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BEDROCK GEOLOGY, VLF-EM SURVEYING, ROCK, SOIL, AND STREAM SEDIMENT SAMPLING
1999

CAM CLAIMS 1 - 146, LIVINGSTONE AREA

WHITEHORSE MINING DISTRICT, YUKON

NTS 105 E/8

094 082

By

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Whitehorse, Yukon

January, 2000

This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of $ 14,600 .

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

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INTRODUCTION:

Assessment has been filed on the 146 Cam Claims until May of 2001. In spite of this, it was decided to do some bedrock geological mapping on and around the claims in an attempt to better understand the rock types and geology of the area. Four samples of rocks collected during the geological mapping were sent to Vancouver Petrographics Ltd. for study (Report in Appendix A).

In the course of doing this work, some rock, soil and stream sediment samples were taken and analyzed. Analysis for mercury at parts per billion levels was started in 1999. In addition, several lines of VLF-EM surveying were performed. This surveying resulted in the location of a structure located west of the adit area (See Bedrock Geology Maps) on the north side of Livingstone Creek. Subsequent grid soil sampling in this area showed the presence of weak gold, but strong mercury, mineralization in the structure. The structure has been called the "Switchback" because it is located at the top of a switchback on a cat road which runs along the north side of Livingstone Creek.

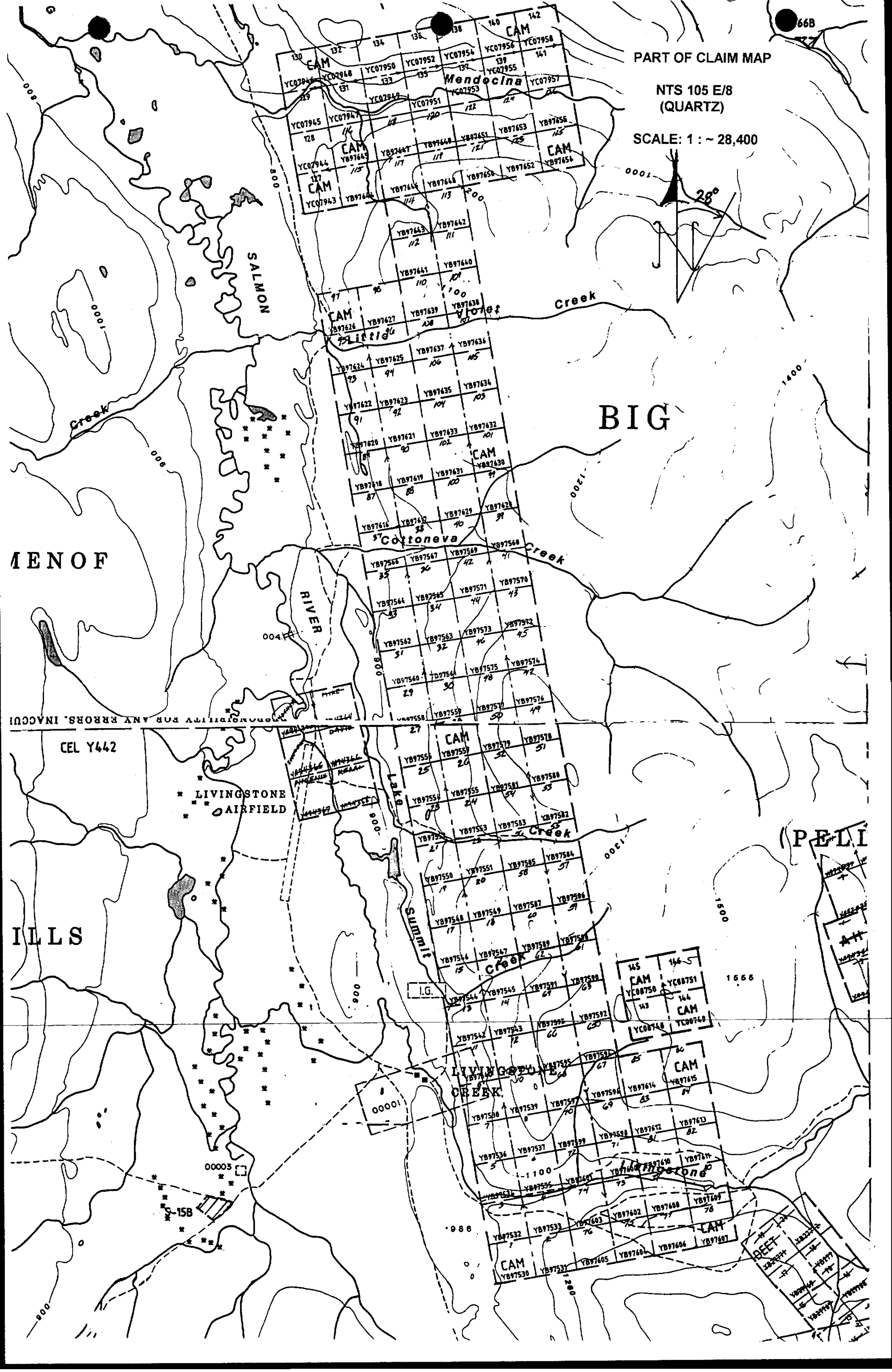
This report has been prepared to describe the 1999 work program and provide conclusions and recommendations for further work on the CAM Claims.

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 began. 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.

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 the presence of cat trails 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 fault escarpment of the Big Salmon Fault at an elevation of approximately 900 metres (2,950 ft.) to the top of the hills above the headwaters of the creeks at an elevation of approximately



PART OF CLAIM MAP

NTS 105 E/8
(QUARTZ)

SCALE: 1 : ~ 28,400

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 Information:

CLAIM NAME	GRANT NUMBERS	EXPIRY DATE
CAM 1 - 126	YB 97530 - YB 97655	May 16, 2001
CAM 127 - 142	YC 07943 - YC 07958	May 16, 2001
CAM 143 - 146	YC 08748 - YC 08751	May 19, 2001

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. 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.

The regional geology was reinterpreted by Tempelman-Kluit in 1977-1979. 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.

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

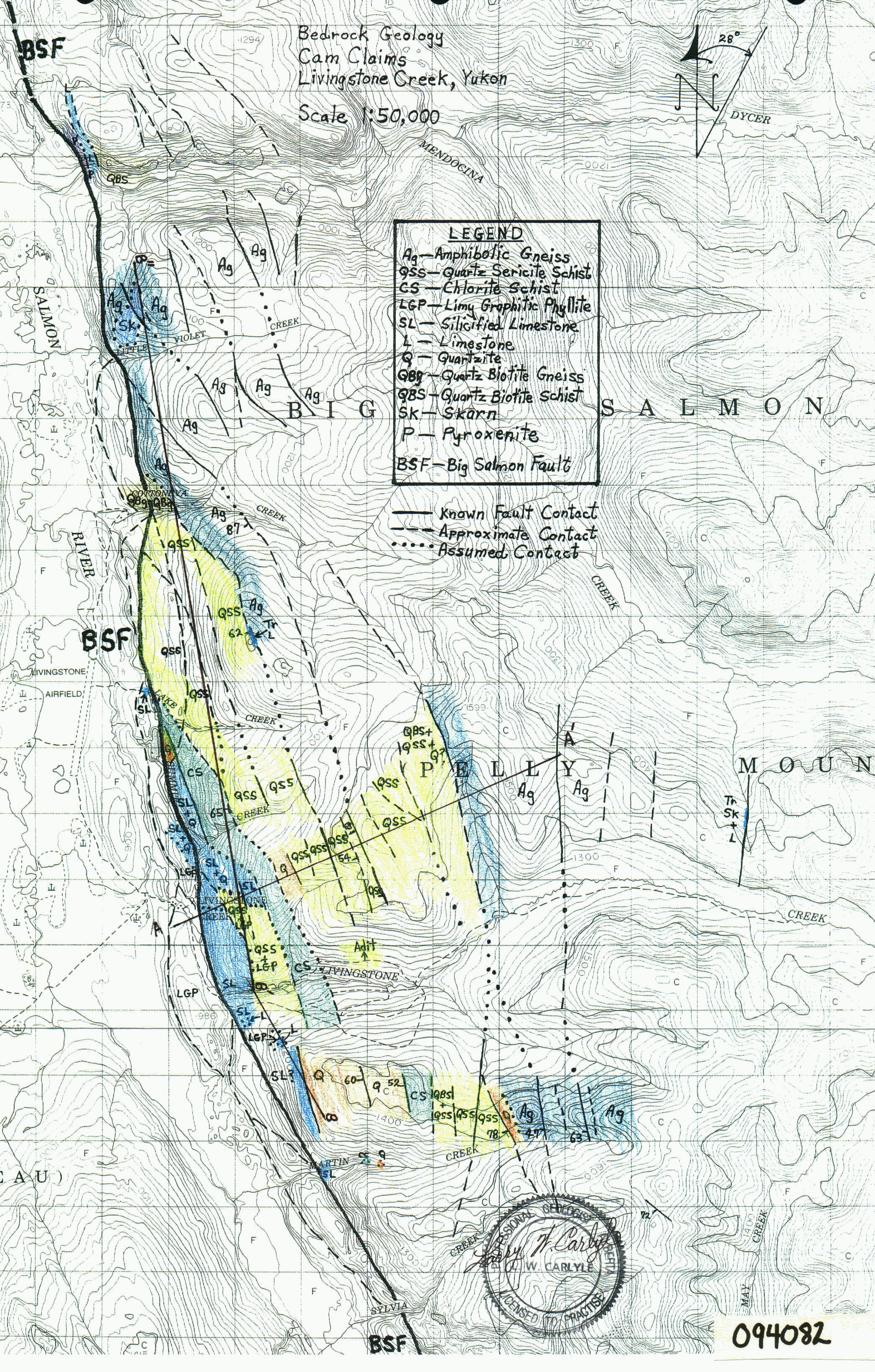
Tempelman-Kluit's westerly dipping subduction zone with North American rocks in the footwall and accreted arc terrane and oceanic rocks in its hanging wall has been reinterpreted. This reinterpretation, which has been developing from the mid-1980's to 1997, considers the Teslin zone as a zone of ductile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

- the same metamorphosed stratigraphies can be traced along a strike length of at least 20 km. This would not be possible in the more chaotic jumble of rock blocks expected from collapsing hangingwall rocks into a subduction zone.

- most of the rocks in the area have green schist or amphibolite grade metamorphism. Rocks in a subduction zone would most probably have eclogite or blue schist grade metamorphism.

In the new model; Devonian-Mississippian granites and Permian intrusives are deformed, while Late Triassic to Early Jurassic plutons are undeformed; this would put the age of deformation and metamorphism between Late Permian and Late Triassic. Proponents of this model, suggest renaming the Teslin Suture Zone, the Teslin Tectonic Zone. Rocks within the Teslin Tectonic Zone are correlated with sedimentary and volcanic rocks of the Yukon Tanana Terrane and oceanic crustal rocks of the *Slide Mountain Terrane. Yukon Tanana Terrane* rocks range in age from Devonian to Permian. After their deformation and *cooling, the Slide Mountain Terrane rocks were emplaced over them along low-*angle, post-metamorphic faults. In the Big Salmon Range (just north of Livingstone), the Teslin Tectonic Zone is 20 km. wide. Both Slide Mountain and Yukon Tanana rocks contain steeply dipping fabrics, unlike their counterparts in the rest of the Yukon and Alaska.

The steep north-south striking D'Abbadie fault has generally been taken to represent the eastern margin of the Teslin Zone. It is most probably a narrow zone of brittle deformation reflecting a period of upper crustal normal faulting superimposed on the ductile deformation which had occurred earlier. Last Peak granite has been dated at 98 Ma. and, on the basis of contact and structural


Bedrock Geology
Cam Claims
Livingstone Creek, Yukon
Scale 1:50,000
28°
N
LEGEND
Ag—Amphibolic Gneiss
QSS—Quartz Sericite Schist
CS—Chlorite Schist
LGP—Limy Graphitic Phyllite
SL—Silicified Limestone
L—Limestone
Q—Quartzite
QBG—Quartz Biotite Gneiss
QBS—Quartz Biotite Schist
Sk—Skarn
P—Pyroxenite
BSF—Big Salmon Fault
Known Fault Contact
Approximate Contact
Assumed Contact
BSF
BIG SALMON
PELLY MOUN
SALMON
RIVER
LIVINGSTONE AIRFIELD
LITTLE VIOLET CREEK
COTTONEVA CREEK
LIVINGSTONE CREEK
MARTIN CREEK
SYLVIA
MENDOCINA
DYCER
MAY CREEK
A
A
Adit
Tr Sk + L
Tr L
87
62
65
54
60
52
78
47
63
72
Larry W. Carlyle
W. CARLYLE

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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:

Previous mapping in the Livingstone Creek area had, for the most part, been done on a scale of 1: 250,000. More detailed work was needed in order to direct future exploration. Bedrock geological mapping at 1:50,000 scale was carried out by Carlyle to better locate geological contacts and faults in the area of the CAM Claims. Mapping was difficult due to the scarcity of outcrop; outcrop was restricted to ridge tops, steep south-facing slopes and gullies created by faults cross-cutting the ridges. Outcrop exposure was probably less than 15%.

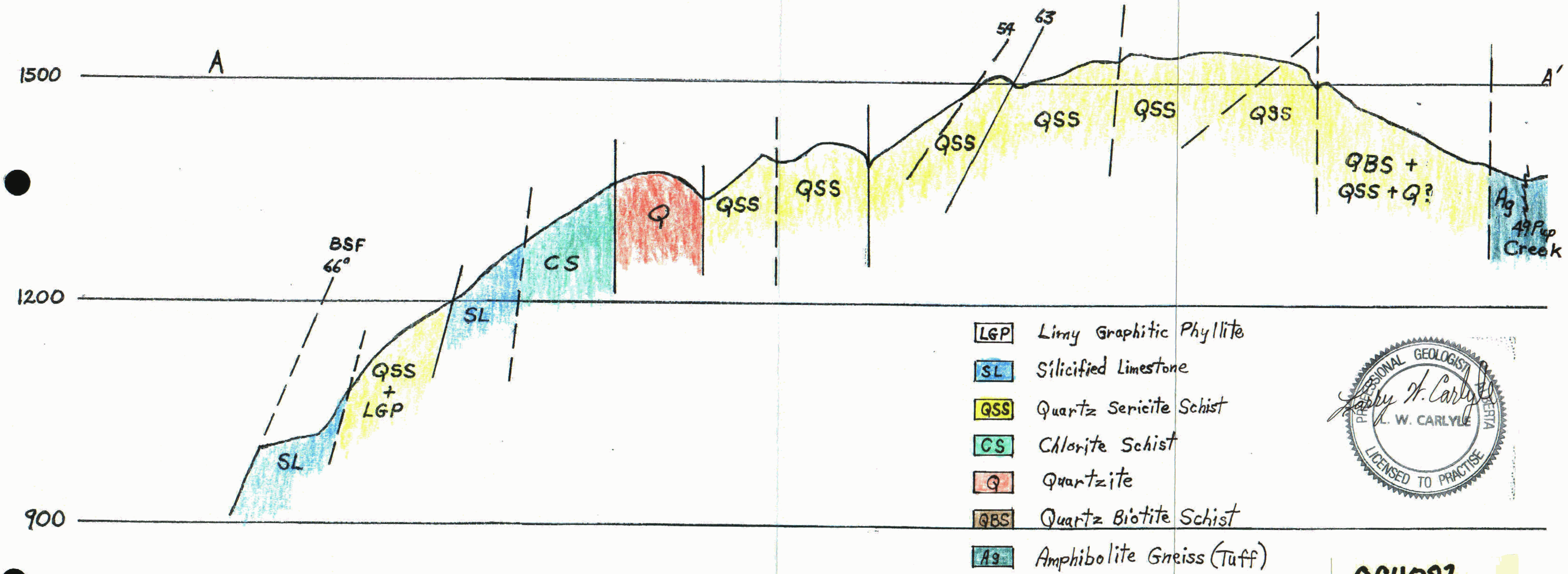
Most of the rocks mapped in the area appear to be metamorphic equivalents of near-shore sub-aqueous, beach, and sub-aerial sedimentary rocks.

During mapping, special attention was paid to the following:

- Evidence for intrusive-related gold mineralization in stocks and plugs mapped by earlier geologists.
- Evidence for Carlin-type gold mineralization, which could be a source for some of the placer gold.
- Evidence for the existence of east-west striking faults down which some of the creeks may flow.

X-Section Looking N along ridge between Livingstone and Summit Creeks

SCALE 1:50,000



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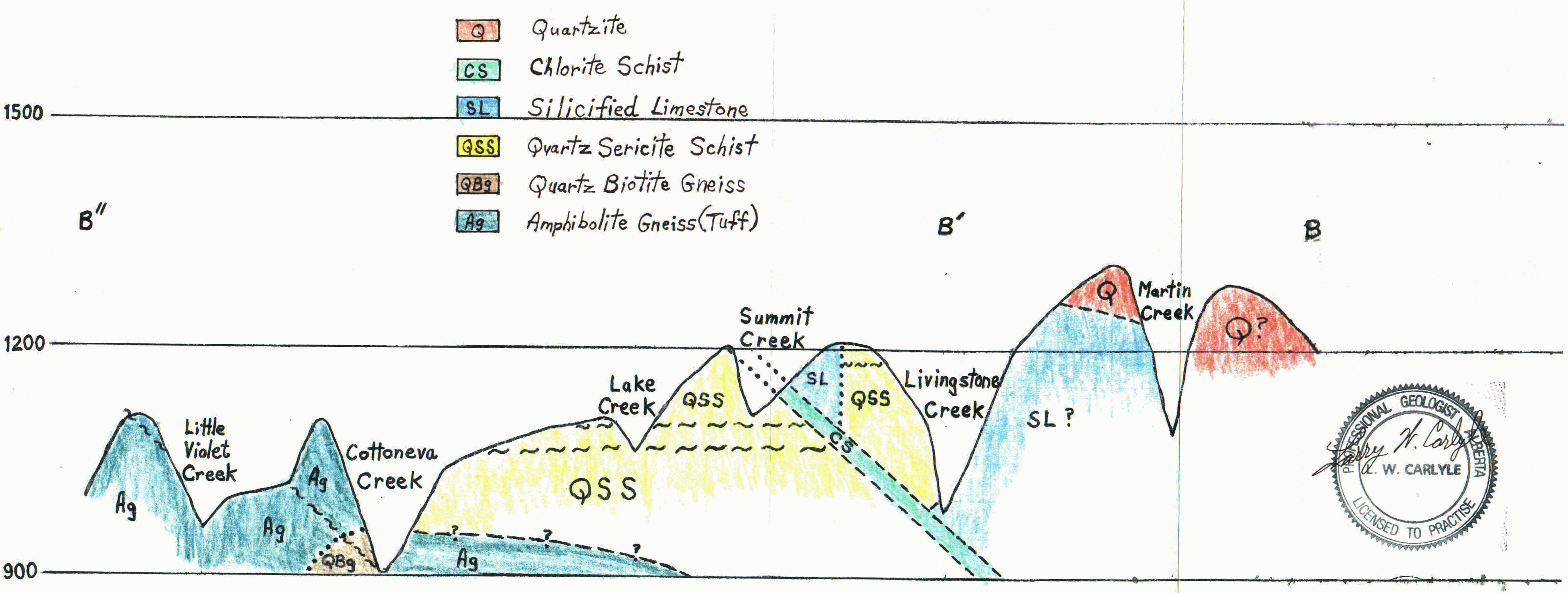
X-SECTION LOOKING E ACROSS BSF
APPROX. 450m E OF BSF

SCALE 1:50,000



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The intrusive stocks and plugs located within the area mapped by Cockfield, Lees, and Bostock (1936) were not found.

In spite of the straight and narrow courses of the creeks as they flow west through the Big Salmon Fault (BSF) and drain into the South Big Salmon River valley; no evidence was found to demonstrate that the creeks were following faults.

Only evidence of some characteristics considered to be important for the formation of Carlin-type deposits were located during the mapping (See Conclusions).

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Rock Units Used for Mapping:

LGP	Limy Graphitic Phyllite (possibly an argillite)
L & SL	Limestone and Silicified Limestone
QSS	Quartz Sericite Schist (resembles Klondike Schist)
CS	Chlorite Schist (frequently has small magnetite crystals)
Ag	Amphibolitic Gneiss (taken from Tempelman-Kluit)
Q	Quartzite (strongly resembles United Keno Hill Quartzite)
QBS & QBg	Quartz Biotite Schist and Quartz Biotite Gneiss
Sk	Calcium Silicate skarns
P	Pyroxenite (?)
Dyke	Dark grey to black, fine-grained, unmetamorphosed intrusive

Rock Descriptions:

Limy graphitic phyllite (LGP) is a dark grey to black, fine-grained, schistose to slightly blocky phyllite. It is variably limy; having small white calcite lenses and caliche to having none at all. On schistose surfaces it has a satiny appearance.

Limestone (L) is light grey to white, blocky to schistose, with light brown iron oxide in fractures and on surfaces. It occasionally has white calcite lenses and generally reacts weakly to vigorously to 10% HCl. Contains < 1% pyrite crystals, usually oxidized.

Silicified Limestone (SL) is the same as the limestone but appeared to have had significant amounts of silica added.

Quartz Sericite Schist (QSS) is strongly schistose, white to light brown-yellow iron oxide coated quartz-carbonate. Frequently reacts to 10% HCl and has caliche along fractures. Generally contains < 1% pyrite crystals, usually oxidized. The petrographic analysis has demonstrated that the limestone, silicified limestone, and the quartz sericite schist (Samples 1 and 3 – Appendix A) are probably all metamorphically recrystallized quartz-carbonate rocks. They contain very little sericite; what was considered to be sericite is most likely limonite. The silica, which was thought to have been added to the limestone, is most probably an original constituent. In spite of this petrographic clarification, the original rock designations will be maintained for the sake of clarity among property workers.

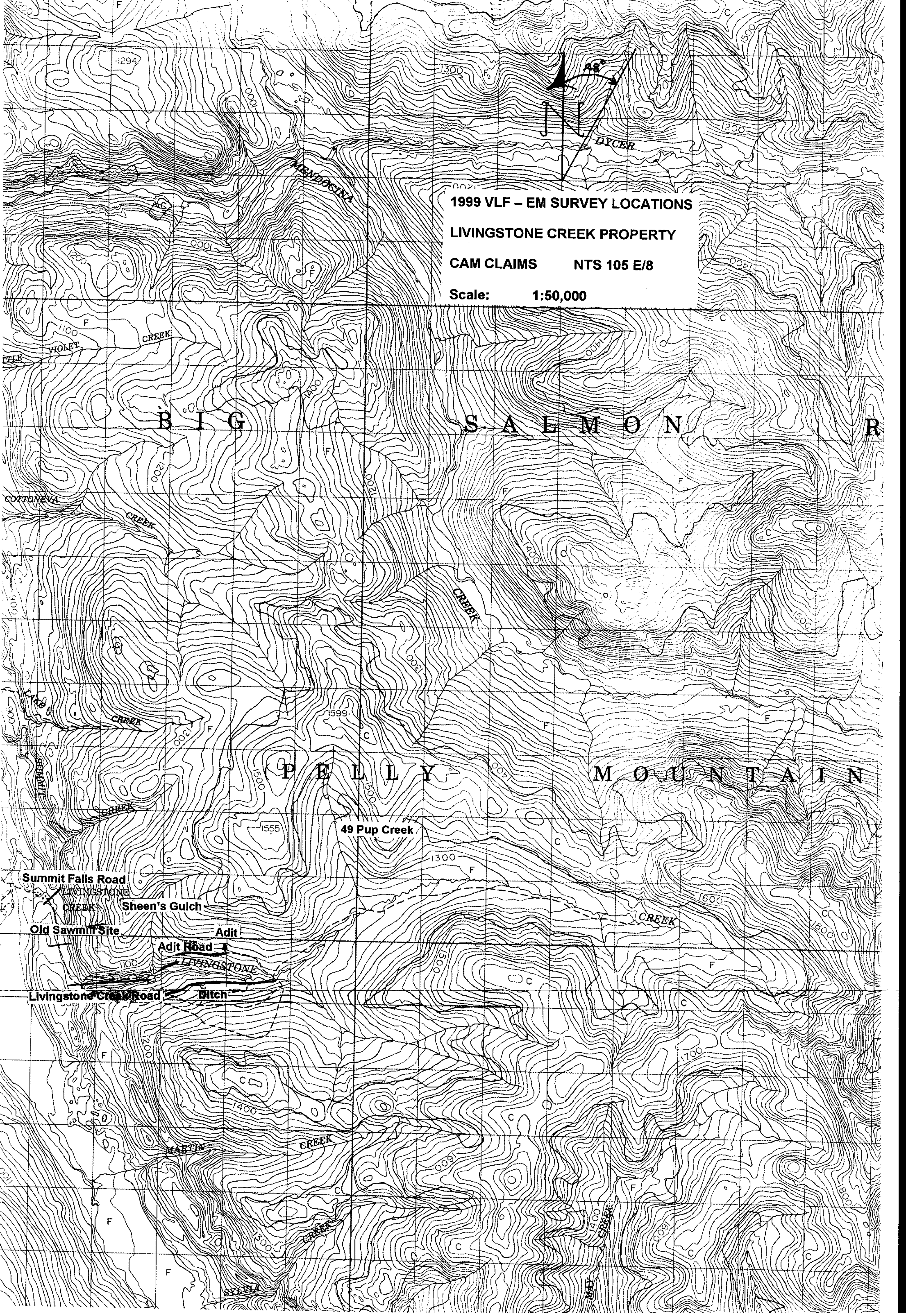
Chlorite Schist (CS) is a dark olive green, fine-grained schist. It frequently contains small euhedral magnetite crystals and possibly is the metamorphic equivalent of a basalt. The magnetite crystals appear to be strongest along the eastern contact of the zone and may represent the bottom of the original bed.

Amphibolitic Gneiss (Ag) is a light to dark green, laminated, quartz-feldspar-hornblende gneiss. Petrographic analysis (Sample 2 – Appendix A) suggests it may have originally been a felsic to intermediate tuff.

Quartzite (Q) is a fine-grained, blocky, black quartzite with small lenses of fine-grained white quartz. It is most probably intercalated with the limestone and quartz sericite schist, in bands of less than 10 metres in width. Some light grey quartzite has been seen in the placer excavations, probably representing alteration after metamorphism.

Quartz Biotite Schist (QBS) and Quartz Biotite Gneiss (QBg) are medium-grained, laminated quartz and biotite rocks of uncertain origin. The composition of both rocks seems to be similar and the schist or gneiss designation was determined by their textural appearance. They may have an intrusive origin but this is not clear. They have been seen most frequently near the contact between quartz sericite schist and amphibolitic gneiss. They may, therefore, represent an alteration zone between these rocks.

Calcium Silicate Skarns (Sk) have only been seen north of Little Violet Creek next to the Big Salmon Fault (BSF) [See Geological Maps]. They occur in irregular zones of garnet, actinolite, tremolite (?), and diopside skarn intercalated with amphibolitic gneiss. The zones may represent limestone lenses caught in the gneiss and subsequently altered.



1999 VLF – EM SURVEY LOCATIONS

LIVINGSTONE CREEK PROPERTY

CAM CLAIMS NTS 105 E/8

Scale: 1:50,000

Rock Descriptions (Continued):

Pyroxenite (?) (P) is an anhedral, occasionally botryoidal, black to dark green rock assumed to be composed of pyroxene minerals. It has only been seen west of the relatively fresh but strongly sheared limestone on the north face of Mendocina Creek canyon (See Geological Mapping).

Dyke is a dark grey to black, fine-grained intrusive containing large (up to ¾ inch) altered k-feldspar phenocrysts and smaller (up to ½ inch long) hornblende phenocrysts. Petrographic analysis (Sample 4 – Appendix A) indicates the dyke rock is quartz-free of monzonitic composition and is unmetamorphosed. Dykes have only been seen in Livingstone and Summit Creeks and on the ridge between the two creeks. Where the dykes have been mapped, they have fault contacts with the country rocks; suggesting that they were emplaced after metamorphism was complete.

VLF – EM SURVEYING:

Five lines of VLF-EM surveying were done:

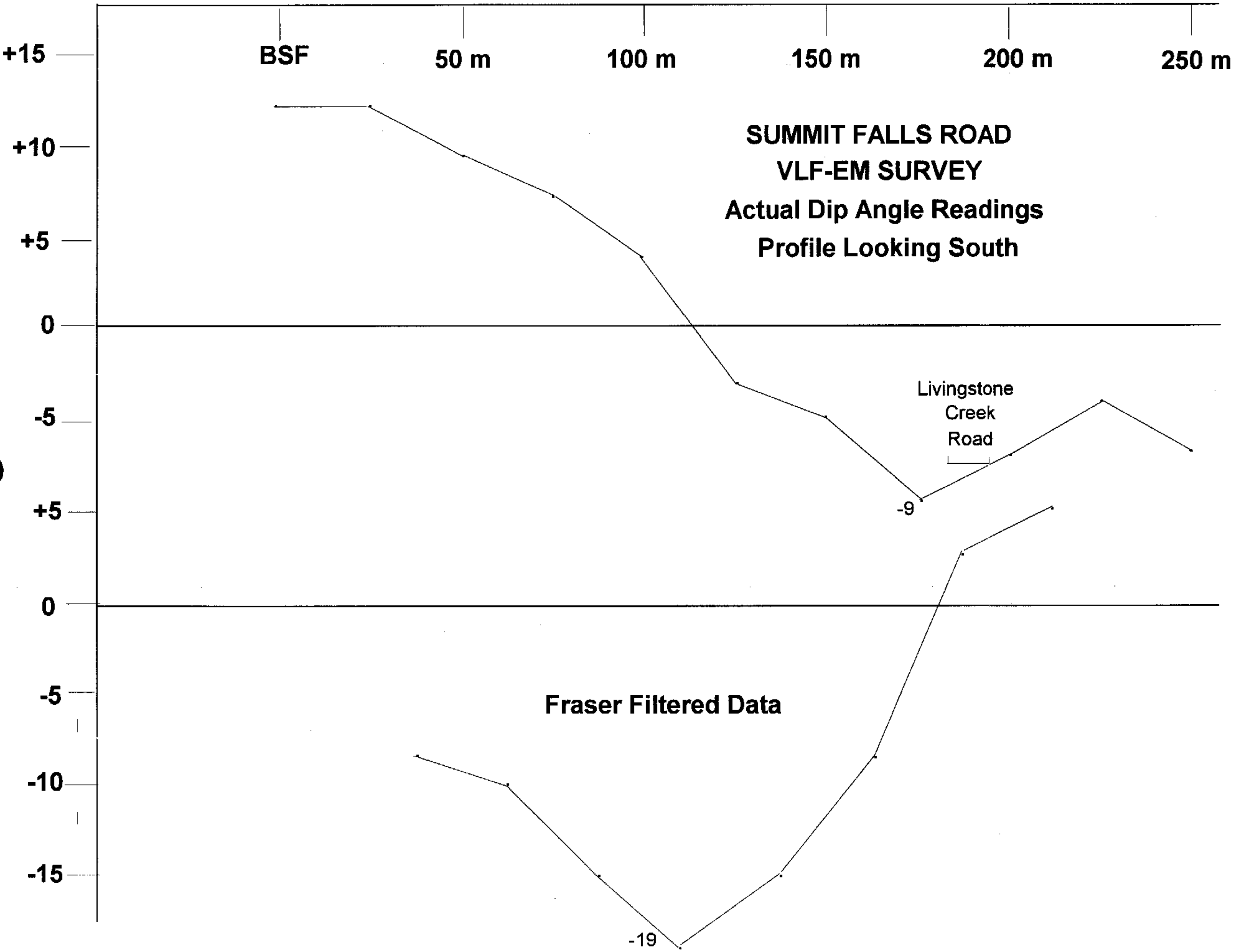
1. Summit Falls Road: To get an idea of the depth of fill within the Big Salmon Fault (BSF). The survey indicated that the fault is deepest approximately 75 metres east of the Livingstone Creek road. (See profile)

2. Old Sawmill Site: To get an idea of the depth of fill within the Big Salmon Fault. The survey indicated that the fault is deepest approximately 50 metres east of the Livingstone Creek road (See profile).

3. Livingstone Creek Road: To get an idea of the depth of fill within the Big Salmon Fault and get an indication of the number of faults which cross the road. The BSF seems to be deepest against the hill at the west end of the survey. Several cross-faults seem to cut the road. They seem to be stronger and more numerous as the BSF is approached.

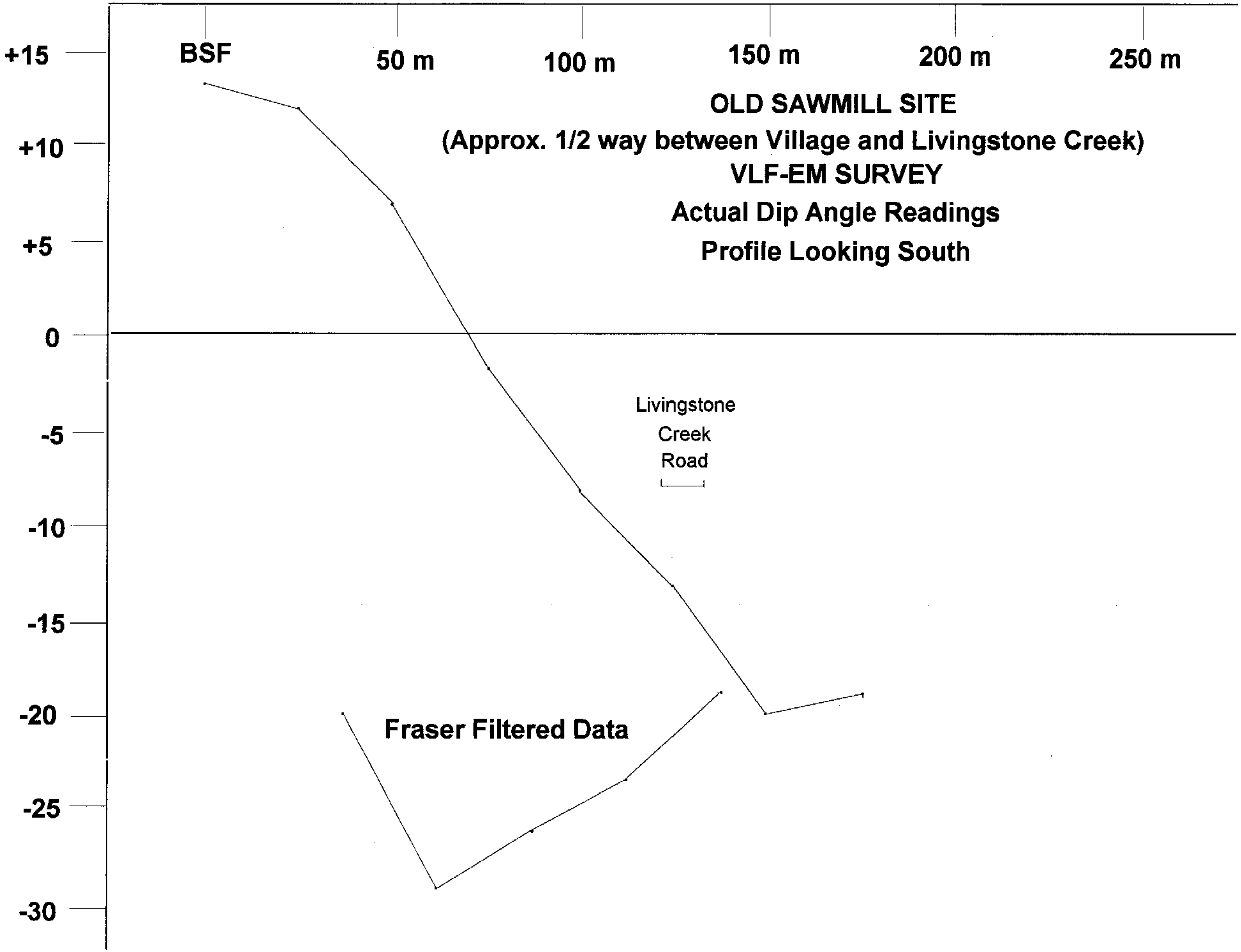
4. Adit Road: To get an indication of the number of cross-faults which cut the road. Only one was discovered at approximately 125 metres east of the top of the switchback. Weak gold mineralization was discovered at this location by later grid soil sampling.

5. Ditch: To get an indication of the number of cross-faults which cut the ditch. Three or four weak crossovers were located (See chart) but have not been followed up.



SUMMIT FALLS ROAD
VLF-EM SURVEY
Actual Dip Angle Readings
Profile Looking South

Fraser Filtered Data


+15
+10
+5
0
-5
-10
-15
-20
-25
-30
BSF
50 m
100 m
150 m
200 m
250 m
OLD SAWMILL SITE
(Approx. 1/2 way between Village and Livingstone Creek)
VLF-EM SURVEY
Actual Dip Angle Readings
Profile Looking South
Livingstone
Creek
Road
Fraser Filtered Data

VLF-EM Data

Summit Falls Road

Line	Station	Dip <	Field Strengt	Fraser Filter
Road	0 E	-7	198	
	25 E	-4	205	
				5
	50 E	-7	212	
				3
	75 E	-9	233	
				-8
	100 E	-5	245	
				-15
	125 E	-3	253	
				-19
	150 E	4	256	
				-15
	175 E	7	254	
				-10
	200 E	9	249	
				-8
	225 E	12	217	
BSF	250 E	12	198	

Old Sawmill Site

Line	Station	Dip <	Field Strengt	Fraser Filter
Sawmill	0 E	-19	213	
	25 E	-20	256	
				-18
	50 E	-13	292	
				-23
	75 E	-8	289	
				-26
	100 E	-2	280	
				-29
	125 E	7	273	
				-20
	150 E	12	256	
BSF	200 E	13	217	

BSF = Big Salmon Fault

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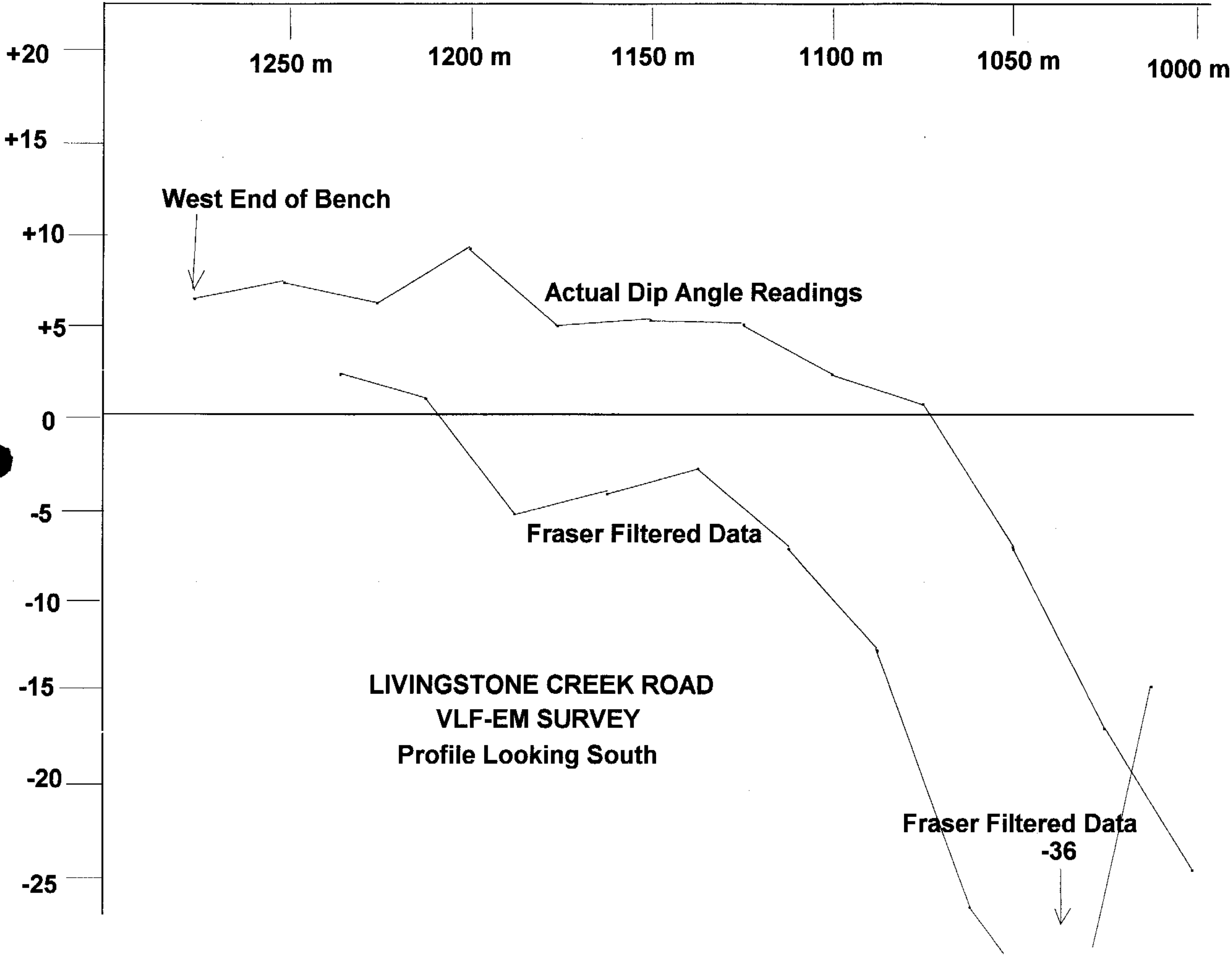
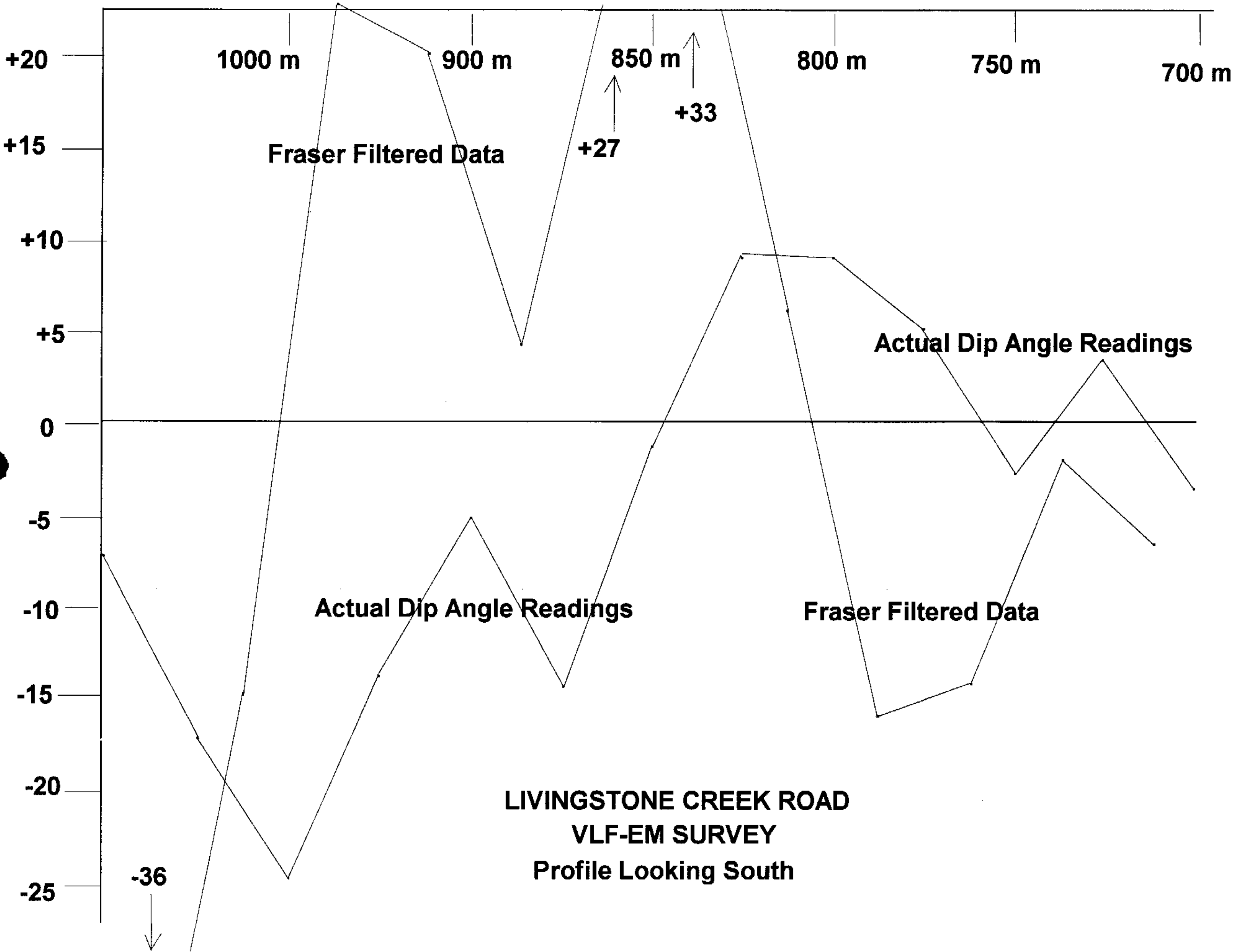
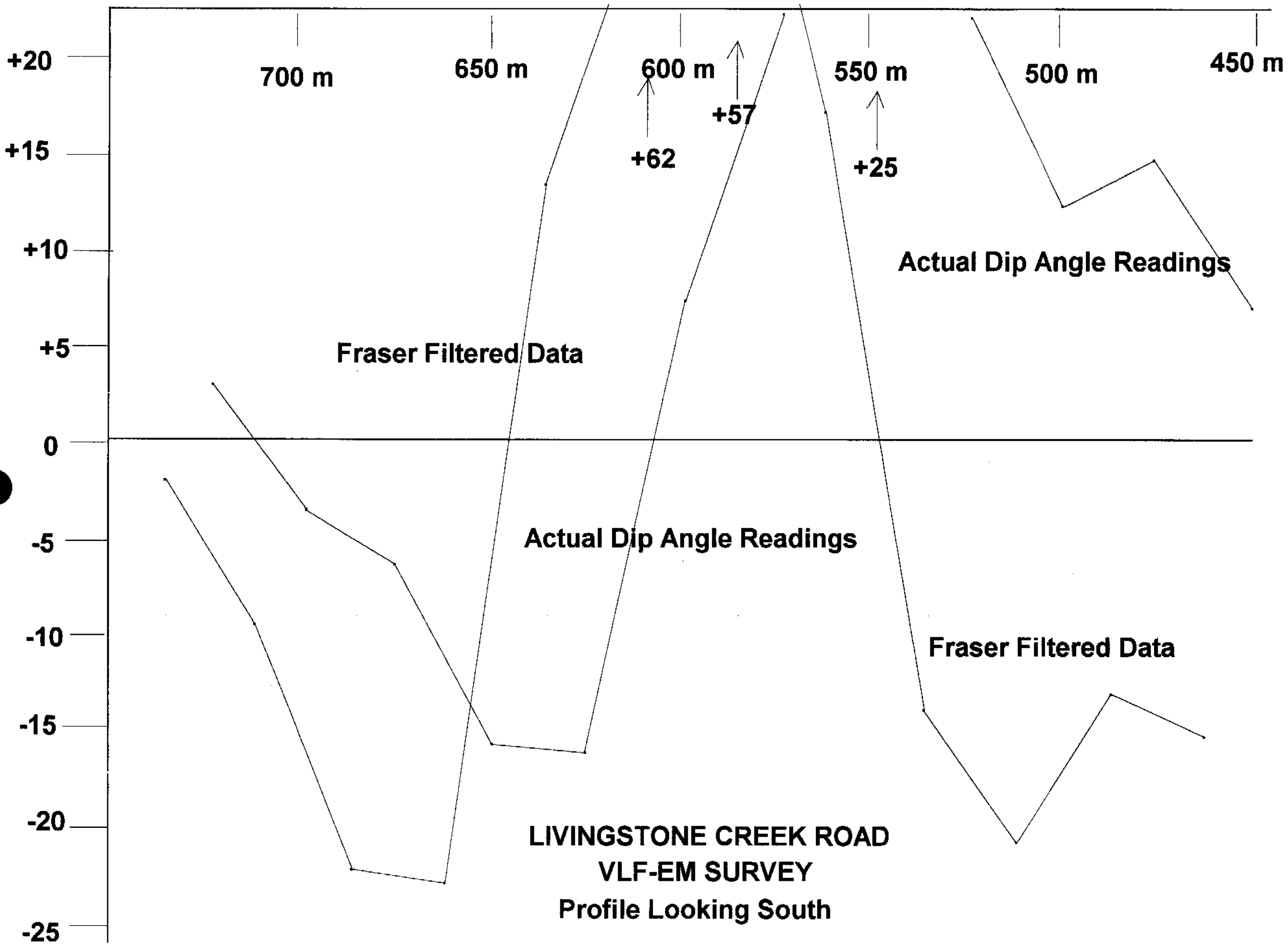
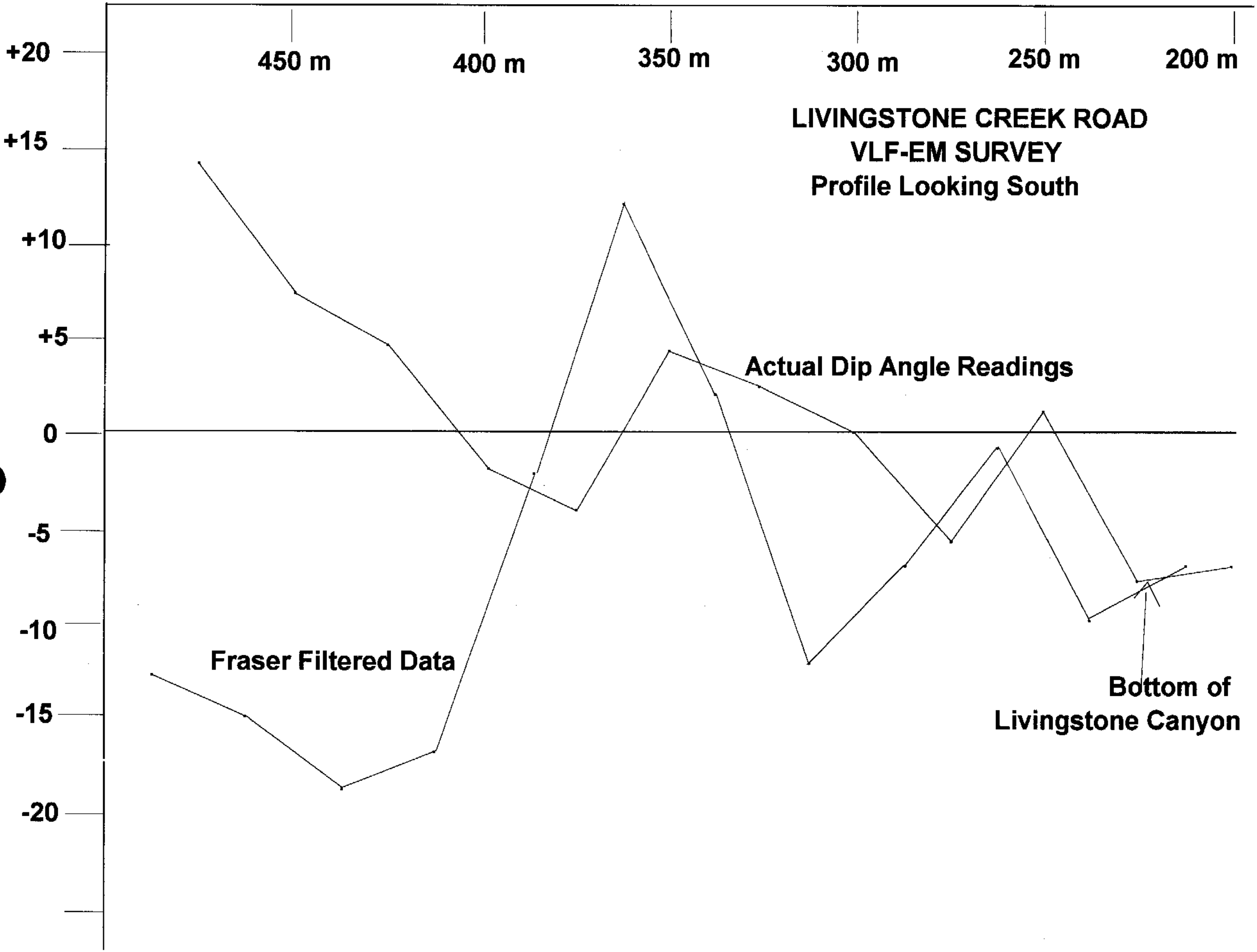

+20
+15
+10
+5
0
-5
-10
-15
-20
-25
1250 m
1200 m
1150 m
1100 m
1050 m
1000 m
West End of Bench
Actual Dip Angle Readings
Fraser Filtered Data
LIVINGSTONE CREEK ROAD
VLF-EM SURVEY
Profile Looking South
Fraser Filtered Data
-36

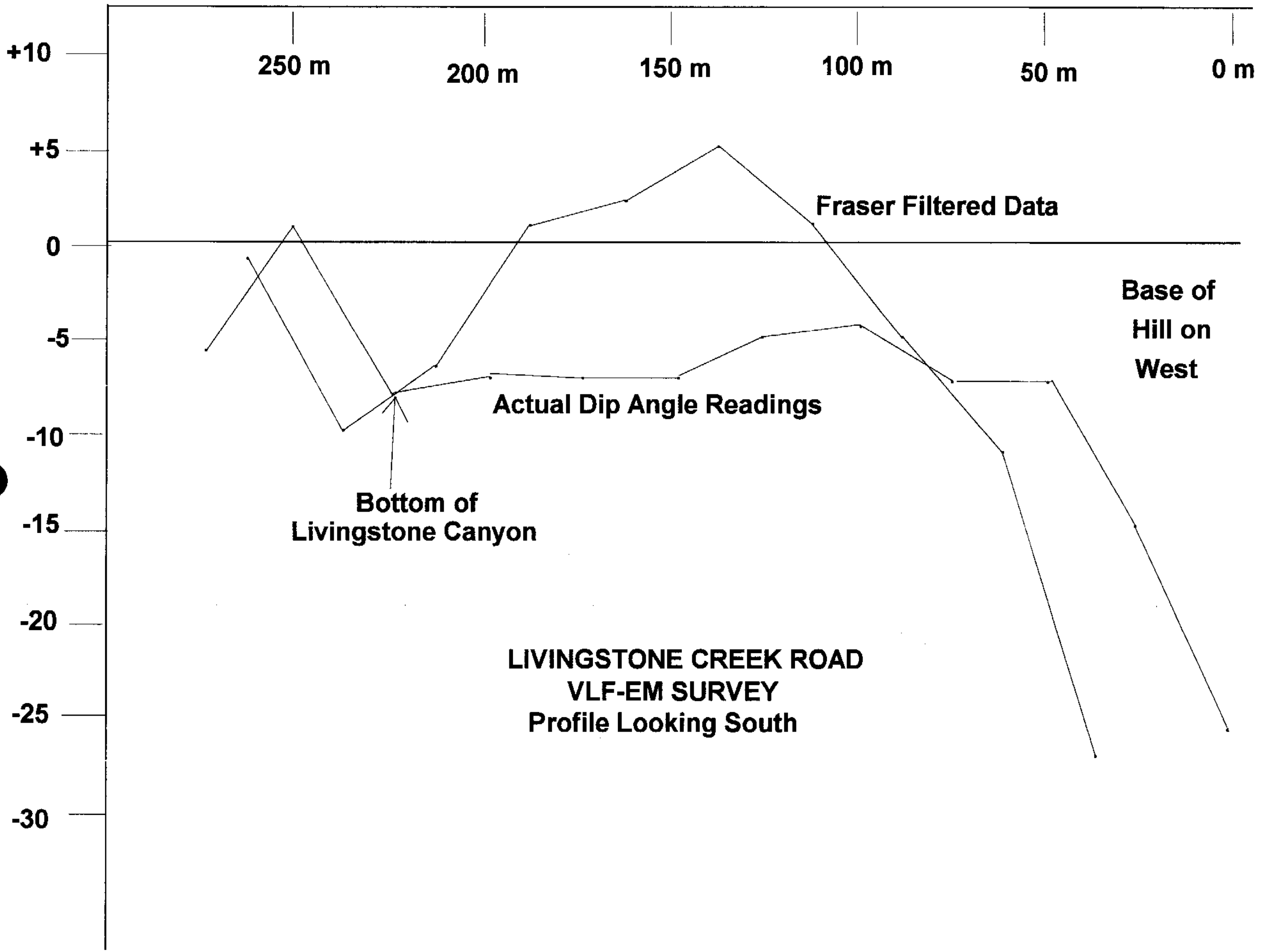


LIVINGSTONE CREEK ROAD
VLF-EM SURVEY
Profile Looking South


+20
+15
+10
+5
0
-5
-10
-15
-20
-25
700 m
650 m
600 m
550 m
500 m
450 m
+62
+57
+25
Actual Dip Angle Readings
Fraser Filtered Data
Actual Dip Angle Readings
Fraser Filtered Data
LIVINGSTONE CREEK ROAD
VLF-EM SURVEY
Profile Looking South



LIVINGSTONE CREEK ROAD
VLF-EM SURVEY
Profile Looking South



LIVINGSTONE CREEK ROAD
VLF-EM SURVEY
Profile Looking South

VLF-EM Data

Livingstone Creek Road

Line	Station	Dip <	Field Strength	Fraser Filter
W Edge Hill	0 E	-26	201	
	25 E	-15	212	
				-27
	50 E	-7	201	
				-11
	75 E	-7	193	
				-5
	100 E	-4	181	
				1
	125 E	-5	173	
				5
	150 E	-7	169	
				2
	175 E	-7	165	
				1
	200 E	-7	177	
				-7
Bottom Canyon	225 E	-8	180	
				-10
	250 E	1	170	
				-1
	275 E	-6	167	
				-7
	300 E	0	173	
				-12
	325 E	2	197	
				2
	350 E	4	160	
				12
	375 E	-4	156	
				-2
	400 E	-2	183	
				-17
	425 E	4	201	
				-19
	450 E	7	204	
				-15
	475 E	14	199	
				-13
	500 E	12	196	
				-21
	525 E	22	181	
				-14
	550 E	25	159	
Road				17
	575 E	23	116	
				57
	600 E	7	65	
				62
	625 E	-16	103	
				13
	650 E	-16	132	
				-23
	675 E	-6	142	
				-22
	700 E	-3	141	
				-9
	725 E	3	130	
				-2
	750 E	-3	124	
				-14
	775 E	5	134	
				-16
	800 E	9	125	
				6
	825 E	9	98	
				33
	850 E	-1	60	
				27
	875 E	-14	106	
				4
	900 E	-5	115	
				20
	925 E	-14	113	
				23
	950 E	-25	123	
				-15
	975 E	-17	165	
				-36
	1000 E	-7	166	
				-27
	1025 E	1	163	
				-13
	1050 E	2	153	
				-7
	1075 E	5	138	
				-3
	1100 E	5	133	

VLF-EM Data
Livingstone Creek Road

Line	Station	Dip <	Field Strength	Fraser Filter
Road	1100 E	5	133	
				-4
	1125 E	5	134	
				-5
	1150 E	9	132	
				1
	1175 E	6	127	
				2
W End	1200 E	7	134	
Bench	1225 E	6	120	

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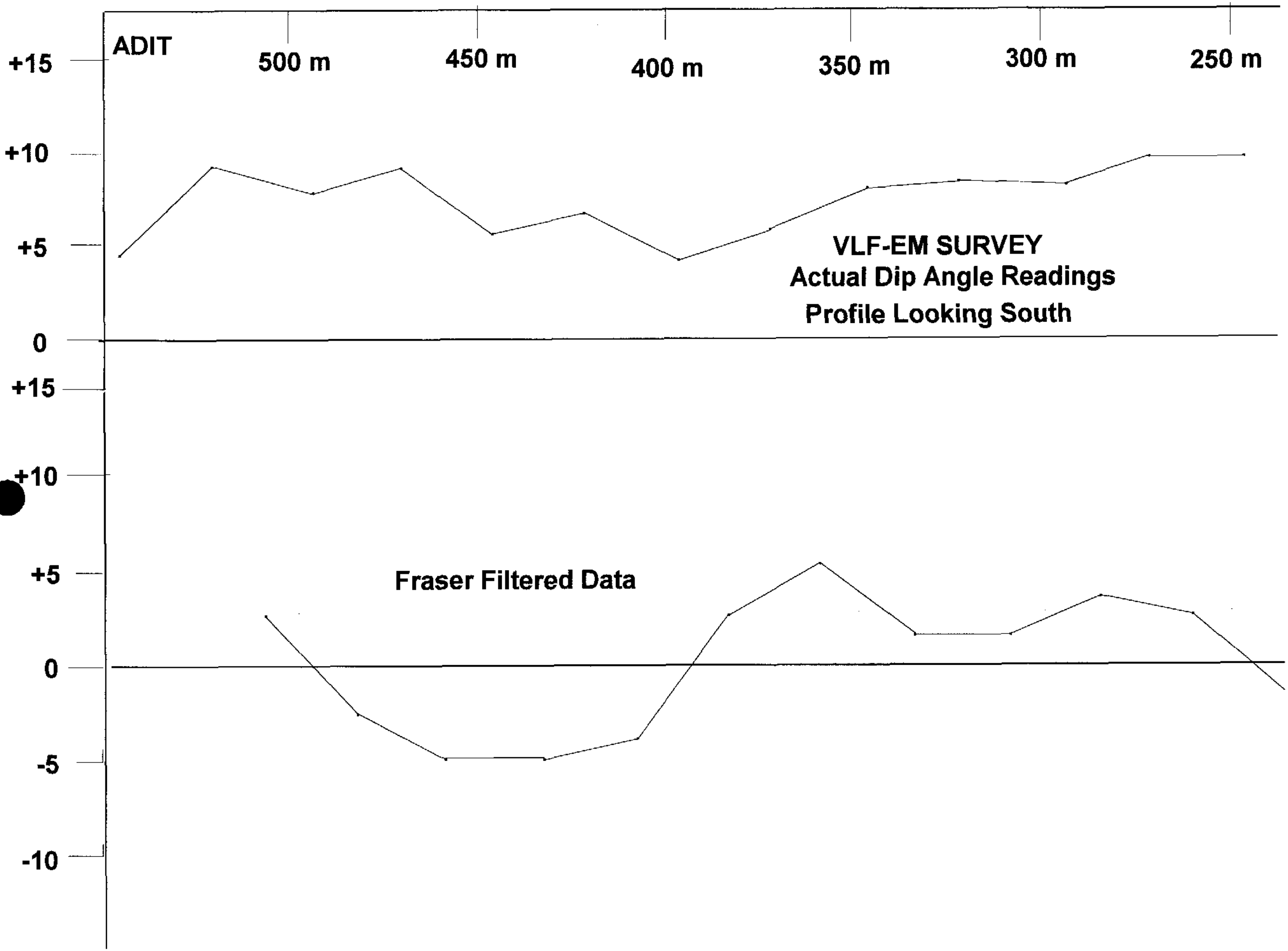
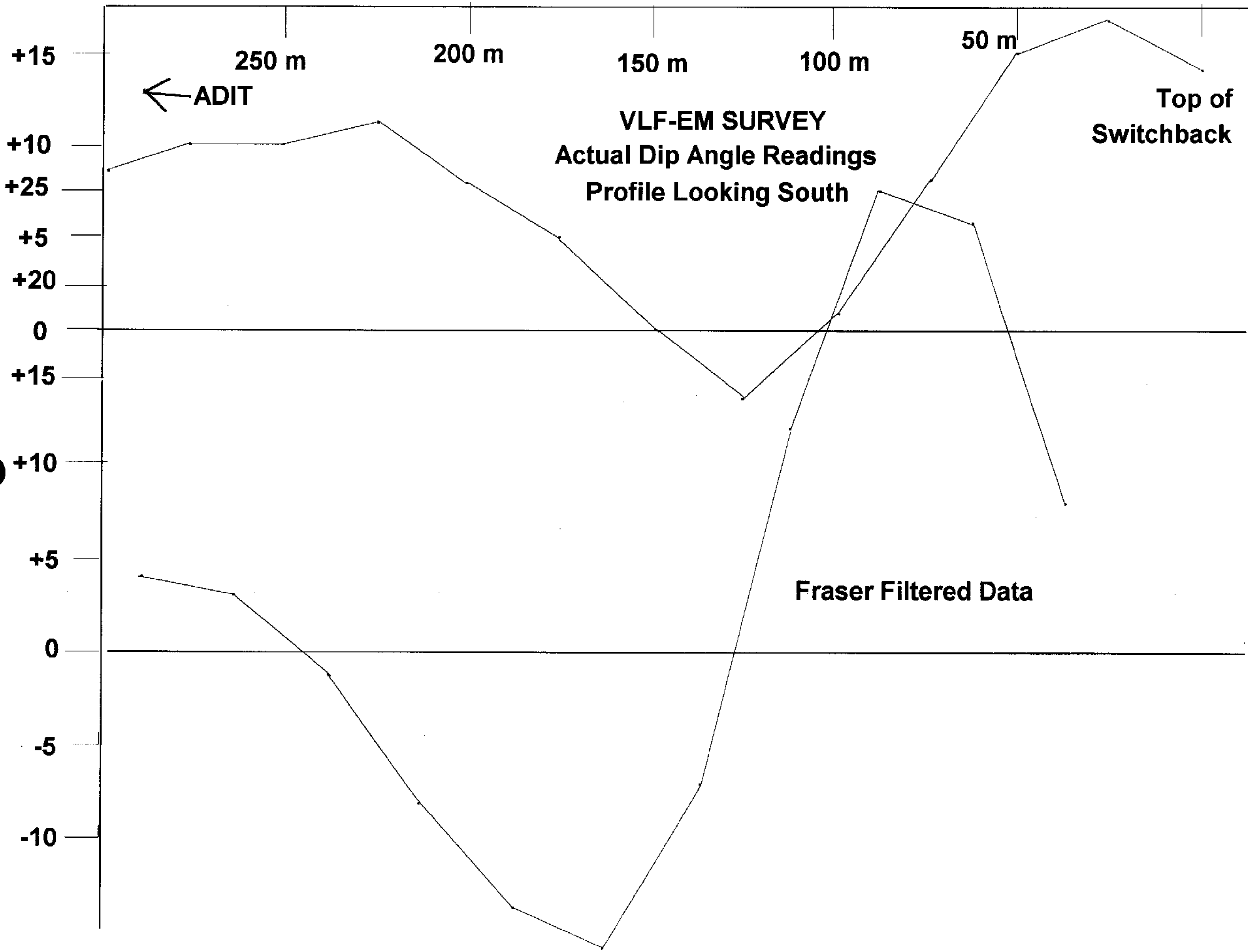
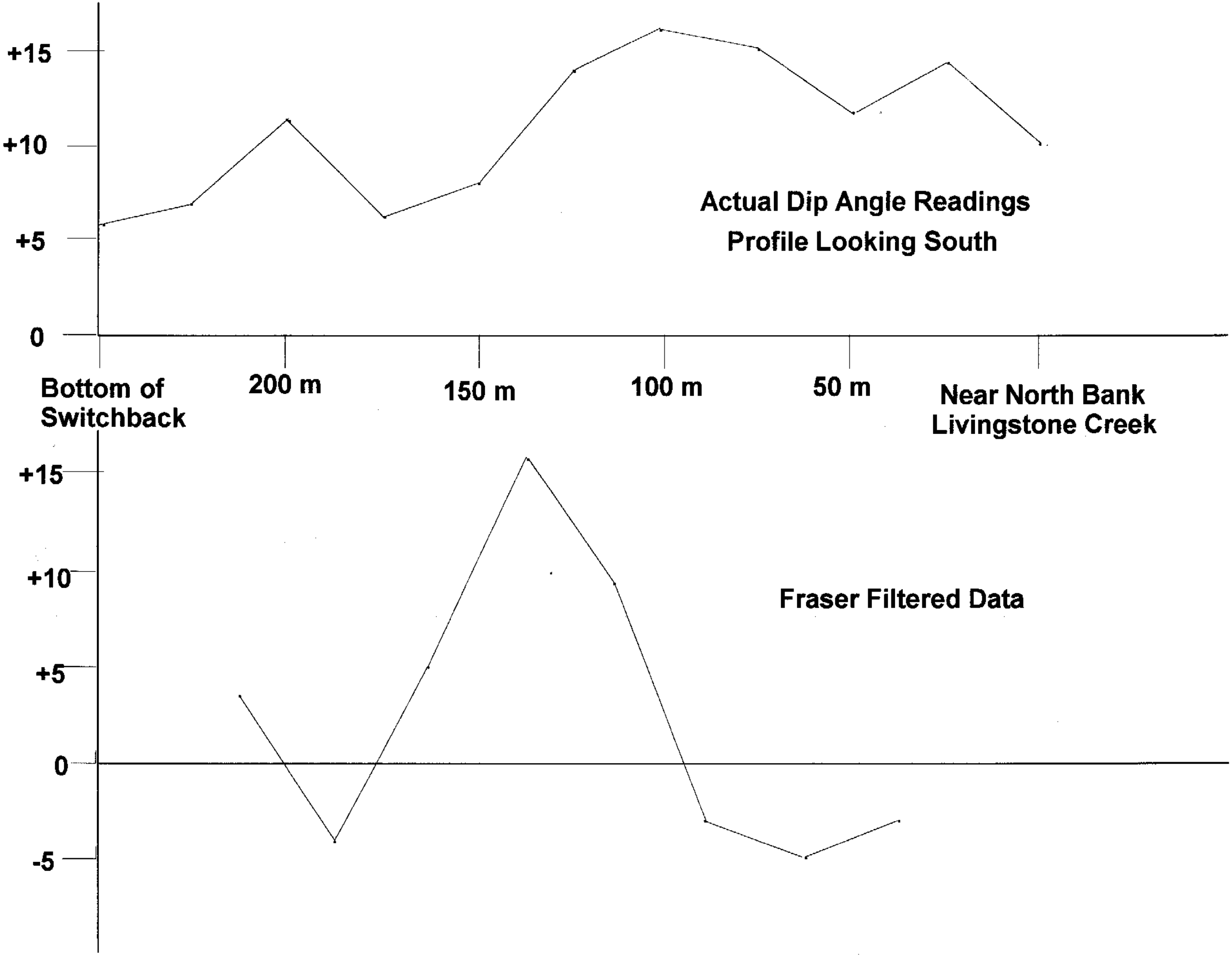

ADIT
500 m
450 m
400 m
350 m
300 m
250 m
+15
+10
+5
0
VLF-EM SURVEY
Actual Dip Angle Readings
Profile Looking South
+15
+10
+5
Fraser Filtered Data
0
-5
-10


+15
250 m
200 m
150 m
100 m
50 m
ADIT
VLF-EM SURVEY
Actual Dip Angle Readings
Profile Looking South
Top of
Switchback
+10
+25
+5
+20
0
+15
+10
+5
Fraser Filtered Data
0
-5
-10


+15
+10
+5
0
Actual Dip Angle Readings
Profile Looking South
Bottom of Switchback
200 m
150 m
100 m
50 m
Near North Bank Livingstone Creek
+15
+10
+5
0
-5
Fraser Filtered Data

VLF-EM Data

Adit Road

Line	Station	Dip <	Field Strength	Fraser Filter
Liv	0 E	10	162	
Creek	25 E	14	154	
				-3
	50 E	12	151	
				-5
	75 E	15	160	
				-3
	100E	16	155	
				9
	125 E	14	138	
				16
	150 E	8	133	
				5
	175 E	6	140	
				-4
	200 E	11	139	
				4
Bottom	225 E	7	134	
SB	250 E	6	127	

Upper Road

Line	Station	Dip <	Field Strength	Fraser Filter
Top	0 E	14	146	
SB	25 E	17	140	
				8
	50 E	15	128	
				23
	75 E	8	118	
				25
	100 E	1	126	
				12
	125 E	-3	145	
				-7
	150 E	0	166	
				-16
	175 E	5	173	
				-14
	200 E	8	170	
				-8
	225 E	11	163	
				-1
	250 E	10	157	
				3
	275 E	10	153	
Upper				4
Road	300 E	8	152	
				2
	325 E	8	145	
				2
	350 E	8	147	
				6
	375 E	6	143	
				3
	400 E	4	153	
				-3
	425 E	7	152	
				-4
	450 E	6	161	
				-4
	475 E	9	153	
				-2
	500 E	8	149	
				3
	525 E	9	141	
Adit	550 E	5	150	

SB = Switchback

L. W. CARLYLE

VLF-EM Data

Ditch

Page 1 of 2

Line	Station	Dip <	Field Strength	Fraser Filter
W End Ditch	0 E	-1	118	
	25 E	-2	125	
				5
	50 E	-4	122	
				0
	75 E	-4	133	
				-6
	100 E	-2	131	
				-3
	125 E	0	133	
				-1
X	150 E	-3	137	
				-10
	175 E	2	141	
				-19
	200 E	5	145	
				-14
	225 E	13	131	
				5
	250 E	8	115	
				16
	275 E	5	112	
				14
X	300 E	0	107	
				10
	325 E	-1	113	
				6
	350 E	-4	113	
				1
	375 E	-3	116	
				2
	400 E	-3	116	
				6
	425 E	-6	116	
				1
	450 E	-6	118	
				-5
	475 E	-4	119	
				-3
	500 E	-3	121	
				0
	525 E	-4	120	
				1
	550 E	-3	120	

Line	Station	Dip <	Field Strength	Fraser Filter
Ditch				4
	575 E	-5	120	
				4
	600 E	-6	128	
				2
	625 E	-6	125	
				0
	650 E	-7	129	
				-2
	675 E	-5	130	
				-2
	700 E	-6	132	
				-3
	725 E	-4	131	
				-3
	750 E	-4	129	
				1
	775 E	-3	131	
				5
	800 E	-6	131	
				4
	825 E	-6	137	
				0
	850 E	-7	141	
				-2
	875 E	-5	142	
				-1
	900 E	-6	137	
				-1
	925 E	-5	142	
				-5
	950 E	-5	137	
				-6
	975 E	-1	138	
				-1
	1000 E	-3	133	
				1
	1025 E	-2	133	
				4
	1050 E	-3	131	
				11
	1075 E	-6	133	
				7
	1100 E	-10	137	

VLF-EM Data

Ditch

Page 2 of 2

Line	Station	Dip <	Field Strength	Fraser Filter
				7
Ditch	1100 E	-10	137	
				-3
	1125 E	-6	137	
				1
	1150 E	-7	143	
				0
	1175 E	-10	153	
				-14
	1200 E	-3	150	
				-10
	1225 E	0	141	
				0
X	1250 E	-3	142	
				-2
	1275 E	0	135	
				3
	1300 E	-1	125	
				11
	1325 E	-5	131	
				8
	1350 E	-7	141	
				-1
	1375 E	-7	153	

Line	Station	Dip <	Field Strength	Fraser Filter
				-2
Ditch	1400 E	-4	150	
				1
	1425 E	-8	161	
				-8
	1450 E	-4	161	
X				-15
	1475 E	0	167	
				-6
	1500 E	3	156	
X				5
	1525 E	-1	140	
				3
	1550 E	-1	142	
X				-4
	1575 E	0	140	
				-7
	1600 E	2	135	
				-7
	1625 E	4	128	
				-4
Water	1650 E	5	127	
Gate	1675 E	5	119	

NOTE: These data were not plotted in profile because of drafting difficulties.

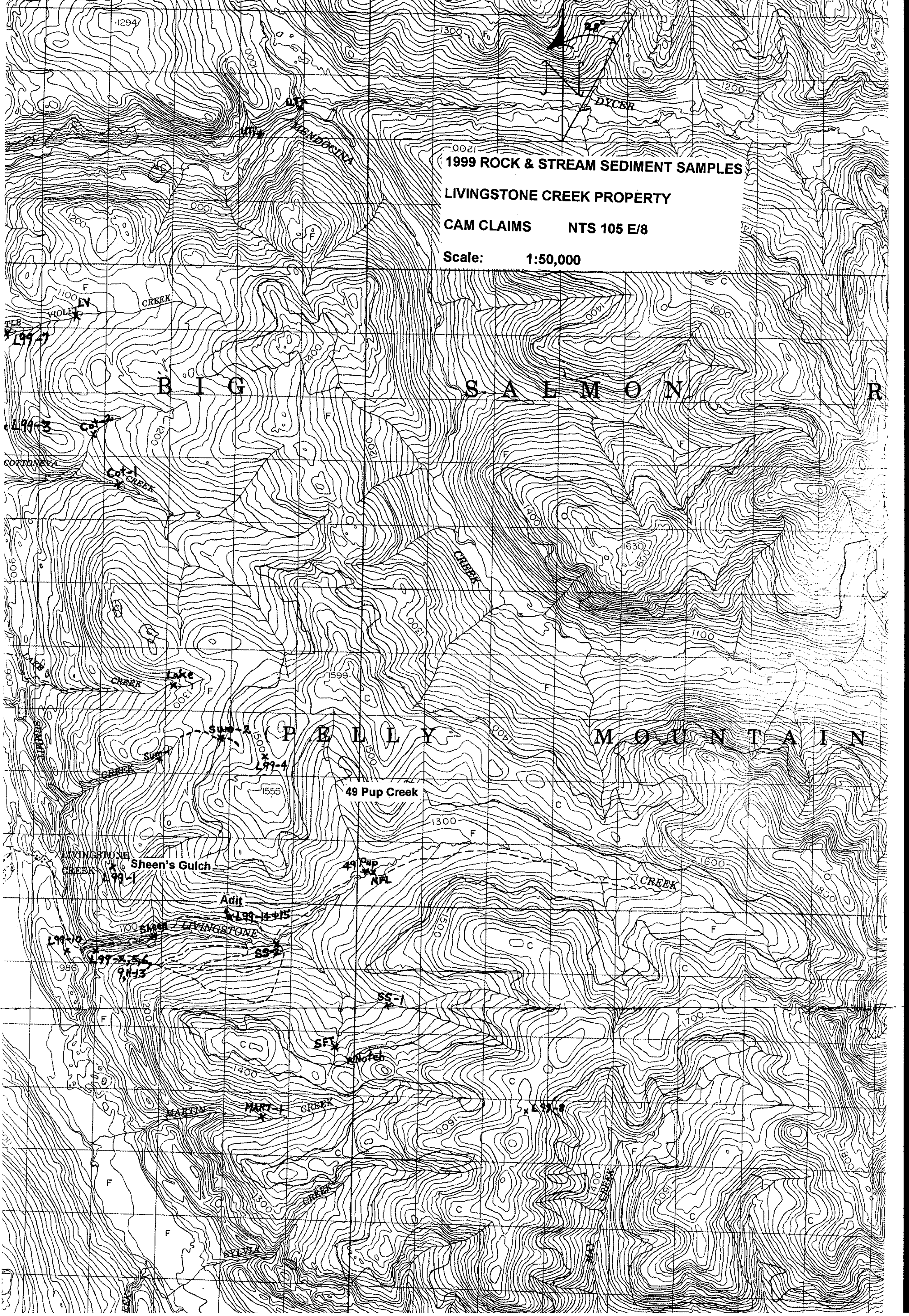
X Large X indicates an anticipated cross-over.

PROFESSIONAL GEOLOGIST ALBERTA
L. W. CARLYLE
LICENSED TO PRACTISE

ROCK SAMPLING:

Only 17 rock samples were taken during the year. Most of these samples were again primarily from the area being placer mined at the base of Livingstone Creek canyon (See 1999 Rock & Stream Sediment Samples Map and Rock Sample Chart). Most of the samples taken from the Livingstone canyon area were to investigate the potential for Carlin-type mineralization.

The most significant of the rock samples taken during the geological mapping were L99 – 4 and L99 – 8. L99 – 4 is orange-brown iron oxide fracture fillings in grey fine-grained quartzite with minor white, weakly vuggy quartz lenses and up to 1% pyrite which returned 113 ppb. gold. This sample was taken from the ridge in the area of the headwaters of 49 Pup Creek and may indicate that the structure believed by Friedrich and Stroink to pass through this area may exist. L99 – 8 was taken from the top of a ridge west of the headwaters of May Creek. It is a highly iron oxided, vuggy quartz vein containing slightly limy, amphibolite inclusions and no visible sulphides. It returned only 22 ppb. gold but 148 ppm. arsenic. This may indicate mineralization associated with the strong N-S striking fault believed to run up May Creek and across the headwaters of Livingstone Creek.



1999 ROCK & STREAM SEDIMENT SAMPLES

LIVINGSTONE CREEK PROPERTY

CAM CLAIMS NTS 105 E/8

Scale: 1:50,000

ROCK SAMPLE TABLE

1999 Livingstone Creek

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Hg (ppb)	Description
L99-1	1220 m	Grab	13	1.2	11	87	55	69	180	Beige, sugary highly silicified L.S. Orange weathering iron oxide. Tr py. White diff. weathering qtz lenses.
L99-2	iv Canyo	Grab	7	0.8	14	57	34	50	165	Silicified graphitic L.S. Weakly vuggy stringers qtz-calcite. Tr oxidized py.
L99-3	3/4 mi away from Cottoneva	Grab	13	0.9	67	143	134	95	105	Yel-orange iron oxide stained highly crushed ser. schs. with large qtz inclusions.
L99-4	1500 m	Grab	113	0.3	121	50	28	31	15	Orange-brn iron oxide f.f. in grey f.g. qtzite. Minor white, weakly vuggy qtz lenses. Up to 1% py.
L99-5	Dwnstrm Blake's Bar	Grab	9	1.2	28	289	74	71	5	Dyke - up to 3/4" long phenos. Kspar, 1/2" long phenos hornblende in fspar groundmass. Up to 1% py.
L99-6	iv Canyo	Grab	0.005*	0.5	44	34	27	57	<5	**Metallics Assay in opt.** Iron oxide gouge from fractures in silicified L.S.
L99-7	L. Violet mine cut	5-6 m	<5	<0.1	14	17	10	22	<5	Fractured white qtz lenses cutting highly fract. amphibolite gneiss. No visible sulphides.
L99-8	1720 m May Crk.	Grab	22	0.8	4	148	23	15	<5	Highly iron oxided, vuggy qtz vein. Slightly limy, amphibolite inclusions ? No visible sulphides.

ROCK SAMPLE TABLE

1999 Livingstone Creek

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Hg (ppb)	Description
L99-9	Blake's Bar	Grab	<0.001*	0.1	19	11	9	43	<5	**Metallics Assay in opt.** Limy Graphitic Phyllite
L99-10	Ridge W of Liv. Canyon	Grab	<0.001*	0.2	77	13	33	98	25	**Metallics Assay in opt.** Limy Graph. Phyllite (may be a shale) Dk grey-blk, soft, weak layering, caliche, some calcite. Tr py.
L99-11	Liv Canyon	Grab	<0.001*	0.2	33	25	14	66	30	**Metallics Assay in opt.** Same gouge as L99-6 as a check. Less Au, more Hg.
L99-12	Liv Canyon	Grab	<0.001*	<0.1	8	11	7	16	25	**Metallics Assay in opt.** Hardrock assoc. with gouge from samples L99-6 & 9. Lt. Grey silicified L.S. (qtzite ?) <1% oxidized 1/8" py crystals along fractures.
L99-13	Liv Canyon	Grab	0.001*	<0.1	22	13	<2	41	25	**Metallics Assay in opt.** Red-brn iron oxide crushed qtzite & qtz + gouge. Tr oxidized py.
L99-14	Adit	Grab	368.6	1	4	2	14	180	267	Weakly fract. Amphibolite gneiss. Minor hematite in fract. Tr oxidized py. No other visible sulphides.
L99-15	Adit Check	Grab	578.8 484	1.6 1.7	4 4	4 6	16 17	168 177	268 276	As above but with some qtz-hematite f.f. Fractures up to 1/2" wide with some qtz & hematite fragments. Tr py. No other visible sulphides.

1999 Livingstone Creek

Sample #	Location	Width (m)	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Hg (ppb)	Description
Mag	Sluicebox Conc.	Grab	104	1.6	27	9	22	40	< 10	Sub-rounded magnetite pebbles up to 3/4 in. diameter.
Mag Con	Sluicebox Conc.	Grab	873*	26.4	16	9	85	21	13245	Heavy mineral sluice concentrate. Mostly magnetite but may contain a small amount of gold.
	Check		791*	24.4	16	9	86	21	12425	
		* = ppm								
<u>Check Assays by Acme Analytical Labs</u>										
L-2	Blake's Bar	NAL	<34	0.2	36	49	6	58	ND	Green-brn chloritic & iron rich gouge mixed with dyke & qtz veins. Against dyke H.W.
		AAL	21.8	0.3	60	18	14	83	15	
Ron-2	Ron Trench	NAL	5	0.2	141	23	11	23	ND	Vein -- Crushed sericitic-argillic-quartz schist Strong iron& mang. staining. Tr py, malachite.
		AAL	6.7	<0.3	134	24	18	23	360	
Windlass-3	Windlass Trench 3	NAL	20	<0.1	43	<5	5	52	ND	Sericite schist, some zones of graphite schs Some weakly banded quartzite.
		AAL	13.5	<0.3	45	31	7	54	115	
M-1	Top of Mend Ck Canyon	NAL	<5	0.1	1	<5	11	10	ND	Sheared sugary textured white-lt. grey limestone. No visible sulphides.
		AAL	<0.2	<0.3	1	< 2	9	8	<10	
Mart-1	Martin Creek	NAL	22	0.3	23	97	21	65	120	Stream sediment sample.
		AAL	17.6	<0.3	23	42	6	56	125	
Sum-2	Summit Creek	NAL	29	0.4	24	100	28	100	75	Stream sediment sample.
		AAL	5.5	0.3	24	25	9	91	105	

ND = Not Determined NAL = Northern Analytical Labs AAL = Acme Analytical Labs

STREAM SEDIMENT SAMPLE TABLE

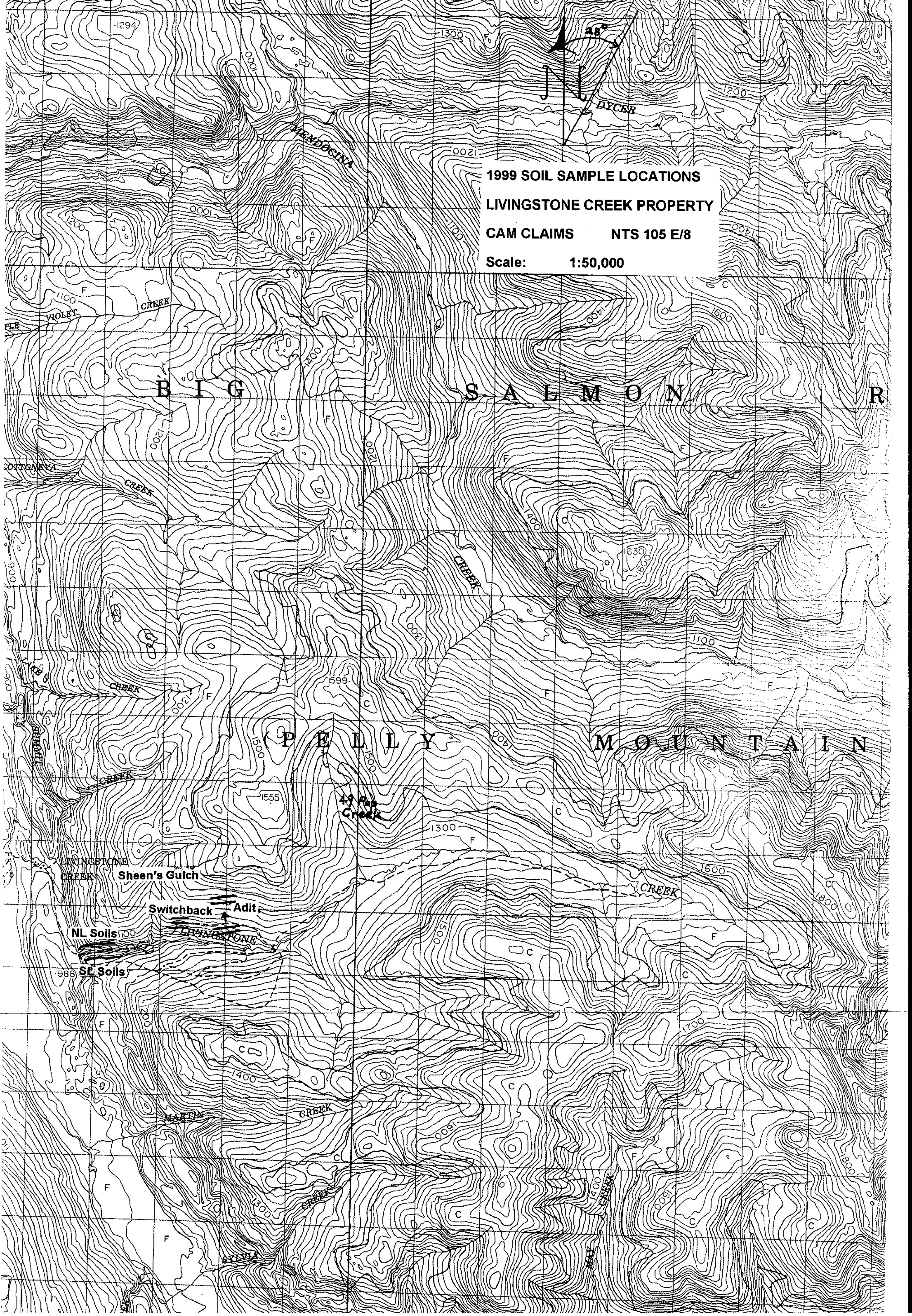
Sample #	Location	Au	Ag	Cu	As	Pb	Zn	Hg
		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)
MART - 1	Martin Ck	22	0.3	23	97	21	65	120
NFL	N Fork Liv	<5	0.2	11	50	13	45	80
NOTCH	Ridge Liv-Martin	13	0.7	83	445	28	115	1375
SFT	S Fork Trib Liv.	8	0.6	31	162	35	119	175
SUM-1	Summit Ck	10	0.3	17	190	28	86	125
SUM-2	Summit Ck	29	0.4	24	100	28	100	75
49 Pup	49 Pup	10	0.2	17	78	23	81	115
COT-1	Cottoneva	9	0.9	27	23	51	48	5
COT-2	Cottoneva	12	1.6	18	24	164	64	15
LAKE	Lake Ck	24	<0.1	21	45	12	58	10
LV	Little Violet	17	<0.1	25	19	28	105	5
SHEEN	Sheen's	19	<0.1	33	38	18	76	<5
UT-1	Unnamed	12	0.2	33	22	18	82	<5
UT-2	Unnamed	<5	<0.1	28	26	18	84	15

Stream Sediment Samples Taken in 1996

SS - 1	South Fork Livingstone	35	<0.1	31	41	13	117	ND

SS - 2	Confluence N & S Fork Livingstone	392	<0.1	19	13	9	52	ND

ND = Not Determined



1999 SOIL SAMPLE LOCATIONS

LIVINGSTONE CREEK PROPERTY

CAM CLAIMS NTS 105 E/8

Scale: 1:50,000

Grab samples L99 – 14 and 15 of amphibolite gneiss containing quartz and hematite in fractures from the adit area returned gold assays of 369 ppb. and 579 ppb. respectively (See Rock Sample Table). These values, in addition to the high-grade mineralization already exposed in the area, indicate that more work, possibly including diamond drilling, is needed at this site.

SOIL SAMPLING:

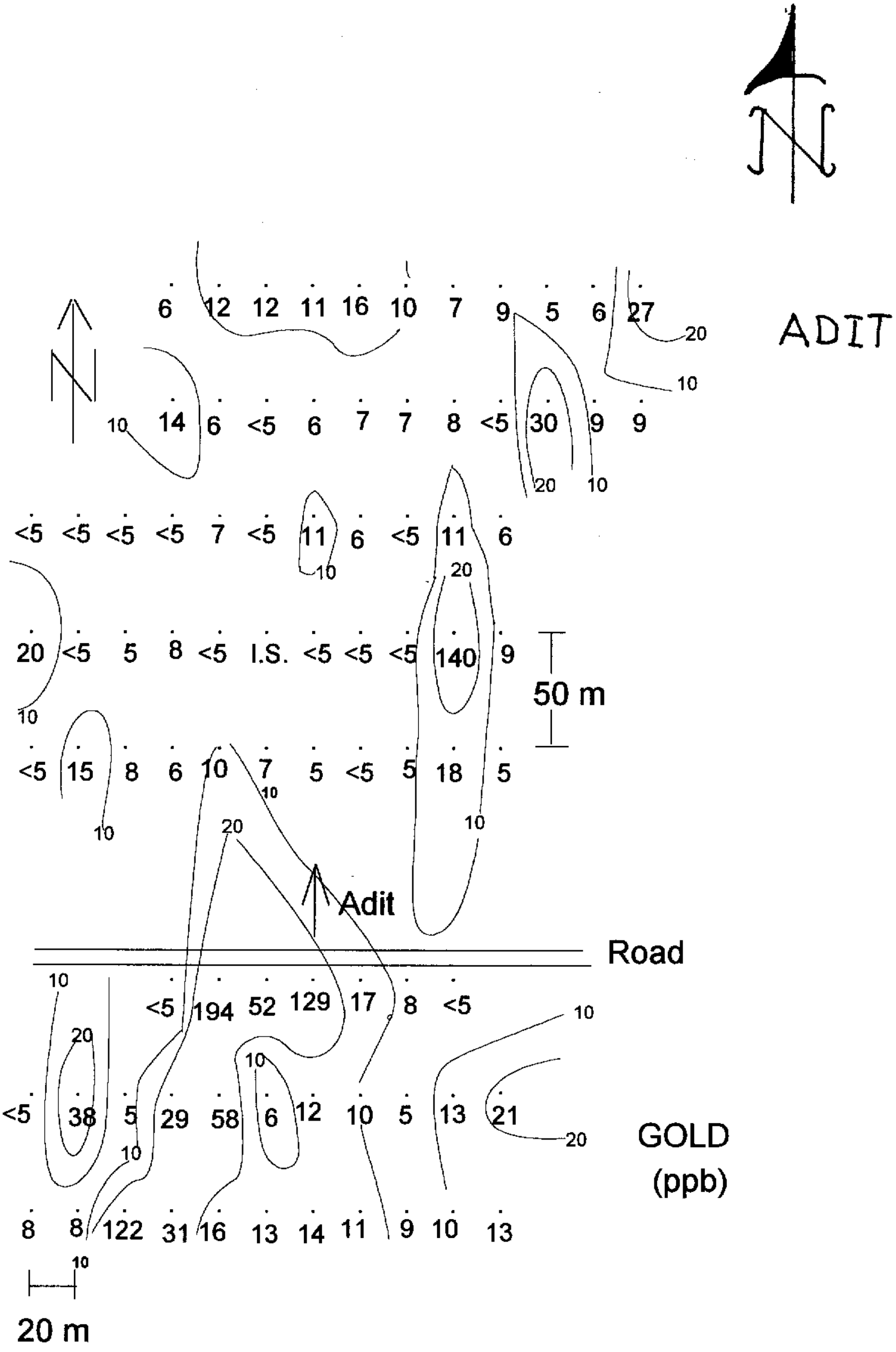
Soil sampling was done at three sites during 1999.

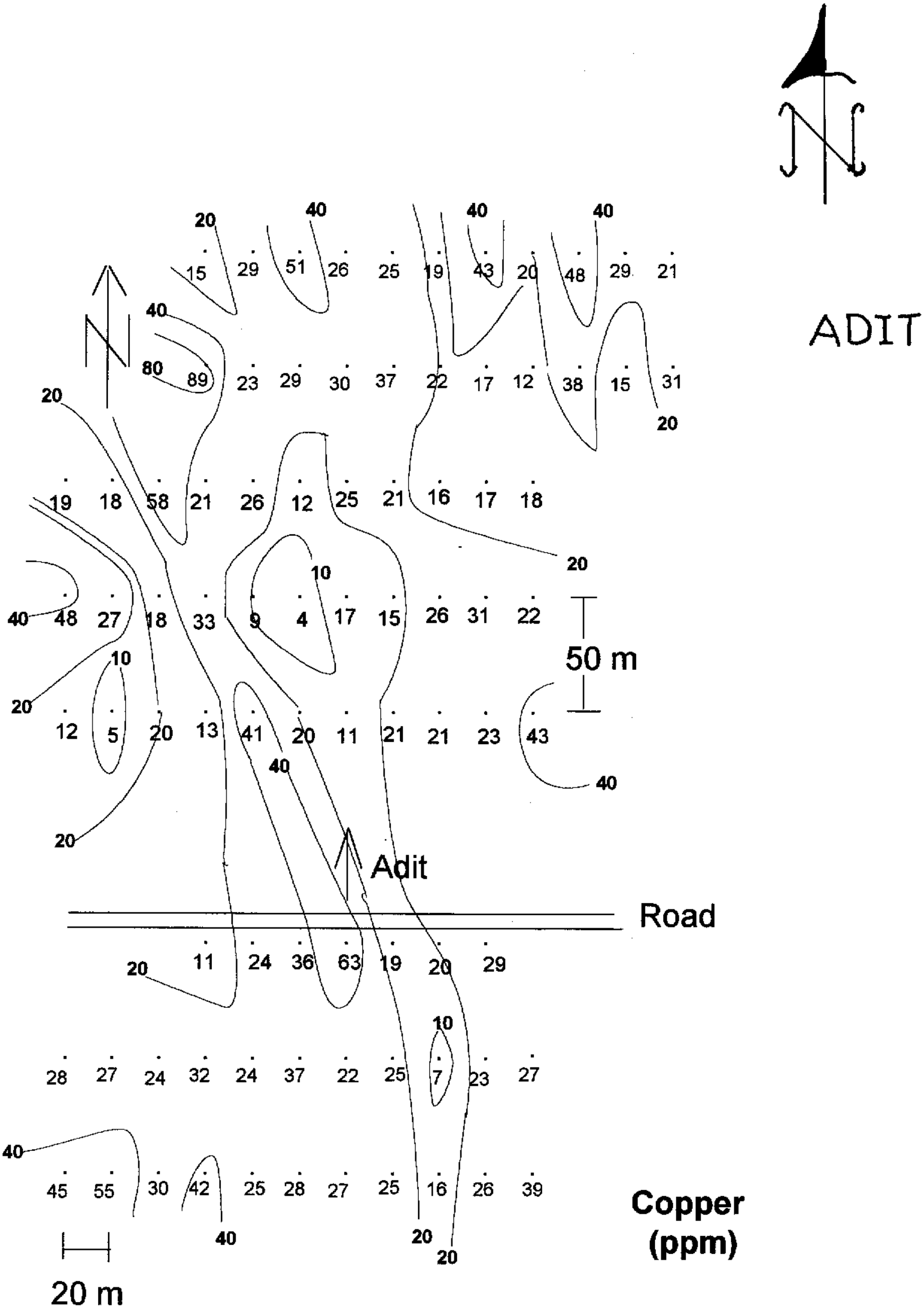
Adit Site:

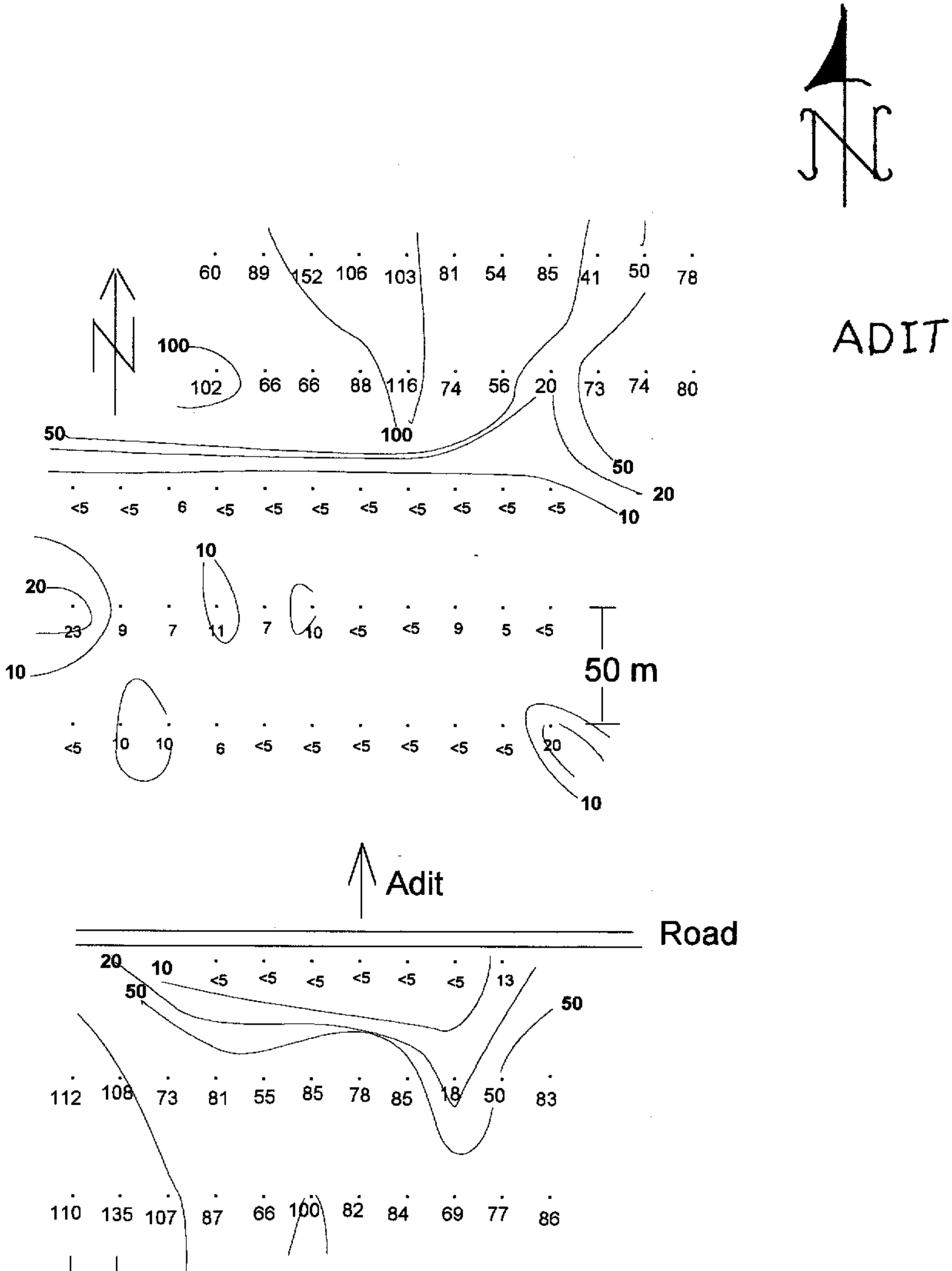
Additional sampling extended the expected strike length of the adit structure by a further 100 metres both uphill and downhill from that exposed during 1998 (See gold, copper, and arsenic plots included). Some significant mercury analyses (up to 800 ppb.) were obtained from some of the 1999 samples. Mercury was not plotted since the earlier samples had not had it determined at this precision.

Switchback Site:

3 lines of soil samples were taken over a structure discovered by a VLF-EM survey done along the Adit Road (See 1999 Soil Sample Locations Map). Weak coincident anomalies in gold, copper, and arsenic (See sample plots) outline a weak structure in the area. A zone of high mercury analyses occur slightly SE of the weak structure (See sample plots).


ADIT
N
N
6 12 12 11 16 10 7 9 5 6 27
14 6 <5 6 7 7 8 <5 30 9 9
<5 <5 <5 <5 7 <5 11 6 <5 11 6
20 <5 5 8 <5 I.S. <5 <5 <5 140 9
<5 15 8 6 10 7 5 <5 5 18 5
50 m
Adit
Road
<5 194 52 129 17 8 <5
<5 38 5 29 58 6 12 10 5 13 21
8 8 122 31 16 13 14 11 9 10 13
GOLD
(ppb)
20 m
10
20


ADIT
20 40 40 40
15 29 51 26 25 19 43 20 48 29 21
40
80 89 23 29 30 37 22 17 12 38 15 31
20 20
19 18 58 21 26 12 25 21 16 17 18
20
10
40 48 27 18 33 9 4 17 15 26 31 22
50 m
10
20
12 5 20 13 41 20 11 21 21 23 43
40 40
20
Adit
Road
20 11 24 36 63 19 20 29
10
28 27 24 32 24 37 22 25 7 23 27
40
45 55 30 42 25 28 27 25 16 26 39
40 20 20
20 m
Copper
(ppm)


ADIT
60 89 152 106 103 81 54 85 41 50 78
100
102 66 66 88 116 74 56 20 73 74 80
50
100
50
20
<5 <5 6 <5 <5 <5 <5 <5 <5 <5 <5
10
10
20
23 9 7 11 7 10 <5 <5 9 5 <5
10
50 m
<5 10 10 6 <5 <5 <5 <5 <5 <5 20
10
Adit
Road
20 10 <5 <5 <5 <5 <5 <5 13
50
50
112 108 73 81 55 85 78 85 18 50 83
110 135 107 87 66 100 82 84 69 77 86
100
20 m

ARSENIC
(PPM)

SOIL SAMPLE TABLE

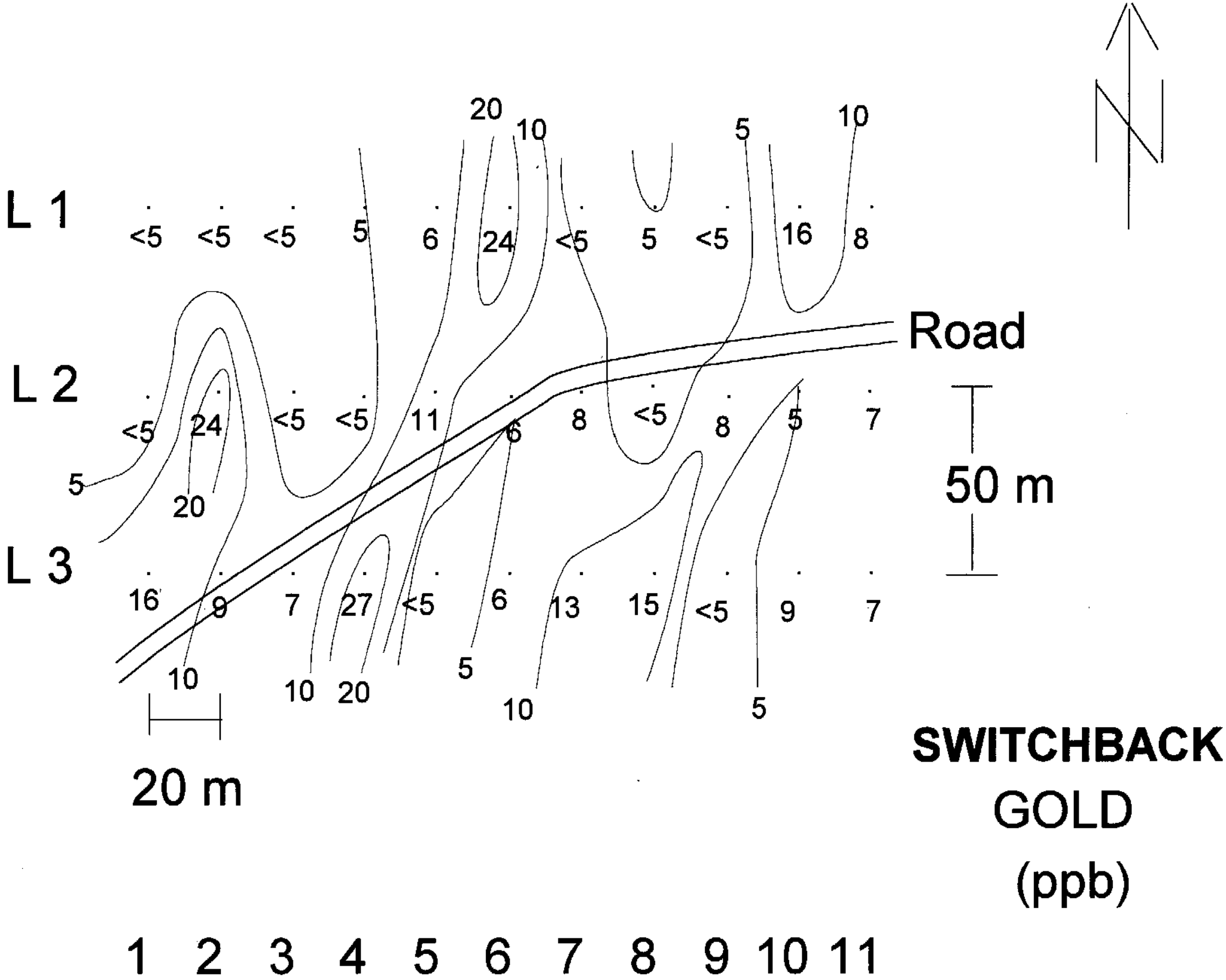
Additional Adit Soil Sampling below Road

Sample #	Location	Au (ppb)	Ag (ppm)	Cu (ppm)	As (ppm)	Pb (ppm)	Zn (ppm)	Hg (ppb)
A99-1	50 m S of road	6	0.3	37	85	25	41	Ins
A99-2		58	0.3	24	55	31	60	170
A99-3		29	0.3	32	81	34	57	90
A99-4		5	0.1	24	73	23	53	60
A99-5		38	0.1	27	108	31	65	25
A99-6	50 m S of road	<5	0.2	28	112	40	58	40
A99-7	100 m S of Road	8	0.2	45	110	43	79	100
A99-8		8	0.2	55	135	45	92	75
A99-9		122	0.4	30	107	41	82	90
A99-10		31	0.3	42	87	34	75	155
A99-11		16	0.5	25	66	21	51	95
A99-12		13	0.2	28	100	34	79	150
A99-13		14	0.1	27	82	34	70	390
A99-14		11	0.2	25	84	28	75	130
A99-15		9	0.2	16	69	20	48	55
A99-16		10	0.2	26	77	29	64	55
A99-17	100 m S of Road	13	0.3	39	86	34	77	70
A99-18	50 m S of road	21	0.2	27	83	35	82	85
A99-19		13	0.1	23	50	12	44	50
A99-20		5	0.1	7	18	6	18	10
A99-21		10	0.2	25	85	34	67	70
A99-22	50 m S of road	12	0.4	22	78	26	47	90

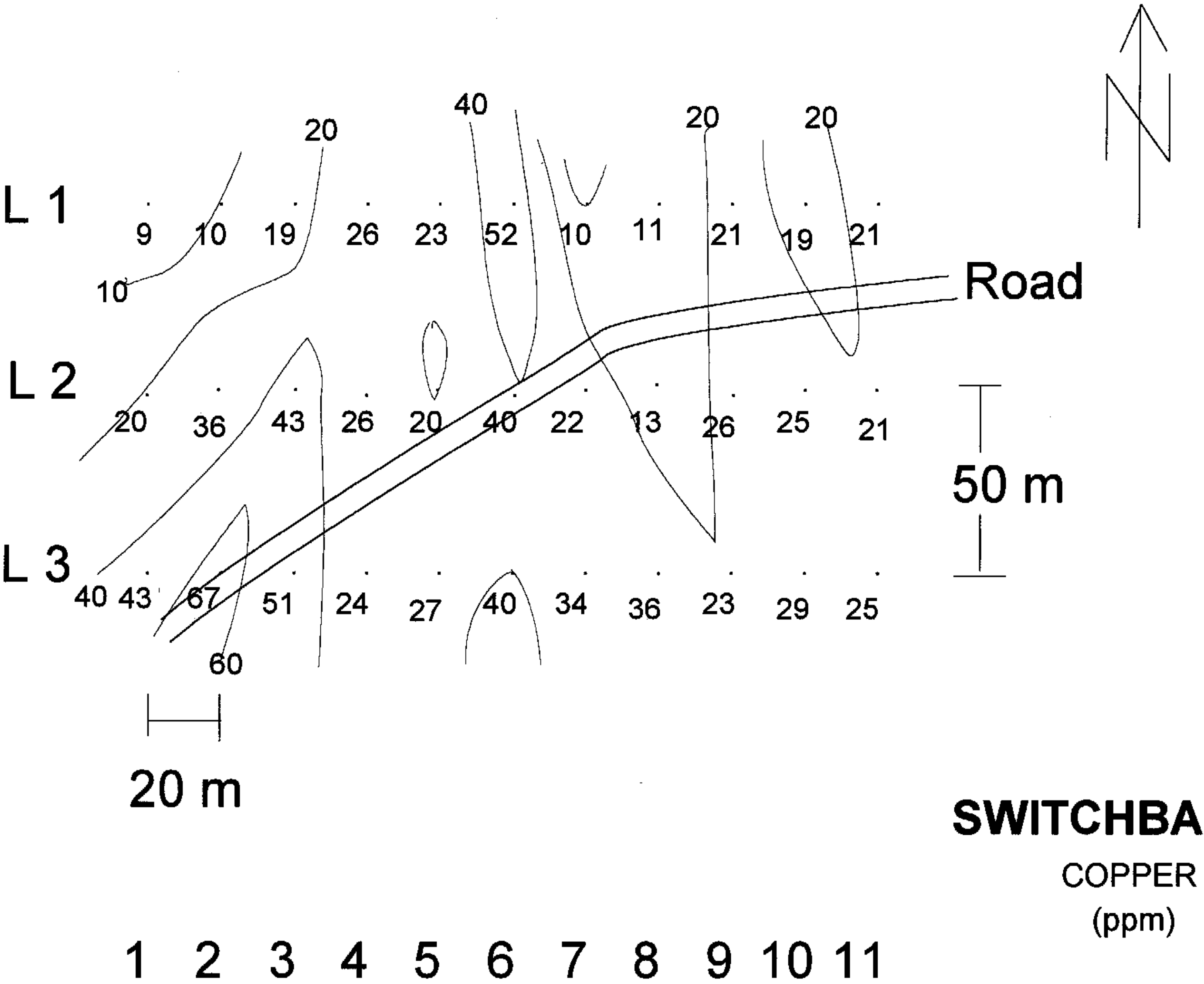
SOIL SAMPLE TABLE

Additional Adit Soil Sampling above Adit

Sample #	Location	Au	Ag	Cu	As	Pb	Zn	Hg
		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)
A99-23	200 m N	7	0.2	22	74	23	59	70
A99-24	of Adit	7	0.3	37	116	32	92	395
A99-25		6	0.2	30	88	23	80	105
A99-26		<5	0.3	29	66	21	68	15
A99-27	200 m N	6	0.2	23	66	23	56	85
A99-28	of Adit	14	0.4	89	102	30	156	800
A99-29	250 m N	6	0.1	15	60	17	38	140
A99-30	of Adit	12	0.3	29	89	36	80	70
A99-31		12	0.3	51	152	48	103	170
A99-32		11	0.2	26	106	34	76	65
A99-33		16	0.3	25	103	28	80	135
A99-34		10	0.2	19	81	24	75	55
A99-35		7	0.3	43	54	11	57	170
A99-36		9	0.2	20	85	25	71	165
A99-37		5	0.2	48	41	7	37	210
A99-38	250 m N	6	0.2	29	50	14	67	245
A99-39	of Adit	27	0.3	21	78	26	56	270
A99-40	200 m N	9	0.3	31	80	25	74	355
A99-41	of Adit	9	0.2	15	74	25	71	100
A99-42		30	0.3	38	73	16	70	125
A99-43	200 m N	<5	0.2	12	20	5	33	295
A99-44	of Adit	8	0.3	17	56	16	38	130



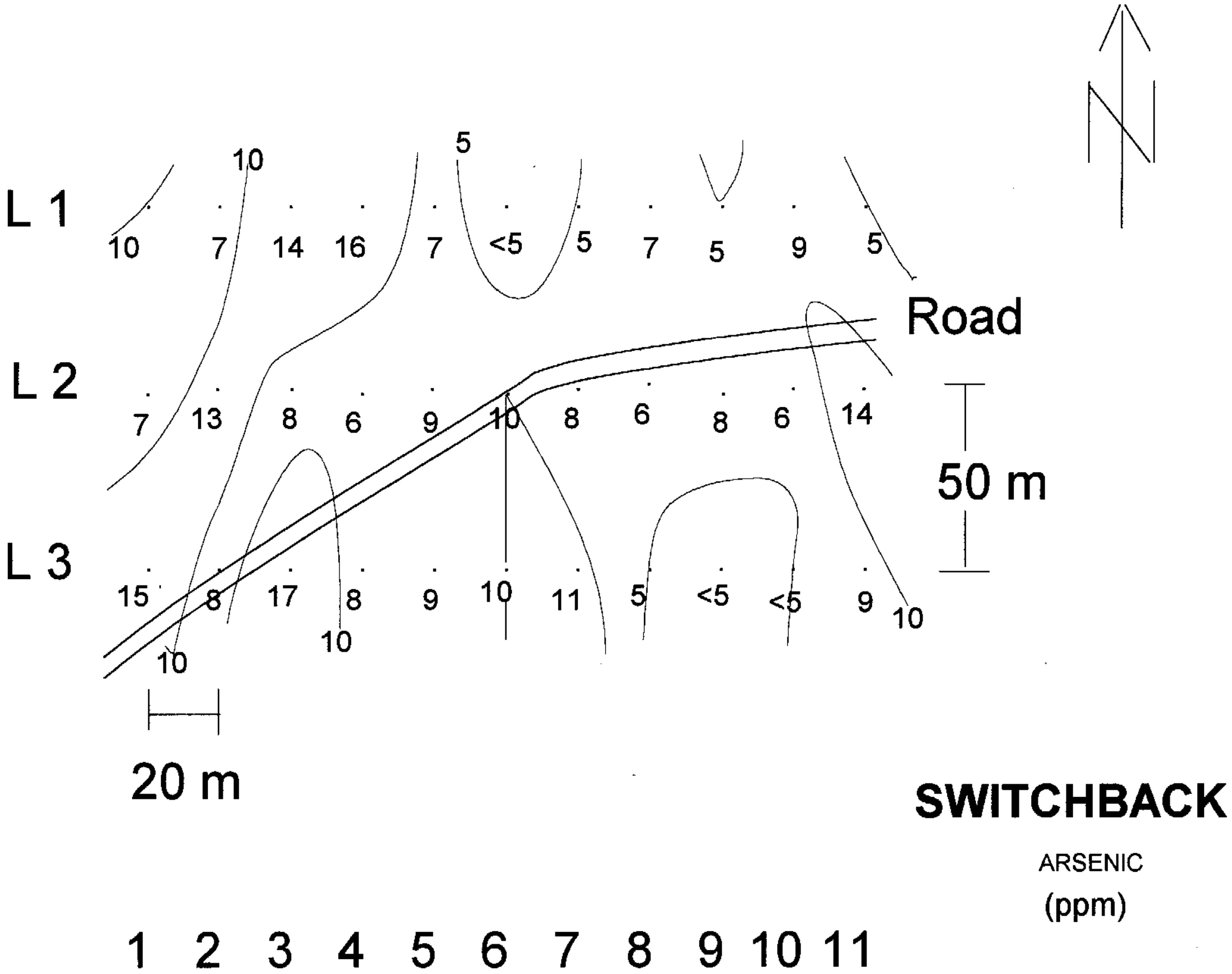
SWITCHBACK
GOLD
(ppb)



SWITCHBACK

COPPER

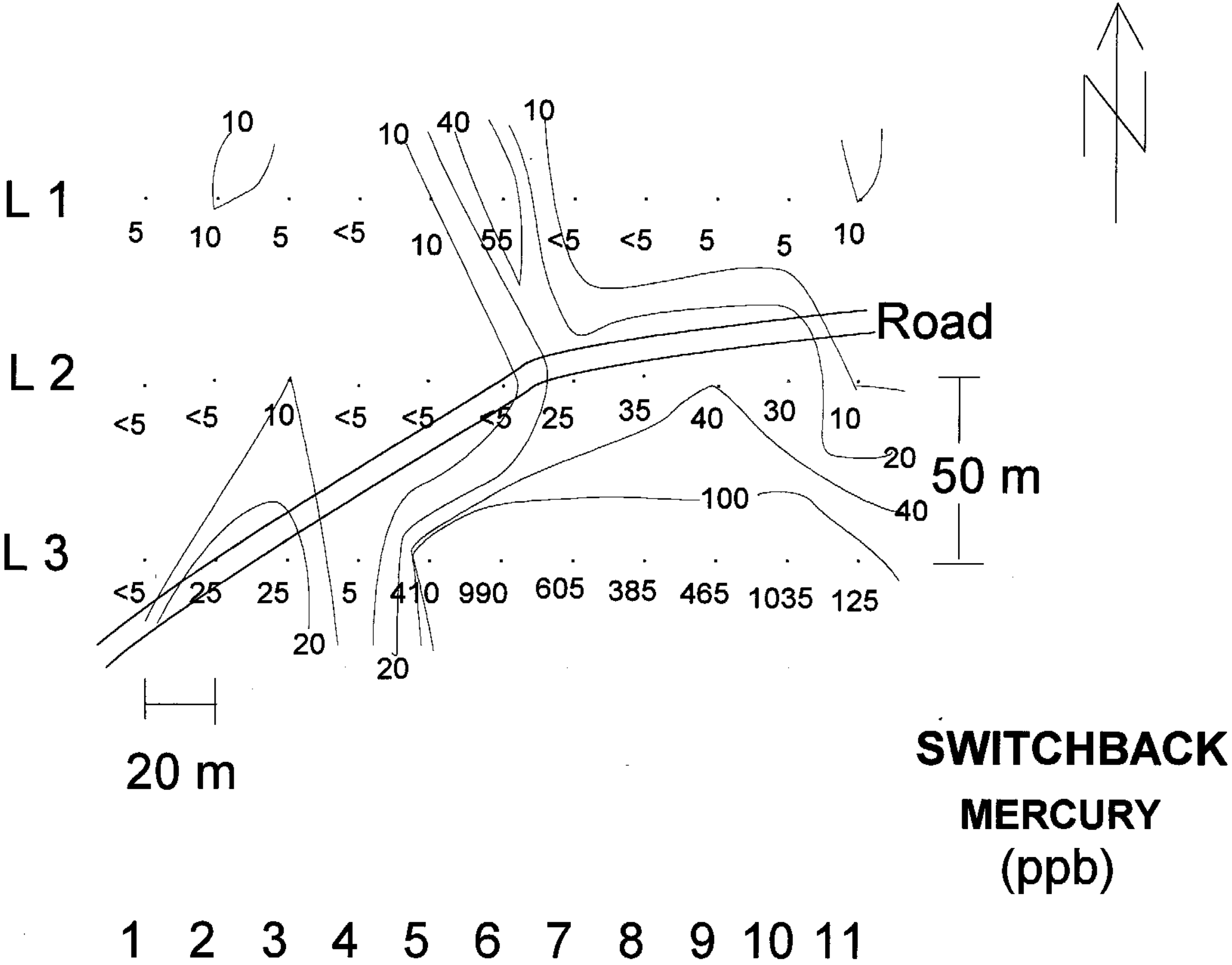
(ppm)



SWITCHBACK

ARSENIC

(ppm)



SWITCHBACK

MERCURY

(ppb)

SOIL SAMPLE TABLE

Switchback Soil Samples

Sample #	Location	Au	Ag	Cu	As	Pb	Zn	Hg
		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)
L1S-1	50 m N	<5	<0.1	9	10	9	32	5
L1S-2	of Road	<5	<0.1	10	7	9	32	10
L1S-3		<5	<0.1	19	14	5	48	5
L1S-4		5	<0.1	26	16	9	56	<5
L1S-5		6	0.1	23	7	9	39	10
L1S-6		24	0.1	52	<5	13	47	55
L1S-7		<5	0.2	10	5	9	29	<5
L1S-8		5	0.2	11	7	13	36	<5
L1S-9		<5	0.2	21	5	10	56	5
L1S-10	50 m N	16	<0.1	19	9	17	51	5
L1S-11	of Road	8	0.3	21	5	10	37	10
L2S-1	Road	<5	0.1	20	7	11	45	<5
L2S-2		24	0.1	36	13	12	81	<5
L2S-3		<5	0.1	43	8	8	75	10
L2S-4		<5	0.1	26	6	6	49	<5
L2S-5		11	<0.1	20	9	12	38	<5
L2S-6		6	0.2	40	10	7	36	<5
L2S-7		8	0.1	22	8	8	45	25
L2S-8		<5	0.2	13	6	11	41	35
L2S-9		8	0.3	26	8	14	57	40
L2S-10		5	<0.1	25	6	12	42	30
L2S-11	Road	7	<0.1	21	14	12	49	10
L3S-1	50 m S	16	<0.1	43	15	21	75	<5
L3S-2	of Road	9	0.1	67	8	13	116	25
L3S-3		7	<0.1	51	17	14	95	25
L3S-4		27	<0.1	24	8	13	69	5
L3S-5		<5	<0.1	27	9	8	35	410
L3S-6		6	<0.1	40	10	11	69	990
L3S-7		13	<0.1	34	11	11	64	605
L3S-8		15	<0.1	36	5	18	74	385
L3S-9		<5	<0.1	23	<5	2	21	465
L3S-10	50 m S	9	0.1	29	<5	25	66	1035
L3S-11	of Road	7	<0.1	25	9	8	53	125

Livingstone Canyon:

Soil samples done along the north ridge of Livingstone Creek in 1997 started at the first claim line which is 450 metres upstream from the bottom of the canyon. Extending the sampling to the bottom of the canyon both on the north and south sides of the canyon could demonstrate the presence of structures cross-cutting the area (See 1999 Soil Sample Locations Map). The analyses in gold were as high as 46 ppb. and were associated with weak values in mercury, arsenic, and copper. The values, although occasionally interesting, were too low and too erratic to clearly demonstrate the existence of structures (See Soil Sample Chart).

CONCLUSIONS:

Only evidence of some characteristics considered important for the formation of Carlin-type deposits were located during the mapping.

1. Proximity to a buried continental margin.

   Many of the Carlin deposits are aligned east of the buried continental margin in Nevada. This is thought to reflect a fundamental deep crustal structural control on ore deposition. Stevens and Erdmer, de Keijzer and Williams, and others have suggested that the rocks presently in the Livingstone area have been ramped onto the North American craton with the craton's margin being west of Livingstone near the Teslin River.

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SOIL SAMPLE TABLE

Livingstone Canyon Soil Samples

Sample #	Location	Au	Ag	Cu	As	Pb	Zn	Hg
		(ppb)	(ppm)	(ppm)	(ppm)	(ppm)	(ppm)	(ppb)
North Rib								
NL-1	W End	46	<0.1	15	11	10	35	115
NL -2	Canyon	9	<0.1	13	14	9	29	75
NL-3		9	<0.1	17	18	12	36	90
NL-4		<5	<0.1	12	8	8	36	50
NL-5		<5	<0.1	16	12	10	36	10
NL-6		6	<0.1	51	20	14	54	50
NL-7		<5	<0.1	37	21	13	43	10
NL-8		<5	<0.1	13	9	8	30	5
NL-9		6	<0.1	24	12	9	36	5
NL-10		<5	<0.1	9	14	8	29	15
NL-11		<5	<0.1	13	17	13	38	35
NL-12		6	<0.1	12	14	13	37	25
NL-13		<5	0.1	21	17	13	50	55
NL-14		5	<0.1	38	15	10	47	105
NL-15		5	<0.1	39	15	11	60	40
NL-16		5	<0.1	58	23	16	72	50
NL-17		<5	0.1	35	10	8	53	<5
NL-18	E End	5	0.1	65	25	16	82	35
NL-19	Canyon	<5	0.1	53	17	15	65	30
South Rib								
SL-1	W End	30	0.3	106	43	23	87	45
SL-2	Canyon	7	<0.1	21	11	14	49	5
SL-3		<5	<0.1	8	6	10	48	<5
SL-4		25	0.3	159	50	27	135	110
SL-5		13	0.2	86	31	18	89	55
SL-6		6	0.1	47	17	8	61	<5
SL-7		14	0.1	55	17	14	63	<5
SL-8		14	0.1	47	15	11	64	<5
SL-9		35	0.1	11	<5	7	34	<5
SL-10		<5	<0.1	26	<5	<2	20	<5
SL-11		9	<0.1	20	7	8	41	20
SL-12		<5	<0.1	16	<5	11	44	45
SL-13		<5	<0.1	14	6	10	41	70
SL-14		5	<0.1	32	14	14	74	15
SL-15		<5	<0.1	21	8	10	47	<5
SL-16		12	<0.1	10	7	11	43	<5
SL-17		<5	<0.1	23	13	10	54	<5
SL-18	E End	<5	0.1	11	<5	4	73	85
SL-19	Canyon	8	0.2	47	7	19	64	35

2. Complex folding and faulting, perhaps in more than one phase, make up the geological history.

   Strong folding and faulting has been recognized at Livingstone since its discovery. There have been at least two periods during which rocks were ramped onto the North American craton; Devonian to Permian sedimentary and volcanic rocks of the Yukon Tanana Terrane and Permian to Mississippian oceanic crustal rocks of the Slide Mountain Terrane.

3. Mineralized bodies are frequently localized adjacent to steep faults.

   All of the placer bearing creeks at Livingstone run through the Big Salmon Fault near, or at their base. This fault, therefore, could be the main host fault for a Carlin-like system. High gold values obtained from soil samples near the fault on both the north and south ribs of Livingstone canyon (See soil sample chart) would re-enforce this thought. The mapping done during 1999 shows that there are numerous faults running sub-parallel to the Big Salmon Fault. Earlier writers have indicated that these faults have dextral strike-slip motion, and evidence from this study indicates they are normal faults. Steep faults with normal displacement are common within Carlin-type systems. These smaller faults at Livingstone appear more prevalent closer to the Big Salmon Fault and many of them cut through the most prospective silicified limestone and quartz-sericite schist rock types.

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4. Impure carbonates are the most common host rocks.

Petrographic analysis of what were believed to be silicified limestone and quartz-sericite schist are, in fact, metamorphically recrystallized quartz-carbonate rocks whose most likely origin was a silty or cherty dolomite. Only 0.5 % – 2.0 % sericite was found in the samples.

5. Mineralization is not obviously part of a zoned magmatic-hydrothermal system (not necessarily associated with a stock).

Although intrusive rocks were mapped by earlier workers in the area, none were recognized during this study. However, several zones of quartz-biotite schist (QBS) and quartz-biotite gneiss (QBg), in the current mapping were likely previously identified as intrusive rocks. During the 1999 work, these rock types were considered to be neither extensive nor continuous enough to be stocks or plugs. Their location suggests that they may be contact or alteration zones between the rocks mapped as quartz-sericite schist (QSS) and amphibolite gneiss (Ag) [See geological map].

The only large intrusive recognized in the area is the mid-Cretaceous batholith located near Mt. Black approximately 14 -17 kms. (10 - 12 miles) southeast of Livingstone Creek. A smaller, but similar, intrusive has been mapped north of the headwaters of Dycer Creek.

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6. Many mineral deposits are beneath caps of siliciclastic or volcanic rock.

   At Carlin, structural traps and reactive sedimentary rocks are believed to control ore deposition. Ore is confined to a host fault system, or is spread laterally in calcareous silty rocks, or in a combination of these structural and stratigraphic settings. At Livingstone, structural traps such as fold hinges or thrust faults were not recognized; however, if the amphibolite gneiss lies above the quartz-sericite schist and its protolith is a felsic to intermediate tuff as the petrography suggests; a stratigraphic trap may exist. Southwest-northeast oriented cross-sections through the area have shown the typical "anticlinal" aspect exhibited by many Carlin-type deposits (See Cross-Section).

7. The common presence of dykes is considered to be evidence of magmatic activity.

   Unmetamorphosed, quartz-free, feldspar-hornblende porphyry dykes of monzonitic composition have been located in Livingstone and Summit Creeks. The fact that these dykes are unmetamorphosed suggests they are related to an intrusion which post-dates the metamorphism, possibly the mid-Cretaceous batholith mentioned earlier.

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Discussion of Carlin-type Mineralization at Livingstone:

1. Much of the placer gold recovered from Livingstone Creek has associated magnetite. This suggests the existence of a magnetite skarn in the area – such a skarn has not been found to the present time.

2. Although the placer gold recovered from the 1999 excavations within the calcareous units is generally much finer than that usually recovered, it is far larger than the micron-sized gold of Carlin deposits. It also seems to be located within narrow iron-rich clay fillings in the cracks and joints of the rock and not within the rock itself – this suggests a hydrothermal origin to the gold.

3. Many Carlin-type deposits are located below thrust faults and within zones of brecciation – neither thrust faults nor breccia zones have been recognized on the property.

4. The short course on thermal aureole gold deposits (TAG) at the 1999 Whitehorse Geoscience Forum demonstrated that several of the Carlin-like characteristics discussed above are also present in TAG deposits. This suggests that this model should also be considered at Livingstone Creek.

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RECOMMENDATIONS:

1. Exploration of the structure(s) in the adit area should be intensified. The high-grade values obtained from the 1998 trenches, the high-grade values obtained from the amphibolite gneiss samples L-14 & 15 (See Rock Sample Table), and the strike length extension of the structure(s) both uphill and downhill by the soil sampling done during the year; make this a high priority.

2. Grid soil sampling follow-up of newly discovered VLF-EM targets should be continued. The use of this technique to discover a new mineralized structure at the switchback on the adit road demonstrates the importance of this procedure.

3. Continuing to investigate for Carlin-type deposits at Livingstone should become an important pursuit.

4. The TAG (thermal aureole gold) deposit model should also be investigated since they have some of the same characteristics as Carlin deposits. Characteristics such as: a preference for calcareous rock units, several phases of fault reactivation, and an "anticlinal" aspect.

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W. CARLYLE

STATEMENT OF COSTS:

Geologist Field Work	(July 6 – July 27) 22 days @ $300/day	$ 6,600.00
	(Aug. 12 – Aug. 17) 6 days @ $300/day	$ 1,800.00
Assaying		$ 3,681.12
Air Charters		$ 882.75
Room & Board (29 person/days @ $35/day)		$ 1,015.00
ATV Rental (3 weeks @ $125/wk)		$ 375.00
Miscellaneous Fuels & Oil		$ 200.00
Field Supplies (Flagging, bags, hammer, etc.)		$ 263.08
Office Supplies (Photocopying, paper, etc.)		$ 200.00
Report Writing		$ 1,500.00
	TOTAL	**$16,516.95**

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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 26th day of January, 2000.

Larry W. Carlyle

L. W. CARLYLE

APPENDIX A

PETROGRAPHIC REPORT

Vancouver Petrographics Ltd.
8080 GLOVER ROAD, LANGLEY, B.C. V1M 3S3
PHONE (604) 888-1323 • FAX (604) 888-3642
email: vanpetro@vancouver.net

Report for: Larry Carlyle,
74 Tamarack Drive,
WHITEHORSE,
Yukon, Y1A 4Y6

Job 990354

August 18, 1999

SAMPLES:

4 rock samples, numbered 1 to 4, were submitted for sectioning and petrographic examination.

Field names given in the covering letter are as follows:

Sample 1. Quartz sericite schist
Sample 2. Amphibolite gneiss
Sample 3. Silicified limestone
Sample 4. Dyke

Typical portions of each sample were prepared as standard thin sections.

SUMMARY:

Samples 1 and 3 are metamorphically recrystallized quartz-carbonate rocks of uncertain origin (most likely silty or cherty dolomite). Sample 3 is an evenly fine-grained intergrowth of the two minerals, in roughly equal proportions, whereas Sample 1 has a higher dolomite/quartz ratio, shows banded grain-size variations~~,~~ and is patchily impregnated with limonite. Both rocks contain low proportions of accessory sericite.

Sample 2 is a fine-grained, laminated, quartzose amphibolite. It consists dominantly of a poikiloblastic intergrowth of fresh plagioclase and quartz with wispy intercalations of mafic minerals - principally hornblende plus lesser epidote. The abundance of quartz, and relatively low proportions of mafics, suggest that its protolith may have been a felsic-intermediate tuff.

Sample 4 is an unmetamorphosed, quartz-free porphyry of monzonite composition. Its texture is consistent with minor intrusive origin. It exhibits partial sericitization of plagioclase, and epidote-chlorite-carbonate alteration of hornblende.

J.F. Harris

J.F. Harris, Ph.D. (604) 929-5867

SAMPLE 1: SILICEOUS DOLOMITE

Estimated mode

Quartz	25
Carbonate	70
Sericite	2
Chlorite	trace
Limonite	3

The sectioned portion of this sample (see off-cut) shows banded compositional differentiation, defining apparent folded bedding. One component band in this sequence has an unetched, grey appearance. The adjacent one is buff-coloured. An imperfect laminar foliation which appears to cross-cut the banding may represent an axial plane cleavage.

Thin section examination shows that the rock is composed dominantly of carbonate, with intergrown quartz and minor sericite as accessories. The carbonate is unreactive to dilute HCl, and is probably dolomite or ankerite.

The macroscopically prominent grey band and the adjacent buff-coloured band are much less clearly distinguishable in the thin section. The former is not quartz (as it might appear), but consists of a varigranular, interlocking aggregate of carbonate as anhedral grains 30 - 300 microns in size, with quartz (of similar grain size) occurring as disseminated, individual, equant grains, strings and lenses, and small clumpy segregations. This unit contains only traces of sericite, as tiny individual sub-oriented flakes and rare concentrated wisps.

The buff-coloured unit differs principally in being of finer grain size, typically in the range 10 - 80 microns. It also contains slightly more abundant sericite, mainly concentrated as thin, semi-continuous schlieren with intergrown traces of chlorite. Its colour is apparently partly due to the presence of more or less abundant disseminated specks of dark brown material - most likely limonite.

Macroscopic examination of the thin section shows irregular and sub-parallel zones of speckled brown pigmentation (developed in both units). Microscopic examination shows that these are concentrations of limonite as rims to carbonate grains, and as intergranular pockets. The latter could be pseudomorphous after original disseminated pyrite - now oxidized by the effects of surface weathering.

This rock appears to be a siliceous dolomite - now more or less deformed and recrystallized. The present distribution of the quartz is consistant with origin as a clastic or chemically precipitated (chert) impurity in an enivronment of sedimentary carbonate deposition. There is no petrographic evidence to support a volcanic origin.

SAMPLE 2: QUARTZOSE AMPHIBOLITE

Estimated mode

Quartz	30
Plagioclase	45
Hornblende	14
Epidote	7
Chlorite	2
Muscovite	1
Garnet	trace
Apatite	trace
Opaques	1

The off-cut of this sample shows an undisturbed laminar foliation? defined by parallel strings of a fine-grained white-etched component alternating with dark and/or unetched material.

In thin section the rock is found to be made up of a granoblastic aggregate of colourless minerals, with thin, laminar, mafic-rich intercalations.

The colourless minerals consist of an intergrowth of quartz and untwinned plagioclase in uncertain proportions. Grain size ranges from 0.05 mm to 1.0 mm or more, and poikiloblastic textures are widespread. Much of the plagioclase occurs as relatively coarse, parallel-oriented, ovoid to sub-prismatic grains, sieved with smaller grains of quartz and, to a lesser degree, tiny grains of mafics. The plagioclase appears water-clear and totally fresh. Thin laminae composed largely of quartz alternate with thicker plagioclase-rich zones.

The fabric is clearly a product of metamorphic recrystallization, though the texture may reflect original porphyritic or volcaniclastic character.

The principal mafic constituent is a strongly pleochroic (straw-coloured to dark green) variety of hornblende, as slender, well-oriented grains up to 0.5 mm in length. These occur partly as dispersed individuals, but mainly concentrated as parallel swarms and as thin schlieren (up to 0.3 mm or so in thickness).

The commonest accessory is epidote, occurring in distinctive manner as tiny discrete granules 10 - 150 microns in size, in close spatial association with the hornblende.

Other minor components of the mafic assemblage are sporadic flakes of muscovite and chlorite, and specks of opaques (probably mainly Fe-Ti oxides). A single small porphyroblast of garnet was noted.

All the mafic constituents appear fresh, and apparently co-exist in equilibrium.

SAMPLE 3: QUARTZ-DOLOMITE ROCK

Estimated mode

Quartz	40
Carbonate	59
Sericite	0.5
Limonite(?)	trace

This sample is of closely similar character to Sample 1, but is texturally more homogenous and free of limonite impregnations.

It is of simple mineralogy, consisting of an intergrowth of non-reactive carbonate (probably dolomite) and quartz, plus traces of accessory sericite.

The rock consists dominantly of an equigranular intergrowth of quartz and carbonate, in approximately equal proportions, as anhedral grains 30 - 100 microns in size.

This assemblage locally gives way to crudely laminar or lenticular zones, up to 1 or 2 mm in thickness, in which dolomite is strongly dominant over quartz and exhibits coarser grain size (in the range 0.1 - 0.5 mm). The coarser dolomite is sometimes lightly speckled with brown (limonitic? bituminous?) inclusions.

Sericite is very minor overall. It occurs as rare, thin schlieren, and as individual, sub-oriented, intergranular flakes in one local zone of the fine quartz/dolomite aggregate.

The origin of this rock is uncertain. The present fabric is probably one of recrystallization - most likely of an original silty or cherty dolomite of sedimentary origin. There is no positive evidence to support the suggestion that the quartz component is of introduced (silicification) origin.

SAMPLE 4: MONZONITE PORPHYRY

Estimated mode

Plagioclase	4
Sericite	8
K-feldspar	60
Hornblende	17
Epidote	4
Chlorite	1
Carbonate	5
Apatite	trace
Opaques	1

This sample differs compositionally from the others of the suite in having a major content of K-feldspar (see yellow cobaltinitrite stain on the off-cut), and in exhibiting a non-foliated, prominently porphyritic, primary igneous texture.

Thin section examination shows that the rock consists of occasional coarse phenocrysts of altered plagioclase, plus abundant smaller phenocrysts of partially altered mafics, in a groundmass of K-feldspar and minor plagioclase.

Scattered, rounded to sub-prismatic phenocrysts of original plagioclase, 2 - 6 mm in size, show strong pervasive alteration to fine-grained sericite, plus lesser epidote and carbonate. Some of them have inclusions (remnants?) of K-feldspar.

The mafic phenocrysts, typically 0.1 - 0.5mm in size, are euhedral-subhedral hornblende. These show varied degrees of alteration (ranging from essentially nil to total) to epidote, carbonate and chlorite.

Scattered clumps of opaques (not well represented in the thin section) appear from the off-cut to be mainly sulfides (pyrrhotite?).

The phenocrysts occur scattered, with random orientation, through a microgranular groundmass of grain size 10 - 100 microns, composed essentially of K-feldspar and lesser turbid plagioclase. It also incorporates minor mafics and small pockets of carbonate (totally altered mafics?).

The sectioned area includes an area of about 2x2 cm in which the groundmass shows a much lower K-spar/plagioclase ratio, and small mafic phenocrysts are notably abundant. This appears to be a xenolith.

This rock is quartz-free, and is clasifiable as monzonite. It appears unmetamorphosed. Its texture is consistent with a minor intrusive (dyke rock).

APPENDIX B

ANALYTICAL CERTIFICATES

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT F
To Carlyle, Larry W.
Acme file # A9000091 Received: JAN 10 2000 * 3 samples in this disk file.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Na	K	W	Au*	Hg
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	ppm	ppb	ppb
L-14	3	4	14	180	1	4	21	1060	6.89	2	< 8	< 2	3	126	0.4	< 3	< 3	60	1.72	0.507	50	2	2.35	111	0.08	< 3	0.23	0.04	2	368.6	267
L-15	2	4	16	168	1.6	5	18	1601	6.72	4	< 8	< 2	4	135	0.6	< 3	3	51	2.87	0.528	49	5	1.8	196	0.06	< 3	0.16	0.09	< 2	578.8	268
RE L-15	2	4	17	177	1.7	5	19	1681	7.36	6	< 8	< 2	3	142	0.5	< 3	< 3	52	3.03	0.555	47	4	1.89	208	0.06	< 3	0.17	0.09	< 2	484	276
STANDAR	15	137	32	168	< .3	40	13	878	3.36	61	22	< 2	4	31	11.7	7	12	84	0.57	0.087	18	179	0.63	158	0.11	4	0.04	0.17	8	220.1	263

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORMA
To Carlyle, Larry W.
Acme file # A9000090 Received: JAN 10 2000 * 3 samples in this disk file.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	Au*	Hg
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	ppb	ppb
Mag	1	27	22	40	1.6	10	6	340	21.81	9	< 8	< 2	< 2	3	< .2	7	7	292	0.01	0.004	2	2	0.06	102	0.01	< 3	0.17	0.01	0.04	< 2	104	< 10
Mag Con	8	16	85	21	26.4	104	17	288	17.32	9	< 8	873	3	8	< .2	< 3	4	368	0.23	0.021	4	170	0.18	238	0.1	< 3	0.19	0.01	0.05	55	99999	13245
RE Mag Con	6	16	86	21	24.4	123	17	280	17.46	9	< 8	791	3	8	< .2	< 3	8	372	0.23	0.02	4	157	0.18	240	0.1	< 3	0.19	0.01	0.05	59	99999	12425
STANDARD DS2	14	132	34	166	< .3	39	12	845	3.31	63	15	< 2	3	30	11.3	9	7	84	0.56	0.085	18	175	0.62	186	0.1	4	1.83	0.04	0.16	7	208	255

From ACME ANALYTICAL LABORATORIES LTD. 852 E. HASTINGS ST. VANCOUVER BC V6A 1R6 PHONE(604)253-3158 FAX(604)253-1716 @ CSV TEXT FORM
To Carlyle, Larry W.
Acme file # A9000089 Received: JAN 10 2000 * 7 samples in this disk file.

ELEMENT	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	U	Au	Th	Sr	Cd	Sb	Bi	V	Ca	P	La	Cr	Mg	Ba	Ti	B	Al
SAMPLES	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	ppm	%	ppm	%	ppm	%
Mart-1	< 1	23	6	56	< .3	23	11	854	1.96	42	< 8	< 2	2	30	0.3	< 3	< 3	30	0.56	0.097	18	23	0.52	158	0.03	4	0.92
Sum-2	1	24	9	91	0.3	43	10	535	2.23	25	< 8	< 2	< 2	25	0.4	< 3	< 3	34	0.59	0.116	18	27	0.42	258	0.02	3	1.15
L-2	1	60	14	83	0.3	26	9	1107	1.98	18	< 8	< 2	4	153	0.4	6	< 3	49	8.47	0.053	8	36	3.7	165	0.07	< 3	1.9
Windlass-	3	45	7	54	< .3	87	19	493	3.17	31	< 8	< 2	3	15	0.4	< 3	< 3	67	0.41	0.082	10	165	0.53	53	0.01	3	0.87
Ron-2	1	134	18	23	< .3	23	9	122	1.01	24	< 8	< 2	< 2	2	0.5	3	< 3	20	0.02	0.019	5	203	0.04	66	< .01	< 3	0.17
M-1	< 1	1	9	8	< .3	2	< 1	168	0.08	< 2	< 8	< 2	< 2	109	< .2	< 3	< 3	1	16.94	0.152	2	8	5.89	12	< .01	< 3	0.04
RE M-1	< 1	1	10	7	< .3	1	< 1	160	0.08	2	< 8	< 2	< 2	106	< .2	< 3	< 3	1	16.41	0.146	2	8	5.72	11	< .01	< 3	0.04
STANDAR	15	140	35	175	< .3	41	13	889	3.45	67	23	< 2	4	31	12	10	10	88	0.59	0.089	18	185	0.66	164	0.11	3	1.95

Na	K	W	Au*	Hg
%	%	ppm	ppb	ppb
0.01	0.1	< 2	17.6	125
0.01	0.06	< 2	5.5	105
0.02	0.25	< 2	21.8	15
< .01	0.09	< 2	13.5	115
< .01	0.03	< 2	6.7	360
0.01	< .01	< 2	< .2	< 10
< .01	< .01	< 2	< .2	< 10
0.04	0.17	8	217	265

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Larry Carlyle

WO# 05687

Certified by

	Sample #	Au ppb
s	A99-1	6
s	A99-2	58
s	A99-3	29
s	A99-4	5
s	A99-5	38
s	A99-6	<5
s	A99-7	8
s	A99-8	8
s	A99-9	122
s	A99-10	31
s	A99-11	16
s	A99-12	13
s	A99-13	14
s	A99-14	11
s	A99-15	9
s	A99-16	10
s	A99-17	13
s	A99-18	21
s	A99-19	13
s	A99-20	5
s	A99-21	10
s	A99-22	12
s	A99-23	7
s	A99-24	7
s	A99-25	6
s	A99-26	<5
s	A99-27	6
s	A99-28	14
s	A99-29	6
s	A99-30	12

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26/07/99

Certificate of Analysis

Larry Carlyle

WO# 05687

Certified by

	Sample #	Au ppb
s	A99-31	12
s	A99-32	11
s	A99-33	16
s	A99-34	10
s	A99-35	7
s	A99-36	9
s	A99-37	5
s	A99-38	6
s	A99-39	27
s	A99-40	9
s	A99-41	9
s	A99-42	30
s	A99-43	<5
s	A99-44	8
s	MART-1	22
s	NFL	<5
s	NOTCH	13
s	SFT	8
s	SUM-1	10
s	SUM-2	29
s	49 PUP	10
r	L99-1	13
r	L99-2	7
r	L99-3	13
r	L99-4	113

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Client : Northern Analytical Laboratories
Project: W.O. 05687

55 Samples
55=Pulp

[062716:56:00:99072799]

Out: Jul 27, 1999
In : Jul 23, 1999

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 %
A99 - 1	P	0.3	37	25	41	85	<	<	1	<	3	4.0	9	25	190	<	20	31	482	16	45	5	1	0.02	1.28	1.70	1.57	0.34	0.06	0.04	0.10
A99 - 2	P	0.3	24	31	60	55	<	<	1	<	<	3.2	11	28	183	<	19	32	350	26	37	3	2	0.02	0.94	0.64	2.51	0.39	0.07	0.03	0.13
A99 - 3	P	0.3	32	34	57	81	<	<	1	<	<	3.4	13	49	189	<	50	43	361	15	47	4	2	0.03	1.31	1.21	2.43	0.79	0.08	0.03	0.08
A99 - 4	P	0.1	24	23	53	73	<	<	1	<	<	1.9	12	26	148	<	17	31	650	20	22	3	1	0.02	1.26	0.39	2.11	0.48	0.07	0.03	0.03
A99 - 5	P	0.1	27	31	65	108	<	<	2	<	<	4.2	17	51	80	<	45	52	318	23	15	4	3	0.03	1.76	0.24	3.16	0.69	0.08	0.02	0.04
A99 - 6	P	0.2	28	40	58	112	<	<	2	<	<	3.3	17	47	160	<	58	65	675	20	19	4	5	0.07	1.70	0.42	3.02	0.81	0.13	0.02	0.06
A99 - 7	P	0.2	45	43	79	110	<	<	2	<	<	4.3	19	49	170	5	43	58	640	26	31	9	5	0.04	1.75	0.70	3.49	0.84	0.19	0.02	0.04
A99 - 8	P	0.2	55	45	92	135	<	<	<	<	<	4.5	27	84	139	<	75	76	860	26	35	9	6	0.07	2.11	0.86	4.24	1.27	0.16	0.02	0.10
A99 - 9	P	0.4	30	41	82	107	6	<	<	<	<	4.9	17	59	159	<	56	53	450	24	38	7	4	0.03	1.71	0.84	3.68	1.04	0.14	0.02	0.12
A99 - 10	P	0.3	42	34	75	87	<	<	1	<	<	8.5	16	56	179	<	49	50	451	18	44	6	3	0.03	1.45	1.33	2.99	0.87	0.10	0.02	0.09
A99 - 11	P	0.5	25	21	51	66	<	<	1	<	<	3.9	8	25	252	<	22	32	242	13	52	4	2	0.02	1.01	1.84	1.67	0.43	0.07	0.03	0.10
A99 - 12	P	0.2	28	34	79	100	5	<	2	<	3	3.6	16	58	146	<	57	54	428	18	38	4	3	0.04	1.57	1.07	2.94	0.86	0.08	0.03	0.09
A99 - 13	P	0.1	27	34	70	82	<	<	1	<	<	3.9	19	55	72	<	59	59	553	23	28	5	3	0.06	1.30	0.68	3.25	0.85	0.09	0.02	0.10
A99 - 14	P	0.2	25	28	75	84	<	<	<	<	<	3.2	13	46	116	6	46	45	388	20	48	4	2	0.03	1.35	1.23	2.59	0.77	0.10	0.03	0.10
A99 - 15	P	0.2	16	20	48	69	<	<	<	<	<	2.5	12	33	105	<	37	46	377	18	39	3	2	0.03	1.13	0.79	2.35	0.61	0.06	0.04	0.08
A99 - 16	P	0.2	26	29	64	77	<	<	2	<	<	3.9	14	48	156	<	47	47	367	17	86	4	3	0.02	1.29	1.85	2.54	0.79	0.08	0.02	0.09
A99 - 17	P	0.3	39	34	77	86	<	<	1	<	5	2.5	16	55	251	<	50	45	1162	16	98	5	3	0.02	1.40	2.04	2.75	0.92	0.06	0.02	0.09
A99 - 18	P	0.2	27	35	82	83	<	<	1	<	<	4.6	19	61	124	<	56	57	514	27	48	5	4	0.03	1.38	0.92	3.47	0.89	0.06	0.02	0.11
A99 - 19	P	0.1	23	12	44	50	<	<	<	<	3	3.6	7	27	105	<	22	27	228	9	65	2	1	0.02	0.85	1.43	1.45	0.41	0.05	0.03	0.09
A99 - 20	P	0.1	7	6	18	18	<	<	<	<	<	1.8	4	7	42	<	5	19	96	4	30	1	<	0.03	0.31	0.69	0.66	0.18	0.03	0.05	0.07
A99 - 21	P	0.2	25	34	67	85	<	<	2	<	<	3.6	13	48	147	<	54	49	272	17	34	6	3	0.04	1.43	0.90	2.58	0.77	0.07	0.03	0.05
A99 - 22	P	0.4	22	26	47	78	<	<	<	<	<	3.0	11	41	167	<	39	47	254	17	34	3	3	0.04	1.26	0.98	2.29	0.57	0.07	0.04	0.08
A99 - 23	P	0.2	22	23	59	74	<	<	<	<	<	<	16	55	166	6	57	51	1955	9	55	2	2	0.04	1.20	1.46	2.34	0.74	0.04	0.03	0.11
A99 - 24	P	0.3	37	32	92	116	<	3	1	<	<	4.2	22	102	168	<	109	75	629	17	56	3	4	0.05	1.89	1.30	3.24	1.23	0.08	0.03	0.15
A99 - 25	P	0.2	30	23	80	88	<	<	<	<	<	2.6	15	72	130	<	74	53	530	14	36	2	3	0.04	1.37	0.97	2.36	0.86	0.06	0.04	0.12
A99 - 26	P	0.3	29	21	68	66	<	<	1	<	<	3.7	11	52	175	6	45	39	626	8	55	2	1	0.03	1.14	2.05	1.74	0.58	0.05	0.04	0.11
A99 - 27	P	0.2	23	23	56	66	6	<	<	<	<	3.1	15	56	113	<	58	65	404	15	27	2	3	0.06	1.06	0.72	2.63	0.67	0.04	0.03	0.10
A99 - 28	P	0.4	89	30	156	102	<	<	1	<	<	<	22	115	382	7	87	65	5150	22	53	2	4	0.03	1.65	1.72	2.95	0.92	0.08	0.03	0.12
A99 - 29	P	0.1	15	17	38	60	<	<	<	<	<	4.0	11	48	94	<	56	47	329	8	15	2	3	0.05	1.02	0.33	1.89	0.56	0.04	0.04	0.04
A99 - 30	P	0.3	29	36	80	89	<	<	2	<	<	4.3	18	60	159	<	67	55	522	32	28	3	4	0.03	1.47	0.49	3.11	0.75	0.07	0.02	0.11
A99 - 31	P	0.3	51	48	103	152	6	<	3	<	<	7.0	35	159	126	<	179	114	735	19	27	6	10	0.09	2.36	0.87	4.96	1.76	0.10	0.02	0.18
A99 - 32	P	0.2	26	34	76	106	<	<	2	<	<	4.2	19	76	127	6	84	68	494	20	26	3	4	0.05	1.64	0.64	3.36	0.97	0.06	0.02	0.13
A99 - 33	P	0.3	25	28	80	103	<	<	2	<	<	3.8	19	74	127	<	76	61	639	29	27	3	4	0.04	1.70	0.53	3.24	0.87	0.08	0.02	0.13
A99 - 34	P	0.2	19	24	75	81	<	<	1	<	<	3.2	15	39	91	<	37	38	410	33	28	4	2	0.02	1.38	0.63	2.81	0.62	0.05	0.02	0.09
A99 - 35	P	0.3	43	11	57	54	<	<	1	<	4	<	7	39	196	<	18	16	1398	7	131	4	1	0.01	0.83	4.33	1.09	0.46	0.03	0.03	0.15
A99 - 36	P	0.2	20	25	71	85	<	<	1	<	<	3.0	13	40	130	<	47	37	316	18	38	3	2	0.01	1.44	0.90	2.24	0.65	0.05	0.02	0.10
A99 - 37	P	0.2	48	7	37	41	<	<	1	<	<	0.3	5	29	138	<	7	9	457	4	180	3	<	0.01	0.62	3.34	0.53	0.25	0.02	0.03	0.08
A99 - 38	P	0.2	29	14	67	50	<	<	1	<	3	2.5	10	40	98	7	32	22	560	9	159	3	1	0.01	0.78	3.43	1.36	0.58	0.04	0.02	0.11
A99 - 39	P	0.3	21	26	56	78	<	<	<	<	2	3.3	15	56	79	<	55	45	423	19	61	4	3	0.03	1.31	1.06	2.57	0.77	0.04	0.03	0.10
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

iPL
INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICAT[illegible]F ANALYSIS
iPL 99G0627

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Client : Northern Analytical Laboratories
Project: W.O. 05687

55 Samples
55=Pulp

[062716:56:00:99072799]

Out: Jul 27, 1999
In : Jul 23, 1999

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 %
A99 - 40	P	0.3	31	25	74	80	<	<	1	<	<	2.7	14	54	107	<	52	44	585	19	73	4	2	0.02	1.30	1.42	2.49	0.79	0.04	0.03	0.11
A99 - 41	P	0.2	15	25	71	74	<	<	<	<	<	2.7	17	53	66	10	62	49	721	22	58	3	2	0.03	1.29	1.07	2.68	0.81	0.05	0.02	0.11
A99 - 42	P	0.3	38	16	70	73	<	<	1	<	<	4.8	10	54	146	<	52	34	320	16	77	3	2	0.02	1.18	1.51	1.96	0.59	0.05	0.03	0.10
A99 - 43	P	0.2	12	5	33	20	<	<	1	<	<	<	5	11	67	7	8	17	1353	4	27	1	<	0.02	0.33	0.56	0.67	0.13	0.03	0.05	0.05
A99 - 44	P	0.3	17	16	38	56	<	<	2	<	<	3.3	11	31	117	<	27	33	652	10	41	3	2	0.03	0.83	1.25	1.58	0.42	0.04	0.04	0.08
L99 - 1	P	1.2	11	55	69	87	7	<	4	<	<	0.3	4	12	11	<	27	11	1292	5	217	9	2	<	0.11	18%	2.57	7.28	0.05	0.02	0.02
L99 - 2	P	0.8	14	34	50	57	<	<	2	<	<	1.2	2	13	34	7	98	5	343	3	42	3	1	<	0.07	8.17	0.48	1.88	0.03	0.02	0.01
L99 - 3	P	0.9	67	134	95	143	18	<	28	<	<	5.8	17	43	41	<	93	76	497	15	122	17	5	0.02	1.00	1.71	4.28	1.16	0.17	0.03	0.15
L99 - 4	P	0.3	121	28	31	50	<	<	7	<	<	3.3	5	14	18	5	156	27	77	3	22	2	1	0.03	0.37	0.39	1.36	0.19	0.03	0.02	0.09
MART - 1	P	0.3	23	21	65	97	6	<	2	<	<	1.6	13	25	155	8	24	36	856	16	31	2	2	0.03	0.99	0.69	2.27	0.51	0.09	0.02	0.10
NFL	P	0.2	11	13	45	50	<	<	1	<	<	3.0	9	61	152	<	52	34	338	9	21	2	2	0.06	0.81	0.64	1.42	0.69	0.05	0.02	0.15
NOTCH	P	0.7	83	28	115	445	15	<	2	<	<	1.8	17	43	843	<	34	67	1380	17	35	2	3	0.01	1.29	1.19	3.15	0.38	0.06	0.03	0.20
SFT	P	0.6	31	35	119	162	<	<	3	<	<	1.3	19	31	320	8	29	58	1827	17	24	2	2	0.02	1.79	0.52	3.22	0.46	0.08	0.03	0.15
SUM - 1	P	0.3	17	28	86	190	<	<	1	<	<	6.5	17	35	299	<	28	53	2634	21	39	3	3	0.04	1.16	0.84	3.99	0.55	0.09	0.02	0.12
SUM - 2	P	0.4	24	28	100	100	<	<	1	<	2	3.2	12	45	264	<	28	44	564	17	27	2	1	0.03	1.31	0.73	2.56	0.42	0.06	0.03	0.12
49 PUP	P	0.2	17	23	81	78	<	<	2	<	<	0.9	13	49	232	<	45	45	1076	14	33	2	3	0.06	1.08	0.81	2.16	0.66	0.08	0.03	0.13
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
iPL 99H0764

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Client : Northern Analytical Laboratories
Project: Samples from 99G0627

55 Samples
55=Pulp

[076417:30:00:99082099]

Out: Aug 20, 1999
In : Aug 19, 1999

Page 1 of 1

Sample Name		Hg ppb	Sample Name		Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb	Sample Name	Hg ppb
A99 - 1	P	Ins	A99 - 40	P	355								
A99 - 2	P	170	A99 - 41	P	100								
A99 - 3	P	90	A99 - 42	P	125								
A99 - 4	P	60	A99 - 43	P	295								
A99 - 5	P	25	A99 - 44	P	130								
A99 - 6	P	40	L99 - 1	P	180								
A99 - 7	P	100	L99 - 2	P	165								
A99 - 8	P	75	L99 - 3	P	105								
A99 - 9	P	90	L99 - 4	P	15								
A99 - 10	P	155	MART - 1	P	120								
A99 - 11	P	95	NFL	P	80								
A99 - 12	P	150	NOTCH	P	1375								
A99 - 13	P	390	SFT	P	175								
A99 - 14	P	130	SUM - 1	P	125								
A99 - 15	P	55	SUM - 2	P	75								
A99 - 16	P	55	49 PUP	P	115								
A99 - 17	P	70											
A99 - 18	P	85											
A99 - 19	P	50											
A99 - 20	P	10											
A99 - 21	P	70											
A99 - 22	P	90											
A99 - 23	P	70											
A99 - 24	P	395											
A99 - 25	P	105											
A99 - 26	P	15											
A99 - 27	P	85											
A99 - 28	P	800											
A99 - 29	P	140											
A99 - 30	P	70											
A99 - 31	P	170											
A99 - 32	P	65											
A99 - 33	P	135											
A99 - 34	P	55											
A99 - 35	P	170											
A99 - 36	P	165											
A99 - 37	P	210											
A99 - 38	P	245											
A99 - 39	P	270											

Min Limit	5	5
Max Reported*	10000	10000
Method	CVA	CVA

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

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03/08/99

Certificate of Analysis

Larry Carlyle

WO# 05700

Certified by

	Sample #	Au ppb
ss	COT-1	9
ss	COT-2	12
ss	LAKE	24
ss	LV	17
ss	SHEEN	19
ss	UT-1	12
ss	UT-2	<5
r	L99-5	9
r	L99-7	<5
r	L99-8	22

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03/08/99

Certificate of Analysis

Larry Carlyle

WO# 05700

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 L99-6	245.9	11.283	0.001	0.031	0.005

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICAT[illegible]OF ANALYSIS
iPL 99G0685

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Client : Northern Analytical Laboratories
Project: W.O. 05700

11 Samples
11=Pulp

[068518:03:00:99080999]

Out: Aug 09, 1999
In : Jul 30, 1999

Page 1 of 1
Section 1 of 2

Sample Name	Type	Hg ppb	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
COT - 1	Pulp	5	0.9	27	51	48	23	<5	<3	2	<10	<2	<0.1	12	30	90	<5	25	36	396
COT - 2	Pulp	15	1.6	18	164	64	24	<5	<3	1	<10	<2	<0.1	10	34	346	<5	25	32	2382
LAKE	Pulp	10	<0.1	21	12	58	45	<5	<3	1	<10	<2	<0.1	11	29	142	<5	22	29	905
LV	Pulp	5	<0.1	25	28	105	19	<5	<3	1	<10	<2	<0.1	13	31	765	<5	22	42	5092
L99 - 5	Pulp	5	1.2	28	74	71	289	10	<3	4	<10	<2	0.8	8	40	154	<5	55	29	500
L99 - 6	Pulp	<5	0.5	44	27	57	34	<5	<3	2	<10	<2	<0.1	12	33	287	<5	103	71	639
L99 - 7	Pulp	<5	<0.1	14	10	22	17	<5	<3	1	<10	<2	<0.1	4	13	62	<5	110	15	210
L99 - 8	Pulp	<5	0.8	4	23	15	148	<5	<3	1	<10	<2	<0.1	3	1	319	<5	123	4	684
SHEEN	Pulp	<5	<0.1	33	18	76	38	<5	<3	1	<10	<2	<0.1	15	44	128	<5	46	65	740
UT - 1	Pulp	<5	0.2	33	18	82	22	<5	<3	1	<10	<2	<0.1	7	22	155	<5	22	35	294
UT - 2	Pulp	15	<0.1	28	18	84	26	<5	<3	2	<10	<2	<0.1	9	33	158	<5	29	43	373
Minimum Detection		5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1
Maximum Detection		10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	100.0	10000	10000	10000	1000	10000	10000	10000
Method		CVA	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

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPL 99G0685

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Client : Northern Analytical Laboratories
Project: W.O. 05700

11 Samples
11=Pulp

[068518:03:00:99080999]

Out: Aug 09, 1999
In : Jul 30, 1999

Page 1 of 1
Section 2 of 2

Sample Name	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
COT - 1	10	28	2	2	0.03	0.69	1.16	2.07	0.50	0.06	0.02	0.10
COT - 2	10	35	1	2	0.03	0.72	1.20	2.15	0.43	0.07	0.02	0.11
LAKE	14	24	1	2	0.02	0.71	0.75	2.24	0.43	0.06	0.01	0.11
LV	12	61	1	2	0.03	0.75	1.38	5.02	0.42	0.08	0.02	0.11
L99 - 5	8	51	5	3	0.02	0.59	7.46	2.62	2.77	0.09	0.02	0.08
L99 - 6	10	104	5	6	0.05	1.41	2.31	2.70	1.20	0.12	0.08	0.15
L99 - 7	8	8	2	2	0.01	0.58	0.18	1.19	0.40	0.09	0.04	0.02
L99 - 8	2	232	<1	3	<0.01	0.08	4.89	1.15	0.08	0.05	0.01	0.01
SHEEN	11	60	3	4	0.05	1.17	2.08	2.92	0.92	0.10	0.02	0.09
UT - 1	6	47	1	2	0.04	0.74	1.00	1.61	0.51	0.11	0.02	0.06
UT - 2	9	26	1	2	0.05	0.95	0.78	1.81	0.57	0.11	0.02	0.09
Minimum Detection	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	1.00	10.00	10.00	10.00	10.00	10.00	5.00	5.00
Method	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

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02/09/99

Certificate of Analysis

Larry Carlyle

WO# 05728

Certified by

	Sample #	Au ppb
s	L1S - 1	<5
s	L1S - 2	<5
s	L1S - 3	<5
s	L1S - 4	5
s	L1S - 5	6
s	L1S - 6	24
s	L1S - 7	<5
s	L1S - 8	5
s	L1S - 9	<5
s	L1S - 10	16
s	L1S - 11	8
s	L2S - 1	<5
s	L2S - 2	24
s	L2S - 3	<5
s	L2S - 4	<5
s	L2S - 5	11
s	L2S - 6	6
s	L2S - 7	8
s	L2S - 8	<5
s	L2S - 9	8
s	L2S - 10	5
s	L2S - 11	7
s	L3S - 1	16
s	L3S - 2	9
s	L3S - 3	7
s	L3S - 4	27
s	L3S - 5	<5
s	L3S - 6	6
s	L3S - 7	13
s	L3S - 8	15

02/09/99

Certificate of Analysis

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WO# 05728

Certified by

	Sample #	Au ppb
s	L3S - 9	<5
s	L3S - 10	9
s	L3S - 11	7
s	NL - 1	46
s	NL - 2	9
s	NL - 3	9
s	NL - 4	<5
s	NL - 5	<5
s	NL - 6	6
s	NL - 7	<5
s	NL - 8	<5
s	NL - 9	6
s	NL - 10	<5
s	NL - 11	<5
s	NL - 12	6
s	NL - 13	<5
s	NL - 14	5
s	NL - 15	5
s	NL - 16	5
s	NL - 17	<5
s	NL - 18	5
s	NL - 19	<5
s	SL - 1	30
s	SL - 2	7
s	SL - 3	<5
s	SL - 4	25
s	SL - 5	13
s	SL - 6	6
s	SL - 7	14
s	SL - 8	14

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02/09/99 Certificate of Analysis

Larry Carlyle

WO# 05728

Certified by

	Sample #	Au ppb
s	SL - 9	35
s	SL - 10	<5
s	SL - 11	9
s	SL - 12	<5
s	SL - 13	<5
s	SL - 14	5
s	SL - 15	<5
s	SL - 16	12
s	SL - 17	<5
s	SL - 18	<5
s	SL - 19	8

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02/09/99

Certificate of Analysis

Larry Carlyle

WO# 05728m

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	L99 - 9	241.5	19.916	<0.001	<0.001	<0.001
r	L99 - 10	199.0	23.792	<0.001	<0.001	<0.001
r	L99 - 11	265.0	11.471	<0.001	<0.001	<0.001
r	L99 - 12	270.0	20.500	<0.001	<0.001	<0.001
r	L99 - 13	253.3	28.269	0.001	<0.001	0.001

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPL 99H0819

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Client : Northern Analytical Laboratories
Project: PO# 05727

76 Samples
76=Pulp

[081912:09:33:99090799]

Out: Sep 07, 1999
In : Aug 31, 1999

Page 1 of 2
Section 1 of 2

Sample Name	Type	Hg ppb	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
L1S- 1	Pulp	5	<0.1	9	9	32	10	<5	<3	1	<10	<2	<0.1	7	13	85	<5	24	44	237
L1S- 2	Pulp	10	<0.1	10	9	32	7	<5	<3	2	<10	<2	<0.1	8	20	126	<5	32	53	303
L1S- 3	Pulp	5	<0.1	19	5	48	14	<5	<3	2	<10	<2	<0.1	8	19	54	<5	16	22	191
L1S- 4	Pulp	<5	<0.1	26	9	56	16	<5	<3	2	<10	<2	<0.1	15	54	57	<5	66	52	245
L1S- 5	Pulp	10	0.1	23	9	39	7	<5	<3	1	<10	<2	<0.1	8	24	126	<5	27	34	406
L1S- 6	Pulp	55	0.1	52	13	47	<5	<5	<3	2	<10	<2	<0.1	13	29	115	<5	23	35	522
L1S- 7	Pulp	<5	0.2	10	9	29	5	<5	<3	1	<10	<2	<0.1	8	13	88	<5	20	41	626
L1S- 8	Pulp	<5	0.2	11	13	36	7	<5	<3	2	<10	<2	<0.1	8	21	83	<5	26	48	278
L1S- 9	Pulp	5	0.2	21	10	56	5	<5	<3	2	<10	<2	<0.1	14	41	87	<5	41	49	726
L1S-10	Pulp	5	<0.1	19	17	51	9	<5	<3	2	<10	<2	<0.1	11	30	66	<5	29	41	239
L1S-11	Pulp	10	0.3	21	10	37	5	<5	<3	2	<10	<2	<0.1	8	20	112	<5	22	37	381
L2S- 1	Pulp	<5	0.1	20	11	45	7	<5	<3	2	<10	<2	<0.1	10	31	52	<5	38	46	203
L2S- 2	Pulp	<5	0.1	36	12	81	13	<5	<3	4	<10	<2	<0.1	30	102	141	<5	93	113	448
L2S- 3	Pulp	10	0.1	43	8	75	8	<5	<3	2	<10	<2	<0.1	32	131	171	<5	119	123	774
L2S- 4	Pulp	<5	0.1	26	6	49	6	<5	<3	1	<10	<2	<0.1	7	25	163	<5	24	30	287
L2S- 5	Pulp	<5	<0.1	20	12	38	9	<5	<3	1	<10	<2	<0.1	8	22	114	<5	24	30	292
L2S- 6	Pulp	<5	0.2	40	7	36	10	<5	<3	2	<10	<2	<0.1	8	23	118	<5	20	30	519
L2S- 7	Pulp	25	0.1	22	8	45	8	<5	<3	2	<10	<2	<0.1	12	30	121	<5	37	47	745
L2S- 8	Pulp	35	0.2	13	11	41	6	<5	<3	1	<10	<2	<0.1	9	20	42	<5	27	50	199
L2S- 9	Pulp	40	0.3	26	14	57	8	<5	<3	2	<10	<2	<0.1	13	30	57	<5	28	34	615
L2S-10	Pulp	30	<0.1	25	12	42	6	<5	<3	4	<10	<2	<0.1	14	43	76	<5	33	55	841
L2S-11	Pulp	10	<0.1	21	12	49	14	<5	<3	2	<10	<2	<0.1	12	42	86	<5	44	52	339
L3S- 1	Pulp	<5	<0.1	43	21	75	15	<5	<3	2	<10	<2	<0.1	21	62	96	<5	59	58	609
L3S- 2	Pulp	25	0.1	67	13	116	8	<5	<3	2	<10	<2	<0.1	38	181	267	<5	203	130	795
L3S- 3	Pulp	25	<0.1	51	14	95	17	<5	<3	3	<10	<2	<0.1	29	126	204	<5	125	100	699
L3S- 4	Pulp	5	<0.1	24	13	69	8	<5	<3	3	<10	<2	<0.1	16	59	97	<5	64	51	459
L3S- 5	Pulp	410	<0.1	27	8	35	9	<5	<3	1	<10	<2	<0.1	8	21	138	<5	27	36	454
L3S- 6	Pulp	990	<0.1	40	11	69	10	<5	<3	2	<10	<2	<0.1	16	55	106	<5	51	48	648
L3S- 7	Pulp	605	<0.1	34	11	64	11	<5	<3	2	<10	<2	<0.1	13	44	64	<5	42	42	325
L3S- 8	Pulp	385	<0.1	36	18	74	5	<5	<3	3	<10	<2	<0.1	16	54	52	<5	51	41	487
L3S- 9	Pulp	465	<0.1	23	2	21	<5	<5	<3	1	<10	<2	<0.1	7	12	25	<5	10	28	270
L3S-10	Pulp	1035	0.1	29	25	66	<5	<5	<3	2	<10	<2	<0.1	12	37	26	<5	28	19	410
L3S-11	Pulp	125	<0.1	25	8	53	9	<5	<3	2	<10	<2	<0.1	11	28	70	<5	27	33	421
NL- 1	Pulp	115	<0.1	15	10	35	11	<5	<3	2	<10	<2	<0.1	9	25	205	<5	29	48	399
NL- 2	Pulp	75	<0.1	13	9	29	14	<5	<3	2	<10	<2	<0.1	9	23	117	<5	28	49	235
NL- 3	Pulp	90	<0.1	17	12	36	18	<5	<3	2	<10	<2	<0.1	10	30	136	<5	32	51	200
NL- 4	Pulp	50	<0.1	12	8	36	8	<5	<3	2	<10	<2	<0.1	8	13	232	<5	18	40	392
NL- 5	Pulp	10	<0.1	16	10	36	12	<5	<3	1	<10	<2	<0.1	9	27	181	<5	29	41	337
NL- 6	Pulp	50	<0.1	51	14	54	20	<5	<3	1	<10	<2	<0.1	15	51	113	<5	45	45	371
Minimum Detection		5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1
Maximum Detection		10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	100.0	10000	10000	10000	1000	10000	10000	10000
Method		CVA	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

iPL

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICATE OF ANALYSIS
iPL 99H0819

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Vancouver, B.C.
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Phone (604) 879-7878
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Client : Northern Analytical Laboratories
Project: PO# 05727

76 Samples
76=Pulp

[081912:09:33:99090799]

Out: Sep 07, 1999
In : Aug 31, 1999

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Sample Name	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
L1S- 1	8	14	1	2	0.05	1.06	0.28	1.73	0.38	0.06	0.03	0.02
L1S- 2	8	14	1	3	0.06	1.38	0.26	2.12	0.47	0.05	0.03	0.02
L1S- 3	20	12	2	1	0.01	1.20	0.20	2.46	0.43	0.09	0.03	0.02
L1S- 4	18	11	2	3	0.03	1.70	0.23	3.13	0.83	0.09	0.02	0.03
L1S- 5	14	29	1	2	0.03	1.16	0.83	1.97	0.48	0.08	0.03	0.09
L1S- 6	18	13	1	2	0.01	1.19	0.20	2.74	0.32	0.08	0.03	0.04
L1S- 7	9	10	1	2	0.04	0.98	0.14	1.80	0.28	0.07	0.03	0.02
L1S- 8	9	14	1	2	0.04	1.13	0.22	2.18	0.39	0.08	0.02	0.02
L1S- 9	8	23	1	3	0.03	1.65	0.79	3.05	0.80	0.05	0.03	0.09
L1S-10	16	13	2	2	0.03	1.48	0.18	2.85	0.52	0.06	0.02	0.05
L1S-11	21	11	1	2	0.03	1.07	0.12	2.43	0.33	0.06	0.02	0.04
L2S- 1	13	14	2	2	0.04	1.23	0.26	2.59	0.55	0.08	0.02	0.01
L2S- 2	18	21	3	10	0.10	2.93	0.71	5.24	1.77	0.29	0.03	0.07
L2S- 3	16	19	4	11	0.12	2.96	0.60	5.23	2.18	0.39	0.04	0.09
L2S- 4	18	33	2	2	0.02	1.05	1.16	1.85	0.39	0.05	0.03	0.08
L2S- 5	18	19	2	2	0.02	1.18	0.50	2.10	0.41	0.06	0.03	0.07
L2S- 6	21	24	1	2	0.02	1.03	0.67	1.88	0.28	0.07	0.04	0.05
L2S- 7	15	13	2	3	0.03	1.51	0.24	2.60	0.53	0.07	0.03	0.02
L2S- 8	14	11	2	2	0.04	1.20	0.16	2.91	0.38	0.08	0.02	0.02
L2S- 9	19	12	2	2	0.02	1.43	0.30	2.88	0.54	0.06	0.02	0.05
L2S-10	14	17	2	5	0.04	1.84	0.46	4.06	0.56	0.07	0.03	0.06
L2S-11	21	16	3	3	0.03	1.74	0.27	3.18	0.63	0.14	0.02	0.04
L3S- 1	30	20	6	6	0.04	1.68	0.49	4.03	0.93	0.16	0.02	0.08
L3S- 2	26	37	5	13	0.11	3.25	1.20	6.20	2.65	0.46	0.03	0.18
L3S- 3	24	32	4	10	0.08	2.60	0.99	5.22	1.82	0.23	0.03	0.11
L3S- 4	25	25	2	4	0.04	1.53	0.72	3.24	0.89	0.11	0.02	0.11
L3S- 5	12	22	1	2	0.03	1.12	0.61	1.73	0.41	0.06	0.03	0.06
L3S- 6	23	29	3	4	0.04	1.52	0.75	3.31	0.87	0.12	0.02	0.07
L3S- 7	16	31	3	3	0.03	1.33	0.84	2.85	0.85	0.09	0.02	0.08
L3S- 8	28	30	6	4	0.03	1.56	0.77	3.26	0.96	0.10	0.02	0.07
L3S- 9	11	17	1	2	0.03	0.64	0.71	1.18	0.26	0.06	0.06	0.03
L3S-10	26	75	8	2	0.01	1.31	2.36	2.44	0.80	0.06	0.03	0.09
L3S-11	31	16	1	2	0.02	1.49	0.32	2.38	0.54	0.06	0.03	0.03
NL- 1	11	16	2	2	0.04	1.40	0.38	2.37	0.43	0.07	0.03	0.02
NL- 2	11	12	3	2	0.03	1.49	0.26	2.30	0.41	0.07	0.03	0.01
NL- 3	11	13	3	3	0.03	1.62	0.29	2.60	0.52	0.07	0.02	0.01
NL- 4	8	14	1	2	0.02	1.16	0.29	1.71	0.26	0.04	0.02	0.03
NL- 5	10	14	3	3	0.03	1.31	0.34	2.26	0.40	0.10	0.03	0.01
NL- 6	22	14	5	4	0.03	1.58	0.37	3.30	0.73	0.10	0.02	0.01
Minimum Detection	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	1.00	10.00	10.00	10.00	10.00	10.00	5.00	5.00
Method	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

INTERNATIONAL PLASMA LABORATORY LTD.

CERTIFICAT[illegible]F ANALYSIS
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Client : Northern Analytical Laboratories
Project: PO# 05727

76 Samples
76=Pulp

[081912:09:33:99090799]

Out: Sep 07, 1999
In : Aug 31, 1999

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Section 1 of 2

Sample Name	Type	Hg ppb	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
NL- 7	Pulp	10	<0.1	37	13	43	21	<5	<3	2	<10	<2	<0.1	14	47	131	<5	44	48	352
NL- 8	Pulp	5	<0.1	13	8	30	9	<5	<3	1	<10	<2	<0.1	8	23	148	<5	24	40	303
NL- 9	Pulp	5	<0.1	24	9	36	12	<5	<3	2	<10	<2	<0.1	12	31	80	<5	32	40	328
NL-10	Pulp	15	<0.1	9	8	29	14	<5	<3	2	<10	<2	<0.1	7	20	165	<5	29	46	254
NL-11	Pulp	35	<0.1	13	13	38	17	<5	<3	2	<10	<2	<0.1	9	26	206	<5	36	55	335
NL-12	Pulp	25	<0.1	12	13	37	14	<5	<3	2	<10	<2	<0.1	8	19	176	<5	30	50	337
NL-13	Pulp	55	0.1	21	13	50	17	<5	<3	1	<10	<2	<0.1	12	28	245	<5	37	55	879
NL-14	Pulp	105	<0.1	38	10	47	15	<5	<3	2	<10	<2	<0.1	13	38	154	<5	35	43	438
NL-15	Pulp	40	<0.1	39	11	60	15	<5	<3	5	<10	<2	<0.1	13	38	232	<5	35	49	617
NL-16	Pulp	50	<0.1	58	16	72	23	<5	<3	3	<10	<2	<0.1	16	43	237	<5	40	56	815
NL-17	Pulp	<5	0.1	35	8	53	10	<5	<3	2	<10	<2	<0.1	11	32	179	<5	28	40	605
NL-18	Pulp	35	0.1	65	16	82	25	<5	<3	4	<10	<2	<0.1	19	66	166	<5	58	59	856
NL-19	Pulp	30	0.1	53	15	65	17	<5	<3	3	<10	<2	<0.1	15	46	182	<5	45	47	787
SL- 1	Pulp	45	0.3	106	23	87	43	<5	<3	5	<10	<2	<0.1	22	76	120	<5	50	54	668
SL- 2	Pulp	5	<0.1	21	14	49	11	<5	<3	1	<10	<2	<0.1	11	29	74	<5	36	54	243
SL- 3	Pulp	<5	<0.1	8	10	48	6	<5	<3	2	<10	<2	<0.1	8	16	87	<5	27	61	229
SL- 4	Pulp	110	0.3	159	27	135	50	<5	<3	2	<10	<2	<0.1	24	95	79	<5	47	44	708
SL- 5	Pulp	55	0.2	86	18	89	31	<5	<3	2	<10	<2	<0.1	20	66	97	<5	40	46	710
SL- 6	Pulp	<5	0.1	47	8	61	17	<5	<3	2	<10	<2	<0.1	13	39	68	<5	29	37	442
SL- 7	Pulp	<5	0.1	55	14	63	17	<5	<3	2	<10	<2	<0.1	13	42	83	<5	30	37	504
SL- 8	Pulp	<5	0.1	47	11	64	15	<5	<3	3	<10	<2	<0.1	13	36	86	<5	27	36	554
SL- 9	Pulp	<5	0.1	11	7	34	<5	<5	<3	1	<10	<2	<0.1	5	11	92	<5	18	35	161
SL-10	Pulp	<5	<0.1	26	<2	20	<5	<5	<3	<1	<10	<2	<0.1	2	4	44	<5	3	20	174
SL-11	Pulp	20	<0.1	20	8	41	7	<5	<3	1	<10	<2	<0.1	9	24	44	<5	28	48	239
SL-12	Pulp	45	<0.1	16	11	44	<5	<5	<3	1	<10	<2	<0.1	10	23	70	<5	25	36	694
SL-13	Pulp	70	<0.1	14	10	41	6	<5	<3	1	<10	<2	<0.1	12	22	73	<5	31	45	547
SL-14	Pulp	15	<0.1	32	14	74	14	5	<3	2	<10	<2	<0.1	15	46	94	<5	41	49	554
SL-15	Pulp	<5	<0.1	21	10	47	8	<5	<3	2	<10	<2	<0.1	14	34	116	<5	38	47	564
SL-16	Pulp	<5	<0.1	10	11	43	7	<5	<3	2	<10	<2	<0.1	9	17	82	<5	24	42	231
SL-17	Pulp	<5	<0.1	23	10	54	13	<5	<3	2	<10	<2	<0.1	10	31	74	5	27	30	388
SL-18	Pulp	85	0.1	11	4	73	<5	<5	<3	1	<10	<2	<0.1	7	19	74	<5	23	28	332
SL-19	Pulp	35	0.2	47	19	64	7	<5	<3	2	<10	<2	<0.1	13	42	103	<5	30	33	549
L99- 9	Pulp	<5	0.1	19	9	43	11	<5	<3	1	<10	<2	<0.1	7	17	32	<5	76	7	747
L99-10	Pulp	25	0.2	77	33	98	13	<5	<3	2	<10	<2	<0.1	16	39	195	<5	70	51	1055
L99-11	Pulp	30	0.2	33	14	66	25	<5	<3	5	<10	<2	<0.1	10	35	243	<5	61	41	430
L99-12	Pulp	25	<0.1	8	7	16	11	<5	<3	3	<10	2	<0.1	1	6	106	<5	90	4	168
L99-13	Pulp	25	<0.1	22	<2	41	13	<5	<3	3	<10	<2	<0.1	2	21	76	<5	87	11	362
Minimum Detection		5	0.1	1	2	1	5	5	3	1	10	2	0.1	1	1	2	5	1	2	1
Maximum Detection		10000	100.0	20000	20000	20000	10000	1000	10000	1000	1000	10000	100.0	10000	10000	10000	1000	10000	10000	10000
Method		CVA	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

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CERTIFICATE OF ANALYSIS
iPL 99H0819

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76 Samples
76=Pulp

[081912:09:33:99090799]

Out: Sep 07, 1999
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Section 2 of 2

Sample Name	La ppm	Sr ppm	Zr ppm	Sc ppm	Ti %	Al %	Ca %	Fe %	Mg %	K %	Na %	P %
NL- 7	19	15	4	4	0.04	1.55	0.43	3.13	0.69	0.13	0.02	0.02
NL- 8	8	10	2	2	0.04	1.16	0.20	2.02	0.38	0.05	0.03	0.02
NL- 9	14	13	4	3	0.05	1.06	0.37	2.45	0.55	0.07	0.02	0.03
NL-10	10	12	2	3	0.04	1.48	0.32	2.24	0.43	0.06	0.03	0.01
NL-11	14	13	5	4	0.04	2.01	0.50	2.94	0.59	0.09	0.03	0.01
NL-12	11	14	4	3	0.05	1.67	0.45	2.47	0.49	0.12	0.03	0.01
NL-13	16	19	2	5	0.05	1.89	0.80	3.10	0.76	0.12	0.03	0.03
NL-14	22	37	3	4	0.06	1.37	2.58	2.58	0.88	0.11	0.03	0.05
NL-15	17	21	4	5	0.05	1.57	0.71	2.97	0.83	0.14	0.03	0.04
NL-16	17	28	4	5	0.05	1.88	1.01	3.21	0.91	0.19	0.03	0.04
NL-17	11	19	2	3	0.03	1.24	0.54	2.35	0.57	0.12	0.03	0.05
NL-18	20	27	4	5	0.04	1.85	0.83	3.78	1.04	0.25	0.02	0.04
NL-19	15	35	5	4	0.04	1.42	1.24	2.91	0.82	0.22	0.03	0.05
SL- 1	25	22	2	5	0.04	2.04	0.40	4.15	0.92	0.14	0.03	0.06
SL- 2	14	13	2	2	0.07	1.47	0.20	2.73	0.57	0.08	0.03	0.02
SL- 3	11	15	1	2	0.07	1.17	0.25	2.23	0.39	0.07	0.03	0.01
SL- 4	33	23	5	5	0.03	1.93	0.67	4.68	1.22	0.09	0.02	0.08
SL- 5	23	50	6	4	0.06	1.52	2.12	3.54	1.06	0.09	0.03	0.08
SL- 6	19	28	3	3	0.05	1.04	0.94	2.56	0.79	0.06	0.03	0.08
SL- 7	17	44	5	3	0.04	1.13	2.14	2.71	0.98	0.08	0.03	0.08
SL- 8	14	44	5	3	0.03	1.03	2.71	2.40	1.11	0.08	0.03	0.07
SL- 9	11	25	1	1	0.05	0.65	0.55	1.52	0.26	0.05	0.03	0.02
SL-10	<2	29	<1	<1	0.02	0.17	0.71	0.59	0.04	0.01	0.05	0.02
SL-11	12	15	1	2	0.06	0.94	0.24	2.30	0.47	0.04	0.03	0.05
SL-12	12	15	<1	1	0.04	0.87	0.24	1.91	0.39	0.05	0.03	0.05
SL-13	15	17	1	2	0.06	0.95	0.28	2.11	0.46	0.06	0.03	0.04
SL-14	21	35	3	4	0.06	1.33	0.74	3.03	0.81	0.08	0.03	0.10
SL-15	19	23	1	3	0.06	1.43	0.45	2.78	0.75	0.05	0.02	0.07
SL-16	12	17	2	2	0.06	1.03	0.44	1.96	0.45	0.06	0.03	0.02
SL-17	16	21	3	2	0.03	0.94	0.51	2.19	0.59	0.06	0.03	0.09
SL-18	10	34	2	1	0.03	0.76	1.20	1.55	0.49	0.04	0.03	0.07
SL-19	18	27	4	3	0.04	1.09	1.11	2.72	0.82	0.06	0.03	0.08
L99- 9	15	47	5	1	0.01	1.04	1.95	2.51	0.85	0.08	0.02	0.02
L99-10	12	26	3	4	0.06	2.51	0.52	4.24	1.50	0.16	0.03	0.07
L99-11	13	74	4	4	0.05	1.08	8.16	2.37	4.72	0.12	0.04	0.06
L99-12	2	34	2	1	<0.01	0.05	7.91	0.42	4.03	0.01	0.02	0.01
L99-13	5	41	6	2	<0.01	0.18	6.88	0.99	2.63	0.04	0.02	0.04

Minimum Detection	2	1	1	1	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Maximum Detection	10000	10000	10000	10000	1.00	10.00	10.00	10.00	10.00	10.00	5.00	5.00
Method	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

APPENDIX C

INVOICES SUPPORTING STATEMENT OF COSTS

ACME ANALYTICAL LABORATORIES LTD.
852 East Hastings,, Vancouver, B.C., CANADA V6A 1R6
Phone: (604) 253-3158 Fax: (604) 253-1716
Our GST # 100035377 RT

CARLYLE, LARRY W.
74 Tamarack Drive
Whitehorse, YT
Y1A 4Y6

Inv.#: **A000089**
Date: Jan 14 2000

Another project

QTY	ASSAY	PRICE	AMOUNT
10	30 ELEMENT ICP + AU (10 gm) + HG(10 ppb) ANALYSIS @	14.25	142.50
1	REGULAR ASSAY + FIRE ASSAY AG & AU (1 A.T.) @	19.50	19.50
3	ROCK SAMPLE PREPARATION @	4.50	13.50
2	PULVERIZING SAMPLE @	2.45	4.90
			180.40
	SURCHARGE FOR UNDER 10 SAMPLES ON ASSAY ANALYSIS		7.00
	GST Taxable		187.40
	7.00% GST		13.12
	CAD $		**200.52**

$179,66
Net
To Livingstone

Samples submitted by Larry W. Carlyle
PROFORMA INVOICE - FILE # A000089, A000090, A000091 & A000092

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PHONE (604) 888-1323 • FAX (604) 888-3642
email: vanpetro@vancouver.net

DATE	INVOICE NO.
8/19/99	990354

BILL TO	SHIP TO
Larry W Carlyle 74 Tamarack Drive Whitehorse, Yukon Y1A 4Y6	Larry W Carlyle 74 Tamarack Drive Whitehorse, Yukon Y1A 4Y6

P.O. NO.	TERMS	REP	SHIP DATE	SHIP VIA	FOR	PROJECT
	Net 30		8/15/99	Mail		

DESCRIPTION	QTY	RATE	AMOUNT
Thin Sections	4	12.00	48.00T
Offcuts	4	0.75	3.00T
Kspar Staining	4	2.00	8.00T
Report By Jeff Harris		360.00	360.00T
Shipping		7.50	7.50T
Business Number: 10548 4687			

	29.86
	0.00
TOTAL	$456.36

cheque rec'd - 400.00

Bal 56.36

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: 26/07/99

WO# 05687

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
	Sample Preparation:		
4	Rock/D.C. Sample Preparation	5.00	20.00
51	Soil/Sediment Sample Preparation	2.00	102.00
	Analyses:		
55	Au + 30	16.00	880.00
55	Hg (Vapour Generation)	6.00	330.00

Subtotal	1332.00
GST @7% (R 121285662)	93.24
Total due on receipt of invoice	$1,425.24

2% per month charged on overdue accounts

4 ASSAY COUPONS (\$54.00)

PAID CK#005 JR NET \$1371.24

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: 03/08/99

WO# 05700

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
	Sample Preparation:		
4	Rock/D.C. Sample Preparation	5.00	20.00
7	Soil/Sediment Sample Preparation	2.00	14.00
	Analyses:		
10	Au + 30	16.00	160.00
1	Au metallics fire assay + 30	37.25	37.25
11	Hg (Vapour Generation)	6.00	66.00

Subtotal	297.25
GST @7% (R 121285662)	20.81
Total due on receipt of invoice	$318.06

2% per month charged on overdue accounts

4 ASSAY COUPONS (64.63)

PAID CK#006

NET $253.43

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: 02/09/99

WO# 05728

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
	Sample Preparation:		
5	Rock/D.C. Sample Preparation	5.00	25.00
71	Soil/Sediment Sample Preparation	2.00	142.00
	Analyses:		
71	Au + 30	16.00	1136.00
5	Au metallics fire assay + 30	37.25	186.25
76	Hg (Cold Vapour AA)	6.00	456.00

Subtotal	1945.25
GST @7% (R 121285662)	136.17
Total due on receipt of invoice	$2,081.42

2% per month charged on overdue accounts

PAID CK# 008

12 ASSAY COUPONS

(204.63)

1876.79

CARLYLE INVOICE

LIVINGSTONE CREEK PROJECT

Geologist Field Work	(July 6 – July 27)	
	22 days @ $300/day	$ 6,600.00
	(Aug. 12 – Aug. 17)	
	6 days @ $300/day	$ 1,800.00
Assaying		$ 3,681.12
Air Charter		$ 160.50
Field Supplies (Flagging, bags, hammer, etc.)		$ 263.08
Office Supplies (Photocopying, paper, etc.)		$ 200.00
Report Writing		$ 1,500.00
	TOTAL	**$14,204.70**

LIVINGSTONE PLACER LTD.

INVOICE

Air Charters		$ 722.25
Room & Board (29 person/days @ $35/day)		$ 1,015.00
ATV Rental (3 weeks @ $125/wk)		$ 375.00
Miscellaneous Fuels & Oil		$ 200.00
	TOTAL	**$ 2,312.25**

BIG SALMON AIR

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

CHARTER TICKET
№ 2195

AC 1206 C6JSR DATE 28 July 94
NAME Livingstone Placer
ADDRESS

	Miles	Hours	Cargo	Passenger-Remarks
From YXY				
To Livingstone	50			
YXY	50			

Special Instructions

at Per Hour		
100 at 2.25 Per Mile	225	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	75
TOTAL CHARGES	240	75

Pilot's Signature
Whitehorse
Base
Max Fuerst
Charterer's Authorization

Willow Printers

SUMMIT AIR CHARTERS LTD.
GST #R120801972
P.O. Box 134
ATLIN, B.C. V0W 1A0
(604) 651-7600 Fax (604) 651-7537

CUSTOMER'S ORDER NO
PHONE
DATE 07-05-99
NAME Larry Carlyle
ADDRESS

CASH C.O.D. CHARGE ON ACCT. MDSE. RET'D. PAID OUT

Flight to LIVINGSTON			
100 mls x 1.50		150	—

SPECIAL INSTRUCTIONS:
2% Interest on Accounts Over 30 Days
pd. cheque

All claims and returned goods MUST be accompanied by this bill.

SOLD BY RECEIVED BY

SUB-TOTAL		
GST	10	50
PST		
TOTAL	160	50

28143

PRODUCT 609 *Thank You*

PREPAID CASH Greyhound

CONSIGNEE PIN
ACME ANALYTICAL LABS
852 E. HASTINGS ST.
VANCOUVER BC DELIVER

SHIPPER
LARRY & MONIQUE CARLYLE PIN

WHITEHORSE YT 633 3910
REFERENCE:

1 BOX

EXPRESS	23:75
DELIVERY	3:75
GSTBC	1:93
TOTAL	29.43

STATION TO STATION

SHIPPER RECEIPT

IABILITY LIMITED TO $50 FOR LOSS OR DAMAGE HOW
NLESS A GREATER VALUE DECLARED AT TIME OF SHIP
ERMS AND CONDITIONS OF CARRIAGE FOR DETAILS OR

BIG SALMON AIR

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

CHARTER TICKET
№ 2050

AC U206 CGJSR DATE 17 Aug 99

NAME Livingstone Placer

ADDRESS

	Miles	Hours	Cargo	Passenger-Remarks
From YXY				
To Liv.	50			
YXY	50			

Special Instructions		
at Per Hour		
100 at 2.25 Per Mile	225	
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	75
TOTAL CHARGES	240	75

Ukjise van Kampen
Pilot's Signature

Whitehorse
Base

Mary [illegible]
Charterer's Authorization

Willow Printers

BIG SALMON AIR

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

CHARTER TICKET
№ 2044

AC CESSNA 206 JSR DATE Aug 12, 99

NAME LIVINGSTONE PLACER

ADDRESS WHITEHORSE

	Miles	Hours	Cargo	Passenger-Remarks
From XY				
To LIV				
XY				

Special Instructions		
at Per Hour		
100 at 2.25 Per Mile	225.	00
Waiting Time at Per Hour		
Fuel gals @ Per Gallon		
GST # R126985522	15	75
TOTAL CHARGES $	240	75

David Young
Pilot's Signature

Base

Charterer's Authorization

Willow Printers

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: 49045

DATE IN: 14 June 99
DATE REQ'D.:
RUSH: ☐
JOB OR PROJ.:
P.O. NO.: Cash Sale

CUSTOMER: Larry Carlyle
ADDRESS:
CONTACT:
PHONE:

	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	Repair to Thommen Altimeter							99.00
	Mail.							5.00
	PAID VISA							

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

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

SUB TOTAL	104.00
G.S.T.	7.28
TOTAL	111.28

Docket No.

integraphics 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: 49680

DATE IN: Aug 5/99

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	bear Spray							39.95
	holster							7.95
	Geological hammer							44.85
	On Visa							

SUB TOTAL	92.75
G.S.T.	6.49
TOTAL	99.24

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

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

Docket No.

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: 50994

DATE IN: Dec 7'99

CUSTOMER: Carlyle, Larry

DATE REQ'D.: Dec 7'99

ADDRESS:

RUSH: ☐

JOB OR PROJ.:

CONTACT:

PHONE: 633-3910

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		1	6	BLACK / [✓ BLUE LINE]	30x60	75	.25	18.75
				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								

SUB TOTAL 18.75

G.S.T. 1.31

TOTAL 20.06

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

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

Docket No.

094082

CAM CLAIMS
NTS MAP 105 E/8
SCALE 1:10,000
28°
N
W. CARLYLE
MENDOCINA
Bedrock Geology
Legend
Ag Amphibolitic Gneiss
QSS Quartz Sericite Schist
CS Chlorite Schist
LGP Limy Graphitic Phyllite
SL Silicified Limestone
L Limestone
Q Quartzite
QBG Quartz Biotite Gneiss
QBS Quartz Biotite Schist
Sk Skarn
P Pyroxenite
BSF Big Salmon Fault
ROAD Road
Known Fault Contact
Approximate Fault Contact
Assumed Fault Contact
BSF
C
DYCER CREEK ROAD
1000
Ag
F
SALMON
SK
LITTLE
VIOLET
CREEK
1100
BSF
B I G
1200
1400
COTTONEVA
QBG
CREEK
RIVER
QSS
WAGON ROAD
LIVINGSTONE
AIRFIELD
LAKE
CREEK
1599
1500
(P E L
ROAD
LIMERS
CREEK
1555
LGP
SL+Q
CS
LIVINGSTONE
CREEK
QSS + LGP
ADIT
LIVINGSTONE
986
900
800
1200
QSS + QBS
SL