GEOCHEMICAL AND GEOPHYSICAL REPORT
OVB GROUP OF MINERAL CLAIMS
PLACER DEVELOPMENT LIMITED
ENDAKO MINES DIVISION
OMINECA MINING DIVISION
TCHENTLO LAKE, B.C.

93N/3E

(LATITUDE 55° 13' LONGITUDE 125° 3')

A.J. Peters
W.R. Bulmer
P. Buckley, P. Eng.

January 1982

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1. INTRODUCTION

Geochemical heavy mineral, VLF EM and vertical intensity magnetometer surveys were conducted over the OVB group of mineral claims during period 2 July 1981 to 9 July 1981. The work was undertaken as part of commitments for assessment work on the OVB claims which are owned by Placer Development Limited, Endako Mines Division; and are located approximately near the midpoint of Tchentlo Lake on the north shore.

2. SUMMARY

Heavy mineral geochemical results depicted two areas within the claim block that would appear to be anomalous in copper and tungsten. Tungsten values range between <2 ppm and 215 ppm in the non magnetic heavy fraction. Copper values in the same fraction range from 20 ppm to 670 ppm.

VLF EM survey revealed numerous crossovers within the claim block which is entirely drift covered. It would appear that a conductor with a mean axis of N 70° E exists.

Magnetometer survey revealed a magnetometer high zone and a magnetometer low zone.

No definite correlation can be drawn between the VLF EM and magnetometer survey; since VLF EM crossovers lie within both the magnetometer high and low.

3. PROPERTY

3.1 Mineral Claims

The OVB claims are located near the mid point on the north shore of Tchentlo Lake. They were staked in the field between 29 June 1981 and 1 July 1981. Assessment work commenced

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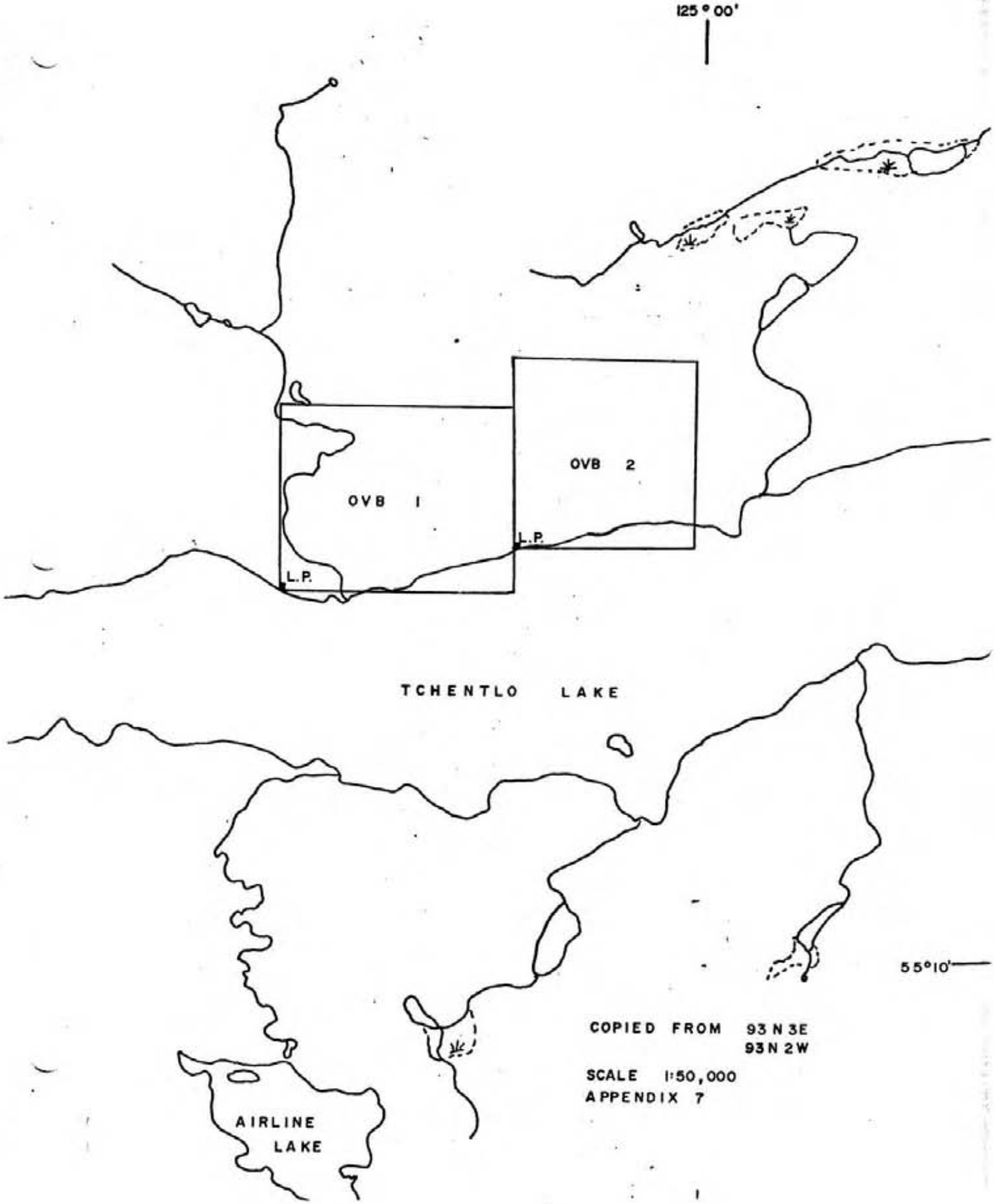

COPIED FROM 93 N 3E
93 N 2W

SCALE 1:50,000

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2 July 1981. The claims are geographically located at Latitude 55° 13' and Longitude 125° 3' in the Omineca Mining Division. The OVB Mineral Claims total 36 units.

MINERAL CLAIM	RECORD NO.	RECORDED DATE
OVB 1 (20 units)	3881	July 9, 1981
OVB 2 (16 units)	3882	July 9, 1981

All field work covered by this report was conducted on these claims.

The claims were located by hip chain, and compass method with the aid of air photographs and topographic map.

3.2 Access

Access is via float plane or helicopter bases located at Fort St. James or Burns Lake. A possible water route is via Chuchi and Tchentlo Lake.

3.3 Topography and Vegetation

The OVB claims are centered over an area of relatively flat terrain. Elevation of Tchentlo Lake surface is approximately 800 metres a.m.s.l. From here the ground gently slopes to 950 metres near the northern boundary of the claim block.

The westerly portion of the claim block is treed by open second growth pine forest. The central portion features typical forest fire burn resulting in much deadfall and second growth vegetation. Easterly portion of the claim block features mature stands of balsam, pine and spruce with some blow down.

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3.4 Previous Work

The most westerly portion of the claim block was formerly held by Tchentlo Lake Mines and consisted of a portion of Bal 10 and PJ 1-20 mineral claims. This work is covered by assessment report nos. 2617 and 2729. The balance of the OVB claim block in the early ninteen seventies was held by Marc Exploration as the NSZ claims. To the best of the writers knowledge no work was performed on the NSZ claims.

4. GENERAL GEOLOGY

The drift covered claim block is interpreted to be underlain by the Hogem Batholith presumably of Upper Jurrasic to Lower Cretaceous age (Armstrong G.S.C. Memoir 252).

4.1 Property Geology

Only one area of rock exposure is known within the OVB Claim Group. It is situated within a major stream channel near the westerly claim boundary line. This exposure is an intermediate to mafic intrusive; most likely dioritic in composition. Pyrite, magnetite and pyrrhotite were observed in this exposure.

5. ECONOMIC ASSESSMENT

Possible economic potential for tungsten, copper, and silver mineralization is indicated by geochemical highs and VLF EM crossovers which may be indicative of sulphide type mineralization.

6. SURVEY CONTROL

An east-west oriented baseline was established utilizing hip chain and compass. Stations at 100 metre intervals were established along the baseline. North-south oriented lines were run from these stations for VLF EM and magnetometer surveys. Geochemical

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sampling was conducted along the baseline and at points which could be tied into the baseline.

7. GEOCHEMICAL SURVEY

7.1 Sampling Procedure

All samples prefixed 81 OVS are stream sediment samples. These samples were sieved to -20 mesh in the field. Approximately one-half kilogram of material was obtained at each sample location.

Samples prefixed 81 OVX are soil samples. Approximately 4 kilograms of soil were collected from holes one-half to one metre deep for heavy mineral geochemical purposes.

7.2 Analyses

All samples were analysed by Min-En Laboratories Ltd. of North Vancouver, B.C.

At the laboratory samples which were not previously sieved to -20 mesh were sieved to -20 mesh. All samples were specific gravity floated for heavy mineral content. The samples were divided into a magnetic portion and a non-magnetic portion.

Method of analysis of these portions is as follows: Mo, Cu, Pb, Zn, Ni and Ag - nitric, perchloric digestion; with atomic absorption analysis. W-fusion, colorimetric or spetrophotometric analysis.

Standard -80 mesh analysis were also performed on these samples.

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7.3 Results

Both standard -80 mesh and -20 mesh non-magnetic heavy mineral analysis revealed an anomalous multi-element situation in the vicinity of the lone rock exposure. This is best depicted by sample 81 OVX 016. An anomalous W situation is shown by sample 81 OVX 005, 004 and 003 in the non-magnetic heavy mineral portion. Samples 81 OVX 004 and 003 may be the result of glacial smearing from 81 OVX 005 area. In addition, the area around sample 81 OVX 009 is higher in Cu in both the standard -80 mesh and the -20 mesh non-magnetic heavy mineral fraction. All results are shown in Appendix 4.

8. GEOPHYSICAL SURVEYS

Thirteen point seven kilometres of VLF EM and 13.7 kilometres of magnetometer survey were conducted on OVB claim block. Survey crew consisted of one compass man, one VLF EM receiver operator, and one magnetometer operator. Magnetometer surveys and VLF EM survey were conducted simultaneously.

8.1 VLF EM Survey

8.1.1 Instrumentation

A Crone VLF EM receiver was utilized for this survey. Transmitting station was Cutler, Maine at 17.8 kHz. Tilt angle readings were recorded as north or south dip at 25 metre intervals.

8.1.2 Data Treatment

All readings are plotted on plan in profile form. North readings are considered +ve and south readings -ve. Data is interpreted from north to south which results in crossovers where the profile goes from negative to positive tilt. In addition, Fraser Filter computations were performed on the tilt angle data to produce

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a contourable form of data. These computations were performed from north to south as follows: (M3 + M4) - (M1 + M2). This yields a plot point midway between M2 and M3. Only the positive values are contoured as the negative values represent the flanks of the anomaly.

8.1.3 Interpretation

Numerous crossovers and zones of positive Fraser Filter values exist. A portion of the crossovers are attributal to edge of bogs and streams. Crossovers are described by their line position in regard to the baseline.

Line 2000 E.

1. Crossover at 350 metres north of baseline: Cause - unknown.
2. Crossover at 650 metres north of baseline: Cause - wet zone.
3. Crossover at 800 metres north of baseline: Cause - wet zone.

Line 2200 E.

1. Crossover at 180 metres north of baseline: Cause - steep sided wet zone.
2. Crossover at 420 metres north of baseline: Cause - unknown.
3. Crossover at 590 metres north of baseline: Cause - unknown.

Line 2400 E.

1. Crossover at 75 metres south of baseline: Cause - unknown.
2. Crossover at 350 metres north of baseline: Cause - unknown.
3. Crossover at 530 metres north of baseline: Cause - unknown.

Line 2400 + 200 E.

1. Crossover at 400 metres north of baseline: Cause - unknown.

2. Crossover at 1100 metres north of baseline: Cause - unknown.

Line 2400 + 400 E.

1. Crossover at 50 metres north of baseline: Cause - unknown.

2. Crossover at 400 metres north of baseline: Cause - unknown.

3. Crossover at 560 metres north of baseline: Cause - edge of bog.

4. Crossover at 700 metres north of baseline: Cause - unknown.

Line 2400 + 600 E.

1. Crossover at 600 metres north of baseline: Cause - unknown.

2. Crossover at 340 metres north of baseline: Cause - unknown.

3. Crossovers at 460 metres and 525 metres north of the baseline are of unknown cause.

4. Crossovers at 820 metres and 1025 metres north of the baseline may be due to wet zone.

Line 2400 + 800 E.

1. Crossover located 700 metres north of the baseline is most probably due to edge of stream.

2. Crossover 970 metres north of the baseline is due to an unknown cause.

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Line 2400 + 1000 E.

1. Crossovers at the baseline and 60 metres north of the baseline are most likely due to influence of a stream.

2. Crossovers at 350 metres and 450 metres north of the baseline are of unknown cause.

3. Crossover located 775 metres north of baseline is most likely due to a swamp.

Line 2400 + 1200 E.

1. Crossover 110 metres south of the baseline is of unknown cause.

2. Crossovers at 85, 150, and 225 metres north of the baseline are probably due to wet zones.

3. Crossovers at 400, 625, and 775 metres north are of unknown causative source.

Line 2400 + 1400 E.

1. Crossovers at 530, 670, 750 and 940 metres north are due to creeks and wet zones.

A total of approximately 37 crossovers were depicted. Fourteen of these are most likely due to wet zones and edge of streams. The remaining crossovers are listed as being of unknown source or cause. These are listed as such since the VLF EM survey area is completely drift covered. Consequently there is no geological evidence to postulate causes.

8.2 Magnetometer Survey

A magnetometer survey base station was established at the intersection of the baseline and Line 2400 E. From this point a magnetometer baseline was established along the exist-

ing baseline at 100 metre intervals. This baseline was closed at the base station. Loops were run from this baseline which were tied into previously established magnetometer stations on the baseline. Station spacing within the loops was 25 metres.

8.2.1 Instrumentation

The survey was conducted with a Jalander, Type 46-66 magnetometer. The instrument is a vertical field, flux-gate magnetometer. Sensitivity for the instrument is as follows:

SENSITIVITY RANGE NO.	FULL SCALE 0-1000 GAMMAS	GAMMAS/UNIT = COEFFICIENT	SENSITIVITY GAMMAS PER PAR 1 PAR = ½ DIVISION = 5 UNITS
1	1000	1.00	5
2	2490	2.49	12.5
3	9600	9.60	48.0
4	24600	24.6	123
5	104600	104.6	523

8.2.2 Data Treatment

All data was corrected for diurnal variation. Variation was assumed to be linear in nature. The baseline stations were first corrected to the base station on a gamma per minute basis. Loop readings were then diurnally corrected to the baseline stations which were previously corrected to the base station. These corrected readings are shown in Appendix 6. Further these readings were plotted, their co-ordinates scaled, and coded for computer contouring. Computer program is given a search radius to adequately fill in the space between lines. Contours of this data are also shown in Appendix 6.

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8.2.3 Interpretation

Two distinct trends are shown by the contouring. The first, a high, may be due to underlying mafic rich intrusive rock. This assumption is based on the fact that areomagnetic expression over the rock exposure in the western portion of the claim block is very similar to areomagnetic expression in the area of ground magnetometer high. The second, a low, may be an expression of change in rock type or a fault.

9. STATEMENT OF EXPENDITURES

The following expenses were incurred by Placer Development Limited, Endako Mines Division for conducting the surveys on the OVB claim block. To facilitate field work, most surveys were conducted as much as possible on a simultaneous basis; as a result the personal costs for the surveys are lumped together.

9.1 Personnel Costs

PERSONNEL	PERIOD	RATE	COST
A.J. Peters	2-9 July 81	45 @ $14.25	$ 641.25
W.R. Bulmer	7-9 July 81	30 @ 16.00	480.00
M. McMahon	2-9 July 81	45 @ 7.75	348.75
J. Wilson	6-9 July 81	36 @ 7.75	279.00
L. Bruvold	6-9 July 81	38 @ 6.00	228.00
	TOTAL PERSONNEL COSTS		$1,977.00
	OFFICE OVERHEAD @ 40%		790.80
	GRAND TOTAL PERSONNEL		$2,767.80

9.2 Camp Operations

Total of 21 man day @ $15.00/ day	$ 315.00

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9.3 Transportation

Lakes District Air Service Beaver Float Plane		
Dockets No. 1080 No. 1082		
	Total 396 miles @ $1.75	$ 693.00
Lakes District Air Service Cessna Float Plane		
Docket Nos. 1079 and 1083		
	Total 396 miles @ $1.25	495.00
	TOTAL TRANSPORTATION	$1,188.00

9.4 Geochemical Analyses

DESCRIPTION	UNIT PRICE	AMOUNT
31 - Geochem -80 Mesh for Mo, Cu, Pb, Zn, Ni, Ag, W	$10.50	$ 325.00
31 - Sample prep	$ 0.85	26.35
31 - H.M. Flotation Prep	$20.00	620.00
31 - Mag - Cu, Ni	$ 2.90	89.90
31 - Non mag - Cu, Pb, Zn, Ni, Ag, Mo, W	$10.50	325.50
	TOTAL GEOCHEMICAL COSTS	$1,387.25

9.5 Map Drafting And Report Preparation

A.J. Peters	30 hrs. @ $15.10	$ 453.00
P. Buckley, P. Eng.	15 hrs. @ $20.00	300.00
W.R. Bulmer	5 hrs. @ $16.50	82.50
	TOTAL	$ 835.50
	TOTAL + 40% OFFICE OVERHEAD	$ 334.20
	TOTAL	$1,169.70

TOTAL GEOCHEMICAL AND GEOPHYSICAL COSTS	$6,827.75

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10. CONCLUSION

Heavy mineral soil sampling depicts areas that may be underlain by copper and/or tungsten mineralization. VLF EM surveys show that conductors exist within the area totally covered by overburden. These conductors may be sulphide or structurally related. Magnetometer survey outlined two zones of interest.

Submitted by

Paul Buckley P. Eng

P. Buckley, P. Eng.
Senior Geologist
Placer Development Limited
Endako Mines Division

W. Bulmer

W.R. Bulmer
Exploration Geologist
Placer Development Limited
Endako Mines Division

A.J. Peters
Geological Technician
Placer Development Limited
Endako Mines Division

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APPENDIX 1

CERTIFICATION
P. BUCKLEY - P. ENG.

I, Paul Buckley, of Placer Development Limited, Endako Mines Division, Endako, B.C., do hereby certify that:

1. I am a Geological Engineer and a member of the Association of Professional Engineers of the Province of British Columbia.

2. I am a graduate of the University of British Columbia with a B.A. Sc. in Geological Engineering in 1973.

3. From 1973 until the present I have been engaged in pit operations and exploration geology in British Columbia.

4. I did participate in the planning and interpretation of the geochemical and geophysical surveys.

5. To the best of my knowledge, the Statement of Expenditures is correct.

Paul Buckley P. Eng

P. Buckley, P. Eng.

APPENDIX 2

CERTIFICATION
W.R. BULMER

I, W.R. Bulmer, of Placer Development Limited, Endako Mines Division, Endako, B.C., do hereby certify that:

1. I am a Geological Technologist/Geologist.

2. I am a graduate of Cambrian College of Applied Arts and Technology with a Certificate in Geological Technology in 1973.

3. I am a graduate of University of Western Ontario with an honours B.Sc. in Geology in 1976.

4. From 1971 until the present I have been engaged in mineral exploration in Ontario, Labrador Newfoundland, Yukon Territory and British Columbia.

5. I personnaly supervised and participated in the heavy mineral sampling program. In addition, I performed the geological mapping.

6. I personnaly participated in the preparation of this report.

W.R. Bulmer

W.R. Bulmer

APPENDIX 3

CERTIFICATION
A.J. PETERS

I, A.J. Peters, of Placer Development Limited, Endako Mines Division, Endako, B.C., do hereby certify that:

1. I am a Geological Technician.

2. I graduated from Nechako Valley Senior Secondary School in 1966 on University Entrance Program with electives in Mathematics, Science and Social Studies.

3. My practical training from 1967 to the present has included the following:
   a) Sampling and surveying in open pit mine;
   b) Diamond and percussion drill sampling;
   c) Plan, recommend, perform relevant field work and supervise actual drilling projects.
   d) Plan, conduct field work and interpret results on regional and detailed geochemical surveys;
   e) Assist with planning, conduct field work and make preliminary interpretations on regional geological mapping programs;
   f) Assist and conduct geophysical surveys; magnetometer, VLF and induced polarization;

   All of the above experience has been obtained under the supervision of geologists and geophysicists.

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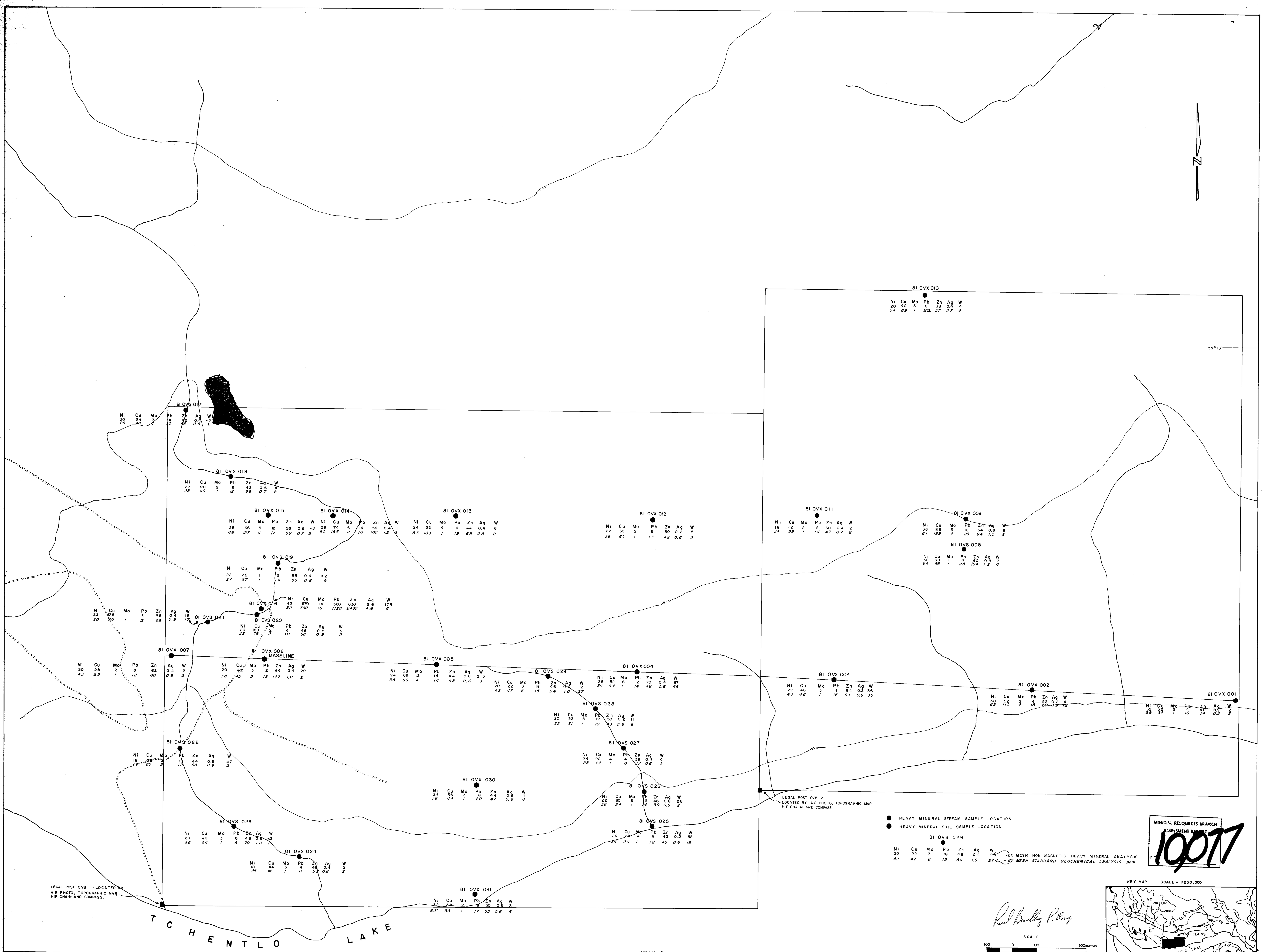
4. I was personally involved in planning the OVB claims surveys.

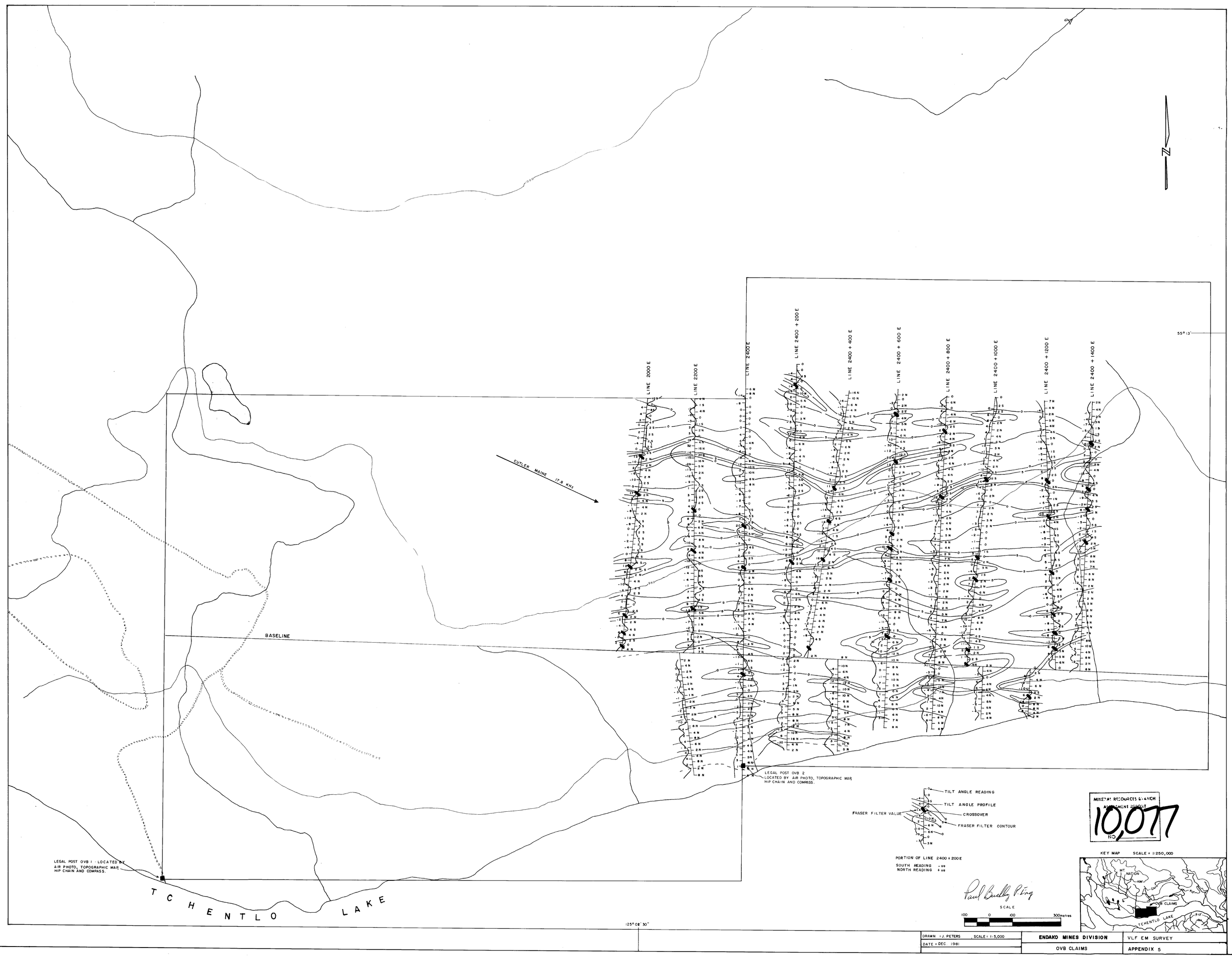
5. I did personnaly conduct and supervise the geophysical work on the OVB claims.

6. I was involved in the interpretation of the OVB geophysical and geochemical data.

A.J. Peters



DRAWN : J. PETERS	SCALE = 1:5,000	ENDAKO MINES DIVISION	GEOCHEMICAL SURVEY
DATE = DEC. 1981		OVB CLAIMS	APPENDIX 4


LINE 2000 E
LINE 2200 E
LINE 2400 E
LINE 2400 + 200 E
LINE 2400 + 400 E
LINE 2400 + 600 E
LINE 2400 + 800 E
LINE 2400 + 1000 E
LINE 2400 + 1200 E
LINE 2400 + 1400 E
55° 13'
CUTLER MAINE 17.8 KHz
N
BASELINE
LEGAL POST OVB 1 - LOCATED BY AIR PHOTO, TOPOGRAPHIC MAP HIP CHAIN AND COMPASS.
LEGAL POST OVB 2 LOCATED BY AIR PHOTO, TOPOGRAPHIC MAP HIP CHAIN AND COMPASS.
TCHENTLO LAKE
125° 08' 30"
TILT ANGLE READING
TILT ANGLE PROFILE
CROSSOVER
FRASER FILTER CONTOUR
FRASER FILTER VALUE
PORTION OF LINE 2400 + 200 E
SOUTH READING -ve
NORTH READING +ve
SCALE
100 0 100 300 metres
MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,077
KEY MAP SCALE = 1:250,000
OVB CLAIMS
TCHENTLO LAKE
DRAWN : J. PETERS SCALE = 1:5,000
DATE : DEC. 1981
ENDAKO MINES DIVISION
OVB CLAIMS
VLF EM SURVEY
APPENDIX 5

N

55° 13'

BASELINE

COMPUTER EAST REFERENCE LINE

COMPUTER NORTH REFERENCE LINE

LEGAL POST OVB 1 LOCATED BY AIR PHOTO, TOPOGRAPHIC MAP, HIP CHAIN AND COMPASS.

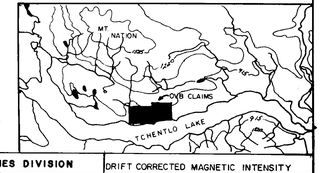
LEGAL POST OVB 2 LOCATED BY AIR PHOTO, TOPOGRAPHIC MAP, HIP CHAIN AND COMPASS

T C H E N T L O L A K E

125° 02' 30"

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
NO. 10,077

KEY MAP SCALE = 1:250,000



Paul Buckley P.Eng

SCALE

100 0 100 300 metres

DRAWN : J PETERS	SCALE = 1:5,000	ENDAKO MINES DIVISION	DRIFT CORRECTED MAGNETIC INTENSITY
DATE :		OVB CLAIMS	APPENDIX 6