ROTARY DRILLING

CUB CLAIM GROUP

by

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September 1965

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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 magnetometer 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 trailors, 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 Dynasty, 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.si.) 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 todate, 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 schist, 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 very soft and fissile and drills easily. Simple conductivity measurements (E. applied 1.5 and 90 volts) gave infinity resistance, disproving the possibility of a VERY high carbon content.

Mineralization

Traces of galena, sphalerite, and chalcopyrite were identified in all four holes, with slightly higher concentrations of sphalerite 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 pannings 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.

Assays

	Lead	Zinc	Copper	Tin	Nickel
CRH2 12 samples from 200 to 760 all:	Tr.	Tr.	Tr.		
Independent check assays					
440-450	o.10	0.27	0.01		
710-750-	o.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 Appendix)

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	Apr27-May9	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	
$4\frac{1}{4}$, $4\frac{1}{2}$	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	315.00	360.00	195.00	195.00
Sub-totals	8684.40	10,082.15	5784.20	5299.30
TOTAL				29,850.05

*Diamond Bit

PLUS the assaying costs 193.50

TOTAL $30,043.55

BREAKDOWN OF COSTS

Bits: 6 1/8 & 6 7/8 & $6\frac{1}{4}$	105
$4\frac{1}{4}$ & $4\frac{1}{2}$	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/day 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/hour gasoline; the auxiliary Gardner-Denver compressor burn 2 gal/hr diesel.

Division of Costs, Representation Work.

Rotary Drilling, Cub Mineral Claim Group

Group	Total Work	Cost Applied from Total Work	Excess Cost	Division Excess Cost	Total
1	3533.00	3533.00		1267.00	4800.00
2	1766.00	1766.00		3034.00	4800.00
3	5784.00	4800.00	984.00		4800.00
4	10082.00	6400.00	3682.00		6400.00
5	8684.00	6500.00	2184.00		6500.00
6	193.00	193.00		1607.00	1800.00
TOTAL	30042.00		5950.00	5908.00	30000.00

FORM NO. 5

TO:

WHITEHORSE ASSAY OFFICE,

P.O. Box 346,

WHITEHORSE, Y.T.

SEMI QUANTITATIVE SPECTROGRAPHIC ANALYSES

COAST ELDRIDGE

ENGINEERS & CHEMISTS LTD.

125 EAST 4TH AVE. VANCOUVER 10, CANADA

ACCTLC Member Canadian Testing Association

PHONE: TRINITY 6-4111

CABLE ADDRESS "ELDRICO"

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	ND	0.004	MATRIX	0.0001	TRACE	ND	ND	0.3	ND	0.01	SEE ASSAY
#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 ASSAY

* NOT DETECTED

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

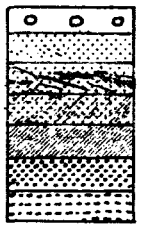
COAST ELDRIDGE ENGINEERS & CHEMISTS LTD.

CHIEF CHEMIST

ROTARY DRILLING RESULTS

LEGEND

Rock Types:



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

Notations Used:

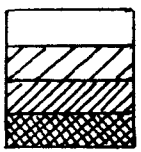
π	π	Pyrite
Pyr	pyr	Pyrrhotite
Cp	cp	Chalcopyrite
Sp	sp	Sphalerite
Ga	ga	Galena
M	m	Magnetite

Less)Relative
Greater)Concentrations

qtz. Free Quartz

Estimated Sulphide Content:

(left side of hole logs)



0%
2%
5%
30%
Massive

J.F. Fairley-July 1965

CRH 5

50

100

150

200

250

300

350

400

450

500

550

600

650

700

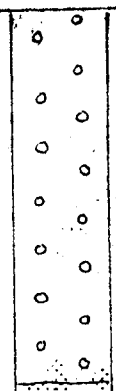
750

800

Tr > Pyr
S% ≈ 1%
throughout.

Tr qa.

Tr. qa.



CRH 1

The high % of quartzose matl in this hole is largely due to caving of the overburden.

50

100

π > Pyr.

150

200

Tr. qa.

250

300

1a

Tr. qa.
Tr cp.

350

Tr qa

400

Tr. qa.

Tr. qa.

500

550

600

Tr qa.

Tr qa.

Tr. qa.

650

700

750

800

CRH 2

π > Pyr

Pyr > π

π > Pyr

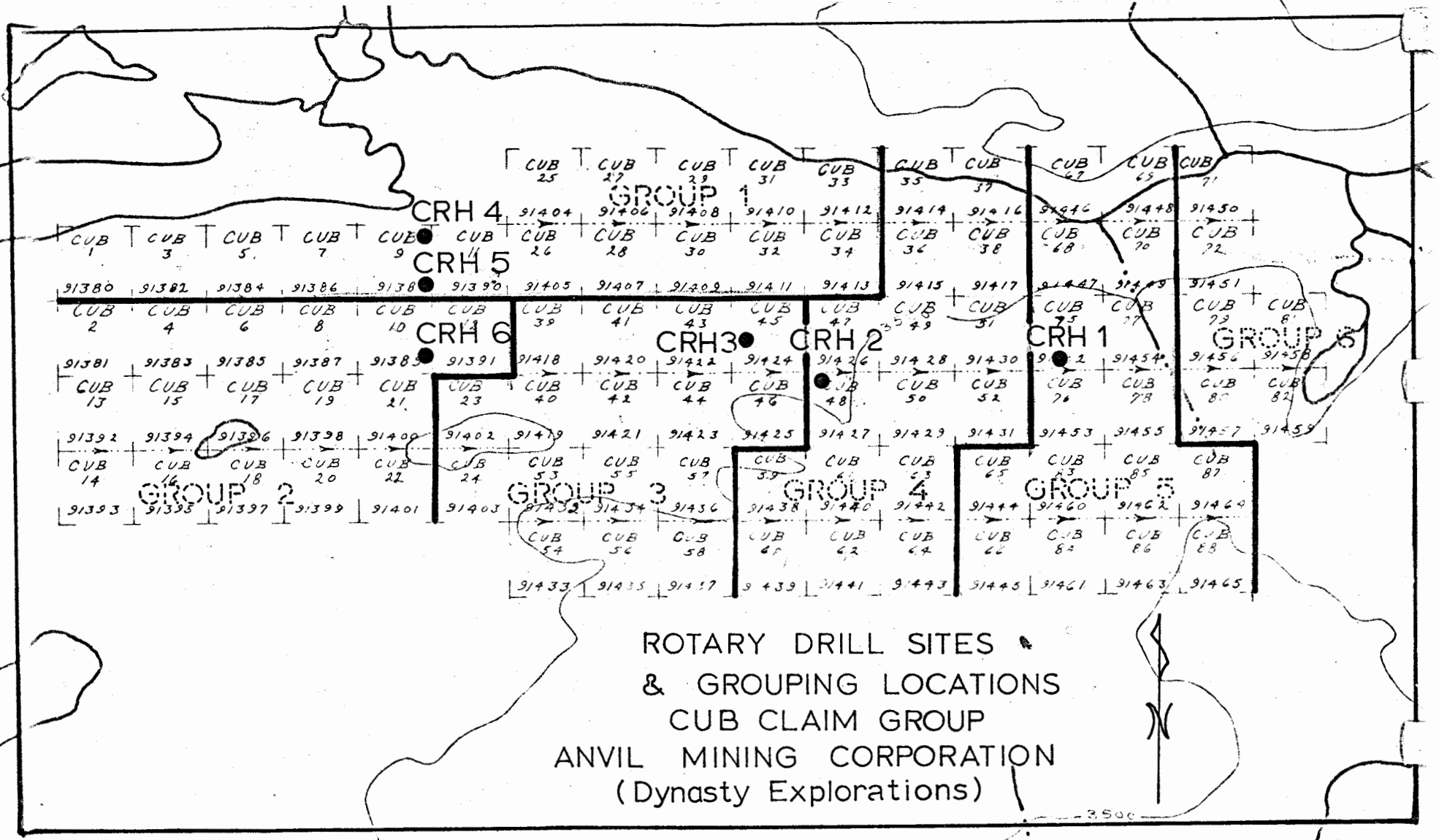
π = Pyr.
Graphitic, chloritic, quartzose, schist

end.

CRH 3

Pyrrhotite between 55 - 200 contains Ni. by chem. test

π = Pyr


GROUP 1
GROUP 2
GROUP 3
GROUP 4
GROUP 5
GROUP 6
CRH 4
CRH 5
CRH 6
CRH3
CRH 2
CRH 1
ROTARY DRILL SITES
& GROUPING LOCATIONS
CUB CLAIM GROUP
ANVIL MINING CORPORATION
(Dynasty Explorations)
3500