



HUSKY OIL NPR OPERATIONS, INC.  
U. S. GEOLOGICAL SURVEY/ONFRA  
DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-1-80 Time 0600  
 Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
 Formation(s) ENDICOTT GP (?) Top 13,370'  
 Present Activity: Laying down drill pipe, prep to run 7 5/8" liner

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	COMPLETED LOGGING RUN AS FOLLOWS:	
	HDT (DIPMETER) 8002-13,650'	

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt \_\_\_\_\_ Vis \_\_\_\_\_ W.L. \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ %Cl<sub>2</sub> \_\_\_\_\_ Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

Data Unit:

Depth	Shale Density	De 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 RAY WERMAYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-2-80 Time 0600

Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0

Formation(s) ENDICOTT GP (?) Top 13,370'

Present Activity: Running 7 5/8" liner

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt \_\_\_\_\_ Vis \_\_\_\_\_ W.L \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ % Cl<sub>2</sub> \_\_\_\_\_ 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

*Marks*

WELL LISBURNE #1 Date 3-3-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP (?) Top 13,370'  
Present Activity: Set 7 5/8" liner 7700-13,650', cmt, WOC.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_  
Mud: Wt. \_\_\_\_\_ Vis \_\_\_\_\_ W.L. \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ % Cl<sub>2</sub> \_\_\_\_\_ Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

Data Unit:

Depth	Shale Density	De 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 LISBURNE #1 Date 3-4-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP (?) Top 13,370'  
Present Activity: Squeeze liner lap

**LITHOLOGIC DESCRIPTION**

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

Interval	Description	Avg. Drill Rate min./ft.

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. \_\_\_\_\_ Vis \_\_\_\_\_ W.L. \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ % Cl<sub>2</sub> \_\_\_\_\_ 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 LISBURNE #1 Date 3-5-80 Time 0600

Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0

Formation(s) ENDICOTT GP (7) Top 13,370'

Present Activity: Drilling on retainer

**LITHOLOGIC DESCRIPTION**

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

Interval	Description	Avg. Drill Rate min./ft.

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. \_\_\_\_\_ Visc \_\_\_\_\_ W.L. \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ %Cl<sub>2</sub> \_\_\_\_\_ Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

**Data Unit:**

Depth	Shale Density	Dc Exponent	Porc 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 LISEURNE #1 Date 2-21-80 Time 0600  
 Present Depth 13,285' Previous Depth 13,233' Footage 24 Hrs. 52  
 Formation(s) LISEURNE Top 11,548'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,220-13,270' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 115 min. @ 13,280 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,220-13,240'	Sh (50-80%): dk brn. rr microfos. calc. mod hd. micropyr. sl slty; and intbdd Ls, gy brn, p. xl, firm, arg; v. loc Sh, brn, sft, slty, in pt wtr soluble, micropyr.	10.9
13,240-13,270'	Sh (75-90%): blk, in pt slty, hd; w/mnr intbdd Ls, lt gy, becoming gy brn, pred a lime mud, firm, arg; w/v. mnr Cht, v. dk gy brn - blk, subconchoidal frac in pt.	11.3

SHOW DESCRIPTION (Gas and/or Oil)

Interval	TOTAL GAS	CHROMATOGRAPH (PPM)	
		C1	C2
13,250'	48 units	10,000	500

Ditch Gas (Units): Background 24 Connection 25 @ 13,261' Trip 992 @ 13,233' Peaks -

Mud: Wt 10.7 Vis 47 W.L. 6.8 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 87 °F. in 92 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,250'	2.64	1.80	10.49

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 LISBURNE #1 Date 2-22-80 Time 0600  
 Present Depth 13,386' Previous Depth 13,285' Footage 24 Hrs. 101  
 Formation(s) LISBURNE Top 11,548'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,270-13,370' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 118 min. @ 13,380 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,270-13,295'	Sh (60-90%); v. dk brn, in pt blk, in pt sil dol, hd, micro-pyr, loc chty; w/subordinate Ls, lt gy - tn, becoming gy brn, v.f. - f. xl, firm, sl arg.	11.4
13,295-13,310'	Pred Ls, a/a, w/10-25% Sh a/a.	12.0
13,310-13,325'	Sh (60-70%); a/a, w/subordinate Ls a/a; mnr Dol, dk brn - blk, f. xl, suc, v. arg, dns, tr Cht.	11.7
13,325-13,340'	Pred Cht: tn - dk brn, subconchoidal frac, veined w/gilsonite; w/20-40% Sh a/a; mnr Ls and Dol a/a.	12.0
13,340-13,355'	Sh (60-90%); a/a; mnr Dol a/a; tr Sltst, lt gy - brn, and banded lt and dk gy, sft - firm, calc in pt, arg in pt, pyr.	13.5
13,355-13,370'	Cht: gy, green, some tn and some blk, subconchoidal frac, micro-pyr; w/10-35% Sh a/a; mnr Cly lt gy - wh, sft - firm, dol, sl sil; mnr Dol a/a.	14.6

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)	
		C <sub>1</sub>	C <sub>2</sub>
13,335'	40 units	5100	Tr

Ditch Gas (Units):  
 Background 23 Connection 25 @ 13,297' Trip - Peaks -  
 0 @ 13,356'  
 40 @ 13,324'

Mud: Wt 10.7 Vis 44 W.L 6.5 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 96 °F. in 100 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,300'	2.68	1.73	10.51
13,350'	2.59	1.81	10.55

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	13,070-13,280'	1	Bx #52
Unwashed Ditch (USGS)	13,070-13,280'	1	Bx #52
GeoChem (canned)	12,810-13,170'	1	Bx #40
Cores	No.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-23-80 Time 0600  
Present Depth 13,458' Previous Depth 13,386' Footage 24 Hrs. 72  
Formation(s) SHUBLIK (?) Top 13,095'  
Present Activity: Tripping

LITHOLOGIC DESCRIPTION

Interval Reported 13,370-13,453' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 114 min. @ 13,450 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,370-13,373'	Cht: gy green. a/a.	17.0
13,373-13,410'	Sh (75-100%): v. dk brn - occ blk, dns, firm, micropyr, slty- v. slty, w/occ microlam tn - brn Sh, occ mnr dol rhombs in blk Sh; w/mnr Clyst: lt gy - green gy, micropyr and Cly (Kaolinite?): gy - wh, sft, sl dol.	18.5
13,410-13,440'	Pred Sltst: dk brn - occ blk, sft - firm, v. arg, grds in pt to Sh; w/Clyst and Cly: a/a.	19.2
13,440-13,453'	Pred Sh: blk, a/a; w/Sltst: a/a and w/10-40% Ls: wh, mot gy brn, crypto - microxl, mod hd, v. rr fos, occ calcite veins.	14.1

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS MAX.	CHROMATOGRAPH (PPM)	
		C1	C2
13,435'	47 units	10,000	Tr

Ditch Gas (Units): Background 26 Connection 45 @ 13,387' Trip - Peaks a/s

Mud: Wt 10.7 Vis 42 W.L 6.9 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 98 °F. in 100 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,400'	2.67	2.00	10.41
13,450'	2.66	2.13	10.55

Dispatched Samples:

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





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-24-80 Time 0600  
 Present Depth 13,481' Previous Depth 13,458' Footage 24 Hrs. 23'  
 Formation(s) SHURLIK Top 13,095'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,453-13,470' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 119 min. @ 13,475' ft.

Interval	Description	Avg. Drill Rate min./ft.
13,453-13,470'	Sh (30-70%): blk, slty, sl sil, firm - mod hd; intbdd/slitst: blk, arg, dolomitic; w/Ls: wh, microxl, sl arg, tr Chl, tr clc Qtz frag, tr calcite, and Dol rhombs all as prob frac fill.	18.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS MAX.	CHROMATOGRAPH (PPM)	
		C1	C2
13,465'	47 units	8500	Tr

Ditch Gas (Units): Background 23 Connection - Trip 190 @ 13,458' Peaks none

Mud: Wt 10.7 Vis 41 W.L. 6.5 ph 8.5 cc Oil 0 % Cl<sub>2</sub> 200 Temp. 94 °F. in 98 °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 LISBURNE #1 Date 2-25-80 Time 0600  
Present Depth 13,545' Previous Depth 13,481' Footage 24 Hrs. 64  
Formation(s) SHUBLIK (?) Top 13,095' (?)  
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,470-13,535' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 119 min. @ 13,540 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,470-13,535'	Pred Sh: v. dk - med brn. in pt slty. micromica.; and sltst dk brn. arg. to 13,505'; w/mnr intbdd lg (5-30%). lt gy - bf. rt brn. gen f. - v.f. xl; mnr Mdst, banded wh and brn, sft.	20.7

SHOW DESCRIPTION (Gas and Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)	
		C <sub>1</sub>	C <sub>2</sub>
13,518'	864 units connection	171,000	Tr

Ditch Gas (Units): Background 24 Connection a/a Trip - Peaks -

Mud: Wt. 10.7 Vis 40 W.L. 7.0 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 100 °F. in 103 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,500'	2.66	2.13	10.54

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	13,280-13,500'	1	Bx #53
Unwashed Ditch (USGS)	13,280-13,500'	1	Bx #53
GeoChem (canned)	13,170-13,530'	1	Bx #41
Cores	No.		

Geologist RAY WERMEYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-26-80 Time 0600  
Present Depth 13,600' Previous Depth 13,545' Footage 24 Hrs. 55'  
Formation(s) SHUBLIK (?) Top 13,095'  
Present Activity: RIH for Core #12

LITHOLOGIC DESCRIPTION

Interval Reported 13,535-13,600' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 120 min. @ 13,600 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,535-13,600'	Prod Sh. w/Mdst a/a; and loc w/Sltst, brn, in pt mot brn and wh, micropyr, and loc v. mr Ls, mot tn - brn gy, microxl.	14.0

~~FLOW DESCRIPTION (G and H Oil)~~

Interval	TOTAL GAS	CHROMATOGRAPH (PPM)		
		C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>
13,552'	Drilling break, no gas			
13,585'	30 units	4200	-	-

Ditch Gas (Units): Background 28 Connection - Trip - Peaks -

Mud: Wt. 10.7 Vis 42 W.L. 6.6 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 98 °F. in 101 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,550'	2.66	2.15	10.55
13,600'	2.67	2.37	10.55

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 LISBURNE #1 Date 2-27-80 Time 0600  
Present Depth 13,609' Previous Depth 13,600.7' Footage 24 Hrs. 8.3'  
Formation(s) SHUBLIK Top 13,095'  
Present Activity: RIH w/bit

LITHOLOGIC DESCRIPTION

Interval Reported 13600.7-13,609' Core # 12 Sampling Interval \_\_\_\_\_ ft. Sample Quality \_\_\_\_\_  
Lag Time: \_\_\_\_\_ min. @ \_\_\_\_\_ ft.

Interval	Description	Avg. Drill Rate min./ft.
13,600.7-13,609'	Core #12. Cut 8.3', Rec. 7.7' (93%)	
	<u>13,600.7-13,609' (7.7') - Sh: v. dk brn - blk, v. hd, w. compacted, subconchoidal frags; scat pyr nodules; rr hztl lenses and seams pyr, sl sil, rr microfracs.</u>	55.8

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
13,602'	32 units	C <sub>1</sub> 6400

Ditch Gas (Units): Background 14 Connection - Trip 152 @ 13,600' Peaks -

Mud: Wt. 10.7 Vls 44 W.L. 6.9 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 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. <u>12</u>	<u>3</u>	



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-28-80 Time 0600  
 Present Depth 13,650' Previous Depth 13,609' Footage 24 Hrs. 41'  
 Formation(s) SHUBLIK Top 13,095'  
 Present Activity: Prep to log (picking up DIL at report time)

**LITHOLOGIC DESCRIPTION**

Interval Reported 13,609-13,650' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 120 min. @ 13,650 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,609-13,650'	Pred Clyst, lt gy green, lt gy, firm, becoming hd, sil. scat tripolite; occ piece w/scat fish scales (?) and microfoss; 13,640-13,650' rr pyr and Ls; mar Sh gy brn - blk, in pt slty, hd; loc Cht.	19.2

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background 18 Connection 0 Trip 248 @ 13,609' Peaks -

Mud: Wt. 10.7 Vis 46 W.L. 7.2 ph 8.5 cc Oil - % Cl<sub>2</sub> 200 Temp. 96 °F. in 100 °F. out

**Data Unit:**

Depth	Shale Density	De Exponent	Pore Pressure
13,650'	2.65	2.20	10.64

**Dispatched Samples:**

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



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-6-80 Time 0600  
 Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
 Formation(s) ENDICOTT GP (?) Top 13,370'  
 Present Activity: Prep to recmt 7 5/8" csg shoe.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 30 Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. 10.7 Vis 48 W.L. 11 ph 13.0 cc Oil 0 %Cl<sub>2</sub> 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 \_\_\_\_\_



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-7-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP Top 13,370'  
Present Activity: Squeeze 7 5/8" shoe.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt 10.7 Vis 48 W.L. 11.2 ph 13.0 cc Oil 500 % Cl<sub>2</sub> \_\_\_\_\_ Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out \_\_\_\_\_

Data Unit:

Depth	Shale Density	Dc Exponent	Porosity

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 LISBURNE #1 Date 3-16-80 Time 0600  
 Present Depth 13,657' Previous Depth 13,653' Footage 24 Hrs. 4  
 Formation(s) ENDICOTT/KAYAK Top 13,370'  
 Present Activity: Tripping, milled junk

**LITHOLOGIC DESCRIPTION**

Interval Reported 13,650-13,657' Sampling Interval 5 ft. Sample Quality v. poor  
 Lag Time: 7/2 min. @ 13,657' ft.

Interval	Description	Avg. Drill Rate min./ft.
13,650-13,655'	100% cmt, no formation cuttings.	
13,655-13,657'	70% junk and cmt; w/Mdst: tn - lt gy, v. hd, sil, v.f. ? carb specks, some apparent sealed frac, w/tr Cht: brn gy, sub-conchoidal; w/tr Sh: blk - med hd - hd, earthy, blk, in pt sil, occ Sh w/euhedral Dol rhombs.	

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background 8 Connection - Trip 46 @ 13,650' Peaks none

Mud: Wt 10.7 Vis 46 W.L. 10.2 ph 12.5 cc Oil 0 % Cl<sub>2</sub> 350 Temp. 77 of. in 80 of. out

Data Unit:

Depth	Shale Density	De 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 RAY WERMAYER





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-17-80 Time 0600  
 Present Depth 13,660' Previous Depth 13,657' Footage 24 Hrs. 3  
 Formation(s) KAYAK Top 13,370'  
 Present Activity: Tripping

LITHOLOGIC DESCRIPTION

Interval Reported 13,657-13,660' Sampling Interval 3 ft. Sample Quality fair  
 Lag Time: 131 min. @ 13,660 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,657-13,660'	70% Mdst, med gy, blk, rr scat orange tn phosphatic pels, in pt sil; 10% Mdst blk, dull luster, earthy, occ piece w/v. fine euhedral dol rhombs; in pt v. slty; 20% Chrt, brn gy, sub-conchoidal frac.	(not valid, cut w/mill)

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 10 Connection 0 Trip 20 @ 13,657' Peaks 0

Mud: Wt. 10.7 Vis 58 W.L. 9.8 ph 13 cc Oil -    % C12 400 Temp. 70 °F. in 74 °F. out

Data Unit:

Depth	Shale Density	De 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 RAY WERMEYER 8/78



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-18-80 Time 0600

Present Depth 13,700' Previous Depth 13,660' Footage 24 Hrs. 40

Formation(s) KAYAK/ENDICOTT (?) Top 13,370'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,660-13,695' Sampling Interval 5' ft. Sample Quality good  
Lag Time: 90 min. @ 13,698' ft.

Interval	Description	Avg. Drill Rate min./ft.
13,660-13,670'	Pred Cht: lt gy - gy brn, subconchoidal frac, in pt w/rimmed and zoned ooliths; w/mnr mod gy Mdst a/a.	19.0
13,670-13,680'	Sh: lt gy, in pt w/tn microphosphatic pels; w/Sh gy - brn, mod hd, sl sil; and w/mnr Clyst: lt gy, sft.	19.0
13,680-13,695'	Sh: increase in lt gy w/a sl greenish cast, mod hd, loc pyr; also Sh gy - brn, mod hd; and mnr Clyst wh - lt gy, sft, w/tr wh calcite.	24.5

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
		C <sub>1</sub>
13,660'	19 units	3800

Ditch Gas (Units): Background 8 Connection 10 @ 13,680' Trip 33 @ 13,658' Peaks a/a

Mud: Wt 10.7 Vls 52 W.L. 6.8 ph 12.5 cc Oil - % C<sub>12</sub> 400 Temp. 80 °F. in 85 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,650'	2.65	2.20	10.64
13,700'	2.64	2.97	10.58

Dispatched Samples:

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

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-19-80 Time 0600

Present Depth 13,766' Previous Depth 13,700' Footage 24 Hrs. 66

Formation(s) ENDICOTT GP (?); LISBURNE (?) Top 13,370'; 13,748'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,695-13,760' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 87 min. @ 13,765' ft.

Interval	Description	Avg. Drill Rate min./ft.
13,695-13,715'	Sh: lt - med gy, mod hd - hd, sl sil, in pt w/f. dia micropyr; tr - 10% wh calc; tr - 10% Clyst, wh - lt gy, sft.	21.0
13,715-13,745'	Sh: lt - med gy, mod hd - hd, sl sil, becoming sl slty, w. dia micropyr; 10 - 20% Sltst; 10 - 20% Clyst a/a.	17.4
13,745-13,750'	Cht (50%): tn and wh, milky, mot dk gy; intbdd w/Sh (50%) a/a.	20.0
13,750-13,760'	Ls: bf - tn, f. xl, rexlized, mod hd - hd, in pt sil; intbdd w/Cht, tn and wh, some clr and dk mot, occ microfracs; tr glau.	15.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
		C <sub>1</sub>
13,741'	14 units	2800

Ditch Gas (Units): Background 7 Connection 9 @ 13,711' Trip - Peaks a/a  
8 @ 13,742'

Mud: Wt. 10.2 Vis 52 W.L. 5.8 ph 12 cc Oil - % Cl<sub>2</sub> 400 Temp. 92 °F. in 96 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,750'	2.65	1.81	10.58

Dispatched Samples:

Type	Interval	No. of Boxes	Box No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	13,500-13,710'	1	Bx #54
Unwashed Ditch (USGS)	13,500-13,710'	1	Bx #54
GeoChem (canned)			
Cores	No.		

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-20-80 Time 0600  
 Present Depth 13,805' Previous Depth 13,766' Footage 24 Hrs. 39  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,760-13,795' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 116 min. @ 13,802 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,760-13,785'	Dol (30-60%): lt gy, f. xl, sucrosic, mod hd, w/gilsonite in intrxl por space, rr crinoids, tr intrxl por, NOSCF; w/Cht (30-50%) dk gy - brn, subconchoidal frac, some lt brn - amber and some wh w/dk mot; and Sh (10-20%), med - dk gy, hd, sil; tr Sltst w/rr glau.	13.3
13,785-13,795'	Cht (80%): amb. dk gy - brn, subconchoidal, w/rr ghost bryozoans; Dol (20%) a/a; Sh tr - 10%.	16.0

SHOW DESCRIPTION (Gas and/or Oil)

TOTAL GAS	CHROMATOGRAPH (PPM)	
	C <sub>1</sub>	
13,765'	31 units	6200

Ditch Gas (Units): Background 8 Connection 8 @ 13,783' Trip 16 @ 13,773' Peaks a/a

Mud: Wt. 10.7 Vls 48 W.L. 5.8 ph 12 cc Oil - % Cl<sub>2</sub> 350 Temp. 92 °F. in 95 °F. out

Data Unit:

Depth	Shale Density	De 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/ONFRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-21-80 Time 0600  
 Present Depth 13,844' Previous Depth 13,805' Footage 24 Hrs. 39  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,795-13,840' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 120 min. @ 13,815 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,795-13,825'	Cht: dk gy - brn and dk gy, subconchoidal frac: w/Dol (20%). lt gy, f. xl, mod hd, suc, gilsonite stn; and 0-10% Sh, dk gy, hd.	15.0
13,825-13,840'	ls (20-30%): tn, rexized, crinoidal packstone, mod hd, in pt sil, tt, NOSCF; w/Cht (50-80%), wh, si mot, w/hairline fracs closed or sil cmt, in pt lt gy - brn.	22.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PEM)
		C <sub>1</sub>
13,831'	38 units	7600

Ditch Gas (Units): Background 9 Connection 10 @ 13,815' Trip 15 @ 13,811' Peaks 30 @ 13,834'

Mud: Wt. 10.7 Vis 47 W.L. 6.8 ph 12 cc Oil - % Cl<sub>2</sub> 350 Temp. 86 °F. in 89 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Core Pressure
13,800'	2.64	1.71	10.53

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	13,530-13,830'	1	Ex #42
Cores	No.		

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-22-80 Time 0600  
Present Depth 13,864' Previous Depth 13,844' Footage 24 Hrs. 20  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Cutting Core #13.

LITHOLOGIC DESCRIPTION

Interval Reported 13,840-13,859' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 93 min. @ 13,863 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,840-13,859'	Ls (60-80%); tn - brn, mod hd - hd, rexlized, bioclastic packstone. in pt sil w/some Cht replacement, in pt wh chalky Ls, tt, NOSCF; intbdd w/Cht, tn - amb, trns1, dk gy, med gy.	19.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
		C <sub>1</sub>
13,835'	30 units	6000

Ditch Gas (Units): Background 9 Connection 9 @ 13,847' Trip 9 @ 13,859' Peaks -

Mud: Wt. 10.7 Vis 47 W.L. 6.2 ph 12 cc Oil - %Cl<sub>2</sub> 350 Temp. 88 °F. in 93 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Porc Pressure
13,850'	2.69	1.75	10.6

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	12,920-13,850'	2	Bx #16, Sets 1&2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist DAVE YOUNG





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-9-80 Time 0600  
 Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
 Formation(s) ENDICOTT GP Top 13,370'  
 Present Activity: Squeezed lap, drilling retainer

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. \_\_\_\_\_ Vis \_\_\_\_\_ W.L. \_\_\_\_\_ ph \_\_\_\_\_ cc Oil \_\_\_\_\_ % Cl<sub>2</sub> \_\_\_\_\_ 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 RAY WERMEYER





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-10-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP Top 13,370'  
Present Activity: Drilling cmt at 8072'

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)

Interval	Description	Avg. Drill Rate min./ft.

Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. 10.7 Vis 48 w.L. 11.2 ph 12.5 cc Oil 0 % Cl<sub>2</sub> 400 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 RAY WERMEYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-11-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP Top 13,370'  
Present Activity: RIH w/RTTS tools to check for hole in 7 5/8" csg.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. 10.7 Vls 48 W.L. 11.2 ph 12.0 cc Oil 0 % Cl<sub>2</sub> 400 Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Porc 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 OPERATIONS, INC.  
U. S. GEOLOGICAL SURVEY/ONPRA

G. Cove

DAILY GEOLOGICAL REPORT

WELL LISEURNE #1 Date 3-12-80 Time 0600  
Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0  
Formation(s) ENDICOTT GP Top 13,370'  
Present Activity: POH w/csg scraper, prep to squeeze hole in liner at 13,125-13,155'.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt 10.7 Vls 48 W.I. 11.4 ph 12.5 cc Oil 0 % Cl<sub>2</sub> 400 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 RAY WERMAYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-13-80 Time 0600

Present Depth 13,650' Previous Depth 13,650' Footage 24 Hrs. 0

Formation(s) ENDICOTT GP Top 13,370'

Present Activity: Squeezed Liner, POH

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt 10.7 Vis 48 W.L. 11.4 ph 12.5 cc Oil 0 % Cl<sub>2</sub> 400 Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Fore Pressure

Dispatched Samples:

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

Geologist RAY WERMAYER





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

**DAILY GEOLOGICAL REPORT**

WELL LISBURNE #1 Date 3-15-80 Time 0600  
 Present Depth 13,653' Previous Depth 13,653' Footage 24 Hrs. 0  
 Formation(s) ENDICOTT Top 13,370'  
 Present Activity: RIH w/mill

**LITHOLOGIC DESCRIPTION**

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

Interval	Description	Avg. Drill Rate min./ft.

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background \_\_\_\_\_ Connection \_\_\_\_\_ Trip \_\_\_\_\_ Peaks \_\_\_\_\_

Mud: Wt. 10.7 Vls 46 W.L. 11.4 ph 12.5 cc Oil - % Cl<sub>2</sub> 400 Temp. \_\_\_\_\_ °F. in \_\_\_\_\_ °F. out

**Data Unit:**

Depth	Shale Density	Dc Exponent	Porosity Pressure

**Dispatched Samples:**

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

Geologist RAY WERMAYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-23-80 Time 0600  
 Present Depth 13,870' Previous Depth 13,864' Footage 24 Hrs. 6  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Reaming to btm.

LITHOLOGIC DESCRIPTION

Interval Reported 13,859-13,870.4' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 89 min. @ 13,870 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,859-13,870.4'	Core #13, Cut 11.4', Rec. 11.4', (100%)	17.0 - 132.0 Avg. 51.0
	13,859-13,870.4' (11.4') - Ls: tn - brn, bioclastic, crinoidal packstone, in pt grdg to Grnst, w/dk sil patches and occ Chn nodules; thn Sh lams w/30° dips; near vert fracs filled w/calc; second set of fracs 40-60° w/dk staining on surfaces (closed); nil por, NOSCF, get a sulphur odor on fresh break.	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
13,867'	8 units	C1 1600

Ditch Gas (Units): Background 2 Connection nil Trip - Peaks -

Mud: Wt 10.7 Vis 48 W.L. 6.3 ph 12.0 cc Oil - % Cl<sub>2</sub> 350 Temp. 88 °F. in 93 °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. 13 (13,859-13,870.4')	4	

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-24-80 Time 0600  
 Present Depth 13,950' Previous Depth 13,870' Footage 24 Hrs. 80'  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,870-13,940' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 95 min. @ 13,900 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,870-13,900'	Ls: wh - bf, tn, gy - bf mot, mod hd to hd, rexalized bio-clastic packstone, in pt sil replaced, sl dol, tt, NOSCF; intbdd w/Cht (20-30%) dk gy, gy - brn, clr, milky - trnsl; tr med gy graphitic Sh.	18.0
13,900-13,920'	Ls: bf - tn, mod hd, rexalized, bioclastic Grnst w/poorly preserved crinoids, rr shell frags, in pt cryptoxl, hd sl sil, tt, NOSCF; intbdd w/Cht (20%) tn - trnsl.	16.0
13,920-13,940'	Ls: med gy, f. xl, mod hd, arg, in pt sil, sl dol, rexalized w/poorly preserved crinoid debris, tt, NOSCF; intbdd w/20% Cht bf, dk gy.	15.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)	
		C <sub>1</sub>	
13,915'	19 units	3800	

Ditch Gas (Units): Background 10 Connection - Trip 15 @ 13,870' Peaks a/a

Mud: Wt. 10.7 Vis 47 W.L. 6.0 ph 11.5 cc Oil   % Cl<sub>2</sub> 350 Temp. 90 of. in 95 of. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,900'	2.58	1.63	10.64

Dispatched Samples:

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

Geologist DAVE YOUNG





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-2-80 Time 0600  
Present Depth 14,491' Previous Depth 14,461' Footage 24 Hrs. 30  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,450-14,485' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 127 min. @ 14,480 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,430-14,480'	Dol: dk gy, gy brn, f. xl, arg. hd, in pt sil; intbdd w/Cht (40-50%) dk gy, subconchoidal frac. and Cht, lt gy, mot. trip; w/occ strgs Sltst, dk gy, mod hd, and Sh, dk gy, hd, sil.	17.4
14,480-14,485'	Ls: brn and brn - gy, f. xl, hd, tt, in pt tn, chalky, NOSCF; intbdd w/Cht (30%) dk gy - brn, and lt gy, trip; tr - 10% Sltst dk gy, mod hd.	25.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 12 Connection - Trip 18 @ 14,485' Peaks 16 @ 14,480'

Mud: Wt. 10.8 Vis 50 W.L. 6.0 ph 11.0 cc Oil - % Cl<sub>2</sub> 200 Temp. 84 °F. in 91 °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)	14,100-14,460'	1	Bx #44
Chert Samples	11,680-14,470'	1 (To Irv Tailleux)	

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-3-80 Time 0600  
Present Depth 14,532' Previous Depth 14,491' Footage 24 Hrs. 41  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,485-14,525' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 125 min. @ 14,500 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,485-14,495'	ls: brn and brn - gy, f. xl, mod hd, tt, NOSCF; intbdd w/tn strgs Sltst, dk gy - brn, mod hd; and Cht a/a.	30.0
14,495-14,515'	Sltst: dk gy - brn, firm - mod hd, micropyr; intbdd w/Ls (0-40%), brn - gy, f. xl, arg, firm, w/few p. preserved fos; and Dol (0-20%) gy - wh mot, f. xl, arg.	21.0
14,515-14,525'	Ls: brn - gy, f. xl, highly arg, firm, rexlized; intbdd w/Sh (40%) dk gy, hd, calc; and Cht (10%) dk gy w/calcite filled microfracs.	23.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 7 Connection - Trip 14 @ 14,500' Peaks 9 @ 14,505'

Mud: Wt. 10.8 Vis 50 W.I. 6.0 ph 10.5 cc Oil    % Cl<sub>2</sub> 200 Temp. 89 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
14,500'	2.70	1.68	10.60

Dispatched Samples:

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



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-4-80 Time 0600  
 Present Depth 14,622' Previous Depth 14,532' Footage 24 Hrs. 90  
 Formation(s) Lisburne Top 13,748'  
 Present Activity: Drilling.

LITHOLOGIC DESCRIPTION

Interval Reported 14,525'-14,610' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 128 min. @ 14,550' ft.

Interval	Description	Avg. Drill Rate min./ft.
14,525'-14,550'	pred. Sh: dk gy brn, hd, calc, micropyrritic w/ few pyrite nodules, occ. rextal foss; interbdd w/ Ls (30-50%): gy brn, f. xtall, rextalized, med hd, arg, p. preserved foss frag.	24.0
14,550'-14,565'	Ls: brn, f. xtall, in pt. med gy packstone, crinoids and shel frag, sl dolo; w/ thin Sh ptgs; dk gy-brn, calc.	14.0
14,565'-14,585'	Dolo: gy brn, f. xtall-sucrosic, in pt. calc, in pt friable, w/ rr interxtal poro, NOSCF; interbdd w/ Ls (10-50%): brn-gy brn, med hd-hd, sl. arg, in pt is chalky w/ blk strks; & Sh (10%): dk gy, hd, calc.	13.0
14,585'-14,610'	Dolo: brn-gy, becomes increasingly gray, sucrosic, mostly mod hd-hd, arg, in pt calc, no $\theta$ , NOSCF; interbdd w/ Ls (10-20%): f. xtall, rr crinoids; Sh (10%) a/a; Cht (10-20%): dk gy brn-translucent.	13.0

SHOW DESCRIPTION (Gas and/or Oil)

Total Gas	Chromatograph PPM	
	C <sub>1</sub>	
14,575'	65	10,200

Ditch Gas (Units): Background 13 Connection NIL Trip NIL Peaks a/a

Mud: Wt. 10.8 Vis 48 W.L. 6.2 ph 10.5 cc Oil 0 % Cl<sub>2</sub> 200 Temp. 90 °F. in 96 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	P.P.	
			Calc/Dolo	Core Pressure
14,550'	2.69	1.62	10.57	38/6
14,600'	2.60	1.54	10.57	47/33

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	14,370'-14,520'	1 (#58)	1
Unwashed Ditch (USGS)	" "	" "	2
GeoChem (canned)			
Cores	No.		

Geologist D. Young



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-5-80 Time 0600  
Present Depth 14,700' Previous Depth 14,622' Footage 24 Hrs. 78  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Reaming to btm after trip.

**LITHOLOGIC DESCRIPTION**

Interval Reported 14,610-14,690' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 134 min. @ 14,700 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,610-14,690'	Pred Dol: brn - gy, f. xl - suc, mosaic, mod hd - hd, arg, in pt calc, no por, NOSCP; w/occ intbds of wh f. xl bioclastic Grst; occ thn strgs Ls (10-20%): gy brn, arg, sft; and Cht (0-10%): dk gy - wh - trnsl; and Sh (0-10%): dk gy, hd, micropyr, calc.	10.5 (8.0 - 13.0)

**SHOW DESCRIPTION (Gas and/or Oil)**

Interval	TOTAL GAS	CHROMATOGRAPH (PPM)
		C <sub>1</sub>
14,665'	26 units	5400

Ditch Gas (Units): Background 13 Connection nil Trip - Peaks none

Mud: Wt. 10.5 V<sub>s</sub> 50 W.L. 6.0 ph 10.5 cc Oil 0 % Cl<sub>2</sub> 200 Temp. 93 °F. in 100 °F. out

**Data Unit:**

Depth	Shale Density	Dc Exponent	Pore	Calcimeter
			Pressure	Calc / Dol
14,650'	2.65	1.50	10.57	1 / 72
14,700'	2.66	1.51	10.59	- / -

**Dispatched Samples:**

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

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-6-80 Time 0600  
Present Depth 14,720' Previous Depth 14,700' Footage 24 Hrs. 20  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,690-14,710' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 1.08 min. @ 14,714' ft.

Interval	Description	Avg. Drill Rate min./ft.
14,690-14,710'	Dol: gy - brn - dk gy, becomes brn 14,700'; f. xl. hd. no por. NOSCF. occ ovoid xl fos frag. com wh dol filled frac; tr dk gy microxl Ls.	16.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 8 Connection nil Trip 22 @ 14,700' 24 @ 14,714' Peaks none

Mud: Wt. 10.8 Vis 56 W.L. 6.2 ph 10.0 cc Oil 0 % Cl<sub>2</sub> 200 Temp. 74 °F. in 82 °F. out

Date Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	<u>14,520-14,700'</u>	<u>1, Bx #59</u>	
Unwashed Ditch (USGS)	<u>14,520-14,700'</u>	<u>1, Bx #59</u>	
GeoChem (canned)			
Cores	No.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-7-80 Time 0600  
 Present Depth 14,830' Previous Depth 14,720' Footage 24 Hrs. 110  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,710-14,820' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 127 min. @ 14,800 ft.

Interval	Description	Avg. Drill Rate min./ft.
<u>14,710-14,820'</u>	<u>Pred dol. dk gy. gy - brn w/wh mor. f. xlized, hd, arg, rt, NOSCF; occ small rd fos frags; w/rt patches Sh (0-10%) dk gy, hd, dol; and Cht (0-20%) dk gy brn - gy, subconchoidal frac w/ some microfoss frags.</u>	<u>11.0 - 15.0</u>

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM)
<u>14,735'</u>	<u>102 units</u>	<u>10,600</u>

Ditch Gas (Units): Background 12 Connection nil Trip 24 @ 14,714' Peaks 102 @ 14,735'

Mud: Wt. 10.8 Vis 48 W.L. 5.8 ph 10.0 ct Oil - % Cl<sub>2</sub> 300 Temp. 89 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
<u>14,750'</u>	<u>2.62</u>	<u>1.50</u>	<u>10.59</u>
<u>14,800'</u>	<u>2.59</u>	<u>1.53</u>	<u>10.52</u>

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
<u>Washed &amp; Dried Ditch</u>	<u>13,860-14,730'</u>	<u>2</u>	<u>1&amp;2</u>
<u>Unwashed Ditch (Paleo)</u>			
<u>Unwashed Ditch (USGS)</u>			
<u>GeoChem (canned)</u>	<u>14,460-14,820'</u>	<u>1</u>	<u>Bx #45</u>
<u>Cores</u>	<u>No.</u>		



HUSKY OIL NPR OPERATIONS, INC.  
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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-8-80 Time 0600  
Present Depth 14,900' Previous Depth 14,830' Footage 24 Hrs. 70'  
Formation(s) LISBURNE Top 13,748'  
Present Activity: Tripping into hole w/new bit.

LITHOLOGIC DESCRIPTION

Interval Reported 14,820-14,895' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 127 min. @ 14,900 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,820-14,865'	Pred Dol, dk gy, and gy - brn, f. xl, arg, mod hd - hd, tt, NOSCF; w/patches Sh (10%) dk gy, mod hd, sity; and Cht (10-30%) dk gy - brn, in pt w/dis pyr.	14.0
14,865-14,895'	Dol, dk gy, and gy - brn, occ bf - brn, f. xl, hd, arg, tt, NOSCF; intbdd w/Cht (30-60%), dk gy - brn, subconoidal frac, in pt w/dis micropyr.	12.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 8 Connection - Trip - Peaks 8 @ 14,830'

Mud: Wt 10.8 Vis 49 W.L. 6.0 ph 10 cc Oil    % Cl<sub>2</sub> 300 Temp. 89 °F. in 95 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
14,850'	2.70	1.55	10.43
14,900'	2.69	1.51	10.50

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.  
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DAILY GEOLOGICAL REPORT

WELL LISBURNE Date 4-9-80 Time 0600  
 Present Depth 14,986' Previous Depth 14,900' Footage 24 Hrs. 86  
 Formation(s) LISBURNE; ENDICOTT GP (?) Top 13,748'; 14,930'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,895-14,980 Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 133 min. @ 14,980 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,895-14,900'	Cht: dk gy - brn, conchoidal frags w/occ microfoss; intbdd w/Dol (30%) dk gy - brn, f. xl, arg.	16.0
14,900-14,930'	Cht: becoming lt gy, trnsl, wh, milky, mossy, and amber w/dk stn microfracs; intbdd w/Dol (30-40%), becoming brn - bf, f. xl to mas, clean, hd, tt, in pt gy - brn, f. xl, mod hd, suc, arg.	13.0
14,930-14,940'	Cht: becoming dk gy - blk, subconchoidal frac, few calcite filled frags, in pt micropyr; intbdd w/Sh (20-30%), dk gy, hd, sil, w/dis micropyr; and Dol (15-20%), gy - brn a/a.	16.0
14,940-14,950'	Sh: dk gy - blk, hd, sil, blk, w/dis micropyr; w/intbdd Cht, dk gy - blk, gy - brn, brn - amb, and trnsl.	17.0
14,950-14,980'	Pred Cht: dk gy - brn, gy - blk, clr - amb, trnsl, conchoidal - subconchoidal frac; intbdd w/Sh (10-30%) a/a; and Dol (10-20%), dk gy, f. xl, in pt bf - brn, mod hd - hd.	15.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)				
			Before	After	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>
14,915'	10				1000				
14,955'		2							

Ditch Gas (Units): Background 5 Connection - Trip 23 @ 14,900' Peaks

Mud: Wt. 10.8 Vis 48 W.L. 6.2 ph 10 cc Oil - % Cl<sub>2</sub> 300 Temp. 86 °F. in 91 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
14,950'	2.64	1.56	10.53

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	14,700-14,910'	1	Bx #60
Unwashed Ditch (USGS)	14,700-14,910'	1	Bx #60
GeoChem (canned)			
Cores	No.		

DAVE YOUNG





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-10-80 Time 0600  
 Present Depth 15,018' Previous Depth 14,986' Footage 24 Hrs. 32'  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Tripping for bit

LITHOLOGIC DESCRIPTION

Interval Reported 14,980-15,012' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 128 min. @ 15,015 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,980-15,012'	Pred cht, dk gy - brn, gy - blk, in pt clr, amb, trns, conchoidal fracs; intbdd w/Dol (10-40%) gy - brn, f. xl, hd, sl arg; tr - 10% Sh, dk - gy, sil.	15.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)				
			Before	After	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>
14,990	7				100				

Ditch Gas (Units): Background 5 Connection - Trip 22 @ 14,987' Peaks -

Mud: Wt. 10.8 Vis 50 W.L. 6.2 ph 9.5 cc Oil   % Cl<sub>2</sub> 400 Temp. 78 °F. in 85 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
15,000'	2.63	1.57	10.59

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 LISBURNE #1 Date 4-11-80 Time 0600  
 Present Depth 15,075' Previous Depth 15,018' Footage 24 Hrs. 57'  
 Formation(s) LISBURNE Top 13,748'

Present Activity: POH for bit

LITHOLOGIC DESCRIPTION

Interval Reported 15,012-15,070' Sampling Interval 5 ft. Sample Quality good  
 Log Time: 132 min. @ 15,070' ft.

Interval	Description	Avg. Drill Rate min./ft.
15,012-15,055'	Pred Cht: dk gy, gy - brn, subconchoidal; w/thn strgs Dol (10-30%), gy brn, f. xl, mod hd - hd, arg, ct, NOSCF; and Sh (10-20%) dk gy, mod hd, slty, in pt sl dol.	13.0
15,055-15,070'	Pred Cht: dk gy, gy - brn; w/thn bdd Ls (10-30%), bf - brn, med grn rexlized packstone w/com crinoid debris, firm - chalky; and Sh (10-30%) dk gy to blk, mod hd, micromica.	15.0
REQUEST: <u>GEOCHEM BOXES (5)</u>		

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)					
			Before	After	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	
15,040'		1								

Ditch Gas (Units): Background 5 Connection - Trip 20 @ 15,018' Peaks

Mud: Wt. 10.8 Vis 45 W.L. 6.0 ph 10 cc Oil - % Cl<sub>2</sub> 300 Temp. 79 °F. in 86 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
15,050'	2.61	1.57	10.49

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	14,910-15,060'	1	Bx #61
Unwashed Ditch (USGS)	14,910-15,060	1	Bx #61
GeoChem (canned)			
<del>Chert</del> Chert	No. 14,470-15,060'	1 (Irv Tailleux)	

DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-25-80 Time 0600  
 Present Depth 14,026' Previous Depth 13,950' Footage 24 Hrs. 76'  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Prep to trip.

LITHOLOGIC DESCRIPTION

Interval Reported 13,940-14,020' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 118 min. @ 14,000 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,940-13,960'	Ls: med gy, f. xl, mod hd - hd, arg, dol, in pt sil; intbdd w/Dol, wh - gy brn, f. xl mosaic, hd, w/com calcite filled frags, in pt w/gilsonite in intxl pore space; w/Cht (10-30%), tripolitic in pt, rr crinoid stems.	17.0
13,960-13,990'	Dol: gy - wh, and wh a/a, arg, in pt sil, in pt w/gilsonite in pore space; intbdd w/Ls (20-30%), gy, f. xl, hd, arg, sil in pt, w/tripolitic Cht replacement, tt, NOSCF; and Cht (20-40%), lt gy and wh mot, also dk brn and clr.	18.0
13,990-14,020'	Dol: bf - wh, wh, med xl, hd, in pt w/sil replacement, occ calc, tt, NOSCF; intbdd w/Ls (20%), wh, sft, chalky; and Cht (20-40%), lt gy, trnsl, wh, in pt trip, some dk gy.	18.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 8 Connection 14 @ 14,008' Trip - Peaks 17 @ 13,960'  
12 @ 13,945'

Mud: Wt. 10.8 Vis 48 W.L. 6.2 ph 11.5 cc Oil - % Cl<sub>2</sub> 350 Temp. 90 °F. in 95 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,950'	2.66	1.64	10.63
14,000'	2.60	1.68	10.67

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	<u>13,710-13,940'</u>	<u>1</u>	<u>Bx #55</u>
Unwashed Ditch (USGS)	<u>13,710-13,940'</u>	<u>1</u>	<u>Bx #55</u>
GeoChem (canned)			
Cores	No.		

Geologist DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-12-80 Time 0600  
 Present Depth 15,112' Previous Depth 15,075' Footage 24 Hrs. 37  
 Formation(s) LISBURNE/ENDICOTT GP Top Transition at 15,082'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 15,070-15,105' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 135 min. @ 15,108 ft.

Interval	Description	Avg. Drill Rate min./ft.
15,070-15,082'	Cht: dk gy - brn, dk gy, in pt amb; w/thn strgs Sh (10-20%), dk gy - blk, mod hd, micromica, sl slty; and Ls (10%), bf - brn, med grn, rexlized crinoidal packst, rr calcite and gilsonite filled frac.	18.0
15,082-15,105'	Slst (30-50%) gy - brn, firm, mod hd, sl calc, micromica, occ micropyr; inthdd w/Ls (20-40%) a/a, bf - brn, f. - med grn, rexlized crinoidal packst, mod hd, in pt chalky, in pt arg, tt, NOSCF, occ strgs Sh, dk gy, hd, and Cht a/a.	22.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)					
			Before	After	C1	C2	C3	C4	C5	
15,100'	6				300					

Ditch Gas (Units): Background 5 Connection - Trip 20 @ 15,075' Peaks -

Mud: Wt. 10.8 Vis 44 W.L. 6.0 ph 10 cc Oil - % Cl<sub>2</sub> 300 Temp. 80 °F. in 86 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
15,100'	2.62	1.65	10.50

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.  
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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 4-13-80 Time 0600  
 Present Depth 15,157' Previous Depth 15,112' Footage 24 Hrs. 45'  
 Formation(s) LISBURNE-ENDICOTT GP TRANSITION (?) Top 15,082'  
 Present Activity: Drilling

**LITHOLOGIC DESCRIPTION**

Interval Reported 15,105-15,145' Sampling Interval 5' ft. Sample Quality good  
 Lag Time: 129 min. @ 15,125' ft.

Interval	Description	Avg. Drill Rate min./ft.
15,105-15,125'	Ls: bf - brn, and gy - brn, med grn, rexlized bioclastic packst w/com crinoids, shell frags and shell impressions, mod hd, in pt chalky, micropyr, tt, NOSCF; intbdd w/Sltst (20-30%) dk gy - brn, firm - mod hd, in pt calc and micropyr; w/tr Cht, clr, amb.	20.0
15,125-15,135'	Sltst: dk gy - firm - mod hd, in pt calc; intbdd w/Ls (40-50%) increasingly becoming gy brn, arg, sl dol, tt, NOSCF.	18.0
15,135-15,145'	Ls: gy - brn, f. xl, mod hd, arg and dol, and Ls dk brn, microxl-micrite, v. hd, arg, in pt sil; intbdd w/Sltst (20-40%) dk gy, hd, calc, micropyr.	17.0

**GAS OCCURRENCE/SHOWS**

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)					
			Before	After	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	
15,120'	7	1			800					

Ditch Gas (Units): Background 6 Connection - Trip 20 @ 15,126' Peaks -

Mud: Wt. 10.8 Vis 45 W.L. 6.0 ph 10 cc Oil - % Cl<sub>2</sub> 300 Temp. 81 °F. in 86 °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 LISBURNE #1 Date 4-14-80 Time 0600

Present Depth 15,224' Previous Depth 15,157' Footage 24 Hrs. 67

Formation(s) LISBURNE/KAYAK TRANSITION Top 15,082'

Present Activity: Circ btms up, prep to trip.

LITHOLOGIC DESCRIPTION

Interval Reported 15,145-15,220' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 127 min. @ 15,200 ft.

Interval	Description	Avg. Drill Rate min./ft.
15,145-15,175'	Pred Ls: gy - brn, f. xl, mod hd, arg; w/bioclastic packst: bf - brn, f. - med grn, p. preserved and rexlized crinoids and shell frag, NOSCF; w/thn strgs Slstst: dk gy, hd, calc, micropyr.	16.6
15,175-15,200'	Sh: dk gy, hd, calc, micropyr; grds in pt to Sh: blk, sft - earthy; w/Ls (30-60%): gy brn, mot, f. xl, arg, tr pyr, nil por, NOSCF.	21.0
15,200-15,220'	Sh: dk gy, hd, calc, micropyr, in pt becomes v. hd and sil; intbdd w/Ls: a/a, in pt sil; w/Chc (tr - 10%): med gy - lt gy - trnsl.	22.0

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)					
			Before	After	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	
15,170'	8				1000					

Ditch Gas (Units): Background 6 Connection nil Trip - Peaks none

Mud: Wt. 10.8 Vis 45 W.L. 6.2 ph 9.5 cc Oil 0 % C<sub>12</sub> 300 Temp. 87 °F. in 93 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
15,150'	2.61	1.65	10.48	26 / 24
15,200'	2.63	1.68	10.48	33 / 7

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	15,060-15,220'	1 Bx #62	
Unwashed Ditch (USGS)	15,060-15,220'	1 Bx #62	
GeoChem (canned)	14,820-15,190'	1 Bx #46	
Cores	No.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-26-80 Time 0600  
 Present Depth 14,042' Previous Depth 14,027' Footage 24 Hrs. 16  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 14,020-14,035' Sampling Interval 5' ft. Sample Quality good  
 Lag Time: 124 min. @ 14,000 ft.

Interval	Description	Avg. Drill Rate min./ft.
<u>14,020-14,035'</u>	<u>Dol: bf - wh, gy - wh mot, med xl, mosaic, hd, tt, NOSCF; intbdd w/20-30% Cht, lt gy, w/some wh tripolitic; and 10-20% Ls, bf, tn, cryptoxl.</u>	<u>17.0</u>

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 9 Connection - Trip 18 @ 14,027' Peaks -

Mud: Wt 10.8 Vls 50 W.L. 6.2 ph 11.5 cc Oil - % Cl<sub>2</sub> 350 Temp. 89 °F. in 95 °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 DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-27-80 Time 0600

Present Depth 14,132' Previous Depth 14,042' Footage 24 Hrs. 90

Formation(s) LISBURNE Top 13,748'

Present Activity: Drilling

**LITHOLOGIC DESCRIPTION**

Interval Reported 14,035-14,120' Sampling Interval 5 ft. Sample Quality good  
Lag Time: 122 min. @ 14,100 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,035-14,090'	Dol: med gy, f. - med xl mosaic, hd, arg, loc com crinoid debris, in pt bf - wh w/occ intxl gilsonite, tt, NOSCF; w/0-30% intbdd Cht, lt gy, tripolitic, some brn, some dk gy; and loc intlams Sh, dk gy, sil w/com dol rhombs; free calcite com at 14,060' (pos frac fill).	17.0
14,090-14,120'	Dol: med gy - wh mot, f. xl, hd, sil, sl arg, in pt w/intxl gilsonite; rr crinoid debris, in pt bf - wh, f. - med xl, tt, NOSCF; w/occ thn intbda of Sh and Cht a/a.	17.0

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background 12 Connection - Trip 18 @ 14,027' Peaks 21 @ 14,085'

Mud: Wt. 10.8 Vis 46 W.L. 6.0 ph 11 cc Oil - % Cl<sub>2</sub> 350 Temp. 86 °F. in 92 °F. out

**Data Unit:**

Depth	Shale Density	Dc Exponent	Pore Pressure
14,100'	2.56	1.57	10.64

**Dispatched Samples:**

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

Geologist DAVE YOUNG





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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-28-80 Time 0600

Present Depth 14,191' Previous Depth 14,132' Footage 24 Hrs. 59

Formation(s) LISBURNE Top 13,748'

Present Activity: POH

LITHOLOGIC DESCRIPTION

Interval Reported 14,120-14,180' Sampling Interval 5 ft. Sample Quality GOOD  
Lag Time: 123 min. @ 14.150 ft.

Interval	Description	Avg. Drill Rate min./ft.
14,120-14,135'	Dol: med gy w/wh mot. f. xl, hd, arg; in pt bf, med xl, rr crinoid debris; w/thn strgs Sh, dk gy, hd, sil; and Cht lt - med gy, tripolitic.	17.0
14,135-14,180'	Dol: bf - wh, f. - med xl, hd - mod hd, tt, in pt w/sl intral por (14,170-14,180'); in pt med gy w/wh mot; and occ strgs Cht (10-30%), bf, trnsal, wh, tripolitic; tr Sh a/a.	15.0

SHOW DESCRIPTION (Gas and/or Oil)


Ditch Gas (Units): Background 13 Connection - Trip - Peaks 28 @ 14,160'  
Mud: Wt. 10.8 Vis 46 W.L. 6.0 ph 11.0 cc Oil - %Cl<sub>2</sub> 350 Temp. 88 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	De Exponent	Pore Pressure
14.150'	2.54	1.56	10.68

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	13,940-14,140'	1	Bx #56
Unwashed Ditch (USGS)	13,940-14,140'	1	Bx #56
GeoChem (canned)	13,830-14,100'	1	Bx #43
Cores	No.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 3-29-80 Time 0600  
 Present Depth 14,202' Previous Depth 14,191' Footage 24 Hrs. 11  
 Formation(s) LISBURNE Top 13,748'  
 Present Activity: Drilling

**LITHOLOGIC DESCRIPTION**

Interval Reported 14,180-14,199' Sampling Interval 5 ft. Sample Quality good  
 Lag Time: 151 min. @ 14,199' ft.

Interval	Description	Avg. Drill Rate min./ft.
14,180-14,199'	Dol: bf - wh, f. - med xl, in pt med gy - brn w/wh mot, sl arg, hd, tt, NOSCF; w/thn strgs Sh, dk gy, hd, and Cht lt - dk gy transl.	20.0

**SHOW DESCRIPTION (Gas and/or Oil)**


Ditch Gas (Units): Background 7 Connection - Trip 10 @ 14,191' Peaks 8 @ 14,199'

Mud: Wt. 10.8 Vis 47 W.L. 6.2 ph 11.0 cc Oil - % Cl<sub>2</sub> 300 Temp. 80 °F. in 84 °F. out

**Data Unit:**

Depth	Shale Density	Dc Exponent	Porc Pressure

**Dispatched Samples:**

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

Geologist DAVE YOUNG