HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-23-80 Time 0600-

Present Depth 232' Previous Depth 110' Footage 24 Hrs. 132'

Formation(s) TOROK Top Surface

Present Activity: Drilling; spud well at 0030 hrs, 8-23-80.

LITHOLOGIC DESCRIPTION

Interval Reported 110-210' Sampling Interval 30 ft. Sample Quality fair
Lag Time: 1.5 min. @ 200 ft.

Interval	Description	Avg. Drill Rate min./ft.
110-200'	Sltst: lt tn - gy, sdy, w/v.f. - med sd grns, coal chips, occ lt - dk cht pbls, clyey, fos frag of pelecypods (Inoceramus); Clyst strgs: lt tn - gy, increasing @ 180'.	1.5
200-210'	Sltst: lt tn - gy, v.f. grn, mod srt, slty - clyey, w/fos frag a/a.	0.5 (increased WOB @ 200')

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 3 Connection nil Trip nil Peaks none

Mud: Wt. 8.4 Vis 30 W.L. 0 ph 7.0 cc Oil 0 % Cl_2 1100 Temp. 75 °F. in 77 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
100'		0.98	
150'		1.16	
200'		1.23	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY 8/28

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-24-80 Time 0600

Present Depth 818' Previous Depth 232' Footage 24 Hrs. 586

Formation(s) TOROK Top Surface

Present Activity: Coring (Core #1)

LITHOLOGIC DESCRIPTION

Interval Reported 210-800' Sampling Interval 30 ft. Sample Quality fair
Lag Time: 8 min. @ 650 ft.

Interval	Description	Avg. Drill Rate min./ft.
210-227'	Sltst: lt tn - gy, sdy, fos frag a/a.	2.5
227-337'	Ss: lt gy - gy, v.f. - f. grn, mod srt, sa, sl carb, occ v. carb on bdd planes, v. calc, mica, scat fos frag, no por, NOSCF; w/thn intlam Ls (40%): brn - gy, v. arg, scat pyr xl and incls, ptly Mrlst.	3.0
337-418'	Ss: lt gy, med - crs - v. crs grn, sa-sr, p. srt, v. sft and clyey, v. calc strks below 400'.	3.0
418-630'	Ss: gy - lt gy, S&P, v.f. - f. grn, sa, mod srt, ptly slty, v. calc - mod calc, rr green grns, occ Sltst and Sh ptgs, no por - v. sl por, NOSCF; w/Ls nodule: highly frac, w/xl calcite fill, Ls increasing @ 600-630'.	2.0
630-800'	Ss: v. lt gy - gy, f. - v.f. grn, sa, slty strks, carb, sl mica, v. calc, scat green grns of chlorite (?), arg grns, pyr incls, frac w/calcite fill, no por, NOSCF; w/intlam Ls (35% - tr) gy brn, v. arg, sl slty, Ls decreasing downward to tr w/corresponding increase Sltst lam (tr - 25%): gy, calc, occ cht pbl: blk - brn.	6.7

GAS OCCURRENCE/SHOWS

REQUEST: TAPE MEASURE (12')

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 3 Connection 10 @ 557' Trip 14 @ 800' Peaks 10 @ 590-610'

Mud: Wt. 8.9 Vis 31 W.L. 0 ph 7.5 cc Oil 0 % Cl_2 1000 Temp. 82 °F. in 84 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
200'		1.22	
300'		1.12	
400'		1.02	
500'		0.08	
600'		1.07	
700'		1.15	
800'		1.16	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-25-80 Time 0600

Present Depth 1354' Previous Depth 818' Footage 24 Hrs. 536

Formation(s) TOROK Top Surface

Present Activity: Coring (Core #2, top at 1340')

LITHOLOGIC DESCRIPTION

Interval Reported 800-1340' Sampling Interval 30 ft. Sample Quality v. p.
Lag Time: 19 min. @ 1340 ft.

Interval	Description	Avg. Drill Rate min./ft.
800-825'	Core #1, Cut 25', Rec. 9' (36%)	17.4
	800-809' - Sh: brn gy, v. sft, ptly flky - sl fis, micro-mica, occ v. slty strk, w/Cly and Sltst incls; rr Ss ptgs, v.f. grn, gummy when wet, apparent bdg: 18-20° @ 801-802'; 30° @ 804-805', 50° frac parallel to bdg @ 802-803'.	
	809-825' - No recovery.	
825-840'	V. p. spl; probable Clyst: lt tn - gy, v. sft, slty; w/intbdd Ss: lt gy - gy, f. - v.f. grn, S&P, sa, calc, no por, NOSCF; w/Sltst: gy, calc, ptly clyey.	1.1
840-900'	No smp returns.	1.0
900-1340'	V. p. - nil spl returns, spls apparently going into solution, tr of spl from flow line indicate probable Sltst: gy, v.f. slt - Cly, arg, v. sft and fri and Cly lt gy, v. slty.	0.4 - 1.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
1075'	80	NR	60						
1335'	100	NR	80						
1340'	116	NR	80		11000	800	-	-	-

Ditch Gas (Units): Background 82 Connection 88 @ 1134' 110 @ 1323' Trip 31 @ 1340' Peaks a/a

Mud: Wt. 9.3 Vis 30 W.L. - ph 8.0 cc Oil - % Cl_2 550 Temp. 75 °F. in 74 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
800'		1.15	
900'		1.16	
1000'		1.20	
1100'		1.09	
1200'		1.18	
1300'		1.24	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No. 1, 800-809'	3	

Geologist Ron Brockway

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-26-80 Time 0600

Present Depth 1510' Previous Depth 1354' Footage 24 Hrs. 156

Formation(s) TOROK; PEBBLE SH (?) Top Surface, 1345'(?)

Present Activity: Circulate for logs.

LITHOLOGIC DESCRIPTION

Interval Reported 1329-1510' Sampling Interval Core & 10 ft. Sample Quality good, v. p.
Lag Time: 23 min. @ 1500 ft.

Interval	Description	Avg. Drill Rate min./ft.
1329-1389'	Core #2, Cut 60', Rec. 59' (98%)	11.0
	1329-1345' - v. thnly intlam Sh: gy brn, micromica, sft, slty, sl carb; w/Sltst: brn, mica, v. sft; w/Ss: v.f. - f. grn, sa, v. sft, shly, slty, sl mica, rr glau grns, ptly distorted bdg w/discontinuous lam and lenses of all above lithology, good odor, bright yel fluor, blue yel stream cut fluor, fracs up to 50° @ 1340-1342'.	
	1345-1360' - Sh: dk brn, micromica, fis, "poker chip", slty; w/thn v.f. Sltst lam and ptgs; rr v.f. grn Ss ptgs, no fluor, v. faint lt yel cut fluor.	
	1360-1361' - finely lam Sh, Sltst and Ss: dk - lt brn, sl carb, bright yel fluor in Ss, blue yel cut fluor, g odor.	
	1361-1365' - Ss: dk - lt brn, f. - v.f. grn, sa, mod srt, v. shly, slty, carb, w/Sh and Sltst lam, sl por strks, strong odor, lt yel fluor, instant lt yel cut fluor.	
	1365-1370' - Sh: dk brn, fis, "poker chip", occ sl slty, v.f. micromica; v. thn Ss and Sltst ptgs.	
	1370-1374' - Sltst: dk brn, v. shly, micromica, occ sl sdy; rr Ss ptgs.	
	1374-1388' - Sh: dk brn, sl micromica, fis, Sltst lam and ptgs, w/sl fluor cut.	

GAS OCCURRENCE/SHOWS (Cont'd Pg. 2)

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
1397'	24								
1405'	50				5000				
1410'	48								

Ditch Gas (Units): Background 10 Connection 70 @ 1406' Trip 120 @ 1389' Peaks a/a

Mud: Wt. 9.5 Vis 43 W.L. 9.5 ph 8.0 cc Oil - % Cl 500 Temp. 68 °F. in 68 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
1350'		1.38	
1400'		1.29	
1450'		1.29	
1500'		1.30	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	1329-1389'	2 (core spls)	
Cores	No. 2, 1329-1389'	20	

Geologist RON BROCKWAY

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HUSKY OIL NPR OPERATIONS, INC.
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DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-26-80 Time

Present Depth Previous Depth Footage 24 Hrs.

Formation(s) Top

Present Activity:

LITHOLOGIC DESCRIPTION

Interval Reported Sampling Interval ft. Sample Quality
Lag Time: min. @ ft.

Interval	Description	Avg. Drill Rate min./ft.
	Core #2 (continued)	
	1388-1389' - No recovery.	
1389-1510'	Very poor spl, entire spl consists of lt brn mud and cavings from uphole.	3.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background Connection Trip Peaks

Mud: Wt. Vis W.L. ph cc Oil % Cl_2 Temp. °F. in °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-27-80 Time 0600

Present Depth 1510' Previous Depth 1510' Footage 24 Hrs. 0

Formation(s) GR/PEBBLE SH Top 1480' log

Present Activity: Fishing, wait on fishing tools after dropping 7 drill collars and slips in hole.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description		Avg. Drill Rate min./ft.
	RAN THE FOLLOWING LOGS:		
		Interval	
	DIL/GR/SP	1510-110'	
	BHCS/GR/TTI	1510-110'	
	HDT-DIPMETER	1510-110'	
	NOTE: LOGS INDICATE THE GR SHALE IS APPROX 125' LOW TO BARROW #19.		

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 9.5 Vis 38 W.L. 9.8 ph 8.0 cc Oil – % Cl_2 500 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BLOCKWAY

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-28-80 Time 0600

Present Depth 1510' Previous Depth 1510' Footage 24 Hrs. -

Formation(s) GR/PEBBLE SH Top 1480'

Present Activity: Trip in w/mill after recovering drill collars.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 9.6 Vis 43 W.L. 9.5 ph 8.0 cc Oil - % Cl_2 500 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-29-80 Time 0600

Present Depth 1510' Previous Depth 1510' Footage 24 Hrs. 0

Formation(s) GR SHALE Top 1480' log

Present Activity: Mill on junk, recovered parts of slips.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 9.6 Vis 45 W.L. 9.5 ph 8.0 cc Oil - % Cl_2 500 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-30-80 Time 0600

Present Depth 1515' Previous Depth 1510' Footage 24 Hrs. 5

Formation(s) PEBBLE SHALE Top 1480' (log)

Present Activity: WOC after running 9 5/8" csg, shoe at 1514'

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.
1510-1515'	No recovery; drilled while milling on junk.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 8-31-80 Time 0600

Present Depth 1515' Previous Depth 1515' Footage 24 Hrs. 0

Formation(s) PEBBLE SHALE Top 1480'

Present Activity: Nippling up.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist _____

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-1-80 Time 0600

Present Depth 1527' Previous Depth 1515' Footage 24 Hrs. 12'

Formation(s) PEBBLE SHALE Top 1480'

Present Activity: Drilling; no spls to surface at report time.

LITHOLOGIC DESCRIPTION

Interval Reported No. spls to surface Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS NO DATA AT REPORT TIME.

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 12 Connection – Trip – Peaks –

Mud: Wt. 10 Vis 58 W.L. 8.5 ph 10 cc Oil – % Cl_2 60,000 Temp. – °F. in – °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-2-80 Time 0600

Present Depth 1538' Previous Depth 1527' Footage 24 Hrs. 11

Formation(s) PEBBLE SHALE Top 1480'

Present Activity: Drilling on junk

LITHOLOGIC DESCRIPTION

Interval Reported 1510-1530' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 6 min. @ 1538 ft.

Interval	Description	Avg. Drill Rate min./ft.
1510-1530'	Sh: brn gy - dk gy, fis to flky, micromica, carb, occ v. carb strks on bdg planes, occ strks v. lt gy bentonite and bentonitic Sh; rr rd Qtz grns and dk Cht grns; thn brn Sltst strks; tr Ls, brn-gy, arg to lithographic; occ v.f. xl pyr incls.	2.5 - 60.0
	REQUEST: LABELS - W.L. ADKISON	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 16 Connection - Trip 12 @ 1538' Peaks -

Mud: Wt. 10.0 Vis 38 W.L. 30 ph 10 cc Oil - % Cl_2 53,000 Temp. 64 °F. in 64 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)	110-1510	1	
GeoChem (canned)			
Cores	No.		

Geologist: RON BROCKWAY

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-3-80 Time 0600

Present Depth 1570' Corrected (depth SLM) Previous Depth 1542' Footage 24 Hrs. 28

Formation(s) PEBBLE SHALE Top 1480'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 1530-1560' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 6.5 min. @ 1565 ft.

Interval	Description	Avg. Drill Rate min./ft.
1530-1560'	Sh: brn gy - dk gy, fis, carb, rr Qtz grns, tr green waxy Clyst, tr bentonite.	2.9 - 10.0
	REQUEST: One desk lamp	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 6 Connection - Trip 8 @ 1562' Peaks 10 @ 1560'

Mud: Wt. 10 Vis 38 W.L. 12 ph 9.5 cc Oil - % Cl_2 51,000 Temp. 63 °F. in 63 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
1550'		1.42	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed (Paleo)			
Unwashed (USGS)			
Geochemical			
Core	No.		

Geologist RON BROCKWAY

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-4-80 Time 0600

Present Depth 1838' Previous Depth 1570' Footage 24 Hrs. 268'

Formation(s) PEBBLE SHALE Top 1480'

Present Activity: RIH w/core barrel for Core #3.

LITHOLOGIC DESCRIPTION

Interval Reported 1560-1838' Sampling Interval 10 ft. Sample Quality fair - good

Lag Time: 8 min. @ 1838 ft.

Interval	Description	Avg. Drill Rate min./ft.
1560-1580'	Sh: a/a.	2.9 - 23.0
1580-1655'	Sh: gy to dk gy, fis, ptly slty, carb strks, thn bentonitic strks; w/intbdd and intlam Sltst, brn gy to dk gy, ptly carb, sft - mod hd; and Ss, lt brn gy to lt gy, v.f. grn, SA-SR, v. slty, clyey, occ glau grn, rr wh grns.	1.3 - 26.0
1655-1838'	Sh and Sltst: a/a; w/increasing Ss (thin to 5' bds), lt gy - gy, f. grn, SA, mod w. srt, arg, w/dk Cht grns com; fair por (0-10%), w/some lt brn oil stn in bds below 1695', bright yel fluor, blue yel to lt yel streaming cut.	0.4 - 5.8
	REQUEST: REVISED DAILY GEOL. REPORT FORMS	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
1592'	640		90		125,000	16,000	1000		
1660'	360		90		72,000	-	-		
1780'	280		90		56,000	15,000	-		
1800'	280		90		56,000	15,000	-		

Ditch Gas (Units): Background 90 Connection 320 @ 1776' Trip 360 @ 1838' Peaks a/a

Mud: Wt. 10.1 Vis 45 W.L. 9.0 ph 9.5 cc Oil - % Cl_2 50,000 Temp. 73 °F. in 78 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
1650'		1.32	
1700'		1.14	
1750'		1.37	
1800'		1.31	

Dispatched Samples

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Fine)			
Unwashed Ditch (Coarse)			
GeoChem (canned)			
Cores	No.		

Geologist DON BROCKWAY

8/78

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-5-80 Time 0600

Present Depth 1955' Previous Depth 1838' Footage 24 Hrs. 117'

Formation(s) PEBBLE SH; KINGAK Top 1480'; 1910'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 1838-1950' Sampling Interval core; 10' ft. Sample Quality good; fair
Lag Time: 7.9 min. @ 1950 ft.

Interval	Description	Avg. Drill Rate min./ft.
1838-1881'	Core #3: Cut 43', Rec. 42.9' (99.8%)	15.0
	1838-1843.5' (5.5') - Sltst: dk brn, shly, sdy, occ incls f. - crs Qtz Ss, pyr replaced plant rmns, rr glau, mica, scat rd - sr Cht and Qtz grns and pbls, fos cast (pos pelecypod ?), sl hydrocarbon odor.	
	1843.5-1844.0 (0.5') - Ss: dk brn, sa, mod w. srt, v. slty and shly, mica, carb grns, fltg Qtz and Cht grns, tt, fair odor, no fluor, v. slow dull yel cut.	
	18440-1845.8' (1.8') - Sltst: dk brn, v. sdy, v. sl hydrocarbon odor, occ green - blk glau pels.	
	1845.8-1848' (2.2') - Ss: dk brn, v.f. grn, sa, v. slty and shly, scat carb grns, rr glau pels, NOSCF.	
	1848-1850.8' (2.8') - Sltst: dk brn a/a, w/rr fish rmns (teeth or scales)	
	1850.8-1851.7' (0.9') - Ss: brn, oil stnd, f. grn, sa, mod w. srtd, carb, arg, w/occ arg grns, fair por (5-10%), lt yel fluor, instant blue - yel streaming cut, fair odor.	
	1851.7-1866' (14.3') - Sltst: dk brn, v. sdy, mica, shly, carb, occ pyr incls, scat Qtz and Cht grns, v. spotty dull gold fluor, v. slow yel cut, good odor in top 2'.	
	1866-1868.2' (2.2') - Ss: dk brn, v.f. grn, sa, mod w. srtd, v. slty, shly, carb, pyr incls, rd Cht and Qtz grns and grnls, tt, no fluor, v. slow dull yel crush cut.	
	1868.2-1869' (0.8') Sltst: dk brn.	
	1869-1871' (2') - Ss: dk brn, v.f. - f. grn, p. srtd, sl cgl w/dk Cht and Qtz pbls, v. slty and shly, NOSCF.	
	1871-1872' (1') - Sltst: dk brn.	
	1872-1880.8 (8.8') Sh: gy brn, plty, slty, in pt fis, sl pyr, mica, com fish rmns (bones, scales ?).	
	1880.8-1881' (0.2') No recovery.	
	NOTE: Apparent dips in Core: 0-2°.	
1881-1895'	Sh: dk gy brn, carb, fis, pyr incls, occ fltg sd grns.	5.5
1895-1910'	Cht cgl: w/com sd grns, cmtd w/gy brn slty Cly mtx, rd-sa, varicolored (blk - clr) Cht. NOSCF.	1.0 - 2.0
1910-1930'	Sltst: lt brn gy to tn, v. clyey, sl - mod calc, fltg sd grns, occ glau grns.	3.5
1930-1950'	(v.p. spls) - appears to be Clyst, tn, v. slty, sdy, rr glau grns; and Sh, dk brn gy, fis, carb, slty in pt.	4.0

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-5-80 Time

Present Depth Previous Depth Footage 24 Hrs.

Formation(s) Top

Present Activity:

LITHOLOGIC DESCRIPTION

Interval Reported Sampling Interval ft. Sample Quality
Lag Time: min. @ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
1890'	168'								
1895'	180'								
1920'	200'				4000	tr			

Ditch Gas (Units): Background 120 Connection 184 @ 1900' Trip 3000 @ 1881' Peaks a/a

Mud: Wt. 10.1 Vis 45 W.L. 9.0 ph 9.0 cc Oil - % Cl_2 58000 Temp. 84 °F. in 78 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
1850'		1.38	
1900'		1.76 (coring)	
1950'		1.56	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	110-1880'	1	1
Unwashed Ditch (Paleo)	1320-1880'	1	Bx #1
Unwashed Ditch (USGS)	1520-1880'	1	Bx #2
GeoChem (canned)	1838-1881' (Core #3)	1	
Cores	No. 3; 1838-1881'	15	

RON BROCKWAY

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-6-80 Time 0600

Present Depth 2089' Previous Depth 1955' Footage 24 Hrs. 134'

Formation(s) KINGAK Top 1900'

Present Activity: Tripping in w/new bit

LITHOLOGIC DESCRIPTION

Interval Reported 1950-2090 Sampling Interval 10 ft. Sample Quality f. - poor
Lag Time: 9 min. @ 2089 ft.

Interval	Description	Avg. Drill Rate min./ft.
1950-1974'	Clyst: tn, slty; w/intbdd Sltst; rr glau grns.	4.5
1974-1995'	Sh: lt gy - gy - lt brn gy, fis, sft, sl carb, rr glau; w/Sltst strgs: lt gy - lt tn gy, clyey, carb flks.	8.0
1995-2050'	Sh: gy brn - dk gy, fis, sft, pyr incls; w/Sltst: lt - gy tn, tr glau pels and grns.	2.5
2050-2080'	Sltst: lt brn - gy, sft, tr glau pels; w/Sh intbds a/a.	2.5
2080-2090'	Clyst: lt gy, v. sft, sdy - slty, tr pyr incls; Sh strks.	8.0
	REQUEST: 1. Nylon filament tape (4) 2. Core bx labels.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
1945-1950'	320	16	160	120	64000	4000			
1995-2000'	480	9	140	180	96000	2000			
2080-2088	280	14	140	200	56000	Tr			

Ditch Gas (Units): Background 200 Connection nil Trip nil Peaks a/a

Mud: Wt. 10.2 Vis 47 W.L. 5.0 ph 9.0 cc Oil - % Cl_2 52000 Temp. 78 °F. in 80 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
1950'		1.43	
2000'		1.65	
2050'		1.47	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-7-80 Time 0600

Present Depth 2136' Previous Depth 2089' Footage 24 Hrs. 47'

Formation(s) UPPER BARROW SS Top 2094

Present Activity: Prep to run DST #1 in Upper Barrow Sd.

LITHOLOGIC DESCRIPTION

Interval Reported 2090-2136' Sampling Interval 10 & core ft. Sample Quality good
Lag Time: 9.2 min. @ 2136 ft.

Interval	Description	Avg. Drill Rate min./ft.
2090-2096'	Ss: lt gy - lt tn, v.f. - f. grn, sr-rd, mod srtd, slty, arg, glau, mod sft, nil por, w/spotty dull yel fluor, slow dull yel cut fluor; w/coal and Sh: lt brn - gy, carb, fis.	2.9
2096-2136'	Core #4, Cut 40', Rec. 36.2' (90%)	2.5 - 14.7
	2096-2098.3' - Ss: brn, f. - v.f. grn, sa, mod srtd, abnt glau grns and pels, mica, nil por, fair odor, spotty lt yel fluor, v.f. crushed cut.	
	2098.3-2101' - Sltst: med - lt brn, v. sdy, shly, abnt glau, occ pyr replaced plant frag, no spl fluor, v. p. cut fluor.	
	2101-2103' - Ss: lt - dk brn, v.f. - f. grn, sa-sr, slty, shly strks, w/occ strks of lt yel fluor, v. lt yel stream cut fluor, nil por; occ large pyr wood frag.	
	2103-2104' - Sltst: brn, sdy, shly, pyr plant rmns, glau, spotty bleed oil and gas.	
	2104-2122' - Ss: lt - med brn, f. - v.f. grn, sa-sr, mod srtd, clyey - shly, sl slty, glauconitic, thn por zones w/por of 0-10%, lt brn vis cut, spotty dull - bright yel fluor, v. slow lt yel cut fluor to occ instant blueish yel cut fluor.	
	2122-2131.3' - Ss: med brn, v.f. - f. grn, sa-sr, mod srtd, clyey, sl slty, qtzs, glauconitic, ptly shly, rr mica, por 8-15%, good odor, faint lt brn vis stn, dull - med yel spl fluor, faint - instant blueish yel cut fluor.	
	2131.3-2132.2 - Sltst: brn gy, mica, slty, carb, rr pyr replaced plant rmns.	
	2132.2-2136' - No recovery.	
	REQUEST: Additional gas & wtr btls	

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-7-80 Time 0600

Present Depth _____ Previous Depth _____ Footage 24 Hrs. _____

Formation(s) _____ Top _____

Present Activity: _____

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
2090-2098'	280	10	200	160	56,000	2000			
2127-2128'	120	9	90	90	24,000	Tr			

Ditch Gas (Units): Background 100 @ 2136' Connection 100 @ 2126' Trip 320 @ 2089' Peaks a/a

Mud: Wt. 10.2 Vis 41 W.L. 9.0 ph 9.0 cc Oil - % Cl_2 46,000 Temp. 80 °F. in 80 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
2050'		1.47	
2100'		1.56 (core)	

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-8-80 Time 0600

Present Depth 2136' Previous Depth 2136' Footage 24 Hrs. 0

Formation(s) UPPER BARROW SS Top 2094'

Present Activity: Prep to run DST #3 in Upper Barrow Sd. See attached DST reports.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.
	DST #1 (2080-2136') - pkr failed after 3 min.	
	DST #2 (2095-2136') - pkr failed after approx 20 min.	
	See attached.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 1350-100 Connection _____ Trip _____ Peaks _____

Mud: Wt. 10.2 Vis 41 W.L. 7.5 ph 8.0 cc Oil 0 % Cl_2 45000 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-9-80 Time 0600

Present Depth 2136' Previous Depth 2136' Footage 24 Hrs. 0

Formation(s) UPPER BARROW SS Top 2094'

Present Activity: Prep to drill ahead after running DST #3

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.
	SEE ATTACHED DST #3 REPORT.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
2136' after running DST #3	3040				608000	32000			

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 10.3 Vis 41 W.L. 7.5 ph 8.0 cc Oil 0 % Cl_2 45000 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

RON BROCKWAY

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HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-10-80 Time 0600

Present Depth 2187' Previous Depth 2136' Footage 24 Hrs. 51

Formation(s) L. BARROW SS Top 2159'

Present Activity: RIH w/bit after cutting Core #5

LITHOLOGIC DESCRIPTION

Interval Reported 2136-2187' Sampling Interval 10' & core ft. Sample Quality good

Lag Time: 9.5 min. @ 2187 ft.

Interval	Description	Avg. Drill Rate min./ft.
2136-2159'	Intbdd Ss: lt brn gy - lt brn, v.f. - f. grn, sa, mod - w. srtd, Qtzs, fri - mod firm, tr pale yel fluor, v. lt yel cut fluor; w/Sltst: lt brn, shly, sl carb; and Sh: lt gy brn, ptly slty, sft, fis, rr carb grns.	3.2
2159-2165'	Ss: lt brn - lt gy, f. - v.f. grn, sa, w. srtd, fri strks, w/glau, ptly clyey, nil - 20% por, lt brn vis stn, pale gold spl fluor, v. lt yel instant cut fluor.	2.7
2165-2187'	Core #5, Cut 22', Rec. 19.9' (90%)	6.0
	2165-2167' - Ss: lt gy - lt brn gy, shly, v.f. grn, sl - mod calc, mod hd, sa, Qtzs, carb flks, rr glau, v.f. spotty dull yel fluor, v. faint lt yel cut fluor, hztl bdg.	
	2167-2173' - Ss: brn gy, f. grn, sa, m. srtd, Qtzs, ptly shly, w/Sh ptgs, sl carb, w/strks por to 20%, lt brn vis stn, f. lt yel fluor, instant blueish yel cut in por, hztl bdg.	
	2173-2174' - Sh: lt gy brn, mica, sft, v. sdy, fos frag.	
	2174-2179' - Ss: gy brn - lt brn, f. grn, Qtzs, sa, fri, scat glau, v.f. lt yel spl fluor, v.f. lt yel cut, abnt frac to 85°.	
	2179-2184.9' - Ss: brn, f. grn, w. srtd, sa, Qtzs, carb flks, scat glau, 10-20% por, fracs to 85°, pos x-bdd to 35°, dk brn oil spots on some fracs, por sd w/dk brn vis stn, bleed some oil from tt Ss and frac, lt yel spl fluor, instant blueish yel cut fluor.	
	2184.9-2187' - No recovery.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5
2145-2155'	120	17	90	66	24000	Tr			
2136' (Trip)	1408	-	-	-	225000	56400			
2151' (Trip)	320	-	-	-	51200	12800			

Ditch Gas (Units): Background 25 @ 2187' 44 while coring Connection nil Trip a/a Peaks a/a

Mud: Wt. 10.2 Vis 41 W.L. 7.0 ph 8.0 cc Oil 0 % Cl_2 45000 Temp. 66 °F. in 66 °F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
2150'		1.52	

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-11-80 Time 0600

Present Depth 2278' Previous Depth 2187' Footage 24 Hrs. 91

Formation(s) LOWER BARROW Top 2159'

Present Activity: Logging, running DLL at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 2187-2278' Sampling Interval 10' ft. Sample Quality fair
Lag Time: 9.5 min. @ 2278 ft.

Interval	Description	Avg. Drill Rate min./ft.
2187-2278'	Intbdd Sh, Sltst, and Ss; Ss (20-60%) lt tn gy, tn and buff, sa, mod w, srtd, sft, clyey, occ por strks, sl carb, becoming sl sideritic in btm 20' of interval, tr tn siderite, occ foe frags, mnr oil show in Ss strks 2187-2196', sl spotty yel fluor, v. sl yel cut; w/Sh, lt brn - dk brn gy, fis, carb, ptly slty; and Sltst, lt gy brn - lt gy, clyey, sft, sdy, occ carb.	1.8 - 5.2
	(NOTE: Hit bridge at 2132' on first DLL run in hole, POH and cond mud.).	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background 40 Connection - Trip - Peaks -

Mud: Wt. 10.2 Vis 45 W.L. 7 ph 8.5 cc Oil - % Cl_2 48000 Temp. 78 °F. in 73 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
NONE REPORTED			

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	110-1880' / 1880-2278'	1 / 2	Set 2 / Sets 1 & 2
Unwashed Ditch (Paleo)	1880-2278'	2	
Unwashed Ditch (USGS)	1880-2278'	1	
GeoChem (canned)	2165-2187'	1	
Cores	No. 1, (2165-2187')	7	

Geologist RON BROCKWAY/[illegible] KANE

8/78

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-12-80 Time 0600

Present Depth 2278' Previous Depth 2278' Footage 24 Hrs. 0

Formation(s) LOWER BARROW Top 2188' (log)

Present Activity: Running DST #4 at report time (see attached DST Report).

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description		Avg. Drill Rate min./ft.
	RAN THE FOLLOWING SCHLUMBERGER LOGS:		
	DLL/MSFL/GR	1520-2278'	
	FDC/CNL/GR/CAL	1520-2280'	
	BHCS/GR	1520-2280'	
	DIPMETER	1520-2278'	
	MLL	1520-2280'	
	LOG TOPS AS FOLLOWS:		
	Top Kingak	1898'	
	Top Upper Barrow	2109'	
	Top Lower Barrow	2188'	
	Base Lower Barrow	2209'	
	LOG ANALYSIS LOWER BARROW		

Depth	Ø Density	Ø Neutron	Ø Sonic	S_w
2190-2194'	18	31	27	79%
2194-2200'	15	31	29	100%

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 10.3 Vis 41 W.L. 7.5 ph 8.5 cc Oil - % Cl_2 48000 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY/A. KANE

8/78

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-13-80 Time 0600

Present Depth 2205' PBTD Previous Depth 2278' Footage 24 Hrs. 0

Formation(s) LOWER BARROW SS Top 2188' (log)

Present Activity: Prep to run 7"; spotted plug on btm, polished off to 2205'; (See attached DST Report for results of DST #4)

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.
	NOTE: recovered 2090' formation fluid (water) on DST #4.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. 10.3 Vis 40 W.L. 15 ph 11 cc Oil - % Cl_2 45000 Temp. - °F. in - °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-14-80 Time 0600

Present Depth 2205' PBTD Previous Depth 2205' Footage 24 Hrs. 0

Formation(s) L. BARROW SS Top 2188'

Present Activity: Nippling up 7" BOP's; ran 7" to 2198', cmtd, nippling up at report time.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-15-80 Time 0600

Present Depth 2158' PBTD Previous Depth 2205' Footage 24 Hrs. 0

Formation(s) LOWER BARROW SS Top 2109' (log)

Present Activity: Mixing Arctic Pack at report time

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-16-80 Time 0600

Present Depth 2170' PBTD Previous Depth 2170' Footage 24 Hrs. 0

Formation(s) L. BARROW SS Top 2109' (log)

Present Activity: Prep for Production Test #1, picking up tubing at report time.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-17-80 Time 0600

Present Depth 2170' Previous Depth 2170' Footage 24 Hrs. 0

Formation(s) UPPER BARROW Top 2109' (log)

Present Activity: Prep for Production Test #1; perforated w/4 shots/ft. 2054-2064', 2110-2151'; hang tubing, nipple up test tree, test to 3000 psi at report time.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-17-80 Time 0600

Present Depth 2170' Previous Depth 2170' Footage 24 Hrs. 0

Formation(s) UPPER BARROW SS Top

Present Activity: Production Test #1, Upper Barrow Ss (see attached test report).

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY

HUSKY

HUSKY OIL NPR OPERATIONS, INC.
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DAILY GEOLOGICAL REPORT

WELL BARROW #15 Date 9-19-80 Time 0600

Present Depth 2170' PB Previous Depth 2170' Footage 24 Hrs. 0

Formation(s) UPPER BARROW SS Top 2109'

Present Activity: Completed Production Test #1 (See attached report); rigging down at report time. Rig released 9-18-80 midnight.

LITHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Lag Time: _____ min. @ _____ ft.

Interval	Description	Avg. Drill Rate min./ft.
	Took gas spls at:	
	9-17-80 1317 hrs.	
	1400 hrs.	
	1830 hrs.	
	9-18-80 050 hrs.	
	545 hrs.	
	1030 hrs.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units Before	Background Gas Units After	CHROMATOGRAPH (PPM) C_1	C_2	C_3	C_4	C_5

Ditch Gas (Units): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist RON BROCKWAY