

85-141-13530



Province of  
British Columbia

Ministry of  
Energy, Mines and  
Petroleum Resources

ASSESSMENT REPORT  
TITLE PAGE AND SUMMARY

TYPE OF REPORT/SURVEY(S)	TOTAL COST
--------------------------	------------

AUTHOR(S) Michael Smith SIGNATURE(S) Michael Smith  
Michael Smith

DATE STATEMENT OF EXPLORATION AND DEVELOPMENT FILED ..... YEAR OF WORK 1984

PROPERTY NAME(S) Gran 1-6 claims

COMMODITIES PRESENT Pb/Zn/Ag

B.C. MINERAL INVENTORY NUMBER(S), IF KNOWN N/A

MINING DIVISION Omineca NTS 93F/3W

LATITUDE 125°03'N 53°13.5'N LONGITUDE 53°12'W 125°08'W

NAMES AND NUMBERS of all mineral tenures in good standing (when work was done) that form the property [Examples: TAX 1-4, FIRE 2 (12 units); PHOENIX (Lot 1706); Mineral Lease M 123; Mining or Certified Mining Lease ML 12 (claims involved)]:

Gran 1-6 claims

OWNER(S)

(1) BP Minerals Limited (2) .....

MAILING ADDRESS

700-890 W. Pender St.

Vancouver, BC V6C 1K5

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

OPERATOR(S) (that is, Company paying for the work)

(1) As above (2) .....

MAILING ADDRESS

As above

**13,530**

SUMMARY GEOLOGY (lithology, age, structure, alteration, mineralization, size, and attitude):

The Gran 1-6 claims are underlain by Hazelton Group intermediate flows intruded by Upper Jurassic quartz monzonite of the Capoose Lake Batholith. Minor chlorite and epidote alteration are ubiquitous to the area. Minor galena and sphalerite occurs in 30-40 cm semi-massive sulphide fracture fillings, with accompanying gold and silver values.

REFERENCES TO PREVIOUS WORK

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	COST APPORTIONED
GEOLOGICAL (scale, area) Ground Photo	Detail mapping (1:5000) 3 x 2km	Gran 5, 6	\$18,140
GEOPHYSICAL (line-kilometres) Ground Magnetic Electromagnetic Induced Polarization Radiometric Seismic Other Airborne			
GEOCHEMICAL (number of samples analysed for ....) Soil Silt Rock Other			
DRILLING (total metres; number of holes, size) Core Non-core	350 m trenching, 7.5 km road	Gran 5, 6	} \$16,858
RELATED TECHNICAL Sampling/assaying Petrographic Mineralogic Metallurgic	100 rock chip - 30 element	Gran 5, 6	
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL Legal surveys (scale, area) Topographic (scale, area) Photogrammetric (scale, area) Line/grid (kilometres) Road, local access (kilometres) Trench (metres) Underground (metres)			
			TOTAL COST \$34,998

FOR MINISTRY USE ONLY	NAME OF PAC ACCOUNT	DEBIT	CREDIT	REMARKS:
Value work done (from report)				
Value of work approved				
Value claimed (from statement)				
Value credited to PAC account				
Value debited to PAC account				
Accepted . . . . . Date	Rept. No.			Information Class

ASSESSMENT REPORT ON THE  
GRAN 1-6 CLAIM GROUP  
TRENCHING AND GEOCHEMICAL SAMPLING PROGRAM  
OMINECA MINING DIVISION  
NTS 93F/3W

Located approximately 13 km South of Capoose Lake, B.C.

Latitude  $125^{\circ}03'$ , Longitude  $53^{\circ}12'$

BPVR 84-73

Michael Smith  
Project Geologist

March, 1985

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SUMMARY

Geochemical soil anomalies, located on the Gran 5 claim in 1982 were further sampled and backhoe trenched during 1983. The 1984 program completed the trenching planned for evaluation of coincident lead-silver anomalies.

A 14.5 km grid was cut to locate precisely the pace and compass soil lines run in 1982. Detailed geological mapping was then carried out on the cut grid.

Three backhoe trenches were dug to bedrock at three separate locations. Thin (<1 km) fault zones in trench 84-1 and 84-3 are weakly anomalous in lead, zinc and silver, but the quartz eye rhyolitic tuff and the rusty weathering rhyodacitic lapilli tuff horizons returned no anomalous values.

RECOMMENDATIONS

1. As no encouraging results were returned from the 1984 trenching, no further work is recommended on the Gran claims at present. Present work will hold the ground until August 4, 1987.
  
2. The anomalous gold soil sites on the Laid claims were examined carefully and found to be of a placer origin, so the south flank of the Gran/Laid claims are low priority areas, and no further work need be done in this area.

## INTRODUCTION

Until the late seventies, limited access prevented extensive exploration of the Fawnie Range. Work by Granges at Capoose Lake resulted in the discovery of a bulk tonnage silver-gold deposit, and sparked increased interest in the area. The construction of a logging road to Laidman Lake in 1978 provided easy access to the area.

Reconnaissance of the region was initiated in 1981 to assess lake sediment anomalies associated with Hazelton Group or Takla Group volcanics. The geological target was a volcanic hosted base-precious metals deposit similar to the Capoose Lake or Equity Silver deposits.

Following the regional assessment, the Gran and Laid claims were staked to cover drainage areas around lake sediment and soil anomalies, and to cover possible southern extension of the Granges host environment.

Following a soil geochemical survey, the Gran claims were mapped, and minor sulphides located in rhyodacite lapilli tuffs, with associated epidote, chlorite, and garnet alteration. A limited program of test pits and trenching late in 1983 located several narrow showings of galena and sphalerite with associated values of gold and silver.



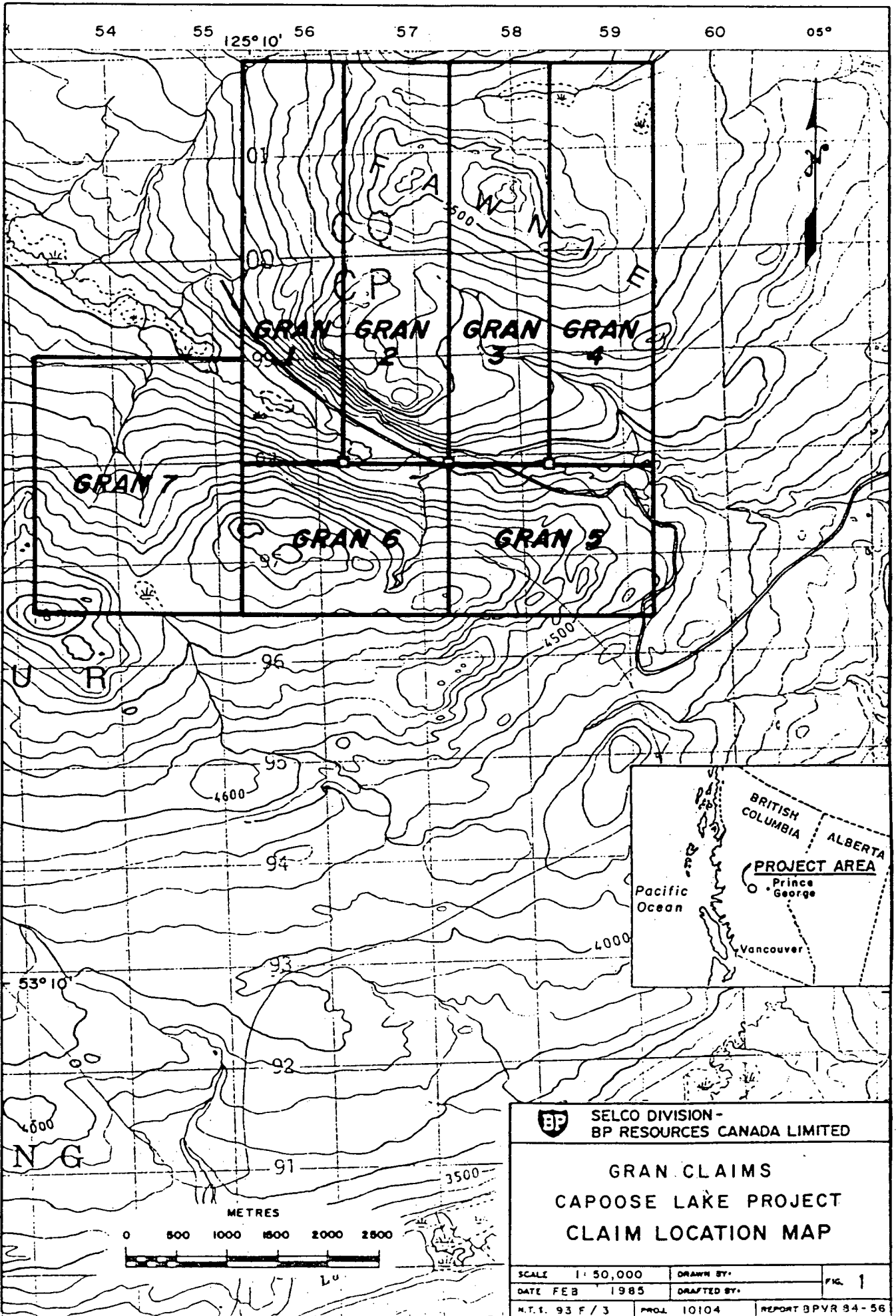
The 1984 program consisted of a cut grid to accurately locate soil anomalies, previous pits and mineralization, and to further trench areas of known mineralization and previously untested geochemical anomalies.

#### LOCATION AND ACCESS (Fig. 1)

The Gran claims are located in the Fawnie Mountain Range, NTS mapsheet 93F/3, 108 km southwest of Vanderhoof, B.C. The area is accessed by the Kluskus Forestry Road of B.C. Timber Ltd., which begins at their Engen Mill, located 19 km west of Vanderhoof on Highway 16. From Engen the forestry road is followed southwest 142.5 km. From this point an access road constructed by Granges Exploration is followed in a generally westerly direction for 7 km, which is the eastern claim boundary of the Gran and Laid claims.

#### CLAIM STATUS AND OWNERSHIP

The Gran claims are owned by BP Minerals Limited. The Gran claims consist of 88 contiguous units in six claim blocks. The recording and expiry dates prior to recording 1984 assessment are tabulated on the following page.



SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

**GRAN CLAIMS  
CAPOOSE LAKE PROJECT  
CLAIM LOCATION MAP**

SCALE 1:50,000	DRAWN BY:	FIG. 1
DATE FEB 1985	DRAFTED BY:	
N.T. 93 F / 3	PROJ. 10104	REPORT BPVR 94 - 56

<u>Claim Name</u>	<u>Units</u>	<u>Record #</u>	<u>Recording Date</u>	<u>Expiry Date</u>
Gran 1	16	3969(8)	August 4, 1981	August 4, 1986
Gran 2	16	3970(8)	August 4, 1981	August 4, 1986
Gran 3	16	3971(8)	August 4, 1981	August 4, 1986
Gran 4	16	3972(8)	August 4, 1981	August 4, 1986
Gran 5	12	3973(8)	August 4, 1981	August 4, 1986
Gran 6	<u>12</u>	3974(8)	August 4, 1981	August 4, 1986
	88			

#### SUMMARY OF WORK

1981: Regional reconnaissance, limited geochemical sampling, ground selection and staking.

1982: Linecutting, geochemical grid sampling, and geological mapping were performed on the claims. Working from a compass and topofil grid, 1152 soils and stream sediments were collected on the Gran claims.

1983: Detailed soil sampling was done to further delineate the 1982 anomalies, then a total of 40 backhoe test pits and 110 metres of trenching were dug to expose bedrock immediately upslope of the soil anomalies.

Reconnaissance geochemical sampling and mapping was done on the Gran 7 claims to ensure that the anomalies on the Gran 5 claims were closed off to the west.

1984: A 14.5 km cut grid was established over the anomalous zones to accurately locate all topofil soil lines and soil anomalies, plus previous trenching and mineralization. A 3.0 km baseline, azimuth 308<sup>o</sup>, was established with side sides cut to the grid east every 200 metres. Stations were established every 50 metres. Detailed geological mapping was done on the grid at 1:5 000 scale, then three backhoe trenches were dug in an attempt to further expose mineralization located in 1983. Rock chip samples were taken from the entire length of the trenches at 5 metre intervals. Compilation geology and trench plan maps are part of this report.

#### RESULTS OF THE 1984 PROGRAM

1. Gran Trenching (Refer to Fig. 2 for trench locations)

As stated previously, the emphasis of the 1984 program was to expose bedrock sources of the previously located soil anomalies. Hoffman's creek zone (refer to BPVR-26A) previously explored by means of two lines of test pits, which exposed three subparallel, less than 2 metre wide rhyodacite lapilli tuff units bounded by 1 metre wide fault zones, located at location 1 on Fig. 2. The 1984 work in this area extended trench 84-1 upslope 200 metres and 50 metres downslope.

Mineralization exposed in 1983 consisted of .30-.40 cm wide lenses of minor to semi-massive sulphides, (Py + Po) with disseminated galena and sphalerite. Lead values in four samples varied from 1935 ppm to 9639 ppm, while zinc varied from 520 ppm to 11,503 ppm. Silver varied from 4.9 ppm to 94.5 ppm, and gold from 25 ppb to 880 ppb.

Trenching in 1984 upslope from this mineralization (Trench 84-2 - Fig. 3) located a 7 metre unit of dacitic welded tuff, moderately chlorite altered. A low contrast zinc anomaly of 246 ppm occurs in this unit. The rest of the trench is in porphyritic to tuffaceous andesite, with minor epidote and chlorite alteration. The highest sample, in this trench, in porphyritic andesite, ran 71 ppm lead and 416 ppm zinc.

Referring to Fig. 2, the downslope extension of the mineralized location #1 were trenched by Trench 84-3. At sample site 811413, a 1 metre fault zone (iron stained) in dacitic welded tuff returned 228 ppm zinc and 58 ppm arsenic. A one metre sill of quartz eye rhyolite tuff at site 811415 returned 25 ppm arsenic but no base or precious metal enhancement. Two medium contrast lead-silver soil anomalies are located within 20 metres of site 811418, in a seepage zone.

Trench 84-1, at L27+50N (refer to Fig. 3) was dug to cut an area underlain by thin pyritic rhyodacitic tuffs and quartz eye rhyolitic tuffs in a porphyritic andesite host. Lead-silver soil anomalies overlying or within 50 metres of the area traversed by the trench range from 31 ppm to 90 ppm lead, and 1.4 ppm to 4 ppm silver. A sandy silt boulder till in the area of the trench ranged 0 to 4 metres, averaging 1.5 metres. One low contrast lithogeochemical anomaly was returned from a 2 metre fault zone at sample site 811363. The fault zone appears to have moderate movement with extensive alteration of the lithology within the zone. The resulting lithology is blue grey colored, extensively serpentized and chloritized, with about 10% pyrite. A moderate contrast anomaly in lead, zinc, silver and arsenic was returned from this fault at sample site 811363. Three thin horizons of rhyodacitic to rhyolitic tuff at sites 811373, and 811381, while typically more altered than the host andesite, are not anomalous.

#### DISCUSSION OF RESULTS

The trenched soil anomalies on the Gran 5 claims are most probably due to narrow fault zones, usually in thin rhyodacitic tuff units. The soil anomalies are always located in damp areas downslope of the faulted areas. Metals in solution within the fault zones are precipitated downslope in organic rich seepage zones.

## GEOLOGICAL MAPPING

### 1. Gran Claims (Refer to Fig. 2)

Geological mapping was carried out on the soil grid. This mapping, plus 1983 and 1984 test pits and trenches, have shown that map unit 4, a rhyodacite tuff, is much more limited in extent than previously mapped. Also, a thin unit of rusty weathering, finely bedded argillite outcrops from L121+00N to L14+00N, at about 1+50E. All of the volcanic units on the grid trend northwest, whereas they trend northeast on the eastern side of the Gran claims. The location of the dacitic andesite flow breccia suggests several vent areas at the top of a volcanic edifice, underlain, and surrounded by shallow water marine sediments and volcanoclastic sediments. This would coincide with Watanabe's (internal company report) view that the volcanics of the Capoose area are largely subaerial, flanked or underlain by shallow marine volcanoclastic sediments.

### 2. Structure and Alteration

Most of the faults mapped during 1983 and 1984 programs trend northwest, dipping steeply southwest. Major faults in the area also trend east-west and northeast-southwest. Top determinations are scarce, but two measurements made within the Gran claims indicate younging to the west. This

orientation is corroborated at the Capoose deposit 7 km north, where a well exposed succession of finely to medium bedded volcanoclastic sediments strikes north-south and dips moderately to steeply west.

The Capoose Batholith intrudes in close proximity to the northwest boundary of the Gran 5 claim, along what appears to be a major east-west structural break. A dioritic sill follows the north wall of the valley along the north boundary of Gran 5, and there is areally extensive but patchy garnet and epidote, with minor pyrite and chalcopyrite along east-west tension fractures in the porphyritic andesites and andesitic lapilli tuffs, along the bottom of the valley.

In the area of the soil anomalies, trenching reveals minor to moderate epidote and chlorite alteration associated with the stratigraphic tops of volcanic units, with seams of pervasive epidote alteration from 10 to 30 cm thick. Trenching to date reveals little information as to the strike length to these seams. Fault zones are often extensively altered, with talc, serpentinite, chlorite and calcite along the zones.



3. Economic Considerations

The results to date on the Gran claims reveal thin, discontinuous, less than one metre wide lenses of semi-massive sulphides containing pyrite, galena, and sphalerite with values in silver and gold. Trenching has limited greatly the chances for spatially siting a massive sulphide body of economic proportions on the Gran claims.

APPENDIX 1  
ANALYTICAL PROCEDURES  
ICP MULTIELEMENT ANALYSIS



## ACME ANALYTICAL LABORATORIES LTD.

Assaying &amp; Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253 - 3158

GEOCHEMICAL LABORATORY METHODOLOGY - 1984Sample Preparation

1. Soil samples are dried at 60°C and sieved to -80 mesh.
2. Rock samples are pulverized to -100 mesh.

Geochemical Analysis (AA and ICP)

0.5 gram samples are digested in hot dilute aqua regia in a boiling water bath and diluted to 10 ml with demineralized water. Extracted metals are determined by :

## A. Atomic Absorption (AA)

Ag\*, Bi\*, Cd\*, Co, Cu, Fe, Ga, In, Mn, Mo, Ni, Pb, Sb\*, Tl, V, Zn  
 (\* denotes with background correction.)

## B. Inductively Coupled Argon Plasma (ICP)

Ag, Al, As, Au, B, Ba, Bi, Ca, Cd, Co, Cu, Cr, Fe, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Sr, Th, Ti, U, V, W, Zn.

Geochemical Analysis for Au\*

10.0 gram samples that have been ignited overnight at 600°C are digested with hot dilute aqua regia, and the clear solution obtained is extracted with Methyl Isobutyl Ketone.

Au is determined in the MIBK extract by Atomic Absorption using background correction (Detection Limit = 5 ppb direct AA and 1 ppb graphite AA.)

Geochemical Analysis for Au\*\*, Pd, Pt, Rh

10.0 - 30.0 gram samples are subjected to Fire Assay preconcentration techniques to produce silver beads.

The silver beads are dissolved and Au, Pd, Pt and Rh are determined in the solution by graphite furnace Atomic Absorption.

Geochemical Analysis for As

0.5 gram samples are digested with hot dilute aqua regia and diluted to 10 ml. As is determined in the solution by Graphite Furnace Atomic Absorption (AA) or by Inductively Coupled Argon Plasma (ICP).

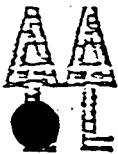
Geochemical Analysis for Barium

0.1 gram samples are digested with hot NaOH and EDTA solution, and diluted to 10 ml.

Ba is determined in the solution by Atomic Absorption or ICP.

Geochemical Analysis for Tungsten

1.0 gram samples are fused with KCl, KNO<sub>3</sub> and Na<sub>2</sub>CO<sub>3</sub> flux in a test tube, and the fusions are leached with 20 ml water. W in the solution determined by ICP with a detection of 1 ppm.



## ACME ANALYTICAL LABORATORIES LTD.

Assaying &amp; Trace Analysis

852 E. Hastings St., Vancouver, B.C. V6A 1R6

Telephone : 253 - 3158

Geochemical Analysis for Uranium

0.5 gram samples are digested with hot aqua regia and diluted to 10 ml.

Aliquots of the acid extract are solvent extracted using a salting agent and aliquots of the solvent extract are fused with NaF,  $K_2CO_3$  and  $Na_2CO_3$  flux in a platinum dish.

The fluorescence of the pellet is determined on the Jarrel Ash Fluorometer.

Geochemical Analysis for Fluorine

0.25 gram samples are fused with sodium hydroxide and leached with 10 ml water. The solution is neutralized, buffered, adjusted to pH 7.8 and diluted to 100 ml.

Fluorine is determined by Specific Ion Electrode using an Orion Model 404 meter.

Geochemical Analysis for Tin

1.0 gram samples are fused with ammonium iodide in a test tube. The sublimed iodine is leached with dilute hydrochloric acid.

The solution is extracted with MIBK and tin is determined in the extract by Atomic Absorption.

Geochemical Analysis for Chromium

0.1 gram samples are fused with  $Na_2O_2$ . The melt is leached with HCl and analysed by AA or ICP.

Geochemical Analysis for Hg

0.5 gram samples is digested with aqua regia and diluted with 20% HCl.

Hg in the solution is determined by cold vapour AA using a F & J Scientific Hg assembly. An aliquot of the extract is added to a stannous chloride / hydrochloric acid solution. The reduced Hg is swept out of the solution and passed into the Hg cell where it is measured by AA.

Geochemical Analysis for Ga & Ge

0.5 gram samples are digested with hot aqua regia with HF in pressure bombs.

Ga and Ge in the solution are determined by graphite furnace AA.

Geochemical Analysis for Tl (Thallium)

0.5 gram samples are digested with 1:1  $HNO_3$ . Tl is determined in the extract by graphite AA.

Geochemical Analysis for Te (Tellurium)

0.5 gram samples are digested with hot aqua regia. The Te extracted in MIBK is analysed by AA graphite furnace.

APPENDIX 2  
LIST OF GEOCHEMICAL DATA

SH

ACME ANALYTICAL LABORATORIES LTD.

852 E. HASTINGS ST. VANCOUVER B.C. V6A 1R6

PHONE 253-3158

RECEIVED

DATA LINE 251-101  
SEP 17 1984

GEOCHEMICAL ICP ANALYSIS

.500 GRAM SAMPLE IS DIGESTED WITH JML 3-1-3 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, Ni, 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.

SELCO - BP EXPLORATION  
VANCOUVER, B.C.

DATE RECEIVED: SEPT 11 1984 DATE REPORT MAILED: *Sept 13/84* ASSAYER: *D. Jeffrey* DEAN TOYE, CERTIFIED B.C. ASSAYER

SELCO - A DIVISION OF BP PROJECT # 529 FILE # 84-2577

PAGE 1

SAMPLE#	NO	CU	PB	ZN	AG	NI	CO	NM	FE	AS	U	AU	TH	SR	CD	SB	BI	V	CA	P	LA	CR	MG	BA	TJ	B	AL	NA	K	Y	AU
	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	PPM	%	%	PPM	PPM	%	PPM	%	PPM	%	%	%	PPM	PPM
8184529 811320	2	45	21	67	.5	3	24	505	5.66	6	7	ND	2	203	1	2	2	91	1.63	.14	4	3	1.41	70	.04	6	4.76	.36	.62	2	5
8184529 811321	1	56	8	113	.2	1	14	1105	3.48	5	6	ND	2	204	1	2	2	119	1.24	.20	4	1	1.01	207	.22	2	2.50	.28	.70	2	5
8184529 811323	2	10	5	10	.1	2	1	140	.58	2	5	ND	12	11	1	4	2	4	.11	.01	11	3	.09	13	.01	4	.51	.07	.19	2	5
8184529 811325	3	17	23	55	.3	1	7	589	4.11	2	5	ND	2	187	1	2	2	36	1.76	.12	4	1	.58	62	.04	10	1.70	.50	.56	2	5
8184529 811326	1	27	38	46	.9	7	10	541	4.83	5	5	ND	2	96	1	2	2	34	1.08	.15	4	6	.63	44	.01	7	2.82	.35	.28	2	5
8184529 811328	1	11	16	31	.3	9	6	306	3.77	2	5	ND	3	44	1	3	2	14	.17	.11	6	6	.29	70	.03	5	.86	.06	.38	2	5
8184529 811350	1	17	8	104	.2	7	7	778	3.88	2	5	ND	2	114	1	2	2	74	1.12	.16	7	12	.80	169	.14	7	2.87	.34	.55	2	5
8184529 811351	1	56	8	104	.1	1	8	764	3.78	2	5	ND	2	98	1	2	2	58	.78	.17	8	3	.89	168	.10	4	2.29	.22	.41	2	5
8184529 811352	1	27	10	125	.2	6	9	899	4.05	5	5	ND	3	97	1	2	2	74	1.02	.14	9	9	.76	132	.15	4	2.66	.30	.62	2	5
8184529 811353	1	28	17	103	.6	2	9	752	4.02	5	5	ND	2	132	2	2	2	57	1.38	.16	5	1	.74	127	.09	5	3.18	.37	.41	2	5
8184529 811354	1	38	12	108	.2	3	6	884	3.80	5	5	ND	2	172	1	2	2	77	1.81	.16	7	4	.64	112	.13	8	3.45	.39	.38	2	5
8184529 811355	1	31	24	149	.2	5	10	888	3.61	2	5	ND	3	143	2	3	2	94	1.65	.11	6	6	.70	142	.10	6	4.17	.47	.51	2	5
8184529 811356	1	15	20	190	.4	2	9	1331	4.62	7	5	ND	4	133	2	2	2	85	2.23	.17	5	2	.75	126	.14	7	4.64	.45	.69	2	5
8184529 811357	1	43	20	170	.6	3	13	857	4.66	7	5	ND	3	208	2	2	2	83	1.97	.16	4	2	.68	112	.11	14	4.07	.42	.48	2	5
8184529 811358	1	90	9	160	.8	5	6	1012	4.40	7	5	ND	4	82	2	2	2	93	1.04	.13	6	5	.96	68	.12	2	2.42	.20	.21	2	5
8184529 811359	2	8	10	66	.1	3	2	154	.88	3	5	ND	12	26	1	5	3	15	.25	.02	9	2	.13	23	.02	10	.74	.07	.12	2	5
8184529 811360	1	23	10	137	.2	6	8	1013	4.23	5	5	ND	3	93	1	2	2	96	1.07	.15	7	5	1.04	134	.17	7	2.65	.27	.54	3	5
8184529 811361	5	46	17	97	.3	5	10	801	4.27	21	5	ND	5	106	2	2	2	89	1.56	.13	4	9	.80	164	.13	8	3.05	.34	.40	2	5
8184529 811362	1	60	82	158	11.7	3	9	2743	2.72	8	5	ND	5	140	1	8	4	63	4.55	.12	8	3	.59	63	.09	5	3.98	.41	.36	2	5
8184529 811363	3	92	205	259	3.1	3	10	1501	3.64	12	5	ND	3	61	3	7	2	41	1.79	.16	7	2	.48	86	.02	7	2.67	.16	.22	2	5
8184529 811364	2	63	52	248	.9	4	7	1764	2.91	7	5	ND	7	27	3	3	2	41	3.23	.12	9	3	.61	45	.01	3	2.48	.06	.22	2	5
8184529 811365	1	20	55	228	.3	4	8	1297	5.41	4	5	ND	4	314	1	2	2	161	3.14	.15	2	5	.96	172	.13	7	6.16	.59	.58	2	5
8184529 811366	1	30	27	154	.5	6	12	722	4.69	6	5	ND	5	266	1	2	3	158	2.77	.15	2	10	.99	176	.12	3	5.52	.63	.46	2	5
8184529 811367	1	75	22	109	.7	7	12	540	4.99	3	5	ND	2	254	1	2	2	169	2.17	.16	2	16	.66	89	.11	5	3.87	.47	.16	2	5
8184529 811368	1	45	14	136	.2	6	12	718	5.79	4	6	ND	2	137	2	2	2	192	1.07	.11	3	5	.80	83	.09	5	2.34	.27	.21	2	5
8184529 811369	1	9	17	144	.1	5	12	830	5.87	7	7	ND	2	219	2	2	2	184	1.59	.18	2	3	.89	92	.09	3	3.13	.25	.14	2	5
8184529 811370	1	38	33	201	.2	5	15	1375	5.49	6	6	ND	3	341	1	2	2	166	3.30	.11	2	4	1.25	234	.14	2	6.46	.51	.62	2	5
8184529 811371	1	33	22	146	.2	5	18	1318	5.76	3	8	ND	2	331	1	2	2	185	2.65	.12	2	4	1.46	161	.06	2	4.65	.41	.23	2	5
RE 8184529 811357	1	43	18	163	.5	2	13	754	4.54	6	5	ND	2	202	2	2	2	81	1.90	.16	3	1	.68	107	.11	9	3.97	.39	.46	3	5
8184529 811372	1	11	24	105	.2	5	15	1470	5.46	6	8	ND	2	278	3	2	2	167	2.02	.15	4	4	.95	142	.06	3	3.61	.45	.20	2	5
8184529 811373	1	17	16	95	.1	3	12	964	4.57	2	7	ND	4	303	2	2	2	144	2.03	.13	3	4	.68	213	.08	3	3.76	.44	.26	2	5
8184529 811374	1	11	17	104	.1	5	15	934	5.29	6	12	ND	2	534	1	2	2	157	2.31	.13	4	4	.81	183	.13	4	4.32	.53	.24	3	5
8184529 811375	1	32	23	99	.1	4	16	653	5.31	4	18	ND	2	929	1	2	2	184	3.46	.20	6	5	.80	275	.11	6	6.41	.80	.34	2	5
8184529 811376	1	17	21	86	.1	3	13	846	5.14	3	11	ND	3	479	3	2	2	151	2.63	.14	3	5	.71	120	.12	3	4.61	.42	.20	2	5
8184529 811377	1	11	25	122	.1	4	17	922	5.68	3	10	ND	2	411	2	2	2	155	2.11	.09	6	4	1.07	123	.13	2	4.52	.66	.17	2	5
8184529 811378	1	24	36	150	.1	3	15	1204	5.33	5	10	ND	4	476	2	2	2	137	3.18	.10	4	3	.96	142	.06	6	5.81	.84	.24	2	5
8184529 811379	1	10	35	214	.1	4	15	1319	6.46	6	8	ND	4	309	2	2	2	167	2.21	.12	11	4	.96	166	.03	2	4.86	.56	.33	2	5
8184529 811380	1	11	23	120	.1	4	10	1137	4.87	5	12	ND	2	1277	2	2	2	137	2.46	.16	5	4	.89	129	.09	2	4.57	.35	.24	2	5
STD C	22	60	41	126	7.0	66	27	1078	3.84	41	19	8	40	53	18	18	21	61	.45	.14	38	57	.90	179	.07	38	1.76	.07	.14	13	-
STD C/AU-0.5	23	59	40	126	7.6	71	28	1074	3.82	42	18	9	41	50	17	16	23	59	.44	.15	40	59	.88	181	.07	38	1.72	.07	.14	14	529

16.

529

SELCO - A DIVISION OF BP PROJECT # 529 FILE # 84-2577

SAMPLE#	MO PPM	CU PPM	PB PPM	ZN PPM	AS 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 %	M PPM	AU PPM
STD C	21	59	39	124	7.2	69	27	1067	3.82	44	19	8	39	49	17	15	21	58	.44	.13	39	58	.88	180	.07	35	1.73	.06	.13	14	-
8184529 811381	1	12	16	130	.1	4	5	1332	4.08	4	17	ND	2	942	1	2	2	119	1.87	.10	4	5	1.27	72	.11	2	4.23	.34	.20	2	5
8184529 811382	1	28	20	194	.2	4	16	1448	5.99	7	7	ND	3	430	1	3	2	149	2.14	.07	2	4	1.35	119	.10	7	4.99	.74	.19	3	5
8184529 811383	1	14	19	181	.1	2	16	1436	5.26	9	6	ND	2	315	1	4	2	161	1.80	.09	3	4	.97	137	.05	2	4.15	.53	.23	2	5
8184529 811384	1	28	20	170	.2	6	14	1465	5.41	8	5	ND	2	257	1	3	2	161	1.67	.12	4	3	.85	77	.09	4	3.62	.58	.13	2	5
8184529 811385	1	20	23	185	.1	2	18	1400	6.03	10	7	ND	2	415	1	3	2	184	2.39	.10	5	3	.98	55	.10	2	5.11	.81	.10	2	5
8184529 811386	1	13	23	174	.1	3	14	1199	5.44	10	6	ND	2	385	1	2	3	173	2.29	.11	3	4	.94	49	.10	6	4.68	.73	.12	2	5
8184529 811387	1	18	19	147	.1	5	16	1514	5.69	8	8	ND	2	462	1	2	2	166	1.84	.09	4	5	1.07	76	.12	5	4.18	.53	.20	2	5
8184529 811388	1	10	21	162	.1	4	16	1741	5.57	8	11	ND	2	533	1	2	2	166	1.65	.11	2	4	1.20	52	.12	2	3.84	.51	.14	2	5
8184529 811389	1	13	26	127	.1	1	14	1390	5.73	7	5	ND	3	380	1	3	2	160	2.47	.13	2	2	.96	69	.07	3	5.07	.63	.23	2	5
8184529 811390	2	9	2	73	.1	7	17	1081	3.95	5	5	ND	2	52	1	2	5	44	.89	.12	5	9	2.11	43	.09	2	2.64	.04	.11	2	5
8184529 811391	2	10	8	98	.1	6	20	1275	5.14	8	5	ND	2	70	1	2	4	66	1.07	.12	3	3	2.20	45	.13	8	3.12	.11	.09	2	5
8184529 811392	2	21	3	53	.2	5	12	706	2.35	5	5	ND	2	92	1	3	8	41	1.04	.13	5	2	.99	32	.09	3	1.81	.03	.10	2	5
8184529 811393	2	49	10	117	.2	7	17	1530	4.26	7	5	ND	2	46	1	2	2	35	1.12	.17	7	5	1.89	41	.02	2	2.72	.03	.10	2	5
8184529 811394	2	47	21	246	.5	15	24	2256	5.30	8	5	ND	2	36	2	2	2	82	1.10	.10	4	17	2.90	30	.02	3	3.68	.03	.06	2	5
8184529 811395	1	13	16	113	.1	4	17	1332	4.34	8	5	ND	2	67	2	2	2	67	1.75	.16	5	3	2.08	42	.05	5	2.82	.04	.18	2	5
8184529 811396	2	19	4	133	.2	3	20	1187	5.02	8	5	ND	2	49	1	2	4	93	1.01	.17	3	4	2.54	33	.08	4	2.94	.04	.05	2	5
8184529 811397	2	13	12	138	.1	7	20	1489	4.98	8	5	ND	2	45	1	2	2	79	1.67	.13	5	6	2.46	32	.04	4	2.98	.03	.06	2	5
8184529 811398	1	20	71	416	.6	3	13	1593	5.18	10	5	ND	2	133	1	2	2	103	2.19	.17	2	1	1.94	149	.11	2	5.05	.20	.60	2	5
8184529 811399	2	121	8	93	.2	3	18	1250	4.77	4	5	ND	2	40	1	2	4	82	1.07	.16	8	3	1.82	45	.09	2	2.31	.04	.10	2	5
8184529 811400	1	27	11	111	.1	3	18	1249	4.97	6	5	ND	2	59	1	2	3	55	.94	.10	2	1	2.11	67	.05	5	3.32	.13	.15	2	5
8184529 811401	1	53	3	84	.1	11	20	1334	6.10	12	5	ND	2	138	1	2	3	125	1.02	.14	2	9	1.89	48	.10	2	3.51	.20	.04	2	5
8184529 811402	2	54	5	103	.2	9	20	1369	5.62	6	5	ND	2	92	1	2	2	79	.88	.14	2	7	1.99	64	.09	2	3.42	.14	.11	2	5
8184529 811403	1	37	3	92	.2	7	19	1221	5.39	10	5	ND	2	171	1	2	2	103	1.52	.18	6	6	1.78	57	.06	4	3.69	.29	.07	2	5
8184529 811404	1	24	6	83	.1	3	18	1169	4.82	7	5	ND	2	60	1	2	2	81	1.45	.18	5	3	2.20	48	.02	4	2.82	.04	.09	2	5
8184529 811405	2	12	3	64	.2	5	6	751	2.40	5	5	ND	2	55	1	2	6	32	.56	.08	5	4	.74	47	.11	2	1.45	.10	.07	2	15
8184529 811406	1	19	15	146	.2	5	19	1710	5.40	10	5	ND	3	88	1	2	2	66	1.82	.17	2	3	1.83	61	.05	3	3.68	.15	.13	2	5
8184529 811407	1	20	19	141	.2	4	16	1803	4.38	10	5	ND	3	61	1	3	2	61	1.76	.15	4	2	1.80	57	.04	7	2.83	.05	.13	2	5
8184529 811408	1	54	6	151	.5	1	16	1526	4.63	3	5	ND	3	49	1	2	2	52	2.30	.17	5	1	2.00	48	.02	6	2.97	.02	.13	2	5
8184529 811409	1	34	13	83	.3	2	14	1251	4.58	9	5	ND	5	50	1	3	2	55	1.69	.21	12	2	1.54	71	.04	3	2.17	.04	.10	2	5
8184529 811410	2	31	16	84	.4	1	18	1100	5.26	26	5	ND	4	16	1	8	2	70	.51	.22	14	1	.94	37	.01	4	1.58	.01	.13	5	5
8184529 811411	1	17	4	70	.1	2	15	1034	4.51	11	5	ND	4	32	1	12	2	65	.87	.18	10	1	1.36	41	.02	3	1.96	.02	.12	6	5
8184529 811412	1	27	1	79	.1	4	17	1207	5.05	9	5	ND	3	58	1	5	2	105	1.11	.18	8	3	1.75	74	.06	4	2.65	.08	.18	3	5
8184529 811413	2	29	10	228	.8	2	14	2543	4.31	58	5	ND	3	33	1	14	2	47	.56	.19	8	1	.67	72	.01	5	1.29	.01	.13	2	5
8184529 811414	1	29	15	79	.1	1	11	1306	4.25	16	5	ND	3	56	1	14	2	90	1.29	.20	11	4	.55	54	.03	8	1.82	.05	.15	2	5
8184529 811415	1	6	29	38	.2	1	2	354	.67	25	5	ND	10	12	1	7	2	7	.19	.02	7	1	.15	24	.01	4	.54	.01	.17	2	5
8184529 811416	2	45	8	127	.1	2	17	1765	5.21	12	5	ND	3	29	1	7	2	63	.52	.17	10	1	1.56	52	.01	2	2.46	.01	.15	3	5
8184529 811417	2	29	5	129	.1	3	18	1792	5.48	13	5	ND	4	39	2	4	2	76	1.04	.20	12	1	1.50	105	.04	4	2.55	.07	.35	3	5
8184529 811418	2	45	10	145	.5	9	10	1127	2.43	23	5	ND	3	69	1	5	4	62	.87	.10	9	13	.58	135	.07	4	2.14	.14	.31	3	5
8184529 811419	1	24	7	67	.2	5	9	815	2.86	12	5	ND	3	92	1	2	6	48	1.13	.06	7	6	.86	84	.07	2	3.12	.23	.42	2	5
STD C/AU-0.5	21	59	39	124	7.2	69	27	1067	3.82	44	18	8	39	49	17	15	21	58	.44	.13	39	58	.88	180	.07	48	1.73	.06	.13	15	500

17.

APPENDIX 3  
STATEMENT OF 1984 COSTS



STATEMENT OF 1984 COSTS

## GRAN 1-6 CLAIMS

A. Physical Work

a)	Construction of 14.5 km of cut lines	
b)	Construction of .75 km of tote road using a skidder mounted backhoe	
c)	Construction of a total of 350 metres of backhoe trenching in 3 separate locations	
d)	Reclamation of trenched areas using D-3	
1)	<u>Backhoe Rental</u> (incl. mob./demob.)	\$4,100
2)	<u>Bulldozer Rental</u> (incl. mob/demob.)	1,050
3)	<u>Fuels</u> - Diesel, gas, propane	250
4)	<u>Accommodation</u> - incl. meals, generator use and camp rental for 21 days	3,075
5)	<u>Rentals</u> - 4.x 4 pick-up (incl. mileage, repairs and insurance) 8 days X \$100/day	800
6)	<u>Crew Mob./Demob.</u> (pro-rated)	500
7)	<u>Temporary Labour</u> - 1 man x 7 days x 165	1,155
8)	<u>Linecutting</u> - 14.5 km @\$390/km	<u>5,655</u>
	Sub-total	\$16,858

B. Geological and Geochemical Surveys

1)	<u>BP Labour</u>	
	Project Geologist - Michael Smith	\$ 5,200
	(Aug. 10 - Sept. 4) 26 days x \$200/day	
	Senior Assistant - Doug Brownlee	2,142
	(Aug. 10 - Aug. 30) 21 days x \$102/day	
	Junior Assistant - Michael Renning	
	(Aug. 10 - Aug. 21) 12 days X \$68/day	816

B. Geological and Geochemical Surveys (Cont.)

2) <u>Rentals</u>	
a) 4 x 4 truck (pro-rated-incl. mileage and repairs) 26 days x \$100/day	2,600
b) Radiotelephone	100
c) U-haul Trailer	350
3) <u>Accommodation</u> - 59 man days x \$50/man day	2,950
4) <u>Analyses</u> - 100 samples x \$13.05/sample	1,305
5) <u>Field Supplies</u>	350
6) <u>Drafting and Reproduction</u>	450
7) <u>Fuels</u> - Diesel, gas, propane	150
8) <u>Report Preparation</u> - 10 days x \$200/day	<u>2,000</u>
	TOTAL
	\$34,998

APPENDIX 4

APPORTIONMENT OF ASSESSMENT CREDIT

APPORTIONMENT OF ASSESSMENT CREDIT

## GRAN 1-6 CLAIMS

Value of Work: 1) Done on property - \$34,998  
 2) Withdrawal to PAC Account - \$13,340  
 3) Applied to Claims - \$17,600

Application of Work

Claim #	Record #	Units	Recording Date	Apply	New Expiry Date
GRAN 1	3969(8)	16	Aug. 4/81	1 yr. @ \$200/yr. = \$3200	Aug. 4/87
GRAN 2	3970(8)	16	Aug. 4/81	1 yr. @ \$200/yr. = \$3200	Aug. 4/87
GRAN 3	3971(8)	16	Aug. 4/81	1 yr. @ \$200/yr. = \$3200	Aug. 4/87
GRAN 4	3972(8)	16	Aug. 4/81	1 yr. @ \$200/yr. = \$3200	Aug. 4/87
GRAN 5	3973(8)	12	Aug. 4/81	1 yr. @ \$200/yr. = \$2400	Aug. 4/87
GRAN 6	3974(8)	12	Aug. 4/81	1 yr. @ \$200/yr. = \$2400	Aug. 4/87
				TOTAL	\$17,600

Recording Fee = \$880.00

APPENDIX 5  
STATEMENT OF QUALIFICATIONS

STATEMENT OF QUALIFICATIONS

Michael D. Smith

I, Michael Smith of Suite 700 - 890 West Pender Street in Vancouver in the Province of British Columbia, Do Hereby State:

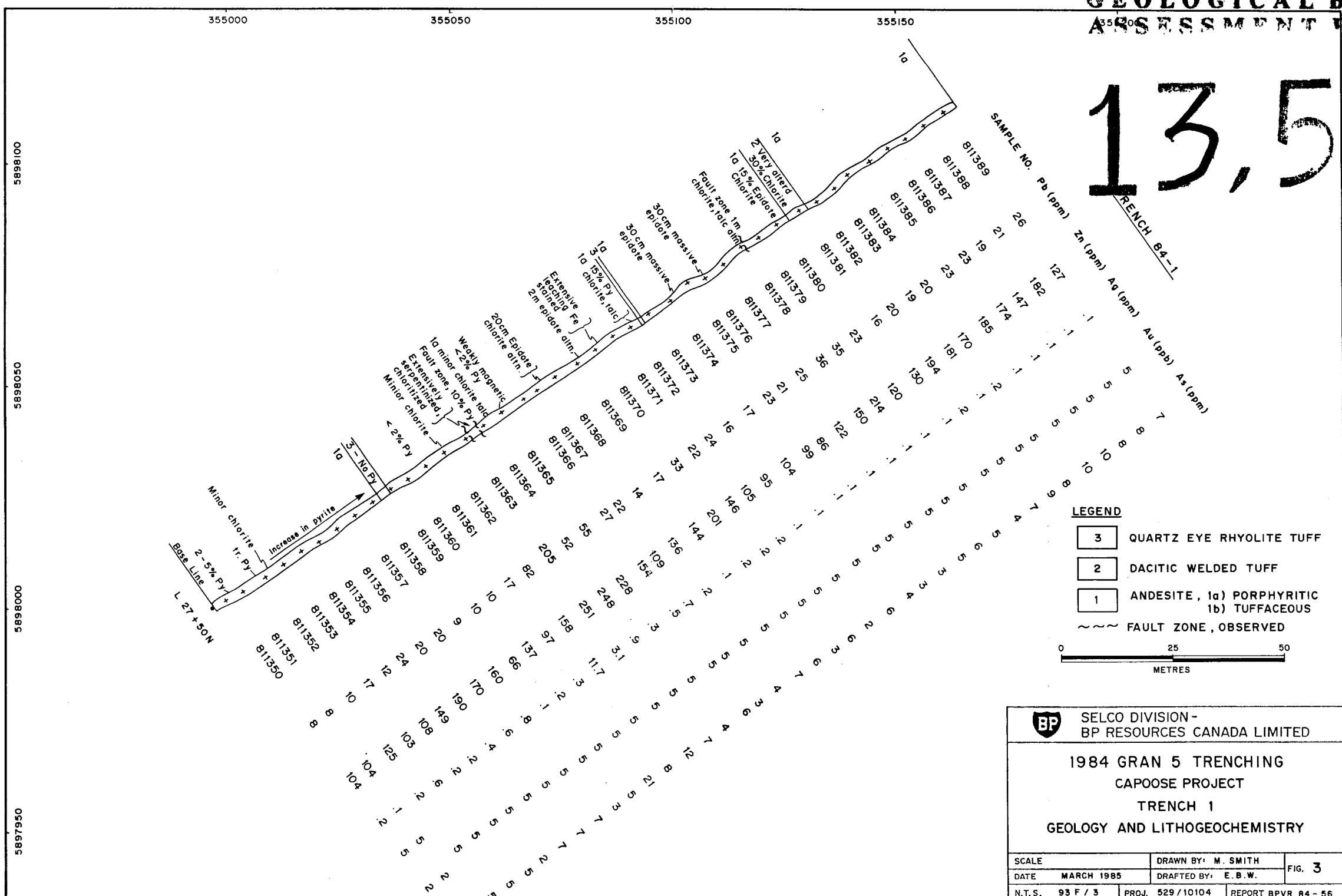
1. That I am a graduate of Brock University, St. Catherine, Ontario, where I obtained a B.Sc. (Hons.) degree in Geology in 1975.
2. That I am a Fellow of the Geological Association of Canada.
3. That I have been active in mineral exploration since 1961.
4. That I have practised my profession continuously as a geologist since 1975.

Michael D. Smith  
Geologist  
BP RESOURCES CANADA LIMITED

Vancouver, B.C.  
March, 1985

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

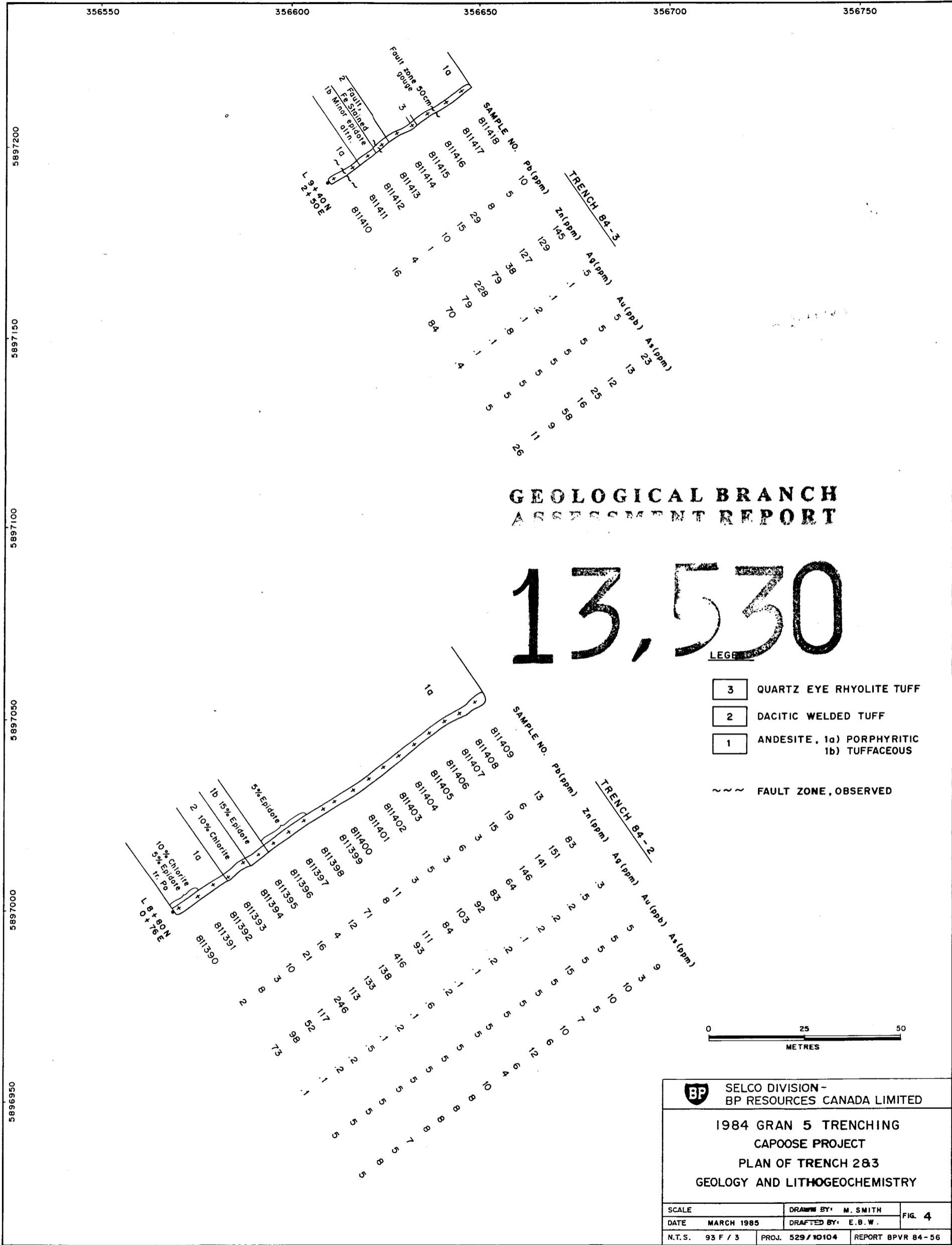
**13,530**



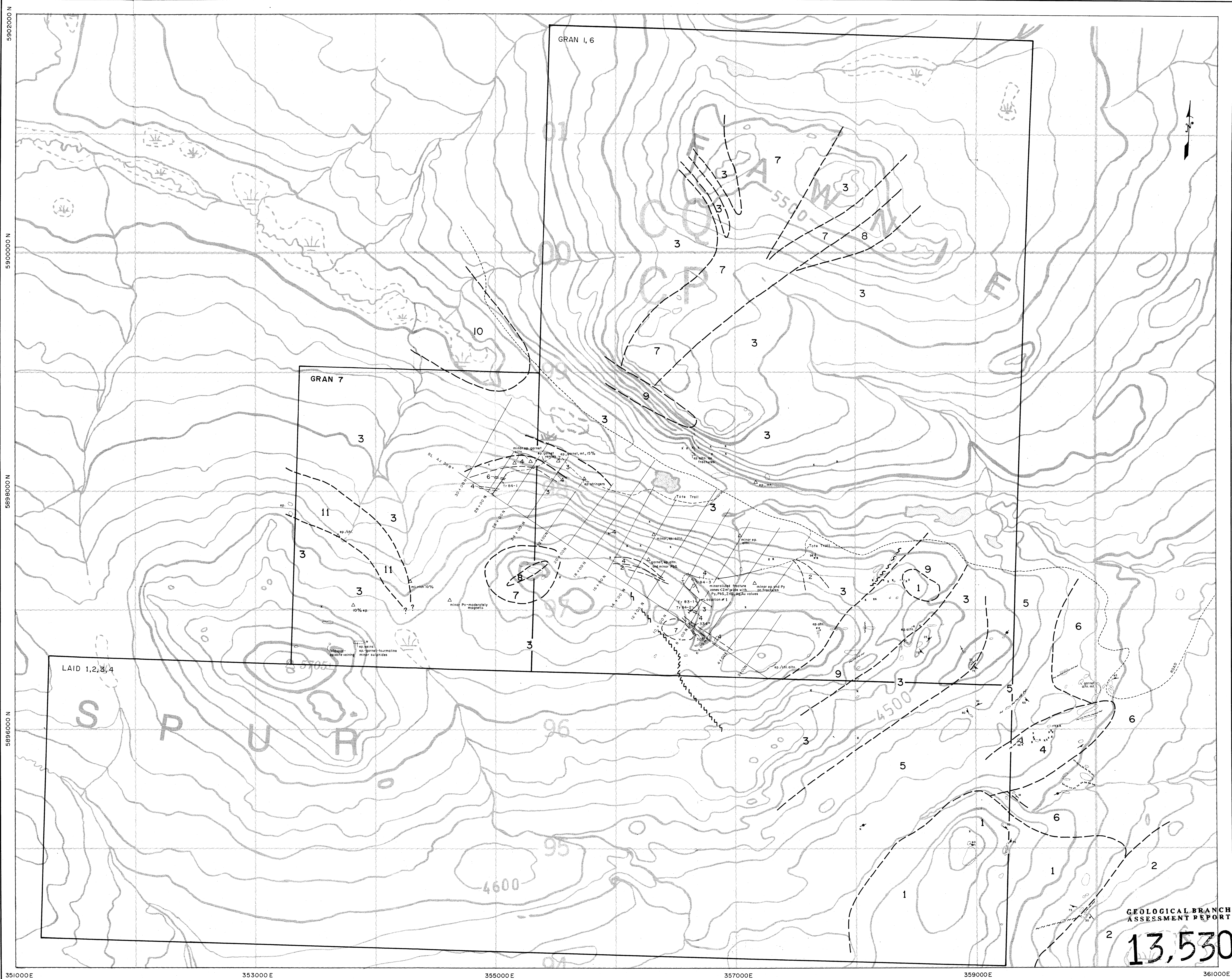
**BP** SELCO DIVISION -  
BP RESOURCES CANADA LIMITED

1984 GRAN 5 TRENCHING  
CAPOOSE PROJECT  
TRENCH 1  
GEOLOGY AND LITHOGEOCHEMISTRY

SCALE	DRAWN BY: M. SMITH	FIG. 3
DATE MARCH 1985	DRAFTED BY: E. B. W.	
N.T.S. 93 F / 3	PROJ. 529 / 10104	REPORT BPVR 84 - 56





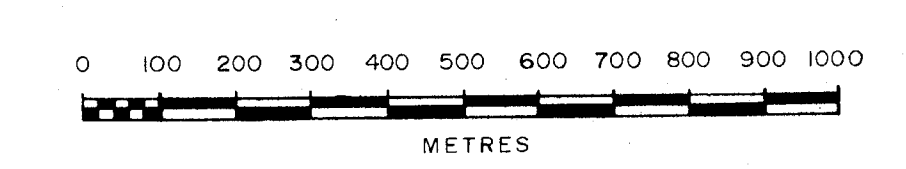


**LEGEND**

- UPPER JURASSIC / CRETACEOUS
- 11 MAGNETIC SKARN
- 10 CAPOOSE GRANODIORITE
- 9 DIORITE
- MIDDLE JURASSIC - HAZELTON GROUP
- 8 RHYOLITE - MASSIVE, fine grained, relatively unaltered
- 7 DACITIC ANDESITE FLOW BRECCIA - fragment supported, andesitic matrix
- 6 RHYOLITE BRECCIA - intrusive
- 5 RHYOLITE LAPILLI TUFF
- 4 INTERMEDIATE LAPILLI TUFF - RHYODACITE - rusty weathering
- 3 ANDESITE LAPILLI TUFF - maroon to olive green weathering
- 2 ARGILLITE, SILTSTONE, fossiliferous, rusty weathering in part
- TRIASSIC / LOWER JURASSIC - TAKLA GROUP
- 1 AUGITE PORPHYRY

- CONTACT - defined, assumed
- OUTCROP AREA
- x OUTCROP < 10x10m
- BEDDING
- BEDDING, top direction indicated
- STRIKE / DIP OF JOINTS
- STRIKE OF VERTICAL JOINTS
- AREA OF 1983 TEST PITS
- 1983, 84 TRENCHING

- ep EPIDOTE
- chl CHLORITE



**BP** SELCO DIVISION - BP RESOURCES CANADA LIMITED

GRAN AND LAID CLAIMS  
CAPOOSE LAKE B.C.  
COMPILATION GEOLOGY MAP  
1983/84 DATA

SCALE 1:10,000	DRAWN BY: M. SMITH	FIG. 2
DATE FEB 1985	DRAFTED BY: L.G., E.B.W.	
N.T.S. 93 F / 3	PROJ. 10104	REPORT BPVR 84-56

351000E 353000E 355000E 357000E 359000E 361000E

5896000N 5898000N 5900000N 5902000N