81-#608-9400

GEOCHEMICAL & GEOPHYSICAL

REPORT

ON

VANGUARD, NERO, NIMROD, MOTHERLODE VANGUARD EXTENSION, DREAMLAND, DE MILO

SKEENA MINING DIVISION

LAT. 55 44'; LONG. 129 34'; N.T.S. 103P/12E

OWNER: CAULFIELD RESOURCES LTD. OPERATOR: CAULFIELD RESOURCES LTD.

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CONSULTANT: R.H. SERAPHIM, Ph.D., P. Eng. T.E. LISLE, P. Eng.

ΒY

T.E. LISLE, P. Eng.

AUGUST 17, 1981.





LOCATION MAP VANGUARD PROSPECT SKEENA MINING DIVISION (After Cimm Special Vol.15)

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INTRODUCTION

(1) LOCATION, ACCESS, & TOPOGRAPHY

The Vanguard group of mineral claims are north of the fork of the Kitsault and West Kitsault River, some 32 kilometers north of Alice Arm and 35 kilometers southeast of Stewart, Skeena Mining Division, Lat. 55⁰44'; Long. 129⁰34'; N.T.S. 103P/12E. A dirt road follows the Kitsault Valley north for about 27 kilometers and an old trail is reported to run from the river forks to an old cabin on the property at elevation approximately 850 meters above sea level. The main showings are at about the same elevation.

Access for the current work was by helicopter from Kitsault.

(11) (a) PROPERTY

The property is comprised of the following claims recorded in the Skeena Mining Division:

1003	Recorded	August	. 1 912
1004			1912
1005	17	17	1912
1007	11	"	1912
1323	11	Sept.	1914
2448	11	Oct.	1918
128	01	July	1975
	1003 1004 1005 1007 1323 2448 128	1003 Recorded 1004 " 1005 " 1007 " 1323 " 2448 " 128 "	1003 Recorded August 1004 " 1005 " 1007 " 1323 " 2448 " 128 "

-1-





(11)(b) HISTORY

The claims were staked on the Copper showing in 1912 and the gold showing was discovered in 1925. Both showings have been partly investigated by underground work but no drilling is known to have been completed. Approximately 160 meters in two tunnels on the copper prospect, and 70 meters of underground work on the gold showing in addition to smaller adits and numerous trenches in the areas of interest have been completed.

Canex Placer optioned the property in 1966 and completed geophysical (E.M.); geochemical (Cu.); and geological surveys. Amax Exploration made an extended examination in 1967. Newmont Exploration conducted extensive grid work and surveys in the area of Nero and Motherlode claims in 1980.

(11)(c) GEOLOGY

The geology of the Vanguard area is shown on Skeena River Map 1385A-Scale: 1:1,000,000, and is described in detail on the 1951 B.C. Minister of Mines Report. The Vanguard prospects lie near the eastern margins of a small Jura-Cretaceous porphyry stock. The intrusion is about 1 by 5 kilometers and trends northwest along a regional fault in Upper Kitsault Valley.

The intrusion in the claim area is much altered with abundant pyrite, is locally porphyritic, and resembles rhyolitic volcanic rocks. A number of sulphide deposits with pyrite, chalcopyrite, minor bornite, galena, and sphalerite and variable amounts of gold and silver, are present near the contact with argillaceous sedimentary rocks. These deposits are currently being re-examined.

(111) WORK SUMMARY

The Project was mobilized from Vancouver, B.C. on June 30, 1981 and demobilized on July 23, 1981, and was carried out by a 4 man crew.

(a) GRID

A 1.5 km. baseline trending @310[°] was cut out with axes and picketed at 50 meter stations as shown on maps accompanying this report. Cross lines were put in at the even 100 meter marks and run northwest, where possible, for 250 meters. These lines were picketed at 50 meter centers but not cut. All lines were put in by compass and belt chain and referenced to the claim posts noted. - Total grid - 5.25 km. plus 0.5 km. reconnaissance lines at south end.

(b) GEOCHEMICAL SURVEY

Soil samples were collected from the stations marked on maps accompanying this report. The samples were collected with soil mattocks from the 'B' soil horizon, where present; packaged in standard kraft soil envelopes and shipped to Chemex Laboratory in North Vancouver, B.C. 102 soil samples were collected.

(c) MAGNETIC SURVEY

A Sharpe M.F. 1 fluxgate magnetometer was used to survey 5.25 km. of grid with readings at stations and intermediate points. Results are shown on Fig. 4 of this report.

(d) PHYSICAL

Several man days were spent brushing out trails and

trenches, and cleaning out sluffed trenches, One day was spent draining tunnels and shoring up an adit.

(e) CLAIMS WORKED

Vanguard, Vanguard Extension, Dreamland, De Milo, Nimrod, Motherlode, Nero.

PURPOSE

The survey described in this report was deemed necessary to aid in a re-evaluation of the Vanguard copper, gold, and related prospects.

RESULTS

Geochemical Survey

The survey data shown on Figures 5 and 6 of this report indicate anomalous conditions for all 5 elements in the area of the known copper mineralization at the southeast end of the grid. Slopes in this area are moderate to steep and largely overburden covered.

Copper

The samples yielded a range of assays from 9 PPM to 3000 PPM Copper. A frequency distribution curve (Fig. 5) shows the breakdown of the sample population. The sample mean is 143.6, however, if four highly anomalous results are removed, it drops to approximately 55. Other than the area noted above, no strong anomalous zones are indicated.

-4-

Gold

Assays ranged from 5 to 3950 PPb. Sample mean is 266 PPb. and drops sharply to 63.7 PPb. if ten highly anomalous assays are removed.

In addition to the copper zone, four highly anomalous assays are present near the gold prospect, and anomalous assays are also present at BL 900 and 1000 NW, and scattered on lines 500 to 800 NW. These latter assays are partly coincident with higher silver assays.

Silver

Assays range from 0.1 to 25 PPM. Sample mean is 2.1 PPM and drops to 1.42 PPM with removal of 4 highly anomalous samples. Scattered high assays are present on lines 700 to 900 NW in addition to the main copper zone.

The gold prospect to the northwest, surprisingly is not strongly anomalous.

Lead

Assays ranged from 4 to 1050 PPM. Pb. sample mean is 74.8 PPM but drops sharply to about 40 if 10 of the highest anomalous assays are removed. Small amounts of galena are present in mineralized areas in the grid, which likely contributes to the high background.

Anomalous assays are also present at 500 NW-50 and 100 NE & 900 NW - 125 NE.

Zinc

Assays ranged from 17 to 320 PPM with a sample mean of 92.8 PPM. Removal of 8 anomalous samples lowers the mean to 71.2 PPM. Minor amounts of sphalerite are present with galena and chalcopyrite near the main copper prospect and is the probable cause of some of the higher assays.

Magnetic Survey

A Sharpe M.F. 1 fluxgate magnetometer, serial 30967, was run over the grid to determine whether significant magnetic variation might accompany the mineralized zones.

Readings were taken at all stations on the grid, and at intermediate points between stations, so that spacing is approximately 25 meters.

Readings were corrected daily and the results plotted on the 1:2500 scale map (Fig. 4) accompanying this report. The readings ranged from about 1800 to 2400 gammas with most in the 1900 to 2000 gamma range. No important trends were noted. A single magnetic high @900NW-25NE is unexplained and because of nearby geology this area should be re-checked. A single high at 1200NW-250NE in the area underlain by sedimentary rocks is also unexplained.

Conclusion

The geochemical data confirmed areas of interest around the known gold and copper zones. Scattered areas of geochemical interest between the main zones may correlate with geophysical responses noted in assessment report 956, and warrant followup examination. In spite of steep topography, the grid should also be extended southeast for further geochemical survey.

The geophysical survey did not reveal distinct magnetic trends. If additional magnetic surveying is contemplated, a more sensitive instrument than the M.F. 1 should be used.

T.E. ENG

August 17, 1981

APPENDIX I

-8-

LABOUR	
R. Morrell - June 30 & July 2-23 @ 85.00/day	\$ 1955.00
J. O'Neill - June 30 & July 2-23 @ 85.00/day	1955.00
Wilson Joyce - July 2-23 - 22 @ 85.00/day	1870.00
T. Lisle, P. Eng.	
- Geologist-Supervisor	
24 @ 250.00/day x 1/3	1980.00
Camp Costs:	
23+23+22+8 = 76@ 20.00/day	1520.00
Chemex Laboratory	
102 soils @10.10/sample	1030.20
Helicopter - Long Ranger	
July 3,8,15,17,20,22	2954.75
Trans Provincial Airlines - Goose	
July 3 & 22, 1980	
855.00 + 522.00	1377.00
Freight - 109.00 + 89.88	198.88
Total	\$13,913.83
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APPENDIX I (cont'd)

COST BREAKDOWN

Total 76 man days

Travel and Camp Construction - 12 man days	\$2195.00
Trail Cutting and Trenching - 20 man days	3661.53
Magnetic Survey - 4 man days	734.24
Linecutting & Soil Sampling - 40 man days	7323.06



APPENDIX II

CERTIFICATION

I, Thomas E. Lisle of 145 Rockland Road, North Vancouver, British Columbia, hereby certify as follows:

- I am a geologist with business address at #422 470 Granville Street, Vancouver, B.C.
- I am a Professional Engineer, registered with the Association of Professional Engineers of British Columbia.
- 3. I am a graduate of the University of British Columbia, 1964. I have practiced my profession since graduation and was engaged in exploration geology for several years prior to 1964.

Soil samples were collected by the crew noted in Appendix I of the report on my instructions, and magnetic readings taken by myself and J. O'Neill.

 This report is based on the work carried out between June 30, and July 23, 1981. Background data noted in the reference section was also used.

Dated at Vancouver this 17 day of August, 1981 TE LISTE



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CHEMEX LABS LTD.

212 BROOKSBANK AVE NORTH VANCOUVER, B C CANADA V7J 2C1 TELEPHONE (604:984-0221

ANALYTICAL CHEMISTS GEOCHEMISTS REGISTERED ASSAYERS

TELEPHONE (604)984-0221 S TELEX 043-52597

CERTIFICATE OF ANALYSIS

12 :	SERAPHIM. DR. R.H.	C⊆RT. ⊭	:	45112715-001+A
	316-470 GRANVILLE ST.	INVOICE #	:	18112718
	VANCCUVER, S.C.	DATA	;	15-493-81
	V6C 1V5	P.J. =	:	NUNE

ATTN: TOM LYLE

Sample	bleb	Cu	Po	Zή	A.; 2	J-= 2+4 2	
description	code	n that	្រភា	D.C. m	pom	000	
DONW B.L.	201	56	41	06	2.7	45	
DDNW BONE	201	50	13	5.2	0 = 3	ч	~ _
DONW BONE	201	54	56	64	2.J		
CONW 100NE	201	380	63	jj f	د ک	Ē.	
DONW 150NE	201	3000	1350	77C	13.8	3.5 5	
50SE 3.L.	201	179	27	<u>ج</u> ل	27	20	- -
100SE B.L.	201	74	70	104	• •	15	- -
100SE 50NE	201	152	3 25	22 C	2	140	
100SE 100NE	201	1.76	276	255	3 . i	125	
1003E 150NS	201	173	293	755	3.00	115	
3L 100 NW	201	52	133	2 Q	4 + 6	15	
BL 10CNW SONE	201	34	6 - 3	3 3	1.0	1.7	
81 100Nw 100NÉ	201	715	165	145	ذ و ٢	3.0	
BL 100Nk 117NE	201	44	250	12.0	2 • 0	្ទ	
BL 100NW 150NE	201	2550	200	320	20.0	1950	
3L 100NW 200NE	201	700	15)	100	3.0	110	
3L 100NW 25046	201	22	17	3.8	4 • D	3 0	
31 200 NW	201	όó	40	2.3	2.7	370	~-
BL 200NW SONE	201	2 🕄	50	30	2.5	<u>1</u> 4 F	
BL 200NA 100NE	201	95	83	+ C	12.5	3050	
3L 200Nw 150NE	201	3000	243	150	23.0	1950	
SL ZOONW ZOONE	201	350	7 0	54	ひょし	3.0	
51 200N# 250NE	201	99	180	135	ð.44	130	
BL 300 NW	201	26	47	55	3.5	25	
BL BOONW SONE	201	28	5 0	4 8	23	70	
SL BOUNW 100NE	201	165	215	128	0.5	2.5	
BL 300NE 150NE	201	22	13	50	3.4	1 C	
BL 300NE 200NE	201	29	12	20.0	1.0	10	
56 400 NV	201	23	12	50	1.3	15	<u>~-</u>
BL 400NW SONE	201	22	62	ъ 3	1.+1	20	
BL 400NW 100NE	201	19	85	55	2.9	15	
BE 400Nw 150NE	201	15	20	78	J . +	15	~ -
BL 400NM ZCONE	201	29	25	26	û•5	15	
BL 400NW 250NE	201	28	10	n 5	05	7.0	~ -
3L 500 NW	201	26	21	47	3.8	10	
3L 500NW 50NE	201	21	195	105	2.7	35	- -
BL 500NW 100NE	201	37	200	÷5	1.3	20	~ -
91 300NW 150NE	231	34	100	106	1.1	2 5	~ -
81 500N# 200NE	201	2.0	22	9)	1.1	600	- -
31 500Na 250NE	201	27	20	178	1.0	i C	



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 NORTH
 VANCOUVER,
 B.C.

 CANADA
 V7J
 2C1

 TELEPHONE:
 (604)984-0221
 TELEX:

- ANALYTICAL CHEMISTS

316-470 GRANVILLE ST.

TO : SERAPHIM, DR. R.H.

V6C 1V5

VANCOUVER, B.C.

GEOCHEMISTS

CERTIFICATE OF ANALYSIS

REGISTERED ASSAYERS

CERT. # : A6112718-002-A INVOICE # : I8112718 DATE : 15-AUG-81 P.O. # : NONE

,							
ATTN: TOM LYL	£						
Sample	Prep	Cu	Pb	Zn	Aq	AU-FA+AA	
description	code	ppm	ppm	5 0m	מסמ	dad	
BL 600 NW	201	36	85	26	4.9	260	
BL 600NW 50NE	201	27	10	65	0.2	20	
BL 600NW 100NE	201	28	23	63	1.4	15	
BL 600NW 150NE	201	39	85	20	1.0	25	
81 600NW 200NE	201	15	15	85	0.5	10	
BL 600NW 250NE	201	28	12	38	0.7	30	
BL 700 NW	201	17	7	50	0.4	100	
BL TOONW SONE	201	18	9	32	0.2	20	
BL 700NW 100NE	201	68	54	105	1.8	295	
BL 700NW 150NE	201	13	24	30	0.5	30	
BL 700NW 200NE	201	87	45	210	5.4	45	
BL TOONW 250NE	201	27	10	58	0.3	5	
BL BOD NW	201	22	25	50	0.6	30	
BL 800NW 50NE	201	24	9	50	0.2	35	
BL 300NW 100NE	201	43	26	130	2.7	1050	
BL 800NW 150NE	201	330	30	40	4.2	70	
BL 800NW 200NE	201	62	38	38	1.9	200	
BL 800NW 250NE	201	28	15	70	0.1	20	
8L 900 NW	201	19	15	40	0.48	20	
BL 900NW 50NE	201	14	2.5	40	0.1	130	
BL 900NW 100NE	201	20	13	7 2	0.7	25	
BL 900NW 125NE	201	49	248	70	1.0	60	
BL 900NW 200NE	201	31	54	63	2.8	95	
8L 900NW 250NE	201	18	4	150	0.1	5	
BL 1000 NW	201	21	7	40	0.3	1000	
BL 1000NW 50NE	201	20	8	36	0.7	25	
BL 1000NW 100NE	201	42	17	68	1.2	26	
BL 1000NW 150NE	201	20	16	78	0.1	20	
BL 1000NW 200NE	201	15	40	5 8 C	0.1	20	
BL 1100 NW	201	9	3	25	0.4	330	
BL 1100NW 50NE	201	19	11	15.6	0.3	15	
BL 1100NW 100NE	201	14	15	36	0.5	30	
5L 1100NW 150NE	201	20	18	34	0.1	15	
BL 1100NW 200NE	201	27	16	95	0.9	30	
BL 1100NW 225NE	201	23	6	132	0.1	10	
3L 1100NW 250NE	201	18	15	92	0.2	70	
BL 1200 NW	201	26	1	26	0.1	185	
BL 1200NW 50NE	201	36	25	85	0.5	240	
5L 1200NW 100NE	201	34	52	65	2.0	3060	
8L 1200NW 150NE	201	40	5 Z	73	1.6	3950	





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. ANALYTICAL CHEMISTS

- GEOCHEMISTS

- REGISTERED ASSAYERS

TELEX:	043-52597

CERTIFICATE OF ANALYSIS

TO : SERAPHIM, DR. R.H. 316-470 GRANVILLE ST. VANCOUVER, B.C. V6C 1V5

CERT. #		:	A8112718-003-A
INVOICE	#	1	13112718
DATE		:	15-AUG-81
P.C. #		:	NONE

ATTN: TOM LYL	E						
Sample	Prep	Cu	Pb	Zn	Ag	AU-FA+AA	
description	code	ppm	ppm	ррm	ppm	opb	
BL 1200NW 200NE	201	20	7	80	0.2	20	
BL 1200NW 250NE	201	19	10	118	0.7	10	
BL 1300 NK	201	2 B	7	60	0.2	65	
BL 1300NW 50NE	201	22	32	48	1.4	1900	
BL 1300NW 100NW	201	29	35	96	1.0	95	
BL 1300NW 150NE	201	31	32	103	1.0	150	
8L 1300NW 200NE	201	17	10	60	0.2	20	
8L 1300NW 250NE	201	17	5	48	0.1	10	
8L 1400 NW	201	115	25	135	0.6	105	
BL 1400NW SONE	201	39	1 J	5.5	0.4	145	
BL 1400NW 100NE	201	95	14	88	6.3	1700	
S-1	201	14	74	35	0.1	15	+-
S-2	201	17	23	17	0.4	5	
S-3	201	26	22	36	1.7	30	
5-4	201	117	112	128	1.2	75	
S-5	201	49	55	43	1.4	15	
5-6	201	40	73	90	6 ∎ 0	30	
5-7	201	44	11	43	Q.5	5	
S-8	201	32	52	40	0.1	5	
S-9	201	23	13	35	0.2	30	
S-10	201	200	85	180	1.1	145	
5-11	201	91	39	55	0.9	15	

MEMBER CANADIAN TESTING Certified by HartBichler







VANGUA	RD PRO	SPECT -	SKEEN	MINING	DIVISION.	
G	FOCH	EMIST	RY - A	U. AG		- ESS
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SCALE	1:2500		• • • • • • • • • • • • • • • • • • •	JULY	1981	