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ROTARY DRILLING  
CUB CLAIM GROUP

by

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Introduction

Aeromagnetic survey results disclose a large number of extensive anomalies in the Anvil Range district. Copious claims were staked, and this fact, coupled with encouraging diamond drill results on the S.E. Sea Claims (see report), necessitated a rapid, inexpensive, and mobile, method of drilling to ascertain with little delay, if sulphide concentrations cause the aeromagnetic anomalies.

The Mayhew 1000, oil-well-type rig, mounted on a Nodwell (tracked vehicle), drills dry or wet according to conditions and can theoretically provide decreases in footage costs and mobilization down time, with increased penetration rates, and slightly less accrued information as compared with standard AX diamond drilling.

Four rotary holes, totalling 3555 feet (of which 2705 was useful drilling), were placed on the basis of ground magnetometric and gravity surveys.

Summary and Conclusions

1. No economic grades of lead, zinc, or copper were intersected.
2. Pyrrhotite, pyrite, and minor amounts of galena, sphalerite amounting to 5% total sulphides, were intersected in wide zones of quartzose sericite schist and quartzose graphitic schist (hydrothermally altered).
3. Pyrrhotite content was sufficient to cause the anomalies. Gravity is as yet unexplained.

4. Follow-up drilling (spot-rotary) is warranted, but on a low priority basis. A fresh interpretation of and approach to the geophysical data in the light of subsequent experience in the area will assist.

#### Drilling and Sampling Method

The present phase of exploration is centered about the rotary drilling thus all camp activities and mobilization are co-ordinated accordingly. Four trailers, consisting of a utility shed, cook house, bunk house, and office are moved to a central location and commuting to drill sites is by Bombardier.

Operations are continuous with four drillers, and a foreman working two twelve hour shifts. Two samplers, employed by Dynast collect samples, and pan these for heavy metal content at the drill site.

The Mayhew 1000 drill has a standard Kelly drive with power take-off from the Nodwell engine. Depth limitation is approximately 800 feet. One compressor (580 c.f.m. @ 50 p.s.i.) plus a water pump and reservoir is mounted on a separate Nodwell. An auxiliary compressor, a Gardner-Denver (365 c.f.m. @ 100 p.s.i. to drive a down-the-hole-hammer is self-contained.

Various bit-types have been tried, but to date, the  $4\frac{1}{4}$  and  $4\frac{1}{2}$  inch tricone rock bit has been most used. A 6 1/8 tricone is used in the overburden, in theory allowing casing to be placed to bedrock. Penetration and bit-life is improved by attaching a down-the-hole hammer in dry drilling conditions. Overall penetration rate including bit-change time is approximately 6 feet per hour. Actual penetration may be up to 1 foot per minute in soft rock.

Samples are taken over 5 foot intervals, giving an average dry sample weight of 120 lb. Of this, a representative 15 lb. sample is retained. A portion of the cuttings and pannings are kept on tack boards for microscopic examination and continuous record. Caving of the overburden may occasionally dilute samples as much as 40% (as in CRH 1, due to no casing), but generally dilution stays within acceptable limits of 5%.

Mobility of drill and support vehicles during breakup season seriously affects the operation.

The boxed samples are stacked at the various base camps.

#### Rock Types

Rock types are as described in previous reports (see Sea Rotary Drilling) and are the more or less quartzose, sericite sch which may be dark or light coloured according to admixtures of chlorite.

Highly graphitic schist was encountered for the first time in the rotary drilling programme. CRH2 intersected 425 feet of this highly graphitic, quartzose, chloritic schist which appears partially to be the result of hydrothermal action. The rock is v soft and fissile and drills easily. Simple conductivity measurem (E. applied 1.5 and 90 volts) gave infinity resistance, disprovin the possibility of a VERY high carbon content.

#### Mineralization

Traces of galena, sphalerite, and chalcopyrite were identifie in all four holes, with slightly higher concentrations of sphaler and galena occurring in the graphitic zone of CRH2.

Fine grained pyrite and pyrrhotite, are the chief sulphides and specific gravity measurements indicate local concentrations up to 30%, though direct observation does not confirm this. A panning composite sample (55-200, CRH2) consisting almost totally of sulphides, of which approximately 30% may be apparent pyrrhotite, assayed 0.20 nickel - indicating that minor amounts pentlandite may be present.

	<u>Assays</u>				
	<u>Lead</u>	<u>Zinc</u>	<u>Copper</u>	<u>Tin</u>	<u>Nickel</u>
CRH2					
12 samples from					
200 to					
760 all:	Tr.	Tr.	Tr.		
Independent					
check assays					
440-450	0.10	0.27	0.01		
710-750-	0.10	0.22	0.01		
55-200					
panning	Tr.	0.30	0.03	nil	0.20
CRH3					
360-540					
panning	Tr.	0.25	0.02	nil	
625-795					
panning	Tr.	0.35	Tr.	nil	

Two sections from CRH2 with high concentrations of sulphides were spectrographically assayed, but nothing unusual showed (see Appen

#### Structure

Minor structures are, of course, obliterated in the cuttings. Thin, uniform, foliation apparently predominates.

No surface geology is available as a guide and no correlation between drill holes is possible.

The only statement which may be made about the bedding is that the low grade, dominantly sericitic schists, as previously encountered on other claim groups apparently continue this far north (either by virtue of folding or stratigraphic thickness).

SUMMARY OF COSTS

Hole No.	1+1a	2	3	5 (+4&6)
Date	Apr. 17-27	Apr 27-May 9	May 10-16	May 16-22
Footage	330+800	1010 total	565	850 total
Hours	246	288	151	149
Contract	5658.00	6624.00	3473.00	3427.00
Bit Cost				
6 1/8	105.00	105.00	105.00	
4 1/4, 4 1/2	600.00	700.00	450.00	450.00
3 7/8	90.00		90.00	45.00
			200.00*	
Fuel Gsl.	270.60	316.80	166.10	163.90
Dsl.	21.00	16.00	7.00	15.00
Miscel. cement	7.80	12.35	3.90	2.60
Gel	30.00	132.00	102.00	15.00
Bran	4.00	8.00	8.00	8.00
Dynasty Personnel	945.00	1080.00	585.00	585.00
Camp Costs	504.00	576.00	312.00	312.00
Travel Time Salaries	84.00	102.00	37.20	30.80
Drill site preparation	50.00	50.00	50.00	50.00
Transportation	<u>315.00</u>	<u>360.00</u>	<u>195.00</u>	<u>195.00</u>
Sub-totals	8684.40	10,082.15	5784.20	<u>5299.30</u>
TOTAL				29,850.05
*Diamond Bit				
PLUS the assaying costs				<u>193.50</u>
			TOTAL	<u>\$30,043.55</u>

1130  
 1010  
 565  
 5850  
 3556

BREAKDOWN OF COSTS

Bits: 6 1/8 & 6 7/8 & 6 1/4	105
4 1/4 & 4 1/2	50
4 3/4	55
3 7/8	45
Fuel Cost at Property	50¢/gal. diesel 55¢/gal. gasoline
Bran (at property)	4.00/sack
Cement "	1.30/sack
Gel "	3.00/sack

Contract for equipment and United Personnel - \$23.00/hour  
which includes the Gardner-Denver compressor.

Camp costs 6/man-day food, board, and transportation to camp  
Transportation: 30/day general crew support and drill supplies  
Dynasty personnel includes 2 samplers @ 15/day, a geologist @ 25/  
and general supervision at 35/day, totalling 90/day  
Drill personnel includes 2 drillers, 2 helpers, and a foreman  
one half the travel time is paid by Dynasty Explorations Limited.  
The combination drill and water truck burn very close to 2 gal/hr  
gasoline; the auxiliary Gardner-Denver compressor burn 2 gal/hr  
diesel.

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TO: \_\_\_\_\_

WHITEHORSE ASSAY OFFICE,

P.O. Box 346,

WHITEHORSE, Y.T.

## SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

## COAST ELDRIDGE

ENGINEERS &amp; CHEMISTS LTD.

125 EAST 4TH AVE. VANCOUVER 10, CANADA

FILE NO. 17401

DATE MAY 31, 1965

C

We Hereby Certify that the following are the results of semi quantitative spectrographic analyses made on PULP samples submitted.

SAMPLE IDENTIFICATION	Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Ga	Au	Fe
CRH-2															
SEMI PULPS #440-450	6.0	ND*	ND	0.07	ND	ND	0.006	ND	2.0	0.004	TRACE	0.007	ND	TRACE	2.0
SEMI PULPS #710-730	1.5	ND	ND	0.06	ND	ND	0.01	ND	2.0	0.004	ND	0.01	ND	TRACE	2.0
SAMPLE IDENTIFICATION	Pb	Mg	Mn	Mo	Nb	Ni	Si	Ag	Sr	Ta	Sn	Ti	W	V	Zn
#440-450	0.10	1.0	0.006	0.02	OND	0.004	MATRIX	0.0001	TRACE	ND	ND	0.3	ND	0.01	SEE ASS
#710-730	0.10	0.5	0.04	0.01	ND	0.006	MATRIX	0.0001	TRACE	ND	ND	0.2	ND	0.025	SEE ASS

\* NOT DETECTED

Note: Rejects retained one week.  
Pulps retained three months.

COAST ELDRIDGE ENGINEERS &amp; CHEMISTS LTD.

ROTARY DRILLING RESULTS

LEGEND

Rock Types:



Overburden  
Sericitic Schist  
Quartzose Sericitic Schist  
Chloritic Sericitic Schist  
Greenstone, Chlorite Schist  
Graphitic Schist  
Limy Sediments

Notations Used:

$\pi$   $\pi$  Pyrite  
Pyr pyr Pyrrhotite  
Cp cp Chalcopyrite  
Sp sp Sphalerite  
Ga ga Galena  
M m Magnetite  
Less ( ) Relative  
Greater ( ) Concentra-  
tions

qtz. Free Quartz

Estimated Sulphide Content:

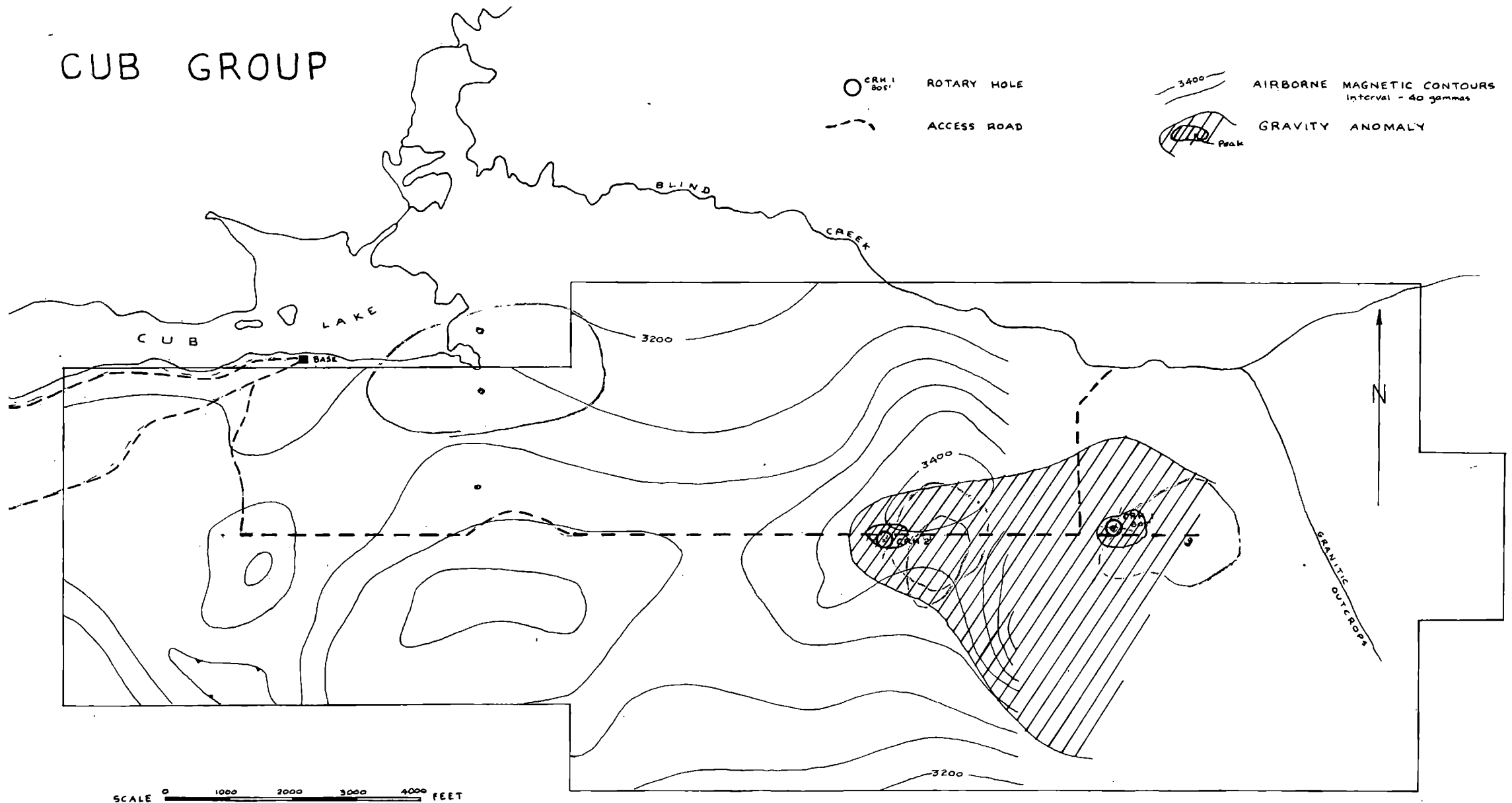
(left side of hole logs)



0%  
2%  
5%  
30%  
Massive

J.F. Fairley-July 1965

# CUB GROUP



SCALE 0 1000 2000 3000 4000 FEET