
L 4
<5 194 52 129 17 8 <5
1 2 3 4 5 6 7 8 9 10 11
5
10
20
50
100
50 m
20 m
Adit
Road
GOLD
(ppb)
N

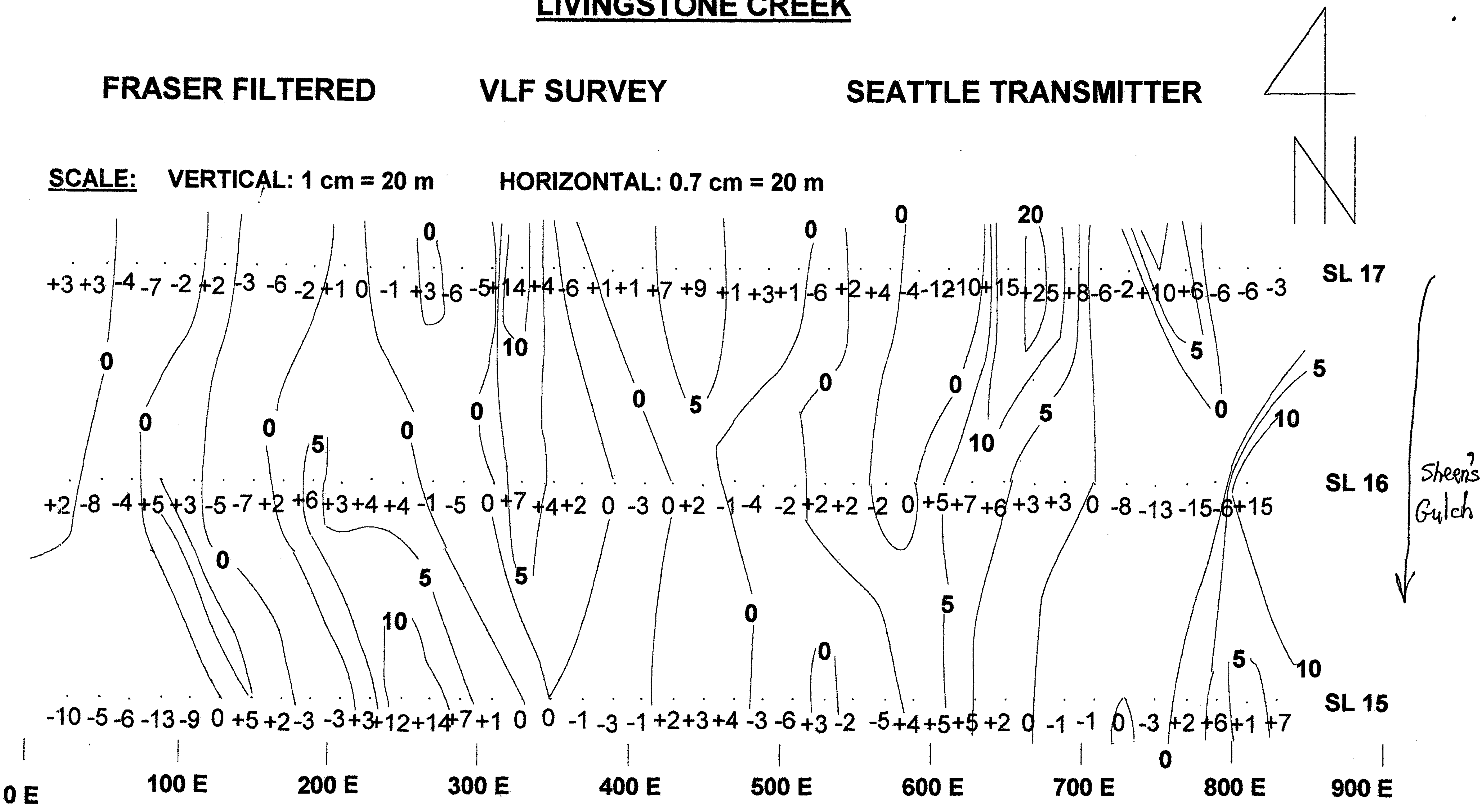

L 3
19 18 58 21 26 12 25 21 16 17 18
40
30
20
40
10
20
L 2
48 27 18 33 9 4 17 15 26 31 22
30
20
30
50 m
L 1
12 5 20 13 41 20 11 21 21 23 43
10
40
40
30
20 m
Adit
30
20
60
Road
L 4
11 24 36 63 19 20 29
COPPER
(ppm)
1 2 3 4 5 6 7 8 9 10 11


L 3
<5 <5 6 <5 <5 <5 <5 <5 <5 <5 <5
10
5
10
L 2
23 9 7 11 7 10 <5 <5 9 5 <5
20
5
5
5
50 m
L 1
<5 10 10 6 <5 <5 <5 <5 <5 <5 20
10
10
20 m
5
Adit
Road
L 4
<5 <5 <5 <5 <5 <5 13
ARSENIC
(ppm)
1 2 3 4 5 6 7 8 9 10 11

LIVINGSTONE CREEK

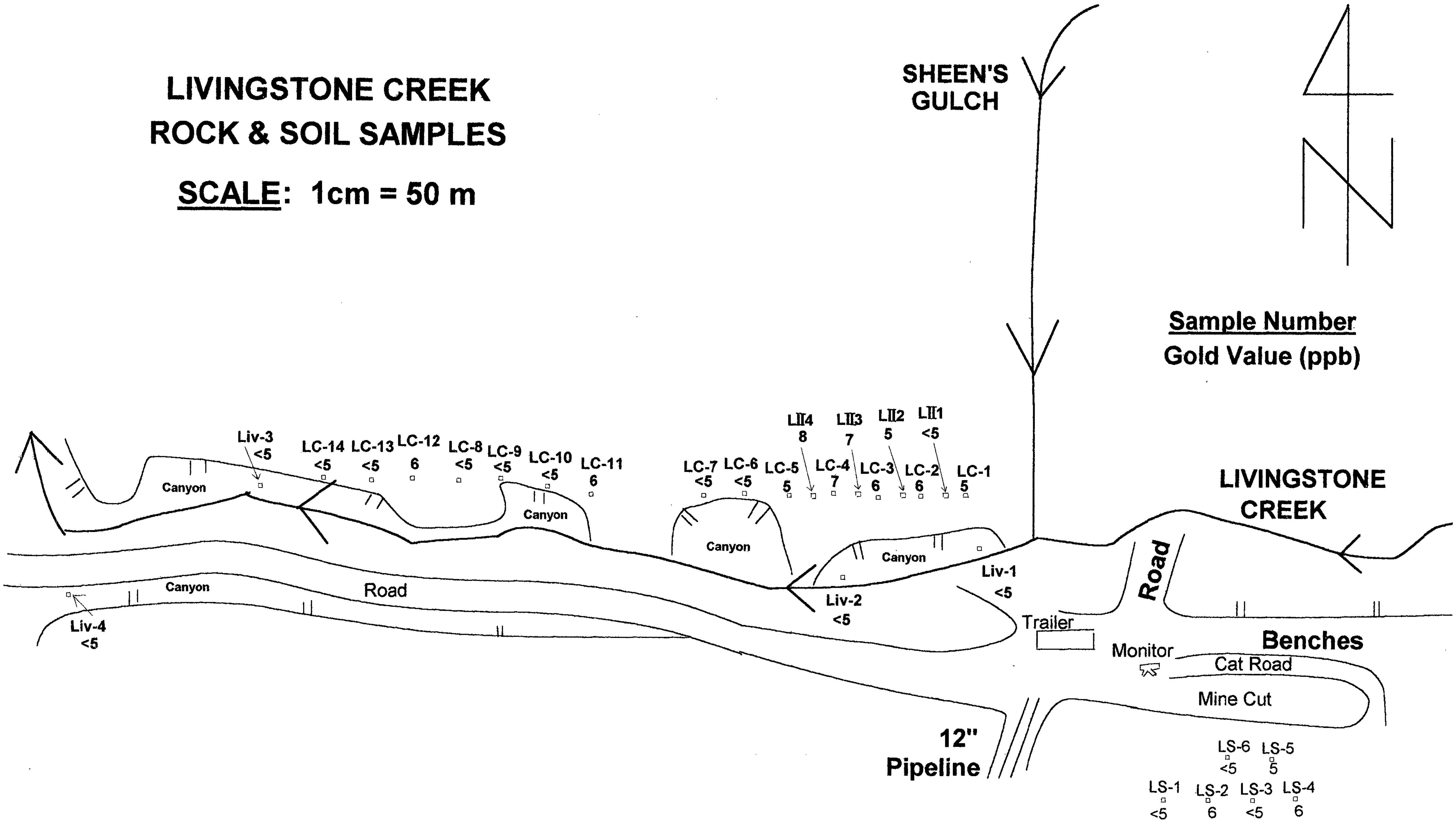
FRASER FILTERED **VLF SURVEY** **SEATTLE TRANSMITTER**

SCALE: **VERTICAL: 1 cm = 20 m** **HORIZONTAL: 0.7 cm = 20 m**



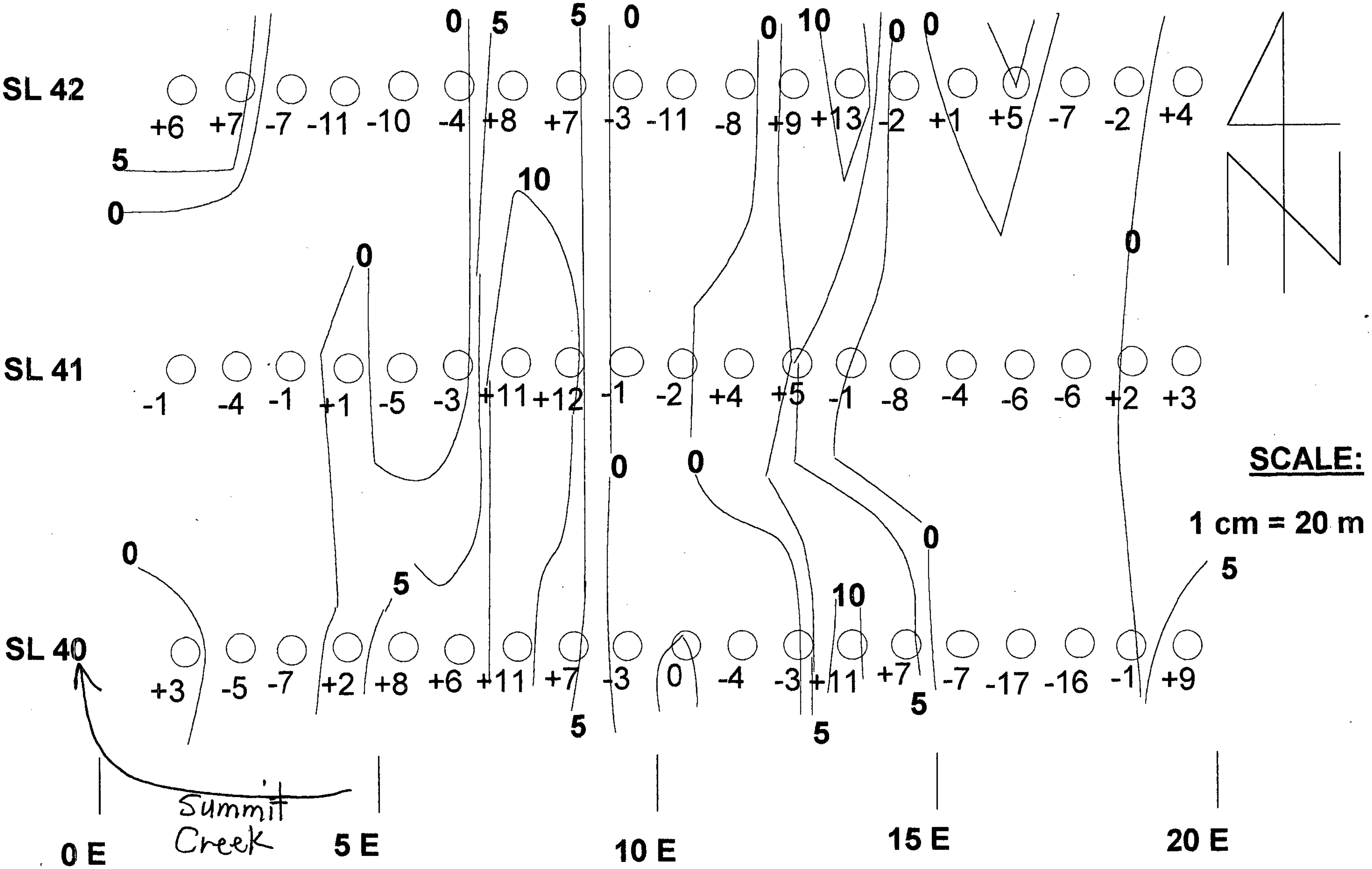
LIVINGSTONE CREEK
ROCK & SOIL SAMPLES

SCALE: 1cm = 50 m



SUMMIT CREEK

FRASER FILTERED VLF SURVEY SEATTLE TRANSMITTER



SCALE:

1 cm = 20 m

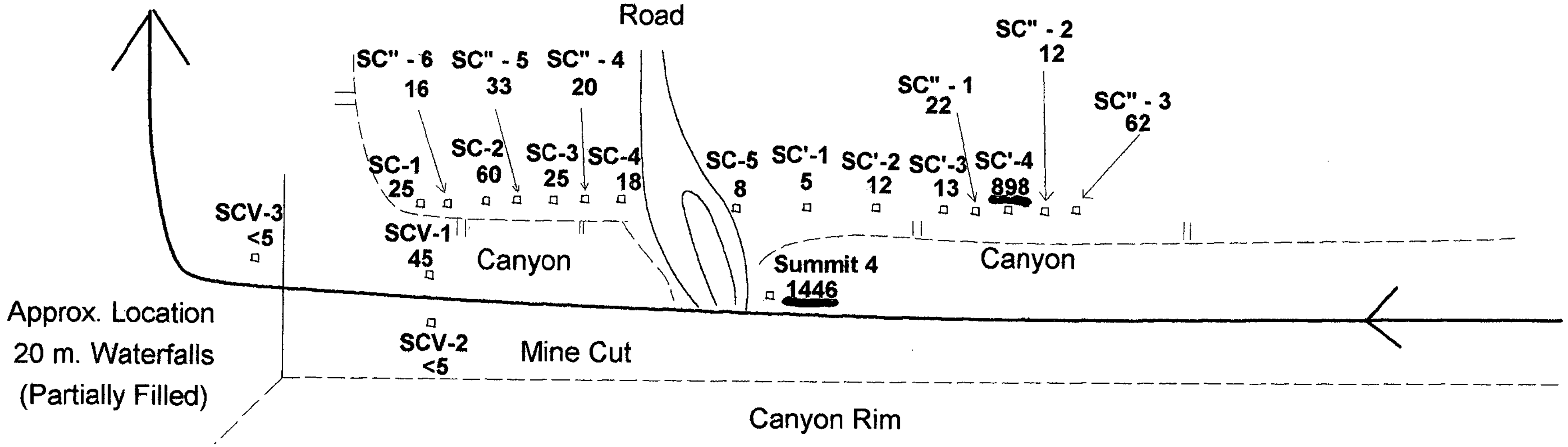
SUMMIT CREEK

ROCK & SOIL SAMPLES

SCALE : 1 cm = 50 m

Sample Number

Gold Value (ppb)



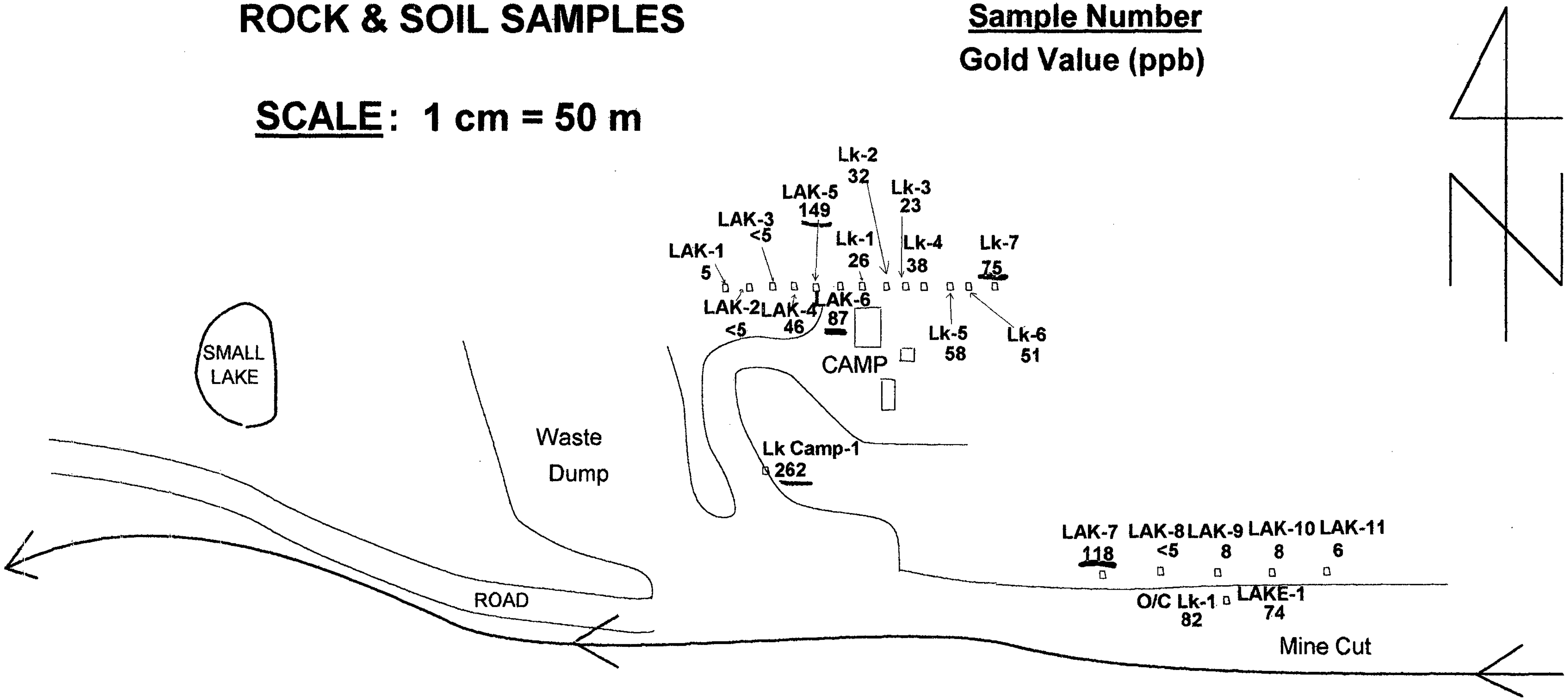
LAKE CREEK

ROCK & SOIL SAMPLES

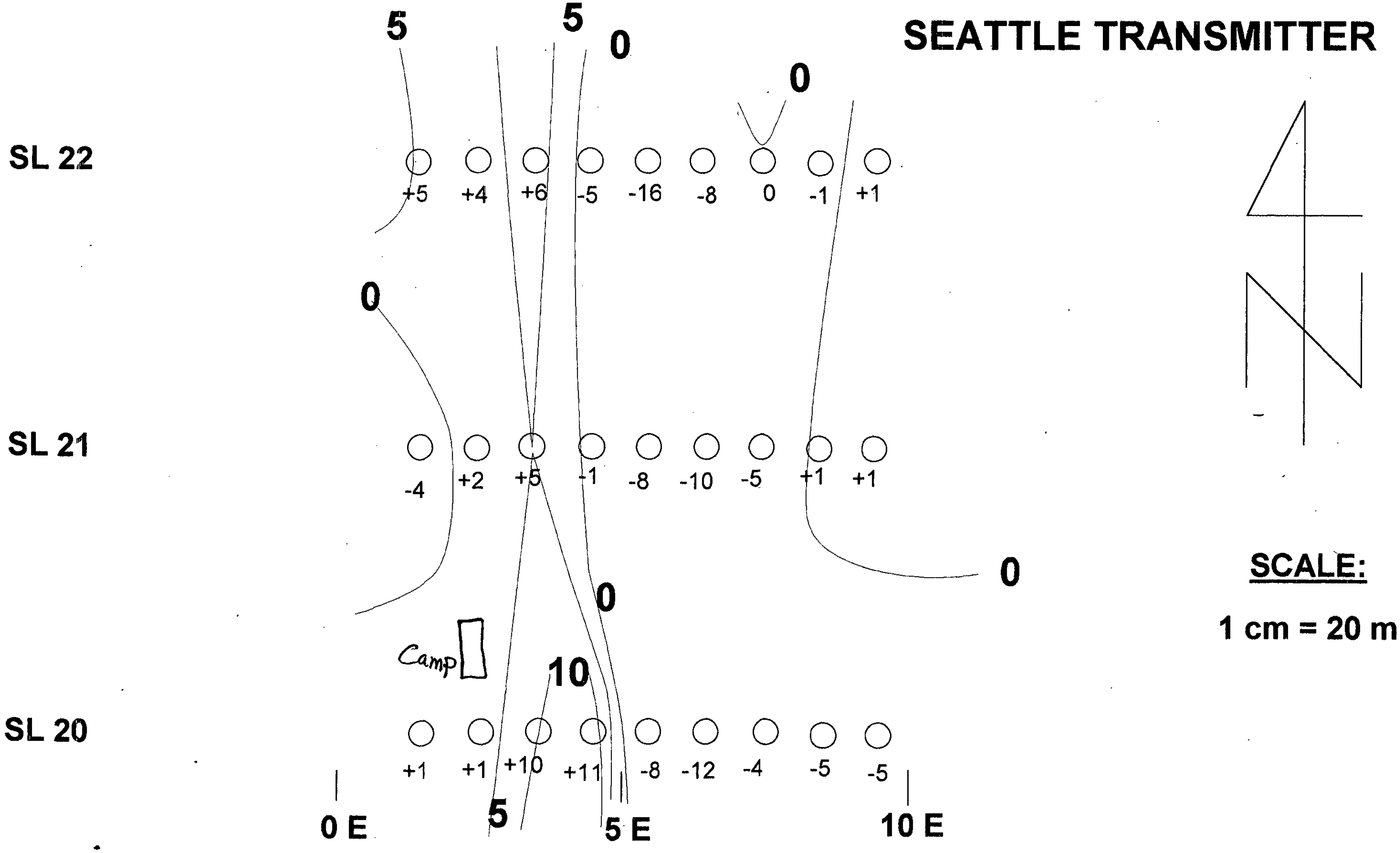
SCALE: 1 cm = 50 m

Sample Number

Gold Value (ppb)



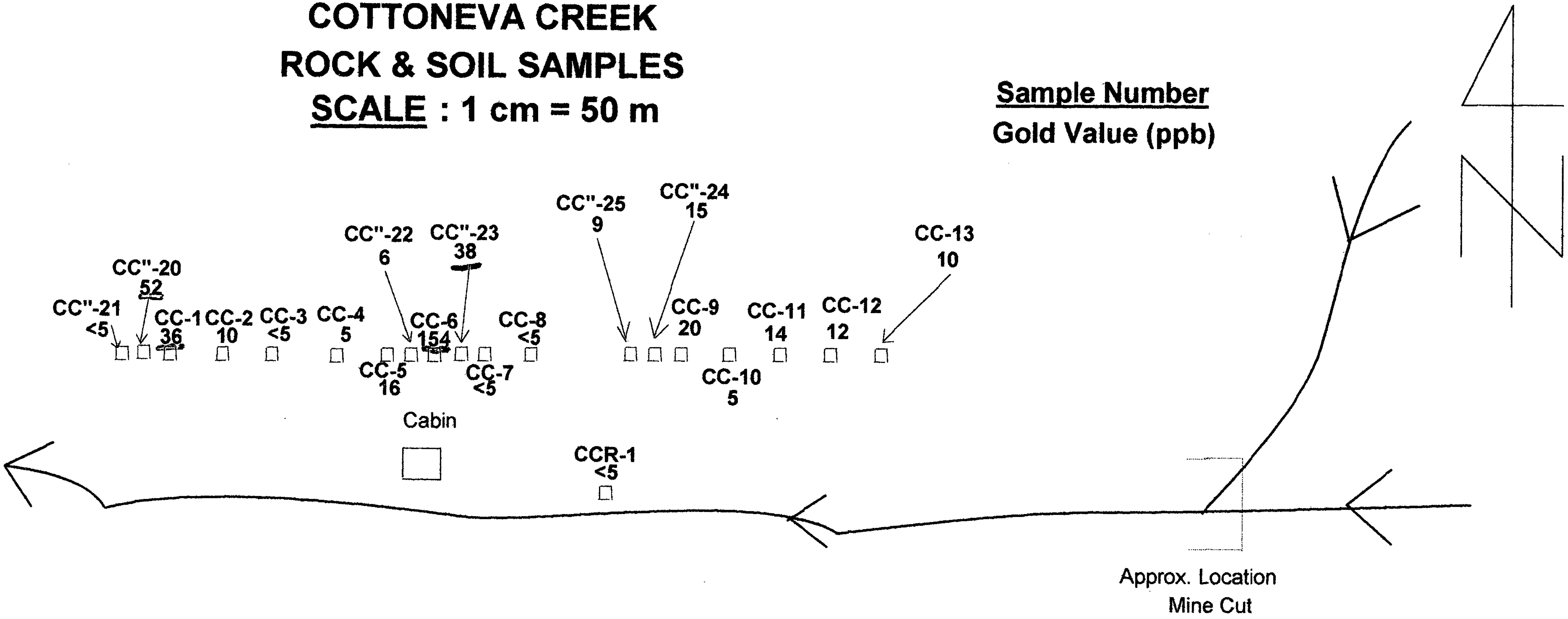
LAKE CREEK NOTCH
FRASER FILTERED
VLF SURVEY
SEATTLE TRANSMITTER



SCALE:

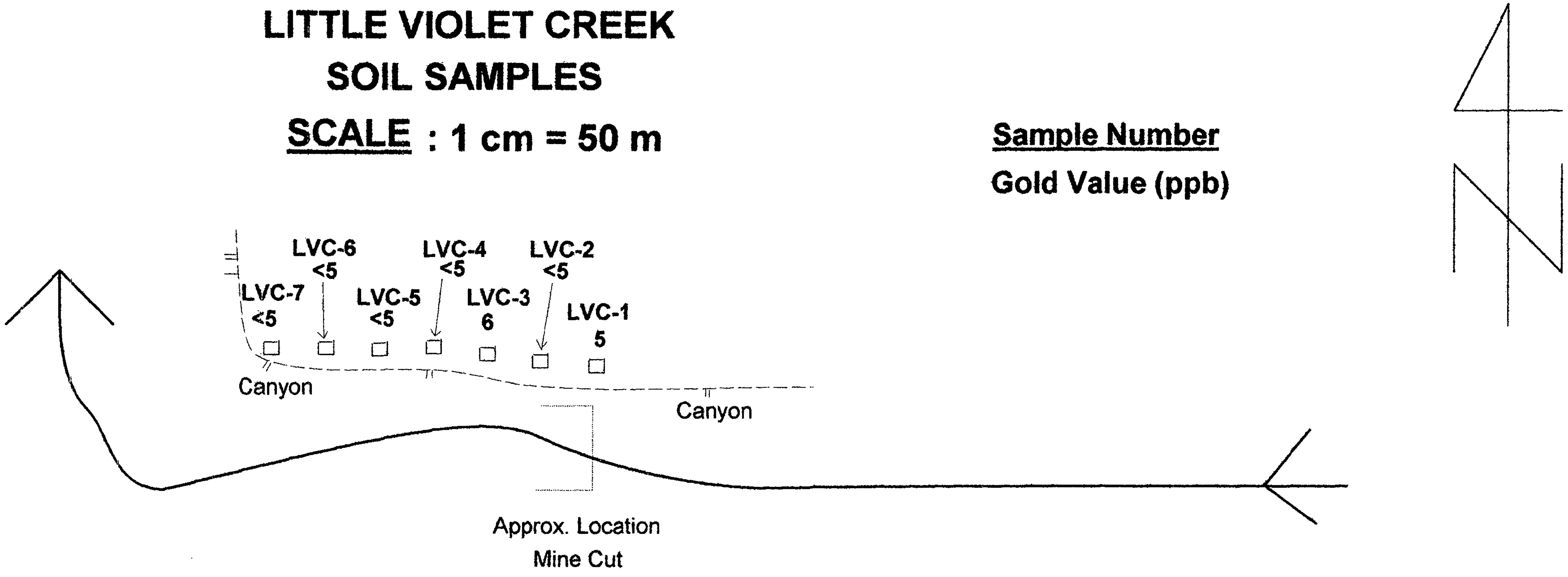
1 cm = 20 m

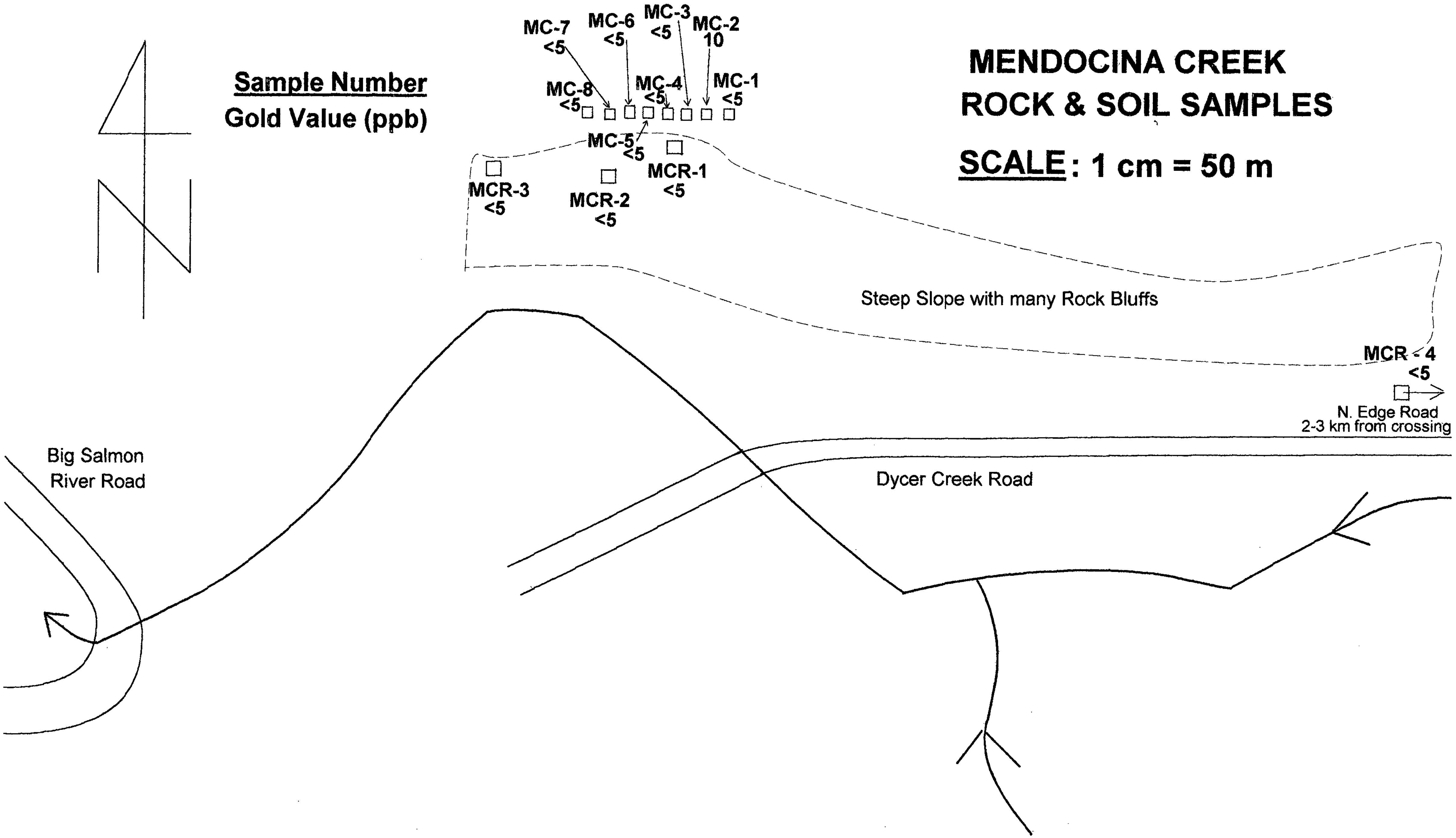
COTTONEVA CREEK
ROCK & SOIL SAMPLES
SCALE : 1 cm = 50 m



LITTLE VIOLET CREEK
SOIL SAMPLES

SCALE : 1 cm = 50 m




MENDOCINA CREEK
ROCK & SOIL SAMPLES
SCALE: 1 cm = 50 m
Sample Number
Gold Value (ppb)
MC-7
<5
MC-6
<5
MC-3
<5
MC-2
10
MC-8
<5
MC-4
<5
MC-1
<5
MC-5
<5
MCR-1
<5
MCR-3
<5
MCR-2
<5
Steep Slope with many Rock Bluffs
MCR - 4
<5
N. Edge Road
2-3 km from crossing
Big Salmon
River Road
Dycer Creek Road

DETAILED BUDGET

LIVINGSTONE CREEK APPLICATION

OLD ADIT

35 soil samples @ $19.30/ea	$ 675.50
5 rock samples @ $21.00/ea	$ 105.00
Cat trenching (D9 equiv.) 20 hrs. @ $180/hr (wet)	$3,600.00

LIVINGSTONE CREEK

75 soil samples @ $19.30/ea	$1,447.50
10 rock samples @ $21.00/ea	$ 210.00

SUMMIT CREEK

60 soil samples @ $19.30/ea	$1,158.00
10 rock samples @ $21.00/ea	$ 210.00
1 day VLF surveying @ $100/day	$ 100.00

LAKE CREEK

45 soil samples @ $19.30/ea	$ 868.50
10 rock samples @ $21.00/ea	$ 210.00
2 days VLF surveying @ $100/day	$ 200.00
20 hrs. cat trenching @ $180/hr (wet)	$3,600.00

COTTONEVA CREEK

45 soil samples @ $19.30/ea	$ 868.50
10 rock samples @ $21.00/ea	$ 210.00
2 days VLF surveying @ $100/day	$ 200.00

LITTLE VIOLET AND MENDOCINA CREEKS

50 soil samples @ $19.30/ea	$ 965.00
10 rock samples @ $21.00/ea	$ 210.00
2 days VLF surveying @ $100/day	$ 200.00

MISCELLANEOUS

50 soil samples @ $19.30/ea	$ 965.00
10 rock samples @ $21.00/ea	$ 210.00
10 hrs. cat trenching @ $180/hr	$1,800.00