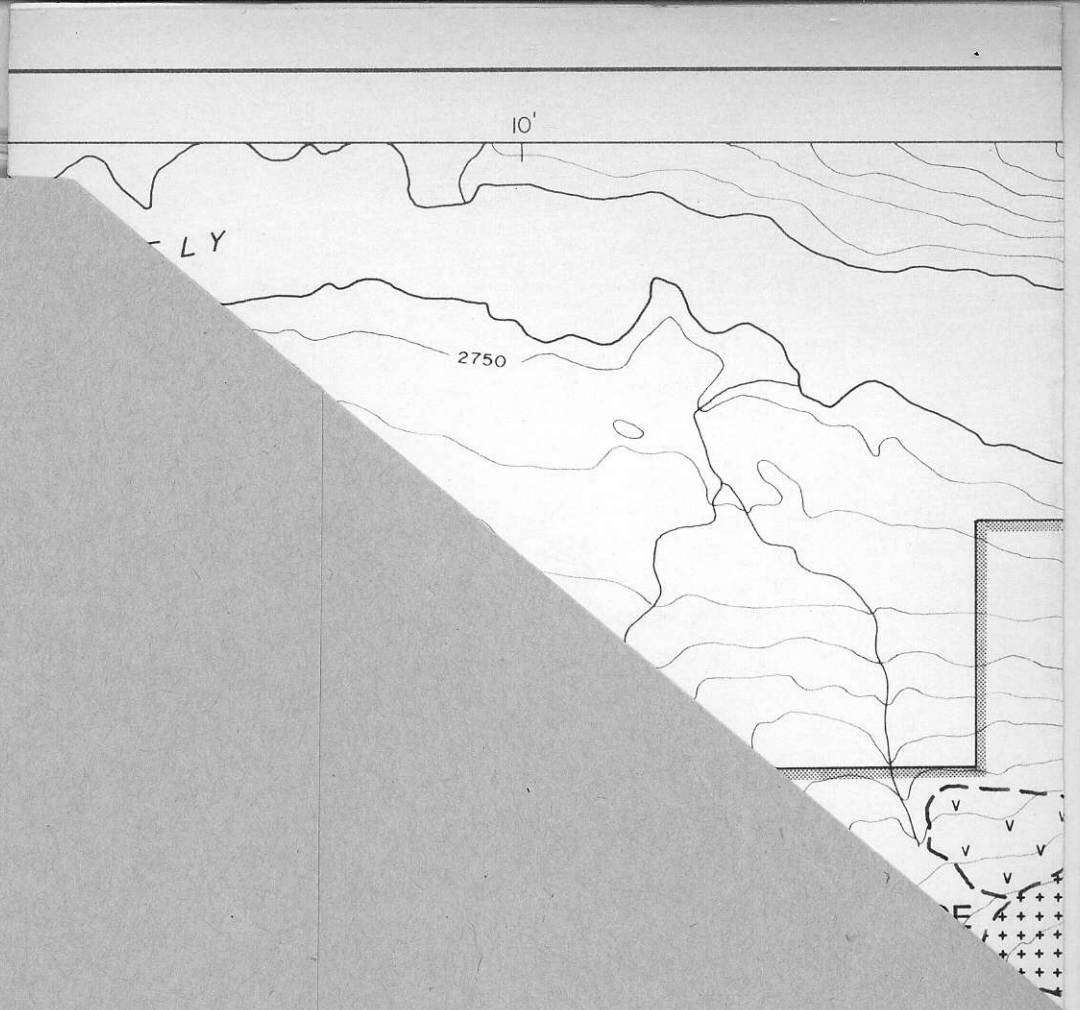
LEMON LAKE Cu/Au Prospect

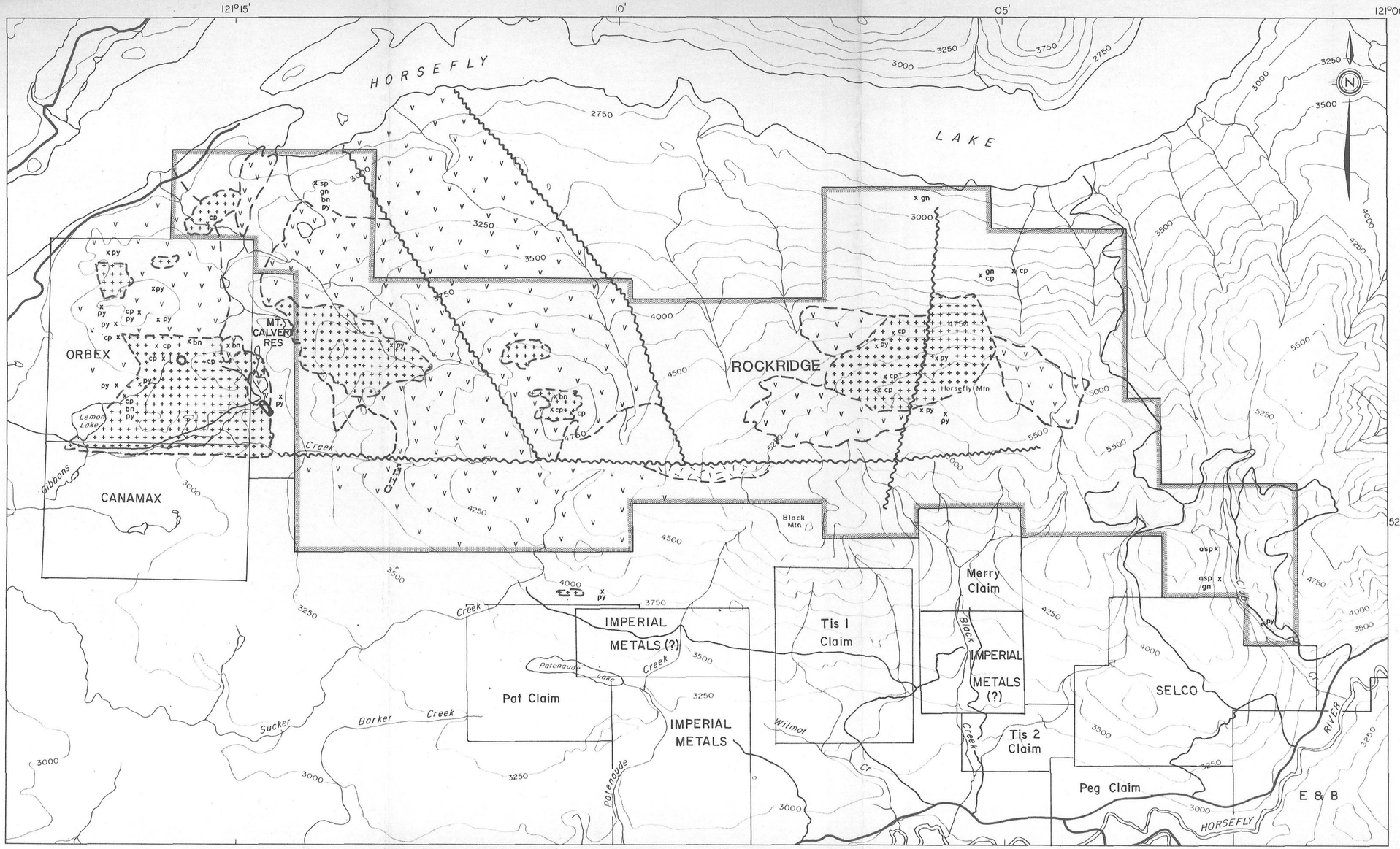
DATA COMPILATION

93 A/6 - Cariboo M.D.

520532



Fox - 1981 - Geochem (Au+Cu)
Geology



LEGEND

UPPER TRIASSIC TO LOWER JURASSIC QUESNEL RIVER GROUP

- Conglomerate, siltstone, greywacke
- Basalt, trachy basalt, lapilli tuff, tuff breccia
- Diorite, monzonite, syenodiorite
- Gabbro

x Mineral occurrence

- py - pyrite
- gn - galena
- cp - chalcopyrite
- bn - bornite
- sp - sphalerite
- asp - arsenopyrite

O Percussion Drill Hole 1974
21 - 43m 0.25% Cu, 0.34 g/tonne Au

Trench 21m 0.23% Cu, Au not available

Two wheel drive road

Four wheel drive road (approximate)

Geology after R.L. Morton (1976) Ph D Thesis – Carleton U

inches 0 1 2
centimetres 0 1 2 3 4 5

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

ROCKRIDGE MINING CORPORATION

GIBBON AND EQUUS CLAIMS

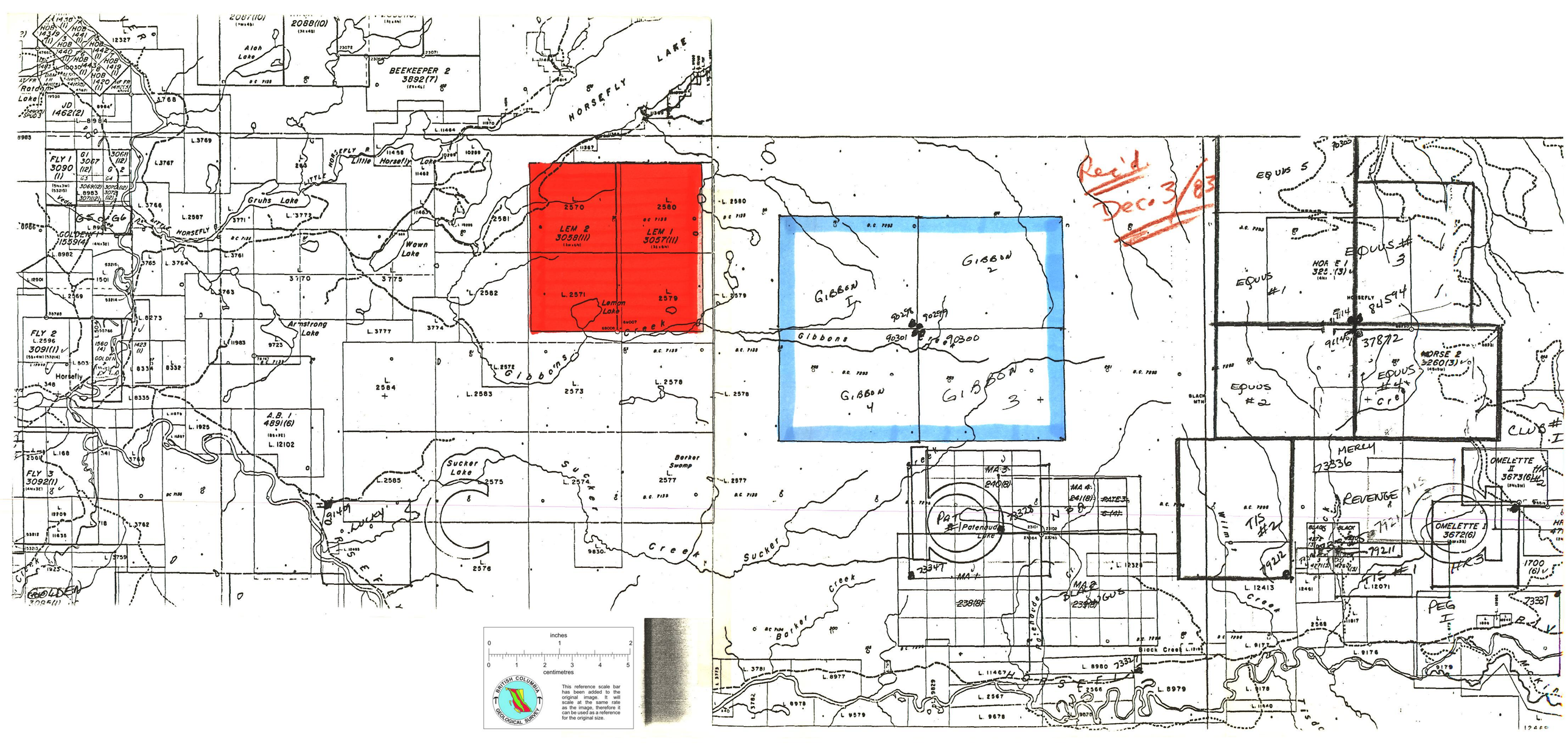
QUESNEL TROUGH AREA

CARIBOO MINING DIVISION, B.C.

SCALE – 1:50,000

0 1 2 3 Km

0 1 2 Miles


LEM 2
3058(III)
LEM 1
3057(III)
Reid
Dec. 3/83
GIBBON 2
GIBBON 1
GIBBON 4
GIBBON 3
EQUUS #1
EQUUS #2
EQUUS #3
EQUUS #4
HORSE 2
3260(3)
OMELETTE I
3672(6)
OMELETTE II
3673(6)
REVENGE
PEG 1
Horsefly Lake
Little Horsefly Lake
Gruhs Lake
Wown Lake
Armstrong Lake
Lemon Lake
Sucker Lake
Patenaude Lake
Black Creek
Horsefly
Gibbons Creek
Sucker Creek
Barker Creek
Raisbrook Creek
Wilmot Creek
inches
centimetres
BRITISH COLUMBIA GEOLOGICAL SURVEY
This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

93 A/6

L6

L 2570

L 2580

L 2571

L 2579

Lemon Lake

SYMBOLS

- Geological contact
- Fault
- Trench
- Precussion Drill Hole
- Strike and Dip
- Outcrops (colour for unit)

Pyroclastic Rocks

- 6 Laharic Breccia
- 4 Lapilli Tuff - Tuff Breccia

Volcanoclastic Rocks

- 3 Conglomorate - Siltstone

Flow Rocks

- Trachy Basalt
- Alkali Basalt

Intrusive Rocks

- Nepheline Syenodiorite
- 12 Nepheline Tephrite
- Syenite
- 10 Monzonite
- Syenodiorite
- Hornblende Diorite
- Alkali Gabbro
- Olivine Gabbro

inches
0 1 2
centimetres
0 1 2 3 4 5

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

- 15 Glacial Deposits and Recent Alluvium; Till, Sand, Gravel, Silt, and Clay
- Tertiary Flows and Sedimentary Rocks

93 A/6

L6

80+00 N

50+00 N

85+00E

100+00E

L7

L8

L 2570

L 2580

L 2670

LEM 2

LEM 1

Lemon Lake

LCP

LEGEND

Sample site (soil)

Au - 29ppb

Au-ppb
Ag-ppb
Cu-ppm
As-ppm

FOX GEOLOGICAL CONSULTANTS LTD.

ORBEX MINERALS LIMITED
LEMON LAKE PROSPECT
GEOCHEMICAL MAP

Geochemical Report on the NEM Claim
by S.L. Topham & P.E. Fox

1:5,000
93A/6
2-2-82

inches
centimetres

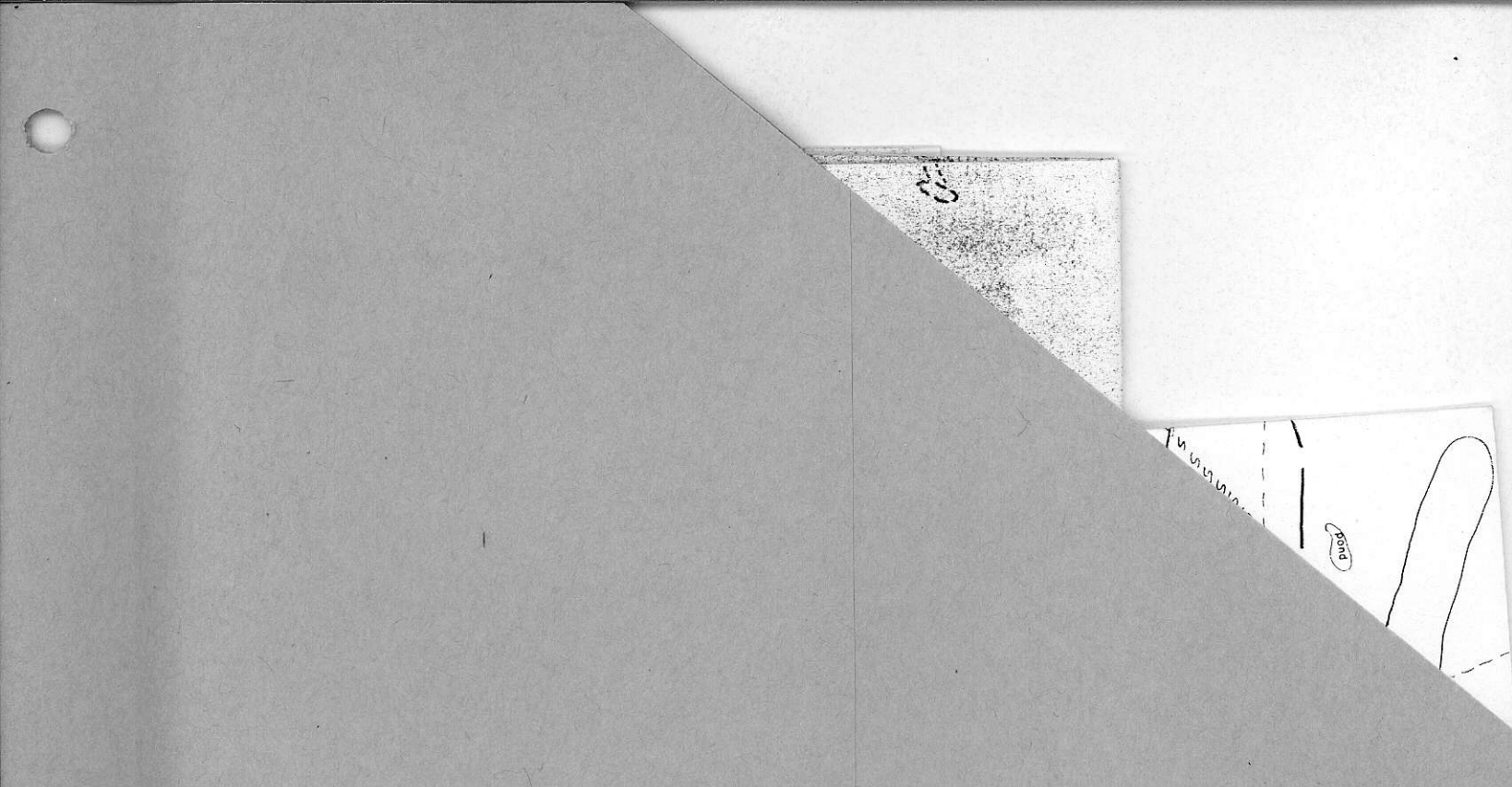
This reference scale bar has been added to the original plan to show the scale at the same ratio as the image, therefore it can be used as a reference for the original size.

Cu
+100 ppm

As +75 ppm
(no anom.)

Au + 20 ppb
40
60

1:5000



HBOG - 1975 Geol. Compil. (2)

CZ CLAIMS
FLY CLAIMS

CZ-4

pond

74-L-1
74-L-2
74-L-3
74-L-4
74-L-5
74-L-6
74-L-7
74-L-8
74-L-9
74-L-10

Pyrite zone

Zone of secondary biotite with pyrite and chalcopyrite

Zone of secondary orthoclase with chalcopyrite and with or without bornite

CHAIN LAKE

LEMON LAKE

LONG LAKE

LEGEND

- Area underlain by syenodiorite
- Area underlain by monzonite
- Outline of property boundary (approximate)
- 10 Induced polarization, contours in millivolts/volt
- Inferred fault
- Diamond drill hole, Noranda-1973, on CZ claims
- Percussion drill hole, H.B.O.G. - 1974
- Outer limit of zeolite alteration
- Pyrite zone
- Zone of secondary biotite with pyrite and chalcopyrite
- Zone of secondary orthoclase with chalcopyrite and with or without bornite
- Skarn showing

39

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

1" = 800'

400 200 0 400 800 1200
SCALE IN FEET

Hudson's Bay Oil and Gas Company Limited
MINERALS EXPLORATION
VANCOUVER BRITISH COLUMBIA

QUESNEL TROUGH PROJECT

COMPILATION MAP

Lemon lake copper prospect

MAP	DATE	BY	SCALE	N.T.S.
FIG 9	JAN 21, 75	M.L.L.	1cm=48m 1inch=400ft	93A/6

Mt. Calv.

W

CROSS SECTION (E-W)

CROSS SECTION (N-S)

S

LEMON LAKE

LONG LAKE

CHAIN LAKE

LEGEND

14 Tertiary flow and sedimentary rocks

LOWER – MIDDLE JURASSIC INTRUSIVE ROCKS

13 Nepheline syenodiorite

12 Nepheline tephrite

11 Syenite

10 Monzonite

9 Syenodiorite

8 Hornblende diorite

7 Alkali gabbro

6 Olivine gabbro

PYROCLASTIC ROCKS

5 Laharic breccia

4 Lapilli tuff – tuff breccia

VOLCANICLASTIC ROCKS

3 Conglomerate – siltstone

FLOW ROCKS

2 Trachy basalt

1 Alkali basalt

SYMBOLS

Geological contact

Outcrop

Area of frost heaved boulders

Swamp

Fault

Claim post located

Road

Trench

$\odot_S$ Percussion drill hole

400 200 0 400 800 1200

SCALE IN FEET

inches

centimetres

This reference scale bar has been added to the original image. It will shrink or expand with the image as the image, therefore it can be used as a reference for the original size.

GEOLOGY

Lemon Lake Prospect

MAP	DATE	BY	SCALE	N.T.S.
Fig 6	Jan. 7, 75	M.L.L.	1cm=48m 1"=400 ft.	93 A/6

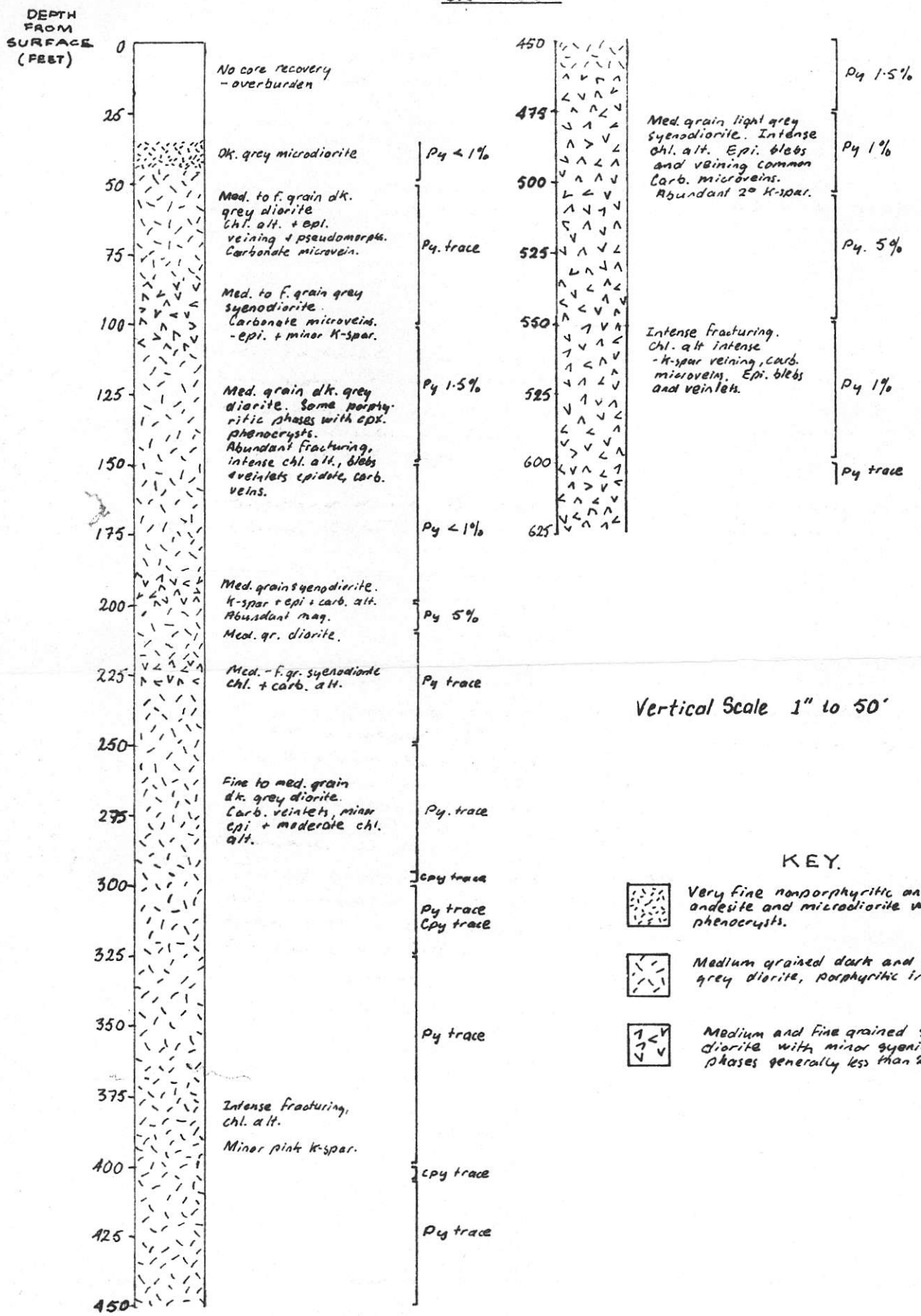
HBOG- 1974- PDH 1-11*

Logs & Assays.

Note:
*
Au assays in
74 L-4
*

D.D.H. NZ 73-2

CZ GROUP



Vertical Scale 1" to 50'

KEY.

Very fine nonporphyritic and porphyritic andesite and microdiorite with augite phenocrysts.

Medium grained dark and medium grey diorite, porphyritic in places.

Medium and fine grained syeno-diorite with minor syenitic phases generally less than 2' wide.

PERCUSSION

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-1

LOCATION: QUESNEL TROUGH

LATITUDE: 10+00N DEPARTURE: 24+00E
DIP: -90°
AZIMUTH: -
STARTED: June 14, 1974
COMPLETED: June 14, 1974
PURPOSE: Test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3012.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

CLAIM NO: FLY #26
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 22/74

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	200	Biotite augite syenodiorite and lesser monzonite	74L-1-1	10	20	10	3	143	38	94	1.2
		- cream-white to light pink grey; medium grained; 15-20% pink	-2	20	30	10	5	335	46	148	1.4
		K-feldspar, 5% augite, 3-5% phlogopite-rimmed biotite; 1-2%	-3	30	40	10	6	165	53	106	1.3
		secondary biotite, remainder is plagioclase with minor diopside (?),	-4	40	50	10	5	335	54	200	1.4
		apatite, 0.5% hematite, epidote, 0.25% pyrite; estimated Cu less	-5	50	60	10	3	120	38	113	1.6
		than 0.1%.	-6	60	70	10	3	235	38	164	1.5
			-7	70	80	10	4	375	30	133	1.6
		30'-50' increasing hematite as disseminations in feldspars	-8	80	90	10	3	110	33	130	2.0
		50'-60' lesser sulfides; leucocratic ;felsic or monzonite dyke?	-9	90	100	10	3	182	34	135	1.9
		60'-80' syenodiorite	-10	100	110	10	3	270	29	145	1.8
		80'-100' increasing K-feldspar alteration and light green	-11	110	120	10	3	380	19	123	1.6
		alteration of plagioclase; trace disseminated pyrite,	-12	120	130	10	3	295	20	145	1.9
		hematite staining locally; increasing secondary	-13	130	140	10	4	245	22	109	1.4
		biotite.	-14	140	150	10	5	191	21	140	1.8
		100'-140' increasing sulfides; disseminated hematite in syenite	-15	150	160	10	4	565	22	142	2.1
		or K-feldspar; chloritization and epidote alteration	-16	160	170	10	4	200	30	157	1.8
		increasing.	-17	170	180	10	4	275	47	132	1.5
		140'-150' increasing leucocratic nature; ie more monzonitic.	-18	180	190	10	4	290	53	190	1.5
			74 L-1-19	190	200	10	3	440	38	150	1.8

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-1

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			
		150'- 160' syenodiorite									
		160'- 170' increasing pyrite to 0.25%; trace chalcopyrite									
		170'- 180' epidote alteration prevalent									
		180'- " " "									
		190'- 200' more monzonitic; light green-grey alteration									
		increases.									
200'		END OF HOLE									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-2

LOCATION: QUESNEL TROUGH

LATITUDE: 14+75N DEPARTURE: 24+00E
DIP: -90°
AZIMUTH: -
STARTED: June 15, 1974
COMPLETED: June 15, 1974
PURPOSE: Test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 2992'

DRILLED BY: H.N. Horning
DRILLED FOR:

CLAIM NO: FLY #25
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 22/74

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	200	Augite biotite syenodiorite and speckled biotite monzonite	74L-2-1	10	20	10	3	230	27	69	1.3
		-pink-grey to grey: medium grained; monzonite more leucocratic	-2	20	30	10	2	110	35	68	1.2
		with speckled, black appearance; increased K-feldspar, biotite,	-3	30	40	10	2	113	25	93	1.4
		epidote, chlorite alteration near monzonite phases; increasing	-4	40	50	10	1	198	27	80	1.4
		monzonite with depth; pyrite increases from 0.5 to 2.0%;	-5	50	60	10	2	320	30	95	1.5
		py:cpy=20:1; estimate 0.1% Cu at end of hole; more favourable zones	-6	60	70	10	4	260	33	100	1.6
		may occur as greater depth based on alteration.	-7	70	80	10	3	240	34	160	1.5
			-8	80	90	10	3	209	23	84	1.4
		10'-20' coarse, dark grey chips of syenodiorite; trace pyrite;	-9	90	100	10	2	260	26	109	1.4
		pink K-feldspar alteration; weathered zone?	-10	100	110	10	3	160	21	75	1.5
		20'-40' phlogopite-altered, biotite speckled monzonite; 7%	-11	110	120	10	3	119	33	280	1.3
		biotite; 2-3% augite; 0.5% disseminate pyrite, trace	-12	120	130	10	3	140	14	73	1.1
		chalcopyrite.	-13	130	140	10	3	135	22	90	1.4
		40'-50' increasing K-feldspar	-14	140	150	10	8	165	18	47	1.2
		50'-60' syenodiorite with 20% pink feldspar; 0.25% pyrite;	-15	150	160	10	4	167	20	101	1.2
		3-5% biotite; 5% pyroxene; 0.5% hematite	-16	160	170	10	4	170	15	51	1.1
		60'-70' lesser sulfides and alteration	-17	170	180	10	2	108	16	65	1.2
		70'-80' increasing epidote; py:cpy=20:1, 1% sulfides.	-18	180	190	10	3	135	17	69	1.2
			74L-2-19	190	200	10	3	132	16	60	1.2

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIM

HOLE NO: 74 L-2

FOOTAGE from	FOOTAGE to	DESCRIPTION
		80'-100' more monzonitic; less sulfides.
		100'-110' monzonite; weaker K-feldspar, secondary biotite
		110'- 120' more chlorite-epidote-pyrite; strong secondary biotite
		altered syenodiorite fragments: 1-2% pyrite; 0.5%
		hematite; trace chalcopyrite
		120'-130' lesser syenodiorite
		130'-140' 1-2% sulfides, mainly pyrite; increased secondary biotite
		to 2%; 3-4% phlogopite rimmed biotite; lesser pyroxene
		140'-150' 2% disseminated pyrite; trace chalcopyrite
		160'-170' 7% biotite; 1-2% pyroxene
		170'-200' increasing K-feldspar alteration; decreasing py:cpy ratio
200		END OF HOLE

SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			

PERCUSSION
DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-3

LOCATION: QUESNEL TROUGH

LATITUDE: 17+40 DEPARTURE: 24+00E
DIP: -90°
AZIMUTH: -
STARTED: June 16, 1974
COMPLETED: June 16, 1974
PURPOSE: To test combined geo-anomaly

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 2983'
DRILLED BY: H.N. Horning
DRILLED FOR:

CLAIM NO: FLY #25
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 22/74

FOOTAGE from	FOOTAGE to	DESCRIPTION
0	20	Overburden
20	200	Variably propylitized biotite monzonite
		- black speckled, medium grained with local dark grey biotite-rich
		zones; local chlorite-epidote altered zones with up to 3%
		disseminated pyrite; secondary biotite up to 3%; augite 1-2%;
		hematite (in K-feldspar zones) about 0.5%; traces of chalcopyrite
		increasing with depth but less than 0.1% Cu (est.); hole should be
		deepened as favourable alteration and mineralization increasing
		with depth.
		20'-30' coarse, rubbly biotite syenodiorite; 1-2% disseminated
		pyrite
		30'-40' monzonite; best pyrite in biotite altered zones
		40'-50' increasing chlorite-epidote alteration
		50'-70' 2% pyrite dissemination in biotite monzonite; stronger
		epidote-chlorite
		70'-80' increasing K-feldspar to 10% with disseminated hematite
		but may be later (post sulfide) veins; lesser pyrite
		80'-110' as in 50'-70'

SAMPLE NO.	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
74L-3-1	20	30	10	1	240	17	84	1.1
-2	30	40	10	1	309	20	90	1.2
-3	40	50	10	2	235	19	91	1.2
-4	50	60	10	2	187	27	97	1.4
-5	60	70	10	1	188	48	157	1.5
-6	70	80	10	1	109	17	109	1.5
-7	80	90	10	2	100	23	131	1.5
-8	90	100	10	2	117	22	125	1.4
-9	100	110	10	1	215	19	106	1.3
-10	110	120	10	2	175	21	125	1.4
-11	120	130	10	1	173	17	140	1.4
-12	130	140	10	2	510	20	111	1.7
-13	140	150	10	2	210	16	83	1.4
-14	150	160	10	3	167	25	120	1.4
-15	160	170	10	2	210	22	120	1.3
-16	170	180	10	2	74	18	100	1.2
-17	180	190	10	1	103	42	140	1.4
74L-3-18	190	200	10	2	94	25	105	1.4

FOOTAGE		DESCRIPTION	SAMPLE	FOOTAGE		LENGTH	%	ASSAYS			
from	to		NO	from	to		REC				
		110'-130' strong propylitic alteration; 2-3% pyrite; some secondary biotite									
		130'-140' some hematite in white K-feldspar?									
		140'-160' as in 50'-60'									
		160'-170' biotite altered monzonite; 5% pink K-feldspar; local strong chlorite-epidote; 2% pyrite; trace chalcopyrite									
		170'-180' increasing epidote									
		180'-190' moderately increasing K-feldspar alteration; lesser sulfides; 1% pyrite-mostly in propylitic alteration zones; py:cpy=10"1; trace fine chalcopyrite									
		190'-200' weak to moderate K-feldspar; pyrite									
200		END OF HOLE									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-4

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY #25
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 22/74

LATITUDE: 17+50N DEPARTURE: 28+00E
DIP: -90°
AZIMUTH: -
STARTED: June 16, 1974
COMPLETED: June 17, 1974
PURPOSE: Test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 2995.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	Au	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden										
10	80	Weakly K-feldspar altered biotite monzonite	74L-4-1	10	20	10	10	3	69	22	90	1.2
		-black speckled, medium grained; 5% primary biotite; 1-2% pyroxene;	-2	20	30	10	40	1	441	23	76	1.2
		weak to moderate secondary biotite; py:cpy=3:1 or greater; 2% total	-3	30	40	10	20	1	226	25	105	1.4
		sulfides.	-4	40	50	10	330	2	915	25	67	1.6
80	180	Moderately K-feldspar altered biotite monzonite	-5	50	60	10	40	3	260	27	102	1.6
		80'-90' chalcopyrite mineralized, biotite monzonite;	-6	60	70	10	70	3	900	25	105	1.6
		chalcopyrite as disseminations and fracture fillings	-7	70	80	10	160	4	1520	21	72	1.8
		in K-feldspar altered zones; py:cpy=2:1; approximately	-8	80	90	10	180	4	1720	25	90	2.2
		1 1/2% sulfides; Cu=0.25% (est.); probably up to 50%	-9	90	100	10	690	3	7000	26	103	3.4
		of Cu values lost due to flotation of fine cpy.	-10	100	110	10	520	2	2880	35	137	2.5
		90'-100' moderately strong chalcopyrite in biotite, K-feldspar	-11	110	120	10	270	2	1400	30	121	2.4
		altered monzonite; est. 0.35-0.40% Cu; py:cpy=1:1.	-12	120	130	10	370	2	1200	25	94	1.6
		100'-110' 0.30 - 0.35% Cu (est.)	-13	130	140	10	170	3	1920	22	104	2.2
		110'-130' lesser K-feldspar alteration; est 0.20 - 0.25% Cu	-14	140	150	10	80	3	580	20	91	1.4
		130'-140' local epidote-chlorite; py:cpy-1.5:1; 30-35% K-	-15	150	160	10	40	3	790	40	489	3.0
		feldspar; 0.25% Cu (est.)	-16	160	170	10	70	3	1120	35	550	4.5
		140'-160' 0.20% Cu (est.); lesser K-feldspar	-17	170	180	10	80	2	940	34	319	2.0
		160'-170' decreasing K-feldspar and sulfides; more fine grained	-18	180	190	10	170	3	1280	45	312	2.2
			74L-4 -19	190	200	10	20	3	256	17	72	1.1

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-4

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			
		chalcopyrite; py:cpy=2:1; local chlorite-epidote;									
		est. 0.15 - 0.20% Cu									
		170'-180' as in 140'-160'									
180	200	Strongly K-feldspar altered biotite monzonite									
		180'-190' strong K-feldspar alteration (40-45%); 1% sulfides;									
		py:cpy=1:1; 0.2% Cu (est.); becoming more syenitic									
		and less sulfide-bearing									
		190'-200' decreasing mafics; some hematite in K-feldspar									
		fragments; decreasing sulfides; chalcopyrite; mostly									
		fine, disseminated chalcopyrite; 0.15% - 0.20% Cu; hole									
		should be deepened.									
200		END OF HOLE									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-5

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY # 25
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 22/74

LATITUDE: 17+50N DEPARTURE: 32+00E
DIP: -90°
AZIMUTH: -
STARTED: June 17, 1974
COMPLETED: June 18, 1974
PURPOSE: To test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3009.5

DRILLED BY: H.N. Horning
DRILLED FOR:

FOOTAGE from	FOOTAGE to	DESCRIPTION
0	10	Overburden
10	200	Variably K-feldspar altered syenodiorite to biotite monzonite
		- light pink grey to grey: medium grained: variable K alteration
		consisting of K-feldspar and secondary biotite increasing with
		depth but no increase or change in sulfide content; local
		saussuritized zones; sulfides up to 0.5% with py:cpy greater
		than 20:1, specular hematite in K-feldspar fragment.
		10'-20' coarse rubble of syenodiorite fragments
		20'-40' K-feldspar altered syenodiorite; disseminated
		hematite in K-feldspar fragment; moderate to
		strong secondary biotite dissemination throughout
		with 1/2% pyrite; also 3-5% phlogopite or brown
		biotite; trace chalcopyrite
		40'-50' local chlorite altered of pyroxene (augite and
		lesser diopside) also epidote and albite?; 0.25%
		sulfide, py:cpy = 20:1
		50'-60' stronger secondary biotite; less K-feldspar; 0.5%
		pyrite; more diorite

SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
74L-5-1	10	20	10	2	142	17	73	0.9
-2	20	30	10	1	123	35	125	1.3
-3	30	40	10	2	147	55	168	1.6
-4	40	50	10	2	83	28	99	1.5
-5	50	60	10	2	123	53	167	1.5
-6	60	70	10	3	117	86	293	1.6
-7	70	80	10	2	37	25	126	1.2
-8	80	90	10	2	62	34	130	1.5
-9	90	100	10	3	65	24	100	1.6
-10	100	110	10	2	104	25	120	1.2
-11	110	120	10	2	69	22	111	1.2
-12	120	130	10	3	90	21	83	1.1
-13	130	140	10	2	67	20	69	1.2
-14	140	150	10	2	39	25	61	1.2
-15	150	160	10	2	74	25	76	1.4
-16	160	170	10	2	447	25	84	1.6
-17	170	180	10	2	112	20	98	1.3
-18	180	190	10	2	93	21	87	1.6
74L-5-19	190	200	10	2	78	23	71	1.5

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-5

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			
		70'-80' 25% K-feldspar, 0.25% pyrite, 0.5% hematite in K-feldspar zones. Light green alteration of plagioclase (saussurite-epidote-carbonate-albite) decreasing secondary biotite; 0.25% pyrite.									
		90'-100' as in 70'-80'									
		100'-110' increasing secondary biotite; lesser K-feldspar; 0.25% pyrite.									
		110'-130' 35%-40% K-feldspar ie, almost monzonite; 0.5% hematite less than 0.25% pyrite; phlogopitic biotite and therefore secondary alteration not as strong as indicated by total black biotite which is mostly primary									
		130'-160' light pink grey monzonite with 45-50% pink K-feldspar; 30% white feldspar; 10% biotite with half secondary; little or no saussurite alteration; 0.5% hematite; 1-2% carbonate; less than 0.25% pyrite									
		160'-180' more syenodioritic 30% K-feldspar alteration; strong secondary biotite; 0.5% sulfides with trace chalcopyrite.									
		180'-200' 3-5% primary biotite, 5-7% secondary; 20% K-feldspar; less than 0.25% sulfide-alterated pyrite; good alteration but no mineralization of interest indicated to increase with depth.									
200		END OF HOLE									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-6

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY #25
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

LATITUDE: 14+00N DEPARTURE: 32+00E
DIP: -90°
AZIMUTH: -
STARTED: June 18, 1974
COMPLETED: June 18, 1974
PURPOSE: To test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3064.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	200	Biotite monzonite to syeno-monzonite	74L-6-1	10	20	10	1	227	80	147	1.5
		-pink-grey to light pink-cream; medium grained; more prominent	-2	20	30	10	1	60	30	138	1.6
		fragments of propylitic altered syenodiorite in upper 50' but	-3	30	40	10	2	63	30	164	1.9
		decreasing with depth; also decrease in sulfides to trace amounts;	-4	40	50	10	2	93	45	295	2.0
		no chalcopyrite of interest; specular hematite, K-feldspar,	-5	50	60	10	3	43	35	268	1.8
		secondary biotite, albite and minor carbonate alteration; probably	-6	60	70	10	2	56	30	157	1.8
		grades into syenite with depth.	-7	70	80	10	2	76	40	143	1.7
		10'-20' coarse rubble of syenodiorite	-8	80	90	10	3	85	35	145	1.6
		20'-30' syenodiorite with biotite-pyroxene diorite fragments;	-9	90	100	10	3	109	40	210	1.7
		1% disseminated pyrite and trace chalcopyrite;	-10	100	110	10	2	79	45	165	1.6
		moderate K-feldspar alterated zones with specular	-11	110	120	10	2	51	45	127	1.5
		hematite; local epidote with K-feldspar.	-12	120	130	10	3	63	20	110	1.1
		30'40' hematitic biotite monzonite or strongly K-feldspar	-13	130	140	10	2	35	20	93	1.1
		altered syenodiorite; 50-60% K-feldspar; 5% black	-14	140	150	10	3	39	20	90	1.2
		biotite; minor pyroxene; epidote; 1-1.5% hematite;	-15	150	160	10	3	37	25	90	1.4
		0.25% pyrite in dioritic xenoliths	-16	160	170	10	4	39	25	97	1.5
		40'-50' same as (30'-40')	-17	170	180	10	3	43	30	107	1.5
		50'-60' increasing primary biotite; less than 0.25% sulfides	-18	180	190	10	2	33	27	97	1.3
			74L-6-19	190	200	10	3	33	20	107	1.4

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-6

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS
		60'-70' syeno-monzonite						
		70'-90' more monzonitic to syenodioritic with increasing pyrite in diorite fragments						
		90'-110' increasing epidote-chlorite alteration; 40-45% K-feldspar; 7% black biotite; 0.25% sulfides; trace chalcopyrite.						
		110'-130' increasing secondary biotite in monzonite or syeno-monzonite; xenoliths of propylitic altered syeno-diorite are less than 5%						
		130'-200' biotite syenomonzonite to syenite; trace sulfides only; 55-65% K-feldspar, 10% white albite; 15% saussuritized glagioclas; 5% primary biotite, 2% secondary biotite; 0.5% hematite; trace pyrite; no lithologic change with depth.						
200		END OF HOLE						

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-7

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY #25

LATITUDE: 13+70 DEPARTURE:
DIP: -90°
AZIMUTH: -
STARTED: June 19, 1974
COMPLETED: June 19, 1974
PURPOSE: To test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3014.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	Mo ppm	ASSAYS Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	200	Variably K-feldspar-biotite altered syenodiorite	74L-7-1	10	20	10	1	130	25	107	1.2
		-dark pink-grey to light pink-cream; medium grained; up to 10%	-2	20	30	10	2	148	25	118	1.9
		primary biotite; 5% secondary biotite; local K-feldspar alteration	-3	30	40	10	2	190	35	116	1.8
		is moderate to strong with some epidote; later albite-carbonate	-4	40	50	10	3	500	30	103	2.0
		veinlets; post-sulfide, hematitic K-feldspar veins; sulfide	-5	50	60	10	4	410	25	106	2.0
		content of local interest with some chalcopyrite in dioritic	-6	60	70	10	4	750	30	179	2.0
		fragments or phases; up to 1.5% sulfides; py:cpy=20:1 to less	-7	70	80	10	3	810	30	157	2.0
		than 10:1; estimated less than 0.1% Cu for entire hole but large	-8	80	90	10	4	420	25	121	1.9
		proportion floated due to fine grained nature,	-9	90	100	10	2	110	20	74	1.6
		10'-20' coarse rubble of pyritic syenodiorite	-10	100	110	10	4	79	20	76	1.8
		20'-40' K-feldspar alteration and veined syenodiorite;	-11	110	120	10	2	320	23	88	1.8
		fragments of propylitic altered diorite; K-feldspar	-12	120	130	10	3	730	25	92	1.6
		flooding with local epidote; weak to moderate secondary	-13	130	140	10	3	800	25	97	2.0
		biotite; post-sulfide K-feldspar, albite, and carbon-	-14	140	150	10	2	860	24	85	2.2
		ate veinlets; 0.5% hematite in K-feldspar; less than	-15	150	160	10	6	265	23	73	2.0
		0.25% sulfides; trace chalcopyrite in diorite	-16	160	170	10	6	470	24	103	1.8
		xenoliths (?) or phases.	-17	170	180	10	4	545	20	117	1.7
		40'-50' increasing sulfides; trace chalcopyrite.	-18	180	190	10	3	810	20	100	1.9
			74L-6-19	190	200	10	3	645	40	94	1.9

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-7

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS
		50'-60' increasing syenodiorite; sulfides = 0.5%; py:cpy=10:1; trace chalcopyrite						
		60'-80' 1% sulfides; py:cpy=15:1; est. 0.1% Cu - mostly finely disseminated in more dioritic phases						
		80'-100' increasing epidote alteration; later K-feldspar veinlets; lesser sulfides						
		100'-110' increasing K-feldspar alteration and lesser dioritic fraction; grading into monzonite as up to 35-40% K-feldspar; 10% biotite; less than 0.5% sulfides - all in altered dioritic phases.						
		110'-140' syenodiorite; increasing sulfide content with py:cpy about 10:1; minor cpy-mostly disseminated in K-altered diorite; est. 0.10-0.15% Cu.						
		140'-160' decreasing sulfides but very fine grained and large portion floats; est. 0.10% Cu.						
		160'-180' as in 110'-140'						
		180'-200' increasing K-feldspar content; lesser sulfides; appears to be unfavourable for increasing chalcopyrite at depth as amount of dioritic material decreasing.						
200		END OF HOLE						

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-8

LOCATION: QUESNEL TROUGH

LATITUDE: 10+00N DEPARTURE: 27+50E
DIP: -90°
AZIMUTH: -
STARTED: June 19, 1974
COMPLETED: June 20, 1974
PURPOSE: To test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3026.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

CLAIM NO: FLY #26
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	Mo ppm	ASSAYS Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	200	Weak K-feldspar-biotite, strong propylitic altered syenodiorite	74L-8-1	10	20	10	2	249	23	95	1.1
		to diorite.	-2	20	30	10	2	74	19	94	1.4
		-light pink-grey to dark grey; medium grained; mainly fragments	-3	30	40	10	3	283	30	130	1.7
		of black biotite speckled white feldspar-rich rock with strong	-4	40	50	10	3	527	30	167	2.0
		propylitic alteration and accompanying pyrite up to 3% by volume;	-5	50	60	10	6	395	24	78	1.6
		traces of chalcopyrite only; K-feldspar mainly as post-sulfide	-6	60	70	10	4	289	22	108	1.7
		veins with minor disseminated hematite; local moderate secondary	-7	70	80	10	4	255	30	90	1.8
		biotite; weakly magnetitic; no mineralization of economic interest.	-8	80	90	10	3	250	31	85	1.5
		10'-30' coarse syenodiorite rubble	-9	90	100	10	3	187	41	123	1.7
		30'-50' weak K-feldspar altered syenodiorite with 5% primary	-10	100	110	10	4	108	42	125	1.8
		biotite; moderate secondary biotite and propylitic	-11	110	120	10	2	102	30	87	1.6
		altered dioritic fragments with disseminated pyrite;	-12	120	130	10	4	187	70	142	1.8
		trace chalcopyrite; total sulfides - 0.5%.	-13	130	140	10	3	320	68	143	1.6
		50'-60' more dioritic with local strong pyrite mineralization	-14	140	150	10	3	173	50	173	1.4
		with primary biotite- secondary chlorite and epidote	-15	150	160	10	2	213	49	146	1.7
		zones; lesser K-feldspar and secondary biotite.	-16	160	170	10	4	268	36	83	1.5
		60'-90' same as 50'-60' but greater proportion of diorite;	-17	170	180	10	3	198	27	55	1.5
		total sulfides greater than 1%; trace chalcopyrite	-18	180	190	10	4	260	30	89	1.8
			74L-8-19	190	200	10	1	240	25	50	1.2

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-8

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			
		only; propylitic alteration strong; very weak K-feldspar									
		90'-110' increasing K-feldspar; decreasing sulfides; increasing secondary biotite									
		110'-130' K-feldspar alteration moderate in syenodiorite; 0.5% sulfides, py:cpy=20:1 or more; 10-12% biotite, local strong epidote									
		130'-150' lesser sulfides									
		150'-160' majority of K-feldspar are hematite-bearing and post sulfide; py:cpy=20:1; 1% total sulfides; stronger chlorite-epidote alteration									
		160'-200' increasing greenish pyroxene (diopside?) content; no change in sulfides and alteration; appear to be away from favourable biotite monzonite as most K-spar is post-sulfide									
200		END OF HOLE									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-9

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY #26
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

LATITUDE: 5+50 DEPARTURE: 20+00E
DIP: -90°
AZIMUTH: -
STARTED: June 20, 1974
COMPLETED: June 21, 1974
PURPOSE: To test combined geo-anomalous zone

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 3006.5'

DRILLED BY: H.N. Horning
DRILLED FOR:

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	20	Overburden									
20	110	K-feldspar veined, propylitic altered augite biotite diorite	74L-9-1	20	30	10	2	370	28	104	1.8
		-grey to dark pink-grey; medium grained; strong propylitic	-2	30	40	10	3	425	39	260	2.1
		alteration with up to 3% disseminated pyrite in black biotite	-3	40	50	10	2	273	25	124	1.4
		zones; becomes more K-feldspar altered with depth; also secondary	-4	50	60	10	1	383	25	158	1.6
		biotite.	-5	60	70	10	2	412	27	160	1.6
		20'-60' K-feldspar veined, propylitic altered augite biotite	-6	70	80	10	3	339	25	143	1.8
		diorite with 2-3% coarse disseminated pyrite;	-7	80	90	10	2	378	25	94	1.8
		chlorite alteration strong near biotite; lesser	-8	90	100	10	2	440	26	87	1.8
		epidote-carbonate; hematite in K-feldspar veinlets.	-9	100	110	10	3	550	57	150	2.2
		60'-100' more dioritic;strong propylitic alteration; up to	-10	110	120	10	8	390	35	127	1.7
		25-30% combined mafics locally but mostly black	-11	120	130	10	19	345	35	130	1.7
		biotite; 2-4% pyrite with trace chalcopyrite; may	-12	130	140	10	20	1700	56	133	2.2
		carry up to 0.05% Cu.	-13	140	150	10	5	280	35	156	2.2
		100'-110' slight increase in K-feldspar content; late albite	-14	150	160	10	5	535	32	143	2.1
		or carbonate veinlets; decrease in sulfides to	-15	160	170	10	6	540	55	170	2.1
		2% with trace chalcopyrite; weak to moderate	-16	170	180	10	17	740	30	119	2.2
		magnetically; trace secondary biotite	-17	180	190	10	13	520	40	152	1.9
			74L-9-18	190	200	10	5	545	55	181	1.9

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-9

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS
110	200	K-feldspar altered syenodiorite to biotite monzonite						
		-secondary biotite alteration increases; more chalcopyrite as						
		fine disseminations to estimated 0.15% Cu; increasing favourable						
		alteration and mineralization with depth.						
		110'-120' weak secondary biotite; finely disseminated						
		sulfides more prominent; trace chalcopyrite; est.						
		0.05% Cu.						
		120'-140' increasing chalcopyrite content locally to 0.3%						
		by volume but very erratic; est. py:cpy=5:1 with						
		0.10-0.15% Cu.						
		140'-150' increasing grey-green alteration of plagioclase;						
		increased secondary biotite and K-feldspar						
		alteration; more syenodioritic in appearance.						
		150'-160' slightly lesser K-feldspar alteration; greater						
		propylitic alteration						
		160'-170' chalcopyrite more prevalent with secondary biotite						
		sulfides=2%; py:cpy=5:1; est. 0.1% Cu; monzonitic						
		170'-180' 1% magnetite; similar to 160'-170'						
		180'-2[illegible] strong secondary biotite to 3%; py:cpy ratio about						
		3:1 or less; est. 0.15% Cu in weakly K-feldspar						
		al[illegible]ed biotite monzonite; greenish alteration						
		o[illegible] plagioclase stronger; hole should be deepened						
		if Cu assays are positive.						
200		END OF HOLE						

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-10

LOCATION: QUESNEL TROUGH

CLAIM NO: FLY #26
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

LATITUDE: 5+70N DEPARTURE: 24+00E LENGTH: 200'
DIP: -90° CORE SIZE:
AZIMUTH: - DIP TESTS:
STARTED: June 21, 1974
COMPLETED: June 21, 1974
PURPOSE: To test combined geo-anomalous zone

ELEVATION: 3006'
DRILLED BY: H.N. Horning
DRILLED FOR:

FOOTAGE		DESCRIPTION	SAMPLE	FOOTAGE		LENGTH	ASSAYS				
from	to		NO	from	to		Mo	Cu	Pb	Zn	Ag
							ppm	ppm	ppm	ppm	ppm
0	10	Overburden									
10	200	Propylitic to weak K altered biotite syenodiorite-diorite	74L-10-1	10	20	10	3	610	105	158	2.2
		-dark grey to light pink-grey; medium grained; weakly magnetitic;	-2	20	30	10	2	185	25	102	1.6
		common propylitic alteration in more dioritic phases with up to	-3	30	40	10	9	114	25	115	1.5
		2% pyrite; local zones of K-feldspar, moderate to strong biotite	-4	40	50	10	1	223	30	270	1.6
		alteration with lesser sulfides; traces of chalcopyrite; most	-5	50	60	10	2	225	35	154	1.6
		K-feldspar is post sulfide; also albite-carbonate veinlets	-6	60	70	10	7	437	31	179	1.9
		locally; hole of little economic interest.	-7	70	80	10	4	200	25	86	1.8
		10'-20' coarse dioritic rubble	-8	80	90	10	8	198	30	86	1.7
		20'-50' propylitic altered biotite syenodiorite to diorite;	-9	90	100	10	5	232	40	105	1.8
		1% pyrite; trace chalcopyrite; minor secondary	-10	100	110	10	8	120	35	95	1.8
		biotite; grey-green alteration of plagioclase	-11	110	120	10	3	119	27	93	2.1
		probably saussurite; weakly magnetitic	-12	120	130	10	2	258	25	95	1.8
		50'-90' increased secondary biotite; also K-feldspar veins	-13	130	140	10	nd	150	20	77	1.6
		with hematite; more leucocratic.	-14	140	150	10	2	112	23	71	1.8
		90'-100' approximately 2% sulfides with py:cpy=15:1; less	-15	150	160	10	2	575	55	104	1.9
		than 0.05% Cu (est.)	-16	160	170	10	2	352	26	80	1.9
		100'-110' increased K-feldspar to almost monzonitic; moderate	-17	170	180	10	2	232	24	70	1.7
		secondary biotite; 20-25% K-feldspar (mostly post-	-18	180	190	10	4	247	25	80	1.6
			74L-10-19	190	200	10	10	120	25	83	1.7

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-10

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS
		sulfide?); lesser sulfides.						
		110'-140' slightly magnetitic, biotite altered syenodiorite						
		with 1% sulfides; py:cpy=20:1; local strong						
		chlorite-epidote-carbonate alteration.						
		140'-150' K-feldspar-epidote alteration moderate; strong						
		secondary biotite; lesser sulfides; trace						
		chalcopyrite; very weak magnetically.						
		150'-160' post-sulfide K-feldspar veins; less epidote; more						
		pyrite.						
		160'-170' as in 100'-110'						
		170'-190' as in 110'-140'						
		190'-200' as in 140'-150'; mostly post-sulfide K-feldspar						
		also post-sulfide carbonate veins; no apparent						
		increase in chalcopyrite with depth and hole too						
		far south.						
200		END OF HOLE						

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-11

LOCATION: QUESNEL TROUGH

LATITUDE: 15+75N DEPARTURE: 26+00E
DIP: -90°
AZIMUTH: -
STARTED: June 22, 1974
COMPLETED: June 22, 1974
PURPOSE: To test area between 74 L-2,3,4, & 7

LENGTH: 200'
CORE SIZE:
DIP TESTS:

ELEVATION: 2995'

DRILLED BY: H.N. Horning
DRILLED FOR:

CLAIM NO:
SECTION:
LOGGED BY: M.R. Hegge
DATE LOGGED: June 23/74

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	ASSAYS Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ag ppm
0	10	Overburden									
10	130	Variably K-feldspar-biotite altered syenodiorite	74L-11-1	10	20	10	2	223	23	104	1.6
		-grey to light pink-grey; medium grained; locally hornfelsed	-2	20	30	10	4	210	35	354	2.0
		with up to 3% pyrite in secondary biotite zones; increasing	-3	30	40	10	3	590	30	156	2.0
		K-feldspar alteration with depth; also chalcopyrite content	-4	40	50	10	1	235	27	174	1.6
		although total sulfides decrease; increasing Cu content towards	-5	50	60	10	2	263	26	91	1.4
		biotite monzonite sill (?)	-6	60	70	10	4	259	34	261	1.8
		10'-20' coarse syenodiorite rubble	-7	70	80	10	3	208	40	595	2.2
		20'-30' propylitic altered syenodiorite with late K-feldspar	-8	80	90	10	3	200	30	172	1.5
		veinlets; almost non-magnetitic; up to 3%	-9	90	100	10	7	407	62	690	6.9
		disseminated pyrite in more dioritic zones.	-10	100	110	10	2	245	32	145	1.6
		30'-40' K-feldspar-biotite altered or hornfelsed syeno-	-11	110	120	10	2	157	30	130	1.6
		diorite with 2-3% total sulfides; py:cpy=15:1;	-12	120	130	10	3	330	34	125	1.6
		estimate 0.1% Cu; post sulfide K-feldspar veinlets	-13	130	140	10	2	710	47	187	1.9
		with disseminated hematite.	-14	140	150	10	2	465	52	138	1.9
		40'-50' less alteration and sulfides	-15	150	160	10	1	345	28	43	1.4
		50'-70' as in 30'-40'; increased epidote	-16	160	170	10	4	485	33	65	1.6
		70'-80' strong secondary biotite in hornfelsed syenodiorite;	-17	170	180	10	1	205	25	47	1.2
		lesser K-feldspar; 2% sulfides; py:cpy=20:1	-18	180	190	10	1	169	25	45	1.4
			74L-11-19	190	200	10	1	88	23	53	1.6

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-11

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS			
		80'-90' moderately K-feldspar altered (much post-sulfide with hematite); secondary biotite altered syeno-diorite; lesser sulfides; py:cpy=10:1.									
		90'-100' as in 70'-80'									
		100'-110' as in 80'-90'; more felsic; less sulfides									
		110'-120' K-feldspar-biotite altered syenodiorite with 2% sulfides; py:cpy=5:1; est. 0.10-0.15% Cu; locally grades into monzonite due to amount of K-feldspar									
		120'-130' grading into biotite monzonite; lesser sulfides but better py:cpy ratio; est. 0.10% Cu.									
130	180	Biotite monzonite to syeno-monzonite									
		-Light pink-grey to pink-cream, medium to fine grained; grades into more felsic composition with depth; finely disseminated sulfides up to 2% with py:cpy=5:1 or less; contact zones with syenodiorite of most economic interest.									
		130'-150' biotite monzonite; moderate secondary biotite in pink-grey groundmass with 40-45% K-feldspar; 5-7% biotite; minor epidote; 1% sulfides with py:cpy=5:1 or less; est. 0.10% Cu; much finely disseminated chalcopyrite may have floated off.									
		150'-170' biotite monzonite to syeno-monzonite with finely disseminated chalcopyrite up to 0.4% by volume; strong secondary biotite; more felsic with greater than 60% K-feldspar; est. 0.10-0.15% Cu.									

DRILL RECORD & LOG

PROPERTY: FLY-LEM CLAIMS

HOLE NO: 74 L-11

FOOTAGE from	FOOTAGE to	DESCRIPTION	SAMPLE NO	FOOTAGE from	FOOTAGE to	LENGTH	% REC	ASSAYS
		170'-180' increased secondary biotite but lesser sulfides; becoming more syenitic and leucocratic.						
180	200	K-feldspar-biotite altered syenodiorite						
		-grading back into syenodiorite with increasing sulfides - mainly pyrite; darker coloured; more biotite (primary) in hornfelsed fragments; py:cpy=5:1 or less; est. 0.10% Cu due to finely disseminated material; some post-sulfide K-feldspar with disseminated hematite; hole might be deepened to determine extent of Cu mineralization and favourable hornfelsed syeno-diorite.						
200		END OF HOLE						

Silver Standard – 1971 – PDH 23–35 (incl.)
Logs & Assays

– 1969 – PDH 1–22 (incl.)
Logs & Assays

SILVER STANDARD MINES LTD. (N.P.L.)

MEMO - Gibbons Creek Prospect

May 18, 1971

This prospect has been subjected to various exploration programs since 1966. A memo, dated March 1971, by Dr. R.H. Seraphim, summarizes the work undertaken prior to March 1971.

In May 1971, Silver Standard Mines Ltd. - Cities Service Minerals Corporation completed the following work:

(a) Percussion drilled 14 holes for a total of 2200 feet, 11 near the projected southern extension of the East Contact Zone and three on widely spaced areas indicated by I.P. to be weakly anomalous.

(b) Two bulldozer trenches near the East Contact Zone.

(c) Three bulldozer trenches were dug on line 4 W over the large I.P. anomaly.

(d) Four bulldozer trenches were dug along the base line between 24 E and 38 E.

RESULTS AND CONCLUSIONS:

Percussion drill holes 23 and 24 were located on coinciding magnetic and I.P. peaks. Magnetite and pyrite in slightly altered diorite are the apparent source of the anomalous geophysical responses.

Holes 25, 26, 26A and 32 were spotted on areas indicated by I.P. to be weakly anomalous. Twenty-six and 26A were abandoned at a depth of 70 and 55 feet respectively after advance through the glacial till proved too difficult. Holes 25 and 32 cut barren syenite and quartz diorite respectively.

The diorite in hole 27 was feldspathized and contained weak copper mineralization to a depth of 170 feet in the form of chalcopyrite and in oxidized fractures as malachite. The mineralized section was not of ore grade. Holes 28, 29, 30, 31 and 34 were drilled to investigate the area surrounding hole 27. With the exception of a trace of chalcopyrite in hole 30 no additional copper was found.

Shale and a few coal seams in hole 33 marked the southern boundary of the intrusive. A number of pyrite-bearing quartz veins were cut in andesite in hole 35 delimiting the eastern extension of the intrusive.

Of four bulldozer trenches dug to investigate a large area void of outcrop on the base line between 24 E and 38 E only one near 37 E reached bedrock. Only a trace of chalcopyrite was found in a narrow seam of pink feldspar. The large boulders around the trench at 26 E do not indicate bedrock but are exposed boulders similar to those found in the till below. The trench at this point, dug to a depth of 10 feet, failed to reach bedrock.

The trenches on line 4 W uncovered pyritic diorite at 0 and 3 N and pyritic andesite with a trace of chalcopyrite in an east-west shear filled with pink feldspar.

RECOMMENDATIONS:

In view of former work and as no encouraging results or new "leads" were obtained from this year's program, no further work on the prospect is recommended.

Respectfully submitted,

C.M. Rebagliati
Geological Engineer

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 4 19 71

Length 250'

Location Gibbons Creek

Bearing

#1 - 5 N

Hole No. 23

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays %Cu				Core Samples Length	No.
0-35 '		Overburden							
35-40		Meta Diorite (?) magnetite, pyrite, epidote, red hematite - casing to 40'		0.04					
40-50		Alteration, large fault zone. Rare pink feldspar. Magnetite.		0.02					
50-60		Magnetite, some free quartz, epidote and aplite (?)	<	0.01					
60-70		Alteration (serpentine-like).		0.02					
70-80		Less alteration		0.02					
80-90		Fresher diorite, some pyrite, change to red syenite @ 85'		0.01					
90-100		Red syenite 2 1/2% pyrite		0.01					
100-110		Red syenite 2 % pyrite and magnetite. Some caving from fault zone. Small quartz veins	<	0.01					
110-120		Red syenite - minor pyrite	<	0.01					
120-130		Red syenite - minor pyrite	<	0.01					
130-140		Red syenite - minor pyrite	<	0.01					
140-150		Red syenite - minor pyrite	<	0.01					
150-160		Red syenite - minor pyrite	<	0.01					
160-170		Red syenite - minor pyrite	<	0.01					
180-190		Red syenite - minor pyrite	<	0.01					
190-200		Red syenite - minor pyrite	<	0.01					
200-210		Red syentie - minor pyrite	<	0.01					
		Shear, alteration, free quartz, heavy pyrite and magnetite @ 209'							
210-220		Some free quartz, green altered diorite (?) serpentined (?)	<	0.01					

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 4 19 71

Length 250'

Location Gibbons Creek

Bearing

#1 - 5 N

Hole No. 23

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays %Cu				Core Samples Length	No.
220-230		Meta diorite or gabbro (?), back into red		< 0.01					
		syenite @ 226' - 5% magnetite.							
230-240		Red syenite - some free quartz and red		< 0.01					
		hematite on slopes							
240-250		Syenite tongues in diorite - minor		< 0.01					
		assessory pyrite - stopped hole due to							
		lack of mineralization							

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 5 19 71

Length 200' Location Gibbons Creek

Bearing #4 - 0 + 00 Hole No. 24

Dip 90° Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-12 '		Overburden				
12-20		Hornblende diorite, abundant magnetite		0.01		
20-30		Hornblende diorite, epidote and pink		0.01		
		aplite dikes @ 25'				
30-40		Diorite - abundant epidote and magnetite		0.01		
40-50		Diorite - abundant epidote and magnetite		0.01		
50-60		Diorite - abundant epidote, moisture @ 60'		0.01		
60-70		Diorite - abundant epidote		0.01		
70-80		Diorite - abundant epidote and magnetite		0.01		
80-90				0.01		
90-100		Diorite - abundant epidote and magnetite		0.02		
100-110		Diorite - abundant epidote and magnetite		0.01		
110-120		Diorite - abundant epidote and magnetite		0.01		
120-130		Water @ 120'		0.01		
		Diorite - abundant epidote and magnetite				
130-140		Diorite - abundant epidote and magnetite		0.01		
140-150		Diorite - abundant epidote and magnetite		0.01		
150-160		Diorite - abundant epidote and magnetite		0.01		
160-170		Diorite - abundant epidote and magnetite		0.01		
170-180		Diorite - abundant epidote and magnetite		0.01		
180-190		Diorite - abundant epidote and magnetite		0.01		
190-200		Diorite - abundant epdiote and magnetite		0.01		
		Stopped hole @ 200' - no sign of copper				

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DIAMOND DRILL-HOLE LOG

DATE May 6 19 71

ength 180' Location Gibbons Creek

Bearing Line # 5 - 10 S Hole No. 25

Dip 90° Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu				Core Samples Length	No.
0-80'		Overburden, cased to 70'							
80-90		Barren red syenite - some cave	<	0.01					
90-100		Barren red syenite, some cave from uncased	<	0.01					
		section, some magnetite							
100-110		Barren red syenite, some cave from uncased	<	0.01					
		section, some magnetite							
110-120		Barren red syenite, some cave from uncase	<	0.01					
		section, some magnetite.							
120-130		Barren red syenite, some cave from uncased section							
		some magnetite. More grey feldspar	<	0.01					
130-140		Barren red syenite, some cave from	<	0.01					
		uncased section, some magnetite							
140-150		Barren red syenite, some cave from uncased	<	0.01					
		section, some magnetite, more grey feldspar							
150-160		Pink-grey syenite, barren fault @ 155'	<	0.01					
160-170		Pink-grey syenite, barren ~~xxxxxxx~~	<	0.01					
170-180		Barren syenite. Stopped hole - danger	<	0.01					
		of losing rods and no sign of copper							

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 8 19 71

Length 200' Location Gibbons Creek

Bearing Line #6 - 32 S-1E Hole No. 27

Dip 90° Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu		Assays Cu	Assays Mo	Core Samples Length	Core Samples No.
0-35'		Overburden - Casing to 35"				Estimated			
35-50		Hornblende diorite, veinlets of pink							
		feldspar and clear quartz - minor epidote.							
		Fault zone @ 50' - minor copper stain -							
		chalcopyrite & iron pyrite		0.08		0.01			
50-60		As above - more epidote - minor sulphides		0.09					
		and copper stain.							
60-70		As above - veinlet of chalcopyrite		0.05					
70-80		Quartz hornblende diorite, magnetite,							
		iron and chalcopyrite - rare copper stain		0.04		0.1			
80-90		As above		0.05		0.05			
90-100		Change to aplite (?) - at 95' some							
		limonite		0.03		0.05			
100-110		Quartz diorite (fine-grained)		0.03		Tr			
110-120		Some alteration - more copper		0.01		0.1			
120-130		Coarser quartz diorite - aplitic fracture							
		fillings		0.01		Tr			
130-140		Coarser quartz diorite - aplitic fracture							
		fillings		0.01		0.05			
140-150		Coarser quartz diorite - fault zone from							
		145' - copper staind		0.01		0.05			
150-160		Hornblende diorite - rare copper		0.01		Tr			
160-170		Hornblende diorite - rare copper		0.01		Tr	0.05		
170-180		Hornblende diorite - rare copper		0.03					
180-190		Hornblende diorite - fault - abundant		0.01					
		red feldspar							
0-200		Hornblende diorite, red hematite on dip							
		faces. Veinlets of feldspar - no copper -		0.01					
		stopped hole.							

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 9 19 71

Length 150'

Location Gibbons Creek

Line #6 - 32 S + 3 E

Bearing

Hole No. 28

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-40'		Overburden - casing to 42'				
40-50		White syenite (?) - fault @ 50'	<	0.01		
50-60		Quartz diorite - abundant free quartz -	<	0.01		
		some sericite				
60-70		Quartz diorite - abundant mica - some	<	0.01		
		shearing (gouge)				
70-80		Diorite - some hematite and epidote	<	0.01		
80-90		Large fault - 50% gouge - some pyrite		0.01		
90-100		Hornblende diorite - some alteration		0.01		
100-110		Hornblende diorite - abundant epidote		0.01		
110-120		as above - 20% epidote		0.03		
120-130		as above - with multi-colored silicates		0.01		
130-140		Altered diorite - small fault - rare		0.01		
		pyrite				
140-150		as above - with multi-colored silicates.		0.02		
		Stopped hole due to lack of copper				

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 10 1971

Length 110'

Location Gibbons Creek

Bearing

Line #6 - 34 S - 1 E

Hole No. 29

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu				Core Samples Length	No.
0-30'		Overburden and casing							
30-40		White and pink syenite intercolated	<	0.01					
40-50		Light pink syenite	<	0.01					
50-60		Light pink syenite	<	0.01					
60-70		Light pink syenite	<	0.01					
70-80		Grey-pink syenite	<	0.01					
80-90		Large fault - more green silicates	<	0.01					
90-100		Grey-green syenite - some chalcedony	<	0.01					
100-110		Grey syenite	<	0.01					
		Stopped hole due to lack of mineralization.							
		The above syenite relatively fine-grained							

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 10 19 71

Length 120'

Location Gibbons Creek

Bearing

Line #6 - 32 S + 2 W

Hole No. 30

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-30'		Overburden - casing				
30-40		Grey diorite, epidote, some red hematite		0.01		
40-50		Grey diorite, epidote, some red hematite		0.01		
50-60		As above with some aplite		0.02		
60-70		As above with some aplite & faulting gouge		0.01		
70-80		Abundant fault gouge - 1 nugget chacopyrite		0.01		
80-90		Altered diorite		0.01		
90-100		Much shearing - possible molybdenite		0.02		
100-110		As above + 1% red hematite	<	0.01		
110-120		As above		0.01		
		Stopped hole				

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 10 19 71

Length 120'

Location Gibbons Creek

Bearing

Line #6 - 32 S - 7 W

Hole No. 31

Dip 90°

Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-45'		Overburden and casing				
45-50		Light Grey-pink syenite - minor epidote	<	0.01		
50-60		Light grey-pink syenite - minor epidote	<	0.01		
60-70		Light grey-pink syenite - minor epidote	<	0.01		
70-80		Light grey-pink syenite - minor epidote	<	0.01		
80-90		Light grey-pink syenite - minor epidote	<	0.01		
90-100		Greyer syenite - abundant fine pyrite	<	0.01		
100-110		Quartz diorite - 20% epidote - some	<	0.01		
		fine pyrite				
110-120		Quartz diorite - 20% epidote & some		0.01		
		fine pyrite				
		Stopped hole - no copper				

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 11 19 71

Length 100' Location Gibbons Creek

Bearing Line #6 - 16 S Hole No. 32

Dip 90° Start

Stop

Logged By A.R.C. Pocock

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	No.
0-14		Overburden - casing 15'				
14-20		Quartz diorite, minor alteration - 5%				
		magnetite		0.01		
20-30		Quartz diorite, minor alteration - 5%				
		magnetite		0.01		
30-40		Quartz diorite, minor alteration - 5%				
		magnetite		0.01		
40-50		Quartz diorite, minor alteration - 5%				
		magnetite		0.02		
50-60		As above		0.03		
60-70		Quartz diorite, minor alteration - more				
		free quartz		0.01		
70-80		Quartz diorite, more alteration		0.01		
80-90		As above with red syenite - aplite dike,				
		minor pyrite		0.01		
90-100		Quartz diorite, red hematite on steep face		0.01		
		Stopped hole - no copper				

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 11 19 71

Length 290' Location Gibbons Creek

Bearing Line #6 - 40 S Hole No. 33

Dip 90° Start

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-70'		Overburden - casing to 68'				
70-80		Shale (?) (sample mised with overburden)	<	0.01		
80-90		Thin leached brown shale, some liney				
		material @ 90'	<	0.01		
90-100		White porous limey clay	<	0.01		
100-110		Brown Shale	<	0.01		
110-120		" "	<	0.01		
120-130		" "	<	0.01		
130-140		Brown shale with small amount of aplite -				
		rare fine pyrite.	<	0.01		
140-150		Grey-brown shale	<	0.01		
150-160		5 feet of soft brown coal	<	0.01		
160-170		Brown coal and shale	<	0.01		
170-180		" " " "	<	0.01		
180-190		Coal and shale - 5 ft. of hard black coal	<	0.01		
190-200		Coal & grey shale - minor aplite	<	0.01		
200-210		Abundant sericite - some aplite	<	0.01		
210-220		Shale and minor coal	<	0.01		
220-230		Brown shale	<	0.01		
230-240		Grey shale and some black coal	<	0.01		
240-250		" " " some aplite	<	0.01		
250-260		" " - 6" coal	<	0.01		
260-270		Brown shale and 3-4' of brown coal.	<	0.01		
270-280		" " " 5' of coal	<	0.01		
280-290		Blocked bit in gouge @ 285 - greenish				
		sandstone (?) - cave material - minor				
		quartz and aplite and fine pyrite	<	0.01		

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 12 19 71

Length 160'

Location Gibbons Creek

Bearing

Line #6 - 27 S

Hole No. 34

Dip 90°

Start

Stop A.R.C. Potter

Logged By

Depth	Core	Formation	Missing Core	Assays % Cu	Core Samples Length	Core Samples No.
0-60'		Overburden and casing				
60-70		Pink syenite, fine pyrite	<	0.01		
70-80		" "	<	0.01		
80-90		" " - large fault zone - some pyrite.	<	0.01		
90-100		" " - some alteration - free quartz and pyrite.	<	0.01		
100-110		" " - much alteration - fine pyrite	<	0.01		
110-120		" " - much alteration - " "	<	0.01		
120-130		" " - trace chalocpyrite in green lateration.	<	0.01		
130-140		" " - minor pyrite and small quartz vein.	<	0.01		
140-150		" " - speck bornite.	<	0.01		
150-160		" " - minor alteration - fine pyrite and magnetite.	<	0.01		
		Stopped hole due to lack of copper				

SILVER STANDARD MINES LTD.

DIAMOND DRILL-HOLE LOG

DATE May 11 19 71

Length 190' Location Gibbons Creek

Bearing Hole No.

Dip 90° Start 35

Stop

Logged By A.R.C. Potter

Depth	Core	Formation	Missing Core	Assays % Cu		Assays Oz Ag	Assays Oz Au	Core Samples Length	Core Samples No.
0-50'		Overburden and casing							
50-60		Altered greenstone - minor pyrite ,							
		chalcopyrite and magnetite. Some caved							
		overburden.		0.01					
60-70		Altered greenstone, caved overburden,							
		minor free quartz and pyrite.		0.01					
70-80		Altered greenstone, fine pyrite, rare							
		chalcopyrite		0.01					
)-90		Same as above		0.01					
90-100		More abundant pyrite.		0.02					
100-110		2% pyrite, some shearing and possible							
		granitization.		0.02					
110-120		As above. Less pyrite - fault @ 120'		0.02					
120-130		Altered greenstone - 2% pyrite.		0.01					
130-140		As above		0.01					
140-150		As above - large fault 145-150'		0.01		0.01	<0.003		
150-160		3-ft. quartz vein - 5% pyrite - abundant							
		alteration.	<	0.01		0.02	<0.003		
160-170		Abundant alteration - 5% pyrite - caving							
		badly - some K-feldspar.		0.01		0.04	<0.003		
170-180		As above, heavy flow artesian water -							
		caving badly.	<	0.01					
180-190		As above		0.01					
		Abandoned hole due to caving							

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CANADA
TELEPHONE: 985-0648

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 13541
INVOICE NO. 4955
DATE RECEIVED May 13/71
DATE ANALYSED May 19/71

TO: Teck Corporation Ltd.,
c/o Silver Standard Mines Ltd.,
#808 - 602 W. Hastings St.,
Vancouver. 2. B. C.

ATTN: Mr. Bill Dunn

Samples from Horsefly, B. C.

SAMPLE NO.:	% Copper
#23 35-40	0.04
40-50	0.02
50-60	< 0.01
60-70	0.02
70-80	0.02
80-90	0.01
90-100	0.01
100-110	< 0.01
110-120	< 0.01
120-130	< 0.01
130-140	< 0.01
140-150	< 0.01
150-160	< 0.01
160-170	< 0.01
170-180	< 0.01
180-190	< 0.01
190-200	< 0.01
200-210	< 0.01
210-220	< 0.01
220-230	< 0.01
230-240	< 0.01
#23 240-250	< 0.01
#24 12-20	< 0.01
20-30	< 0.01
30-40	0.01
40-50	< 0.01
50-60	0.01
60-70	< 0.01
70-80	0.01
80-90	0.01
90-100	0.02
100-110	0.01
110-120	0.01
120-130	0.01
130-140	0.01
140-150	0.01
150-160	0.01
160-170	0.01
170-180	0.01
#24 180-190	0.01

Certified by ..... K. A. Stalker .....

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 13542
INVOICE NO. 4955
DATE RECEIVED May 13/71
DATE ANALYSED May 19/71

TO: Teck Corporation Ltd.,
c/o Silver Standard Mines Ltd.,
#808- - 602 W. Hastings St.,
Vancouver, B. C.

ATTN: Mr. Bill Dunn

SAMPLE NO.:		% Copper
#24	190-200	< 0.01
#25	80-90	< 0.01
	90-100	< 0.01
	100-110	< 0.01
	110-120	< 0.01
	120-130	< 0.01
	130-140	< 0.01
	140-150	< 0.01
	150-160	< 0.01
	160-170	< 0.01
#25	170-180	< 0.01

Certified by .....

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 13521
INVOICE NO. 4945
DATE RECEIVED May 12/71
DATE ANALYSED May 18/71

TO: Teck Corporation Ltd.,
c/o Silver Standard Mines Ltd.,
#808 - 602 W. Hastings St.,
Vancouver. 2. B. C.

ATTN: Mr. Bill Dunn

SAMPLE NO.:		% Copper
#28	40-50	< 0.01
	50-60	< 0.01
	60-70	< 0.01
	70-80	< 0.01
	80-90	0.01
	90-100	0.01
	100-110	0.01
	110-120	0.03
	120-130	0.01
	130-140	0.01
#28	140-150	0.02
#29	30-40	< 0.01
	40-50	< 0.01
	50-60	< 0.01
	60-70	< 0.01
	70-80	< 0.01
	80-90	< 0.01
	90-100	< 0.01
#29	100-110	< 0.01
#30	30-40	0.01
	40-50	0.01
	50-60	0.02
	60-70	0.01
	70-80	0.01
	80-90	0.01
	90-100	0.02
	100-110	< 0.01
#30	110-120	0.01
#31	45-50	< 0.01
	50-60	< 0.01
	60-70	< 0.01
	70-80	< 0.01
	80-90	< 0.01
	90-100	< 0.01
	100-110	< 0.01
#31	110-120	0.01

Certified by Hart Biehle

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 20008
INVOICE NO. 4980
DATE RECEIVED May 18/71
DATE ANALYSED May 26/71

TO: Teck Corporation Ltd.,
c/o Silver Standard Mines Ltd.,
#808 - 602 W. Hastings St.,
Vancouver, B. C.

ATTN:

SAMPLE NO.:		% Copper
Hole #27	35-50	0.08
	50-60	0.09
	60-70	0.05
	70-80	0.04
	80-90	0.05
	90-100	0.03
	100-110	0.03
	110-120	0.01
	120-130	0.01
	130-140	< 0.01
	140-150	< 0.01
	150-160	< 0.01
	160-170	< 0.01
	170-180	0.03
	180-190	0.01
Hole #27	190-200	0.01
Hole #32	14-20	0.01
	20-30	0.01
	30-40	0.01
	40-50	0.02
	50-60	0.03
	60-70	0.01
	70-80	0.01
	80-90	0.01
Hole #32	90-100	0.01
Hole #33	70-80	< 0.01
	80-90	< 0.01
	90-100	< 0.01
	100-110	< 0.01
	110-120	< 0.01
	120-130	< 0.01
	130-140	< 0.01
	140-150	< 0.01
	150-160	< 0.01
	160-170	< 0.01
	170-180	< 0.01
	180-190	< 0.01
	190-200	< 0.01
	200-210	< 0.01
Hole #33	210-220	< 0.01

Certified by ..... L. D. Stothart .....

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CERTIFICATE OF ANALYSIS

CERTIFICATE NO. 20009
INVOICE NO. 4980
DATE RECEIVED May 18/71
DATE ANALYSED May 26/71

TO: Teck Corporation Ltd.,
c/o Silver Standard Mines Ltd.,
- #808 - 602 W. Hastings St.,
Vancouver. 2. B. C.

ATTN: Mr. Potter

SAMPLE NO.:		% Copper	Oz/Ton Silver	Oz/Ton Gold
Hole #33	229-230	< 0.01		
	230-240	< 0.01		
	240-250	< 0.01		
	250-260	< 0.01		
	260-270	< 0.01		
	270-280	< 0.01		
Hole #33	280-290	< 0.01		
Hole #34	60-70	< 0.01		
	70-80	< 0.01		
	80-90	< 0.01		
	90-100	< 0.01		
	100-110	< 0.01		
	110-120	< 0.01		
	120-130	< 0.01		
	130-140	< 0.01		
	140-150	< 0.01		
Hole #34	150-160	< 0.01		
Hole #35	50-60	0.01		
	60-70	0.01		
	70-80	0.01		
	80-90	0.01		
	90-100	0.02		
	100-110	0.02		
	110-120	0.02		
	120-130	0.01		
	130-140	0.01		
	140-150	0.01	0.01	< 0.003
	150-160	< 0.01	0.02	< 0.003
	160-170	0.01	0.04	< 0.003
	170-180	< 0.01		
Hole #35	180-190	0.01		

Certified by ...

Telephone: Office 685-2914
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R. H. SERAPHIM ENGINEERING LIMITED
Geological Engineering

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VANCOUVER 2, B.C.

GIBBONS CREEK PROSPECT

HORSEFLY B.C.

SUMMARY and CONCLUSIONS

The Gibbons Creek prospect is located in the 'Quesnel Trough' on the northwestward extension of the Highland Valley-Kamloops copper belt. The property has widespread but sub-ore grade copper mineralization, principally in a feldspathized zone following the contact of a syenitic stock.

Earlier work in the area included airborne and ground magnetic, induced polarity, Crone E.M. and geochemical surveys. The most attractive zone which was disclosed by this work, the East Zone, is 600 to 800 ft wide and about 3000 ft long, open both ends. This zone contains little outcrop, but was tested with only a few hundred feet of 'dozer trenching, and a 366 ft drill hole.

The intrusive itself is inferred from the aeromagnetic survey to be about 2½ miles long and a mile wide. Only the part of the eastern contact referred to above shows enough outcrop to fix its position, and has had any detailed exploration of consequence. Consideration should be given to exploring also the overburdened area along the remainder of the contact. The reconnaissance I.P. conducted by Chapman, Wood was not well located in relation to the contact they inferred from the aeromagnetics.

INTRODUCTION

The Gibbons Creek prospect was submitted to Silver Standard by Fred Crichlow of Williams Lake B.C. W. Dunn examined and optioned the claims in late October, 1969. A bulldozer and percussion drill were expedited to the property on November 3. The claims are located in the area defined in the Bonaparte Agreement, consequently an offer of a half-interest in the project and claim option were tendered to and accepted by Cities Service Minerals Corp.

HISTORY

A small showing in the creek at 0 East 37 South (East Zone) shows evidence of old-timers work, and the main showing at 0 East 17 South was held by a local prospector in 1965. Chapman, Wood and Griswold, managers of the Taylor-Helicon project, explored the area in 1965, and optioned the claims covering the main showing. Their interest in the area was probably generated by the discovery of Cariboo Bell about this time, and the activity at Noranda's Boss Mountain mine.

Chapman, Wood completed an aeromagnetic survey, ground magnetics, E.M. survey, I.P. survey, and geochemistry on parts of the claims. This work was followed by a minimum of trenching and drilling. The data obtained regarding Chapman, Woods' work is appended (except for the I.P. profiles East Zone which are very bulky). It shows a strong weighting towards 'black-box' surveys rather than exposing rock.

REGIONAL GEOLOGY

The area is covered by G.S.C. Maps 3-1961 and 1-1963 'Quesnel Lake' East and West Halves. These maps show that the property lies in the Quesnel Trough, a broad belt of Triassic and Jurassic andesites which are intruded by two groups of intrusives, one of Guichon age (200 m.y.) and

the other more recent (100 m.y.). The copper deposits in the belt, including Cariboo Bell which is 20 miles northwest of Gibbons Creek, are related to the Guichon age intrusives. The molybdenum deposits, including Boss Mountain which is 24 miles southeast of Gibbons Creek, are commonly related to the younger intrusives. The Quesnel Trough is the direct northwestward extension of the copper-rich Kamloops-Merritt-Princeton region, and contains a very similar geological environment.

LOCAL GEOLOGY

Outcrops on the property are far too sparse to form the basis of a reliable geological map. The accompanying sketch of the east contact of the intrusive is based mostly on the location of angular float, and thus should be considered subject to revision as exploration proceeds. The location of the remainder of the contact is inferred from and sketched on Chapman, Woods' aero-magnetic survey map. The greenstone outcrops in the trench and along the creek near 0 East, 36 to 37 South, suggest, however, that the inferred position of the contact is at least locally inaccurate.

EAST ZONE

The greenstone is typical of the Triassic Nicola-Takla sequence. Most of the outcrops observed are dark green, chloritic, soft, and andesitic to basaltic in composition. The exposures nearer to the intrusive are unusually brittle, and locally contain veinlets and blebs of orange-pink feldspar.

The greenstone grades into the intrusive through a broad - six to eight hundred feet wide - zone of feldspathization. The rocks in the feldspathized zone are also brittle, and in part medium-grained and or porphyritic. Exposures locally show bright biotite crystals and much orange-pink feldspar in reticulating veinlets and disseminations.

The syenite and diorite in the core of the intrusive are very 'phasey'. Unusually large hornblende crystals are locally abundant, but pink feldspar is sparse or absent.

Copper mineralization is found in all the rock types. It is limited to a few sparse grains in the greenstones, and in the intrusive core. It is more abundant, but still sub-ore grade in the known exposures of the feldspathized zone along the contact. Drill hole 3 of Chapman, Wood and the nearby trench at 0 East 16 South show the best grades found to date. These give a range from 0.02% to 0.88% across selected 5 to 10 foot sections (see appended reports page 7 and page 3 for details).

WEST CONTACT

One small outcrop was found at the West Contact. The outcrop showed a few small grains of copper mineralization in strongly feldspathized rock. The area is of interest mainly because of the geochemical and I.P. anomalies Chapman, Wood obtained there. However, two drill holes aimed to test one anomaly showed only the feldspathized zone without significant copper mineralization.

CURRENT WORK

The data obtained showing Chapman, Woods' work contained geophysical and geochemical profiles, but no plans except that of the aeromagnetic survey. A plan of the I.P. survey was compiled from the profiles. Geological mapping of the East Zone was completed as rapidly as possible. Aerial photographs were obtained and the lineaments indicated thereon are shown on the geological sketch.

This information has all been used to direct a program of bulldozer trenching and percussion drilling, estimated to cost $16,000, which is now underway. The trenching facilitates prospecting the overburdened portions of the copper-mineralized feldspathized zone in the general area of high I.P. readings. The percussion drilling tests areas where bedrock is not reached by bulldozer trenching,

and particularly where I.P. indications, presence of lineaments, or copper-bearing float are of interest. The location of some of the bulldozer trenches and new roads, and of the first eight percussion holes, are shown on the accompanying geological sketch. Several more percussion holes and some further trenching are planned, principally on lines 24 and 28 South. None of the new work to date has shown mineralization expected to be of economic importance.

R.H. Seraphim

November 17, 1969. R.H. Seraphim.

Trenching and Drilling

The above information was all used to direct a program of bulldozer trenching and percussion drilling. The trenching facilitated prospecting the overburdened portions of the copper-mineralized feldspathized zone in the general area of high I.P. readings. The percussion drilling tested areas where bedrock was not reached by bulldozer trenching, and particularly where I.P. indications, presence of lineaments, or copper-bearing float are of interest. The location of the bulldozer trenches, new roads, and percussion holes are shown on the accompanying geological sketch.

The discovery of feldspathized rock in the new trenches at 36 S 4E, which location would appear to be well outside the main feldspathized zone; and of mineralized greenstones at 28 S 24W, which would appear to be well within the intrusive as inferred from the magnetic survey, suggests that the syenite body or bodies are very irregular. It may well be like many others of its type i.e. a group of patchy partly intrusive and partly 'syenitized' zones, rather than a single body.

Percussion drilling was used in conjunction with the trenching because the deep and wet overburden at the lower elevations, and the deep glacial till on some of the ridges, made 'dozing to bedrock impracticable. The locations of the 22 percussion holes (3780 feet total) are shown on the accompanying map. The assay results and nature

of the rock intercepted are shown on the appended logs. The grade of the mineralization is obviously far too low to be economic. The holes are considered to be sufficiently closely spaced to leave little chance that better grade mineralization exists within the zone of feldspathization and co-incident I.P. anomaly.

General

Prospecting and geological reconnaissance in the area showed that, outside of the ridge north of Long Lake which is practically all syenite, outcrop in the claim area is rare. No outcrops were found south of Long Lake, and only one was found west of Lemon Lake. The best way to prospect the contacts of the syenite would appear to be through a series of wide-spaced reconnaissance I.P. lines. These should be laid out to cross the contact inferred from the magnetic survey. However, the pods of chalcopyrite found in greenstone near the northeast corner of Long Lake lead to the conclusion that the core of the magnetic anomaly should also be included in any such survey.

The area is now known to have been tested by a much more widespread geochemical survey than that completed and obtained from Chapman-Wood. Arrangements are underway to obtain this additional data.

R.H. Seraphim

January 20, 1970. R.H. Seraphim.

Gibbons Creek

Percussion Hole Logs

Hole #1 - Base Line at 18 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
10 - 20	.02	Volcanic ?	light
30	.02	"	strong
40	.08	"	"
40 - 50	.31	"	light
60	.04	"	very strong
70	.28	"	light
80	.10	"	"
90	.03	"	"
100	.04	"	"
110	.04	"	"
110 -120	.10	"	"
130	.05	"	moderate
140	.01	"	very strong
150	.05	"	moderate
160	.02	"	light
170	.04	"	"
180	.04	"	"
190	.02	"	"
200	.01	"	"
210	.02	"	moderate
220	.01	"	"
230	.01	grey syenite ?	light
240	.01	" "	"
250	.01	" "	"
260	.02	" "	"
270	.02	" "	"
280	.01	" "	"
290	.01	" "	"
300	.01	" "	"

0.12% / 80'

Hole #2 - Base Line at 16 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing	volcanic ?	light
10 - 20	.15	"	"
30	.05	"	"
40	.09	"	"
50	.11	"	"
60	.07	"	"
70	.14	"	"
80	.18	"	"
90	.07	"	moderate
100	.06	"	light
110	.14	grey syenite ?	"
120	.08	" "	"
120 - 130	.31	" "	"
140	missing sample		
150	.02	" "	"
160	.02	" "	"
170	.04	" "	"
180	.04	volcanic ?	"
190	.02	grey syenite	moderate
200	.02	" "	light
210	.02	" "	"
220	.01	" "	"
230	.01	pink syenite ?	"
240	.01	" "	intense
250	.01	" "	light
260	.01	" "	"
270	Tr	" "	"
280	Tr	" "	intense
290	Tr	" "	"
300	.02	" "	"

0.12% / 120'

Hole #3 - 16 South 2 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	.02	mixed syenite	weak
30	.02	and volcanics	"
40	.10	"	"
50	.04	"	"
60	.03	"	"
70	.02	"	"
80	.09	"	"
90	.07	"	"
90 - 100	.10	"	"
110	.15	"	"
120	.12	"	"
130	.12	"	"
140	.08	"	"
150	.13	"	"
160	.24	"	"
170	.15	"	"
180	.10	"	moderate
190	.12	"	weak
200	.15	"	moderate
210	.03	"	weak
210 - 220	.15	"	"

0.126% / 130'

Hole #4 - 16 South 4 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
10 - 20	.02	mixed	light
30	.04	"	"
40	.05	"	"
50	.04	"	"
60	.02	"	"
70	.03	"	"
80	.06	"	"
90	.04	"	moderate
100	.03	"	"
110	.02	"	light
120	.05	"	"
130	.03	"	"
140	.03	"	"
150	.02	"	"
160	.02	grey syenite	"
170	.02	" "	"
180	.03	" "	"
190	.04	" "	"
200	.02	" "	"
210	.10	" "	"
220	.34	volcanics ?	"
230	.22	"	"

.10, .34, .22 } 0.22 / 30'

Hole #5 - 12 South 2 West

Footage	% Cu	Rock Type	Feldspathization
0 - 20	casing		
20 - 30	.04	volcanics	slight
40	.04	"	"
50	.14	"	"
60	.04	volcanics	"
70	.05	mixed	"
80	.05	"	"
90	.02	"	"
100	.04	"	"
110	.02	"	"
120	.02	"	"
130	.02	"	"
140	.05	"	"
150	.07	"	"
160	.06	syenite ?	moderate
170	.03	"	"
180	.06	"	"
190	.06	"	"

Hole #6 - Base Line - 9 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	volcanics	very weak
20	.01	"	" "
30	.03	"	" "
40	.04	"	slight
50	.02	"	"
60	.02	"	"
70	.01	"	"
80	.02	"	"
90	.01	"	"
100	.01	"	"
110	.05	"	"
120	.02	"	"
130	.01	"	moderate
140	.01	"	"
150	.01	"	"
160	.01	"	"
170	.02	"	"
180	.01	"	slight
190	.01	"	"
200	.02	"	"
210	.02	"	"
220	.01	"	"
230	.01	"	"
240	.02	"	very weak
250	.02	"	" "
260	.02	"	" "
270	.01	"	" "
280	.01	"	" "
290	.01	"	" "
300	.01	"	" "

Hole #7 - 1 South 5 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	volcanics	weak
20	.01	"	moderate
30	.02	"	"
40	.01	"	"
50	Tr	pink syenite	intense
60	Tr	" "	"
70	Tr	" "	"
80	.01	" "	"
90	Tr	" "	"
100	Tr	" "	"
110	.01	" "	"
120	.01	" "	"
130	.01	" "	"
140	.01	" "	"
150	.01	" "	"
160	.02	" "	"
170	.03	" "	"
180	.03	grey syenite	moderate
190	.01	" "	"
200	.01	" "	"
210	.01	" "	"
220	.01	" "	"
230	.01	" "	"
240	.01	" "	"
250	.01	" "	"

Hole #8 - 0 - 1350 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.02	syenite	light
20	.01	"	"
30	.01	"	"
40	.01	"	"
50	.01	"	"
60	Tr	"	moderate
70	.01	"	light
80	Tr	"	"
90	.05	"	moderate
100	.08	"	"
110	.04	"	light
120	.04	"	"
130	.05	"	moderate
140	.08	"	light

Hole #9 - Base Line - 24 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	grey syenite	slight
20	.04	" "	"
30	.04	" "	"
40	.06	" "	"
50	.11	volcanics	"
60	.07	"	"
70	.02	grey syenite	"
80	.04	" "	moderate
90	.02	" "	"
100	.04	" "	"
110	.04	" "	"
120	---	" "	"
130	---	" "	"

Hole #10 - 24 South 2 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.04	volcanics with	moderate
20	.03	minor mixed	"
30	.05	syenite	"
40	.06	"	"
50	.10	"	"
60	.11	"	"
70	.04	"	"
80	.03	"	"
90	.11	"	"
100	.04	grey syenite	"
110	.03	" "	"
120	.02	" "	"
130	.03	" "	"

0.08% / 50'

Hole #11 - 24 South 6 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	mixed	slight
20	.01	"	"
30	.03	"	"
40	.05	"	moderate
50	.08	"	slight
60	.03	"	"
70	.02	"	"
80	.02	"	"
90	.02	"	"
100	.02	"	"
110	.02	"	"

Hole #12 - 24 South 4 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	grey syenite ?	slight
20	.02	" "	"
30	.07	" "	"
40	.29 } 0.22/20'	" "	"
50	.16 }	" "	"
60	.04	" "	"
70	.06	" "	"
80	.04	" "	"
90	.02	" "	"
100	.04	" "	"
110	.03	" "	"
120	.02	" "	"
130	.03	" "	"
140	.03	" "	"
150	.02	" "	"

Hole #13 - 24 South 2 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	.02	volcanics	slight
30	.02	"	"
40	.01	Pink syenite	moderate
50	.01	" "	"
60	.04	Grey syenite	slight
70	.04	" "	"
80	.03	" "	"
90	.03	" "	"
100	.04	" "	"

Hole #14 - 20 South 8 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	.01	volcanics	very slight
30	Tr	"	" "
40	Tr	"	" "
50	Tr	"	" "
60	Tr	"	" "
70	.01	"	" "
80	Tr	"	" "
90	Tr	"	" "
100	.01	"	" "
110	.01	"	" "
120	Tr	"	" "
130	Tr	"	" "
140	Tr	"	" "
150	Tr	"	" "

Hole #15 - Base Line 26 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	volcanics	slight
20	Tr	"	"
30	.02	"	"
40	.02	grey syenite	"
50	.02	" "	"
60	.08	" "	"
70	.05	" "	"
80	.07	" "	"
90	.03	" "	"
100	.04	" "	"

Hole #16 - 28 South 2 West

Footage	% Cu	Rock Type	Feldspathization
0 - 10	Tr	grey syenite	trace
20	.02	" "	"
30	.08	" "	moderate
40	.06	" "	"
50	.02	" "	trace
60	.05	" "	"
70	.01	" "	"
80	.03	" "	"
90	.01	" "	"
100	---	" "	"

Hole #17 - 28 South 2 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	.01	grey syenite	Trace
20	.01	" "	"
30	.01	" "	"
40	.01	" "	"
50	.02	" "	"
60	.07	" "	"
70	.04	" "	"
80	.10 —	" "	"
85	.07	volcanics ?	"

Hole #18 - 28 South 4 East

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	"		
30	.02	mixed	slight
40	.09	"	"
50	.08	"	"
60	.10	"	"
70	.05	"	"
80	.04	"	"
90	.11	"	"
100	.04	"	"
110	.02	"	"
120	.04	"	"
130	.13	"	"
140	.07	"	"
150	---	---	---
160	.06	mixed	slight
170	.05	"	"
180	.04	"	"
190	.04	"	"
200	.05	"	"

Hole #19 - Base Line 28 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	"		
30	.02	grey syenite	slight
40	.03	" "	"
50	.03	" "	"
60	.04	" "	"
70	.07	" "	"
80	.08	" "	"
90	.04	" "	"
100	.03	" "	"

Hole #20 - Base Line 32 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	.03	grey syenite	slight
30	.06	" "	"
40	.09	" "	"
50	.07	" "	"
60	.04	" "	"
70	.04	" "	"
80	.03	" "	"
90	.02	" "	"
100	.06	" "	"
110	.03	" "	"

Hole #21 - Base Line 30 South

Footage	% Cu	Rock Type	Feldspathization
0 - 10	casing		
20	"		
30	"		
40	"		
50	.02	grey syenite	slight
60	.02	" "	"
70	.02	" "	"
80	.02	" "	"
90	.03	" "	"
100	.03	" "	"

Hole #22 - 28 South 6 East

Footage	% Cu		Rock Type	Feldspathization
0 - 10	.02		volcanics	slight
20	.06		"	"
30	.09		"	"
40	.03		"	"
50	.02		"	"
60	.02		"	"
60 - 70	.12	0.16/60'	mixed volcanics	moderate
80	.15		and syenite	slight
90	.19		"	"
100	.15		"	"
110	.19		"	"
120	.17		"	"
130	.07		"	"
140	.04		"	"
150	.04		"	"
160	.04		"	"
170	.02		"	moderate
180	.02		"	slight
190	.02		"	"
200	.02		"	"
210	.02		"	moderate
220	.02		"	"
230	.06		"	"
240	.14	0.17/40'	"	slight
250	.23		"	"
260	.18		"	"
270	.13		"	"
280	.05		"	"
285	.05		"	"

BONDAR-CLEGG & COMPANY LTD.

geologists • geochemists • analysts • assayers

1500 PEMBERTON AVENUE, NORTH VANCOUVER. B.C.

Phone 988-5315

CERTIFICATE OF ASSAY

TO Teck Corporation
808 - 602 W. Hastings Street
Vancouver, B.C.

Report Number: A29-502
Samples Received: November 13, 1969
Results Completed: November 21, 1969

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED	GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
7018 180 - 190				.02		.001					
7019 190 - 200				.01		.001					
7020 200 - 210				.02		.002					
7021 210 - 220				.01		.001					
7022 220 - 230				.01		.001					
7023 230 - 240				.01		.002					
7024 240 - 250				.01		.002					
7025 250 - 260				.02		.001					
7026 260 - 270				.02		.003					
7027 270 - 280				.01		.002					
7028 280 - 290				.01		.001					
7029 290 - 300				.01		.002					
7030 10 - 20				.15		.002					
7031 20 - 30				.05		.001					
7032 70 - 90				.09		.002					

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $ 35.00 per ounce

Peter Kemper
Registered Assayer, Province of British Columbia

To: Teck Corporation

PAGE No. 2

REPORT No. A2[illegible] 502

DATE: November 21, 1969

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED		GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
#2 Hole												
7033	40-50				.11		.004					
7034	50-60				.07		.005					
7035	60-70				.14		.005					
7036	70-80				.18		.001					
7037	80-90				.07		.002					
7038	90-100				.06		.002					
7039	100-110				.14		.003					
7041	120-130				.31		.003					
(?) 7043	130-140				.05		.001					
(?) 7045	140-150				.02		.002					
7046	160-170				.02		.002					
7047	170-180				.04		.004					
7048	180-190				.02		.002					
7049	190-200				.02		.002					
7050	200-210				.02		.002					
#3 Hole												
7209	10-20				.02		.002					
7210	20-30				.02		.001					
7211	30-40				.10		.001					
7212	40-50				.04		.001					
7213	50-60				.03		.002					

Peter Kemper

Registered Assayer, Province of British Columbia

To: Teck Corporation

PAGE No. 3

REPORT No. A2[illegible]502

DATE: November 21, 1969

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED	GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #2											
7231 10-20				.02		.002					
7232 20-30				.04		.001					
7233 30-40				.05		.001					
7234 40-50				.04		.002					
7235 50-60				.02		.002					
7236 60-70				.03		.002					
7237 70-80				.06		.001					
7238 80-90				.04		.001					
7239 90-100				.03		.001					
7240 100-110				.02		.002					
7040 #2 110 to 120				.08		.002					
? 7044 #2 150 to 160				.04		.002					

Peter Kemper

Registered Assayer, Province of British Columbia

BONDAR-CLEGG & COMPANY LTD.
geologists • geochemists • analysts • assayers
1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.
Phone 988-5315

CERTIFICATE OF ASSAY

TO Silver Standard Mines (NPL)
808 - 602 W. Hastings St.
Vancouver, B.C.

Report Number: A29-505
Date: November 21, 1969

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED	GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #7											
7101 0-10				.01		.001					
7102 10-20				.01		.002					
7103 20-30				.02		.001					
7104 30-40				.01		.001					
7105 40-50				Trace		.001					
7106 50-60				Trace		.001					
7107 60-70				Trace		.002					
7108 70-80				.01		.001					
7109 80-90				Trace		.001					
7110 90-100				Trace		.001					
7111 100-110				.01		.001					
7112 110-120				.01		.001					
7113 120-130				.01		.001					
Hole #5											
7154 20-30				.04		.002					
7155 30-40				.04		.003					

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $.....per ounce

Peter Kempson
Registered Assayer, Province of British Columbia

To: Silver Standard Mines (NPL)

REPORT No. A2 505

PAGE No. 2

BONDAR-CLEGG & COMPANY LTD.

DATE: November 21, 1969

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED			GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
			Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #5	7156	40-50				.14		.002					
Hole #6	7171	0-10				.01		.003					
	7172	10-20				.01		.001					
	7173	20-30				.03		.001					
	7174	30-40				.04		.001					
	7175	40-50				.02		.002					
	7176	50-60				.02		.001					
	7177	60-70				.01		.001					
	7178	70-80				.02		.001					
	7179	80-90				.01		.002					

Peter Kempe

Registered Assayer, Province of British Columbia

BONDAR-CLEGG & COMPANY LTD.

geologists • geochemists • analysts • assayers

1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.

Phone 988-5315

CERTIFICATE OF ASSAY

TO Teck Corporation, c/o Silver Standard Mines
808 - 602 W. Hastings Street
Vancouver, B.C.

Report Number: A29-491
Samples Received: November 7, 1969
Results Completed: November 14, 1969
cc: Mr. Potter, Horsefly, B.C.

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

Vol. F

MARKED	GOLD		SILVER	Copper		MoS_2					TOTAL VALUE PER TON (2000 LBS.)
	Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
7001 10 - 20				.02		.001					
7002 20 - 30				.02		.001					
7003 30 - 40				.08		.001					
7004 40 - 50				.31		.003					
7005 50 - 60				.04		.001					
7006 60 - 70				.28		.006					
7007 70 - 80				.10		.001					
7008 80 - 90				.03		.001					
7009 90 - 100				.04		.001					
7010 100 - 110				.04		.002					
7011 110 - 120				.10		.002					
7012 120 - 130				.05		.002					
7013 130 - 140				.01		.002					
7014 140 - 150				.05		.001					
7015 150 - 160				.02		.001					
7016 160 - 170				.04		.001					
7017 170 - 180				.04		.001					

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $ ..... per ounce

Peter Kempe
Registered Assayer, Province of British Columbia

BONDAR-CLEGG & COMPANY LTD.
geologists • geochemists • analysts • assayers
1500 PEMBERTON AVENUE, NORTH VANCOUVER, B.C.
Phone 988-5315

CERTIFICATE OF ASSAY

TO Silver Standard Mines, Ltd. (NPL)
808 - 602 W. Hastings
Vancouver, B.C.

Report Number: A29-524
Samples Received: November 21, 1969
Results Completed: November 26, 1969

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED		GOLD		SILVER	Copper	MoS_2						TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #14												
	5401 10 - 20				.01	.001						
	5402 20 - 30				Trace	Trace						
	5403 30 - 40				Trace	.002						
	5404 40 - 50				Trace	Trace						
	5405 50 - 60				Trace	.001						
	5406 60 - 70				.01	Trace						
	5407 70 - 80				Trace	Trace						
	5408 80 - 90				Trace	.001						
	5409 90 - 100				.01	Trace						
	5410 100 - 110				.01	.001						
	5411 110 - 120				Trace	.001						
	5412 120 - 130				Trace	Trace						
	5413 130 - 140				Trace	Trace						
	5414 140 - 145				Trace	.001						
Hole #15	5416 0 - 10				.01	.001						

NOTE:
Rejects retained two weeks
Pulps retained three months
unless otherwise arranged.

Gold & Silver values reported on these sheets have not been adjusted to compensate loses and gains inherent in fire assay methods.

Gold calculated at $35.00 per ounce

Peter Kempe
Registered Assayer, Province of British Columbia

To: Silver Standard Mines, Ltd.(NPL)

PAGE. No. 2

REPORT No. A29-524

DATE: November , 1969

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED		GOLD		SILVER	Copper	MoS_2						TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #15	5417 10-20				Trace	.001						
" #16	5426 0-10				Trace	Trace						
	5427 10-20				.02	.001						
	5428 20-30				.08	.001						
	5429 30-40				.06	.001						
	5430 40-50				.02	.001						
	5431 50-60				.05	.002						
	5432 60-70				.01	Trace						
	5433 70-80				.03	.001						
	5434 80-90				.01	.001						
Hole #17	5436 0-10				.01	Trace						
	5437 10-20				.01	Trace						
	5438 20-30				.01	.001						
	5439 30-40				.01	.001						
	5440 40-50				.02	.001						
	5441 50-60				.07	.001						
	5442 60-70				.04	.001						
	5443 70-80				.10	.001						
	5444 80-90				.07	.001						
Hole #10	7053 0-10				.04	.002						

Peter Kempe

Registered Assayer, Province of British Columbia

To: Silver Standard Mines, Ltd. (NPL)

REPORT No. A29 '24

PAGE No. 3

BONDAR-CLEGG & COMPANY LTD.

DATE: November 26, 1969

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED		GOLD		SILVER	Copper	MoS_2						TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #10												
7054	10-20				.03	.001						
7055	20-30				.05	.002						
7056	30-40				.06	.001						
7057	40-50				.10	.001						
7058	50-60				.11	.002						
Hole #12												
7077	0-10				.01	.002						
7078	10-20				.01	Trace						
7079	20-30				.07	.006						
? 7090 ?					.29	.017						
Hole #13												
7092	10-20				.02	Trace						
7093	20-30				.02	.001						
Hole #5												
7126	0-10				.02	.001						
7127	10-20				.01	Trace						
7128	20-30				.01	.002						
7129	30-40				.01	Trace						
7130	40-50				.01	Trace						
7131	50-60				Trace	.001						
7132	60-70				.01	Trace						
7133	70-80				Trace	Trace						
7134	80-90				.05	.001						

Peter Kempe

Registered Assayer, Province of British Columbia

To: Silver Standard Mines, Ltd. (NPL)

REPORT No. A29-524

PAGE No. 4

DATE: November [illegible], 1969

BONDAR-CLEGG & COMPANY LTD.

CERTIFICATE OF ASSAY

I hereby certify that the following are the results of assays made by us upon the herein described sludge samples.

MARKED		GOLD		SILVER	Copper	MoS_2						TOTAL VALUE PER TON (2000 LBS.)
		Ounces per Ton	Value per Ton	Ounces per Ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Hole #5	7135 90-100				.08	.001						
	7136 100-110				.04	.001						
	7137 110-120				.04	.001						
	7138 120-130				.05	.001						
	7139 130-140				.08	.001						
Hole #7	7140 0-10				.01	.002						
	7141 10-20				.04	.001						
	7142 20-30				.04	.001						
	7143 30-40				.06	.002						
	7144 40-50				.11	.001						
	7145 50-60				.07	.001						
	7146 60-70				.02	Trace						
	7147 70-80				.04	.001						
	7148 80-90				.02	.001						
Hole #2	7201 210-220				.01	Trace						
	7202 220-230				.01	.002						
	7203 230-240				.01	Trace						
	7204 240-250				.01	Trace						
	7205 250-260				.01	.001						
	7206 260-270				Trace	Trace						
	7207 270-280				Trace	.001						
	7208 280-290				Trace	Trace						
Hole #16	~~#16~~ 90-100 ✓ 7235				.02	.001						

Peter Kempe

Registered Assayer, Province of British Columbia

TO:

Silver Standard Mines,

808 - 602 West Hastings Street,

Vancouver, B. C.

Certificate of Assay

WARNOCK HERSEY INTERNATIONAL LIMITED

COAST ELDRIDGE PROFESSIONAL SERVICES DIVISION

125 EAST 4TH AVE. VANCOUVER 10, B.C., CANADA

PHONE: (604) 876-4111
TELEX: 0353
CABLE ADDRESS: ELDRICO

FILE NO. 460-A-9081

DATE October 27, 1969

We Hereby Certify that the following are the results of assays made by us upon submitted Ore samples

MARKED	GOLD		SILVER	Copper (Cu)	Molybdenite (MoS_2)				
	OUNCES PER TON	VALUE PER TON	OUNCES PER TON	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.	PER CENT.
		$							
5322	Trace		Trace	0.11	0.01				
5323	Trace		Trace	0.11	0.01				
5324	Trace		Trace	0.05	0.01				
5325	0.01	0.35	0.1	0.47	0.01				
5326	Trace		Trace	0.10	0.01				

?? Location ?

/cr

Note. Rejects retained one week.
Pulps retained one month.
Pulps and rejects may be stored for a maximum of one year by special arrangement.

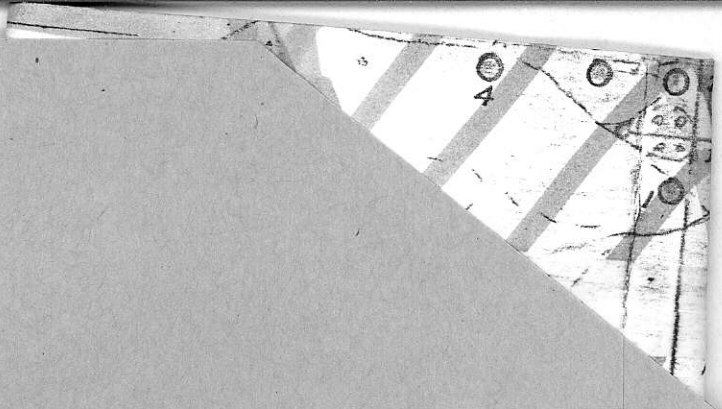
Unless it is specifically stated otherwise, gold and silver values reported on these sheets have not been adjusted to compensate for losses and gain inherent in the fire assay process.

Gold calculated at $ _____ per ounce

H. Pauke

Provincial Assayer

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Silver Standard - 1969 - Geol
PDH Locations

- 1971 - Geol
PDH Locations

FLY #1

FLY #2

FLY #23

FLY #24

FLY #3

FLY #4

FLY #5

FLY #6

FLY #7

FLY #8

FLY #9

FLY #10

Feldspathized Zone

Syenite-Diorite

Andesitic Volcanics

Greenstone

Greenstone

Greenstone

Barren Syenite

Barren Diorite

Shale + coal seams

Syen.

dior.

Syen.

dior.

dior

Syen.

Andesite

Hyd qtz vns

Barren Syenite

LEGEND

Shale
Syenite-Diorite
Feldspathization
Andesite
Silver Standard Cu Geochem Value 136
C.W.& G. Cu Geochem 136

SILVER STANDARD MINES LTD.

SUMMARY

GIBBONS CREEK DATA

DATE: 25 JAN.'71 | 1" = 400'

BY: J.McA.

inches 0 1 2

0 1 2 3 4 5 centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

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HORSEFLY LAKE

1 mile

N

FLY 1-40

37	35	33	31	29	27	25	23	1	2		
38	36	34	32	30	28	26	24	3	4		
39	21	19	17	15	13	11	9	5	6	12	11
40	22	20	18	16	14	12	10	7	8	10	9
27	25	23	21	19	17	15	13	1	2	8	7
28	26	24	22	20	18	16	14	3	4	6	5

AREA 1-28

- lineament
- claim post
- percussion hole
- drainage
- road
- dozer trench
- swamp
- float
- outcrop - greenstone
- outcrop - feldspathized zone
- outcrop - syenite - diorite (intrusive ?)
- geochem high Cu.
- float Cu
- in place Cu

AREA

NO

OUTCROP

FLY1 FLY2 FLY3 FLY4 FLY5 FLY6 FLY7 FLY8 FLY9 FLY10 FLY11 FLY12 FLY13 FLY14 FLY15 FLY16 FLY17 FLY18 FLY19 FLY20 FLY21 FLY22 FLY23 FLY24

POND

andesitic volcanic ridge

calcite chalcopyrite veinlets

TO HORSEFLY

LONG LAKE

VERY LOW GROUND

LITTLE FLOAT AND

NO OUTCROP

SWAMP

BN 4N 0S 4S 8S 12S 16S 20S 24S 28S 32S 36S 40S

20W 16W 12W 8W 4W 4E 8E 12E 44S

inches 0 1 2

centimetres 0 1 2 3 4 5

BRITISH COLUMBIA GEOLOGICAL SURVEY

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EAST ZONE
Gibbons Creek
400' = 1"
geol. & geochem.
Nov/69 RHS.

Cameron

Welcome North

Helicon - 1965 - IP Survey (East)

- Airmag Survey

- DDH Results.

AUGUST 8, 1966

883

REPORT ON THE INDUCED POLARIZATION AND RESISTIVITY SURVEY ON THE GIBBONS CREEK CLAIM GROUPS HORSEFLY LAKE AREA, B.C. FOR HELICON EXPLORATIONS, LTD.

BY

G. HUNTER WARE

NAME AND LOCATION OF PROPERTY

GIBBONS CREEK CLAIM GROUPS GI A AND GI B

SOUTH EAST QUADRANT OF LAT. 52° N

LONG 121°W QUADRILATERAL

CARIBOO MINING DIVISION, B.C.

TABLE OF CONTENTS

Introduction.....page 1
Presentation of Data.....page 1
Data Interpretation.....page 2
Conclusions.....page 4
Final Page.....page

(IN POCKET)

INDUCED POLARIZATION INTERPRETATIVE PLAN MAP.....#1

MINERAL CLAIM LOCATIONS.....#2

TABLE 1

DATE BEGUN-COMPLETED	NO. CREW DAYS SPENT	CREW SIZE	LINE SURVEYED, AND REMARKS
JUNE 21-JUNE 30	6	3	20 S; 36 W - 8 W 16 S; 16 W - 14 E (ABOVE LINES WERE RECONNAISSANCE, AT 1st AND 2nd ELECTRODE SEPARATIONS)
JULY 3-JULY 22	14	3	20 S; 14 W - 12 E 16 S; 8 W - 16 E 12 S; 16 W - 8 E 8 S; 16 W - 0 4 S; 23 W - 7 E 0 S; 16 W - 8 E BASELINE; 8 S - 32 S (ABOVE LINES WERE AT 1st THROUGH 4th ELECTRODE SEPARATIONS.)

NOTE: A crew consists of ,
1. Supervisor - receiver operator
2. Transmitter operator
3. Potential dipole assistant
(4. Fourth crew member - in training)

INDUCED POLARIZATION AND RESISTIVITY SURVEY GIBBONS CREEK CLAIM GROUP

INTRODUCTION

Table 1 summarizes the induced polarization (I.P.) measurements taken on the Gibbons Creek property in late June and early July of 1966. The initial reconnaissance survey lines at 1st and 2nd separations (16 S and 20 S), were intended to test the I.P. responses of several relatively high geochemical zones, and also the response of the sulfide mineralization exposed in stripping and trenching along the base line between 16 S and 20 S. Only the latter showed significant response.

Subsequently, a north north-west trending series of small crone J.E.M. anomalies were noticed, coinciding with the I.P. response near baseline on 16 S and representing a possible extension, under alluvial cover, of the sulfide mineralization observed there. Accordingly, detailed I.P. measurements to 4th separation were taken in the vicinity of base line on lines 20 S through zero S (see Table 1) in order to test this inferred trend and, if possible, to determine the distribution of associated sulfide minerals. Significant I.P. responses were obtained on each line, as anticipated.

PRESENTATION OF DATA

All I.P. measurements taken thus far on the Gibbons Creek property were obtained using the Heinrichs Mark II I.P. sender and receiver. This instrumentation offers multifrequency selection- a high frequency of 3.0 and a low frequency of 0.05 cycles per second were utilized. All data were taken using the dipole-dipole electrode configuration, at two hundred foot electrode separations. In practice, five current electrodes were contected from a central transmitter site, so that any of four current dipoles could be energized. The potential dipole was then moved progressively away from the transmitter, until all

desired separations had been measured with respect to each transmitter dipole. The current electrodes were numbered from one to five (see Figure 1). A particular measurement is located with respect to the property grid by specifying a) the transmitter site on the grid b) the direction to the receiver, c) the transmitter electrode pair used (1-2, 2-3, 3-4, or 4-5), and d) the separation (n). The portion of the property grid surveyed is shown in Figure 2.

The raw data measured in the field are the current (I, in amperes) transmitted across the current electrodes and the voltage (V, in millivolts) which is produced across the potential electrodes (at both high and low frequencies). Copies of all field records are shown in Appendix I. These data are corrected for calibration drift, and are then used to compute the desired physical qualities 'apparent resistivity' (ρ_a) and 'apparent percent frequency effect' ((P.F.E.)a), according to the formulas

$$\rho_a = n(n+1)(n+2)\,\frac{\ell}{2}\,\frac{V}{I} \qquad \left[\frac{\text{OHM}\cdot\text{FT.}}{2\pi}\right]$$

$$(P.F.E.)_a = \frac{V_{\text{LOW FREQ}} - V_{\text{HIGH FREQ}}}{V_{\text{HIGH FREQ}}}$$

ℓ = DIPOLE LENGTH
n = SEPARATION

The derived quantity 'apparent metal factor' is also computed, by the formula

$$(M.F.)_a = \frac{(P.F.E.)_a}{\rho_a} \times 1000 \qquad \left[\frac{2\pi}{\text{OHM.FT.}}\right]$$

The physical quantities 'apparent resistivity' and 'apparent percent frequency effect' and the derived quantity 'apparent metal factor' are presented in the standard pseudo-section format in Appendix II. The plotting convention is illustrated in each section.

Apparent resistivity measurements are generally repeatable to ± 5%. The apparent percent frequency effect measurements are accurate to ± 0.75 percent frequency effect units.

DATA INTERPRETATION

Overal I.P. experience on the Gibbons Creek property seems to indicate

that the background P.F.E.)a of unmineralized diorite and volcanics are in the range 1.0 -3.0 percent. Resistivities vary from 150 to 1000 ohm. feet divided by 2 . Topographically high ground is relatively dry and hence rather consistently resistive. Marsh and other low wet ground are conductive.

The relatively high geochemical zones at 21-27 W and 0 -11 W on line 20 S and at 3-9 W on line 16 S show only background (P.F.E.)a and resistivity. They are apparently barren of significant sulfide mineralization where tested.

A roughly linear trend of I.P. responses was obtained on lines 20 S through zero, through the stripped mineralization between 16 S and 20 S and striking about 346° true. The P.F.E.)A exhibited by this trend varied from five to seven percent. For the Heinrichs equipment utilized in the survey, (P.F.E.)a values of 4 to 8 percent are usually regarded as marginally anomalous, and values higher than 8 percent are definitely anomalous. In this case, however, a better appreciation of the significance of the observed (P.F.E.)a values may be obtained by viewing them in the light of assays taken from the stripped and exposed mineralization.

In 'pseudo-section', the (P.F.E.)a anomalies take the 'inverted V' form characteristically obtained over a steeply dipping vein with shallow upper surface. Here 'shallow' means appreciably less than the 200' electrode spacing employed. This interpretation is in accordance with a probably alluvial cover of 20-40' (estimated) along the strike of the trend. Stripping just north of 16 S and just south of 20 S did not reach bedrock.

The (P.F.E.)a values in the arms of the inverted V anomaly have been taken as a measure of the polarizability of the 200' electrode dipole at the apex of the V. Interpreting in this way, values of (P.F.E.)a

have been assigned to each 200' section surveyed, and are plotted and contoured in plan in the I.P. interpretational plan map. In viewing these results, it should be kept in mind that a survey with 200' electrode spacings cannot define variations of width or polarizability over distances less than 200'. It essentially averages over this interval.

Accordingly, the I.P. plan map is intended as a measure of the polarizability of the upper 200' or so of ground in the vicinity of a steeply dipping sulfide zone of unknown depth extent. In this regard, the plan representation of line zero is misleading in that it suggests a thinning and lessening of intensity at that line. This is probably an adequate description near surface, however, (P.F.E.)s up to 6.0 percent or more are observed at high separations over some 900'. This line is incomplete, and has not established sufficient background, especially to the East, to permit complete interpretation. There is a suggestion, however, that the zone is deeper at this point.

CONCLUSIONS

The following conclusions are indicated by the I.P. data:

1. The geochemical highs were barren of polarizable material where tested on 16 S and 20 S.
2. A zone of polarizable bedrock exists as shown in the interpretative I.P. plan map. It exhibits, at the bedrock surface, a width of roughly two hundred feet and an established strike length of 2,000 feet (open at both ends). The depth extent is not known.
3. The zone yields an apparent percent frequency effect ranging between 5 and 7%. This may presumably be correlated with channel samples that averaged 0.21% copper over several hundred feet of leached and oxidized bedrock exposed in the stripping. Such an assay might be expected to improve somewhat with depth (that is in fresher rock).
4. The polarizable zone exhibits a relatively high apparent resistivity,

as viewed by the two hundred foot dipole bulk sampling measurement. This feature makes the computed metal factors misleading, in that it displaces the metal factor highs somewhat, away from the zones of highest (P.F.E.)s and towards barren conductors such as swamps or other wet ground.
5. Both width and intensity of (P.F.E.)s are variable along the strike. The best zone, between 4 S and 8 S, had essentially no geologic or geochemical expression at the surface. It should be remarked, of course, that the I.P. response is sensitive only to total sulfide content, and does not discriminate changes in the proportions of chalcopyrite, pyrite, and pyrrhotite.
6. It is perhaps significant that the I.P. zone follows the contact between the hornblende diorite intrusive and the Jurassic volcanics (pyroxene porphyry, basalt etc.). This suggests the intrusive border as a favourable mineralization environment. The intrusive has a mapped diameter of approximately one mile (according to G.S.C.), and appears somewhat larger in the aeromagnetic data. Its border zone is largely uninvestigated.

Respectfully submitted,

Hunter Ware Jr.
Geophysicist.
B.Sci. in Eng'g.
Princeton University

I, Stanley H. Ward, Professor of Geophysical Engineering at the University of California, Berkeley and Consulting Geophysicist, hereby certify that I have consulted with Hunter Ware in the planning, conduct, and interpretation of a combined resistivity and induced polarization survey at the Gibbons Creek property of Taylor Helicon Explorations and hereby state that I agree with the interpretations and conclusions reached by Mr. Ware. This geophysical field work and interpretation is of the highest standard.

Dated: August 8, 1966

S. H. Ward
Consulting Geophysicist

APPENDIX 1

GIBBONS CREEK PROPERTY

INDUCED ELECTRICAL POLARIZATION

FIELD DATA

DIPOLE - DIPOLE ELECTRODE CONFIGURATION

ONE HUNDRED FOOT DIPOLE LENGTHS

MAGNUM CONSOLIDATED MINING CO. LTD.

SUMMARY DRILLING REPORT

GIBBONS CREEK PROPERTY

A three hole drilling programme was carried out on the Gibbons Creek property from January 26, 1967 to February 16, 1967. Two holes were drilled to test the primary target zone - an I. P. anomaly located on the west flank of the Gibbons Creek intrusive body. A third hole was drilled to test the smaller I. P. anomaly on the north-east flank of the intrusive.

The primary target zone was tested by holes 1 and 2, collared along line "B".

Hole No. 1, at 14N, drilled on a bearing of N45°W at -60° to a total depth of 510 ft.

Hole No. 2, at 22N, drilled on a bearing of S45°E at -50° to a total depth of 464. 7 ft.

Overburden in the area is quite heavy, being approximately 40 ft. thick.

Hole No. 1 appears to have penetrated the contact zone of the main intrusive body. The uppermost 120 ft. of core cuts abundant orange monzonite and altered volcanics. The monzonitic phase is probably a late stage apophysis of the main body. From 146 ft. to total depth the hole cuts massive grey hornfels with scattered feldspathization of varying intensity throughout. Replacement ranges from scattered patches and random veinlets of plagioclase and red K-feldspar to an intensely feldspathized rock of dioritic composition. The contact of the intrusive is very gradational and most of the dioritic phases appear to have resulted from

CHAPMAN WOOD & GRISWOLD LTD.

extensive replacement of the country rock. Moderate amounts of volcanic rocks are also present below 357 ft.

Drill hole No. 2 cuts greenish-grey andesites and massive hornfels with scattered feldspathization as in hole No. 1, but of a lesser intensity. Below 130 ft. the hornfels is cut by abundant volcanics, apparently post intrusive. These consist of dark greenish-grey andesite, porphyritic in part and light reddish-buff trachyte.

Abundant secondary K-feldspar is present in both holes as irregular patches and zones and random veinlets with accompanying epidote and chlorite alteration in minor amounts.

No significant copper mineralization was observed in either hole. Scattered pyrite is present in minor amounts throughout both holes (total < 1%) as scattered patches, platings on fracture surfaces and fracture fillings.

Further investigation of core from hole No. 1 revealed a significant content of magnetite (5-8%) present in the dioritic phases of the core as finely disseminated crystals. Trace amounts are also present in hole No. 2.

The total content of pyrite and magnetite appears sufficient to account for the anomalous I. P. results in this target area.

The secondary target area, on the northeast flank of the intrusive, was tested by hole No. 3, collared at 17+00S - 1+40W, drilled on a bearing of 90°E at -45° to a total depth of 366 ft.

This hole again cuts massive hornfels, as in holes 1 and 2 with moderate to heavy feldspathization scattered throughout. Where the contacts of the feldspathized zones can be traced they are predominantly at small angles to the core (10°-15°).

Significant copper mineralization was observed in only two intervals:

53-62 ft. where < 1% chalcopyrite occurs as scattered patches with trace molybdenite

138-150 ft. where < 1% chalcopyrite occurs as scattered patches and platings on fracture surfaces with associated pyrite.

Minor pyrite is present throughout, as in holes 1 and 2, with trace magnetite as scattered patches in feldspathized zones.

Seven sections of core from hole No. 3 were submitted for assay; footages and results as follows:

Sample	Footage	% Cu
3526	53-63	0.33
3527	75-85	0.03
3528	140-150	0.43
3529	170-180	0.17
3530	205-215	0.02
3531	335-345	0.03
3532	356-366	0.02

Drilling has been discontinued on the property as results do not warrant further work at this time.

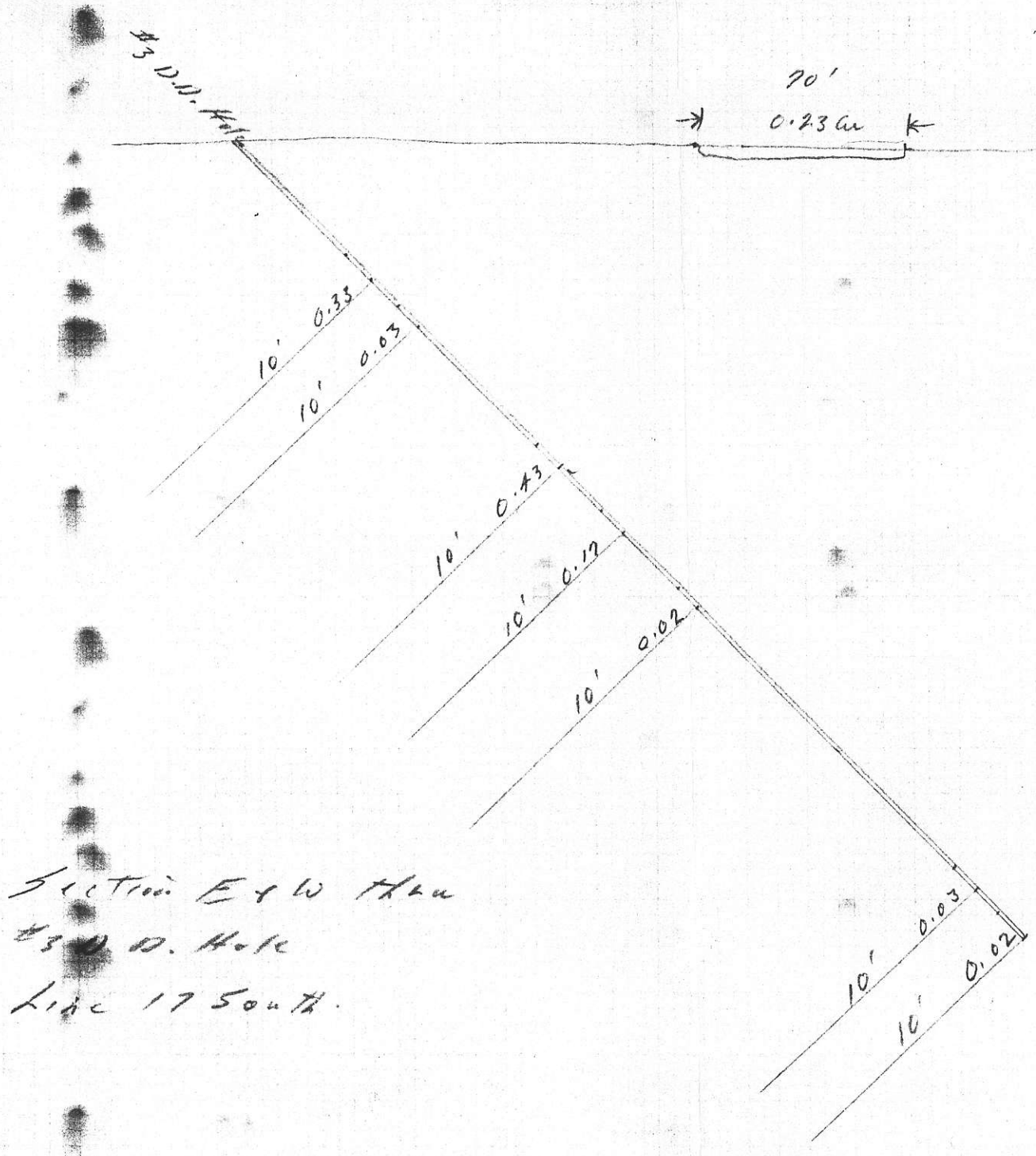
Respectfully submitted,

CHAPMAN, WOOD & GRISWOLD LTD.

Brian Williams

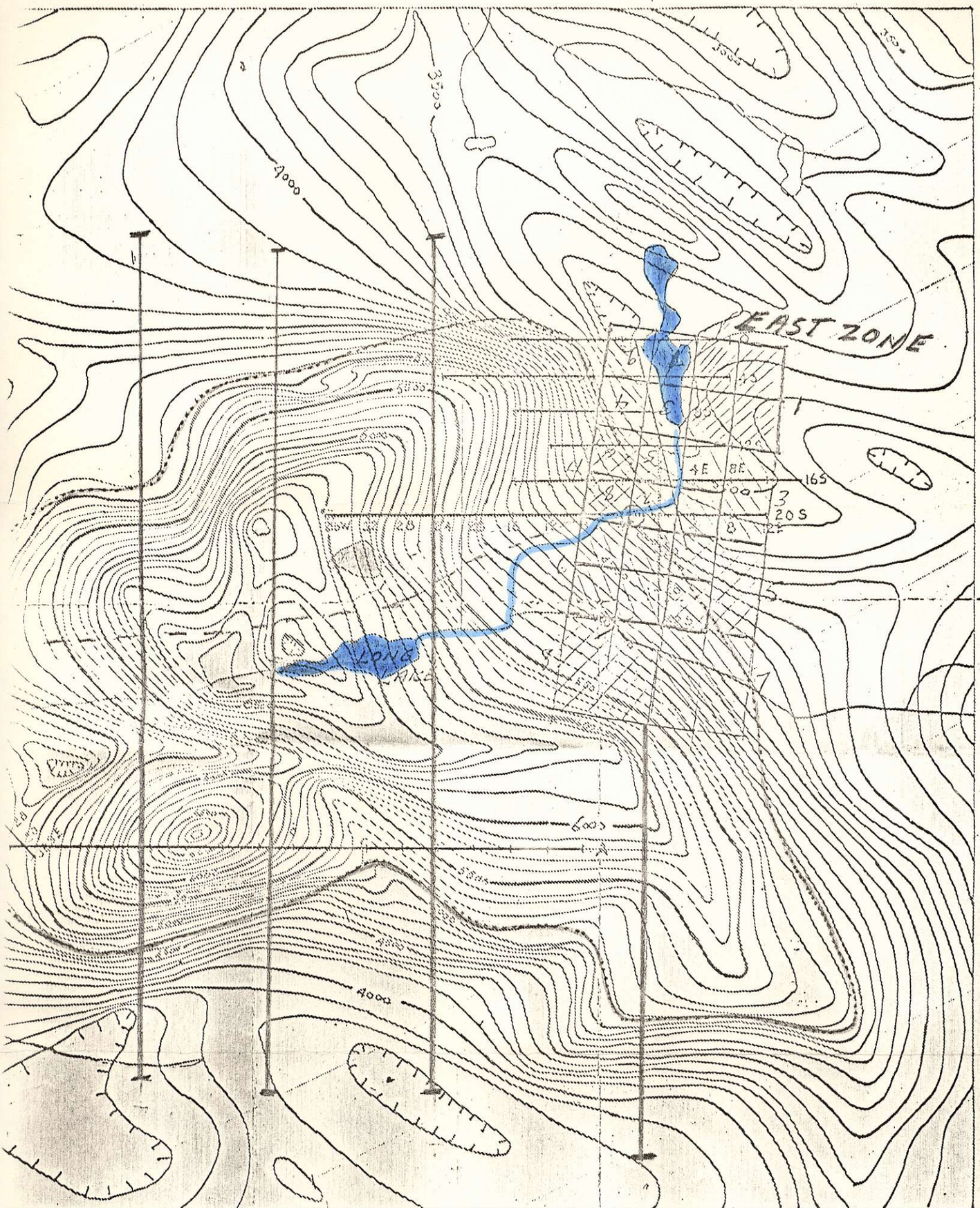
Brian Williams,
Geologist

February 28, 1967



Section E & W thru
#3 D.D. Hole
Line 17 South.

Scale 1" = 50'
On Baseline at
17 South.



THX – GIBBONS CREEK

AEROMAGNETIC SURVEY PLAN

Scale: 1 inch = 1320 ft. Contour Interval 100 gammas

Terrain Clearance.....400 ft.

——— *Interpreted intrusive-volcanic contact*

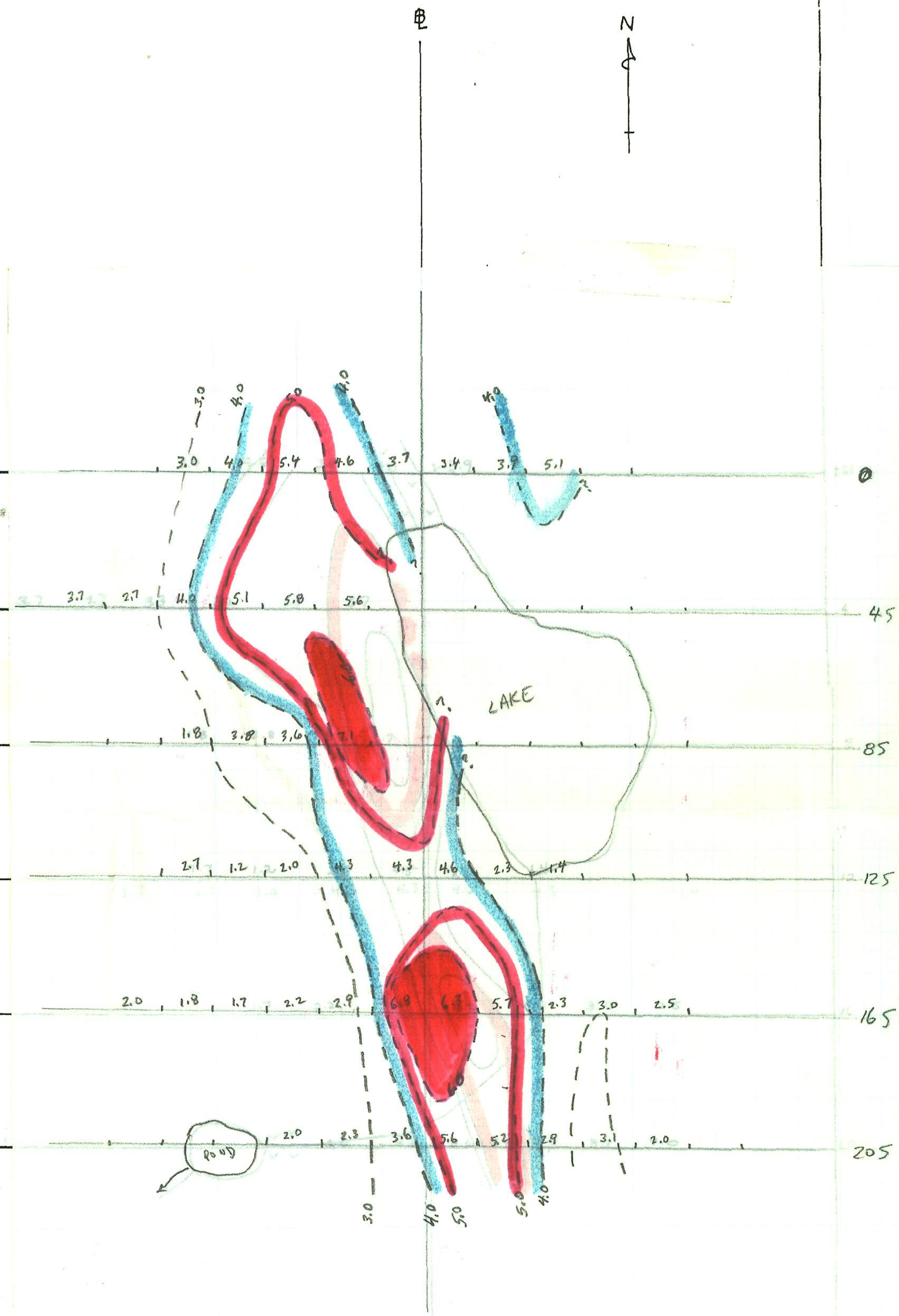
——— I.P. SURVEY LINE

——— INFERRED STRIKE LOCAT. OF POLARIZABLE BODY (SCHEMATIC)

CW&G Ltd. Drwg. No. 533 DATE Nov. 3, 1966

50,000 ft

≈ say 10 miles



1.6 3.7

3 8 8

GIBBONS CREEK

INDUCED POLARIZATION
INTERPRETATIVE PLAN MAP

(CONTOURS ON $(P.F.E.)^3$)

SCALE :- 1 INCH = 200 FEET

1"≃300'

1"≃300'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 813 MAP # 1

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

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Mt. Calv

N

3.0 4.0 3.4 4.0 3.9

1.6 3.7 3.7 1.7 3.3 5.2 3.5 6.7

1.8 3.8 3.6 7.

7.7 1.2 2.0 4.5 2.3 1.4

2.7 1.2 2.0 4.3 4.3 4.6 2.3 1.4

1.7 2.2 2.9 6.2 4.0 3.0 2.5

2.0 2.3 3.6 5.4 2.9 3.1 7.0

ZERO

4

8

12

16

20

883

GIBBONS CREEK

INDUCED POLARIZATION
INTERPRETATIVE PLAN MAP

(CONTOURS ON (P.F.E.)a)

SCALE :- 1 INCH = 200 FEET

1"≃300'

Department of
Mines and Petroleum Resources
ASSESSMENT REPORT
NO. 883 MAP # 1

inches
0 1 2
0 1 2 3 4 5
centimetres

BRITISH COLUMBIA GEOLOGICAL SURVEY

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Mt. Calv