

DRILL LOG HUMBLE OIL & REFINING CO. - EASTERN DISTRICT - Lake Superior Project

DRILL HOLE NO. R-2-3	LOCATION: STATE Minnesota	COUNTY Koochiching	NW 1/4 NE 1/4 SECTION 21 T153N R27W
PROSPECT Rainy River	BUDGET NO. E-1142	DEPTH 784'	ALTITUDE -60° 56'S E GRID LOCATION R22 1420W 720S
DATE COLLARED February 16, 1970	DATE COMPLETED March 25, 1970	CORE RECOVERY 95%	OVERBURDEN DRILLS
CORE LOGGED BY P.G. Schmidt	DATE March 25-30, 1970	3x8W	0 TO 107
PROPERTY: MINERALS State of Minnesota	SURFACE State of Minnesota	COFED	BO 107 TO 784
SUMMARY DRILL LOG 1" = 150'		SUMMARY MINERALIZATION	
DEPTH	UNIT	DEPTH	ANALYSES
107	Gabbro	scattered	Pb 4 to 23 Cu 60 to 250 ppm Zn 25 to 100 ppm
181	Greywacke and Gabbro		
200	Gabbro		
208	Greywacke		
227	Gabbro		
256	Greywacke		
274	Gabbro		
280	Greywacke		
300	Gabbro		

REMARKS  
Difficult hole - was re-located 3 times because of overburden difficulties.  
Fine grained metasediments and gabbro with low content of sulfides and metals.

DEPTH	FEET	UNIT	DESCRIPTION
107		Overburden	Clay, sand, boulders
107		Altered gabbro Intrusive	Med. - coarse gr. Dk green-grey, massive to v. faintly foliated; feld, hblde, chlorite, qtz. v. even gr. homogeneous foliation 4-45° Py tr. v. fine gr.
181	13	Greywacke	v. fine to med. gr. Dk grey-green thin banded, foliated schistose, siliceous, feld, hblde, chlorite. 40°
194		Basalt-intrusive (gabbro)	v. fine gr. Dk grey-green massive. Broken feld. v. irreg to 1/2" pseudo-porphyr w/ fine gr. bands. 40°
200	14	(Greywacke)?	v. fine gr. Dk grey-green semi-massive, faintly banded, some broken feld xls py v. fine gr. - dissem. 35-40°
208	19	Altered gabbro intrusive	Med. to coarse gr. Dk grey-green massive; broken feld. xls.
227	29	Greywacke	v. fine - med. gr. Dk grey-green foliated. Py v. fine gr. dissem. 40°
256	8	Gabbro	Coarse gr. Dk grey-green feld-hblde-chlorite; massive.
264	10	Greywacke	fine gr. grey-green, thin laminated foliated, med gr. bands & clasts.
274	6	Altered gabbro Intrusive	Med. - coarse gr. Grey-green massive, hblde-feld-chlorite numerous qtz-heated fractures w/ red hematite. Minor py, small blebs
280	58	Greywacke	1" qtz - feld - pink fine - med. gr. Dk grey-green, semi-massive to faintly banded, but chaotic indistinct, siliceous, chlorite, schistose. 40°
300	25	Greywacke	v. fine - med. gr. Dk grey-green semi-massive, weakly banded, schistose, foliated. v. fine gr. units to 3" w/ chaotic mixed coarser units but vaguely developed. py. tr. 35°
338	43	Broken fault?	
363		Altered gabbro Intrusive (sill?)	Med. to coarse gr. Dk green-grey massive, semi-massive, faintly foliated. Hblde-feld-chlorite. Py minor, sm. xls, blebs, oxidizing to limonite
400	58	fine gr. schistose 4-20° foliation	
406	464	Altered Gabbro Intrusive	Med. to coarse gr. Dk grey-green massive - semi-massive, occ. thin bands, foliated, fine gr. 45°
500	156	15" qtz-feld-pink	Py minor sm. xls, oxidizing to limonite.
600		fine gr. v. coarse gr. plaq-hblde-chlorite	Banded 4-80° irregular
620	13	Gabbro (pegmatic?)	v. coarse gr. Dk green, massive, irreg rounded plaq. dark hblde-chlorite. Tr. py. dissem.
633		Greywacke	fine to med. gr. Dk green-grey thinly banded, foliated. Chloritic, schistose. Banding is finely streaked chlorite-feld., very uniform. 30°
700	87		40°
720		fine gr. grey massive	med. gr. massive, feld frag. volcanoclastic-tuff fine gr. massive - faintly banded 4-80-90°
784	64	Altered Gabbro Intrusive	Med. to coarse gr. grey-dk grey, chlorite-hblde-plaq massive; occ. bands, thin. Chloritic - schistose. Py tr. 50°

T.D.