BRITISH COLUMBIA

PROSPECTORS ASSISTANCE PROGRAM

MINISTRY OF ENERGY AND MINES

GEOLOGICAL SURVEY BRANCH

PROGRAM YEAR:	1997/1998
REPORT #:	PAP 97-1
NAME:	RON GRANGER

BRITISH COLUMBIA
PROSPECTORS ASSISTANCE PROGRAM
PROSPECTING REPORT FORM (continued)

B. TECHNICAL REPORT — see Report for small jobs P.7

- One technical report to be completed for each project area.
- **Refer to Program Requirements/Regulations, section 15, 16 and 17.**
- If work was performed on claims a copy of the applicable assessment report may be submitted in lieu of the supporting data (*see* section 16) required with this TECHNICAL REPORT.

Name Ron Grainger Reference Number 97/98 P5

LOCATION/COMMODITIES

Project Area (as listed in Part A) Hughes Creek MINFILE No. if applicable 082FSE 036, 082FSE 096

Location of Project Area NTS 82F-7W Lat 116°57'W Long 49°24'N

Description of Location and Access On both sides of Hughes Ck & tributary to Midge Ck. Access from Salmo on the Tye Road to km 35, then northerly on Lois Rd. to Diana Ck, then on old Wisconsin Rd.

Main Commodities Searched For gold, silver, lead, zinc

Known Mineral Occurrences in Project Area Wisconsin, Black Douglas, Kitz and Ida Fern.

WORK PERFORMED

1. Conventional Prospecting (area) See report & maps 6 sq km.
2. Geological Mapping (hectares/scale) See report maps 5 sq km.
3. Geochemical (type and no. of samples) 28 el. ICP+Au 78 rock geochems
4. Geophysical (type and line km)
5. Physical Work (type and amount) Trails & lines, heliport – see report
6. Drilling (no. holes, size, depth in m, total m)
7. Other (specify) all work with reasonable control is on maps.

SIGNIFICANT RESULTS

Commodities Au, Ag, Pb, Zn Claim Name DI 1-19

Location (show on map) Lat 116°57' Long 49°24' Elevation 1500-1900 m

Best assay/sample type 4.74 g/t Au, 3330 g/t Ag 2m wide grabs on 16.30 g/t Au, 230 g/t Ag 2m wide grabs

Description of mineralization, host rocks, anomalies

a) Vein zones in altered Trail volcanics near granodiorite sills or dikes. Ankerite associated.

b) Vein zones in fractures in granodiorite-Ankerite associated.

Supporting data must be submitted with this TECHNICAL REPORT

Information on this form is confidential for one year from the date of receipt subject to the provisions of the *Freedom of Information Act*.

PROSPECTORS ASSISTANCE PROGRAM

Ref.No. 97/98 P5

GEOCHEMISTRY,GEOLOGY AND PROSPECTS

DI 1 to 19 CLAIM GROUP

48746-348749,349285-349290,349831&32,358668-358673,358675

NELSON MINING DIVISION
82F-7W
116°57'W 49°24'N

Claim Owner: Ron Granger

Report for PAP P97/98 P5: Ron Granger

Geological Survey Branch
DEC 05 1997

Ron Granger
619, 20th Ave S.
new box ← NB
S-74, M-2, B-9
Creston, BC
V0B 1G5

Rec'd Dec 5/97

0 100 200 MILES

0 100 200 300 Km

FIGURE 1

PROPERTY LOCATION MAP

DI CLAIMS

82F-7W

TABLE OF CONTENTS

MAPS

INTRODUCTION:

This report is prepared to satisfy the requirements of the Prospector's Assistance Program and the work described is partly funded by Grant No. 97/98 P5.

A reduced version of this report will be used for assessment work credits on the claims DI 1 to19.

LOCATION:

The work area covers part of both sides of Hughes Creek, a north flowing tributary to Midge Creek, in NTS map sheet 82F-7W. The area is partly occupied by two old Crown Granted claims and two groups of six claims located by the author. The area is partly within private property owned by Darkwoods Forestry of Nelson, B.C. who operate the larger area as a tree farm. Mineral Rights are in Crown Domain.

ACCESS:

A good but narrow road from Salmo to Tye, on Kootenay Lake is followed to a point a few kilometers east of the Cultus Creek bridge where the junction with the Laib Creek road leads northerly first to the Diana Creek logging area then on the old Wisconsin Mine road to Hughes Creek. This latter section of road is difficult and is not to be driven casually. The section past the Hughes Creek bridge is presently impassable to vehicles larger than ATV's.

Late in the season a contractor, on behalf of Darkwoods Forestry, started a new road into the Hughes Creek valley and the road is reported to be advanced well down the south slope of the valley as it approaches the upper part of the creek.

The work area is about 25 kilometers southeast of Nelson and 10 kilometers west of Kootenay Lake, in map distances.

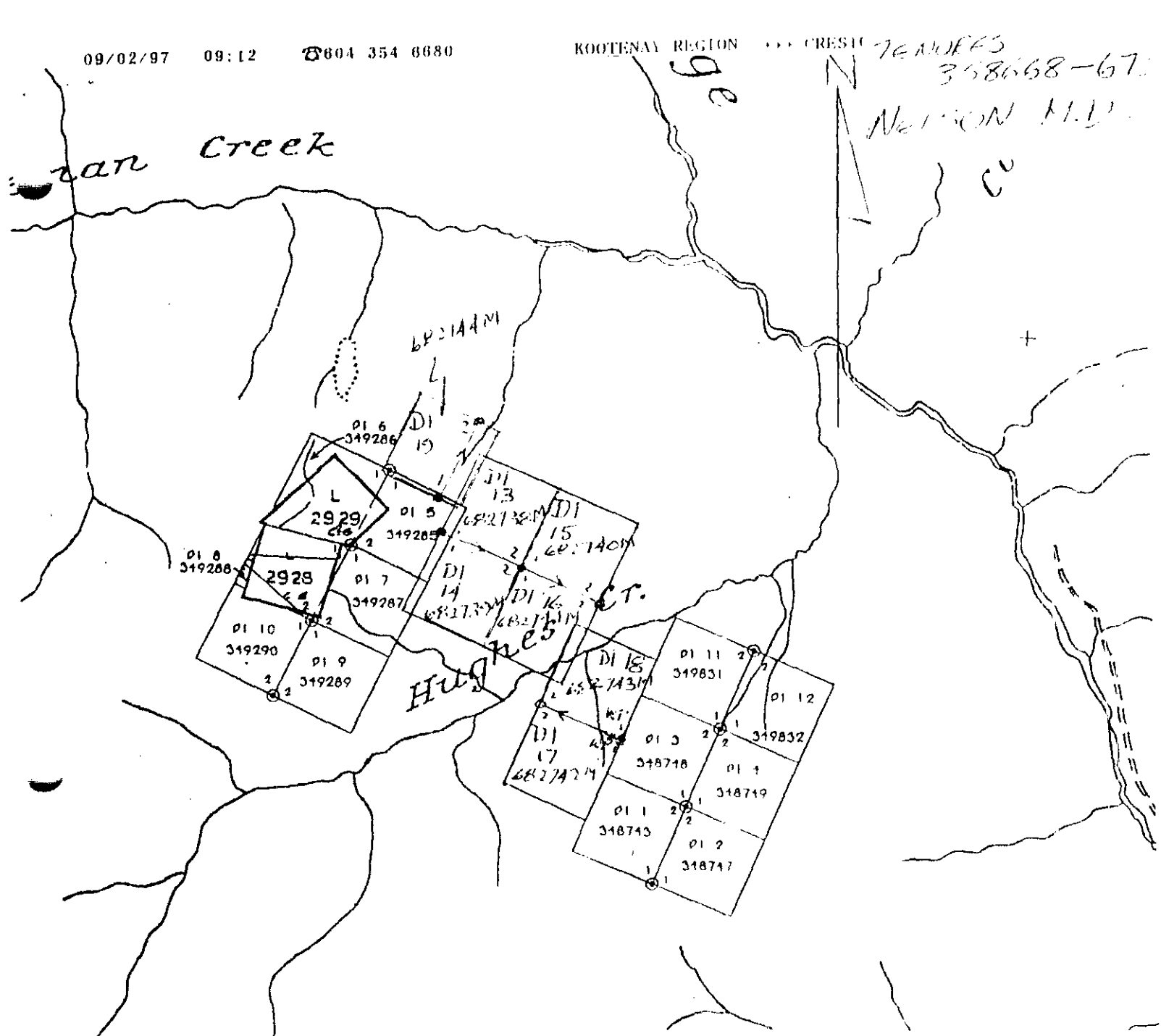
PROJECT AREA:

The area hosts one fairly well explored deposit covered by two Crown Grants, owned by a numbered company, known since 1898 as the Wisconsin, plus a lightly explored showing described during the late 1940's as the Black Douglas and now located on the DI 11 claim. Other, smaller, showings are numerous but unexplored.

The Wisconsin deposit, as explored in the past, is located on, and near, the contact between the Irene Formation volcanics and Monk Formation sedimentary schists, both Hadrinian, in close proximity to Cretaceous Drewry Point Intrusives.

Prospecting in the area during 1995 and 1996 by R.Granger and D.Wiklund led to enough new data to convince the prospectors that the mineralization was not as localized as recent theories suggested and that there was a strong likelihood of new discoveries if further exploration was carried out in certain locations. Application for funding support under the Prospector's Assistance Program was made and the support was granted.

The area explored in 1997 adjoins the previous work done on the Wisconsin on the east and southeast with a little detailing to the west.



LOCATOR'S SKETCH STAMP
(SUB) RECORDER'S INFORMATION

CLAIM NAME: DI 13-19

RECORD NUMBER: 338668-67

MINING DIVISION: NELSON

MAP NUMBER: 82F/7W

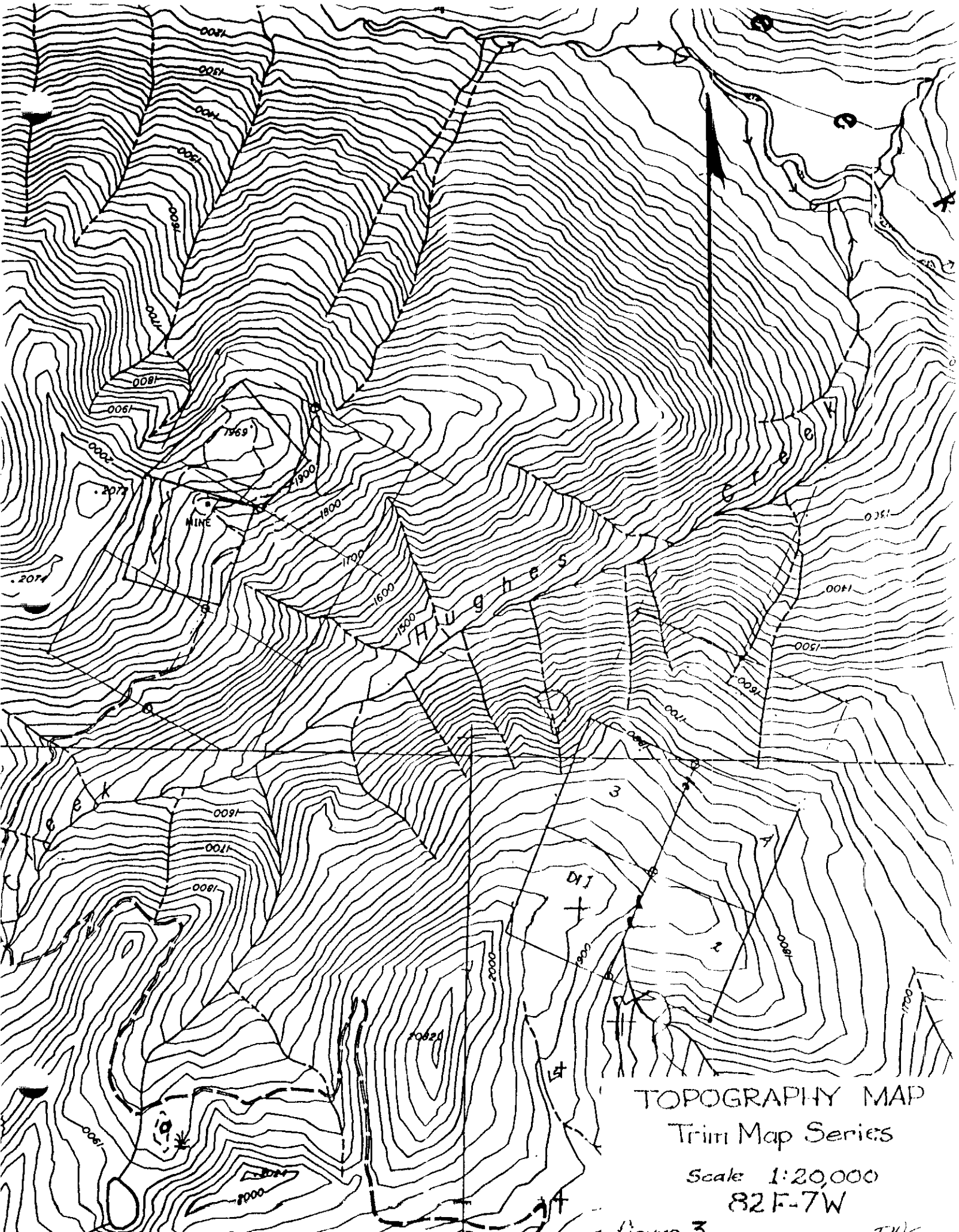
MINERAL TITLES DIVISION
DRAFTING INFORMATION

DATE COMPLETED:

INITIALS:

82F-7W

Figure 2



TOPOGRAPHY MAP

Trim Map Series

Scale 1:20,000

82F-7W

HISTORY:

In 1894 two claims were staked at the site of Wisconson Mine by the Hennessey brothers and they were brought to Crown Grant in 1899 by purchasers.

A series of operators carried out trenching and sampling followed by extensive underground exploration and development in several openings until 1932 when 1,000 feet of diamond drilling was completed in three holes. New owners continued underground development in 1935 and 1936 including a new lower level reached by a winze and a new level collared about 1,000 feet to the east of No.1 Portal.

Several mill and smelter tests were carried out in order to find a means of treating the sometimes very elevated arsenic content of the gold ores. This period petered out during the Second World War.

In 1947 a group of prospectors led by the Hamilton brothers built a cabin on the east side of Hughes Creek and in the next two years excavated a large number of shallow surface trenches, a short adit and a 20 foot shaft on their Black Douglas claims. A few elevated gold assays were obtained at depth where some primary sulphide was encountered.

In 1980 and thereafter Esperanza Explorations Ltd. carried out resampling on surface and underground, surface diamond drilling, bulldozer trenching, geophysical surveys and geochemical sampling. Geology gave impetus to the work when an apparent sedex model took shape and BP Selco took an option in 1983 leading to more surveys and diamond drilling in 1984-85. Strato Geological Engineering drilled three holes in early 1988 and Dutch Creek Resources drilled three holes in the same year.

Minfile No. 082FSE036 infers 136,065 tonnes grading 171 grams/T silver and 12 grams/T gold in the Wisconsin deposit.

In 1995 Wiklund and Granger began prospecting in this area having followed the Irene Volcanics north from the border in previous years. In spring 1996 two groups of DI claims were staked to cover areas of interest and reconnaissance geological and geochemical prospecting in concert with float prospecting led to discoveries not included in previous exploratory activity.

PROSPECTORS ASSISTANCE:

A 1997 grant was awarded to Wiklund to carry out grid location,soil sampling and prospecting and Granger received a grant to make geological maps of unmapped areas, to take rock samples of discoveries and to prospect.

LOCATED CLAIMS:

In early 1996 the DI 1 to 4 and DI 11 and 12 claims were located above and east of Hughes Creek and DI 5 to 10 claims were located surrounding and east of the two Crown Grants at the Wisconsin mine site.

In August 1997 and during the P.A.P. project the DI 13 to 19 claims were staked by Brad Granger, agent for Ron Granger, and became part of the program.

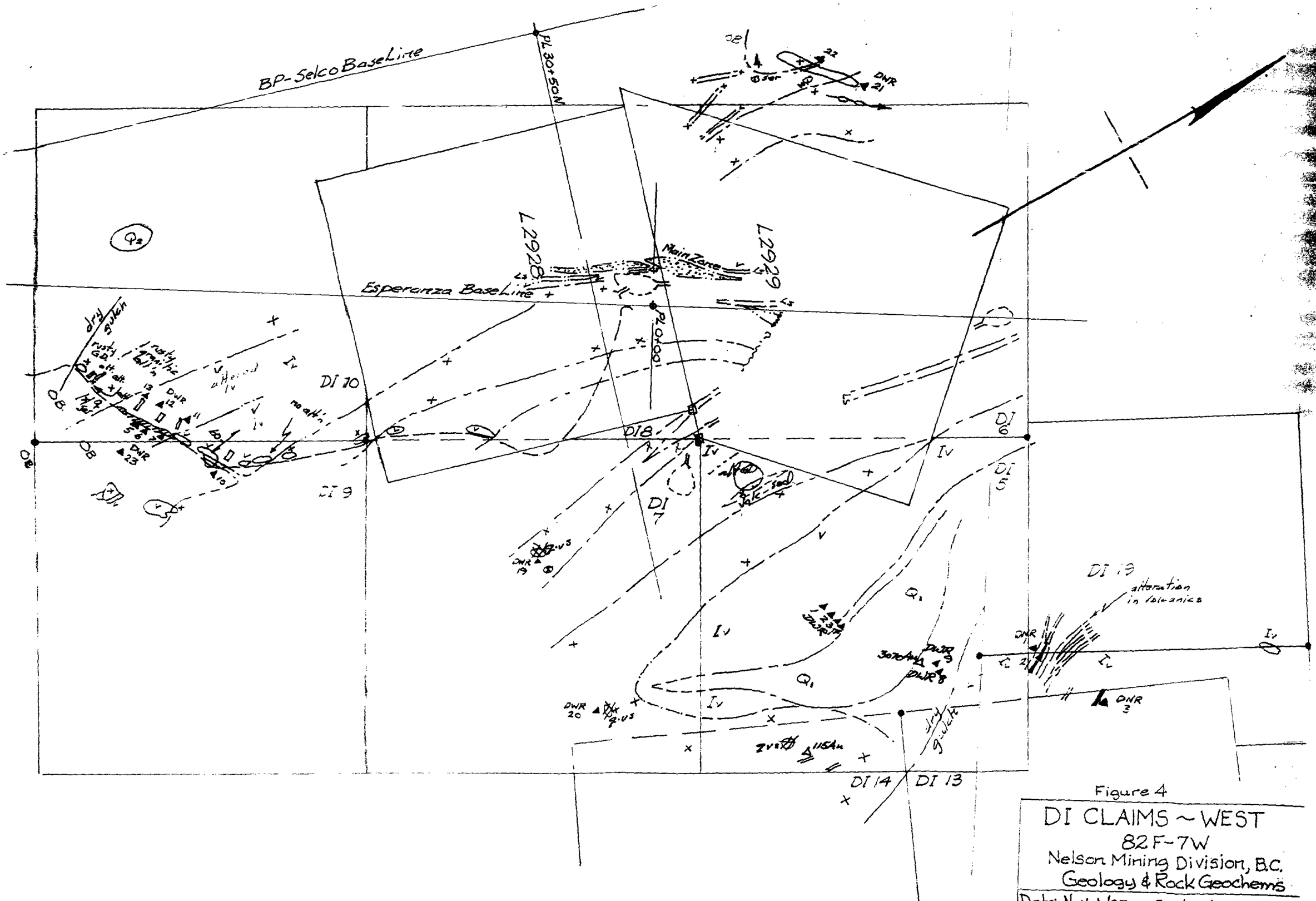


Figure 4

DI CLAIMS ~ WEST

82F-7W

Nelson Mining Division, B.C.

Geology & Rock Geochems

Date: Nov 1/87 Scale 1:5,000

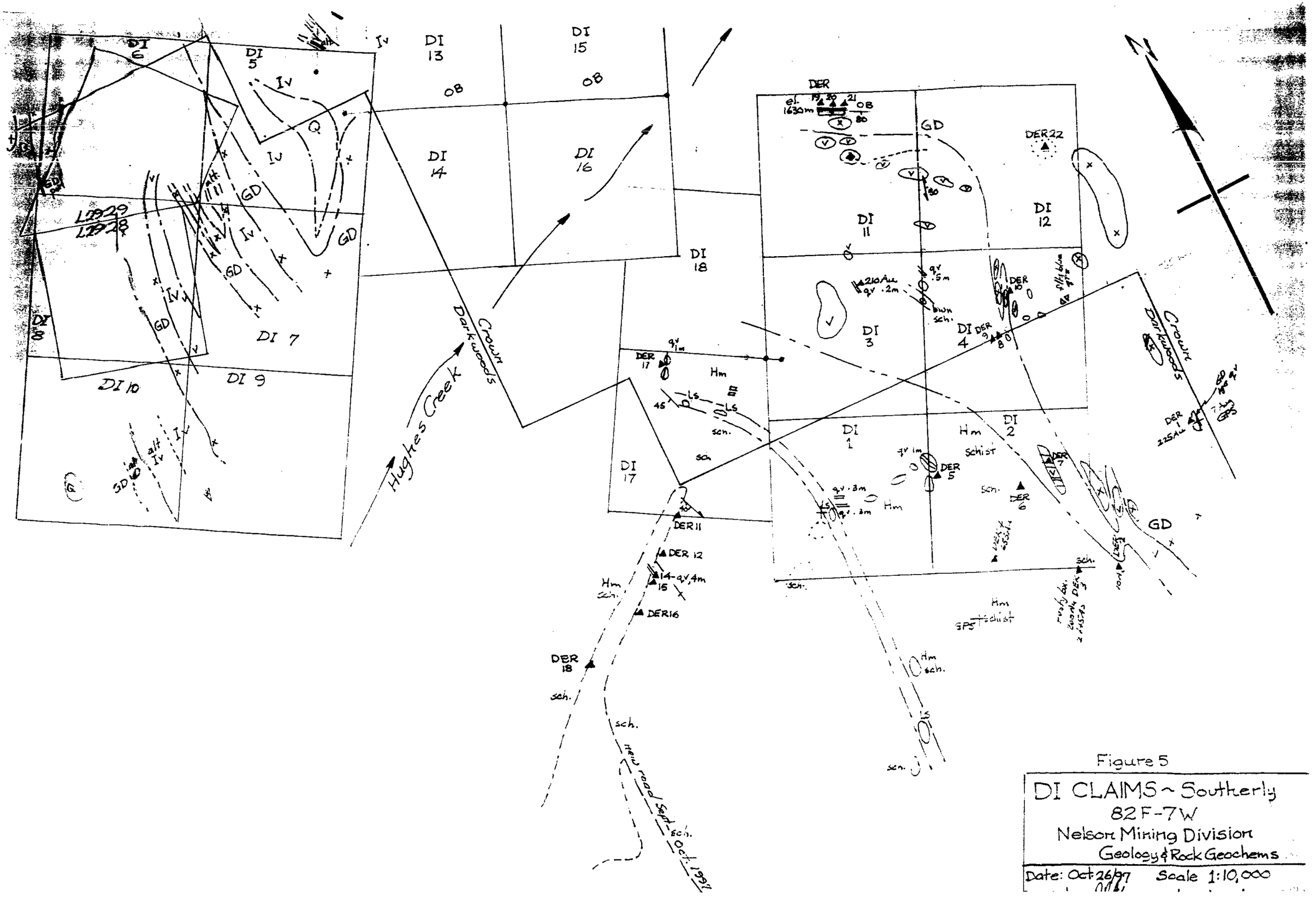


Figure 5

DI CLAIMS ~ Southerly
82F-7W
Nelson Mining Division
Geology & Rock Geochems

Date: Oct 26/97 Scale 1:10,000

REGIONAL GEOLOGY

In the area of this report the more notable old discoveries were located in proximity to granitic intrusives and close to, or at, the contact between the Irene Volcanics and the Monk Formation schists, e.g. Wisconsin, Iva Fern.

The volcanic rocks rest conformably upon the Toby conglomerate rocks and often have an interlayered contact covering several tens of metres. The Irene varies from rare pillowed lavas to tuffaceous schists. The Monk schists occur as honey coloured, to silver, to black schistose rocks with one well marked, centrally occuring bed of pale, to dark grey, limestone. Cretaceous Drewry Point granodiorite stocks, sills and dikes cut the above formations.

LOCAL GEOLOGY

The granodiorite body to the east of Hughes Creek is a stocksize body where mapped during this program while granodiorite mapped to the west of Hughes Creek consists always of small, elongate bodies from two metres to one hundred metres in width. There are outcrops and areas where it is difficult to decide whether to label the rock as granodiorite, as quartz-sericite gneiss/schist, or as granitized Monk or granitized Irene. In the past various geologists have dealt with this problem by mapping such rock as quartz-sericite schist or quartz-muscovite schist and this, though certainly true, leads to problems in prospecting for new sites of mineralization. The narrow bodies of limestone occuring near the old workings are largely unaltered and appear to be the typical mid-Monk type. Pale schists on each side of these limestones would normally be consigned to the Monk but in this area such schists are also found to envelope elongate bodies of typical Irene volcanic rocks. At this stage our prospecting program is treating such areas as granitization and alteration of Monk schists and Irene volcanics and as prospective zones of a special type as it appears likely that these zones are favourable to deposition of tungsten and other metals, see soil samples DWS 33, 34.

Diana Creek is the name given to the first large stream entering Midge Creek to the south of Hughes Creek. Limestone outcrops occur on the slope to the south of Midge Creek and rocks on the west side of this unit are not typical Monk schists but are schists derived from a conglomerate perhaps 500 metres thick. We suppose that it might be Three Sisters.

Our limited work south of Diana Creek did not encounter the mapped plug but we did encounter several dikes of granodiorite to porphyry in that area.

The dissimilarity in the form of the granodiorite bodies from the north side to the south side of Hughes Creek suggests that a fault along Hughes Creek has moved the north side westerly and down leaving a higher level exposed at the present surface.

PROSPECTING PROGRAM

In 1996 prospecting activities led to the recognition of many small bodies of leucocratic granitic rocks which appeared to be sheet-like in form and related in space to mineral showings. Some exposures were typical granodiorite while others were high in coarse grained quartz and/or pyrite. These observations were made on the west slope of Hughes Creek. Work on the easterly slope indicated a massive body of Drewry Point granodiorite sometimes in proximity to mineralization but sometimes remote. Quartz veining in this eastern area is sometimes enriched in gold and bismuth even when no sulphide is obvious.

Prospectors and geologists in the past had noted that gold values were higher and more consistant below the oxidized surficial zone which sometimes proved to reach depths of 30 metres. These same zones had contained semi-massive to massive sulphides in a quartz-siderite gangue which had decomposed to high manganese wad.

An examination of several of these sites led to the conclusion that most, if not all, of the siderite was ankerite and the manganese content of the wad was understandable. A review of Boyle and Emmons, among others, elicited the information that " where chlorides and H_2SO_4 are present with manganese then gold may mobilize and migrate downward to the zone of reduction where some gold may precipitate; the remainder migrates in the groundwater system and is ultimately lost."

1997 PROGRAM

A tent camp was established a few hundred metres south of the Di 1 claim and the area prospected was accessed by truck and two four wheel drive ATV's.

Forty-six man days of work were performed on the DI 1 to 19 claims and another five days were put in nearby.

The DI 13 to 19 claims were staked under the program and recorded.

Forty-eight rock samples and one hundred and forty-three soil samples were taken on the DI group of claims. Many more soil samples and several rock samples were taken on recon lines nearby. Both rock and soil samples were analysed by 30 element ICP.

Work was performed by Dave Wiklund, Brad Granger and Ron Granger, all holders of Free Miners Certificates issued at Creston, B.C.

Other work under the PAP was carried out at other sites and is reported seperately. See P.7

RESULTS

The PAP allowed the partners to identify a number of important factors and to discover several potentially significant new sites as follow;

1) Only the Main Zone and related areas on the Crown Grants show the very high levels of arsenic as recorded in the past. In other areas arsenic is often notable in a geochemical sense but is not present in excessive amounts.

2) There appears to be a southerly projection of the Main Zone for a distance exceeding 1000 metres at which point it occurs as several strongly leached veins within an alteration zone in the Irene about 100 metres wide. Zinc assays predominate here with rock samples DWR 5 and 6 giving 4.36% and 2.63% Zn. Soil samples also reflect this zinc content across a broad zone.

3) There is some tentative evidence that the Black Douglas Zone extends easterly toward a 1940's era showing called the Kita. A rock sample, #DER 22, was taken in an area of small quartz veining in altered granodiorite at an elevation of 1680 metres. The sampled rocks were pyritic and coloured by manganese and rust. The sample assayed 180ppb Au, 148.5g/T Ag and 135ppm Bi. The results were received too late in the season for follow up work. ...also 47ppm Pb, 115.5 Mn, 10>1 Cu

4) Down the steep slope of Hughes Creek and following the claim line of DI 13 to 16 there are two broad zones of elevated soil geochemistry results, both about two hundred metres across. Both have elevated levels of Ba, Mn and Zn with variable subzones of Au, Ag, Pb and Bi. No outcrops were found during soil sampling.

5) High metal values were encountered in rock samples on the west boundary of claim DI 6 most notably 5395 ppm Zn in porphyritic granodiorite. Soil samples taken by Esperanza Mines in the early 1980's partly defined a strong gold anomaly in this area. See DWR 21 and 22.

6) Quartz veining in the Monk schists gave largely disappointing results. Earlier samples, taken in 1996, indicated a gold-bismuth type of mineralization in the Monk veins. The broader sampling and prospecting done this season tends to narrow this situation to that part of the Monk between the limestone bed and the Irene rocks in the vicinity of DI 1 and 2 claims. Elevated Au,As and Bi are notable in rock samples DER 3 and 4.

7) Gold in soils is a poor indicator for the veins. Silver in soil is moderately reliable as is arsenic, when it is present. Manganese is an excellent indicator for ankerite, which is closely associated with the metallics. The strong bariums north of Hughes Creek have yet to be explained but have suggestive values in associated metals. Sample DER 21 on the Black Douglas vein gave a high silver assay of 3330 g/T., which came as a surprise in light of earlier reported assays.

8) The new veins discovered on claims DI 13 and 19 and rock sampled by DNR 1,2 and 3 are far more attractive at surface than the assays suggest. DNR 1 is taken from a three metre width of dark brown to black, completely leached vein matter that origonally had a very high metal content. It appears alike to surficial vein matter at the Wisconsin Main Zone, which was leached to below thirty metres.

RECOMMENDATIONS

The 1997 program has located a number of areas which require further work and the following recommendations are offered;

1) Approach mining exploration companies with an Option Agreement for purchase and development of the claims.

2) Failing the above make another PAP proposal for the 1998 season for detailed follow-up work on those areas discussed under "Results".

12 Nov.1997
Creston, B.C.

Ron Granger

RECON Fig. 6

DI CLAIMS ~ to south

82F-7W

Nelson Mining Division

Geology & Rock Geochems

Date: Oct. 27/87 Scale 1:20,000

Drawn by [illegible]

5 cm

RECONNAISSANCE PROSPECTING

Campbell Creek Area:

Under the PAP proposal a considerable amount of work was anticipated for this area but initial prospecting, investigation of historic workings and initial sampling returns led to a loss of enthusiasm for the project, a FAX message was sent to PAP headquarters advising that we preferred to direct the budget elsewhere and work was terminated. See Figure 8 for results.

Blazed Creek - Antler Creek Area:

Previous prospecting in this area had shown the presence of quartz veining in circumstances somewhat akin to those prevailing at the DI project.

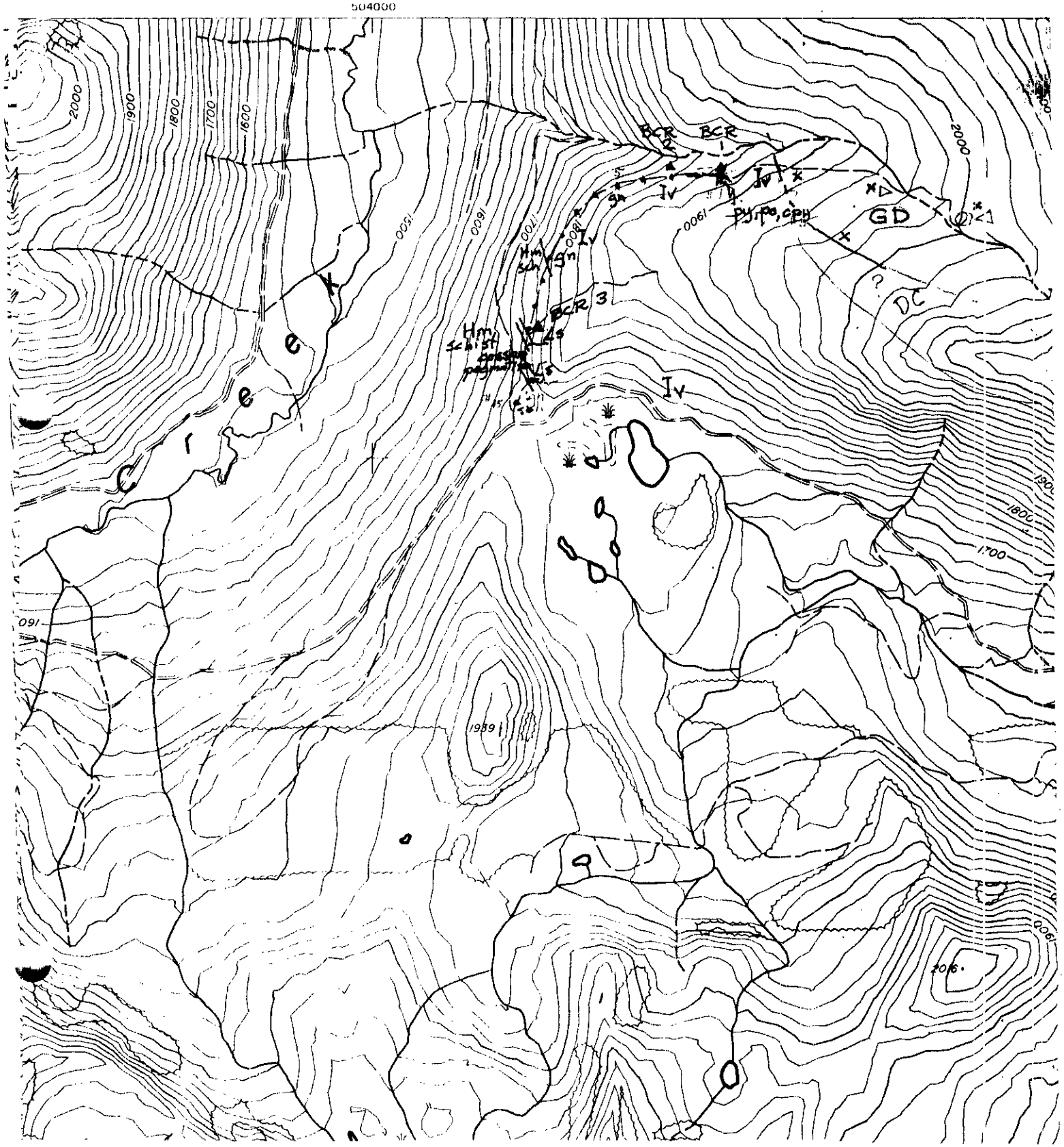
At Antler Creek further prospecting and sampling disclosed some interesting metal content in small (0.5-2.0 metre) vein zones and larger shears. Soils ACS 1to9 were not encouraging but rock samples ACR 1-5 showed more promise. Some further work seems warranted. See Fig. 7a.

At Blazed Creek a few high sulphide zones were sampled in what appeared to be a very prospective situation in Irene volcanics and Monk schists in proximity to a granitic contact. Soil samples BCS 1-15 and rock samples BCR 1-4 were taken. Results were not encouraging. The Monk limestone unit was encountered and is indicated on the map. See Fig. 7

Fig 7

Blazed Ck. Recon
Geology & Rock Geochem.
1:20,000 82F.016

0 500m

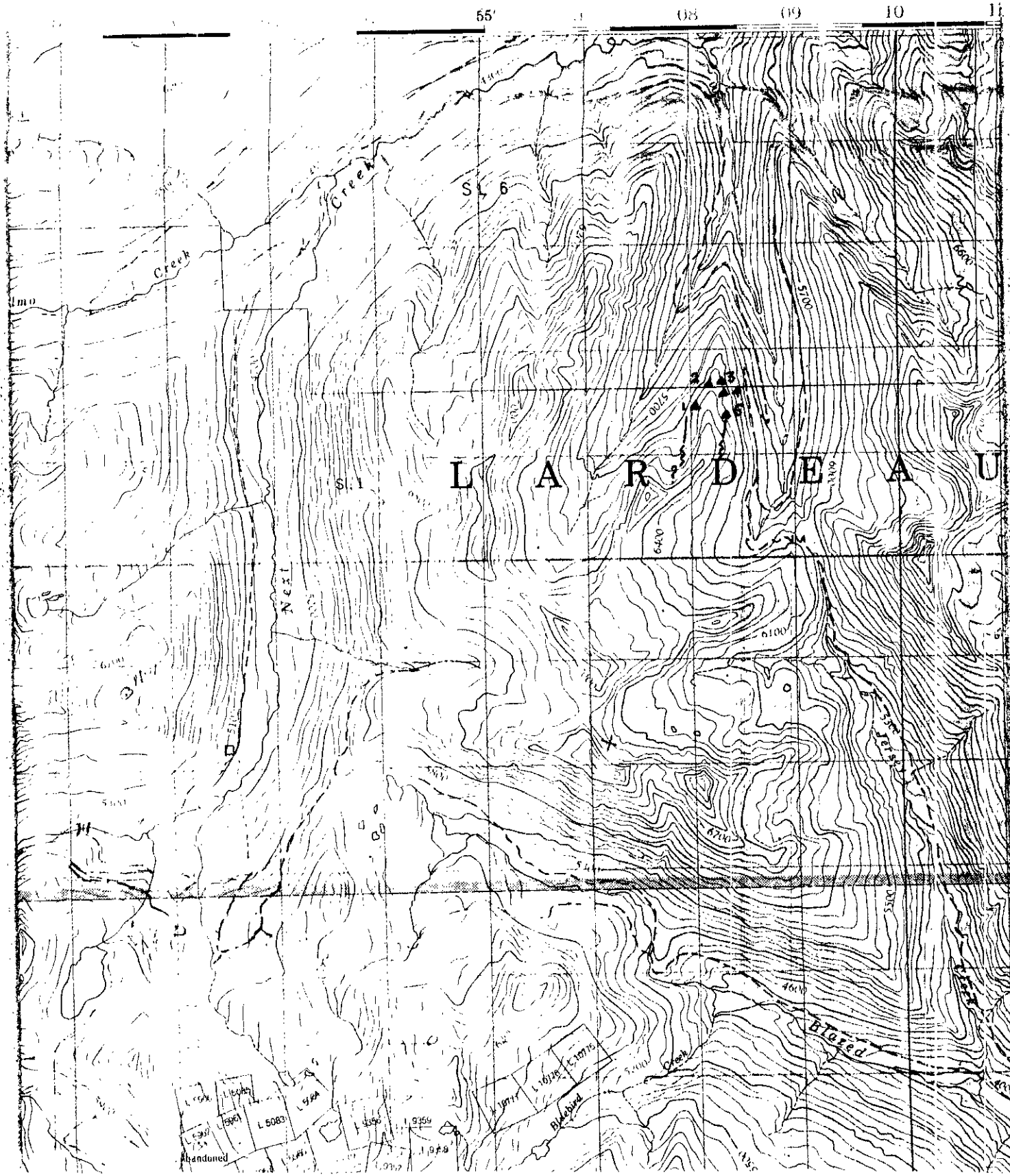


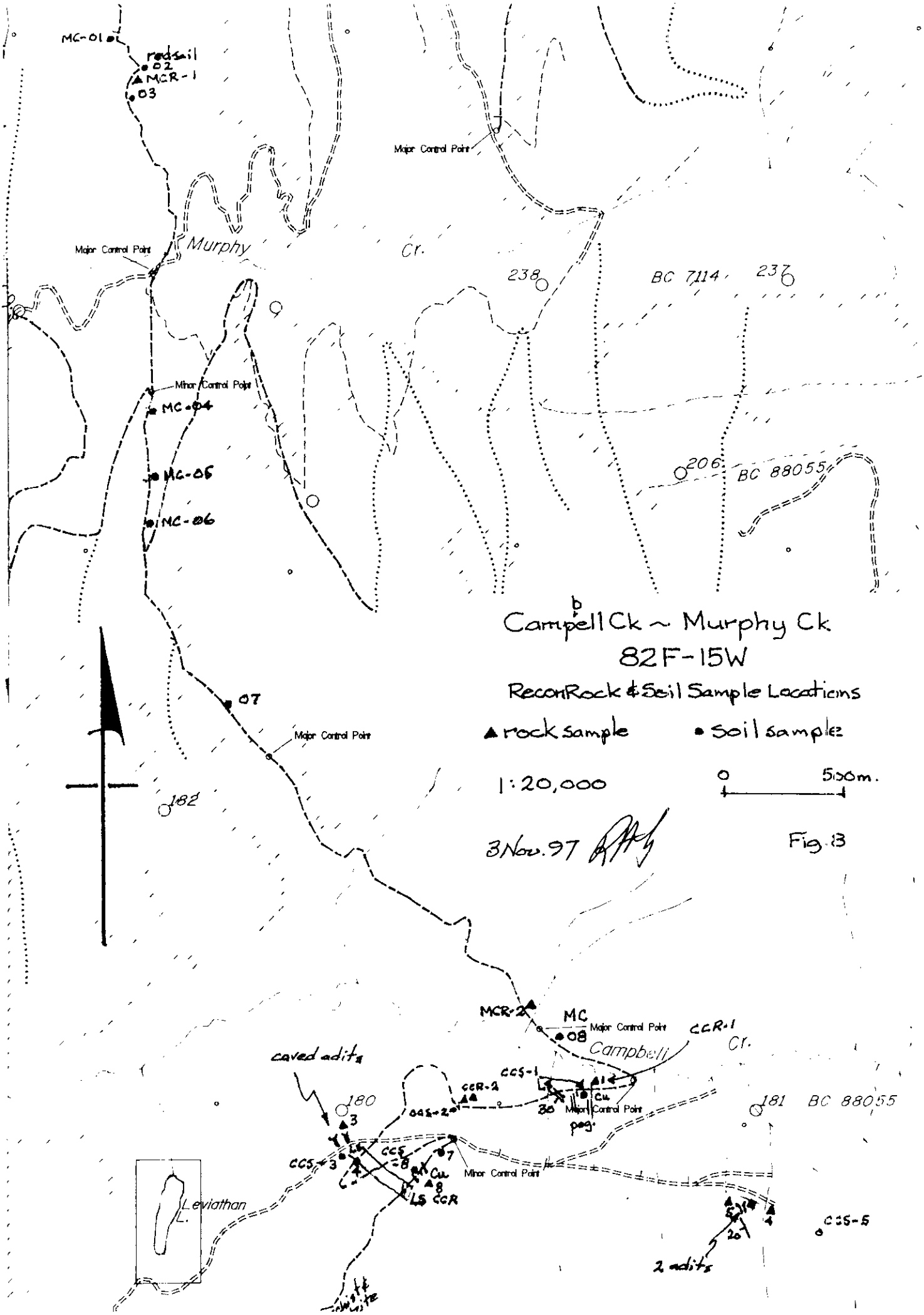
Recon
Antler Ck.
Rock Samples
ACR-1 to 5

Fig. 7a

0 1 km.

1:50000 82F-2




MC-01
rock soil
02
MCR-1
03
Major Control Point
Murphy
Cr.
Major Control Point
238
BC 7114
237
Minor Control Point
MC-04
MC-05
MC-06
206
BC 88055
Campbell Ck ~ Murphy Ck
82F-15W
Recon Rock & Soil Sample Locations
▲ rock sample
• soil samples
1:20,000
0
5000m.
3 Nov. 97
Fig. 3
07
Major Control Point
182
MCR-2
MC
Major Control Point
08
CCR-1
Campbell
Cr.
caved adits
180
3
CCS-1
CCR-2
CCS-2
Cu
Major Control Point
30
peg
181
BC 88055
CCS-3
CCS-8
7
Cu
8
Minor Control Point
LS
CCR
Leviathan
L.
CCS-5
4
20
2 adits

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Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97- 1125

RON GRANGER
RR1, S1, C7
CRESTON, BC
V0B 1G0

15-Oct-97

ATTENTION: RON GRANGER

No. of samples received:14
Sample type: Rock
PROJECT #: 97-2
SHIPMENT #: 7
Samples submitted by: Ron Granger

ET #.	Tag #	Au (g/t)	Au (oz/t)	Ag (g/t)	Ag (oz/t)	As (%)	Cu (%)	Pb (%)
7	DER 20	16.30	0.475	230.0	6.71	1.11	-	-
8	DER 21	4.74	0.138	3330.0	97.11	-	2.48	11.85
9	DER 22	-	-	148.5	4.33	-	-	-
10	DWR 19	-	-	30.0	0.88	-	-	-
QC/DATA								
Standards								
Mp-la		-	-	69.7	2.03	-	1.44	4.33
CD-1		-	-	-	-	0.66	-	-

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per Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/97
cc: Dave Wiklund - Creston, BC

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Fax (250) 573 4557

CERTIFICATE OF ASSAY AK 97-1039

RON GRANGER
RR1, S1, C7
CRESTON, BC
V0B 1G0

1-Oct-97

ATTENTION: RON GRANGER

No. of samples received: 23
Sample type: ROCK
PROJECT #: 97-2
SHIPMENT #: 6
Samples submitted by: RON GRANGER

ET #.	Tag #	Au (g/t)	Au (g/t)	Ag (g/t)	Ag (g/t)	As (%)	Zn (%)
10	DWR 5	-	-	-	-	-	4.36
11	DWR 6	-	-	-	-	-	2.63
13	DWR 8	-	-	-	-	3.59	-
14	DWR 9	1.24	0.036	49.6	1.45	3.64	-

QC DATA:
Standard:

CPb-1	-	-	-	-	-	4.42
CD-1	-	-	-	-	0.66	-

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Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97 - 852

RON GRANGER
RR1, SITE 1, COMP.7
CRESTON, BC
V0B 1G0

18-Aug-97

ATTENTION: RON GRANGER

No. of samples received: 4
Sample type: ROCK
PROJECT #: 97-2
SHIPMENT #: 2
Samples submitted by: RON GRANGER

ET #.	Tag #	Ag (g/t)	Ag (oz/t)
1	ACR - 1	38.0	1.11

QC DATA:

Repeats:

1	ACR - 1	38.0	1.11

Standard:

Mpla		70.0	2.04

per

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Fax (250) 573-4557

CERTIFICATE OF ASSAY AK 97-935

RON GRANGER
RR1
CRESTON, BC
V0B 1G0

8-Sep-97

ATTENTION: RON GRANGER

No. of samples received: 10
Sample type: ROCK
PROJECT: # 97-2
SHIPMENT: # 5
Samples submitted by: RON GRANGER

ET #.	Tag #	Ag (g/t)	Ag (oz/t)
2	95902	30.5	0.89

QC/DATA:
Standard:

CPb	626.0	18.26

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Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

XLS/97

21-Aug-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
KAMLOOPS, B.C.
V2C 6T4

Phone: 604-573-5700
Fax : 604-573-4557

ICP CERTIFICATE OF ANALYSIS AK 97- 882

RON GRANGER
RR1, S1, C7
CRESTON, B.C.
V0B 1G0

ATTENTION: RON GRANGER

No. of samples received:5
Sample type:ROCK
PROJECT #: 97-2
SHIPMENT #:3
Samples submitted by: Ron Granger

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	DER 1	225	0.6	0.63	<5	40	20	0.09	<1	4	152	21	2.66	<10	0.20	315	6	0.03	4	520	76	<5	<20	7	<0.01	<10	7	<10	<1	22
2	DER 2	10	<0.2	0.11	<5	55	5	4.24	<1	3	114	10	2.76	<10	0.21	710	5	<0.01	10	620	10	<5	<20	37	<0.01	<10	9	<10	12	4
3	DER 3	200	0.2	1.76	2445	105	10	0.31	<1	34	98	82	>10	<10	0.67	2395	11	<0.01	46	630	16	<5	<20	16	<0.01	<10	141	<10	60	68
4	DER 4	655	0.8	0.11	15	<5	185	0.02	<1	3	171	30	1.86	<10	0.05	95	5	<0.01	6	80	10	<5	<20	<1	<0.01	<10	4	<10	<1	<1
5	ACR 5	10	0.2	0.49	5	50	<5	0.18	<1	10	138	12	2.87	<10	0.27	1055	6	<0.01	29	760	16	<5	<20	7	<0.01	<10	17	<10	7	75
QC DATA:																														
Repeat:																														
1	DER 1	200	0.6	0.65	<5	35	20	0.09	<1	4	154	21	2.67	<10	0.20	320	7	0.03	4	530	78	<5	<20	4	<0.01	<10	7	<10	<1	25
Standard:																														
GEO'97		150	1.2	1.68	60	155	<5	1.70	<1	19	60	80	3.95	<10	0.94	643	<1	0.02	22	670	24	5	<20	57	0.11	<10	74	<10	8	68

df/879
XLS/97

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Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC DATA:																														
Repeat:																														
1	DER 8	5	<0.2	0.06	<5	15	<5	0.06	<1	1	173	14	0.59	<10	0.02	53	5	0.01	4	330	8	<5	<20	5	<0.01	<10	<1	10	<1	9
10	DWR 5	25	20.4	0.12	24	260	40	0.22	304	19	56	124	>10	<10	<0.01	>10000	29	0.01	14	270	2	<5	<20	202	0.27	<10	16	<10	<1	>10000
19	HRR 1	-	<0.2	3.00	20	80	<5	1.32	<1	30	132	68	6.08	<10	2.20	684	<1	0.15	31	2600	10	<5	<20	130	0.17	<10	85	10	<1	94
Standard:																														
GEO'97		140	2.0	1.82	60	160	<5	1.84	<1	20	61	83	4.31	<10	0.97	720	<1	0.02	22	670	20	<5	<20	62	0.11	<10	78	<10	5	72

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

df/1011D
XLS/97
cc: Dave Wiklund - Creston, BC

9-Sep-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
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V2C 6T4

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ICP CERTIFICATE OF ANALYSIS AK 97-935

RON GRANGER
RR1, S1, C7
CRESTON, B.C.
V0B 1G0

ATTENTION: RON GRANGER

No. of samples received: 10
Sample type: Rock
PROJECT #: 97 - 2
SHIPMENT #:5
Samples submitted by:

values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	95901 DWR-1	5	<0.2	0.67	<5	20	<5	1.84	<1	20	197	101	2.58	<10	0.04	1420	<1	<0.01	16	200	10	<5	<20	10	0.09	<10	84	<10	3	16
2	95902 -2	170	>30	0.42	1505	180	<5	0.10	<1	17	234	1402	>10	<10	<0.01	>10000	22	0.01	15	520	102	<5	<20	121	0.06	<10	31	<10	<1	273
3	95903 -3	5	6.8	0.89	680	230	<5	0.09	<1	12	133	681	9.28	<10	0.18	>10000	10	<0.01	22	500	102	<5	<20	47	0.03	<10	36	<10	<1	344
4	95904 -4	10	9.2	0.29	260	460	20	0.11	2	30	155	66	>10	<10	<0.01	>10000	22	<0.01	17	590	80	<5	<20	108	0.08	<10	65	<10	<1	240
5	95905 DER-5	5	<0.2	<0.01	<5	<5	<5	<0.01	<1	<1	244	3	0.39	<10	<0.01	214	<1	<0.01	4	10	2	<5	<20	<1	<0.01	<10	1	<10	<1	<1
6	95906 -6	5	<0.2	0.12	<5	15	<5	0.01	<1	2	297	9	0.93	<10	0.03	403	4	0.01	7	90	10	<5	<20	9	<0.01	<10	3	<10	<1	6
7	95907 -7	10	<0.2	0.92	<5	85	10	0.82	<1	15	171	63	3.02	<10	0.65	376	<1	0.04	17	680	8	<5	<20	8	0.23	<10	84	<10	19	28
8	95908 DNR-1	30	<0.2	0.38	<5	40	<5	0.09	<1	9	196	17	1.63	<10	0.06	415	3	0.03	9	220	8	<5	<20	3	0.01	<10	10	<10	10	14
9	95909 -2	5	<0.2	0.61	<5	135	<5	0.11	2	47	97	569	>10	<10	<0.01	673	120	<0.01	46	1610	6	<5	<20	2	0.04	10	214	10	<1	39
10	95910 -3	5	1.0	0.40	<5	50	10	0.04	<1	24	174	12	4.63	<10	0.05	394	273	0.03	16	360	156	<5	<20	<1	<0.01	<10	27	10	<1	20
QC DATA:																														
Resplit:																														
R/S 1	95901	5	<0.2	0.70	5	20	<5	1.95	<1	21	214	105	2.78	<10	0.04	1503	4	<0.01	17	220	6	<5	<20	7	0.09	<10	89	<10	3	17
Repeat:																														
1	95901	10	<0.2	0.71	<5	15	<5	2.00	<1	20	202	103	2.75	<10	0.04	1481	<1	<0.01	17	210	8	<5	<20	8	0.09	<10	90	<10	3	16
Standard:																														
GEO'97		-	1.2	1.79	65	160	<5	1.81	2	19	63	79	4.17	<10	0.95	677	6	0.02	22	680	22	40	<20	61	0.09	<10	81	<10	18	72

df/939
XLS/97

per

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

25-Sep-97

ECO-TECH LABORATORIES LTD.
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ICP CERTIFICATE OF ANALYSIS AK 97-1039

RON GRANGER
RR1, S1, C7
CRESTON, BC
V0B 1G0

ATTENTION: RON GRANGER

No. of samples received: 23
Sample type: ROCK
PROJECT #: 97-2
SHIPMENT #: 6
Samples submitted by: RON GRANGER

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	DER 8	5	<0.2	0.06	<5	20	<5	0.07	<1	1	173	14	0.60	<10	0.02	55	5	0.01	5	330	8	<5	<20	7	<0.01	<10	<1	<10	<1	7
2	DER 9	5	<0.2	0.21	<5	20	<5	<0.01	<1	1	157	30	0.72	<10	0.15	77	2	0.01	2	80	4	<5	<20	2	<0.01	<10	1	<10	<1	6
3	DER 10	5	<0.2	4.89	<5	45	15	0.66	<1	11	75	4	6.62	<10	6.15	752	7	0.01	11	90	<2	<5	<20	16	<0.01	<10	66	10	<1	174
4	DER 11	5	<0.2	0.16	<5	<5	<5	0.01	<1	2	127	13	0.78	<10	0.14	47	5	0.01	3	30	<2	<5	<20	3	<0.01	<10	3	<10	<1	6
5	DER 12	5	<0.2	0.13	<5	10	<5	<0.01	<1	4	167	12	0.59	<10	0.06	170	6	0.02	11	50	<2	<5	<20	2	<0.01	<10	1	<10	<1	9
6	DER 13	5	<0.2	0.23	<5	10	<5	<0.01	<1	6	123	47	1.29	<10	0.13	126	3	0.02	10	70	2	<5	<20	2	<0.01	<10	2	10	<1	8
7	DER 14	5	<0.2	0.39	<5	15	<5	0.03	<1	22	172	104	2.62	<10	0.26	465	5	0.01	40	260	24	<5	<20	3	<0.01	<10	4	<10	<1	29
8	DER 15	5	<0.2	0.15	<5	10	<5	0.02	<1	6	181	13	0.80	<10	0.03	139	6	0.01	10	140	2	<5	<20	2	<0.01	<10	<1	10	<1	7
9	DER 16	5	<0.2	0.17	<5	15	<5	0.01	<1	3	205	10	0.74	<10	0.06	98	8	0.01	8	130	<2	<5	<20	1	<0.01	<10	2	<10	<1	12
10	DWR 5	20	20.6	0.12	20	265	50	0.22	305	18	55	116	>10	<10	<0.01	>10000	27	0.01	11	260	<2	<5	<20	205	0.27	10	16	<10	<1	>10000
11	DWR 6	20	13.2	0.15	15	180	<5	0.11	141	12	73	209	>10	<10	<0.01	>10000	12	0.01	9	80	398	<5	<20	79	0.14	10	8	<10	<1	>10000
12	DWR 7	5	1.0	0.40	20	35	<5	0.01	1	15	143	175	3.55	<10	0.26	999	19	<0.01	12	220	84	<5	<20	<1	<0.01	<10	12	<10	<1	296
13	DWR 8	110	11.6	0.26	>10000	320	15	0.10	<1	12	184	248	>10	<10	<0.01	1411	262	0.01	7	510	794	<5	<20	29	<0.01	<10	5	<10	<1	365
14	DWR 9	>1000	>30	0.02	>10000	490	<5	0.14	<1	12	8	387	>10	<10	<0.01	6494	24	0.01	<1	110	252	<5	<20	101	0.01	<10	3	<10	<1	151
15	DWR 10	10	2.8	0.87	195	115	<5	0.05	1	217	26	1442	>10	<10	0.11	836	35	0.01	46	1030	6	<5	<20	5	0.07	60	157	10	<1	212
16	DWR 11	90	9.2	0.38	180	40	<5	<0.01	<1	19	200	694	7.44	<10	0.03	440	9	0.02	32	370	280	<5	<20	4	<0.01	<10	17	<10	<1	372
17	DWR 12	15	0.8	0.31	75	55	<5	0.12	<1	20	145	146	4.33	<10	0.08	572	9	0.01	17	210	66	<5	<20	2	<0.01	<10	11	<10	<1	163
18	DWR 13	370	2.4	0.37	4740	45	<5	0.01	<1	8	108	270	5.46	<10	0.05	4752	7	0.01	4	100	502	<5	<20	17	0.01	<10	3	<10	<1	4746
19	HRR 1	10	<0.2	2.78	25	80	<5	1.20	<1	28	121	64	5.68	<10	2.18	752	<1	0.13	31	2510	10	<5	<20	120	0.15	<10	77	<10	<1	122
20	HRR 2	20	<0.2	1.88	65	45	<5	0.96	<1	48	73	157	7.99	<10	1.30	675	<1	0.08	44	1890	6	<5	<20	35	0.18	<10	130	10	1	93
21	HRR 4	15	<0.2	1.43	10	30	<5	0.82	<1	39	107	130	5.38	<10	0.93	424	3	0.07	27	1140	6	<5	<20	43	0.13	<10	77	10	<1	65
22	HRR 5	15	<0.2	2.30	10	55	<5	1.74	<1	60	96	209	6.14	<10	1.21	375	<1	0.22	56	1570	6	<5	<20	71	0.21	<10	110	<10	<1	74
23	HRR 6	5	<0.2	1.38	5	75	<5	0.73	<1	11	82	32	3.32	<10	0.56	345	2	0.11	3	1100	10	<5	<20	148	0.08	<10	34	<10	2	40

15-Oct-97

ECO-TECH LABORATORIES LTD.
10041 East Trans Canada Highway
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V2C 6T4

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ICP CERTIFICATE OF ANALYSIS AK 97- 1125

RON GRANGER
RR1, S1, C7
CRESTON, BC
V0B 1G0

ATTENTION: RON GRANGER

No. of samples received:14
Sample type: Rock
PROJECT #: 97-2
SHIPMENT #: 7
Samples submitted by: Ron Granger

Values in ppm unless otherwise reported

Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	BCR 01	10	<0.2	0.13	<5	25	<5	0.06	<1	76	156	168	5.58	<10	0.03	64	14	0.02	9	60	2	<5	<20	5	0.03	<10	115	<10	<1	10
2	BCR 02	5	<0.2	1.02	<5	60	<5	0.52	<1	12	132	75	3.45	<10	0.69	88	8	0.04	11	530	10	<5	<20	30	0.12	<10	49	<10	2	21
3	BCR 03	5	<0.2	0.50	<5	25	<5	0.28	<1	7	126	14	2.71	<10	0.11	64	6	0.03	9	570	14	<5	<20	11	0.03	<10	5	<10	3	24
4	DER 17	5	<0.2	0.19	<5	15	<5	0.05	<1	3	276	6	1.73	<10	0.06	93	10	0.02	8	300	6	<5	<20	3	<0.01	<10	3	<10	<1	22
5	DER 18	5	<0.2	1.80	<5	30	<5	0.08	<1	30	175	123	5.00	<10	1.19	598	6	0.05	65	540	14	<5	<20	10	<0.01	<10	12	<10	6	69
6	DER 19	835	1.2	0.13	125	20	5	<0.01	<1	5	165	10	3.38	<10	0.02	336	9	0.01	6	<10	20	<5	<20	1	<0.01	<10	2	<10	<1	17
7	DER 20	>1000	>30	0.06	>10000	75	210	0.06	<1	18	68	3488	>10	<10	<0.01	>10000	22	0.01	2	<10	4418	<5	<20	8	0.05	<10	4	<10	<1	104
8	DER 21	>1000	>30	0.03	1165	100	3475	0.09	<1	20	<1	>10000	>10	<10	<0.01	>10000	26	<0.01	8	<10	>10000	<5	<20	11	0.04	<10	3	<10	<1	742
9	DER 22	180	>30	1.83	90	60	135	0.57	<1	10	137	1094	5.54	<10	0.86	1153	2	0.06	5	950	4788	<5	<20	34	0.12	<10	26	<10	<1	93
10	DWR 19	20	>30	0.23	80	100	30	1.01	1	7	52	270	3.04	<10	0.02	2370	5	0.03	2	690	1720	<5	<20	80	<0.01	<10	2	10	3	229
11	DWR 20	30	8.8	0.24	15	100	10	1.37	3	4	91	65	1.89	<10	0.02	2661	2	0.02	2	510	592	<5	<20	80	<0.01	<10	2	10	2	590
12	DWR 21	60	4.6	0.26	35	40	<5	0.28	23	8	49	106	4.97	<10	0.01	4731	4	0.01	<1	880	166	<5	<20	14	<0.01	<10	3	<10	<1	5395
13	DWR 22	35	4.4	0.33	15	335	10	0.91	2	7	131	33	7.45	<10	0.04	8500	9	0.01	4	300	122	<5	<20	31	0.02	<10	4	<10	<1	99
14	DWR 23	5	4.6	0.06	115	10	<5	0.01	<1	4	167	227	2.71	<10	<0.01	147	11	0.01	5	210	106	<5	<20	<1	<0.01	<10	9	<10	<1	35

RON GRANGER ICP CERTIFICATE OF ANALYSIS AK 97- 1125 **ECO-TECH LABORATORIES LTD.**

Et #	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
QC DATA:																														
Resplit:																														
R/S 1	BCR 01	5	<0.2	0.13	<5	20	<5	0.07	<1	81	156	187	5.36	<10	0.03	65	14	0.02	8	60	2	<5	<20	4	0.03	<10	110	<10	<1	10
Repeat:																														
1	BCR 01	10	<0.2	0.13	<5	20	<5	0.06	<1	78	157	169	5.62	<10	0.03	63	14	0.02	8	60	6	<5	<20	3	0.03	<10	117	10	<1	10
Standard:																														
GEO'97		-	1.4	1.78	65	160	<5	1.88	<1	19	64	82	4.07	<10	0.94	684	<1	0.03	25	630	22	<5	<20	59	0.11	<10	77	<10	6	69

df/1100
XLS/97
cc: Dave Wiklund - Creston, BC

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T
B.C. Certified Assayer

21-Aug-97

ECO-TECH LABORATORIES LTD.
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ICP CERTIFICATE OF ANALYSIS AK 97-852

RON GRANGER
RR1, SITE 1, COMP.7
CRESTON, BC
V0B 1G0

ATTENTION: RON GRANGER

No. of samples received: 4
Sample type: ROCK
PROJECT #: 97-2
SHIPMENT #: 2
Samples submitted by: RON GRANGER

Values in ppm unless otherwise reported

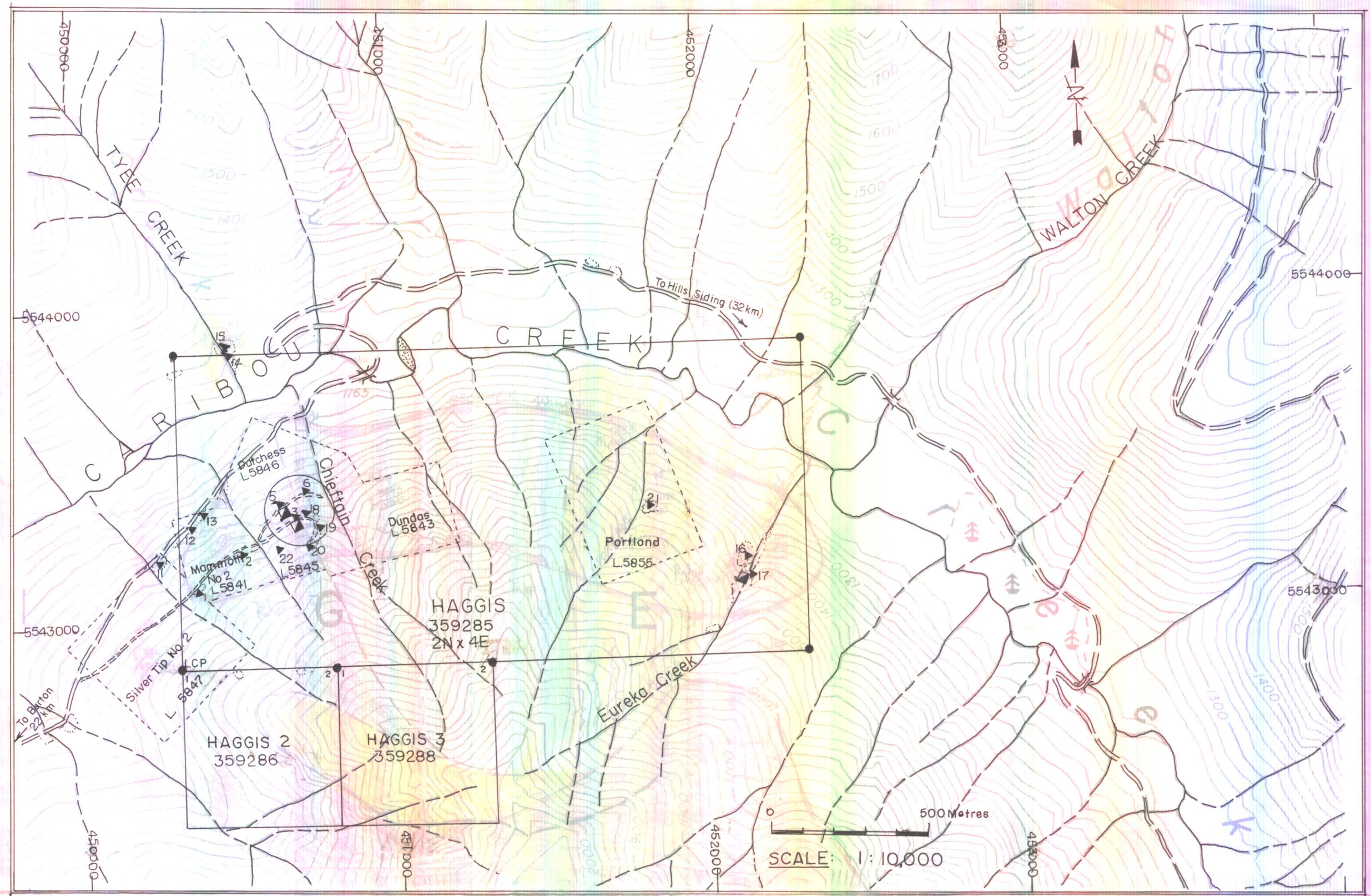
Et #.	Tag #	Au(ppb)	Ag	Al %	As	Ba	Bi	Ca %	Cd	Co	Cr	Cu	Fe %	La	Mg %	Mn	Mo	Na %	Ni	P	Pb	Sb	Sn	Sr	Ti %	U	V	W	Y	Zn
1	ACR - 1	5	>30	0.05	<5	75	<5	0.24	2	239	82	2232	>10	<10	<0.01	88	2	<0.01	58	<10	1010	<5	<20	7	<0.01	<10	2	<10	<1	29
2	ACR - 2	5	1.0	0.86	<5	50	<5	0.21	<1	10	185	51	2.26	<10	0.29	455	9	0.02	7	440	32	<5	<20	7	0.02	<10	11	<10	2	24
3	ACR - 3	5	13.4	0.48	<5	70	425	0.14	2	146	62	557	>10	<10	0.11	266	1	0.01	41	140	630	<5	<20	2	0.01	<10	5	<10	<1	47
4	ACR - 4	5	1.4	2.22	<5	200	30	0.50	2	47	193	47	>10	10	1.00	4261	1	<0.01	162	1910	58	<5	<20	27	<0.01	<10	76	<10	114	191
QC DATA:																														
Repeat:																														
1	ACR - 1	5	>30	0.09	<5	75	<5	0.20	2	240	86	2198	>10	<10	<0.01	94	19	<0.01	59	<10	1002	<5	<20	4	<0.01	40	3	<10	<1	33
Standard:																														
GEO'97		-	2.2	1.56	60	150	<5	1.84	<1	24	64	82	4.21	<10	0.94	692	1	0.02	22	690	24	5	<20	53	0.10	<10	74	<10	8	67

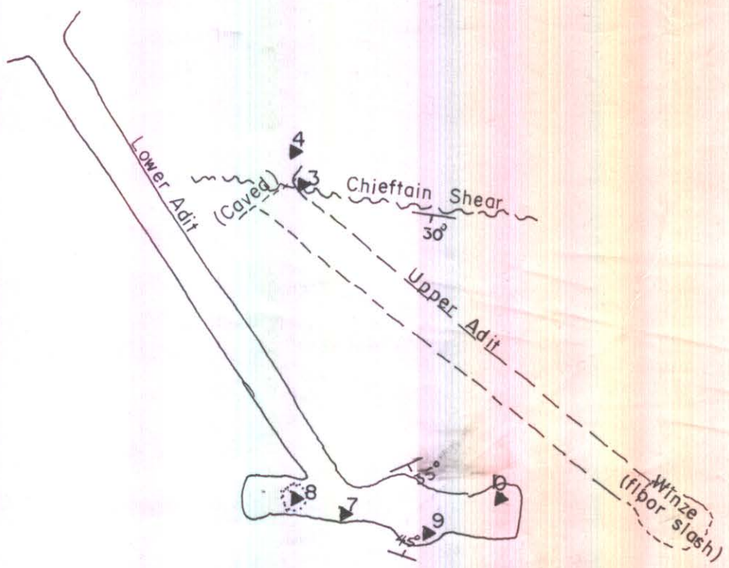
df/826ff
XLS/97
cc: Dave Wiklund - Creston, BC

ECO-TECH LABORATORIES LTD.
Frank J. Pezzotti, A.Sc.T.
B.C. Certified Assayer

CHIEFTAIN - EUREKA

CARIBOU CREEK PROJECT





CHIEFTAIN ADITS

(Enlargment of circled area on map)

LEGEND

CRETACEOUS

Kqmb — GOAT CANYON-HALIFAX-WRAGGE CREEK STOCK
Quartz Monzonite

TRIASSIC TO LOWER JURASSIC

TrJsvd — SLOCAN GROUP — Upper Sequence
Argillite, phyllite, quartzite, grading to meta-andesite to dacite tuffs & flows

TrJsp — SLOCAN GROUP Lower Sequence
Limestone, argillite, phyllite, quartzite

UPPER MISSISSIPPIAN TO PERMIAN

uMMsb — Metasediments, pelitic schist
Quartzite, calc-silicate rocks

LCP — LEGAL CORNER POST
● — CLAIM POST
——— CLAIM BOUNDARY
– – – – – – – EXPIRED CROWN GRANT BOUNDARY
◪ — ADIT
▲ — ROCK SAMPLE LOCATION
═══ ROAD
===== TRAIL
——— — — ——— GEOLOGICAL BOUNDARY (defined, approx., assumed)

97-01 ①

N

D O D G C R E E K

PH-05
PH-04
PH-01
PH-03
PH-02
PH-06
Cd SHOWING
DIATREME
SCREE
SCREE
SCREE
SCREE
2602
2400
2300
2200
2100
2000
1900
1800
DAUNTLESS
2506
MTN

LEGEND

Lower Cambrian

Cd — Donald Formation -- quartzite, pelite, limestone
Ch — Hamill formation -- quartzite, argillite

PreCambrian (Hadrynian)

Pca — Horsethief Creek Group -- slate division
Psl — -- carbonate division

PRAIRIE HILLS

82N.033

SCALE: 1:10,000

97-01 (2)

P1