87-70-15868
01/88

SUMMARY ASSESSMENT REPORT D. V. PROPERTY

(Ax, Lynx, Box, Pix 1 and 2 Claims)

(Reverted C.G's L3070-3073, 3539,4402)

Fort Steele Mining Division

82 G/11W

49° 35.8' N. Lat.

115° 26' W. Long.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,868

by:

ERNEST OLFERT, B.SC., F.G.A.C.

CONSULTING GEOLOGIST

3020 Fraser Street, Vancouver, B.C.

V5T 3W3

Owner: G.H. Babcock

for:

Operator: F + B SILVER LTD.

7249 Elmhurst Drive

Vancouver, B.C.

December 10th, 1986

SUMMARY REPORT D. V. PROPERTY

(Ax, Lynx, Box, Pix 1 and 2 Claims)
(Reverted C.G's L3070-3073, 3539,4402)
Fort Steele Mining Division
82 G 11/12

SUMMARY:

Extensive Au Ag Cu mineralization associated with quartz veining has been located in the Dibble area. There are basically two types of veins: [a] narrow erratic quartz veins [2-10cm. wide] containing Argentite and Bornite, which were mined in the past [+1oz./Au, 100oz./t.Ag] and, [b] wider stronger veins [+0.5m. wide] containing disseminated pyrite and lower Au/Ag values [0.05--0.3oz/t.Au]. Further evaluation of these wider veins is recommended. Interesting,geochemically anomalous Au/Ag values were encountered in the work done on the Box Gossan but potential grades of mineralization were discouragingly low.

The objective of work in the Dibble area was to locate the source of a number of very high Au soil geochem anomalies occurring west of the old workings. A number of narrow mineralized quartz veins were located just upslope and are the probable source for these soil anomalies [anomaly C]. A VLF survey was conducted over the grid area to search for high grade sulphide veins , the results of which were negative because of the disseminated nature of sulphides in the veins. Of potential importance are the wider veins, mentioned above, the most prominant of which occurs near the portal of Adit #2. Values of 0.05--0.15 oz./t.Au across 0.5m. have been sampled on this vein which extends over 50m. along strike. Down-dip in the adit this vein ran 0.27oz./t.Au and a grab sample from this area taken in 1980 ran 0.47 oz./t.Au and 23.6 oz./t.Ag. At the east end of the grid area anomalous Au in pyritic stockwork quartz near the major Dibble Fault is also of interest.

The object of work in the Box Gossan Area was to locate and evaluate the source of a number of Au soil geochem anomalies with associated very anomalous Ag,Pb,Zn values. A fault was detected by VLF on the north edge of the gossan and trenching revealed an oxidized zone of fine-grained recrystallized quartz with disseminated pyrite. Trench samples were anomalous in Pb Zn Ag Au geochemically but disappointing economically. Several other geochem anomalies high in Pb/Zn but without associated anomalous Au/Ag values were found to be underlain by Po bearing black argillites of the M/U Aldridge Fm.

Results from the fluid inclusion study suggest that the mineralization on the property is mostly metamorphic related. The best potential would therefore be restricted to major fault structures and tight fold centers. Field observations of strong sericite development enveloping the Dibble veins suggest that there may be a hydrothermal influence to the mineralization as well.

SUMMARY REPORT D. V. PROPERTY
(Ax, Lynx, Box, Pix 1 and 2 Claims)
82 G 11/12

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INTRODUCTION

Armstrong's assessment report [1980] provides a detailed description of the mining history of this property. Interest at present is centered on three locations: the Dibble area, Box area and the Victor area. Minor production has occured in two of the areas in the period 1895 to 1935: 32 tons of handpicked ore from the Dibble grading up to 3% Cu, 132 oz/t.Ag and 0.17 oz/t.Au, and approx. 50 tons of ore from the Victor grading up to 31 % Pb, 8.7% Zn, 22 oz/t.Ag, 0.11 oz/t.Au and 0.6% Cu. Other past producers of significance in the area include the Bull River Cu-Ag mine, located 15 km. to the south of the Dibble property,and the Kootenay King and Estella Pb-Zn-Ag mines located approx. 20 km. to the north. The major Sullivan Pb-Zn mine is located 45km. to the northwest. All of the above mentioned producers are hosted in the Precambrian Aldridge and Creston Fms.

Previous work done on this property include the following:[1] a preliminary geological and VLF survey on the Dibble workings in 1972 by TVI MINING Ltd.; [2] a preliminary Reconnaissance Geological and Geochemical survey by C.M. Armstrong in 1980 for the present owners; [3] localized soil and rock sampling by the present owners during 1982; [4] a brief geological and geochemical examination of the Box area followed by a reconnaissance and detailed soil sample program conducted in 1984; [5] a geological survey of the Dibble area in 1985. The Box gossan area and the Dibble were further investigated in 1986, the summary of which is covered by this report. A brief visit to the Victor adits was also made in 1986.

LOCATION: (82G/11W, 49 36′ N.Lat. and 115 28′ W. Long.)

The property is located 22 kms. N.E. of Cranbrook and 9kms. east of Ft. Steele in steep and rugged terrane of the Kootenay Ranges. The property is partly accessible by road to Maus Creek and Horseshoe Lake. Helicopter bases are located at Cranbrook and at the Kimberley/Cranbrook airport. Location is shown in figures 1 and 2.

PROPERTY AND WORK DONE

The D.V. property originally consisted of the following claims and crown grants: [parts of the Sox, Cox and Rox have since been dropped].

Modified Grid Claims

CLAIM	REC. NO	UNITS	REC. DATE.
SOX	1407	16	MAY 11/81
ROX	1408	16	MAY 11/81
COX	1409	20	MAY 11/81
BOX	1063	20	SEPT 15/80
PIX I	1064	1	SEPT 15/80
PIX II	1065	1	SEPT 15/80
LYNX	1022	8	JULY 30/80
AX	1023	20	JULY 30/80

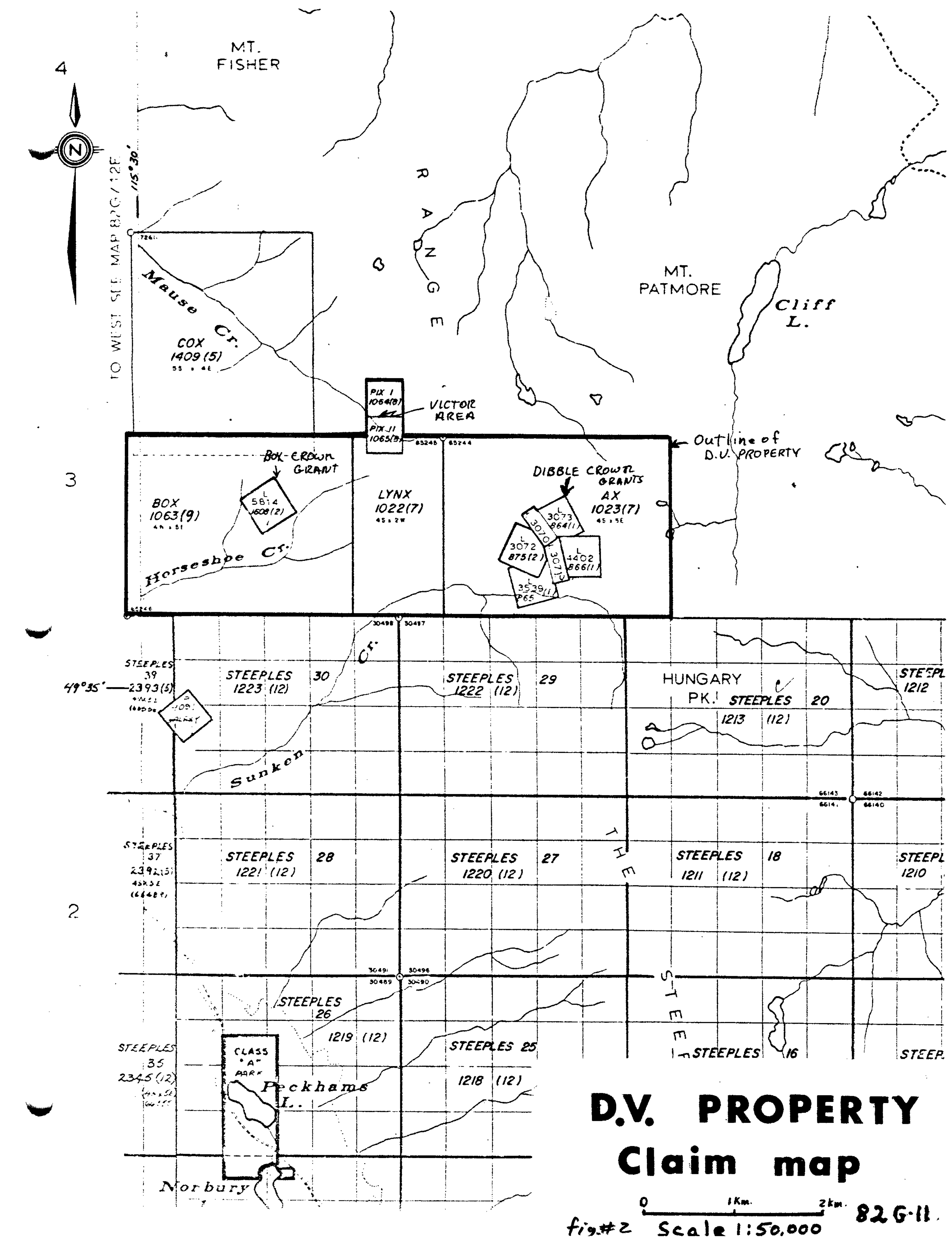
Reverted Crown Granted Claims

CROWN GRANT	REC. NO	LOT NO.	REC. DATE.
LAST CHANCE Fr.	864	L3070	JAN 15/80
BEAVER Fr.	864	L3073	JAN 15/80
1st. Ext. of LAST CHANCE	865	L3071	JAN 15/80
FOSTER	865	L3539	JAN 15/80
RICHMOND HILL	875	L3072	FEB 4/80
EMERALD	866	L4402	JAN 15/80
BIG THREE	1608	L5814	FEB 15/80

Claims are shown in Figure 2.

LOCATION MAP
D.V. PROPERTY

fig. #1



D.V. PROPERTY
Claim map

0 1Km. 2km.
fig.#2 Scale 1:50,000 82G-11

1986 Work Program:

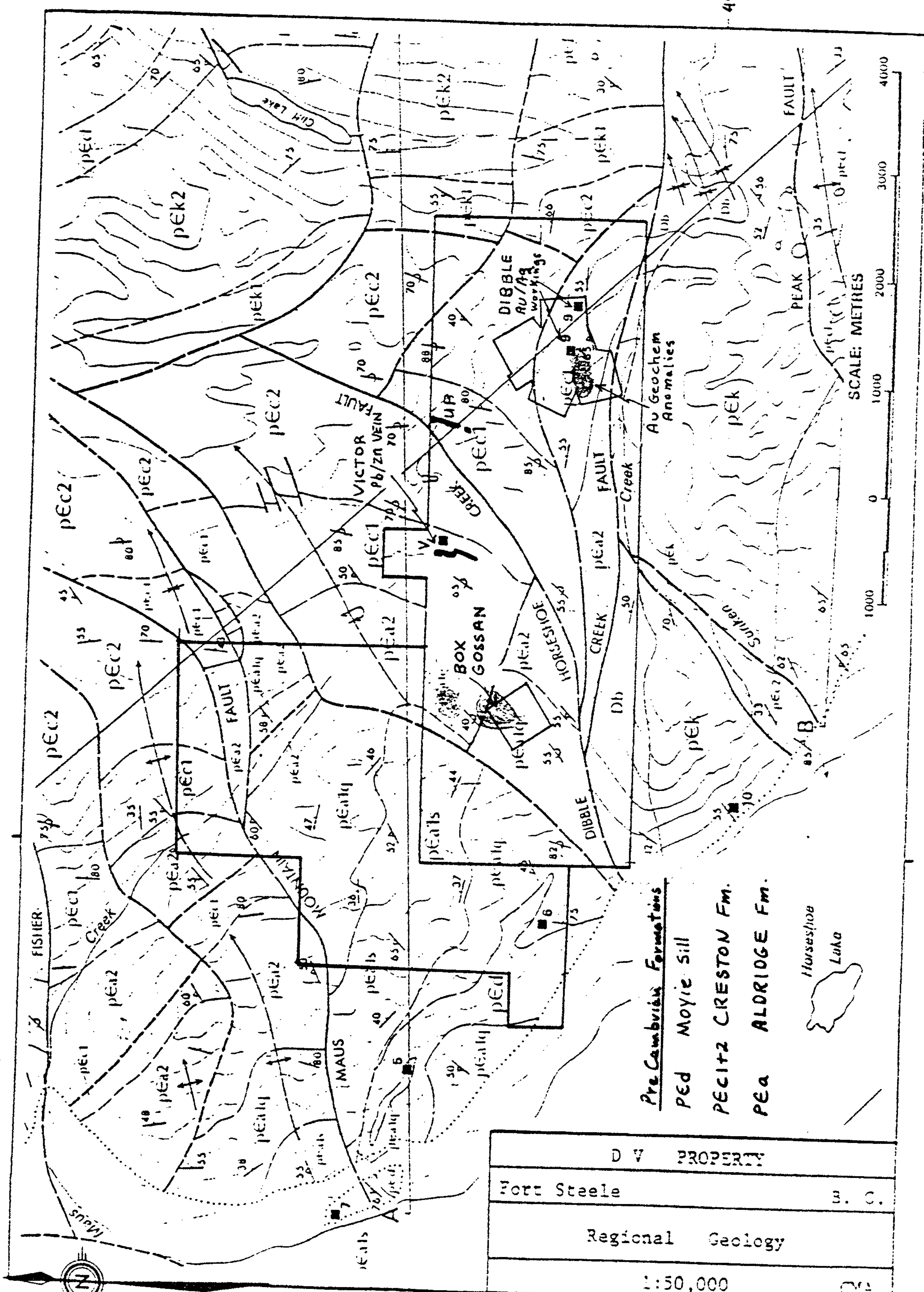
Between June 5th-20th, 1986 a brief examination and rock sampling survey was conducted in the Box area by P. Klewchuk and myself. Also at this time a VLF survey and further prospecting was conducted in the Dibble area with the help of Austin O'Hara [geophysist from Vancouver].

Between Sept. 15th--30th rock samples were taken from various locations on the D.V. property for a fluid inclusion study done by KRTA MINERAL SERVICES of New Zealand. Minor additional soil sampling in the Dibble area and hand-trenching on the Box gossan area was done during this time as well.

A brief field examination of the property was made by Barry Price [M.sc. consulting geologist] and myself to verify the results to date on the property in preparation for a "qualifying" report [in progress].

GEOLOGY AND GEOCHEMISTRY [see fig. #3 Geology]

The property is located in the rugged front ranges of the Rocky Mountains, just east of the Rocky Mt. Trench. The Box area is underlain by an overturned sequence of argillites and quartzites of the U/M Aldridge Formation. These sediments are more shallow water in orgin than the basinal L/M Aldridge hosting the Sullivan Deposit. The Victor and Dibble areas are underlain by shallow-water siltstones of the Creston Fm. The Creston Fm. lithology is known to host numerous stratiform Cu-Ag showings in the southern Rockies, the biggest of which is the Spar Lake Deposit



D V PROPERTY
Fort Steele B. C.
Regional Geology
1:50,000 CMA

From: B C Dept of Energy, Mines &
Petroleum Resources
Preliminary Map No. 34

fig. #3

in N.W. Montana. Local diabase dykes and the Moyie Sill on the west side of the property are the only known intrusives in the immediate area, however, syenitic intrusives with related Au mineralization are known to occur to the north in the Wild Horse R. area and to the south near Howell Creek. Extensive faulting associated with the Rocky Mt. orogeny is believed to have had a strong influence on the known mineral showings on this property. Numerous strong Au/Ag soil geochem anomalies associated with conformable [strata-parallel] quartz veins occur in the Dibble area, anomalous Cu Pb Zn Ag Au values occur on the Box gossan next to a fault zone, and Pb Zn Ag Au sulphides occur in a faulted quartz vein in the Victor area.

SAMPLING AND TRENCHING

A total of 40 rocks and 16 soils samples were taken in the Box gossan area; 25 rocks, 8 silts and 33 soil samples in the Dibble area, and 4 rocks and 15 soils were taken from other areas of the property. (all soils are "C" horizon and often talus fines.) All samples were analyzed by Acme Laboratories of Vancouver for various elements including Cu,Pb,Zn,Ag,andAu but the predominant emphasis was on Au and Ag. A few samples were also run for Hg,F,Ga,and Ge besides the standard 30 element ICP analysis.[see lab reports].

One hand-trench with average dimenions 24 m long by 0.6 m wide by 0.6 m deep was cut on the Box gossan zone.

DISCUSSION OF RESULTS

[1] Dibble area: [see plates # 5, 6, and 7]

A number of mineralized narrow quartz veins were located on the cliff-face slope between 1+50W and 2+50W, and 0S to 0+25S. Gold values up to 0.66 oz/t. over 10 cm. occur in samples taken from these veins [samples E01,2,6]. These narrow mineralized quartz veins mechanically weather downslope to produce the anomalously high soil values in anomalie C [1985 soil anomaly with high Au values 400 -1200ppb]. Several of the above very anomalous soil stations were resampled and returned relatively low Au values suggesting that there is a nugget-effect in the soil geochemistry. This is to be expected in an area underlain by steep slopes where the Au source is from the mechanical breakdown of Au in quartz veins.

In the area of Anomaly B [3+50W to 4W] an additional quartz vein was located at 3+75W 0+62S which contained 1920 ppb. Au across 0.5m. This may represent an eastern extension of the vein found in an old trench at 4W, which carried 2550 ppb.Au over 1.3 m. The trend of this vein is easterly toward soil anomaly D which occurs 150m. further east. The specific source for anomaly D has not yet been determined.

Of most significance in the Dibble area is a strong quartz vein, with low to moderate gold values, which is found in outcrop just above the portal of Adit #2. This vein where sampled contained 1000 to 2000 ppb.Au across 0.5m. and has been traced continously over a strike-length of 50 to 75 m., trending west towards the top of anomaly D. In 1980 a grab-sample taken in this area returned 0.47 oz/t.Au and 23.6 oz/t.Ag. An old trench was found 20 m. along strike to the east of Adit #2; sampling of the above vein at this new location returned 0.15 oz/t.Au across 0.5 m. Another vein in an old trench was located a further 75 m. along strike to the east near 0+10E/0+05S. Sampling of the vein at this location returned 0.009 oz/t. across 1 m.

Another vein which has some potential is located at the top of anomaly F at about 2E/0+50N. The vein can be traced about 30m. along strike and is greater than 0.5m. in thickness. This vein is highly pyritic and resampling E-47 returned 0.016 oz/t.Au across 0.5 m.

Extensive stockwork quartz-flooded veining was found in an old Adit at the east end of the grid area, approx. 500 m. east along the trail from the cabin. A section across 1.6 m. containing disseminated pyrite and quartz veinlets returned 75 ppb.Au. Soil sampling in this area detected a minor Au geochem anomaly [anomaly I]. Of significance is the fact that the major E/W Dibble Fault passes through this area; also the highest Au value in the intial silt-sampling survey by Armstrong in 1980 occurred in this drainage [45ppb.Au]

Some prospecting was done in the areas of anomaly H and G. Float scree from quartz veining higher up on the slope is believed to be the source for these anomalies. Minor rock sampling and silt sampling was done along the North Dibble Fault, just to the north of the grid area, but no potential mineralization was located.

Only minor zones of barren quartz veining were discovered with the highest sample containing 65 ppb.Au.

A VLF survey was carried out over the main grid area, between 6+00E and 7+50W. No anomalies were located.[see attached Geophysical report].

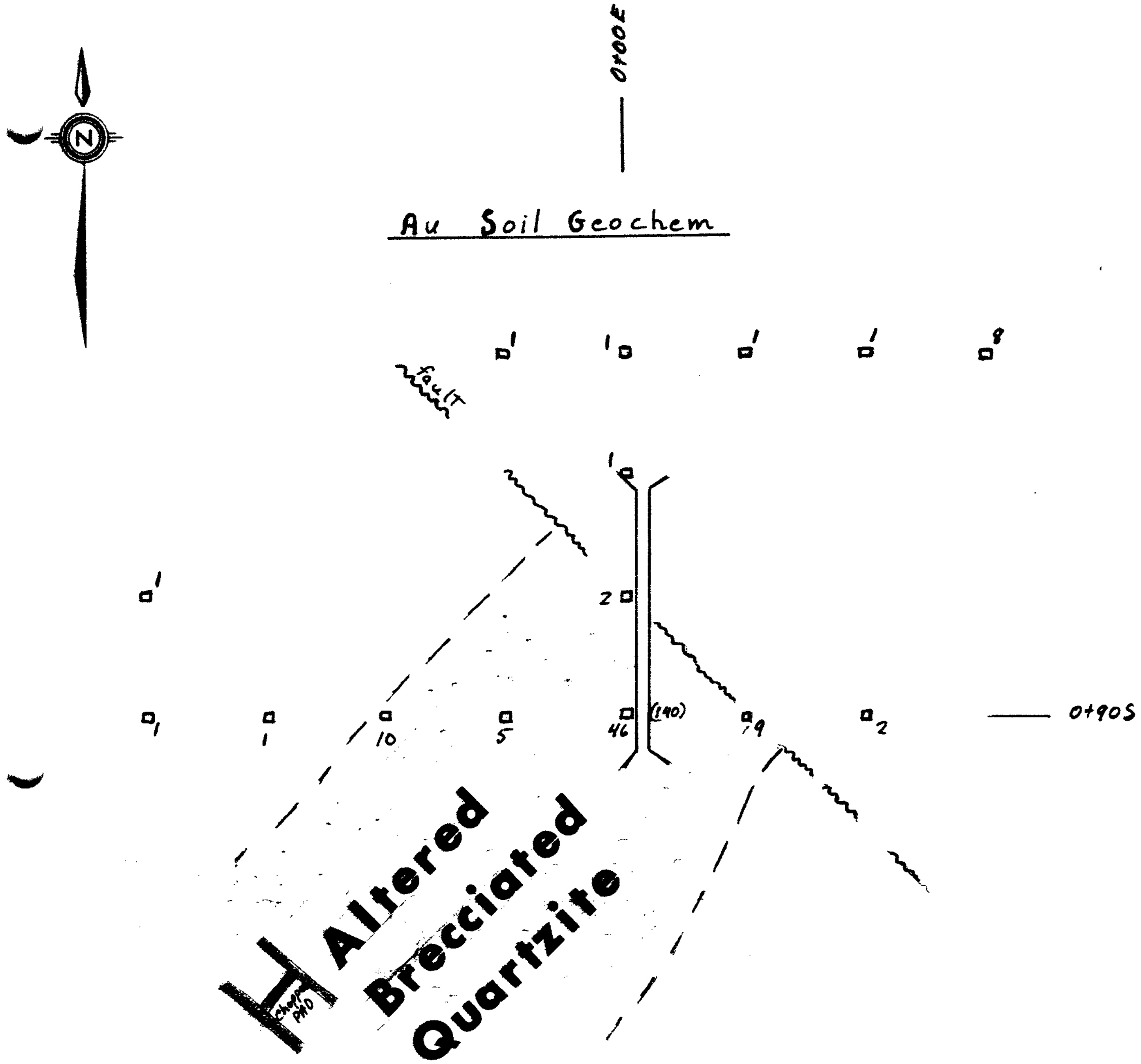
[2] Dibble Faults on ridge: [see attached plate #1]

Three soil samples were taken on the North Fault [B] and 11 samples were taken on the South Fault [A] but no significant Au Ag anomalies were detected. [highest sample contained 14ppb.Au]

[3] Box Gossan Area [see fig. # 4 and 5 and plate # 2, 3, and 4]

Some rock and soil sampling was conducted over the Box gossan zone [0+90S OE] to determine Au Ag Pb Zn values. Au Ag results were rather low [a maximum of 0.7 ppm Ag and 2 ppb.Au occurred in rock, and 2 ppm Ag and 46 ppb Au in soil samples taken over this zone]. Pb/Zn values in both soils and rocks were anomalously high. Trenching and VLF testing have indicated that this gossan zone of quartz with disseminated pyrite is cut off to the north by a NW/SE trending fault. Au values in rock samples from the trench were weakly anomalous near this fault [22-46 ppb.Au]; other anomalous elements near the fault include Ag Pb Hg minor Ba and a minor depletion of Fluorine. Petrographic work has determined that the fine grained silica with the appearance of chalcedony is actually recrystalized detrital quartz.

A zone of recrystalized quartz was located between line 4 and 5, about 450 m. S.W. of the above gossan zone, where a previous soil sample returned 870 ppb.Au. The zone of alteration is similar



SOIL SAMPLE RESULTS

	Cu	Pb	Zn	Ag	Ba	Au
0+60S, 0E	13	45	196	0.2	256	1
0+70S, 0E	12	68	244	0.2	344	1
0+80S, 0E	19	552	341	0.3	397	2
0+90S, 0E	16	1023	501	1.3	1011	46
0+60S, 10E	11	57	354	0.3	377	1
0+60S, 20E	18	85	263	0.2	390	1
0+60S, 30E	25	119	236	0.4	396	8
0+60S, 10W	13	43	267	0.3	223	1
0+80S, 40W	10	162	366	0.7	301	1
0+90S, 10E	12	1541	373	0.5	1193	9
0+90S, 20E	14	931	432	0.9	798	2
0+90S, 10W	8	915	338	0.6	1030	5
0+90S, 20W	12	2114	247	2.0	705	10
0+90S, 30W	7	344	556	0.5	824	1
0+90S, 40W	14	131	295	0.2	332	4

All values in ppm except Au in ppb.

See Plate 1 for trench Loc.

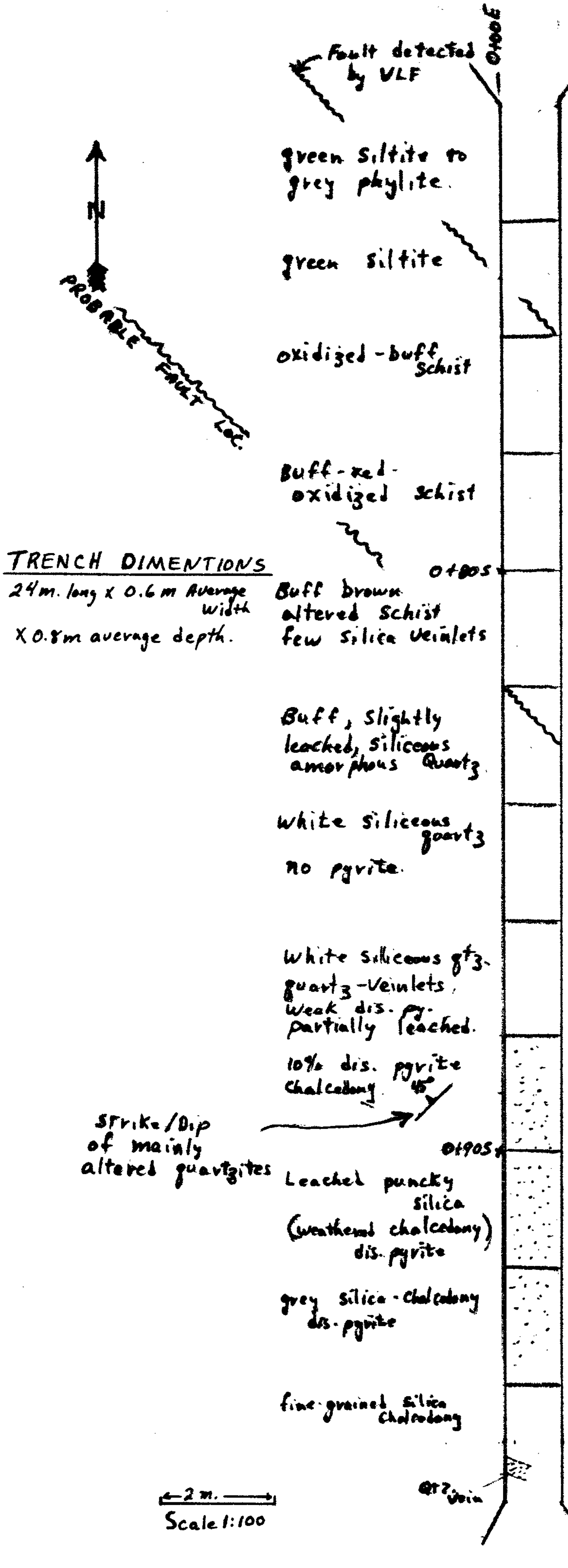
Box Gossan

Trench Area

0 10m. 20m.
SCALE

fig.#4

BOX GOSSAN Trench



Sample	Cu ppm	Pb ppm	Zn ppm	Ag ppm	Au ppb.	Ba ppm	
G-12	10	25	93	0.1	1	105	
G-11	9	18	79	0.3	1	231	10 ppb. Hg; 660 ppm. F
G-10	10	173	216	0.1	3	126	50 ppb. Hg; 580 ppm. F
G-9	13	99	476	0.2	1	170	
G-8	10	61	185	0.1	2	491	
G-7	4	175	81	0.3	21	374	
G-6	8	1385	40	2.3	12	624	
G-5	15	2277	151	1.7	25	778	4800 ppb. Hg; 110 ppm. F
G-4	11	96	156	0.3	22	115	
G-3	4	59	47	0.2	46	397	70 ppb. Hg; 220 ppm. F
G-2	3	22	3	0.2	9	236	
G-1	5	205	13	0.3	16	330	20 ppb. Hg; 270 ppm. F

ALL Samples over 2 m. Intervals.

See Plate #1 for Loc.

fig. #5

to the gossan zone mentioned above . A rock sample returned 80 ppb.Au.

Minor prospecting and sampling was done in the area of several adits 250 m. N.E. of the Gossan zone. Silica alteration and brecciation appear to be local [less than 25m. in diameter]. Rock samples EG3 and EG4, taken at the most easterly adit, were geochemically high in Pb and Zn but low in Au and Ag [maximum of 12ppb.Au]. The westerly Adit has been sampled previously and is very pyritic [>50ppm.Ag, 2400ppm.Cu and 385ppb.Au across 1m.]. Examination of old field notes from a local VLF survey done by Armstrong in 1981 did not indicate any crossover anomalies here.

A number of Pb/Zn soil anomalies in the Box area, without coincident Au/Ag were rock sampled to determine Pb/Zn values in the underlying pyrrhotitic black argillites. Average values in samples EG17 to EG27 were anomalous in Pb [90ppm.] and Zn [149ppm.]

[4] Victor Area:

Work here was restricted to a brief examination of the old workings and the sampling of an old trench approximately 150 m. N/N.W. across the creek from the lower adit. The upper two adits are in good condition and the vein appears to be strong with evidence of production having occured in the middle adit. The portal of the lower adit is in a talus slope and is extensively collapsed. Sampling of the above mentioned trench returned 27 ppb.Au, 0.9 ppm.Ag; 25 ppm.Cu; 185 ppm.Pb; and 146 ppm.Zn.

[5] Gossan on Horseshoe Creek Fault: [see plate # 1]

A gossan weathered zone containing limonite weathered quartz-sericite schist with minor quartz veining was discovered on the south side of "Victor Hill", along the trace of the Horseshoe Creek Fault. This zone was sampled at three locations along a 250m. strike-length but no significant values in any metal were detected. Two samples were anomalous in Barium.

CONCLUSIONS AND RECOMMENDATIONS

[1] Although the intial objective of locating a high grade sulphide vein of significant size in the Dibble area was not achieved [negative VLF survey] , a number of relatively strong quartz veins with widths of 0.5 to 1m. and grades of 0.03 to 0.15 oz./t. Au have been located. The 1986 work should be followed up by a trenching program to establish grades below the weathered surface and determine actual strike-lengths in covered extensions. Of real significance is the vein above Adit #2 which has been traced for over 50 m. along strike, is open in both directions and appears to increase in grade with depth.[0.27 oz./t.Au in Adit #2]. A surface grab sample taken in this area, west of Adit #2, by R. Babcock in 1980 returned 0.47 oz./t.Au and 23.6 oz./t.Ag.

Although the fluid inclusion study suggests a metamorphic origin for these veins, the presence of abundant apple-green sericite enveloping these veins may suggest a partial hydrothermal influence. The significance of a number of diabase dykes, anomalous in copper, located along the ridge-top to the north should be investigated.

[2] Anomalous Au associated with disseminated pyrite in

stockwork quarztz-flooded veinlets, located around an old adit at the east end of the Dibble area, is interesting as this zone is located adjacent to the major E/W Dibble Fault. Some VLF and prospecting should be done along the fault zone in this area.

[3] Weakly anomalous Au Ag Pb Zn mineralization is associated with the Box Gossan. The area of quartz alteration and disseminated pyritization appears to be partially strata-controlled by the porous quartzitic host rock , and by the adjacent faulting. Further work should be done along this fault at fault intersections where more fracturing and brecciation may have occured. It is possible to explain the mineralization on the Box Gossan by the metamorphic remobilization of anomalous metals from local pyrrhotite rich black argillites within the Aldridge Formation.

[4] Some consideration should be given to a re-evaluation of the Victor Vein. A recommendation of further underground drifting and drilling was made in a report on the Victor by George L. Mill [P.Eng.] in 1968. This was supported by Armstrongs recommendations in 1980.

[5] Elsewhere minor work that was done on a gossan on Horseshoe Crk., just south of "Victor Hill", and on a ridge south of Horseshoe Crk.,cut by the Dibble faults, indicate that traces of mineralization are present along fault zones. Areas along faults cutting incompetant host rocks, or areas of fault intercepts would be areas of potential interest. Fold-axes and intrusive dykes would also be targets of investigation.

REPORT BY:

ERNEST G. OLFERT

GEOLOGICAL ASSOCIATION OF CANADA
E. G. OLFERT
FELLOW

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COST-STATMENT D. V. PROPERTY

A. MAY 1st- SEPT. 15th

GEOLOGY: E. Olfert 18.25days x 200/day	3825.00
P. Klutchuk 3.25days x 250/day	875.00
GEOPHYSICS: A. O'Hara 9days x 298.64/day	2,687.76
GEOCHEMISTRY: Sample shipping	54.57
94 Au + ICP analysis at 12.02/sample	1129.75
ENG./SUPERVISION: G. Babcock 7.5days x 200/day	1500.00
HELICOPTER:	1608.00
FIELD-SUPPORT-COSTS: food, motel, ect.	848.84
VEHICLE:	362.50
MISC: Telephone, maps,	85.00
TOTAL	12,976.42

B. SEPT. 16th- DEC. 15th

GEOLOGY: E. Olfert 9days x 200/day	1800.00
B. Price 1day x 322	322.00
GEOCHEMISTRY: Sample Shipping	26.70
44 Au geochem at 4.53/sample	199.25
2 Ge and Ga at 13.00/sample	26.00
35 ICP Analysis at 7.40/sample	259.00
5 F and Hg at 8.00/sample	40.00
3 Au/Ag assays at 12.75/sample	38.25
ENG./SUPERVISION: G. Babcock 7.5days at 200/day	1500.00
TRENCHING:	812.24
FLIUD-INCLUSION STUDY:	1115.50 add $0.36
VEHICLE:	343.50
FIELD-SUPPORT COST: Food, motel	405.73 add $10.00
AIRFARE: 2 x 301.40 Van./Cranbrook return	602.80
HELICOPTER:	1253.33
REPORT WRITING:	1250.00
TELEPHONE:	343.40
MISC: TELEX, ECT.	66.00
TOTAL	10,403.70

TOTAL EXPENDITURES MAY 1st to SEPT 15th	12,976.42
TOTAL EXPENDITURES SEPT 16th to DEC 15th	10,403.70
TOTAL EXPENDITURES MAY 1st to DEC. 15th	23,380.12

add 10.36 Egv.
$23,390.48

GEOLOGICAL ASSOCIATION OF CANADA
E. G. OLFERT
FELLOW

Respectfully submitted

E. Olfert, B.Sc., FGAC.
Consulting Geologist

II. STATEMENT OF QUALIFICATION

I ERNEST GEORGE OLFERT, of the City of VANCOUVER, Of the province of BRITISH COLUMBIA, do hereby certify:

1. That I reside at 3020 Fraser Street, Vancouver, B.C.

2. That I am registered as a Professional Geologist in good standing in the Province of Alberta.

3. That I have completed an Honours B.Sc. degree in Geology at the University of Calgary in 1970.

4. That I have been actively employed as a Geologist in the mining industry since graduation.

5. I am a fellow member of the Geological Association of Canada.

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: SOILS/SILTS P2-ROCKS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JUNE 20 1986 DATE REPORT MAILED: June 26/86 ASSAYER. D. Toye ...DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-1094 PAGE 1

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
1+00S 2+00W	2	13	16	72	.3	30	25	856	3.79	16	5	ND	1	12	1	2	2	20	.18	.09	21	12	.42	290	.04	4	1.59	.01	.08	1	17
0+25S 2+00W	1	14	9	88	.6	21	10	189	2.62	2	5	ND	5	10	1	3	2	26	.10	.18	11	10	.22	172	.15	6	4.13	.03	.05	3	2
0+25S 2+50W	1	8	10	80	.4	12	14	773	3.55	10	5	ND	4	11	1	3	2	22	.15	.06	25	11	.32	245	.04	3	1.33	.01	.08	1	15
B0+25N 0E	1	19	14	48	.2	8	5	829	1.89	2	5	ND	2	8	1	2	4	27	.07	.25	9	9	.11	43	.15	2	4.17	.04	.02	4	1
B0+10N 0+25E	1	16	11	54	.1	10	9	2055	2.36	2	5	ND	3	8	1	2	2	29	.07	.34	7	10	.12	61	.17	4	5.07	.04	.03	1	1
B0+20N 0+50E	1	8	11	75	.1	38	7	409	2.99	3	5	ND	2	6	1	2	2	44	.04	.09	17	44	.28	153	.07	4	1.51	.02	.05	1	1
A0S 0E	1	17	18	142	.1	23	14	1675	4.20	11	5	ND	3	9	1	4	2	23	.13	.10	18	14	.21	209	.03	2	1.60	.01	.07	1	1
A0+25S 0E	1	17	30	68	.2	34	13	223	4.01	9	5	ND	4	7	1	2	2	34	.13	.10	20	33	.51	97	.06	6	2.77	.02	.06	1	1
A0+25N 0E	1	16	41	95	.1	28	22	2599	3.80	15	5	ND	4	9	1	3	2	14	.14	.07	16	10	.16	128	.02	2	.99	.01	.07	1	1
A0N 0+50E	1	16	48	175	.1	30	11	681	4.71	10	5	ND	4	10	1	4	2	35	.18	.09	18	20	.30	219	.07	7	2.85	.02	.07	1	1
A0+25N 0+50E	1	23	15	111	.4	47	16	757	3.84	15	5	ND	5	7	1	2	3	24	.10	.05	25	19	.30	158	.03	3	1.75	.01	.09	1	1
A0+25S 0+50E	1	15	34	70	.4	35	13	244	4.64	8	5	ND	4	6	1	2	4	43	.09	.07	20	39	.48	107	.05	7	2.27	.01	.08	1	1
A0+50W 0N	1	29	54	71	.4	37	16	674	5.79	23	5	ND	5	7	2	8	4	37	.20	.08	25	29	.70	96	.03	5	2.46	.01	.10	2	1
A0+25N 0+50W	1	11	32	128	.3	24	10	520	3.31	9	5	ND	3	6	1	2	3	26	.09	.10	21	19	.42	128	.03	5	1.69	.01	.08	1	6
A0+25S 0+50W	2	31	55	55	.3	46	18	287	5.92	17	5	ND	5	7	1	5	5	35	.11	.05	20	36	.47	99	.03	14	2.33	.01	.12	1	7
A0+25E 0N	1	15	24	117	.1	25	11	1563	3.54	11	5	ND	4	9	1	4	2	27	.15	.05	19	20	.36	249	.01	6	1.69	.01	.10	1	1
A0+25W 0N	1	10	23	60	.2	27	9	291	3.49	12	5	ND	4	7	1	3	4	27	.16	.07	19	26	.33	75	.01	6	1.38	.01	.12	1	14
ET 1	1	19	7	34	.1	12	6	447	1.70	2	5	ND	1	9	1	2	6	11	.22	.07	20	10	.62	270	.02	3	.86	.01	.10	1	1
ET 2	1	22	32	56	.1	14	7	608	1.62	3	14	ND	1	24	1	2	6	8	.40	.09	14	11	.87	411	.01	2	1.19	.01	.05	1	3
ET 3	1	19	16	47	.1	13	6	533	1.72	3	14	ND	3	12	1	2	5	7	.38	.08	17	7	.97	190	.01	3	1.13	.01	.07	1	1
ET 4	2	208	26	84	9.4	17	19	737	3.05	20	15	ND	2	17	1	63	6	8	.73	.09	13	7	.50	334	.01	4	.77	.01	.07	1	715
ET 5	1	32	15	40	1.0	17	11	525	3.47	23	5	ND	6	10	1	2	2	9	.27	.05	18	8	.52	143	.01	2	.67	.01	.08	1	29
ET 6	2	55	9	41	.1	15	12	1078	2.57	13	5	ND	2	6	1	2	4	8	.28	.06	16	7	.46	174	.01	2	.68	.01	.07	1	3
ET 7	1	104	107	127	.1	27	28	2207	4.48	16	5	ND	3	18	1	2	2	45	.60	.11	26	21	2.61	238	.09	6	2.49	.01	.08	1	1
STD C/AU-0.5	20	58	41	130	7.0	65	28	1165	3.94	37	18	7	32	48	17	16	21	61	.48	.11	39	57	.88	176	.08	39	1.73	.08	.10	13	510

Dibble Soils

Dibble Fault on Ridge

Silts Dibble area

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au# PPB
E01	2	2847	3	289	507.6 ✓	11	5	78	1.80	1058	5	5	3	4	6	4123 ✓	32	1	.06	.03	4	7	.06	68	.01	2	.19	.01	.09	1	4560
E02	2	4121	2	119	480.6 ✓	4	1	36	.65	992	5	9	1	2	13	4841 ✓	33	1	.03	.01	2	4	.01	17	.01	2	.06	.01	.03	1	22500
E03	2	30	4	14	5.4	9	9	138	1.87	15	5	ND	2	2	1	31	2	1	.02	.01	7	4	.02	18	.01	3	.12	.03	.04	1	20
E04	1	119	3	75	8.8	11	18	113	2.47	42	5	ND	2	2	1	123	2	1	.01	.02	8	6	.04	28	.01	2	.13	.01	.05	1	6
E05	1	31	4	27	4.3	9	10	281	2.25	12	5	ND	2	6	1	25	2	2	.18	.02	6	3	.13	49	.01	2	.18	.02	.08	1	250
E06	3	2937	2	336	398.1 ✓	10	4	67	1.52	1297	5	32	1	5	15	7081 ✓	83	1	.03	.01	2	6	.06	183	.01	3	.08	.01	.05	1	18600
E07	1	29	2	16	3.0	9	13	68	1.72	14	5	ND	1	3	1	19	2	1	.08	.05	3	4	.07	64	.01	2	.19	.01	.06	1	435
E08	1	40	2	6	9.5	4	3	57	.48	11	5	ND	1	1	1	54	2	1	.02	.01	7	5	.13	21	.01	3	.16	.01	.03	1	65
E09	1	7	2	16	.4	5	2	70	.56	3	5	ND	1	2	1	2	6	3	.05	.03	5	4	.64	13	.01	2	.45	.01	.03	1	2
E010	4	9	2	1	1.0	4	1	42	.50	2	5	ND	1	2	1	5	2	1	.01	.01	10	5	.02	13	.01	2	.09	.01	.02	1	19
E011	2	21	2	10	.2	13	14	61	1.54	2	5	ND	2	2	1	2	3	4	.02	.01	4	12	.62	13	.01	2	.58	.01	.03	1	1
E012	2	5035	3	541	332.2 ✓	12	5	60	1.16	706	5	3	5	5	5	2702 ✓	64	2	.05	.03	12	5	.02	36	.01	3	.20	.02	.10	1	5110
E013	2	127	4	37	6.0	13	14	156	2.43	21	5	ND	3	3	1	66	2	2	.02	.02	8	6	.07	29	.01	2	.20	.03	.06	1	265
E014	3	60	2	45	1.9	15	24	143	2.57	7	5	ND	6	3	1	25	2	3	.05	.04	17	5	.22	39	.01	4	.43	.01	.12	2	7
E015	1	13	2	7	.3	9	3	116	.93	3	5	ND	2	2	1	4	2	1	.02	.02	4	9	.05	13	.01	2	.13	.02	.04	1	1
E016	2	9	2	13	.4	9	4	118	1.42	5	5	ND	1	2	1	2	2	2	.01	.02	3	6	,05	53	.01	2	.09	.01	.03	1	5
E017	1	7	2	10	.1	8	5	108	1.18	17	5	ND	2	4	1	2	2	3	.06	.03	2	4	.02	56	.01	2	.15	.01	.08	1	75
E018	2	3	19	114	.1	46	35	1074	8.15	7	5	ND	1	37	1	2	2	76	1.85	.14	16	14	2.89	68	.18	3	2.59	.03	.03	3	2
E019	1	11	4	20	.2	11	7	169	1.93	5	5	ND	6	2	1	6	2	2	.02	.01	21	3	.05	65	.01	5	.23	.02	.10	1	36
E020	2	98	2	48	1.7	17	14	245	2.76	28	5	ND	7	5	1	26	2	3	.07	.04	21	4	.09	48	.01	6	.29	.02	.12	1	250
E021	2	25	6	39	.5	20	14	300	3.37	22	5	ND	8	5	1	7	3	3	.07	.03	21	3	.30	42	.01	4	.38	.02	.13	1	6
E022	1	99	37	48	4.9	9	7	137	1.64	36	5	ND	1	2	1	92	2	1	.02	.01	2	4	.03	23	.01	3	.10	.01	.06	2	1920
E023	2	20	2	14	.1	15	9	55	1.76	5	5	ND	6	39	1	2	2	4	.02	.03	12	5	.22	1720	.01	3	.56	.02	.11	1	4
E024	2	121	8	7	.1	19	29	75	1.18	5	5	ND	1	132	1	2	2	3	.01	.01	4	3	.04	1267	.01	3	.27	.03	.02	1	5
E025	1	24	5	22	.1	14	9	163	1.80	5	5	ND	2	6	1	3	2	3	.03	.02	8	4	.03	150	.01	5	.19	.04	.04	1	2
STD C/AU-0.5	21	59	38	133	7.0	69	30	1230	3.96	40	19	8	34	50	18	15	21	63	.48	.11	37	60	.88	184	.09	39	1.73	.08	.11	14	495

Dibble Area Rxs

Horseshoe Fault Victor Hills

✓ Regular Assay suggested.

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM
0+10W 0+60S	1	13	43	267	.3	37	13	2007	2.57	10	5	ND	3	13	1	2
0+10W 0+90S	1	8	915	338	.6	17	8	253	4.33	25	5	ND	4	12	1	4
4+80W 4+00S	2	51	180	314	.2	42	26	2146	4.31	41	5	ND	9	14	1	2
0+30W 0+90S	1	7	344	556	.5	19	13	623	3.35	17	5	ND	5	12	1	2
0+20W 0+90S	1	12	2114	247	2.0	6	6	202	5.75	68	5	ND	5	34	1	18
0+00E 0+70S	1	12	68	244	.2	32	14	895	2.58	7	5	ND	5	13	1	2
0+10E 0+90S	1	12	1541	373	.5	21	10	827	6.80	57	5	ND	6	32	1	8
0+20E 0+90S	1	14	931	432	.9	23	12	336	6.23	44	5	ND	8	20	1	7
0+60S 0+00E	1	13	45	196	.2	33	11	2724	2.26	8	5	ND	4	12	1	2
0+60S 0+10E	1	11	57	354	.3	31	12	907	2.40	4	5	ND	5	13	1	2
0+60S 0+20E	1	18	85	263	.2	36	12	608	2.90	8	5	ND	6	11	1	2
0+60S 0+30E	1	25	119	236	.4	34	13	347	3.18	15	5	ND	6	9	1	2
0+80S 0+40W	1	10	162	366	.7	26	12	805	2.41	11	5	ND	4	10	1	2
0+80S 0+00E	1	19	552	341	.3	46	11	128	4.48	42	5	ND	8	10	1	9
0+90S 0+00E	1	16	1023	501	1.3	15	8	858	7.68	46	5	ND	4	41	1	16
0+90S 0+40BV	1	14	131	295	.2	29	12	558	2.80	12	5	ND	5	10	1	2
EL-1	2	84	54	124	.1	275	59	4370	12.72	14	5	ND	3	23	1	6
STD C/AU-0.5	20	59	42	135	7.0	73	30	1185	3.97	38	20	8	33	48	17	16

SAMPLE#	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
0+10W 0+60S	2	30	.14	.37	9	22	.33	223	.13	2	3.86	.02	.06	1	1
0+10W 0+90S	3	36	.08	.15	13	18	.16	1030	.04	3	1.92	.01	.06	1	5
4+80W 4+00S	3	22	.13	.08	26	17	.58	325	.04	2	2.13	.01	.12	1	6
0+30W 0+90S	3	35	.16	.32	11	24	.28	824	.09	5	2.56	.02	.08	1	1
0+20W 0+90S	2	26	.04	.18	6	11	.07	705	.01	4	1.17	.08	.05	1	10
0+00E 0+70S	4	30	.14	.20	7	17	.24	344	.13	4	3.56	.02	.06	1	1
0+10E 0+90S	5	50	.09	.18	11	15	.18	1193	.01	4	1.51	.05	.08	2	9
0+20E 0+90S	5	41	.07	.13	12	16	.24	798	.03	3	1.85	.03	.08	1	2
0+60S 0+00E	2	28	.12	.22	8	23	.22	256	.15	2	3.57	.03	.06	1	1
0+60S 0+10E	2	28	.15	.21	8	17	.34	377	.13	2	3.26	.03	.06	1	1
0+60S 0+20E	4	26	.16	.07	27	37	.79	340	.03	2	1.74	.01	.07	1	1
0+60S 0+30E	3	24	.08	.04	26	29	.72	396	.03	2	1.81	.01	.07	1	8
0+80S 0+40W	2	27	.12	.21	11	16	.27	301	.11	2	2.85	.02	.05	1	1
0+80S 0+00E	2	19	.03	.08	26	18	.27	397	.01	2	1.70	.01	.06	1	2
0+90S 0+00E	5	26	.10	.21	8	9	.10	1011	.01	2	1.09	.05	.06	1	46
0+90S 0+40BV	3	24	.09	.12	18	24	.50	332	.06	4	2.02	.01	.05	1	4
EL-1	8	102	.27	.15	7	123	.46	1457	.01	3	.90	.01	.06	1	3
STD C/AU-0.5	20	60	.48	.11	36	60	.88	181	.09	37	1.68	.06	.11	13	500

BOX GOSSAN SOILS

VICTOR RIDGE (Soil)

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H20 AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: P1 ROCKS P2 SOILS -80 MESH AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: JUNE 12 1986 DATE REPORT MAILED: June 17/86 ASSAYER. D. Toye. DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-0978

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
EG 1	1	12	6	10	.1	11	4	157	1.41	8	5	ND	6	4	1	2	3	2	.02	.02	26	7	.04	47	.01	5	.31	.03	.12	1	1
EG 2	1	174	1954	52	20.7	4	8	33	.78	171	5	ND	12	10	1	13	2	1	.04	.03	15	2	.01	13	.01	3	.18	.12	.01	1	80
EG 3	1	10	239	282	.3	10	5	56	1.91	34	5	ND	5	14	1	2	2	2	.01	.01	13	5	.01	422	.01	4	.21	.04	.06	1	3
EG 4	5	18	171	1099	.3	26	20	105	4.13	30	5	ND	5	6	2	3	2	4	.01	.01	3	7	.22	125	.01	6	.36	.05	.08	1	12
EG 5	1	6	132	103	.1	9	4	41	1.05	6	5	ND	5	25	1	2	2	2	.01	.01	14	2	.02	1268	.01	2	.20	.04	.06	1	1
EG 6	1	9	211	117	.1	12	3	53	1.07	6	5	ND	6	28	1	2	2	3	.02	.01	15	4	.07	1425	.01	2	.24	.04	.08	1	1
EG 7	1	4	74	198	.1	9	5	115	1.27	5	5	ND	6	14	1	2	2	2	.02	.01	16	4	.03	765	.01	2	.18	.05	.05	1	2
EG 8	1	6	137	389	.1	9	3	49	1.19	4	5	ND	6	9	2	2	2	2	.02	.01	15	5	.02	641	.01	3	.17	.05	.05	1	1
EG 9	1	3	16	222	.1	8	4	85	1.21	3	5	ND	8	9	1	2	2	2	.01	.02	17	4	.02	801	.01	3	.20	.04	.06	1	1
EG 10	1	4	114	68	.3	12	6	63	1.49	7	5	ND	7	7	1	5	2	2	.01	.01	20	4	.01	153	.01	2	.13	.09	.01	1	1
EG 11	1	12	920	1359	.5	8	4	62	1.51	2	5	ND	10	36	3	2	2	3	.02	.01	18	6	.07	766	.01	5	.28	.03	.11	2	2
EG 12	1	8	140	95	.2	5	2	54	.80	4	5	ND	5	41	1	4	3	2	.01	.01	14	4	.01	1938	.01	2	.13	.05	.02	1	1
EG 13	1	4	134	23	.1	2	1	22	.70	11	5	ND	5	10	1	2	2	1	.01	.01	10	3	.01	415	.01	3	.12	.11	.02	1	1
EG 14	1	4	70	102	.1	11	7	61	1.64	7	5	ND	7	26	1	2	2	4	.01	.01	11	8	.08	1444	.01	3	.27	.07	.04	1	1
EG 15	1	4	11	20	.1	7	2	50	1.14	10	5	ND	7	5	1	2	2	2	.01	.01	20	3	.01	328	.01	2	.19	.04	.07	1	1
EG 16	1	4	1504	19	.7	3	2	28	.58	2	5	ND	4	58	1	2	2	3	.01	.01	10	9	.04	1231	.01	2	.17	.05	.01	1	1
EG 17	1	16	42	125	.2	16	8	284	3.41	3	5	ND	14	8	1	2	2	9	.03	.02	35	13	.85	258	.01	3	1.65	.01	.16	1	1
EG 18	1	20	46	143	.2	24	10	278	3.85	15	5	ND	12	9	1	2	2	9	.06	.03	31	14	.96	236	.01	5	1.77	.01	.17	1	2
EG 19	1	14	81	155	.2	19	7	224	3.96	11	5	ND	15	9	1	2	3	10	.03	.03	43	17	.97	311	.01	3	1.86	.01	.18	1	1
EG 20	1	14	104	136	.3	17	6	208	3.66	4	5	ND	11	26	1	2	2	9	.18	.10	41	13	.90	273	.01	4	1.78	.02	.20	1	1
EG 21	1	19	79	82	.4	12	6	135	3.91	6	5	ND	13	9	1	2	2	10	.02	.03	39	15	.75	241	.01	3	1.66	.01	.18	1	1
EG 22	1	20	112	93	.1	10	6	185	3.98	8	5	ND	15	7	1	2	2	10	.02	.03	43	17	.78	211	.01	2	1.74	.01	.20	1	2
EG 23	1	20	28	76	.2	7	5	193	4.26	8	5	ND	14	7	1	2	2	10	.02	.03	40	18	.85	158	.01	2	1.83	.01	.17	1	1
EG 24	2	16	122	83	.3	11	3	143	4.04	13	5	ND	11	9	1	2	2	12	.01	.03	43	16	.71	388	.01	5	1.88	.03	.35	1	1
EG 25	3	40	263	77	.6	18	5	95	3.33	22	5	ND	10	14	1	3	2	7	.03	.03	25	10	.57	767	.01	2	1.15	.02	.18	1	3
EG 26	1	30	49	102	.3	29	10	789	3.25	7	5	ND	10	5	1	2	2	5	.02	.02	22	10	.54	64	.01	3	1.12	.01	.14	1	1
EG 27	1	69	71	574	.3	403	36	952	6.82	64	5	ND	2	17	1	2	2	177	.20	.12	14	613	4.03	57	.05	4	2.90	.01	.04	1	1
EG 28	1	7	143	3	.7	23	13	104	2.30	16	5	ND	2	9	1	2	2	2	.03	.01	7	8	.04	45	.01	4	.13	.06	.03	1	2
STD C/AU-0.5	20	60	41	133	7.2	72	29	1144	3.93	41	20	8	33	48	16	15	20	58	.48	.10	36	58	.86	182	.08	35	1.71	.06	.11	12	480

Box Gossan Area (EG 1 – EG 16)

Shales Box Gossan Area (EG 17 – EG 27)

Box Gossan (EG 28)

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: ROCK CHIPS AU* ANALYSIS BY AA FROM 10 GRAM SAMPLE.

DATE RECEIVED: OCT 1 1986 DATE REPORT MAILED: Oct 8/86 ASSAYER. D. Toye...DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-2982 PAGE 2

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM	Au* PPB
V-4	2	25	185	146	.9	16	11	534	3.58	14	5	ND	1	8	1	26	2	2	.19	.096	2	3	.26	39	.01	2	.12	.02	.04	1	27
B K6 — 6-1	1	5	205	13	.3	4	3	41	1.25	12	5	ND	4	16	1	2	2	2	.01	.022	11	3	.01	330	.01	2	.17	.08	.06	1	16
6-2	1	3	22	3	.2	7	4	36	1.16	20	5	ND	3	10	1	2	2	3	.01	.071	11	3	.01	236	.01	3	.13	.08	.05	1	9
6-3	1	4	59	47	.2	3	2	25	1.67	25	5	ND	1	14	1	2	2	15	.02	.108	9	1	.01	397	.01	2	.22	.08	.05	1	46
6-4	1	11	96	156	.3	8	6	44	4.00	27	5	ND	1	24	1	2	2	15	.02	.099	2	4	.02	115	.01	3	.22	.10	.03	1	22
6-5	1	15	2277	151	1.7	4	3	23	2.89	25	5	ND	4	21	1	7	2	8	.01	.055	6	5	.02	778	.01	3	.38	.05	.03	1	25
6-6	1	8	1385	40	2.3	1	1	10	1.12	13	5	ND	5	56	1	2	3	2	.01	.029	7	2	.01	624	.01	2	.15	.06	.01	1	12
6-7	1	4	175	81	.3	10	5	30	2.45	19	5	ND	3	49	1	2	2	9	.03	.100	3	3	.02	374	.01	4	.33	.11	.03	1	21
6-8	1	10	61	185	.1	40	12	113	5.95	28	5	ND	5	19	1	2	2	19	.02	.108	16	4	.04	491	.01	2	.44	.06	.09	1	2
6-9	1	13	99	476	.2	26	15	120	3.97	16	5	ND	11	3	1	2	2	8	.02	.031	37	9	.16	170	.01	2	.54	.03	.14	1	1
6-10	2	10	173	216	.1	17	10	110	2.90	17	5	ND	9	3	1	2	2	6	.02	.020	31	9	.28	126	.01	4	.63	.04	.12	1	3
6-11	1	9	18	79	.3	18	9	154	2.99	9	5	ND	8	4	1	2	2	11	.03	.021	23	13	.81	231	.01	3	1.30	.03	.11	1	1
6-12	1	10	25	93	.1	18	7	238	2.98	8	5	ND	12	4	1	2	2	8	.04	.029	33	12	.79	105	.01	3	1.43	.01	.16	1	1
STD C/AU-R	21	59	40	131	6.9	69	29	994	3.96	38	22	7	33	47	17	15	22	62	.48	.098	37	57	.88	174	.08	35	1.73	.06	.13	12	520

BOX GOSSAN Samples

ACME ANALYTICAL LABORATORIES LTD.
852 E. HASTINGS, VANCOUVER B.C.
PH: (604)253-3158 COMPUTER LINE:251-1011

DATE RECEIVED OCT 1 1986

DATE REPORTS MAILED Oct 8/86

GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE TYPE : SOIL - DRIED AT 60 DEG C. . -80 MESH.
Au* - 10 GM.IGNITED. HOT AQUA REGIA LEACHED. MIBK EXTRACTION. AA ANALYSIS.

ASSAYER D Toye DEAN TOYE . CERTIFIED B.C. ASSAYER

F & B SILVER FILE# 86-2982

SAMPLE	Au* ppb
C 50W 0+00S	1
C 50W 0+25S	1
C 50W 0+50S	1
C 50W 0+75S	1
C 50W 1+00S	1
C 50W 1+25S	10
C 50W 1+50S	4
C 50W 1+75S	1
C 50W 2+00S	1
C 50W 2+25S	1
C 0W 0+00S	1
C 0W 0+25S	1
C 0W 0+50S	13
C 0W 0+75S	1
C 0W 1+00S	1
C 0W 1+25S	1
C 0W 1+50S	1
C 0W 1+75S	2
C 0W 2+00S	2
C 0W 2+25S	1
C 50E 0+00S	1
C 50E 0+25S	1
C 50E 0+50S	54
C 50E 0+75S	10
C 50E 1+00S	6
C 50E 1+25S	2
C 50E 1+50S	1
C 50E 1+75S	1
C 50E 2+00S	1
C 50E 2+25S	1
ET50	1

Dibble

GNP

OCT 16 1986

RECEIVED

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: PULP

DATE RECEIVED: OCT 7 1986 DATE REPORT MAILED: Oct 14/86 ASSAYER D. Toye ...DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-2982 R

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
C 50W 0+00S	1	26	23	81	.1	37	22	1492	5.41	28	5	ND	2	13	1	2	2	37	.66	.094	16	28	1.08	175	.03	6	1.48	.01	.17	1
C 50W 0+25S	2	55	28	49	.1	43	21	377	6.27	22	5	ND	1	4	1	2	2	26	.02	.066	9	21	.28	72	.01	5	1.21	.01	.12	1
C 50W 0+50S	1	23	18	26	.1	14	8	134	2.64	9	5	ND	1	7	1	2	2	20	.10	.073	5	12	.16	62	.04	6	2.76	.02	.08	1
C 50W 0+75S	2	44	59	82	.3	25	17	600	5.70	22	5	ND	1	5	1	2	2	36	.08	.058	9	27	.30	100	.01	4	2.24	.01	.10	1
C 50W 1+00S	2	24	23	34	.1	31	11	123	3.52	11	5	ND	2	3	1	2	2	40	.04	.047	14	43	2.47	69	.03	6	2.66	.01	.34	1
C 50W 1+25S	1	9	8	44	.1	7	6	311	2.34	4	5	ND	1	5	1	2	2	18	.06	.042	15	8	.13	59	.03	3	.69	.01	.07	1
C 50W 1+50S	1	23	7	55	.1	12	8	157	3.27	8	5	ND	2	4	1	3	2	17	.03	.049	17	7	.25	49	.02	3	.78	.01	.07	1
C 50W 1+75S	1	18	12	66	.1	14	13	2239	3.00	5	5	ND	1	5	1	2	2	21	.05	.067	18	10	.63	189	.02	3	1.32	.01	.08	1
C 50W 2+00S	3	27	17	74	.1	13	13	3097	2.89	6	5	ND	1	7	1	2	2	19	.09	.075	20	12	.56	288	.02	4	1.26	.01	.08	1
C 50W 2+25S	2	122	17	62	.1	15	14	2027	2.77	14	7	ND	1	10	1	2	2	12	.40	.088	18	10	.78	346	.02	2	1.28	.01	.07	1
E950	2	30	11	49	.1	15	13	762	3.20	13	5	ND	4	9	1	2	2	15	.80	.062	19	11	1.34	135	.01	7	1.08	.01	.10	1
STD C	21	57	36	127	6.9	64	29	978	3.95	38	18	7	32	46	17	14	19	60	.48	.101	35	56	.88	171	.08	36	1.73	.06	.12	13

} Dibble

ACME ANALYTICAL LABORATORIES LTD. 852 E.HASTINGS ST.VANCOUVER B.C. V6A 1R6 PHONE 253-3158 DATA LINE 251-1011

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH 3ML 3-1-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR AND IS DILUTED TO 10 ML WITH WATER.
THIS LEACH IS PARTIAL FOR MN.FE.CA.P.CR.MG.BA.TI.B.AL.NA.K.W.SI.ZR.CE.SN.Y.NB AND TA. AU DETECTION LIMIT BY ICP IS 3 PPM.
- SAMPLE TYPE: PULP

DATE RECEIVED: OCT 1986 DATE REPORT MAILED: *Oct 17/86* ASSAYER. *D. Toye* ..DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-2982

SAMPLE#	Mo PPM	Cu PPM	Pb PPM	Zn PPM	Ag PPM	Ni PPM	Co PPM	Mn PPM	Fe %	As PPM	U PPM	Au PPM	Th PPM	Sr PPM	Cd PPM	Sb PPM	Bi PPM	V PPM	Ca %	P %	La PPM	Cr PPM	Mg %	Ba PPM	Ti %	B PPM	Al %	Na %	K %	W PPM
C 50E 0+00S	2	23	8	64	.1	24	21	1035	5.72	41	5	ND	7	4	1	2	2	32	.09	.094	22	17	2.28	119	.01	2	2.31	.01	.08	1
C 50E 0+25S	1	22	8	52	.2	9	5	235	1.93	5	5	ND	1	5	1	2	2	24	.05	.050	21	11	.55	87	.05	3	1.28	.01	.07	1
C 50E 0+50S	1	10	8	37	.1	5	3	85	1.45	5	5	ND	3	3	1	2	2	14	.02	.030	23	6	.26	50	.01	2	1.08	.01	.06	1
C 50E 0+75S	1	18	11	37	.1	17	12	1155	2.23	7	5	ND	2	3	1	2	2	14	.01	.044	22	19	.10	53	.01	6	.57	.01	.06	1
C 50E 1+00S	1	13	8	78	.3	20	10	714	3.10	13	5	ND	2	8	1	2	3	23	.08	.100	11	20	.23	178	.06	8	1.82	.01	.09	1
C 50E 1+25S	1	19	8	72	.1	9	8	2338	2.33	4	5	ND	1	6	1	2	2	22	.05	.067	18	11	.28	169	.04	4	1.23	.01	.08	1
C 50E 1+50S	1	14	10	68	.2	8	6	673	2.21	5	5	ND	1	4	1	2	2	22	.04	.076	12	10	.27	62	.05	3	1.59	.01	.07	1
C 50E 1+75S	1	8	10	57	.1	7	6	1213	1.88	3	5	ND	1	7	1	2	2	27	.11	.064	15	10	.33	154	.06	7	.87	.01	.08	1
C 50E 2+00S	1	29	29	.30	.1	26	12	158	4.81	29	5	ND	1	3	1	2	2	28	.03	.047	4	17	.14	57	.01	5	1.21	.01	.08	1
C 50E 2+25S	1	4	7	40	.1	10	6	300	3.38	2	5	ND	1	4	1	2	2	24	.05	.062	3	17	.20	121	.01	9	1.43	.01	.12	1
E+50	1	34	13	48	.2	15	12	781	3.14	11	5	ND	4	8	1	2	2	16	.65	.068	19	9	1.29	127	.01	7	1.06	.01	.10	1
STD C	21	60	40	134	7.1	67	31	1021	3.95	40	21	8	33	47	17	15	19	63	.48	.115	36	59	.88	175	.09	37	1.72	.06	.14	13

ACME ANALYTICAL LABORATORIES LTD. DATE RECEIVED NOV 4 1986
852 E. HASTINGS, VANCOUVER B.C.
PH:(604)253-3158 COMPUTER LINE:251-1011 DATE REPORTS MAILED Nov 8/86

GEOCHEMICAL ASSAY CERTIFICATE

SAMPLE TYPE : PULP
F - .25 GM. NaOH FUSION. SPECIFIC ION ELECTRODE ANALYSIS.
Hg - STANDARD BASE METAL DIGESTION. COLD VAPOUR REDUCTION AA ANALYSIS.

ASSAYER D. Toye DEAN TOYE . CERTIFIED B.C. ASSAYER

F & B SILVER FILE# 86-2982 R PAGE# 1

SAMPLE	F ppm	Hg ppb
G1	270	20
G3	220	70
G5	110	4800
G10	580	50
G11	660	10

ASSAY CERTIFICATE

1.00 GRAM SAMPLE IS DIGESTED WITH 50ML OF 3-1-2 OF HCL-HNO3-H20 AT 95 DEG. C FOR ONE HOUR.
AND IS DILUTED TO 100ML WITH WATER. DETECTION FOR BASE METAL IS .01%.
- SAMPLE TYPE: ROCK CHIPS AU# 10 GRAM REGULAR ASSAY

ASSAYER: D. Toye .DEAN TOYE. CERTIFIED B.C. ASSAYER.

F & B SILVER FILE # 86-3380 PAGE 1

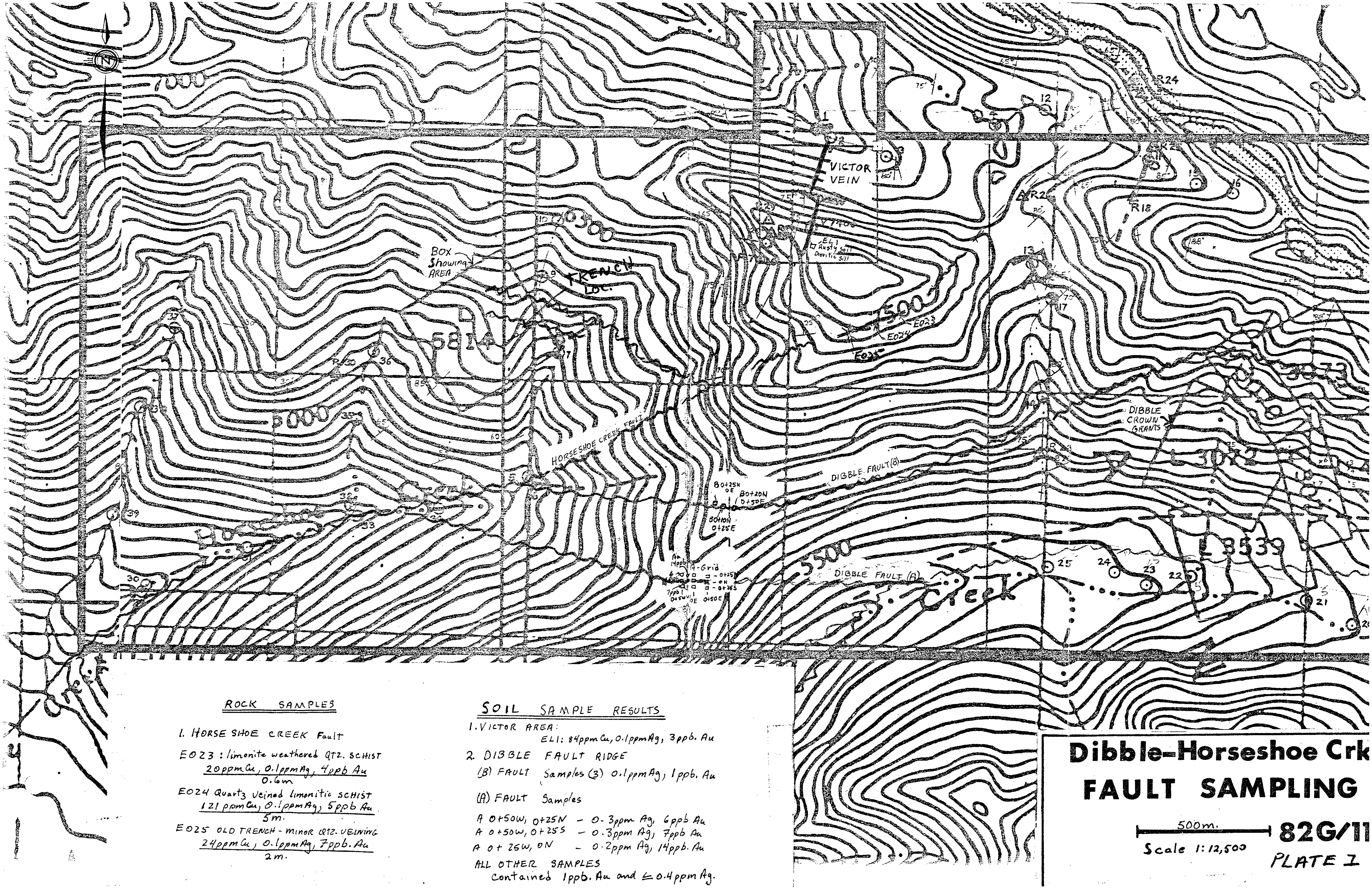
SAMPLE#	Ag OZ/T	Au OZ/T
E-42	.02	.045
E-47	.05	.016
E-100	.06	.009

SAMPLE TYPE : PULP
Ga & Ge - .5 GM. HNO3 & HF DIGESTION IN TELFON BOMBS, GRAPHITE FURNACE AA ANALYSIS.

ASSAYER D. Toye DEAN TOYE . CERTIFIED B.C. ASSAYER

F & B SILVER FILE# 86-1094 R PAGE# 1

SAMPLE	Ga ppm	Ge ppm
E012	14	1
E02	1	3



ROCK SAMPLES

1. HORSE SHOE CREEK Fault

E023 : limonite weathered QTZ. SCHIST
20ppm Cu, 0.1ppm Ag, 4ppb Au
0.6m

E024 Quartz veined limonitic SCHIST
121 ppm Cu, 0.1ppm Ag, 5ppb Au
5m.

E025 OLD TRENCH - minor QTZ. VEINING
24ppm Cu, 0.1ppm Ag, 7ppb. Au
2m.

SOIL SAMPLE RESULTS

1. VICTOR AREA:
EL1: 84ppm Cu, 0.1ppm Ag, 3ppb. Au

2. DIBBLE FAULT RIDGE
(B) FAULT Samples (3) 0.1ppm Ag, 1ppb. Au

(A) FAULT Samples

A 0+50W, 0+25N - 0.3ppm Ag, 6ppb Au
A 0+50W, 0+25S - 0.3ppm Ag, 7ppb Au
A 0+25W, 0N - 0.2ppm Ag, 14ppb. Au

ALL OTHER SAMPLES
Contained 1ppb. Au and ≤ 0.4ppm Ag.

Dibble-Horseshoe Crk

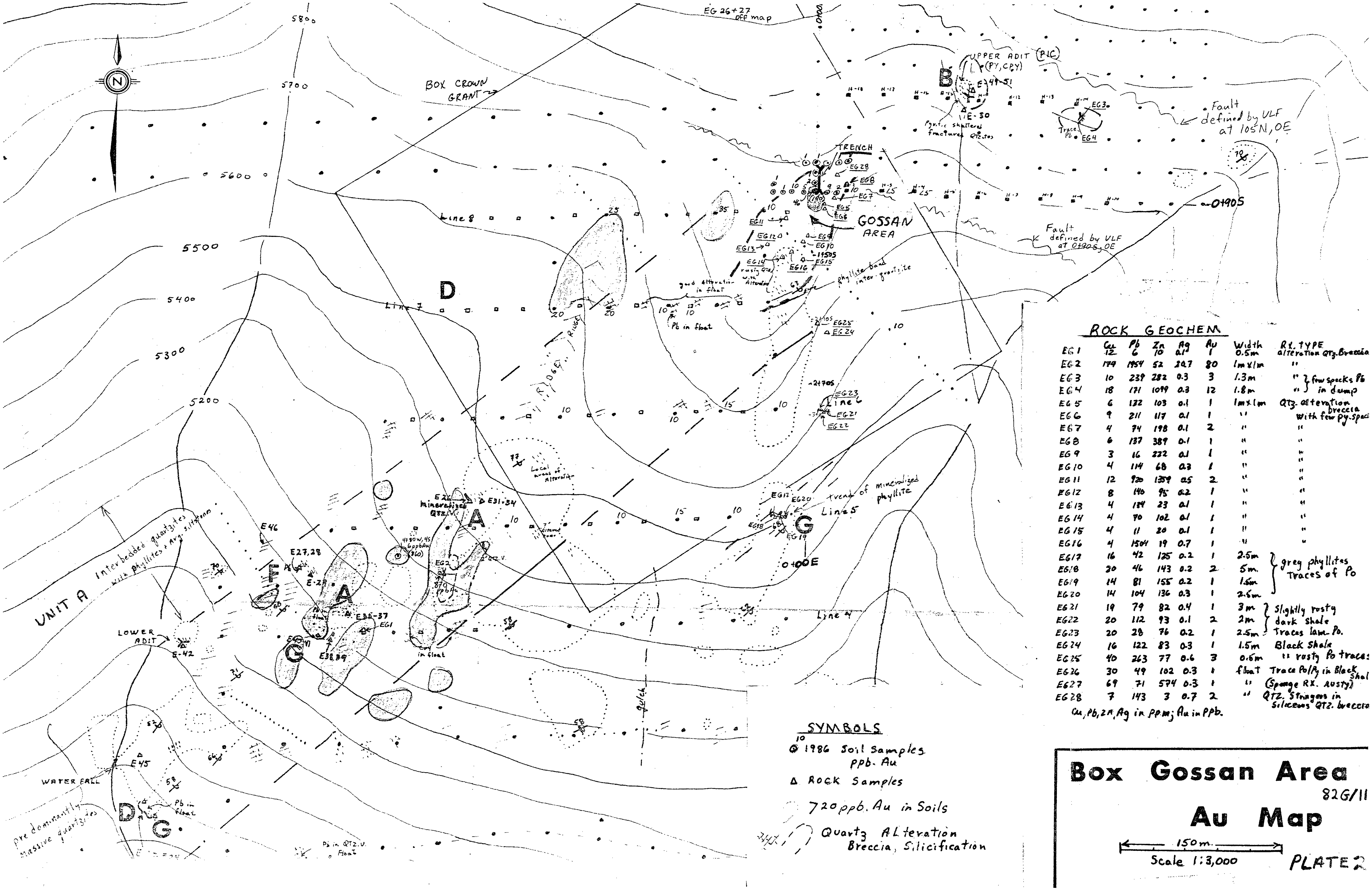
FAULT SAMPLING

500m.

Scale 1:12,500

82G/11

PLATE I



ROCK GEOCHEM

	Cu	Pb	Zn	Ag	Au	Width	Rx. TYPE
EG 1	12	6	10	0.1	1	0.5m	alteration QTz. Breccia
EG 2	179	1954	52	20.7	80	1m x 1m	"
EG 3	10	239	282	0.3	3	1.3m	" } few specks Pb in dump
EG 4	18	171	1099	0.3	12	1.8m	"
EG 5	6	132	103	0.1	1	1m x 1m	QTz. alteration breccia with few Py. specks
EG 6	9	211	117	0.1	1	"	
EG 7	4	74	198	0.1	2	"	"
EG 8	6	137	389	0.1	1	"	"
EG 9	3	16	222	0.1	1	"	"
EG 10	4	114	68	0.3	1	"	"
EG 11	12	920	1359	0.5	2	"	"
EG 12	8	140	95	0.2	1	"	"
EG 13	4	184	23	0.1	1	"	"
EG 14	4	70	102	0.1	1	"	"
EG 15	4	11	20	0.1	1	"	"
EG 16	4	1504	19	0.7	1	"	"
EG 17	16	42	125	0.2	1	2.5m	} grey phyllites Traces of Po
EG 18	20	46	143	0.2	2	5m.	
EG 19	14	81	155	0.2	1	1.5m	
EG 20	14	104	136	0.3	1	2.5m	
EG 21	19	79	82	0.4	1	3m	} Slightly rusty dark shale Traces lam. Po.
EG 22	20	112	93	0.1	2	2m	
EG 23	20	28	76	0.2	1	2.5m	
EG 24	16	122	83	0.3	1	1.5m	Black Shale
EG 25	40	263	77	0.6	3	0.6m	" rusty Po traces
EG 26	30	49	102	0.3	1	float	Trace Po/Py in Black Shale
EG 27	69	71	574	0.3	1	"	(Sponge RX. Rusty)
EG 28	7	143	3	0.7	2	"	QTZ. Stringers in Siliceous QTZ. breccia

Cu, Pb, Zn, Ag in ppm; Au in ppb.

Box Gossan Area

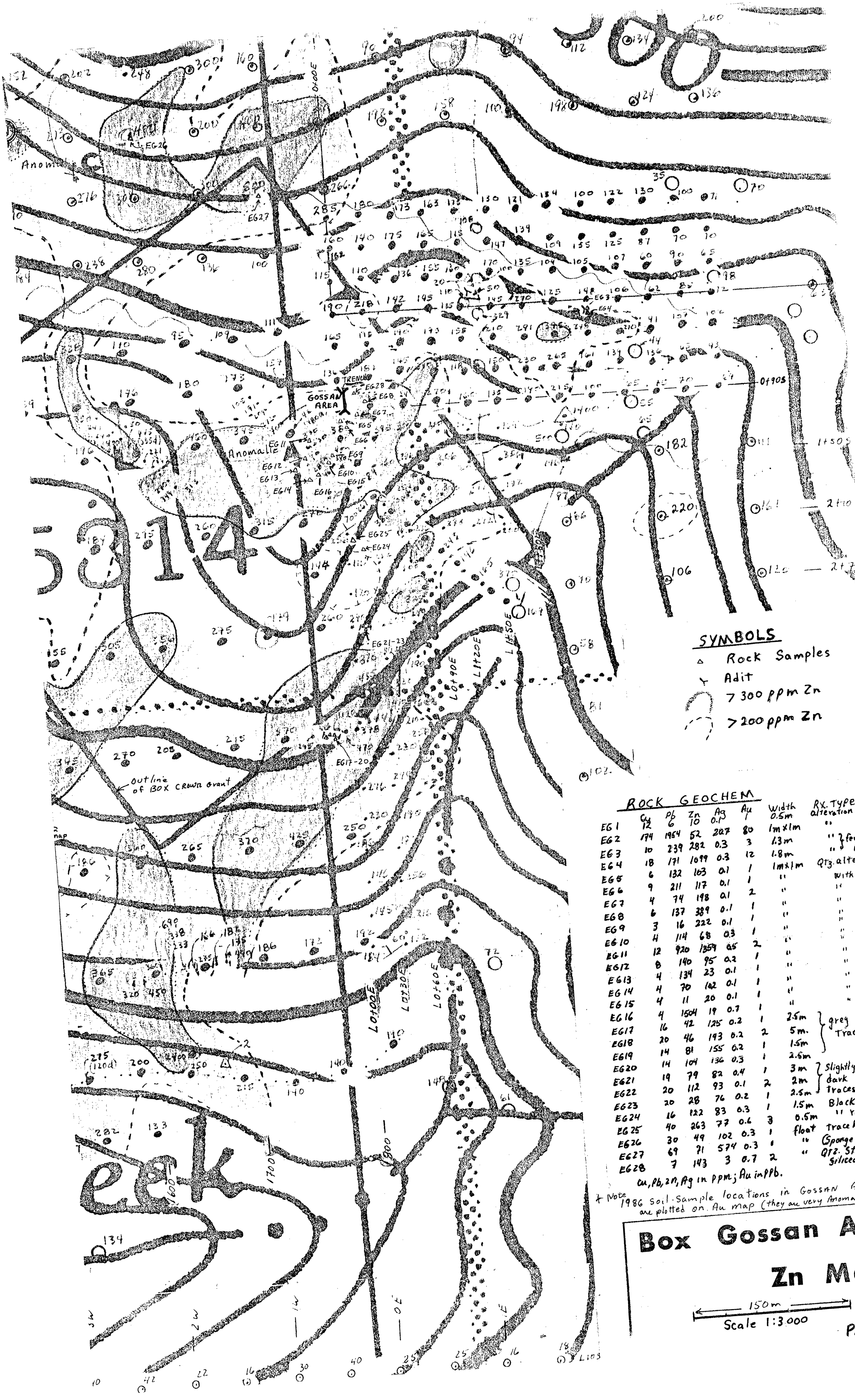
82G/11

Au Map

150m.

Scale 1:3,000

PLATE 2



ROCK GEOCHEM

	Cu	Pb	Zn	Ag	Au	Width	RX. Type
		6	10	0.1	1	0.5m	alteration QTz. Breccia
EG1	12					1m x 1m	"
EG2	174	1964	52	207	80	1.3m	" } few specks Py in dump
EG3	10	239	282	0.3	3	1.8m	"
EG4	18	171	1099	0.3	12	1m x 1m	QTz. alteration breccia with few py-specks
EG5	6	132	163	0.1	1	"	"
EG6	9	211	117	0.1	1	"	"
EG7	4	74	198	0.1	2	"	"
EG8	6	137	389	0.1	1	"	"
EG9	3	16	222	0.1	1	"	"
EG10	4	114	68	0.3	1	"	"
EG11	12	920	1359	0.5	2	"	"
EG12	8	140	95	0.2	1	"	"
EG13	4	134	23	0.1	1	"	"
EG14	4	70	102	0.1	1	"	"
EG15	4	11	20	0.1	1	"	"
EG16	4	1504	19	0.7	1	2.5m	} grey phyllites Traces of Po
EG17	16	42	125	0.2	1	5m.	
EG18	20	46	193	0.2	2	1.5m	
EG19	14	81	155	0.2	1	2.5m	
EG20	14	104	136	0.3	1	3m	} Slightly rusty dark Shale traces lam. Po
EG21	19	79	82	0.4	1	2m	
EG22	20	112	93	0.1	2	2.5m	
EG23	20	28	76	0.2	1	1.5m	Black Shale
EG24	16	122	83	0.3	1	0.5m	" rusty Po traces
EG25	40	263	77	0.6	3	float	Trace Po/Py in Black Shale
EG26	30	49	102	0.3	1	"	(Sponge RX rusty)
EG27	69	71	574	0.3	1	"	QTZ. Stringers in Siliceous QTZ. breccia
EG28	7	143	3	0.7	2		

Cu, Pb, Zn, Ag in ppm; Au in ppb.

\+ Note 1986 Soil-Sample locations in GOSSAN Area are plotted on Au map (they are very Anomalous in Pb/Zn

Box Gossan Area

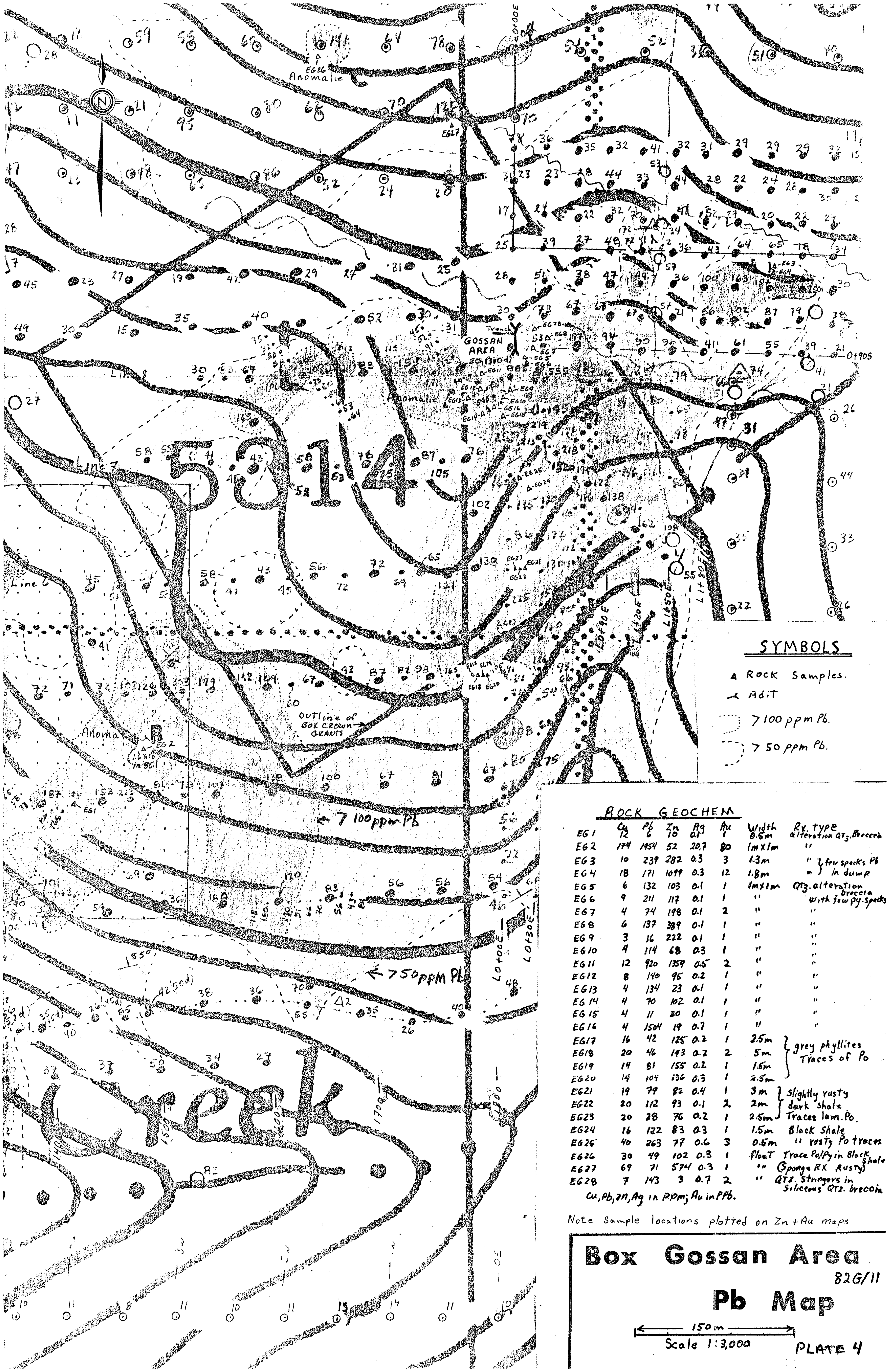
82G/11

Zn Map

150m

Scale 1:3000

PLATE 3



SYMBOLS

- △ Rock Samples.
- ⤙ Adit
- > 100 ppm Pb.
- > 50 ppm Pb.

ROCK GEOCHEM

	Cu	Pb	Zn	Ag	Au	Width	Rx. type
EG 1	12	6	10	0.1	1	0.6m	alteration QTz. Breccia
EG 2	174	1954	52	20.7	80	1m x 1m	"
EG 3	10	239	282	0.3	3	1.3m	" } few specks Pb in dump
EG 4	18	171	1099	0.3	12	1.8m	"
EG 5	6	132	103	0.1	1	1m x 1m	QTz. alteration breccia with few py. specks
EG 6	9	211	117	0.1	1	"	
EG 7	4	74	198	0.1	2	"	"
EG 8	6	137	389	0.1	1	"	"
EG 9	3	16	222	0.1	1	"	"
EG 10	4	114	68	0.3	1	"	"
EG 11	12	920	1359	0.5	2	"	"
EG 12	8	140	95	0.2	1	"	"
EG 13	4	134	23	0.1	1	"	"
EG 14	4	70	102	0.1	1	"	"
EG 15	4	11	20	0.1	1	"	"
EG 16	4	1504	19	0.7	1	"	"
EG 17	16	42	125	0.2	1	2.5m	} grey phyllites Traces of Po
EG 18	20	46	143	0.2	2	5m	
EG 19	14	81	155	0.2	1	1.5m	
EG 20	14	104	136	0.3	1	2.5m	
EG 21	19	79	82	0.4	1	3m	} Slightly rusty dark shale Traces lam. Po.
EG 22	20	112	93	0.1	2	2m	
EG 23	20	28	76	0.2	1	2.5m	
EG 24	16	122	83	0.3	1	1.5m	Black Shale
EG 25	40	263	77	0.6	3	0.5m	" rusty Po traces
EG 26	30	49	102	0.3	1	float	Trace Po/Py in Black Shale
EG 27	69	71	574	0.3	1	"	(Sponge RX Rusty)
EG 28	7	143	3	0.7	2	"	QTz. Stringers in Siliceous QTz. breccia

Cu, Pb, Zn, Ag in ppm; Au in ppb.

Note Sample locations plotted on Zn + Au maps

Box Gossan Area

82G/11

Pb Map

150 m

Scale 1:3,000

PLATE 4

LLOYD GEOPHYSICS LIMITED

1110 - 625 HOWE STREET, VANCOUVER, B.C. V6C 2T6 (604) 688-5813

July 31, 1986

JOHN LLOYD
GEOPHYSICAL ENGINEER

DELIVERED BY HAND

Mr. G. Babcock
7249 Elmhurst Drive
Vancouver, B.C.

Dear Mr. Babcock:

RE: DIBBLE PROPERTY, CRANBROOK, B.C.

This letter will summarize the results of a VLF-EM survey carried out by our company on your DIBBLE property near Cranbrook, B.C. from June 11 to 18, 1986.

<u>The VLF Method</u>

This method uses the transmitted signal from U.S. naval installations in various parts of the world as the primary source field. The induced currents from the primary field produce a secondary magnetic field which can be detected at the earth's surface. The VLF-EM16 unit measures the vertical component of the secondary magnetic field, referred to as the IN-PHASE measurement and the phase difference between the primary field and the secondary field generated by the conductor. This measurement is referred to as the OUT of PHASE or QUADRATURE measurement.

The inflexion point separating the positive and negative peaks, where the field strength is a maximum, indicates the presence of a conductor.

<u>VLF-EM16 Fieldwork</u>

The work was carried out from a tent camp set up on the property between June 11 and 18, 1986, under good weather conditions.

The Cutler, Maine transmitting station, which operates at a frequency of 17.8 khz was chosen as the primary field, because of its good signal to noise ratio and its E-W orientation direction. As a result of station shutdown for maintenance, 2 lines had to be surveyed using the Annapolis, Maryland station.

The EM16 measurements were made over the silver geochemistry grid. Readings of IN-PHASE and QUADRATURE were made at 25 m station intervals, with an average slope correction applied to the whole grid rather than individual station slope corrections. Most of the data was recorded facing North along the survey lines. Where line flagging was poor, readings were recorded facing South and polarity was reversed when results were plotted.

VLF-EM16 Results

All data was plotted as profiles. No distinct cross-overs were observed, indicating the absence of conductors.

A NE trend of "highs", correlates with those from previous work, and are probably geological in origin but not indicative of a conductor.

Lines 6+00E, 4+00E, 1+00W, 3+50W and 4+00W were extended to approximately 5+00S in order to ascertain the presence of any fault zones. Cross-overs on lines 4+00W, 4+50W and 1+00S about 4+00S are gradual and not distinct. No cross-overs occur at a similar position on lines 6+00E and 4+50E. It is concluded that these gradual cross-overs are not indicative of faulting.

All geochemistry anomalies were surveyed using the EM16 and the results indicate the absence of any conductors. The Box base-line survey produced a Quadrature cross-over at 0+75S and this correlates well with the geological indications of a fault.

In conclusion, the VLF-EM16 did not indicate the presence of any significant conductors. Whilst this does not rule out the presence of any mineable silver veins, it strongly suggests that VLF-EM is of little help and should be discontinued as an exploration tool at this time.

Yours very truly,

LLOYD GEOPHYSICS LIMITED

John Lloyd

John Lloyd, P. Eng.
President

JL:lm

REPORT on the BOX CLAIM
June 10, 1986

Three days (June 7-9, 1986) were spent examining the Box claim located in the Kootenay Ranges of the Rocky Mountains, on the north side of Horseshoe Creek, 22 miles NE of Cranbrook, B.C.

Rocks exposed on the north side of Horseshoe Creek on the Box claim are metasediments of the Precambrian Aldridge and Creston Formations. An east-west fault (hereafter referred to as the Box Fault) occurring immediately north of the heli-pad (located on Crown Grant Lot 5814 at an approximate elevation of 5850 feet) separates Middle Aldridge lithologies to the south from Upper Aldridge and Creston rocks to the north. Pb-Zn soil geochem anomalies occur in both Upper and Middle Aldridge rocks; one small Pb anomaly occurs in the Creston Formation in the NE portion of the claim. The significant Au soil and rock geochem anomalies are restricted to the Middle Aldridge Formation.

Soil and Rock Geochemistry

Introduction

The steep mountain slopes on which the soil geochem anomalies occur are well suited to evaluation by soil geochemistry. There are few irregularities in the slope to complicate any metal dispersion pattern and, above about 4500 feet there appears to be little glacial or talus overburden so bedrock above this elevation is almost everywhere close to surface. The anomalies thus have proximal bedrock sources.

Regionally the Aldridge Formation has fairly low background levels of Pb and Zn; threshold values for Pb are around 25 ppm and for Zn about 150 ppm. "Significant" anomalies might be considered 100+ ppm Pb and 300 or 350+ ppm Zn. Using such guidelines, some of the Pb-Zn anomalies on the Box claim are quite high and would rate well when considering the entire Aldridge basin. However Cominco Ltd. has recently evaluated comparable-looking geochem anomalies without discovering economic mineralization.

Copper in the Aldridge is also low, with isolated occurrences of minor mineralization associated with gabbro or diorite composition sills and dikes. None of these occurrences has proved economic. Background Cu values are higher in the Upper Aldridge and Creston Formations than in the Middle Aldridge. Copper-silver mineralization is mined from Creston Formation-equivalent rocks at Spar Lake in the U.S.A. and similar but lower grade mineralization is known in places in the Creston Formation in Canada. This Cu-Ag association in the Creston Formation may account for some of the Cu-Ag anomalies seen in the Box claim geochem.

Silver may be related to Cu in a few isolated situations but is more frequently associated with both Pb and Au.

Pb-Zn Geochemistry

A number of areas of anomalous Pb-Zn-(Ag) soil geochem occur on the Box claim. The source of this mineralization appears twofold. One source is probably elevated Pb-Zn values in dark blue-gray/black laminated pyritic argillites or mudstones of the upper Middle Aldridge Formation. This lithology may represent a sub-basin of restricted sedimentation within the main Aldridge depositional basin where base metals achieved a locally elevated level. Pb-Zn ratios here are "normal" with high Pb and Zn values occurring together.

Regionally within the Aldridge Formation, dark mudstones similar to those on the Box claim are known to be geochemically anomalous but apparently have not produced economic concentrations of base metals. Chip samples taken of the dark, pyritic mudstones within one of the Box claim anomalies should establish whether these rocks are anomalous.

The second source of Pb-Zn-(Ag) anomalies is minor occurrences of PbS (and presumably ZnS, although none was recognized) associated with alteration zones. These alteration zones are prominent at several places on the claim and are characterized by brecciation, quartz veining and silicification. Small (0.5 -2mm) cubes of pyrite occur in the alteration zones with the concentration of pyrite varying markedly from less than 1% to an estimated 30% in small patches. Typically most of the pyrite is oxidized in the outer few cm. of surface outcrops.

The base metal mineralization evident in outcrop is quite minor but the very close correlation between Pb-Zn soil geochem anomalies and observed mineralization is proof that this alteration-associated mineralization is responsible for some of the anomalies.

South of the Box Fault there is a very close correlation between alteration zones and Pb-Zn anomalies and between laminated pyritic black mudstones and Pb-Zn anomalies. North of the Box Fault, weaker Pb-Zn anomalies occur in Upper Aldridge mudstones and the mineralization occurs either as elevated values in otherwise normal Upper Aldridge rocks or as concentrations of Pb and Zn in sandy rock units with strong hematitic weathering. These rocks were seen only in talus but samples were collected for analysis to resolve this problem.

Gold Geochemistry

Anomalous gold geochemistry is related to the pyrite-bearing, silicified alteration zones which occur on the claim. There doesn't appear to be an area within any alteration zone where higher Au values exist; the few higher Au values indicated by the geochemistry done to date are sporadic. Additional rock chip samples taken of the two northern alteration zones should help to show if any zone of higher grade Au exists.

Discussion

The silicified alteration zones which contain elevated Au and base metal values appear to be controlled by both stratigraphy and structure. In the vicinity of the heli-pad and immediately to the east, alteration zones are developed on the south side of the inferred Box Fault. Different lithologies across the fault and an E-W linear detected by a previous VLF survey help to substantiate the presence of the fault. Immediately below the heli-pad the alteration zone dies out into lenses of alteration material that parallel bedding. Further downhill, below the heli-pad and slightly to the west, a lower alteration zone is developed within a package of medium thick siltstone units which are underlain and overlain by laminated mudstones. The thicker siltstones would be more brittle during deformation and, higher porosity due to brecciation or just due to the coarser nature of the sediments could be responsible for development of this alteration zone.

The base metal mineralization within the alteration zones may be due to sweating out of Pb-Zn-Ag from the pyritic dark laminated mudstones which correlate with some of the geochem anomalies. This explains the close spatial relationship of the anomalous "unaltered" mudstones and the anomalous silicified alteration zones.

The high silica nature of the alteration zones gives them a weathering-resistant character and it is unlikely that unexposed areas of alteration are present. One exception could be along Horseshoe Creek where E-W faulting is also present but overburden covers the bedrock.

Recommendations

A reasonably thorough evaluation of the Box claim has been made with the soil and rock geochem done to date. Because the area is so well suited to evaluation with soil geochem, further exploration of the claim is not recommended, pending results of the rock and soil samples collected during this visit.

Knowledge gained from exploration of the Box claim should be used to evaluate similar geologic situations in the immediate vicinity. Structural and stratigraphic control for the Au-bearing alteration zones is evident on the Box claim and a similar situation, perhaps with more favourable host rocks or a proximal felsic intrusion, could lead to economic mineralization. Cretaceous age syenite and quartz monzonite intrusive stocks as well as felsic dikes do occur in the Rocky Mountains north of the Box claim.

Peter Klewchuk

Peter Klewchuk
Geologist

Sent to Lawrence
Aug 25/86

D.V. PROPERTY REPORT

P. Klewchuk
Aug. 19, 1986

Mineralization on the D.V. Property occurs at the Dibble, Box, and Victor areas. Only the Box and Victor areas have been visited by me.

Dibble: Sulfide and gold mineralization in narrow quartz veins, oriented approx. E-W. One vein with good values was mined and hand sorted in the past but this vein does not carry to depth, according to lower workings; possibly the quartz veins occur in an en echelon manner. The area occurs in a block bounded by 2 E-W faults, the Dibble Creek fault and a splay(?) to the north. The quartz veins are approx. parallel in attitude to the faults and may be related.

Box: Gold in silicified alteration zones which seems to be controlled by structure (along a fault) and stratigraphy. Alteration zones extend away from the fault zone, apparently along preffered strata. Anomalous Pb-Zn-Ag geochemistry is related to 1. Metal-enriched argillites of the Upper Aldridge Formation. 2. Minor Pb-Zn fracture mineralization, which may be a product of 1.

Victor: Quartz vein in a N-S fault. The fault zone pinches and swells and the quartz vein is variably developed within the fault zone. Sulfides occur as narrow stringers and isolated pods in the quartz with an apparent erratic distribution. There may be some lithologic control; the rocks exposed in outcrop on surface are of different lithology than most of what is in the dumps (green siltites on surface, lavender/buff siltites in dumps). McMechan puts these rocks in a lower Creston unit. The Upper Pond Vein occurs about 2000m to the east, in the upper Creston unit. The Horseshoe Creek fault is a few meters to the east, with lower Creston on the east side of the fault. The Upper Pond Vein may be related to the Horseshoe Creek fault; other smaller quartz veins occur nearby.

The known mineralization on the D.V. Property appears to be fault-related. These faults are mostly young, incurred during formation of the Rocky Mountains.

As such, they are a product of brittle deformation at relatively shallow levels in the crust and are not associated with significant regional metamorphism. The Dibble Creek fault is believed to be a reactivated, older, possibly basin-controlling Precambrian fault (notes accompanying McMechan's map).

Source of Mineralization

From what I have seen so far, I feel that the mineralization is fairly locally-derived, meaning that it comes from the adjacent host sediments with comparatively little transport, say less than 2 km. Local intrusions associated with the deformation that produced the faulting (young Cretaceous age intrusions are known to occur not far to the north and may also occur on or near the D.V. Property at depth) could act as a heat/energy source to push hydrothermal solutions through the sedimentary rocks, leaching metals that occur in very minor amounts. These metals are later precipitated, along with quartz, in the veins.

If this is the case, then lithology could be important to both

1. Source of metals. Certain beds would have more metals than others (eg. anomalous argillites on the Box claim)

2. Site of precipitation of the metals. Once the metals are leached and in solution then conditions must change again for the metals to be precipitated. This could be physical/structural, for example the open space of a fault could provide reduced pressure, causing precipitation. Or it could be chemical, with certain rocks having a chemistry better suited to precipitation of the metals.

The character of the D.V. mineralization fits with a local sedimentary rock source for the metals. The assemblage is Cu-Ag-Au-Pb-Zn. The Creston Formation has relatively high background Cu and Ag; Au in the regional placers (Wildhorse, Perry, Moyie drainages) appears to come from Upper Aldridge-Creston stratigraphy, probably as original very fine grained Au disseminated in the sediments.

Probably the level of metamorphism in the area is not high enough to leach considerable metal from the sediments, and this could be the reason for seeing only very small deposits. If this is the case, then getting closer to an intrusion may result in a more appreciable concentration of metals.

Direction of Future Exploration

Immediate or short term

BOX Trench the gossan near the helipad. Assuming the mineralization is fault-controlled, trenching would expose the fault and show if better Au values were present close to the fault plane.

DIBBLE Trenching of the better anomalies to see if grades, widths, improve to depth. I have not seen this property.

VICTOR Try to establish whether a trench or tunnel was developed along the vein north of the 3 known adits. There is a caved in trench of some type extending from the end of the road to the portal of the lowest adit - was this developed along the vein? If so, and if some values were present (values are poor in the lower adit) then the depth extension of the vein in this area could be explored by diamond drilling angle holes eastward from a lower elevation. It may be necessary to trench these old near-surface workings to establish whether the vein occurs there and to see if any metal values are present.

Longer term

Better geological control is needed to relate the different areas of mineralization on the D.V. Property. Detailed mapping should look at the lithologic variations of the Creston and Upper Aldridge Formations, with a view to understanding both the source of the metals and the sites of precipitation of the metals. This would in turn lead to exploration targets.

Peter Klewchuk

Peter Klewchuk
Geologist

My phone number for next month or so is 403-873-2716 in Yellowknife; evenings are best

PETROLOGY REPORT

A PETROGRAPHIC
AND
FLUID INCLUSION STUDY
OF
THE D.V. PROPERTY
FOR
E. OLFERT

KRTA Limited
Mineral Services Division
CPO Box 4498 Auckland New Zealand
Telephone (09) 795 700 Telex NZ 21385
P2905/1 NOVEMBER 1986

SUMMARY

1.0 Eleven samples from the D.V. property were examined in thin section with two sulphide rich samples (D2 and V1) being examined in reflected light; polished plates of the samples were examined for fluid inclusions and a limited number of homogenisation temperatures obtained.

2.0 The host rocks are quartzite, siltstone and argillite comprised mainly of quartz with subordinate feldspar. The rocks have been metamorphosed to the lower greenschist facies with the development of aligned sericite.

3.0 The rocks are cut by quartz veins showing textures indicative of early stage dilatant growth followed by strong deformation and fracturing. Later stage quartz, albite, sulphides and rare carbonate infill the fractures.

4.0 Mineralisation is most strongly developed in Sample D2 consisting of abundant acanthite after argentite along with chalcopyrite and gold. Sulphides in other samples include early pyrite and an assemblage of sphalerite, galena and pyrite within later stage fractures.

5.0 The strong deformation has destroyed most fluid inclusions. However a large primary inclusion in late stage quartz associated with the mineralisation showed indications of a high gas content and entrapment at high pressures, but decepitated prior to homogenisation. Secondary inclusions in late stage quartz homogenised at 240 to 250^{o}C but are likely to post date mineralisation.

6.0 The vein textures, style of mineralisation and fluid inclusions are all typical of metamorphic quartz veins, and no indications of an epithermal event are present.

1.0 INTRODUCTION

A suite of eleven samples from the D.V. property, south-east British Columbia were submitted for petrographic and fluid inclusion study in late October 1986 by E. Olfert.

The samples are of quartz veins and host rock; the latter are pre-Cambrian quartzites, argillites and siltstones of the Aldridge and Creston Formation which were metamorphosed to the lower green schist facies during the Cretaceous. The Aldridge Formation is host to the Sullivan stratiform Pb-Zn mine located approximately 20 miles to the north-west.

The object of the study is to determine the nature of veining, to establish if it is epithermal or the result of late stage remobilisation possibly related to metamorphism.

2.0 LITHOLOGIES

2.1 Host Rocks

Only host rocks from the Box Areas are included in the sample suite; although insheared slivers of country rock are present within veins from the other areas.

The rocks are fine grained sediments ranging in grain size from argillite to fine grained sandstone. Quartz is the dominant clast type with subordinate plagioclase, minor detrital mica and rare tourmaline and zircon. The rocks have undergone low grade metamorphism with albitisation of the plagioclase and the development of sericite, which provides an incipient metamorphic fabric to the rocks, in addition there is some recrystallisation of quartz. Minerals indicative of metamorphic facies are absent, however McMehan and Price (1982) regard the rocks of the area to be at the lower boundary of the greenschist facies on the basis of the degree of sericite crystallinity.

Insheared country rock fragments are similar in nature, although they are more sericite rich than the rocks from the Box Area.

2.2 Veins

The veins consist of quartz with sulphides, minor albite, carbonate and sericite. They also contain insheared slivers of country rock.

The earliest generation of quartz occurs either as irregular shaped coarse grains or elongate parallel grains indicative of dilatant growth. Associated with this quartz are cubic pyrite grains and enclosed within some of the quartz grains are clouds of fine grained sericite. This quartz has undergone intense deformation with the development of undulose extinction, serrated grain boundaries, recrystallisation to finer grained quartz along grain boundaries or shears and the development of Boehm lamallae. The pyrite grains are shattered and some have pressure solution shadows of quartz.

Another result of the deformation is the inshearing of country rock, although some pieces are growth centres for early quartz and hence were included in the vein upon its initial opening.

Following the deformation, the veins have undergone fracturing which occasionally is preferential along areas of inshearing. The fractures are mainly filled with quartz, however albite is also found, particularly on fracture margins, less commonly, carbonate and/or sulphides infill the fractures. Where carbonate is found the sulphide assemblage consists of pyrite, galena and sphalerite. However in D2 abundant acanthite with gold is found along with chalcopyrite and quartz. The acanthite shows indications of being pseudomorphic after argentite.

Postdating the sulphide deposition further fracturing has occurred, but without any mineral deposition.

The textures of the veins are typical of metamorphic quartz veins as is the style of mineralisation. Generally the more mineralised veins are more deformed than the unmineralised ones, but otherwise there are no substantive differences between the veins of different areas.

3.0 ALTERATION

The rocks examined have been metamorphosed under lower greenschist facies conditions. The mineral assemblages developed under such conditions are indistinguishable from those produced by hydrothermal alteration unless they provide a structural fabric to the rock.

Much of the sericite within the rocks has a preferred orientation and hence is likely to be of metamorphic origin. However McMehan and Price (1982) report chlorite within the rocks of the area whereas none is evident in thin section. Therefore it is possible that some of the sericite is an alteration product of original chlorite. However the major alteration feature is silicification which is best developed in B1(b) giving the rock a waxy appearance. The silicification takes the form of very fine grained quartz. The quartz is not fibrous in habit and is therefore not chalcedonic.

TABLE 1:

SUMMARY OF LITHOLOGIES, VEINING AND ALTERATION

	SAMPLE NO.	LITHOLOGY	VEIN AND ALTERATION MINERALOGY
Box Area	B1(a)	Siltstone	Q, Ab
	B1(b)	Argillite/Siltstone	Q, Ser, Pyr
	B2	Feldspathic Quartzite	Ser, Pyr, Ab, Q
	B3	Quartz Vein	Q, Pyr, Ser
Dibble Area	D1	Quartz Vein	Q, Ab, CC
	D2	Quartz-Sulphide Vein	Q, Ac, Au, Ccp, Hm, Mal
	D3	Quartz Vein	Q, Pyr
	D4	Quartz Vein	Q
Victor Vein	V1	Quartz Vein	Q, Pyr, Ank, Gn, Sph, Ser
	V2	Quartz Vein	Q, Pyr
Upper Pond Vein	UP1	Quartz Vein	Q

Mineral Abbreviations

Q	quartz	Cc	calcite
Ab	albite	Ac	acanthite
Ser	sericite	Au	gold
Pyr	pyrite	Ccp	chalcopyrite
Hm	hematite	Mal	malachite
Ank	ankerite	Gn	galena
Sph	Sphalerite		

4.0 FLUID INCLUSIONS

All samples were prepared as doubly polished plates and examined for fluid inclusions. The early stage quartz and silicified country rock are too cloudy to utilise and attention was focussed on later stage clearer quartz within small crosscutting veins. In addition single crystals of vug quartz from Sample D1 were examined. Textural relationships within the most mineralised sample (D2) indicate that mineralisation postdates the early stage quartz, hence the later-stage clear quartz is that which is most likely to be associated with mineralisation.

Primary inclusions are very rare and only one was found. It occurred in the vug quartz in Sample D1. It is a three phase inclusion consisting of two liquids and a vapour bubble. One of the liquids occurs as a dark meniscus to the bubble and hence is likely to be liquid CO_2, whereas the other liquid is likely to be brine. The occurrence of liquid CO_2 indicates that the partial pressure of CO_2 exceed 70 bars within the inclusion.

Upon heating the inclusion decrepitated prior to homogenising; such behaviour, when inclusions occur in quartz, is suggestive of a high internal pressure in the inclusions. However as it was observed in only one inclusion, possibly because any other primary inclusions in the crystal were also destroyed, it is not conclusive, as the inclusion may have been bordering on a fracture. If this was not the case, an internal pressure can be estimated according to the size of the inclusion (Roedder, 1984). As the inclusion is greater than 30 um in diameter, an internal pressure of greater than 850 bars can be assumed. Therefore the inclusion's minimum trapping pressure can be assumed to be 850 bars, and a minimum trapping temperature of 210^{o}C can be calculated using the decrepitation temperature as a minimum homogenisation temperature, and applying a pressure correction of 850 bars.

All the samples contained numerous secondary inclusions along rehealed fractures and along old grain boundaries where recrystallisation has taken place. The vast majority of the inclusions are very small (< 5um) and single phase. The rare exceptions gave homogenisation temperatures which fell into two separate groups. Secondary inclusions from B1(a), B1(b), D1(vug) and D4 homogenised at temperatures between 70 and 100^oC. These temperatures are likely to be related to post mineralisation fracturing during uplift. However one inclusion in B1(a) homogenised at 240^oC and one in V1 homogenised at 250^oC. Three other inclusions in V1 decrepitated prior to homogenisation at temperatures of 185, 185 and 205^oC. If the quartz is related to mineralisation, and as the inclusions are secondary, these homogensisation temperatures reflect conditions post dating mineralisation and are likely to be lower than the temperatures which prevailed during mineralisation. The decrepitation behaviour also implies high pressure, as these inclusions are approximately 10 um in size, an internal pressure of 1200 bars can be estimated. As these inclusions decrepitated at temperatures less than that at which a nearby inclusion homogenised, it is likely that they were more CO_2 rich.

TABLE 2:

SUMMARY OF FLUID INCLUSION RESULTS

(Temperatures in ^{o}C)

SAMPLE NO.	PRIMARY INCLUSIONS	SECONDARY INCLUSIONS
B1(a)	-	Th = 100, 240
B1(b)	-	Th = 70
B2	-	-
B3	-	-
D1	-	-
D1 (Vug Quartz)	Td = 130	Th = 85
D2	-	-
D3	-	-
D4	-	Th = 75
V1	-	Th = 250 Td = 185, 185, 205
V2	-	-
UP1	-	-

MINERALISATION MODEL

The veins examined are typical of those that develop in greenschist facies metamorphic terranes. Features that distinguish them as such are an early stage of dilatant growth of quartz, followed by deformation and fracturing, with mineralisation occurring within the late stage fractures.

Primary fluid inclusions in such veins are rare as they are usually destroyed by the deformation. Inclusions associated with mineralisation are usually CO_2 rich and there may be indications of high pressures. These features are observed within the veins from the prospect, although pertinent homogenisation temperatures could not be obtained.

Such veining elsewhere has been interpreted to be the result of the de-watering of the metamorphic pile. Initial quartz veining is usually syn-metamorphic, with later deformation and fracturing being induced by rapid uplift and unloading of the pile, allowing fluids at depth to migrate upwards and deposit material mobilised at depth. The source for the mineralisation in such veins has been a matter of debate, however where mineralised veins develop there are usually stratiform sulphide bodies within the same metamorphic pile. In this case, the increase in metamorphic grade to the west and the silver rich nature of the mineralisation would be consistent with remobilisation of Sullivan-style mineralisation.

Unless mineralisation of this style occurs within a major shear zone it will usually be restricted to dilatant features, in particular axial planar veins and saddle reefs or stockworks in the apexes of folds.

PETROGRAPHIC DESCRIPTIONS

B1(a) Silicified Siltstone

The rock is comprised of quartz, albite and sericite with small clusters of leucoxene grains and occasional small cubes of pyrite. The quartz and albite occur as ragged anhedral grains enclosed in fine grained quartz with flakes of sericite. Some larger flakes of sericite are also found which have brown pleochroic centres and hence are partially sericitised detrital biotite. The finer grained sericite is partially aligned giving a poorly defined cleavage to the rock.

The rock is strongly fractured, infilling the fractures are quartz and albite. The quartz occurs as parallel strips, typical of dilatante growth. It also exhibits undulose extinction and is plastically deformed. Albite twinning lamallae are similarly deformed.

B1(b) Argillite/Siltstone

The original rock is complexly intercalated argillite and siltstone. The argillite has fine laminations outlined by wispy opaques which enclose very small angular fragments of quartz and minor albite. The laminations wrap around ovoid shaped areas of fine grained quartz. These may be recrystallised radiolaria. This material is enclosed in very fine grained quartz.

The siltstone lacks the wispy opaques of the argillite and consists of angular fragments of quartz and albite plus clusters of fine grained leucoxene and some pyrite enclosed in a matrix of fine grained quartz. Rare flakes of sericite are found.

The rock is strongly deformed with offset areas of siltstone and deformation of opaque lamallae. Some of this disruption appears to be soft sediment deformation. However, the rock is also cut by two generations of quartz veins and a later fracture set. The earliest quartz veins are the coarser grained, some of the quartz is found as aligned elongate anhedral grains and grain boundaries are very ragged. Later quartz is found in small ribbon veins which occasionally have sericite within them. In the vicinity of the veins pyrite grains with quartz pressure solution shadows are found.

B2 FELDSPATHIC QUARTZITE

THE ROCK CONSISTS OF QUARTZ, SUBORDINATE ALBITE, MINOR SERICITE AND ALSO CONTAINS RARE ZIRCON GRAINS. THE QUARTZ AND ALBITE ARE PRESENT AS SUBANGULAR GRAINS WITH RAGGED RECRYSTALLISED GRAIN BOUNDARIES WITH THE OCCASIONAL DEVELOPMENT OF RECRYSTALLISED QUARTZ ALONG GRAIN BOUNDARIES.

THE ROCK IS CUT BY A NETWORK OF THIN CONVOLUTE VEINS OF IRON STAINED SERICITE. IN THEIR VICINITY GEOTHITE AFTER PYRITE IS FOUND, AND THEY LEAD INTO INFILLED VUGS WHICH ARE LINED BY SMALL ALBITE CRYSTALS WITH CENTRES OF COARSE GRAINED QUARTZ SHOWING UNDULOSE EXTINCTION.

B3 Quartz Vein

The sample consists entirely of quartz except for some Fe-oxides lining voids from which pyrite has been leached; rare remnants of pyrite, Fe-oxides along fractures, and rare flakes of sericite.

Most of the quartz occurs as fine grained elongate aligned grains with ragged crystal boundaries. Enclosed within it, particularly surrounding leached voids are aggregates of coarser-grained quartz showing undulose extinction. These areas of coarser-grained quartz interconnect with a network of veins of partially-aligned quartz. Some of the coarser-grained quartz has undergone plastic deformation and contains small parallel trails of fine-grained recrystallised quartz.

D1 Quartz Vein with Enclosed Country Rock

The sample is composed of smeared out slivers of country rock enclosed by quartz veins.

The country rock consists of subangular grains of quartz and albite with ragged grain boundaries with some degree of recrystallisation along them. This material is clouded by a network of Fe-oxides and sericite.

Two styles of veining are found. The earliest veins consist of elongate parallel grains of quartz growing across the veins, a texture typical of dilatant growth. They show undulose extinction and plastic deformation with small patches of recrystallised fine grained quartz, particularly along grain boundaries.

Growing on them are a parallel set of veins consisting of coarse grained granular quartz. The lack of deformation textures within this quartz indicates that it is later than the other veins. Contained within the coarse-grained quartz are areas of sericite and aggregates of albite. Albite also has grown as selvedges on some of these veins. The rock is cut by later stage fractures lined by Fe-oxides which open up in places to contain ragged areas of calcite.

D2 Quartz-sulphide Vein Containing Fragments of Country Rock

The vein consists mainly of coarse grained quartz, some of which occur in parallel elongate crystals indicative of dilatant growth. These have been strongly deformed into twisted masses with undulose extinction, Boehm lamallae and recrystallised grain boundaries.

The rest of the quartz occurs as a coarse grained granular aggregate showing similar deformation features as well as areas of recrystallisation to fine grained quartz. Enclosed within this material are smeared-out fragments of country rock which consist of convolutely aligned sericite enclosing small grains of quartz.

The rock is cut by a late stage fracture network infilled by opaques and their weathering products including acanthite, gold chalcopyrite, hematite and malchite. Acanthite is predominant, it inherits some suggestion of cubic cleavage from an argentite precursor and contains irregular inclusions of chalcopyrite. Fine to coarse gold is found separately from the acanthite, either in quartz or within weathering products. It is light coloured and reflective, which is characteristic of silver being present in solid solution.

Supergene weathering products have expanded throughout the sample and include hematite and malachite. Later stage fracturing and stressing have affected the fabric of the opaques.

D3 Quartz Vein

The vein is composed predominantly of quartz with some pyrite and minor flakes of sericite along with smeared-out fragments of country rock. The quartz is found mainly as large grains showing undulose extinction, Boehm lamallae, and shear zones where fine grained recrystallised quartz is found. The country rock fragments consist either of fine grained recrystallised quartz flecked with poorly aligned sericite or mainly of convolutely aligned sericite with inclusions of quartz and pyrite. Most pyrite is oxidised to Fe-oxides and is found as separate grains along a plane.

D4 Quartz Vein

The vein has a complex internal structure provided by an irregular network of equant granular quartz enclosing areas of finer grained quartz, which run into areas of coarse-grained irregularly shaped grains of quartz showing strong undulose extinction.

Convolutely aligned areas of sericite are found mainly in the finer-grained areas, some of which are recrystallised country rock.

The rock is cut by a network of fractures, some of them iron stained.

V1 **Quartz Vein**

The vein is largely composed of coarse-grained anhedral granular quartz exhibiting strong undulose extinction. There are also patches of deformed elongate parallel quartz grains indicative of dilatant growth and areas of fine-grained recrystallisation along grain boundaries. Enclosed within the quartz are sub-cubic pyrite grains with a shattered texture and porphyroblastic appearance.

Insheared along fractures are areas of convolutely aligned sericite which is associated with ankerite, galena and sphalerite. The sphalerite occurs in large irregular patches with occasional pyrite inclusions whereas galena occurs both in coarse grained patches or in fine veinlets.

V2 **Quartz Vein**

The vein is made up mainly of coarse-grained quartz showing strong undulose extinction, rehealed fractures and areas of fine grained recrystallisation, particularly along grain boundaries.

Enclosed within the vein are crystals of pyrite; large grains have a shattered appearance and hence are earlier than finer grained cubes of pyrite associated with convolutely laminated areas of sericite insheared into the vein. There is rare carbonate infilling late stage fractures.

UP1 **Quartz Vein**

Coarse-grained irregular shaped quartz grains exhibiting undulose extinction with minor recrystallisation along small shears make up most of the rock. Some of the quartz crystals have growth zones defined by clouds of fine grained sericite.

Insheared into the vein are patches of sericite with granular quartz and albite stained by Fe-oxides after pyrite.

FLUID INCLUSION WORK SHEET

PROJECT NO: [illegible]

DATE: [illegible]

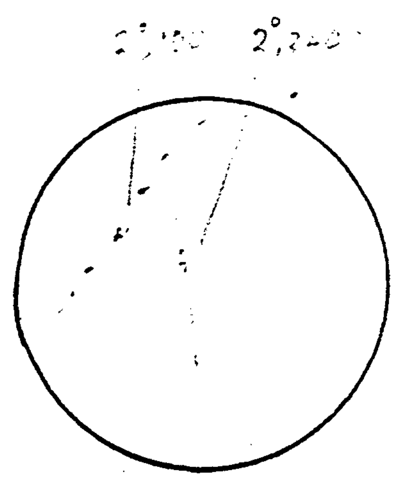
CLIENT: [illegible]

OPERATOR: JB

SPECIMEN ID: 51ca

SHEET NO: 1

NOTES: [illegible] brecciated quartz vein; clear quartz within interstices of breccia



FLUID INCLUSION WORK SHEET

PROJECT NO: [illegible]

DATE: 11/10/85

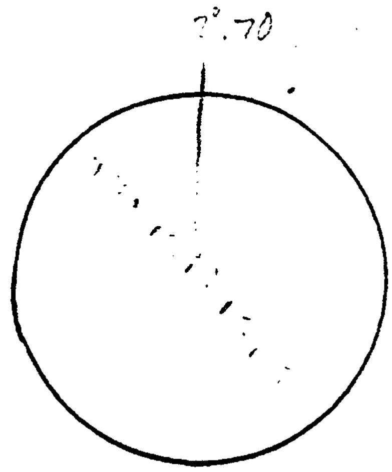
CLIENT: [illegible]

OPERATOR: JD

SPECIMEN ID: B16

SHEET NO: 1

NOTES: Quartz vein in fractured Cherty vein matrix, [illegible] in patches.



FLUID INCLUSION WORK SHEET

PROJECT NO: 2905/1

DATE: 29/10/86

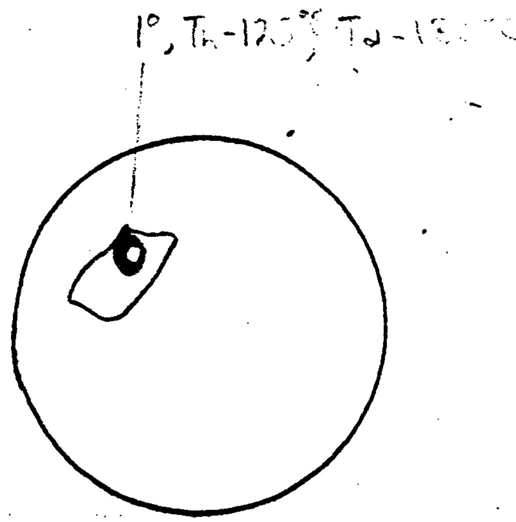
CLIENT: [illegible]

OPERATOR: I. G.

SPECIMEN ID: D1

SHEET NO: 1 of 1

NOTES: Handpicked vug quartz



FLUID INCLUSION W[illegible]

PROJECT NO: 2905[illegible]

DATE: [illegible]

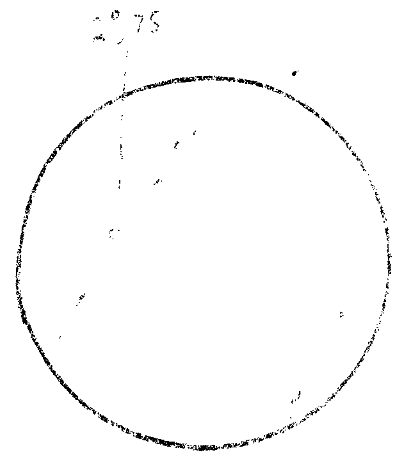
CLIENT: E Olfert

OPERATOR: [illegible]

SPECIMEN ID: D4

SHEET NO: [illegible]

NOTES: Cloudy elongate parallel quartz veining with crystallization [illegible] small secondary inclusions outline original grain boundaries



FLUID INCLUSION WORK SHEET

PROJECT NO: 29051

DATE: 11/11/86

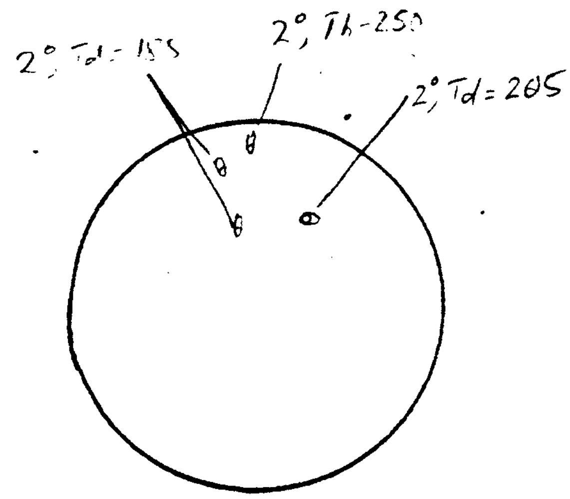
CLIENT: E Olbert

OPERATOR: IB

SPECIMEN ID: V1

SHEET NO: 1

NOTES:



REFERENCES CITED

McMechan, M.E; Price, R.A; (1982) Superimposed low-grade metamorphism in the Mount Fisher area, south-eastern British Columbia - implications for the East Kootenay orogeny. Can.S. Garth Sci., 19, 476-489.

Roedder, E; (1984) Fluid inclusions. Min. Soc. Am. Reviews in Mineraology, V.12.

ROCK GEOCHEM (1986)

Sample #	Location	Discription	ppm Cu	ppm Ag	ppb. Au	oz/t Au	Width
E01	1+50W, 0+25S	Cu stained Qtz vein	2847	507.6	4560	0.13	10cm
E02	1+55W, 0+02N	" with Argentite	4121	480.6	22,500	0.657	10cm
E03	2W, 0+25S	Qtz vein scree	30	5.4	20		float
E04	2W, 0+12S	"	119	8.8	6		"
E05	2+50W, 0+25S	Qtz vein scree	31	4.3	250		"
E06	2+50W, 0+13S	min. Qtz vein	2937	398.1	18,600	0.54	8cm
E07	2W, 1+00S	py. Qtz float	29	3.0	435		float
E08	2E, 3N	rextalized barren Qtz	40	9.5	65		3m
E09	3W, 4N	" " "	7	0.4	2		1.5m
E010	3+50W, 2+50N	Vuggy rusty Qtz.	9	1.0	19		float
E011	2+75W, 2+50N	Qtz vein in old trench (Fault)	21	0.2	1		1.5m
E012	0+75W, 0+25S	Qtz vein with 5cm of Highgrade	5035	332.2	5,110	0.15	0.5m
E013	0+50W, 0+25S	Qtz float	127	6.0	265		float
E014	0W, 0N ADIT	Host Rk. next to Highgrade Vein	60	1.9	7		0.5m
E015	2E, 1+25S	Qtz scree trace Cu	13	0.3	1		float
E016	4+50E, 1+50S	Qtz. Scree	9	0.4	5		float
E017	8+50E, 4+25S	Siliceous slates (Qtz stringers)	7	0.1	75		1.6m
E018	7E, 3+25S	Diorite with Hem. Calcite veins	3	0.1	2		float
E019	0+50W, 0+25S	Siltites with Qtz. stringers	11	0.2	36		3m.
E020	0+75W, 0+25S	Host Rk. next to vein	98	1.7	250		1.8m
E021	4+50W, 0+25N	Qtz. fracture filling	25	0.5	6		4cm
E022	3+75W, 0+62S	Barren Qtz. vein	99	4.9	1920		0.5m
E-42	1+35W, 0+30S	rusty pyritic Qtz.V.		0.02g/t.		0.045	55cm.
E-47	2+20E, 0+45N	Brecciated py. Qtz.V.		0.05g/t.		0.016	50cm.
E-100	0+10E, 0+10S	barren Qtz. vein		0.06g/t.		0.009	1m.

E02 – 1ppm Ga, 3ppm Ge

E012 ← also 14ppm Ga, and 1ppm Ge

E-42, E-47 } resampled from 1985

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,868

F•B SILVER 82G/11

DIBBLE GROUP
Au Geochemistry

updated [illegible] / E. OLFERT	Scale 1:2,500	PLATE # 5

LEGEND
Elevation contour interval 100'
Soil Sample Location
Silt Sample Location
Rock Sample Location
Portal
Trench
Shaft
55 ppm Ag
55 ppm Ag
>0.45 ppm Ag Anomalous
>1.5 p.p.m Very Anomalous
A Corresponding Au Anomalies
Rock samples taken just over Saddle Pass
E-49 green Andesite?
E-50 rusty quartzite vein
E-51 red-Sandy quartzite
E-52 rusty quartzite scree
E-53 Dev. Limestone
E-54 Punky limonite at fault contact
all Samples 0.1ppm Ag.
Height of land
115°26.5'
49°36'
L3077
L3070
L3072
L3071
L4402
L3537
SCALE 1:2,500
500m. to Saddle Pass
GEOLOGICAL BRANCH ASSESSMENT REPORT
15,868
GEOLOGICAL ASSOCIATION OF CANADA
E. G. OLFERT
FELLOW
F•B SILVER
82G/11
DIBBLE GROUP
Ag Geochemistry
updated Nov./86
Dec. 1985
E. OLFERT
Scale 1:2,500
PLATE # 6

Rock Assays

Sample #	Location	Discription	% Cu	oz/t. Ag	oz/t. Au	width
E-2	Adit #1	grey Cu Vein	2.44	106.22	1.384	5 cm
E-14	Adit #2	dis grey Cu in Qtz. vein	0.01	0.70	<0.003	25 cm
E-17	Adit #2	grey Cu Vein	1.06	27.70	0.2	15 cm
E-21	Adit #3	junction 2 Qtz. veins	0.32	7.73	0.032	55 cm
E-23	Adit #3	dis. grey Cu in Qtz. vein	0.30	6.27	0.106	15 cm
E-25	Adit #3	Qtz. vein on strike from E-21	0.59	17.20	0.25	18 cm
E-30	Adit #1	dis. grey Cu in Qtz. V.	0.72	19.50	0.332	5 cm
E-31	East of Adit #1	"	0.46	17.20	0.188	15 cm
E-32	"	Cu stained Qtz. Vein	0.93	39.70	1.378	10 cm
E-35	1E. 0+70N	grey Cu vein	4.10	111.50	3.758	8 cm
E-38	OW, ON.	grey Cu Vein	4.74	128.94	1.476	10 cm
E-57	Adit #4	grey Cu Vein	1.77	28.60	0.746	8 cm
E-59	Adit #4	grey Cu in Qtz. Vein	1.02	128.33	0.612	12 cm
E-60	Adit #4	Qtz. vein next to E-59	0.13	3.33	0.056	50 cm

NOTE: ALL EO ROCK SAMPLES were taken in 1986 and are plotted directly on this map. EO Samples are also plotted on the Au Geochem map.
E ROCK Samples except for E-100 and resampled E42 and E-47 were taken during mapping in 1985.

Rock Geochem

Sample #	Location	Discription	width	Cu ppm	Ag ppm	Au ppb.
E-1	ADIT #1	Slate + Qtz. stringers	35 cm	1300	7.3	160
E-3	ADIT #1	"	49 cm	710	5.4	60
E-4	ADIT #1	Qtz vein + slate	32 cm	17	0.3	45
E-5	ADIT #1	Qtz vein brown patches	20 cm	6	0.1	5
E-6	ADIT #1	Qtz vein rusty	35 cm	7	0.1	<5
E-7	ADIT #1	Stratabound Qtz. Vein	60 cm	4	0.1	<5
E-8	ADIT #1	"	135 cm	3	0.1	<5
E-9	ADIT #2	Qtz. ribbons in green slate	35 cm	3	0.1	<5
E-10	ADIT #2	Stratabound breccia Qtz. vein	90 cm	12	2.3	110
E-11	ADIT #2	jointed Qtz. vein	25 cm	10	0.1	<5
E-12	ADIT #2	Stratabound Qtz. V.	55 cm	8	0.1	50
E-13	ADIT #2	folded Qtz. Vein	20 cm	4	0.1	30
E-15	ADIT #2	Stratabound Qtz. V.	15 cm	4	0.1	<5
E-16	ADIT #2	" with trappy	20 cm	7	0.1	35
E-18	ADIT #2	Slate contact with E-17	20 cm	15	0.1	<5
E-19	ADIT #2	Stratabound Qtz. Vein	30 cm	16	4.5	9400
E-20	ADIT #3	Strat. Vein no Sulphides	15 cm	15	0.1	70
E-22	"	fractured slate + Qtz.	110 cm	16	0.1	30
E-24	"	Siltite on Vein contact	10 cm	4	0.1	25
E-26	above ADIT #3	Cu staining on siltite	10 cm	7500	11.8	30
E-27	"	Siltite next to E-26	20 cm	262	0.8	20
E-28	above ADIT #3	Joint vein	13 cm	47	0.1	5
E-29	ADIT #1	"	20 cm	15	0.1	15
E-33	2E, 0+55N	rusty faulted Qtz. V.	65 cm	30	18.4	2050
E-34	0+70N, 1E	Trace Cu in red siltite next to E-35	13 cm	710	1.8	470
E-36	0+80E, 0+65N	Qtz. vein	20 cm	100	14.0	920
E-37	next to E-36	red slate	250 cm	34	0.1	20
E-39	ON, OW next to E-38	Trace Cu in fractured Qtz.	30 cm	3700	49.0	2300

Sample #	Location	Discription	Width	Cu ppm	Ag ppm	Au ppb
E-40	4W, 0+70S	rusty Qtz. vein	130 cm	28	4.8	2550
E-41	1+55W, 0+75N	Qtz. stringers in red slate	65 cm	22	0.4	250
E-42	1+35W, 0+30S	rusty Qtz. vein	55 cm	6	0.2	900
E-43	0+25W, 0+95N	Strat. Qtz Vein	20 cm	5	0.1	85
E-44	OW, 1+15N	Qtzite with Qtz. veins	100 cm	3	0.1	<5
E-45	1+50E, 1+05N	"	110 cm	4	0.1	<5
E-46	2E, 0+55S	"	30 cm	5	0.1	25
E-47	2+20E, 0+45N	Fractured py. Qtz. V.	50 cm	382	1.8	600
E-48	2+50E, 1+00N	Qtz. veins in folded Qtzite	27 cm	4	0.1	10
E-49	Saddle Pass	Green Andesite	grab	12	0.1	<5
E-50	"	Qtz. vein float	"	11	0.1	<5
E-51	"	red sandy slate	"	2	0.1	<5
E-52	"	"	"	8	0.1	<5
E-53	"	grey Lst. Devonian	"	18	0.1	<5
E-54	"	gossan Limonite	"	9	0.1	<5
E-55	3+50E, 0+85N	Qtzite bed	55 cm	3	0.1	15
E-56	1+80W, 0+30S	rusty Qtz. vein	80 cm	34	22.0	2050
E-58	ADIT #4	Host Rx contact with vein	15 cm	2350	3.8	90
E-61	ADIT #4	Qtz. Vein barren	8 cm	15	0.5	10
E-62	2E, 0+15S	Qtzite bed	175 cm	5	0.1	<5
E-63	1+50E, 0+20N	Stratabound qtzite unit	70 cm	3	0.1	<5
E-64	2E, 0+45N	Qtzite	165 cm	3	0.1	<5
E-65	2+50E, 0+20N	Qtzite	95 cm	3	0.1	<5
E-66	2+55E, 0+30S	Qtzite with qtz. veins	3.2 m	2	0.1	<5
E-67	5+50W, 0+25S	Cu stains in sheared Qtz zone	25 cm	2450	3 oz./t.	1540
E-100	0+10E, 0+10S	barren Qtz vein	1 m		0.06 oz/t.	0.009 oz/t.

resampled (1986) 0.02 oz/t Ag, 0.045 oz/t. Au. [E-42]

resampled (1986) 0.05 oz/t. Ag, 0.016 oz/t. Au. [E-47]

LEGEND

- OUTCROPPING AREAS
- SCREE, FLOAT
- TRENCH
- ADIT, SHAFT
- BEDDING: STRIKE/DIP, FOLD PLUNGE
- QUARTZ VEIN
- QUARTZITE BEDS
- TRAIL
- GEOLOGICAL CONTACT
- ELV. CONTOUR INTERVAL 100'
- SILT SAMPLE LOCATION

GEOLOGICAL BRANCH ASSESSMENT REPORT

15,868

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0 m. 25 m. 50 m 75 m. 100 m.
scale

F+B SILVER		82 G/11
DIBBLE GROUP GEOLOGY		
Dec. 1985 / E. OLFERT	Scale 1:1000	PLATE # 7

Revised July '86, Nov. '86

BASELINE
N
60%
40%
20%
0
X QUADRATURE
● IN PHASE
F+B SILVER SYNDICATE
DIBBLE GROUP
VLF-EM 16 SURVEY
PLATE # 8
JUNE 1986
A. O. HARA
0 50 100m
LLOYD GEOPHYSICS LIMITED
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15,868