8666-14728

GEOLOGICAL AND GEOCHEMICAL

ASSESSMENT REPORT

NOBLE 5 CLAIM

Kamloops Mining Division

N.T.S. 82M/12W

Lat: 51°36' Long: 119°46.6'

Owned By: Placer Development Limited and
Consolidated Rexspar Minerals and Chemicals Ltd.

Operated By: Placer Development Limited

R.H.Pinsent

February 1986

Table of Contents

List of Tables and Illustrations

List of Appendices

1.0 Summary

The Noble 5 claim is located on Mount McClennan to the north of the North Thompson River, east of Birch Island. The claim covers a drainage which had previously been found to be geochemically amonalous in Cu, Pb, Zn, Ag, As and Au.

Placer Development Limited personnel carried out a one day exploration program on the property. The program was designed to locate and assess the extent and significance of the anomaly source. Nineteen rock and 44 soil samples were collected and submitted for analysis. The anomaly was traced to a set of semi-massive sulphide veins which outcrop in the bed of the creek immediately below an old adit. The veins appear to form part of an epithermal system which also caused widespread carbonitization of metabasalt and enrichment in Hg.

2.0 Introduction

2.1 Location and Access

The Noble 5 claim is located on Mount McClennan, immediately to the north of the North Thompson River, approximately midway between the communities of Birch Island and Vavenby (figures 1 and 2). The claim covers the catchment of Peavine Creek, which is a linear drainage incised into the steep south-facing slope of Mount McClennan, approximately 1 km southwest of McCorvie Lake (figure 2).

The claim is readily accessible by road. Forestry roads switchback their way up the lower slope of Mount McClennan from the main highway in the Valley of the North Thompson River.

2.2 Claim Status

The Noble 5 claim was staked by Placer Development Limited personnel in March 1983. The claim is part of a block (Noble 1-6) held jointly by Placer Development Limited (P.O. Box 49330, Bentall Postal Station, 1200-1055 Dunsmuir St., Vancouver, B.C., V7X 1P1) and Consolidated Rexspar Minerals and Chemicals Ltd. (3900 S. Tower, P.O. Box 40, Royal Bank Plaza, Toronto, Ontario, M5J 2K2).

Claim Name	Units	Record No.	Expiry Date
Noble 1	20	4388 (3)	March 30, 1987
Noble 2	20	4389 (3)	March 30, 1988
Noble 3	20	4390 (3)	March 30, 1988
Noble 4	20	4391 (3)	March 30, 1988
Noble 5	20	4392 (3)	March 30, 1987
Noble 6	20	4561 (6)	June 27, 1988

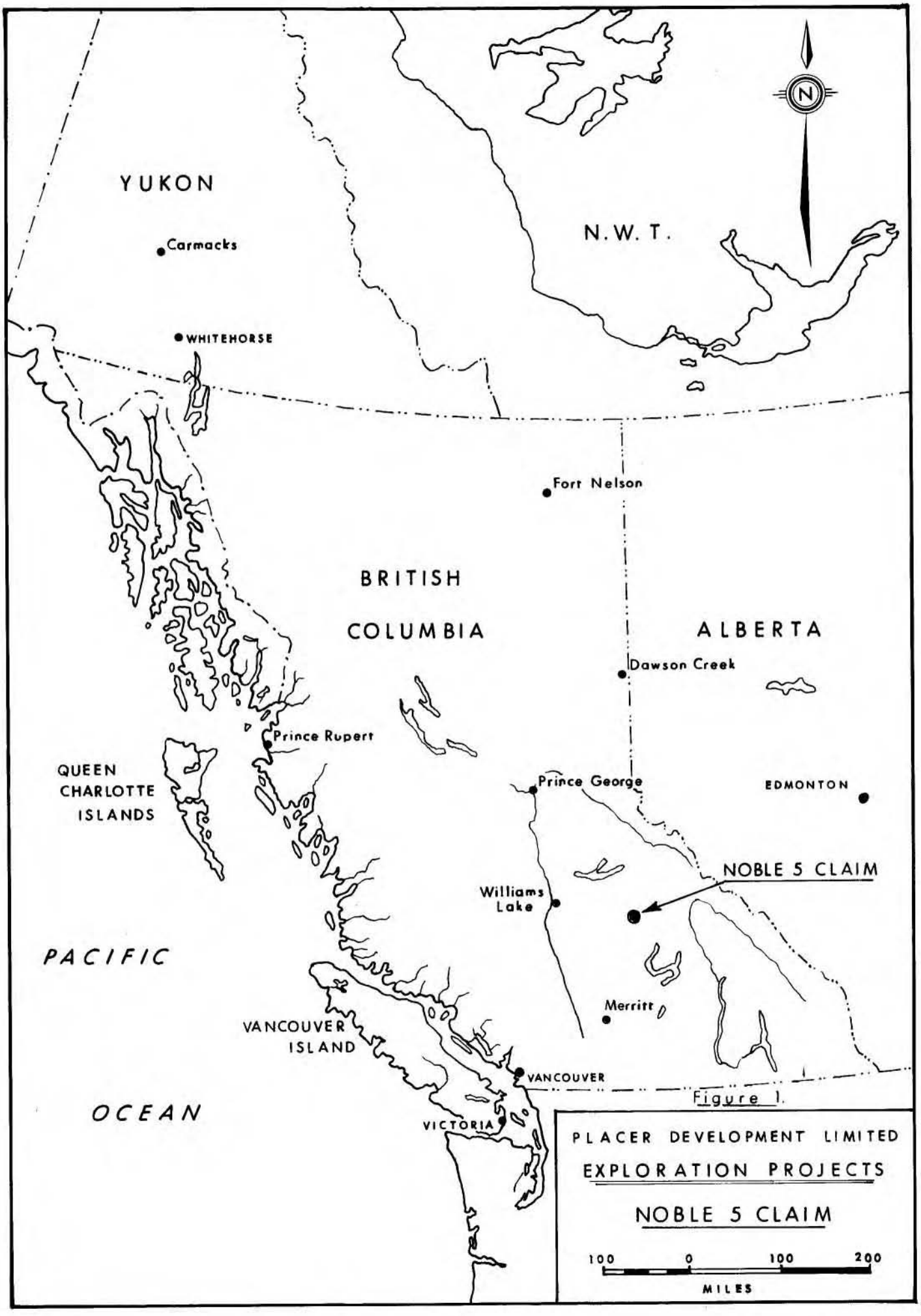

YUKON
N.W.T.
Carmacks
WHITEHORSE
Fort Nelson
BRITISH
COLUMBIA
ALBERTA
Dawson Creek
Prince Rupert
QUEEN
CHARLOTTE
ISLANDS
Prince George
EDMONTON
NOBLE 5 CLAIM
Williams
Lake
PACIFIC
Merritt
VANCOUVER
ISLAND
VANCOUVER
OCEAN
VICTORIA
PLACER DEVELOPMENT LIMITED
EXPLORATION PROJECTS
NOBLE 5 CLAIM
100 0 100 200
MILES

Figure 1.

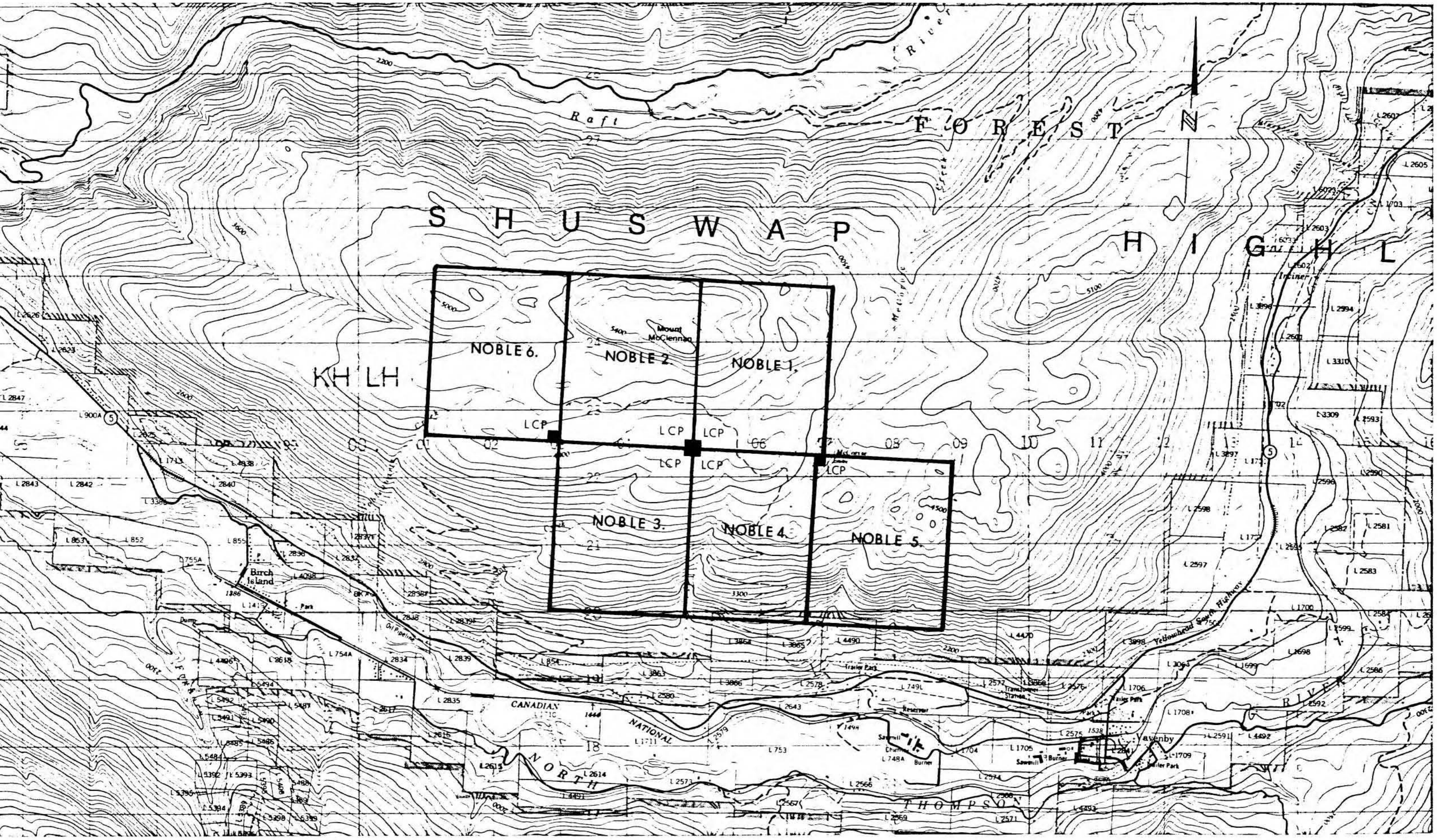


FIGURE 2.

CLAIM LOCATION MAP

NOBLE CLAIMS

82M/12W. – SCALE 1 : 50,000

3.0 Regional Geological Setting

Figure 3 is a detail from the 1:50,000 scale geological map of the Vavenby area published by the British Columbia Ministry of Energy Mines and Petroleum Resources (Open File Map 1986/5 by P. Schiarizza). The map shows that the Noble claims are underlain by deformed and metamorphosed sedimentary and volcanic strata which belong to the Lower Cambrian to Mississippian Eaglebay Formation. The Noble 5 claim is underlain by a northeasterly dipping rock package which consists of a lower footwall, unit of dark grey phyllite (EBP; figure 3) overlain, in the hanging wall of a thrust, by a thick unit of medium to dark green calcareous chlorite schist and greenstone (EBG; figure 3). The metavolcanic unit is shown to contain a thick band of intercalated limestone (EBG 1; figure 3) which is projected to crop our near the top of Peavine Creek.

4.0 Work Performed

4.1 Introduction

The Noble Claims were staked to cover three small exhaltive Pb, Zn, Ag prospects (Redtop, Snow, Sunrise), two vein type Pb, Zn, Ag occurrences (Bearsdon, Tinkirk), a small Au showing (Morrison) and a polymetallic heavy mineral anomaly which has previously been found to occur in sediment in Peavine Creek.

Placer Development Limited carried out a series of exploration programs on the Noble claims in 1983 and 1984. These programs were primarily directed toward the discovery of additional exhalative, massive-sulphide, mineralization on the plateau portion of the mountain, immediately below the summit of Mount McClennan. The results of these programs are described in assessment reports submitted by R. Pinsent (Assessment Report 12080) in 1984 and J. Thornton in 1985. In the course of these programs a minor amount of work was conducted in the vicinity of Peavine Creek. A bulk sediment sampling program succeeded in bracketing the source of the multi-element (Cu, Pb, Zn, Ag, Au, As) anomaly (Assessment Report 12080).

The 1985 field program was designed to locate the source of the mineralization and to assess its extent and significance. The one-day program was carried out on October 8, 1985. It consisted of a geological examination of the inferred source of the anomaly and the construction of a reconaissance soil grid on the flanks of the creek.

LEGEND

MIOCENE OR PLIOCENE

[mTb] OLIVINE BASALT

CRETACEOUS

BALDY BATHOLITH, RAFT BATHOLITH, AND RELATED ROCKS

[Kg] GRANITE AND GRANODIORITE; Kgp INCLUDES ABUNDANT PEGMATITE AS WELL AS FOLIATED GRANITIC ROCKS OF POSSIBLE OLDER AGE

LATE DEVONIAN (?)

[Dgn] GRANITE AND GRANODIORITE ORTHOGNEISS

DEVONIAN TO PERMIAN

ALLOCHTHONOUS INTERNALLY IMBRICATED OCEANIC ASSEMBLAGE

FENNELL FORMATION

[lFc] GREY AND GREEN BEDDED CHERT, CHERTY ARGILLITE, SLATE, AND PHYLLITE

[lFb] GREY AND GREEN PILLOWED AND MASSIVE METABASALT; MINOR AMOUNTS OF BASALTIC BRECCIA AND TUFF

[lFg] GABBRO, DIORITE, DIABASE

[lFs] LIGHT TO DARK GREY SANDSTONE, SILTSTONE, SLATE, PHYLLITE, AND QUARTZITE; MINOR AMOUNTS OF LIMESTONE, CHERT, AND QUARTZO-FELDSPATHIC PHYLLITE (METATUFF)

[lFu] UNDIVIDED, MAINLY lFc, lFg, and lFb

LOWER CAMBRIAN (AND OLDER ?) TO MISSISSIPPIAN
PARAUTOCHTHONOUS ROCKS (EBG TO EBQ)

UPPER STRUCTURAL SLICE

LOWER CAMBRIAN

[EBG] MEDIUM TO DARK GREEN CALCAREOUS CHLORITE SCHIST AND GREENSTONE DERIVED FROM MAFIC VOLCANIC AND VOLCANICLASTIC ROCKS; LESSER AMOUNTS OF CHLORITIC DOLOSTONE, LIMESTONE, AND HORNBLENDE-FELDSPAR-QUARTZ-CHLORITE-SERICITE SCHIST DERIVED FROM INTERMEDIATE VOLCANIC ROCKS; MINOR AMOUNTS OF QUARTZITE, GRIT, AND CHLORITE-SERICITE-QUARTZ SCHIST; EBGl - LIGHT GREY LIMESTONE; EBGf - LARGELY HORNBLENDE-FELDSPAR-QUARTZ CHLORITE-SERICITE SCHIST

LOWER CAMBRIAN AND/OR OLDER

[EBH] LIGHT TO MEDIUM GREY AND GREENISH GREY QUARTZITE, GRIT, AND CHLORITE-SERICITE-QUARTZ SCHIST; MINOR AMOUNTS OF MEDIUM TO DARK GREY PHYLLITE, AND RUSTY WEATHERING CHLORITE-SERICITE-DOLOMITE SCHIST

MISSISSIPPIAN

EBP DARK GREY PHYLLITE INTERCALATED WITH SILTSTONE, SANDSTONE, GRIT, AND PEBBLE CONGLOMERATE; LESSER AMOUNTS OF LIMESTONE, DOLOSTONE, CHLORITE-SERICITE-QUARTZ SCHIST, QUARTZITE, AND METATUFF

DEVONIAN AND/OR MISSISSIPPIAN

EBF LIGHT TO MEDIUM GREEN TO GREENISH GREY CHLORITE-SERICITE SCHIST DERIVED FROM QUARTZ-HORNBLENDE-FELDSPAR CRYSTAL-LITHIC TUFFS AND (?) PORPHYRITIC FLOWS; MINOR AMOUNTS OF CHERTY QUARTZITE (SILICEOUS EXHALITE ?), DARK GREY PHYLLITE, AND SILTSTONE; EBFt - FELDSPAR PORPHYRY, FELDSPATHIC SCHIST, PYRITIC SERICITE-FELDSPAR-QUARTZ SCHIST, METAVOLCANIC BRECCIA, TRACHYTE

DEVONIAN

EBA LIGHT SILVERY GREY TO MEDIUM GREENISH GREY SERICITE-QUARTZ PHYLLITE AND SERICITE-CHLORITE-QUARTZ PHYLLITE DERIVED LARGELY FROM FELSIC TO INTERMEDIATE VOLCANIC AND VOLCANICLASTIC ROCKS; LESSER AMOUNTS OF GREEN CHLORITE PHYLLITE, DARK GREY PHYLLITE AND SILTSTONE, SERICITIC QUARTZITE, AND PYRITIC CHERT (EXHALITE ?)

DEVONIAN (?) AND/OR OLDER (?)

EBS LIGHT TO MEDIUM GREENISH GREY CHLORITE-SERICITE-QUARTZ SCHIST, SCHISTOSE SANDSTONE AND GRIT, QUARTZITE, AND PHYLLITE; LESSER AMOUNTS OF DARK GREY PHYLLITE, LIMESTONE, DOLOSTONE, AND CHLORITE SCHIST

LOWER CAMBRIAN (?) AND/OR OLDER (?)

EBQ LIGHT TO MEDIUM GREY QUARTZITE, PLATY CHLORITE-MUSCOVITE QUARTZITE, AND CHLORITE-MUSCOVITE-QUARTZ SCHIST; LESSER AMOUNTS OF LIMESTONE, CALC-SILICATE SCHIST, LIGHT TO DARK GREY PHYLLITE, CALCAREOUS PHYLLITE, AND GREEN CHLORITE SCHIST; INCLUDES GARNET-BIOTITE-MUSCOVITE SCHIST AND QUARTZITE IN VICINITY OF REG CHRISTIE CREEK; EBQl - LIMESTONE; EBQgn - INCLUDES ABUNDANT ORTHOGNEISS OF UNIT Dgn, AS WELL AS 'QUARTZ EYE'-SERICITE PHYLLITE DERIVED FROM QUARTZ PORPHYRY (SILLS ?)

SYMBOLS

GEOLOGICAL CONTACT: DEFINED, APPROXIMATE, ASSUMED .....

BEDDING, TOP KNOWN: INCLINED, OVERTURNED .....

BEDDING, TOP UNKNOWN: HORIZONTAL, INCLINED, VERTICAL .....

SYNMETAMORPHIC SLATY CLEAVAGE, SCHISTOSITY, OR GNEISSOSITY: HORIZONTAL, INCLINED, VERTICAL .....

MINERAL LINEATION .....

POSTMETAMORPHIC CRENULATION CLEAVAGE: INCLINED, VERTICAL .....

CRENULATION LINEATION .....

MESOSCOPIC FOLD AXIS: SYNMETAMORPHIC, POSTMETAMORPHIC ....

AXIAL TRACE OF INFERRED SYNMETAMORPHIC FOLD: OVERTURNED ANTICLINE, OVERTURNED SYNCLINE .....

AXIAL TRACE OF POSTMETAMORPHIC FOLD: ANTIFORM, SYNFORM ...

THRUST FAULT; TEETH ON UPPER PLATE: DEFINED, APPROXIMATE, ASSUMED .....

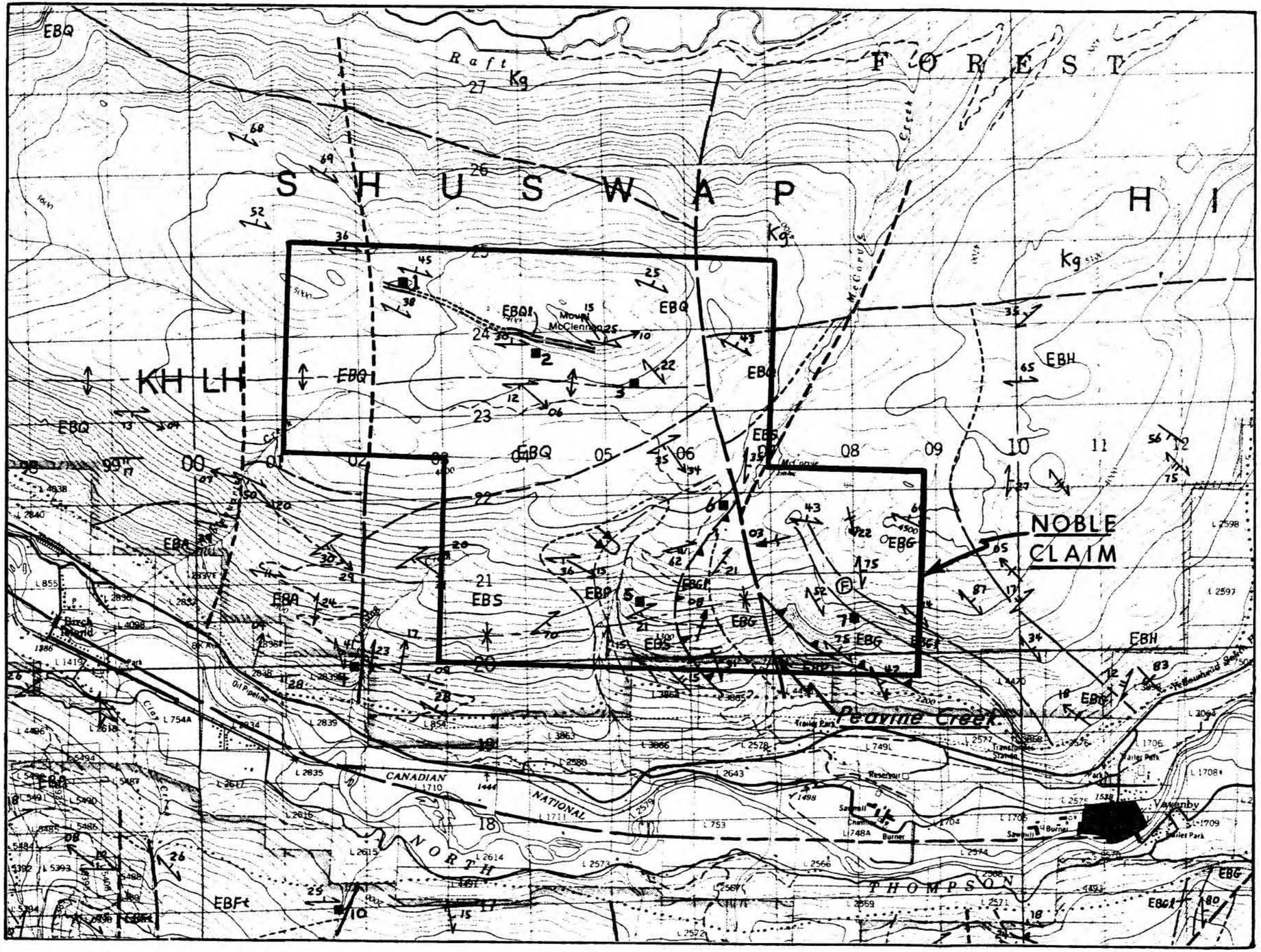
EARLY (PREMETAMORPHIC) EASTERLY DIRECTED THRUST FAULT; TEETH ON UPPER PLATE: DEFINED, APPROXIMATE, ASSUMED ...

FAULT: DEFINED, APPROXIMATE, ASSUMED .....

FOSSIL LOCALITY (EARLY CAMBRIAN ARCHAEOCYATHIDS) .....

MINERAL OCCURRENCE .....

LIMIT OF GEOLOGICAL MAPPING OR OUTCROP .....



1:50,000 Scale

From Open File Map 198615 (B.C.M.E.M.P.R.)

Figure 3.

Regional Geological Map
of the
Noble Claim Group

4.2 Geology

Figure 4 is an altimeter compass and hipchain generated topographic map of the Peavine Creek area in the vicinity of the anomaly source. The map was generated from a baseline run up the bed of the creek and from sample stations on parallel soil lines constructed at 50 m and 100 m intervals west and east of the creek. The figure shows the location of three old workings on the west side of the creek and two sloughed trenches on the west bank above the creek. The figure also shows the geology of the area, as exposed in the creek, and the location of nineteen rock samples collected during the examination.

Figure 4 shows that the map area includes the lower contact of the intercalated limestone unit (EBGl) shown in figure 3. The section consists of a lower unit of metabasalt, equivalent to EBG (figure 3), in probable tectonic contact with a highly deformed graphitic, calcareous, argillaceous metasedimentary unit which includes at least two narrow bands of massive grey limestone. This latter unit is equivalent to EBGL in figure 3. There is no outcrop immediately upstream from the top limestone unit, but the abundance of metabasalt in the float suggests a return to that rock type.

Figure 4 also shows the location of three pits or adits in close proximity to the creek bed. The lowest "adit" is located in metabasalt. The upper two are found in metasediment. A total of nineteen rock samples were collected and shipped to the Placer Development Laboratory in Vancouver, where they were analyzed for Cu, Zn, Pb, Ni, Ag, Au, As, Hg, Cr and Sb. The analytical data are presented in Appendix I.

Samples 70726 and 70727 are chip samples of two narrow veins (2-5 cm) of semi-massive sulphide in metabasalt in the bed of Peavine Creek immediately below the lower adit. The veins contain carbonate and appreciable sphalerite, galena, arsenopyrite and pyrite, as well as a minor amount of chalcopyrite. Sample 70728 is a character sample from the second, arsenopyrite rich vein. The analytical data in appendix I shows that the vein material is rich in Au and Hg, and that it contains a trace of Sb. The veins are narrow and discontinuous. They are vertical and they strike at 115° and 150° respectively. There is no apparent alteration adjacent to the vein set although chip sample 70729, collected immediately adjacent to the second vein, shows minor Au enrichment. Sample 70730 is a chip sample taken across the adit entrance over a distance of approximately 1.0 m.

The sample consists of metabasalt cut by numerous narrow (0.2 - 1.0 cm) veinlets of quartz, carbonate and semi-massive sulphide. Sample 70731 is a block of the same material. The anlytical data are consistent with the results obtained for the more massive vein samples. The section is enriched in Cu, Zn, Pb, Ag, Au, As and Hg. The vein set appears to be restricted to the immediate vicinity of the old adit entrance.

Downstream from the adit the metabasalt is, for the most part, intensely fractured but relatively unaltered. There are, however, local zones of intense carbonate alteration. Samples 70737, 70738 and 70739 (figure 4) were collected from a 1 m wide zone of buff coloured carbonatized and weakly silicified metabasalt located in the bed of the creek approximately 30 m downstream from the lower adit. The zone appears to be vertical and it appears to run subparallel to the axis of the drainage. The analytical data show that the rock is devoid of economic mineralization. Sample 70735 and 70736 are pieces of similar carbonatized metabasalt float located up stream from the upper adit. These latter samples show significant enrichment in Au and Hg. A similar rock sample (70733), collected on the east side of the creek, on the strike projection of the lower adit vein system, was found to contain traces of Au, As and Hg.

Immediately upstream from the lower adit, metabasalt is juxtaposed against a unit of deformed and contorted, flat-lying, pyritic shale which includes a 5 m thick section of limestone. Sample 70732 is a chip sample of the pyritic shale in the bed of the creek and sample 70734 is a chip sample of gossanous shale exposed at the entrance of a small excavation located above the level of the creek. The sediment is cut by rare vertical veinlets of quartz oriented at 130°. The analytical data show that both samples contain significant traces of Au, As and Hg.

Two shallow trenches were located approximately 50 m northeast of the lower adit (figure 3). The trenches contain weakly to intensely carbonatized metabasalt. Chip (70740, 70741, 70744) and character samples (70742, 70743) were collected from the trenches. They show trace enrichment in As and appreciable enrichment in Hg. They do no appear to contain gold.

4.3 Soil Geochemistry

A total of 44 conventional, -80 mesh, B horizon soil samples (PVX 1000 to PVX 1043) were collected on a reconnaisence grid, as indicated in figure 5. Samples were collected at 25 m intervals on lines constructed on the banks of the creek and on traverse lines run subparallel to it. The samples were shipped to the Placer Development Laboratory in Vancouver where they were analysed for Cu, Zn, Pb, Ag, Au, As, Hg and Sb. The analytical data are shown in Appendix II. Figures 6, 7, 8 and 9 show the distribution of Cu, Zn and Pb (in ppm) and Hg (in ppb) respectively.

The analytical data indicate that the soils show no systematic enrichment in either base or precious metals. Only one soil sample (PVX 1010) shows any significant metal (Cu, Zn, Pb, Ag) enrichment other than for Hg. This sample was collected on the east bank of the creek downslope from the inferred southeasterly projection of the lower adit vein system.

The only element to show any enrichment is Hg. Twelve samples contain in excess of 2000 ppb. The samples (figure 9) are scattered and they presumeably reflect more than one source. The anomalies show a broad correlation with the trend of the vein system located below the lower adit and with the inferred south easterly projection of the contact between the volcanic and sedimentary rock packages.

5.0 Discussion

The data indicates that the rocks exposed in Peavine Creek display two discrete styles of mineralization. There is evidence of (1) widespread, locally intense, carbonitization of metabasalt associated with the introduction of Hg and (2) local development of narrow, sulphide-rich, veins strongly enriched in base (Zn, Pb, Cu, As, Hg) and precious (Au) metals. Both styles are consistant with an evolving epithermal mineralizing event.

There is insufficient data to assess the extent of the epithermal system responsible for the mineralization or to evaluate its controls. However, the data suggests that the vein sulphide system was formed adjacent to a major stratigraphic break between rocks of volcanic and sedimentary composition.

6.0 Conclusions

The data indicates that the heavy mineral anomaly (Cu, Zn, Pb, Ag, As and Au), located in sediment at the foot of Peavine Creek, is derived from a suite of semi-massive sulphide veins which cut the creek bed in the vicinity of the lower adit (figure 4). The veins are narrow and sparcely distributed. There is nothing to indicate the presence of widespread mineralization.

The data also suggests that the veins are part of a larger epithermal system which is responsible for widespread carbonitization of metabasalt and enrichment in Hg. The extent and significance of the system is not known.

7.0 Statement of Expenditures

R. Pinsent-Oct 7th - 9th 1985	2 days @ $300/day	$ 900.00
B Ott -Oct 7th - 9th 1985	2 days @ $250/day	750.00
Camp Operations		
Meals and Accommodation	4 manday @ $70/manday	280.00
Vehicle Expense		
3/4 ton Chev 4x4 P.U.	3 day @ $60/day	180.00
Assay Expense		
19 Rock Samples Analysis by AA for Cu, Zn, Pb, Ni, Ag, Au, As, Hg, Cr, Sb	@ $21.40/sample	406.60
44 Soil Samples Analysis by AA for Cu, Zn, Pb, Ag, Au, As Hg, Sb	@ $17.35/sample	763.40
Report Preparation		
R. Pinsent	1 day @ $300	300.00
Computer Cost, Drafting and Typing		150.00
TOTAL		$3,730.00

8.0 Statement of Qualifications

I, Robert H. Pinsent of 2335 West 13th Ave. Vancouver, British Columbia (V6K 2S5), do hereby certify that:

1. I am a geologist employed by Placer Development Ltd., of 1200 - 1055 Dunsmuir Street, Vancouver, British Columbia (V7X 1P1).

2. I am a geology graduate of the following Universities:

   Aberdeen University, B.Sc., Hon., (1968)

   University of Alberta, M.Sc. (1971)

   Durham University, PhD. (1975)

3. I have been engaged in the practice of geology since graduation in 1968.

4. I have supervised and carried out the fieldwork, and interpreted the data from the exploration programme on the Noble 5 Claim (Latitude 51° 36', Longitude 119° 47') in the Kamloops Mining District.

Respectfully submitted,

R.H. Pinsent

APPENDIX I

Rock Geochemical Data

PLACER DEVELOPMENT LTD (RESEARCH CENTRE)

G CHEMICAL DATA LISTING: NOBLE CLAIMS DA : 85-1

PDL lab data file: P5201-1
AREA: NOBLE CLAIMS
MAPSHEET NO: 82M/12W
VENTURE:
GEOLOGIST: R PINSENT
LAB PROJECT NO: 5201

PLEASE DISTRIBUTE RESULTS TO: R PINSENT ** LAB **
S. TENNANT B. HODGSON M. GAREAU I. THOMSON

REMARKS:
"CUT SINGLE SAMPLES - STORE HALF ANALYZE HALF"

STANDARD ANALYSIS METHODS USED BY PDL GEOCHEM LAB ARE LISTED BELOW:
ALL RESULTS EXPRESSED AS INDICATED IN UNITS COLUMN BELOW
ANY EXCEPTIONS FOR THIS PROJECT ARE NOTED ABOVE

REMARKS: INTERNAL LAB STANDARDS HAVE BEEN INCLUDED FOR REFERENCE.
SAMPLE NUMBERS FOLLOWED BY * ARE DUPLICATE ANALYSES.

	UNITS	WT.G	ATTACK USED	TIME	RANGE	METHOD
MO	PPM	0.5	C HCLO4/HNO3	4HRS	1-1000	ATOMIC ABSORPTION
CU	PPM	0.5	C HCLO4/HNO3	4HRS	2-4000	ATOMIC ABSORPTION
ZN	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	ATOMIC ABSORPTION
PB	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	A.A. BACKGROUND COR.
CD	PPM	0.5	C HCLO4/HNO3	4HRS	0.2-200	A.A. BACKGROUND COR.
NI	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	ATOMIC ABSORPTION
CO	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	ATOMIC ABSORPTION
AG1	PPM	0.5	C HCLO4/HNO3	4HRS	0.2-20	A.A. BACKGROUND COR
AU	PPM	10.0	AQUA REGIA	3HRS	0.02-4.00	A.A. SOLVENT EXTRACT.
U	PPM	0.25	DIL HNO3	2HRS	1.0-1000	FLOURIMETRY SOLV. EX.
V	PPM	0.5	C HF/HCLO4/HNO3/HCL	6HRS	5-1000	ATOMIC ABSORPTION
W	PPM	0.5	C HCLO4/H3PO4	2HRS	2-1000	DC PLASMA.
F	PPM	0.25	NA2CO3/KNO3 FUSION	30MIN	40-4000	SPECIFIC ION ELECTODE
AS	PPM	0.5	C HCLO4/HNO3	4HRS	2-1000	A.A. BACKGROUND COR.
SB	PPM	0.5	C HCL/HNO3	2HRS	2-1000	A.A. BACKGROUND COR.
BI	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	A.A. BACKGROUND COR.
MN	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	ATOMIC ABSORPTION
FE	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.02-20%	ATOMIC ABSORPTION
HG	PPB	0.25	DIL HNO3/HCL	2HRS	5-2000PPB	A.A. COLD VAPOR GEN.
BA	%	0.25	C HF/HI/OXALIC	4HRS	0.02-20%	ATOMIC ABSORPTION
NA	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2 -20%	ATOMIC ABSORPTION
K	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2 -20%	ATOMIC ABSORPTION
CA	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.02-20%	ATOMIC ABSORPTION
SR	PPM	0.5	C HF/HCLO4/HNO3/HCL	6HRS	10-2000	ATOMIC ABSORPTION
MG	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2-20%	ATOMIC ABSORPTION
SN	PPM	1.0	NH4I FUSION	15MIN	5-500	A.A. SOLVENT EXTRACT.
LOI	%	1.0	ASH 600 DEG C	2HRS	0.02-99%	WEIGH RESDUE

AUTOVALU

PLACER GEOCHEM ASSAY SYSTEM: DATA FROM NOBLE CLAIMS

GRID	SAMPLE	PROJECT	CU	ZN	PB	NI	AG	AU	AS	HG	CR	SB
82M/12W	70726	5201	1070	11.3%	5.90%	67	4.0	15.8	4.08%	>2000	162	84
82M/12W	70727	5201	142	1720	550	35	2.0	26.4	18.8%	>2000	123	260
82M/12W	70728	5201	477	0.20%	0.25%	47	3.5	19.4	22.4%	>2000	173	260
82M/12W	70729	5201	18	620	101	95	<0.2	0.80	0.80%	>2000	221	<2
82M/12W	70730	5201	630	1.08%	0.69%	88	11.0	4.2	3.20%	>2000	189	22
82M/12W	70731	5201	670	1070	0.72%	90	12.0	2.4	0.42%	>2000	169	<2
82M/12W	70732	5201	54	560	385	46	0.9	0.23	0.20%	>2000	162	<2
82M/12W	70733	5201	72	115	410	112	0.4	0.13	228	790	152	<2
82M/12W	70734	5201	19	156	84	39	0.2	0.08	344	>2000	127	<2
test	STD AU	5201						0.65				
82M/12W	70735	5201	8	640	200	68	0.3	0.08	144	>2000	171	<2
82M/12W	70736	5201	122	57	103	29	0.3	0.03	124	860	113	<2
82M/12W	70737	5201	134	42	15	123	<0.2	<0.02	80	190	183	<2
82M/12W	70738	5201	30	72	35	76	0.2	<0.02	48	160	41	<2
82M/12W	70739	5201	19	49	69	17	0.3	<0.02	32	170	92	<2
82M/12W	70740	5201	70	60	17	73	0.4	<0.02	100	87	81	<2
82M/12W	70741	5201	105	70	16	58	0.6	<0.02	92	>2000	96	22
82M/12W	70742	5201	76	94	17	72	0.3	<0.02	124	1200	56	<2
82M/12W	70743	5201	91	61	16	65	0.2	<0.02	172	1500	49	<2
82M/12W	70743*	5201	91	61	16	65	0.2	<0.02	172	1500	49	<2
82M/12W	70744	5201	60	63	18	72	0.2	<0.02	96	160	42	<2
test	STD HG	5201								360		
test	STD G	5201	90	73	113	22	0.9		68			
test	STD PB-ZN	5201							0.11%			
test	STD SB	5201										62
test	STD SB	5201										62

END OF LISTING - 26 RECORDS PRINTED
GCLIST RUN AT: 13:11:20

AUTOVALU

PLACER DEVELOPMENT LIMITED: GEOCHEM ASSAY SYSTEM

Following elements needed some values adjusted:

ELEMENT	NSS	LOW	HI	%	BLNK	NVAL
ZN	0	0	0	3	0	19
PB	0	0	0	4	0	19
AG	0	2	0	0	0	19
AU	0	8	0	0	0	19
AS	0	0	0	7	0	19
HG	0	0	10	0	0	19
SB	0	14	0	0	0	19

7 records skipped: tests, duplicate analyses

SUMMARY OF GEOCHEM DATA: NOBLE CLAIMS

ITEM	# VALUES	MISSING	MINIMUM	MAXIMUM	AVERAGE	STD. DEV.
GRID	19	0	82M/12W	82M/12W		
SAMP	0	19				
PROJ	19	0	5201	5201		
AG	19	0	.10	12.00	1.95	3.55
AS	19	0	32.00	220000.00	26241.26	64200.68
AU	19	0	.01	26.40	3.66	7.79
CR	19	0	41.00	221.00	126.42	55.26
CU	19	0	8.00	1070.00	203.53	291.35
HG	19	0	87.00	2000.00	1321.95	815.62
NI	19	0	17.00	123.00	66.95	27.65
PB	19	0	15.00	59000.00	4086.11	13478.72
SB	19	0	1.00	260.00	34.84	81.71
ZN	19	0	42.00	110000.00	6749.95	25122.20

END OF GCHSCAN: DATE: 85-12-05 time: 13-11-20 19 RECORDS PROCESSED

AUTOVALU

APPENDIX II

Soil Geochemical Data

PLATER DEVELOPMENT LTD (RESEARCH CENTRE)

GEOCHEMICAL DATA LISTING: V188 BIRCH ISLAND DATE: 85-11-

PDL lab data file: P5202-1
AREA: BIRCH ISLAND
MAPSHEET NO: 82M12W
VENTURE: V188
GEOLOGIST: R PINSENT
LAB PROJECT NO: 5202

PLEASE DISTRIBUTE RESULTS TO: R PINSENT ** LAB **
S. TENNANT B. HODGSON M. GAREAU I. THOMSON

STANDARD ANALYSIS METHODS USED BY PDL GEOCHEM LAB ARE LISTED BELOW:
ALL RESULTS EXPRESSED AS INDICATED IN UNITS COLUMN BELOW
ANY EXCEPTIONS FOR THIS PROJECT ARE NOTED ABOVE

REMARKS: INTERNAL LAB STANDARDS HAVE BEEN INCLUDED FOR REFERENCE.
SAMPLE NUMBERS FOLLOWED BY * ARE DUPLICATE ANALYSES.

	UNITS	WT.G	ATTACK USED	TIME	RANGE	METHOD
MO	PPM	0.5	C HCLO4/HNO3	4HRS	1-1000	ATOMIC ABSORPTION
CU	PPM	0.5	C HCLO4/HNO3	4HRS	2-4000	ATOMIC ABSORPTION
ZN	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	ATOMIC ABSORPTION
PB	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	A.A. BACKGROUND COR.
CD	PPM	0.5	C HCLO4/HNO3	4HRS	0.2-200	A.A. BACKGROUND COR.
NI	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	ATOMIC ABSORPTION
CO	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	ATOMIC ABSORPTION
AG1	PPM	0.5	C HCLO4/HNO3	4HRS	0.2-20	A.A. BACKGROUND COR
AU	PPM	10.0	AQUA REGIA	3HRS	0.02-4.00	A.A. SOLVENT EXTRACT.
U	PPM	0.25	DIL HNO3	2HRS	1.0-1000	FLOURIMETRY SOLV. EX.
V	PPM	0.5	C HF/HCLO4/HNO3/HCL	6HRS	5-1000	ATOMIC ABSORPTION
W	PPM	0.5	C HCLO4/H3PO4	2HRS	2-1000	DC PLASMA.
F	PPM	0.25	NA2CO3/KNO3 FUSION	30MIN	40-4000	SPECIFIC ION ELECTODE
AS	PPM	0.5	C HCLO4/HNO3	4HRS	2-1000	A.A. BACKGROUND COR.
SB	PPM	0.5	C HCL/HNO3	2HRS	2-1000	A.A. BACKGROUND COR.
BI	PPM	0.5	C HCLO4/HNO3	4HRS	2-2000	A.A. BACKGROUND COR.
MN	PPM	0.5	C HCLO4/HNO3	4HRS	2-3000	ATOMIC ABSORPTION
FE	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.02-20%	ATOMIC ABSORPTION
HG	PPB	0.25	DIL HNO3/HCL	2HRS	5-2000PPB	A.A. COLD VAPOR GEN.
BA	%	0.25	C HF/HI/OXALIC	4HRS	0.02-20%	ATOMIC ABSORPTION
NA	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2 -20%	ATOMIC ABSORPTION
K	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2 -20%	ATOMIC ABSORPTION
CA	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.02-20%	ATOMIC ABSORPTION
SR	PPM	0.5	C HF/HCLO4/HNO3/HCL	6HRS	10-2000	ATOMIC ABSORPTION
MG	%	0.5	C HF/HCLO4/HNO3/HCL	6HRS	0.2-20%	ATOMIC ABSORPTION
SN	PPM	1.0	NH4I FUSION	15MIN	5-500	A.A. SOLVENT EXTRACT.
LOI	%	1.0	ASH 600 DEG C	2HRS	0.02-99%	WEIGH RESDUE

AUTOVALU

GRID	SAMPLE	PROJECT	CU	ZN	PB	AG	AU	AS	HG	SB
82M12W	PVX 1000	5202	17	57	2	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1001	5202	14	46	17	<0.2	<0.02	<2	160	<2
82M12W	PVX 1002	5202	21	45	20	<0.2	<0.02	<2	68	<2
82M12W	PVX 1003	5202	16	50	22	<0.2	<0.02	<2	40	<2
82M12W	PVX 1004	5202	32	63	33	<0.2	<0.02	<2	1000	4
82M12W	PVX 1005	5202	19	62	28	<0.2	<0.02	<2	110	<2
82M12W	PVX 1006	5202	44	68	78	<0.2	<0.02	<2	43	<2
82M12W	PVX 1007	5202	27	66	33	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1008	5202	54	71	34	<0.2	<0.02	<2	560	<2
test	STD HG	5202							300	
82M12W	PVX 1009	5202	33	102	43	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1010	5202	234	205	153	2.0	<0.02	3	170	<2
82M12W	PVX 1011	5202	74	83	51	0.2	<0.02	3	310	<2
82M12W	PVX 1012	5202	79	79	24	0.2	<0.02	<2	250	<2
82M12W	PVX 1013	5202	31	64	36	<0.2	<0.02	<2	480	<2
82M12W	PVX 1014	5202	28	54	29	<0.2	<0.02	2	120	<2
82M12W	PVX 1015	5202	15	90	25	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1016	5202	16	94	26	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1017	5202	23	93	25	<0.2	<0.02	<2	>2000	<2
test	STD HG	5202							380	
82M12W	PVX 1018	5202	37	89	49	<0.2	<0.02	<2	390	<2
82M12W	PVX 1019	5202	11	47	26	<0.2	<0.02	<2	120	<2
82M12W	PVX 1020	5202	11	54	23	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1021	5202	18	48	24	<0.2	<0.02	<2	360	<2
82M12W	PVX 1022	5202	20	42	18	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1023	5202	35	17	5	<0.2	<0.02	<2	510	<2
82M12W	PVX 1024	5202	13	64	26	<0.2	<0.02	<2	740	<2
82M12W	PVX 1025	5202	15	81	21	<0.2	<0.02	<2	130	<2
82M12W	PVX 1026	5202	13	57	20	<0.2	<0.02	<2	120	<2
82M12W	PVX 1026*	5202	13	54	20	<0.2	<0.02	<2	170	<2
82M12W	PVX 1027	5202	10	78	24	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1028	5202	16	77	27	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1029	5202	12	79	22	<0.2	<0.02	<2	180	<2
82M12W	PVX 1030	5202	16	104	24	<0.2	<0.02	<2	240	<2
82M12W	PVX 1031	5202	15	84	22	<0.2	<0.02	<2	78	<2
82M12W	PVX 1032	5202	20	59	22	<0.2	<0.02	<2	290	2
82M12W	PVX 1033	5202	12	58	22	<0.2	<0.02	<2	100	<2
82M12W	PVX 1034	5202	9	49	18	<0.2	<0.02	<2	370	<2
82M12W	PVX 1035	5202	10	54	22	<0.2	<0.02	<2	160	<2
82M12W	PVX 1035*	5202	10	56	22	<0.2	<0.02	<2	110	<2
82M12W	PVX 1036	5202	7	61	11	<0.2	<0.02	<2	190	<2
82M12W	PVX 1037	5202	13	65	14	<0.2	<0.02	<2	420	<2
82M12W	PVX 1038	5202	13	67	13	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1039	5202	7	76	10	<0.2	<0.02	<2	56	<2
82M12W	PVX 1040	5202	10	59	13	<0.2	<0.02	<2	96	<2
82M12W	PVX 1041	5202	18	60	11	<0.2	<0.02	<2	78	<2
82M12W	PVX 1042	5202	15	79	15	<0.2	<0.02	<2	>2000	<2
82M12W	PVX 1043	5202	16	95	10	<0.2	<0.02	<2	220	<2
82M12W	PVX 1043*	5202	16	95	10	<0.2	<0.02	<2	140	<2
test	STD AU	5202					0.62			
test	STD AU	5202					0.60			
test	STD AU	5202					0.54			
test	STD G	5202	92	70	113	0.8		68		

END OF LISTING - 53 RECORDS PRINTED
GCLIST RUN AT: 15:39:58

AUTOVALU

PLACER DEVELOPMENT LIMITED: GEOCHEM ASSAY SYSTEM

Following elements needed some values adjusted:

ELEMENT	NSS	LOW	HI	%	BLNK	NVAL
AG	0	41	0	0	0	44
AU	0	44	0	0	0	44
AS	0	41	0	0	0	44
HG	0	0	12	0	0	44
SB	0	41	0	0	0	44

9 records skipped: tests, duplicate analyses

SUMMARY OF GEOCHEM DATA: V188 BIRCH ISLAND

ITEM	# VALUES	MISSING	MINIMUM	MAXIMUM	AVERAGE	STD. DEV.
GRID	44	0	82M12W	82M12W		
SAMP	44	0	PVX	PVX		
PROJ	44	0	5202	5202		
AG	44	0	.10	2.00	.15	.29
AS	44	0	.50	3.00	.65	.57
AU	44	0	.01	.01	.01	.00
CU	44	0	7.00	234.00	26.57	35.63
HG	44	0	40.00	2000.00	730.89	807.73
PB	44	0	5.00	153.00	27.59	23.07
SB	44	0	1.00	4.00	1.11	.49
ZN	44	0	17.00	205.00	70.34	27.42

END OF GCHSCAN: DATE: 85-11-27 time: 15-39-58 44 RECORDS PROCESSED

AUTOVALU

1234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678

FIGURE 4

Geology Map: Peavine Creek

Legend

Eaglebay Formation

3 Recrystallized Limestone (EBGL)*

2 Graphitic and Argillaceous Metasediment

1,1b Metabasalt; (EBG)* 1b, Carbonatized Metabasalt

Geological Contact; Inferred

Fault; Inferred

Foliation or Pervasive Fracture

Vein Orientation

Adit, Pit

Trench

* MEMPR designation (Open File Map 1986/5)

Rock Sample Location

Sulphide Vein System [Arsenopyrite, Sphalerite, Galena, Pyrite]

RP/stm
03.07.86