

86-132-14788
00187

GEOPHYSICAL AND DIAMOND DRILLING REPORT

ON THE

LEO AND FLO CLAIMS
"CUB 2 GROUP"

N.T.S.104/15E&16W

LIARD MINING DIVISION

59°~~58'~~^{55.5'} N 130°~~22'~~^{29.4'} W

for

Owner(s): Reg Resources Corp.
Operator: REG RESOURCES CORP.
216-8055 Anderson Road
Richmond, B.C. V6Y 1S2

Sovereign Metals Corp.

FILMED

by

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GEOLOGICAL BRANCH
ASSESSMENT REPORT

14,788

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Introduction

The work described in this report is a continuation of the detailed exploration of the area encompassing the Marbaco silver-lead-zinc deposit. A summary of information available on the deposit has been compiled by Cukor(1985). Two diamond drill holes were directed at extending the known reserves and a third at testing a previously located EM-16 conductor. A Scintrex SE-88 survey was carried out to detail a known Maxmin anomaly in the vicinity of a breccia zone.

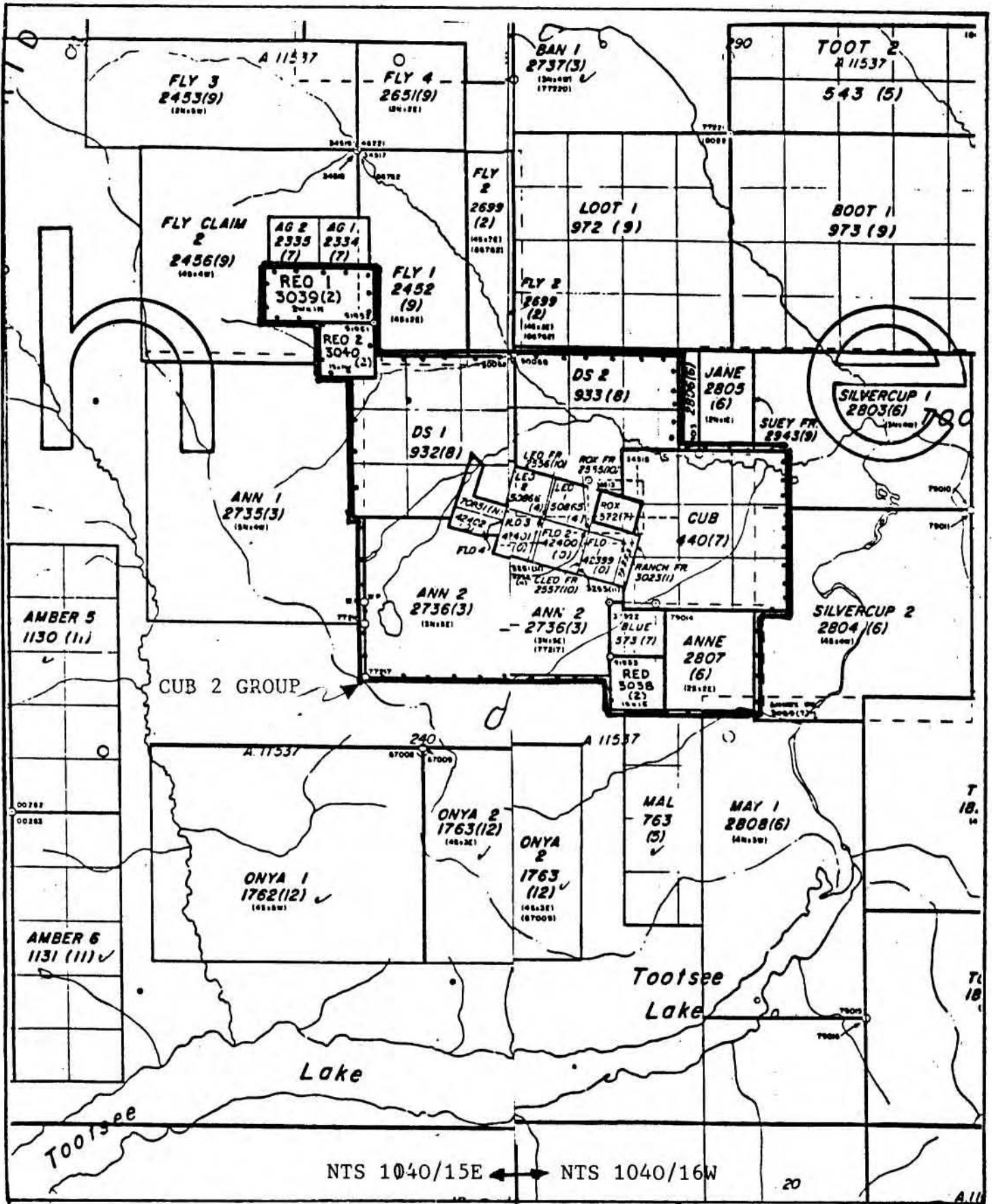
Location and Access

The claims are located approximately 15 km south of Rancheria, Yukon Territory and 100 km west of Watson Lake (Figure 1). Access to the property is gained from the Alaska Highway at Mile 701, following the Tootsee River road to Regional Resources and then the old Rancheria Mine road to the Marbaco camp.

Helicopters are available at Watson Lake and at Rancheria in the summer season. Watson Lake is serviced by C.P. Air from Vancouver.

Claims

The Leo-Flo original claim group containing the Marbaco deposit has been most recently regrouped on February 19, 1986 as the CUB 2 Group. This new group also includes the former Cub Group, the Ann and the Anne claims. The new group is depicted in Figure 2.



CLAIM MAP
LIARD M.D.
BRITISH COLUMBIA

FIGURE 2

G.A. MEDFORD Geological Exploration Consulting

Regional Geology

The claims are situated near the contact zone of the east flank of the Cassiar batholith (Figure 3) which extends over 300 km from the Wolfe Lake map sheet in the Yukon southeast to the Kechika map area in British Columbia. In this region, the batholith intrudes a metamorphic package of Cambrian to Silurian metasediments. These include members of the Atan and Good Hope Groups (dolomites, limestones, skarns, quartzites) which are, in turn, overlain by calcareous phyllite and phyllitic limestone of the Kechika Group. The upper part of the Kechika Group also includes black graptolitic shales and platy siltstones. The above sequence exhibits evidence of intense multiple deformations. Overlying the above rocks, and generally outcropping farther to the east, is the McDame dolomite of Middle Devonian age. This group comprises fetid dolomites and limestones with abundant fossil debris and is overlain by the Lower Sylvester; fine-grained, black, locally graphitic slates and phyllites with grey to black bedded and ribbon cherts. The McDame and Sylvester are invariably in low-angle fault contact, the Sylvester being an allocthonous slab (Gordey et al., 1982).

The Sylvester allocthon is characterized by a broad northwesterly trending synclinal feature commonly referred to as the McDame Synclinorium. This structure parallels the contact of the Cassiar batholith in a general way. Strong northwest to northeast faulting has also affected the area. Most of these faults are steep and normal.

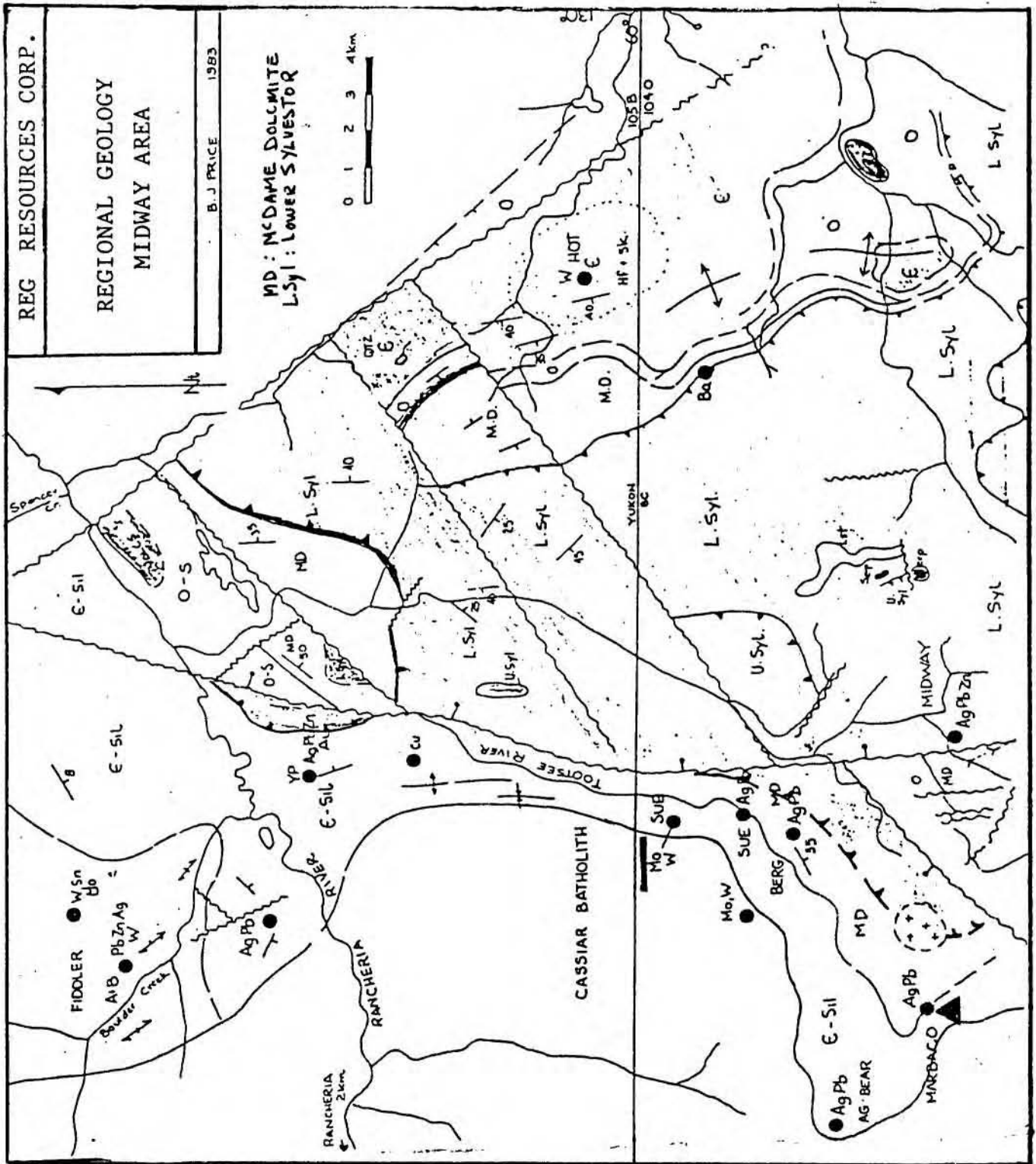


FIGURE 3

Mineral Deposits in the Area

The Marbaco deposit, a significant occurrence in the area, is found within a limestone unit of the Atan or Kechika Groups.

Galena, tetrahedrite, sphalerite, pyrrhotite and ankerite occur as a replacement zone in limestone along a limestone-argillite contact. Measured and drill indicated reserves include 79,849 tons of 10.7 oz per ton silver, 2.84% lead and 6.03% zinc with an additional 59,326 tons inferred with no assigned grade (Chapman et al., 1974).

Approximately 8 kilometers to the east, Regional Resources currently is proceeding with underground development of its Silver Creek zone. Mineralization in the Regional camp is presumed mostly to be within the McDame dolomite (i.e. localized by the McDame-Sylvester contact). Regional's current geological reserves (Silver Creek and Discovery zone) comprise approximately 6 million tons of 11.7 oz per ton silver and 18% combined lead-zinc (The Northern Miner, March 1985, page 137).

Recent work on the YP claims about 15 km to the northeast (White, 1985) has demonstrated the close association of a gold-bearing quartz-eye porphyry with lead-zinc mineralization. Geochronology completed by the present author has indicated this intrusion to be Tertiary in age and isotope lead work has indicated that mineralization in the Regional Resources deposits is also approximately this age. This information has an important bearing on exploration in the area as lead-zinc-silver mineralization need not be restricted to a particular sedimentary horizon (e.g. the McDame dolomites) as in a Mississippi Valley model. It could, for example, be found in any place where there is a suitable stratigraphic trap. One such trap

would be the McDame-Sylvester contact, but similar stratigraphic packages are also present in the older metamorphic sequences in the area.

Work Program

Three diamond drill holes totalling 358.4 metres were completed. NQ core was taken, split and logged. The logs are presented in appendix 1. Core has been stored at the mine camp in standard plywood boxes. Drilling was carried out between Oct.25 and Nov.25, 1985. No samples were assayed.

E.M. surveying was carried out along an existing grid on the property. A Scintrex SE-88 unit was used and readings were taken at 25 metre stations with a 100 metre instrument separation. This unit differs from normal HLEM systems such as Maxmin ii in that it measures without regard to phase the ratio of signal amplitude between two frequencies which are transmitted and received simultaneously. A low frequency of 112 Hz is used as a reference frequency. The signal difference is integrated or averaged over a period of time in order to improve the signal to noise ratio. The survey parameters employed are:

Frequencies	: 3037, 1012, 337 Hz
Reference Frequency	: 112 Hz
Integration period	: 16 Sec.
Measurement	: ratio of amplitude between reference & signal freq. %

Data is presented on profiles 1-3. Traverse locations and drill hole locations are plotted on Map 1.

Field work was supervised by R.J. Robinson, B.Sc.(Geology). Core was logged by C.O. Nagati, B.Sc.(Geology).

Results

Drillhole Geology: Holes 1 and 3 were collared to test for the extension of the Marbacco mineralized zone which is developed within a narrow south 65° -dipping limestone unit and localized by a subparallel shear structure. This limestone is probably part of the Atan (Cambrian) metamorphic package and is contained by argillites and pelites (meta-siltstones or mudstones). The Cassiar granodioritic intrusion is found immediately west of the property and many related dikes and sills hence intrude the metamorphics. Hole 1 was collared in such an intrusion and passed through predominantly limestone from 71.8m to 86m before bottoming in granodiorite. Hole 3 did not intersect the limestone unit as was anticipated perhaps due to its structural attenuation. No significant mineralization was encountered in these two holes. Hole 2 penetrated similar metamorphics and intrusives as well as abundant quartzite from 134.3m to 153.0m. Quartzites are found elsewhere on the property (Map 1) but there is insufficient exposure to establish a complete structural succession. This hole was collared to test some weakly mineralized shears observed in trenches (see physical work report filed by H.S. Aikins on this property, 1986) as well as the E.M. conductor noted on Map 1. No significant mineralization was encountered.

E.M. Survey: Data profiles 1-3 are featureless.

Conclusions

Although the results of the present work are not encouraging, the potential for discovering significant mineralization elsewhere in the limestone unit should not be ruled out.

References and Bibliography

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- Eccles, L. 1979. Geological and Geochemical Report on the Bear, Bear 2, Blue, Blue 2, Cub, Col, TM, JM, RW, BP, MAL, DS1, DS2, and ROX claims. Dupont of Canada. A.R. 7539
- Gordey, S.P., Gabrielse, H. and Orchard, M.J., 1982. Stratigraphy and Structure of Sylvester Allochthon, southwest McDame map area, northern British Columbia in Current Research, Part B, Geological Survey of Canada, Paper 82-1B, p. 101-106.
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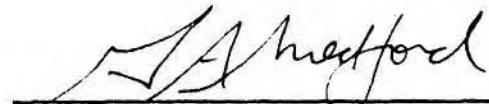
Maps

Map 18 - 1968 Jennings River, B.C. 1:250,000

CERTIFICATE

I, Gary A. Medford, with business at 3582 West 14th Avenue, Vancouver, British Columbia, do hereby certify that:

- 1) I am a consulting geologist and have been engaged in my profession for over 15 years.
- 2) I am a graduate of McGill University with B.Sc. Honours (1968) and M.Sc. (1970) degrees in Geology, and have graduated from The University of British Columbia with a Ph.D. (1976) in Geology.
- 3) I am a Fellow of the Geological Association of Canada.



Gary A. Medford, Ph.D., FGAC



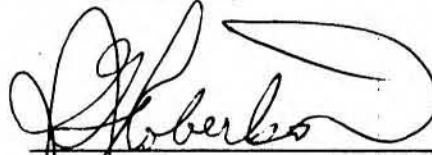
COST STATEMENT

Diamond drilling:358.4m;1175.8'@32.32/ft all inc. \$38000.00

E.M. Survey 1.1 1-km, R.J.Robinson+2 Ass't,1 day
all inc. \$ 2000.00

Total\$40000.00

Certified by:



J.G. Robertson, President
Reg Resources Corp.
Operator

DIAMOND DRILL RECORD

PROPERTY LEO-FLO "COR2GROUP"

HOLE No. S-85-D1

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. S-85-D1 Sheet No. 1 of 7 Lat. 99685 N Total Depth 89 M
 Section _____ Dep. 99650 E Logged By C.O. NAGATI BSc
 Date Begun OCT 25, 1985 Bearing 043° Claim _____
 Date Finished OCT 29, 1985 Elev. Collar 1393 M Core Size NQ
 Date Logged NOVEMBER 15, 1985 DIP -55°

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	C/BA					
FROM	TO												
0	6.1												
6.1	18.3	98%	<p><u>GRANDIODORITE → QUARTZ DIORITE?</u> : FINE → MED GRAINED</p> <p>LOCAL GNEISSIC TEXTURE - BANDS OF Biotite ;</p> <p>MINOR CLAY ALTERATION OF PLAGIOCLASE</p> <p>FOLIATION/CORE AXIS (F/CA) ~ 56°</p> <p>8.13- 8.73 : CORE VERY BLOCKY</p> <p>8.73- 12.03 : CORE COMPETENT ; MED GRAINED ; CLASTS</p> <p>OF FINE GRAINED / GNEISSIC DIORITE - CLASTS ≤ 6 CM</p> <p>12.03- 12.8 : VERY MICACEOUS</p> <p>12.8- 18.3 : ALTERNATING BANDS OF FINE GRAINED,</p> <p>DARK GNEISSIC GRANDIODORITE / Qtz Diorite & A PALE</p> <p>MED. GRAINED, EQUIGRANULAR GRANDIODORITE ; FORMER</p> <p>ROCK TYPE OCCURS AS CLASTS IN THE LATTER ; TRACE</p> <p>PYRITE</p>										
18.3	22.0	100%	<p><u>GRANDIODORITE</u> : MED. GRAINED, PALE ; ≤ 15% MAFICS</p> <p>(PRINCIPALLY Biotite) ; ≤ 50% QUARTZ</p> <p>20.12- 20.82 : MAFIC RICH PHASE ; GRADATIONAL CONTACT</p> <p>FINE GRAINED ; Biotite RICH</p>										
22.0	28.6	100%	<p><u>GRANDIODORITE → QUARTZ DIORITE</u> : CONTACT ± ABOVE</p> <p>UNIT IS 30° To CORE AXIS ; FINE → MEDIUM GRAINED</p> <p>TRACE PYRITE ; QUARTZ & PLAGIOCLASE FLOODING</p>										

APPENDIX 1

DIAMOND DRILL RECORD

PROPERTY LEO-FLO "CUB2GROUP"

HOLE No. S-85-D1

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. S-85-D1 Sheet No. 2 of 7 Lat. _____ Total Depth 89M
 Section _____ Dep. _____ Logged By C.O. NAGATI BSc
 Date Begun _____ Bearing 043° Claim _____
 Date Finished _____ Elev. Collar _____ Core Size NQ
 Date Logged NOVEMBER 15, 1985 DIP -55°

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	C/BA					
FROM	TO												
			<u>ALONG FRACTURES</u>										
<u>22.6</u>	<u>22.9</u>	<u>100%</u>	<u>GRANODIORITE: COARSE GRAINED; COMPOSED MAINLY OF QUARTZ & PLAGIOCLASE - PEGMATITIC IN APPEARANCE GRADES INTO PREVIOUS ROCK TYPE ALONG FRACTURES; CONTAINS A FEW XENOLITHS OF UNDERLYING ROCK TYPE</u>										
<u>22.9</u>	<u>26.5</u>	<u>100%</u>	<u>GRANODIORITE: LIGHT GRAY; MED GRAINED; TRACE PYRITE</u> <u>22.9-23.2: CONSISTS MAINLY OF VERY FINE GRAINED Qtz. ~85%</u> <u>25.8: CLAY ALTERATION OF PLAGIOCLASE ALONG A FRACTURE / SHEAR</u>										
<u>26.5</u>	<u>31.0</u>	<u>100%</u>	<u>SCHISTOTIC SILTSTONE: FINE → MED. GRAINED; GENERALLY WHITISH GRAY COLOR; CONTAINS VISIBLE QUARTZ, BIOTITE, MUSCOVITE, CHLORITE; QUARTZ & MICAS FREQUENTLY OCCUR IN THIN, 5-5CM, BANDS; 1% COMBINED PYRITE/PYRRHOTITE F/CA = 55°</u>										
<u>31.0</u>	<u>31.2</u>	<u>95%</u>	<u>GRANODIORITE: BLOCKY; FINE → MED. GRAINED; SOME CHLORITE & CLAY ALTERATION</u>										
<u>31.2</u>	<u>33.9</u>	<u>75%</u>	<u>SCHISTOTIC SILTSTONE?: FINE GRAINED, MED → DARK GRAY; QUARTZ & BIOTITE RICH BANDS F/CA = 65°</u> <u>4% COMBINED PY/PD IN THIN LENS & LAMINAE</u> <u>32.0-33.9: CALCITE ON FRACTURE SURFACES</u>										

DIAMOND DRILL RECORD

PROPERTY "LEO-FLO" "CUB26GROUP"

HOLE No. S-85-D1

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. S-85-D1 Sheet No. 4 of 7 Lat. _____ Total Depth 89 M
 Section _____ Dep. _____ Logged By C.O. NAGATI BSc
 Date Begun _____ Bearing 043° Claim _____
 Date Finished _____ Elev. Collar _____ Core Size NQ
 Date Logged NOVEMBER 15, 1985 DIP -55

DEPTH FROM	TO	RECOVERY	DESCRIPTION	SAMPLE No	FROM	TO	WIDTH OF SAMPLE	C/BA				
			47.3-47.5: MODERATE QUARTZ FLOODING; CHLORITE ALTERATION OF MAFICS; VERY FINE GRAINED SULPHIDES - $\approx 2\%$ PY, $\approx 10\%$ PO IN SEMI-MASSIVE LAMINAE, TRACE CHALCOPYRITE?;	G-85-D1-2	47.3	47.5	0.2 M					
			GRADATIONAL CONTACTS	G-85-D1-3	47.5	48.3	0.8 M					
			47.7-47.8: QUARTZ VEINING; $\approx 3\%$ PO IN INTERSTITIAL SPACES; CALCITE IN FRACTURES.									
			47.8-48.4: VERY WEAK QUARTZ FLOODING; CALCITE ALONG FRACTURES; CHLORITISED; 2 CM VEIN OF QUARTZ AT BASE OF INTERVAL; $\approx 3\%$ PO IN FINE & COARSE DISSEMINATIONS									
			48.4-49.4: SLIGHTLY CALCAREOUS; LOWER PORTION OF INTERVAL IS BLOCKY; FRACTURE SURFACES COATED \bar{c} Fe Oxides.									
			51.5-52.4: CORE BLOCKY; FRACTURE SURFACES STRONGLY CHLORITIC									
			54.6: 1 CM VEIN PINK, SLIGHTLY SPARRY DOLOMITE CONTAINING 70% MED. GRAINED BLACK SPHALERITE & TRACE CHALCOPYRITE. HOST ROCK IS VERY MICACEOUS (MUSC.), SLIGHTLY CHLORITIC & TALCY, \bar{c} MINOR QZ. CALCITE INFILLING OF FRACTURES. 1 CM BAND OF MASSIVE PY/PO ASSOCIATED \bar{c} THE DOLOMITE VEIN.	G-85-D1-4	54.59	54.61	0.02 M					
			$\approx 5\%$ FINE GRAINED, DISSEMINATED PY IN HOST ROCK									

DIAMOND DRILL RECORD

PROPERTY LEO-FLO "CUBZGROUP"

HOLE No. S-85-D1

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. S-85-D1 Sheet No. 6 of 7 Lat. _____ Total Depth 89 M
 Section _____ Dep. _____ Logged By C.O. NAGATI BSc
 Date Begun _____ Bearing 042° Claim _____
 Date Finished _____ Elev. Collar _____ Core Size NQ
 Date Logged NOVEMBER 15, 1985 DIP -55°

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE	C/BA			
FROM	TO										
			ALONG FRACTURES								
			73.4-73.8: CORE VERY BLOCKY								
			77.2-77.7: CORE IS ONLY PARTIALLY COMPETENT; MINOR CLAY ALTERATION								
			78.3-78.5: CORE IS ONLY PARTIALLY COMPETENT; MINOR CLAY ALTERATION								
78.5	85.9	97%	LIMESTONE/DOLOSTONE: MOTTLED SHADES OF GRAY & VEINS OF WHITE CALCITE & QUARTZ; FINE GRAINED					70°			
			80.3-80.9: CORE IS LARGELY INCOMPETENT - SHEAR?	G-85-D1-6	80.3	80.9	0.6 M				
			80.7-80.9: STAINED WITH FE OXIDES								
			81.0-81.6: DARK GRAY ARGILLIC LIMESTONE AT TOP OF INTERVAL GRADING INTO SLIGHTLY CALCAREOUS ARGILLITE AT BASE.								
			81.6-85.9: BANDED MED GRAY LIMESTONE. LOCALLY RECRYSTALLIZED					85°			
85.9	86.0	100%	OXIDE ZONE: 10% FINE GRAINED QUARTZ, 10% ARGILLITE GLASTS WHICH ARE OCCASSIONALLY SURROUNDED BY BLEACHED HALOS, 30% COMBINED PY/PØ - UNWEATHERED - PRIMARILY PY; 50% FINE GRAINED OXIDIZING PY/PØ → HEMATITE; FRACTURE SURFACES ALTERING TO HEMATITE & GOETHITE; VUGGY	G-85-D1-7	85.92	86.0	0.08 M				

DIAMOND DRILL RECORD

PROPERTY LEO FLO "CURZGROUP"

HOLE No. S85D2

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. S85D2 Sheet No. 1 of 2 Lat. 1735 N Total Depth 153 M
 Section _____ Dep. S70 E Logged By C.O. NAGATI BS
 Date Begun NOV. 12, 1985 Bearing 043° Claim G
 Date Finished NOV. 15, 1985 Elev. Collar 1440 M Core Size NQ
 Date Logged NOV. 17, 1985 DIP -60°

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE				
FROM	TO										
0	11.0		<u>OVERBURDEN: GLACIALLY DERIVED BOULDERS & SAND</u>								
11.0	34.0	75%	<u>META-SILTSTONE: PURPLE- GREY- BROWN. MINOR SILIC. OXIDIZED</u> <u>FRACTURES. CA FRACT-FILL. SOME QZ VEINS TO 30 CM.</u> <u>TRACE PO/PY AND SOME CHLORITIZATION.</u>								
34.9	35.2	100%	<u>GRANODIORITE 15% FG MAFICS, 30% GG MUSCOVITE REMAINDER</u> <u>QZ = PLAG. CLAST OF PHYLITE 5 CM ACROSS.</u>	G85D2-1	34.9	35.2	0.3 M				
35.2	134.3		<u>PHYLITE: MORE OR LESS ALTERED. PURPLISH BROWN TO GREY.</u> <u>STRINGERS OF CA + QZ. TRACE DOLOMITE. WITH SL/GL.</u> <u>TRACE PO/PI. A FEW THIN ZONES OF GRANODIORITE INTRUSIVE.</u> <u>35.2-38.0 MOSTLY GREY FOLIATION 65° TO AXES. FOLIATION ON FRACT-</u> <u>36.0-36.6 THIN (<1MM) STRINGERS OF PY.</u> <u>36.6-41.8 PY ALT. TO LIMONITE.</u> <u>41.8-42.3 SILICIFIED ZONE. <1% PO. TR MUSCOVITE.</u> <u>42.3-45.4 LESS META. SILT. GREY, FG. CA VEINS.</u> <u>45.4-46.9 LOCALIZED QZ CARBONATE FLOODING / VEINS.</u> <u>46.9-47.4 GRANODIORITE F-M-C GRANOD. 15% QZ DISS. MAFICS.</u> <u>30% MUSC (SUGARY) FINES DOWN-HOLE.</u> <u>47.4-49.1 SILTSTONE: MX. GRAY-GRY. QZ STRINGERS + ZONES. TO 2%</u> <u>PO AND 2% FG PY IN THIN LAMIN + DISS.</u>								
				G85D2-2	36.0	36.6	0.6 M				
				G85D2-3	41.8	42.3	0.5 M.				
				G85D2-4	46.0	46.3	0.3 M.				
				G85D2-5	49.1	49.4	0.3 M				
			<u>49.1-55.9 PHYLITIC SILTSTONE. GREYISH. E. CHLORITE BANDS OF PY.</u>								
			<u>55.9-56.0 PINK DOLOMITE. MED. GR. TR SPHALERITE</u>	G85D2-6	55.5	55.9	0.4 M				

DIAMOND DRILL RECORD

PROPERTY LEO FLO "COB2GROUP"

HOLE No. S85D2

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. <u>G85-7</u>	Sheet No. <u>2 of 2</u>	Lat. <u>11°35'N</u>
Section _____	Dep. <u>S170E</u>	Total Depth <u>153 M</u>
Date Begun <u>NOV 12, 1985</u>	Bearing <u>043°</u>	Logged By <u>C.O. NAGATI BSc</u>
Date Finished <u>NOV 15, 1985</u>	Elev. Collar <u>1440 M</u>	Claim _____
Date Logged <u>NOV 17, 1985</u>	DIP <u>-60°</u>	Core Size <u>NG</u>

DEPTH	RECOVERY		DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE						
	FROM	TO											
				G85D2-7	55.9	60.0	0.1 M						
			56.0-74.4 <u>PHYLLITIC SILTSTONE. GREENISH, BROWNISH + WHITISH BANDS (CHLORITE, BIOTITE - QZ RICH)</u>										
			74.4-74.5 AS ABOVE BUT TRACE SL AND ? GL?	G85D2-8	74.4	74.5	0.1 M						
			74.5-75.1 AS ABOVE BUT PY TO 3%	G85D2-9	74.9	75.1	0.2 M						
			75.1-134.3 <u>PHYLLITIC SILTSTONE. FOLIATION N 40° TO S9. STRONGLY GREY, GREEN, WHITE BANDED. F TO M GRAINED.</u>										
134.3	138.4	70%	<u>META QZITE. V.F.G. FOLIATED 34° TO CORE AXIS. DIRTY WHITE.</u>										
138.4	153.0		<u>INTERBEDDED QZITE AND SILTSTONE</u>										
			138.4-142.7 <u>SILTSTONE</u>										
			142.7-142.5 <u>QUARTZITE</u>										
			142.5-144.0 <u>SILTSTONE.</u>										
			144.0-145.3 <u>QUARTZITE</u>										
			145.3-153.0 <u>SILTSTONE</u>										
	153.0		<u>END OF HOLE.</u>										

DIAMOND DRILL RECORD

PROPERTY LEO FLO "CUBZGROUP"

HOLE No. G85-3

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. G85-3 Sheet No. 1 of 2 Lat. 0+80S
 Section _____ Dep. 0+80E
 Date Begun NOV. 17, 1985 Bearing 043°
 Date Finished NOV. 21, 1985 Elev. Collar 1465M
 Date Logged NOV. 23, 1985 DIP -60°

Total Depth 116.4M
 Logged By C.O. NAGATI BSc.
 Claim _____
 Core Size NG

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE					
FROM	TO											
0.0	6.0		OVERBURDEN - GLACIALLY DERIVED GRANITE Boulders & SAND.									
6.0	33.0		SCHISTOSE SILTSTONE: F.-M. GRAINED. WEAK TO MOD. SEC. BIOTITE AND MUSCOVITE. SOME CHLORITE, LIMONITE OVERFRACT. MED. GRAY TO BROWN-GREY.									
		100%	6.0-7.2 SILTSTONE SCHIST AS ABOVE.									
		100%	7.2-10.1 STRONG PINK DOLO. VEINING. ± CALSITE + DOLOMITE. 7.3 VEIN OF HEMATITE ± QZ XTALS + PY.									
		100%	10.1-12.3 SILT. SCHIST.									
		90%	12.3-12.7 OXIDES. LIMONITE, MAO, GRAPHITE. QZ BLESS + XTALS WEATHERED PY. < 1% GL. VUGGY.	G85D3-1	12.3	12.7	0.4M					
		90%	12.7-15.2 SCHIST. V. BLOCKY. Fe OXIDES ON FRACTS.									
		100%	17.7-20.7 STRONG Fe STAINS.									
		100%	28.5-28.7 LIMONITE ZONE.									
		100%	30.3-31.2 FLOODED BY QZ + PLAG. MED. GRAINED									
		100%	31.7-32.5 NUMEROUS PINK DOLO. VEINS. SOME VUGGY. EXTREME BRECC.									
33.8	34.0	100%	QZ - PLAG. VEIN. WHITE. CONSISTS OF 85% QZ ± INTERSTITIAL PLAG.									
34.0	73.7	95%	SILTSTONE - PHYLITIC SILTSTONE: MED. GRAY TO GRN-GRAY. LOCAL WEAK SCHIST. POLY CA VEINS TO 2-3 CM. IN STRONG BRECC. ZONES. X-CUTTING FOLIATIONS. MINOR CHLORITE. MINOR LIMONITE. TR. PY. PO.									

DIAMOND DRILL RECORD

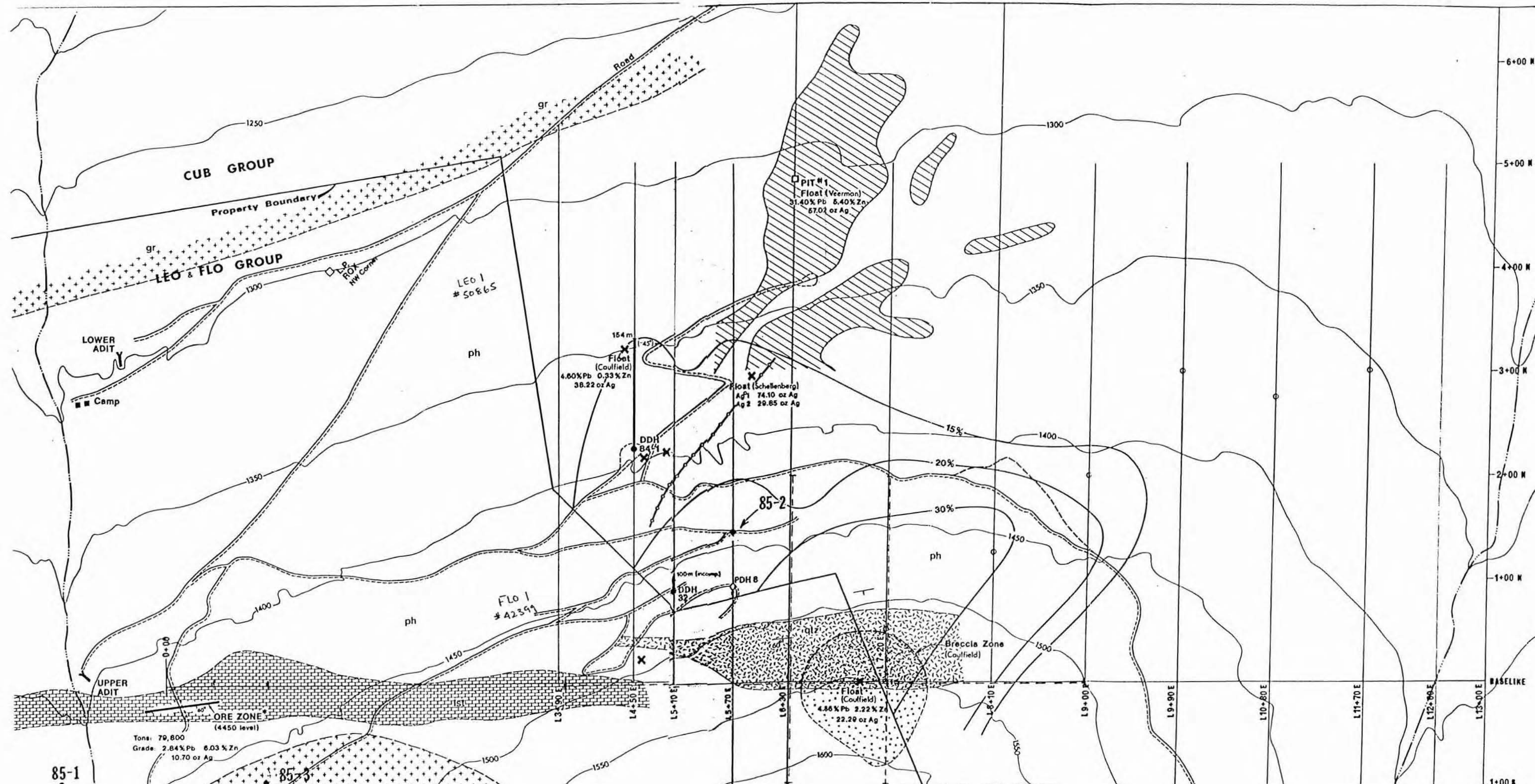
PROPERTY LEO FLO "CUBZGROUP"

HOLE No. G85-3

DIP TEST		
Footage	Angle	
	Reading	Corrected

Hole No. G85-3 Sheet No. 2 of 2 Lat. 0780S Total Depth 116.4M
 Section _____ Dep. 0780E Logged By C.O. NAGART BSc
 Date Begun NOV 17, 1985 Bearing 043° Claim _____
 Date Finished NOV 21, 1985 Elev. Collar 1465M Core Size NQ
 Date Logged NOV 23, 1985 DIP -60

DEPTH		RECOVERY	DESCRIPTION	SAMPLE No.	FROM	TO	WIDTH OF SAMPLE						
FROM	TO												
		85%	38.6-39.9 BLOCKY - IRON STAINED.										
		85%	42.2-45.7 BLOCKY - SOME GRAPHITIC PARTINGS.										
		100%	51.1-53.8 STRONG CA VEINS + LENSES ≤ 5MM.										
		100%	56.3-56.7 AS ABOVE.										
		100%	62.3-62.7 CA VEIN. CONTAINS 50% FRAGS BRECC SILTSTONE.										
		100%	64.2-64.8 STRONG CA VEINING, ≤ 10% CA. STRONG CHLORITIZATION.										
		100%	67.3-67.8 QZ CARB. ALT. ZONE. STRONG CA. MINOR QZ. SILT-ALT TO CHLORITE. << 1% PO. WIDE DISS.										
73.7	73.3	100%	VERY ALTERED INTERVAL. CLAY, BIOTITE, MUSCOVITE CHLORITE-ALT. MARKS.										
73.3	116.4	95%	SILTSTONE - PHYLLITIC SILTSTONE: AS ABOVE.										
		80%	76.2-80.0 VERY BLOCKY										
		100%	76.2-76.4 BRECC. SHEAR ZONE QZ + SILTSTONE IN FG. GREEN MATRIX.										
		100%	77.4-77.9 SHEAR ZONE. BRECC + CHLORITIZED.										
		100%	109.1-109.3 DYKE OR SILL. CG. QZ/MUSC/BI/CHLORITE										
	116.4		END OF HOLE										



DIAMOND DRILL HOLE LOCATIONS (1985)
GEOLOGICAL BRANCH
ASSESSMENT REPORT
 E.M. TRAVERSE LOCATIONS

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LEGEND

- GEOPHYSICAL RESPONSE**
- Maxmin EM Survey
 - 15% (In-phase field strength/Primary field)x 100
 - EM-16 Survey
 - Conductive zone

- GEOCHEMICAL SOIL SURVEY**
- >2.5 ppm Ag (1982)
 - >2.0 ppm Ag (1984-85)
 - DIAMOND DRILL HOLE
 - E.M. TRAVERSE

- GEOLOGY**
- Cassiar Batholith Monzonite
 - Limestone
 - Quartzite
 - Phyllite-Argillite (ph)
 - Breccia Zone
 - Geological contact (assumed)
 - Bedding strike and dip
 - Float location

* Measured and indicated reserve - Chapman, Wood & Griswald, 1974

SOVEREIGN METALS CORPORATION (NPL)

CUB PROPERTY (including LEO and FLO GROUP)
GEOLOGY and DEVELOPMENT

LIARD M.D., B.C. NTS 104-16 W & 104 O-15 I

V.CUKOR, P.Eng. - NVC ENGINEERING Ltd. - VANCOUVER, B.C.

DATE: July, 1985 SCALE: 0 50m MAP-1

85-1

85-3

85-2

85-3

Tons: 79,800
 Grade: 2.84% Pb 6.03% Zn
 10.70 oz Ag

Float (Coulfield)
 4.86% Pb 2.22% Zn
 22.29 oz Ag

154 m
 Float (Coulfield)
 4.60% Pb 0.33% Zn
 38.22 oz Ag

Float (Schallenberg)
 Ag 1 74.10 oz Ag
 Ag 2 29.85 oz Ag

DDH #8424

DDH #32

DDH #33

DDH #34

100m (incomp)

PDH B

LEO 1
 #50865

FLO 1
 #42399

CUB GROUP

LEO & FLO GROUP

LOWER ADIT

Camp

UPPER ADIT

ORE ZONE
 (4450 level)

Breccia Zone
 (Coulfield)

1250

1300

1350

1350

1400

1450

1400

1450

1500

1550

1500

6+00 N

5+00 N

4+00 N

3+00 N

2+00 N

1+00 N

BASELINE

1+00 N

13+00 E

14+00 E

15+00 E

16+00 E

17+00 E

18+00 E

19+00 E

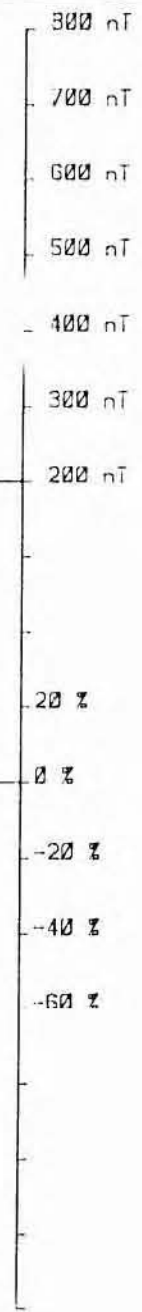
19+90 E

1+0+80 E

1+1+70 E

1+2+90 E

1+3+00 E



MAGNETOMETER SURVEY

DATUM : 58000 nT
 INSTR : MP-3
 SCALE : 1:100 nT

SE-88 SURVEY

Coil separation : 100
 Integration : 16
 337 Hz ———
 1012 Hz - - - -
 3037 Hz
 112 Hz (ref)

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

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 14,788

- 200.0 N
 - 100.0 N
 - 0.0 N
 - 100.0 S

SOVER'N CUB

HLEM SURVEY

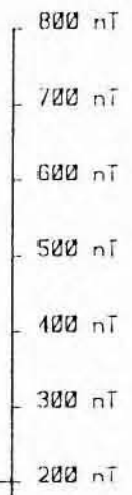
LINE : 630E

FILE B:SC630EN.SEM PROJECT 5200

SCALE : 1:5000 DATE : 30/07/8
 SURVEY BY : TL/TK N.T.S :

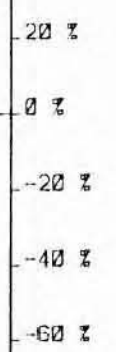
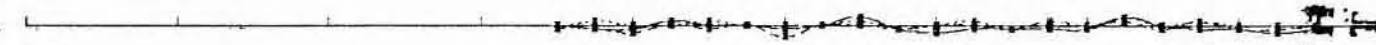
NORANDA EXPLORATION

PROFILE 1



MAGNETOMETER SURVEY

DATUM : 58000 nT
 INSTR : MP-3
 SCALE : 1:100 nT



SE-88 SURVEY

Coil separation : 100
 Integration : 16
 337 Hz ———
 1012 Hz - - -
 3037 Hz
 112 Hz (ref)



- 400.0 E
 - 500.0 E
 - 600.0 E
 - 700.0 E
 - 800.0 E
 - 900.0 E

GEOLOGICAL BRANCH
 ASSESSMENT REPORT

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SOVER'N CUB	
HLEM SURVEY	
LINE : 000N	
FILE B:SC5200BL.SEM PROJECT 5200	
SCALE : 1:5000	DATE : 30/07/8
SURVEY BY : TL/TK	N.T.S :
NORANDA EXPLORATION	

PROFILE 3

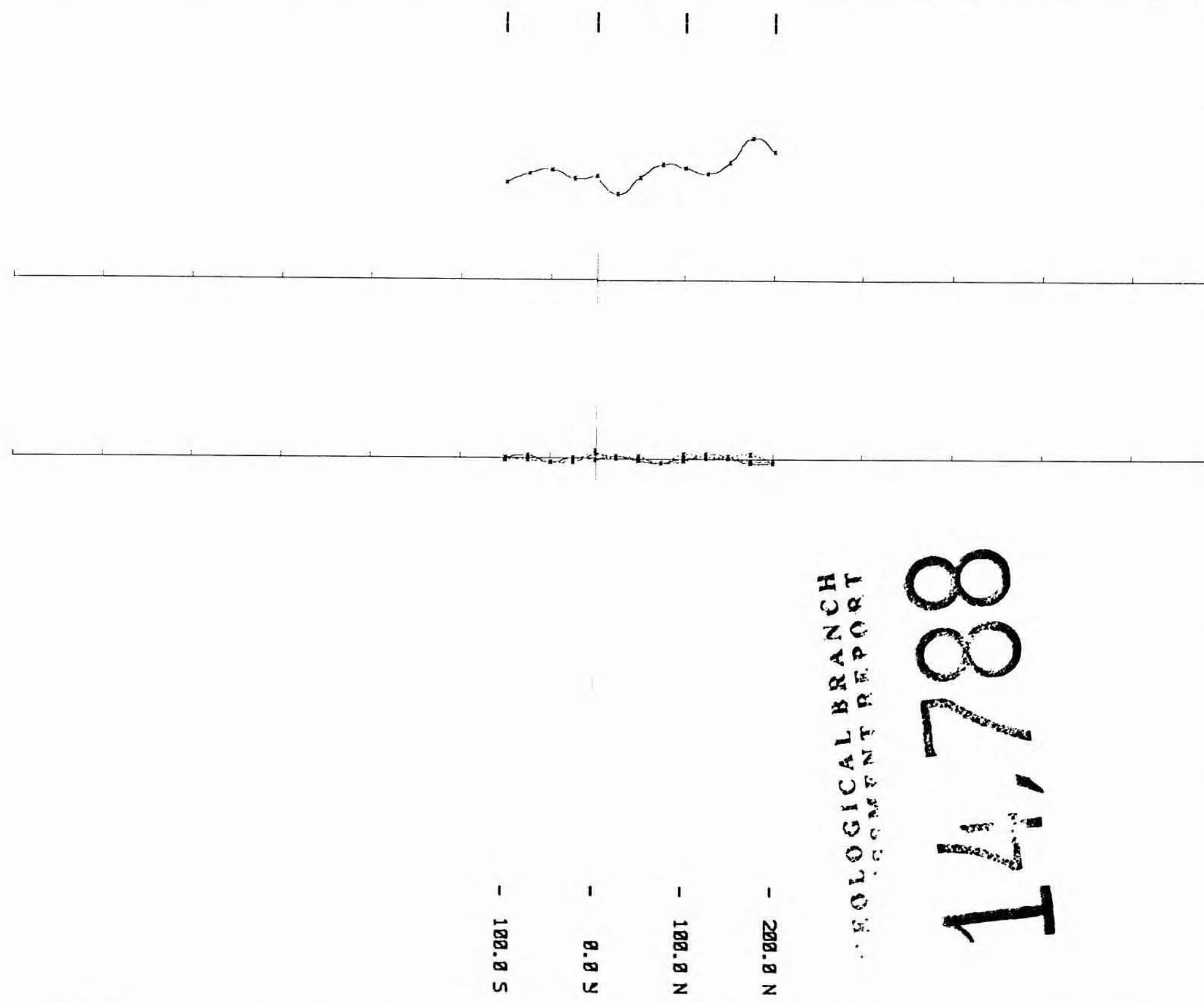
800 nT
 700 nT
 600 nT
 500 nT
 400 nT
 300 nT
 200 nT
 20 %
 0 %
 -20 %
 -40 %
 -60 %

MAGNETOMETER SURVEY

DATUM : 58000 nT
 INSTR : MP-3
 SCALE : 1:100 nT

SE-88 SURVEY

Coll separation : 100
 Integration : 16
 337 Hz ———
 1012 Hz - - -
 3037 Hz
 112 Hz (ref)



- 200.0 N
 - 100.0 N
 - 0.0 N
 - 100.0 S

PHOENIX BRANCH
 COMMENT REPORT

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SOVER'N CUB	
HLEM SURVEY	
LINE : 720E	
FILE B:SC720EN.SEM	PROJECT 5200
SCALE : 1:5000	DATE : 30/07/8
SURVEY BY : TL/TK	N.T.S :
NORANDA EXPLORATION	

PROFILE 2