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ROTO DIP tests
acid dip tests
Spray Sum single shot tests

89DS-01

April 30 - May 30, 1989

89DS-02

June 2 -

put in 34 feet
HW casing to
NW 583 feet

casing originally 20' NW
extended to 32'

Mobilization

- establish camp April 21, 1989
- set up well April 21-26
- start drilling April 27-29
- April 30, 1989

470-500 feet
continued case.
wds struck

Trouble w/ fault zone @ 470-500 fault
zone w/ case.

Pumped cement down hole

Casing extended to 550 feet — 583 feet NW

34 feet HW casing

Casing

first wedge set @ 1457 feet

540 feet NW casing left in hole.

Top of wedge
@ 1447'

Second wedge sealed off @ 700 feet.

hole # 2 June 2 - July 10, 1989.

HW casing	28 feet	fell to 33 feet	→ extend to 41'
HA case	26 →		↓ 42'

rods stuck @ 291 feet

redone to NQ rods

put in wedge @ 527 feet
plug @ 517 feet
top of wedge @ 500 feet

ready to wedge @ 1287' feet

catching in fault zone @ 420 feet

drilled through fault to miss original hole.

(
shut down the hole.

100' N casing in hole
3' H casing in hole

DRILLING REPORT ON 1989 DY PILOT HOLES

Whitehorse Mining District
Yukon Territory

N.T.S. 105K/3

~~Latitude~~: LATITUDE: 62° 13' N
~~Longitude~~: LONGITUDE: 133° 07' W

By

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Cuoraugh Resources Inc.

Field work completed April 21, ~~1988~~¹⁹⁸⁹ - July 11, 1989

SUMMARY

(Reed, 1989)

INTRODUCTION

Present ~~field~~ information for the Dy deposits indicates probable geological reserves of 21 million tonnes with an average grade of 12.2% (Pb+Zn) using a 9% (Pb+Zn) cutoff. These numbers are based on polygonal calculations with a ^{surface} hole spacing of 75m. along sections and 150m. between sections. The surface holes deviate significantly from their original vertical orientations.

Because of the wide spacing and extensive deviation, underground exploration is required to fully evaluate the grade, continuity, and extent of the Dy deposit. To that end two ~~attempts~~ ~~at~~ vertical drill holes ~~was~~ ~~completed~~ pilot holes for ~~at~~ a proposed shaft location were attempted during the interval April 31 - July 11, 1989. ~~at that~~ the holes were collared northeast of the known Dy mineralizations. Target depth for the pilot holes was 3000 feet (m). Controlled drilling methods were used to maintain the holes within a 25 foot radius for the entire 3000 foot interval.

Both holes were abandoned short of the target depth because of drilling difficulties. This report presents the drill logs for the two holes ~~and~~, the Appendix contains ~~more~~ ~~vertical~~ ~~and~~ detailed field logs. Figure 2 is a ~~and~~ SW-NE vertical cross section of the drill holes. Core from the pilot holes is stored in the core racks at the Gauru camp.

LOCATION AND ACCESS

The Dy deposit is located on Vangorda Plateau approximately 10 km east of Fair, Yukon (Figure 1). Topography is moderately rolling with elevations near 1100 metres ASL. The pilot holes were collared immediately adjacent to the Blind Creek Road. Access is readily obtained from this road.

~~The pilot holes~~

CONTROLLED DRILLING METHODS

~~DOWNHOLE DEVIATION MEASUREMENTS~~

The pilot holes were drilled using minimum pressure on the bit to help maintain the original vertical orientation. The first hole, 89DS-01 was drilled using NQ sized rods. ~~The second~~ 89DS-02 was drilled with a combination of HQ and NQ sized rods. The target interval drilled during a single 12 hour shift was 70 feet. Wedging was used to bring holes back if deviation was consistent in a particular ^{azimuth} direction.

Deviation from vertical was tested at least once per shift using a combination of a Sperry-Sum single shot instrument, acid dip test, and mechanical Roto-Dip device. ~~The Roto-Dip device~~ Use of the Roto-Dip measuring instrument was discontinued early in the program because of ~~drop~~ lack of sensitivity and discrepancies with the other two methods of measurement. Sperry Sum measurements used either a 90° compass (~~on~~ 89DS-01) or a 20° compass (89DS-02). Sperry Sum ^{deviations} results were generally comparable with acid ~~test dip~~ dip test results.

89DS-01

Drilling began April 30, 1989 ^{on hole 89DS-01.} ~~after setting up a~~ ~~camp in the location of the old Dy exploration camp.~~ ~~NO casing~~ ~~began after this.~~ Casing began at a depth of 20 feet after lowering NW casing. Vertical casing continued through 583 feet, before a fault zone located at $\approx 470-500$ feet presented casing problems.

NW casing was pulled and HW casing installed for a depth of 34 feet. NW casing was extended to a depth of 583 feet, walking off the zone of core from 470-500 feet. Drilling with NA rods continued for rest of the drill hole. Interval 583-647 was re-cased because hole deviated from original orientation with extension of casing to 583 feet. ~~The first wedge was set at~~

The first wedge was set at 1457 feet. Because of drill bit error the wedge was set ~~around~~ 180° to the proper orientation and caused the hole to deviate further from vertical. The hole was drilled to total depth of 1483 feet. Gravel was pumped down hole to provide base for setting a second wedge at a depth of 1430 feet. The hole was abandoned when this wedge sheared off in a zone of core at approximately 700 feet.

After hole was abandoned 540 feet of NW casing could not be extracted and was ~~abandoned~~ left in the hole.

89DS-02

Hole 89DS-02 was drilled ~~in~~ ^{during the} interval June 2 - July 10, 1989. Total depth drilled was 1287 feet. The hole was abandoned short of target depth because of difficulties with core in the interval 420-428 feet.

Casing for ~~well~~ 89DS-02 began at 26 feet with HQ core. HW ~~and~~ casing was initially extended to 28 feet. During drilling the casing fell to 33 feet and was subsequently extended to 42 feet. With all casing problems the HQ rods became stuck at 291 feet.

The drill hole was ~~extended to the target~~ then reduced to NA at 291 feet. Casing continued with NA rods for the remainder of the hole.

Because of deviation from the vertical, a wedge was successfully employed at 517 feet. The top of the wedge was at ~~500~~ a depth of ~~500~~ 500 feet down the hole.

With continued deviation ~~it~~ it was necessary to get in a second wedge at 1287 feet. ~~During preparation of the hole for~~

chemical grout

Continuous casing problems in a small fault zone at 420 feet precluded setting the wedge immediately. Repeated attempts were made to well off the interval of ~~case~~ using cement and styrofoam material. ~~Both off~~ All efforts failed to satisfactorily stop the casing problem. The hole was abandoned when the bit revealed slightly and began drilling a fresh hole at 420 feet.

One hundred feet of New casing and three feet of Old casing were left in the hole after it was abandoned.