



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 6-19-79 Time 06:00
 Present Depth 1026' Previous Depth 868 Footage 24 Hrs. 158
 Formation(s) NUKA Top 720'
 Present Activity: Drilling 17 1/2" hole

LITHOLOGIC DESCRIPTION

Interval Reported 860-1020' Sampling Interval 10 ft. Sample Quality good
 Lag Time: 31 min. @ 1020 ft.

Interval	Description	Avg. Drill Rate min./ft.
860-960'	Intbdd Sltst, Clyst, Cht (10-20%) and Ss (Tr-10%); Ss: lt gy, arkosic in pt, v.f. - f. - med. grn, p. srted, SA-SR, arg, scat phosphate and glauconite pels, weathered feldspar or tripolitic Cht, p. - nil por, NOSCF.	10.0
960-1020'	Intbdd Sltst, Clyst, tr Cht, tr Ss a/a.	7.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 6-18 Connection 0 Trip 14 @ 872' Peaks none

Mud: Wt 9.1 Vis 42 W.I. 11.2 ph 8.8 cc Oil 0 % Cl₂ 100 Temp. 114 °F. in 115 °F. out

Data Unit:

Depth	Shale Density	De Exponent	Pore Pressure
900'	2.48	1.52	8.5
950'	2.43	1.47	8.5
1000'	No shale	1.63	8.7

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 6-18-79 Time 06:00
 Present Depth 868' Previous Depth 827' Footage 24 Hrs. 41
 Formation(s) PERMO-TRIASSIC (NUKA ?) Top 720
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 820-860' Sampling Interval 10 ft. Sample Quality good
 Lag Time: 28 min. @ 860 ft.

Interval	Description	Avg. Drill Rate min./ft.
820-860'	Intbedd Slstst. Mudst. Clvst. Cht, w/tr Ss: a/a	21.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 14-18 Connection 0 Trip 14 Peaks none

Mud: Wt. 8.9 Vis 37 W.L. 11.2 ph 9.0 cc Oil 0 % Cl₂ 100 Temp. 112 of. in 117 of. out

Data Unit:

Depth	Shale Density	Dc Exponent	Port Pressure
850'	2.48	1.20	8.5

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	130-700'	1	Bx #1
Unwashed Ditch (USGS)	130-700'	1	Bx #1
GeoChem (canned)	450-810'	1	Bx #2
Cores	No.		

Geologist RAY WERMEYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 6-17-79 Time 06:00
 Present Depth 827' Previous Depth 664' Footage 24 Hrs. 163
 Formation(s) PERMO-TRIASSIC Top 720'
 Present Activity: Drilling, deviation survey at 744': 3 1/2°

LITHOLOGIC DESCRIPTION

Interval Reported 660-820 Sampling Interval 10 ft. Sample Quality good
 Lag Time: 27 min. @ 820 ft.

Interval	Description	Avg. Drill Rate min./ft.
660-720'	Clyst. Mudst, Sltst w/tr Cht a/a.	8.0
720-820	Sltst: gy - brn, hd, in pt sil, blk, rr veinlets calcite; intbdd w/Mudst: med gy - dk brn - blk, hd, rr sl chty, in pt sil, rr pos gilsonite incls; mnr Ss: lt gy - brn, v.f. - f. grn, occ med grn, SR, p. - fair srted, rr blk grns (phosphate?), rr glauconite? grns, pos tripolite Cht and Cht grns, p. - nil por, NOSCF.	3.6

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 14 Connection nil Trip 27 @ 744' Peaks 26 @ 825'

Mud: Wt. 9.0 Vis 42 W.I. 11.8 ph 9.0 cc Oil 0 % Cl₂ 100 Temp. 116 °F. in 126 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
700'	2.48	1.27	8.5
750'	2.49	1.31	8.5
800'	2.48	1.13	8.5

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 6-1-80 Time 0600
 Present Depth PETD 7230' Previous Depth - Footage 24 Hrs. -
 Formation(s) SEUBLIK Top _____
 Present Activity: POH w/test tools after running DST #4

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	SEE DST #4 Report for details of test.	

GAS OCCURRENCE/SHOWS

INTERVAL	Total Gas Units	Cuttings Gas Units	Background Gas Units		CHROMATOGRAPH (PPM)					
			Before	After	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 _____ % Cl₂ _____ 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 DAVE YOUNG

FINAL REPORT

FINAL REPORT



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

WELL LISBURNE #1 Date 6-3-80 Time 0600
Present Depth PSTD 1853' Previous Depth _____ Footage 24 Hrs. _____

Formation(s) _____ Top _____

Present Activity: Released rig 6-2-80; rigging down. See Revised DST #4 report attached.

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		CHROMATOGRAPH (PPM)					
			Before	After	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 _____ % Cl₂ _____ Temp. _____ °F. in _____ °F. out _____

Data Unit:

Depth	Shale Density	Dc Exponent	Core 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 8-8-79 Time 0600
Present Depth 6085' Previous Depth 5748' Footage 24 Hrs. 337'
Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 5740-6060' Sampling Interval 10 ft. Sample Quality good
Lag Time: 88 min. @ 6060 ft.

Interval	Description	Avg. Drill Rate min./ft.
5740-6030'	Sh: med gy, firm - mod hd, in pt smooth, blk - splintery, rr slick and waxy appearance; rr calc veinlets; v. rr clr, w. rd Qtz grns; intbdd w/Sltst, med gy, firm - blk; tr Sh v. dk gy - blk, blk, firm; v. mnr Clyst, pale green, firm - blk, rr mottled green - gy; and v. locally tr Ss, lt gy - brn, f. - med grn, SA-SR, p. artd, calc, mod cmt, p. por, NOSCF.	3.0
6030-6066'	Sh: med gy to brn gy, mod hd, blk - splintery; intbdd w/Sltst med gy to brn gy, blk, arg; and mnr Clyst, lt gy to pale green, blk, in pt waxy.	3.5

SHOW DESCRIPTION (Gas and/or Oil)

PEAK UNITS DITCH GAS	CHROMATOGRAPH (PPM)			
	C ₁	C ₂	C ₃	C ₄
5780'	142	1000	200	Tr

Ditch Gas (Units): Background 84 Connection 55 @ 5968' Trip 264 @ 5749' Peaks a/a

Mud: Wt. 9.9 Vis 44 W.L. 7.5 ph 9 cc Oil % Cl₂ 300 Temp. 102 °F. in 106 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
5750'	2.60	1.92	8.9
5800'	2.50	1.65	9.0
5850'	2.56	1.68	8.9
5900'	2.58	1.65	9.0
5950'	2.61	1.66	9.0
6000'	2.59	1.70	9.0

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	5060-6040'	1	1 & 2
Unwashed Ditch (Paleo)	5630-5920'	1	Bx #22
Unwashed Ditch (USGS)	5630-5920'	1	Bx #22
GeoChem (canned)	5280-5760'	1	Bx #17
Cores	No.		

Geologist RAY WERMEYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 8-9-79 Time 0600
 Present Depth 6169' Previous Depth 6085' Footage 24 Hrs. 84'
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Ream to btm w/a new bit to drill

LITHOLOGIC DESCRIPTION

Interval Reported 6060-6169' Sampling Interval 10 ft. Sample Quality good
 Log Time: 88 min. @ 6150 ft.

Interval	Description	Avg. Drill Rate min./ft.
6060-6130'	Intbd Sh, Sltst and mnr Clyst a/a; w/thn Ss strgs at 6064' and 6088', med gy, f. grn, SA, f. srted, rr blk grns, rr questionable tripolite, arg, med cmted, v. sl calc, p. por, NOSCF; tr Cht below 6110'.	3.8
6130-6169'	Sh and Sltst a/a; w/Sltst dk brn, firm, blk, occ calc veinlets, micromica, arg; w/increasing Cht, pale green, brn, mossy, subconchoidal - conchoidal frac; mnr Dol, brn, hd, dns, v. arg, and some buff microxl, v. p. por, NOSCF; rr strgs Ss, lt gy, v. f. grn, SA-SR, w. srted, mod w. cmted w/Dol, p. por, NOSCF.	7.6

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS UNITS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄ Tr
6160'	202	12000	3000	100	Tr

Ditch Gas (Units): Background 107 Connection 150 Trip a/a Peaks a/a

Mud: Wt. 10.1 Vis 43 W.L. 7.0 ph 9.0 cc Oil - % Cl₂ 300 Temp. 108 °F. in 112 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Por Pressure
6050'	2.58	1.76	9.0
6100'	2.62	1.78	9.1
6150'	2.61	1.88	9.2

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Palco)			
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 8-10-79 Time 0600
 Present Depth 6219 Previous Depth 6169' Footage 24 Hrs. 50
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Cutting Core #6 from 6215'

ETHOLOGIC DESCRIPTION

Interval Reported 6169-6215' Sampling Interval 10 ft. Sample Quality good
 Lag Time: 88 min. @ 6215 ft.

Interval	Description	Avg. Drill Rate min./ft.
6169-6215'	Intbdd Sh and Sltst a/a; Sh, gy brn - brn gy, locally brn and lt gy; Sltst, brn gy to gy brn, and dk brn, locally lt - med gy, firm, arg; occ Clyst pale green becoming buff to tn, firm, hd; occ Cht, buff, pale green, lt gy, brn, mossy; w/local thn strgs Ss (6188' and 6202') mottled wh - brn, occ blk, v.f. - f. grn, SA-SR, f. srtcd, local scat tripolite, mod w. cmt, firm, occ dol - calc, p - nil porosity, NOSCF.	11.0
	NOTE: Cutting Core #6 at report time, strat core, cut 6215-6219' at 24 min/ft.	
	REQUEST: Acid capsules for calcimeter - request from The Analyst.	

SHOW DESCRIPTION (Gas and/or Oil)

	PEAK UNITS DITCH GAS		CHROMATOGRAPH (PPM)		
	C ₁	C ₂	C ₃		
6190'	104	13000	1500	Tr	

Ditch Gas (Units): Background 67 Connection 128 @ 6188' Trip 110 @ 6215' Peaks a/a

Jud: Wt. 10.1 Vis 45 W.L. 7.0 ph 9.0 cc Oil - %Cl₂ 300 Temp. 96 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
6200'	2.60	1.85	9.0

Spatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	5920-6210'	1	Bx #23
Unwashed Ditch (USGS)	5920-6210'	1	Bx #23
GeoChem (canned)	5770-6120'	1	Bx #18
Cores	No.		

RAY WERMAYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 8-11-79 Time 0600

Present Depth 6271' Previous Depth 6219' Footage 24 Hrs. 52'

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: RIH w/bit to drill

LITHOLOGIC DESCRIPTION

Interval Reported 6215-6271' Sampling Interval 10 ft. Sample Quality good
Lag Time: 91 min. @ 6250 ft.

Interval	Description	Avg. Drill Rate min./ft.
6215-6225'	Core #6, (6215-6225') Cut 10', Rec. 10' (100%) Pred Sltst, dk gy, firm - mod hd, micromica, rr pyr; mnr Sh dk gy, mod hd; scat Chrt inclc and nodules; scat pods and thin bds Ss, lt gy, f. grn, calc, p. por, NOSCF, com slump structures and deformed bdg planes; com fracs at 45°, w/blk spotted asphaltic resd on surface, spotty pale yel fluor, v. pale yel cut fluor.	23.4
6225-6271'	Sltst: dk gy - blk, mod hd to hd, blk; intbdd w/Sh a/a; 5-15% Chrt a/a; tr Ss a/a; mnr Dol, mottled pale green - brn, dns.	8.2

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL DITCH GAS UNITS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄
6270'	158	16000	4000	100	Tr

Ditch Gas (Units): Background 71 Connection - Trip 220 @ 6225' Peaks -

Mud: Wt. 10 Vis 43 W.L. 6.5 ph 9.0 cc Oil - % Cl₂ 300 Temp. 90 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
6250'	2.59	1.96	9.0

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No. 6, 6215-6225'	4	



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 8-12-79 Time 0600
 Present Depth 6318' Previous Depth 6271' Footage 24 Hrs. 47
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 6271-6310' Sampling Interval 10 ft. Sample Quality good
 Lag Time: 92 min. @ 6300 ft.

Interval	Description	Avg. Drill Rate min./ft.
6271-6290'	Intbdd Siltst and Sh, dk gy a/a; w/mnr Siltst and Sh, blk, micro- micaceous, hd; Cht, 10-15% of spls, varicolored; tr Ss, brn, becoming lt gy, f. grn, SA-SR, mod w. srted, occ w/med grns, locally rr questionable tripolite grns, mod w. cmtd w/calc, p. por, NOSCF; tr Dol, lt gy, firm, v. p. por, NOSCF.	11.6
6290-6310'	Intbdd Siltst and Sh, dk gy brn, blk, micromica, occ angular Cht incl; and Siltst and Sh blk a/a; Cht, 10-15% of spls, varicolored; tr pale green Clyst; tr Ls, mottled wh and brn, contorted, ang, sft, dns, nil por, NOSCF.	13.6

SHOW DESCRIPTION (Gas and/or Oil)

TOTAL DITCH GAS UNITS	CHROMATOGRAPH (PPM)			
	C ₁	C ₂	C ₃	C ₄
6275'	120	7000	1500	500 Tr

Ditch Gas (Units): Background 90 Connection nil Trip 200 @ 6294' Peaks

Mud: Wt 10.1 Vis 53 w.i. 6.0 ph 10.5 cc Oil - % Cl₂ 300 Temp 98 °F in 102 °F out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
6300'	2.61	1.48	9.0

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: 7-22-79 Time: 0600
 Present Depth: 4307' Previous Depth: 4268' Footage 24 Hrs. 39
 Formation(s): FORTRESS MTN Top: Surface
 Present Activity: Tripping in w/new bit.

LITHOLOGIC DESCRIPTION

Interval Reported: 4260-4300' Sampling Interval: 10 ft. Sample Quality: good
 Lag Time: 86 min. @ 4300 ft.

Interval	Description	Avg. Drill Rate min./ft.
4260-4300'	Sh: med - dk gy, mod hd, sl slty, noncalc, slickensided; in thd w/Slst: med gy, hd; w/tr - 10% Ss; gy. f. - med grn. hd, tt: w/tr Sh: blk, hd, sil.	6.0 to 4290' 20 below 4290'

SHOW DESCRIPTION (Gas and/or Oil)

PEAK UNITS	CHROMATOGRAPH (PPM)		
	C ₁	C ₂	C ₃
4275'	14	2100	400

Ditch Gas (Units): Background 10 Connection nil Trip 40 @ 4290' Peaks n/a Cuttings gas: 8 @ 4300'
Mud: Wt. 9.4 Vis 41 W.L. 7.9 ph 8.0 cc Oil 0 % Cl₂ 200 Temp. 92 °F. in 97 °F. out
Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
4300'	2.58	1.86	8.8

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 7-23-79 Time 0600
Present Depth 4450' Previous Depth 4307' Footage 24 Hrs. 143'
Formation(s) FORTRESS MTN Top Surface
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 4300-4440 Sampling Interval 10 ft. Sample Quality good
Lag Time: 85 min. @ 4450 ft.

Interval	Description	Avg. Drill Rate min./ft.
4300-4320'	Sh: med - dk gy, mod hd, sl slty, slickensided; tr lt green - gy Sh; w/thn intbds Sltst, med gy, hd; and Ss (up to 10%) lt green - gy, f. grn Qtz w/some dk green glau; tr ChE; tr blk sil Sh.	16.0
4320-4360'	Sh: med - dk gy a/a, in pt gy - brn, w/approx 10% lt green - gy; rr Cht pbls and frags; intbdd w/Sltst a/a; and mmr Ss, med gy, f. - crs grn, hd, sil, arg w/occ Cht frags.	7.0
4360-4440'	Sltst: med gy - lt gy, med hd; intbdd w/Sh, med gy - lt gy, gy brn, slty, noncalc, rr slickensides, rr tr Cht, tr asphalt (good blk - dk brn cut) tr euhedral calc, w/rr calc frac fill.	7.5

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL UNITS DITCH GAS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄
4360'	30	5100	1000	400	Tr

Ditch Gas (Units): Background 10 Connection - Trip 72 @ 4307' Peaks a/a

Mud: Wt. 9.4 Vis 43 W.L. 8.1 ph 8.0 cc Oil - % Cl₂ 200 Temp. 104 °F. in 111 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
4350'	2.58	1.90	8.8
4400'	2.57	1.92	8.8
4450'	2.59	1.89	8.0

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 7-24-79 Time 0600
 Present Depth 4510' Previous Depth 4450' Footage 24 Hrs. 60
 Formation(s) FORTRESS MTN. Top Surface
 Present Activity: Tripping to clean out bridge @ 1578-1608'

LITHOLOGIC DESCRIPTION

Interval Reported 4440-4510' Sampling Interval 10 ft. Sample Quality good
 Lag Time: min. @ ft.

Interval	Description	Avg. Drill Rate min./ft.
	<u>NOTE: Reached TD at 4510', circ and cond for logs; RIH w/DIL, hit bridge at 1578'; RIH w/bit to clean out; on btm at report time cond hole.</u>	
<u>4440-4510'</u>	<u>Sltst: med - dk gy, lt gy in pt w/sl brn cast; intbdd w/Sh, med - dk gy, slty; w/thn strgs ss, med gy, v.f. - f. grn, mod hd, highly arg, sl calc w/rr slickensides, and rr calc filled frags.</u>	<u>7.0</u>

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS UNITS	CHROMATRAPH (PPM)
<u>4455'</u>	<u>14</u>	<u>Tr. C₁, C₂, C₃, C₄</u>

Ditch Gas (Units): Background 12 Connection - Short Trip 56 @ 4510' Peaks a/a

Mud: Wt. 9.5 Vis 55 W.L. 8.3 ph 8.0 cc Oil - % Cl₂ 200 Temp. 108 °F. in 113 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
<u>4450'</u>	<u>2.55</u>	<u>1.85</u>	<u>8.8</u>
<u>4500'</u>	<u>2.57</u>	<u>1.76</u>	<u>8.8</u>

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
<u>Washed & Dried Ditch</u>			
<u>Unwashed Ditch (Paleo)</u>	<u>4160-4510'</u>	<u>2</u>	<u>Bx #16 & 17</u>
<u>Unwashed Ditch (USGS)</u>	<u>4160-4510'</u>	<u>2</u>	<u>Bx #16 & 17</u>
<u>GeoChem (canned)</u>	<u>4080-4440'</u>	<u>1</u>	
<u>Cores</u>	<u>No.</u>		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 7-25-79 Time 0600
 Present Depth 4510' Previous Depth 4510' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN Top Surface
 Present Activity: Running Velocity Survey

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	RAN THE FOLLOWING LOGS:	
	LOG	INTERVAL
	GR/SP/DIL	1505-4516' (GR to 1250')
	GR/CNL/FDC/CAL	1505-4522'
	GR/BHCS/TTI	1505-4521'
	Birdwell Velocity Survey, 9 shots	250-4400'
	Unable to run HDT Dipmeter due to enlarged hole.	
	Max btm hole temp - all logs: 112°F.	

SHOW DESCRIPTION (Gas and/or Oil)

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

Mud: Wt. 9.5 Vis 65 W.L. 8.5 ph. 8.0 cc Oil 0 % Cl₂ 200 Temp. _____ °F. in _____ °F. out _____

Data Unit:

Depth	Shale Density	Dc Exponent	Core 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/ARMOUR KANE



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 7-26-79 Time 0600
 Present Depth 4510' Previous Depth 4510' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN Top Surface
 Present Activity: Ran 13 3/8" csg, prep to cmt; completed logging.

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. 9.5 Vis 65 W.L. 8.6 ph 8.0 cc Oil 0 % Cl₂ 200 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shaie 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 OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURN #1 Date 7-27-79 Time 0600
 Present Depth 4510' Previous Depth 4510 Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN Top Surface
 Present Activity: Tripping out with DC after closing FO

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. 9.5 Vis 60 W.I. 8.6 ph 8.0 cc Oil 0 % Cl₂ 200 Temp. _____ °F. in _____ °F. out

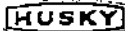
Data Unit:

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 _____



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

DAILY GEOLOGICAL REPORT

WELL: LISBURNE #1 Date 7-28-79 Time 0600
 Present Depth 4510' Previous Depth 4510' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN Top Surface
 Present Activity: Nipple down 20" BOP's

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 _____ % Cl₂ _____ 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 LISBURNE #1 Date 8-13-79 Time 0600
Present Depth 6474' Previous Depth 6318' Footage 24 Hrs. 156
Formation(s) FORTRESS MTN/OKPIKBUAK Top Surface
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 6310-6460' Sampling Interval 10 ft. Sample Quality good
Lag Time: 93 min. @ 6450 ft.

Interval	Description	Avg. Drill Rate min./ft.
6310-6378'	Intbdd Siltst and Sh, a/a, in pt organic; w/v. thn strgs Ss a/a; 5% Dol, micritic, lt gy, mod hd, dns, cryptoxl, rr microxl; and com Cht, varicolored.	8.4
6378-6413'	Intbdd Siltst and Sh, v. dk brn - blk, v. arg, v. calc, blk, in pt organic.	4.4
6413-6460'	Intbdd Siltst and Sh w/15% Ls; Siltst, v. dk brn to blk, some brn gy to med gy, in pt micromica, in pt calc; Sh brn gy and med gy to blk, blk; mnr Cht blk, brn; Ls, mottled wh - brn, sft to firm, v. arg and slty, microxl, f. vis por, NOSCF.	10.5

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL DITCH GAS UNITS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄
6395'	290	28000	10000	300	Tr

Ditch Gas (Units): Background 120 Connection 10 @ 6376' Trip - Peaks 108 @ 6410' Cuttings gas:

Mud: Wt. 10.1 Vis 38 W.L. 7.0 ph 10.5 cc Oil - % Cl₂ 300 Temp. 109 °F. in 110 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
6350'	2.61	1.78	9.0
6400'	2.61	1.67	8.9
6450'	2.64	1.68	9.0

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 8-14-79 Time 0600
Present Depth 6619' Previous Depth 6474' Footage 24 Hrs. 145'
Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 6460-6600' Sampling Interval 10 ft. Sample Quality good
Lag Time: 93 min. @ 6600 ft.

Interval	Description	Avg. Drill Rate min./ft.
6460-6520'	Intbedd Slstst and Sh, dk gy - blk, in pt organic, calc; and Slstst and Sh gy brn, some dk brn, arg, blk, in pt mica, in pt calc; rr Cht grns; mnr frags Cht, med gy, blk, brn; v. locally mnr Ss, brn, v.f. grn, SA, w. srted, firm, mod w. cmt w/Dol, arg, p. por, NOSCF; tr Ls a/a, mottled wh - brn, firm, dolomitic, dns.	10.6
6520-6600'	Intbedd Slstst and Sh, brnsh gy - gy brn, blk, ocr plty, mod hd - hd; w/thn strgs Ss, gy - brn, v.f. grn, SR, mod w. srted, mod cmt w/calc, p. por, NOSCF; v. mnr Clyst, pale green, some lt gy, plty, mod hd; tr Dol, brn cryptoxl, mod hd, dns, p. - nil intrl por, NOSCF.	8.6

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL DITCH GAS UNITS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄
6520'	180	15000	2500	300	Tr

Ditch Gas (Units): Background 82 Connection - Trip - Peaks -

fluid: Wt. 10 Vls 52 W.L. 7.0 ph 10 cc Oil - % C₁₂ 300 Temp. 110 °F. in 112 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
6500'	2.64	1.80	8.9
6550'	2.61	1.75	8.9
6600'	2.60	1.80	8.9

Sealed Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	6210-6510'	1	Bx #24
Unwashed Ditch (USGS)	6210-6510'	1	Bx #24
GeoChem (canned)	6120-6420'	1	Bx #19
Cores	No.		



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

DAILY GEOLOGICAL REPORT

Well LISBURNE #1 Date 8-23-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/CKPIKRUAK Top Surface

Present Activity: Suspending well; POH for EZ Drill retainer at report time.

GEOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	<u>RAN THE FOLLOWING SCHLUMBERGER LOGS: (NO ZONES OF INTEREST)</u>	
	<u>DIL/SP/GR 6744-4509'</u>	
	<u>BHC/GR/CAL 6738-4509'</u>	

FLOW DESCRIPTION (Gas and/or Oil)

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

Fluid: Wt. _____ Vis _____ W.L. _____ pH _____ cc Oil _____ % Cl₂ _____ Temp. _____ °F. in _____ °F. out _____

Pressure Unit: _____

Depth	Shale Density	Dc Exponent	Pore Pressure

Included 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 8-24-79 Time 0600
 Present Depth 6773' (PBD 4276') Previous Depth 6773' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Well suspended at 0600 hrs, 8-24-79, PBD 4276'

GEOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

FLOW DESCRIPTION (Gas and/or Oil)

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

Fluid: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl₂ _____ Temp. _____ °F. in _____ °F. out _____

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Attached Samples:

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

RAY WERMAYER



WELL SUSPENDED - LAST REPORT

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

DAILY GEOLOGICAL REPORT

Well LISBURNE #1 Date 8-25-79 Time 0600

Present Depth 6773' (PBD 4276') Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Well suspended (2400 hrs. 8-23-79)

GEOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

SHOW DESCRIPTION (Gas and/or Oil)

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

Fluid: Wt. _____ Vis _____ W.L. _____ pH _____ cc Oil _____ % Cl₂ _____ Temp. _____ °F. in _____ °F. out _____

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Collected Samples:

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

WELL SUSPENDED

8/23/79 — 10/25/79

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

DAILY GEOLOGICAL REPORT

HLL LISBURN #1 Date 10-25-79 Time 0600
 PBT 4276'
 Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Displacing diesel in hole.

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. 10.6 Vis 44 W.L. 14 ph 8.0 cc Oil _____ % Cl₂ 300 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 LISBURNE #1 Date 10-26-79 Time 0600
Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
Formation(s) FORTRESS MTN/IKPIKRUAK Top Surface
Present Activity: Drilling on retainer at 4305'

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. 10.6 Vis. 42 W.L. 10.0 ph. 9.4 cc Oil - % Cl₂ 80 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 LISBURNE #1 Date 10-27-79 Time 0600
 Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Ream and clean out hole to 4830'

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. 10.8 Vis 44 W.L. 17 ph 9.0 cc Oil - % Cl₂ 300 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.		

DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 10-28-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Cleaning out to btm at 4950'

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 55 W.L. 13 ph 9.0 cc Oil 0 %Cl₂ 250 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 10-29-79 Time 0600
 Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
 Formation(s) OKPIKRUAK/FORTRESS MTN. (Undiff) Top Surface
 Present Activity: Checking bottom hole assembly, have washed and reamed to 4975' (25' 24 hrs.)

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. 10.8 Vis 55 W.L. 13 ph 9.0 cc Oil - % Cl₂ 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.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURN #1 Date 10-30-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Wash and ream to 5040' (75' 24 hrs.)

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. 10.8 Vis 45 W.I. 12.0 ph 9.0 cc Oil 0 % Cl₂ 300 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.		

Report DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

Well LISBURNE #1 Date 8-15-79 Time 0600
 Present Depth 6730' Previous Depth 6619' Footage 24 Hrs. 111'
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Drilling

GEOLOGIC DESCRIPTION

Interval Reported 6600-6710' Sampling Interval 10 ft. Sample Quality good
 Logging Time: 108 min. @ 6730 ft.

Interval	Description	Avg. Drill Rate min./ft.
6619-6700'	Intbdd Sltst, dk gy, blk, becoming med gy- brn gy, mod hd - hd pos organic in pt, in pt mica, in pt calc to dolomitic; and Sh a/a; v. mnr Clyst, pale green to lt gy; tr Ss a/a, and tr Dol a/a, NOSCF.	4.6
6700-6710'	Ss: lt gy a/a, v.f. grn, SA-SR, mod w. srted, mod cmt w/Dol; p. por, NOSCF.	5.3

LOG DESCRIPTION (Gas and/or Oil)

Interval	TOTAL DITCH GAS UNITS	CHROMATOGRAPH (PPM)			
		C ₁	C ₂	C ₃	C ₄
6660'	290	15000	800	Tr	Tr

Ditch Gas (Units): Background 60 Connection 20 @ 6660' Trip 200 @ 6621' Peaks

Sp. Gr. 1.0 Wt. 10 Vis 42 W.L. 6.6 pH 10.0 % Oil - % Cl₂ 300 Temp. 110 °F. in 111 °F. out

Core Unit:

Depth	Shale Density	Dc Exponent	Core Pressure
6650'	2.62	1.83	8.9
6700'	2.59	1.80	8.9

Field Samples:

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

RAY WERMEYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURN #1 Date 10-31-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Tripping; washed and reamed 5040-5567', hole tight and full of slough, stuck pipe once at 5255' while washing and reaming.

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. 10.9 Vis 48 W.I. 9.0 ph 9.0 cc Oil _____ % Cl₂ 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 DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-1-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Wash and ream to 5840'

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. 11.0 Vis. 65 W.I. 9.8 ph 9.0 cc Oil 0 % Cl₂ 500 Temp. _____ °F. in _____ °F. out

Data Unit:

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-2-79 Time 0600
Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
Present Activity: Wash and reaming back into hole, at 6264' at report time.

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. 11.1 Vis 68 W.L. 10.8 ph 9.0 cc Oil _____ % C1₂ 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 LISBURNE #1 Date 8-16-79 Time 0600
Present Depth 6773' Previous Depth 6730' Footage 24 Hrs. 43
Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
Present Activity: Circ and wait on orders.

LITHOLOGIC DESCRIPTION

Interval Reported 6710-6770' Sampling Interval 10 ft. Sample Quality good
Lag Time: 96 min. @ 6773 ft.

Interval	Description	Arg. Drill Rate min./ft.
<u>6710-6770'</u>	<u>Intbdd Sltst, Sh and Ss. Sltst: dk gy - brn - gy - dk brn - blk, in pt organic, blk, occ calc; w/Sh: dk gy - brn gy, occ dk brn gy - blk, blk, occ angular Cht grns; tr Clyst: pale green - lt gy, in pt waxy; tr Ss:lt gy, v.f. grn, SA-SR, mod w. srted, mod cmt, p. por, NOSCF.</u>	<u>10.3</u>

SHOW DESCRIPTION (Gas and/or Oil)

	PEAK UNITS DITCH GAS	CHROMATOGRAPH (PPM)			
		C1	C2	C3	C4
<u>6735'</u>	<u>112</u>	<u>15000</u>	<u>1000</u>	<u>Tr</u>	<u>Tr</u>

Cuttings gas: 14 @ 6750'

Ditch Gas (Units): Background 70 Connection - Trip - Peaks a/a

Mud: Wt. 10.3+ Vis 47 W.L. 5.4 ph 9.5 cc Oil 0 % Cl₂ 300 Temp. 113 OF. in 114 OF. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
<u>6750</u>	<u>2.59</u>	<u>1.82</u>	<u>8.9</u>

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
<u>Washed & Dried Ditch</u>			
<u>Unwashed Ditch (Paleo)</u>	<u>6510-6770'</u>	<u>1, Bx #25</u>	
<u>Unwashed Ditch (USGS)</u>	<u>6510-6770'</u>	<u>1, Bx #25</u>	
<u>GeoChem (canned)</u>	<u>6420-6770'</u>	<u>1, Bx #20</u>	
<u>Cores</u>	<u>No.</u>		

RAY WERMEYER

Geologist

8/78



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

DAILY GEOLOGICAL REPORT

Well LLL LISBURNE #1 Date 8-17-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Circle at shoe (4378') and wait on orders.

ETHOLOGIC DESCRIPTION

Interval Reported _____ Sampling Interval _____ ft. Sample Quality _____
Log 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. 10.4 Vis 43 W.L. 5.6 ph 9.5 cc Oil - % Cl₂ 300 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 LISBURNE #1 Date 8-18-79 Time 0600
 Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
 Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
 Present Activity: Circ and wait on orders; plan to run logs after Seabee

SCHEMATIC 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 10.4 Vis 43 W.L. 5.6 ph 9.5 cc Oil 0 % Cl₂ 300 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

atched 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 8-19-79 Time 0600
Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface
Present Activity: Circ and wait on orders.

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. 10.4 Vis. 43 W.L. 5.6 ph 9.5 cc Oil 0 % Cl₂ 300 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.		

Geologist RAY WERMAYER



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 8-20-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: Circ inside 13 3/8" csg at 4378'. Prep to log and suspend well pending union problems.

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 (Unfts): Background _____ Connection _____ Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl₂ _____ 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 & GAS OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

Well Name: LISEURNE #1 Date: 8-21-79 Time: 0600

Current Depth: 6773' Previous Depth: 6773' Footage 24 Hrs: 0

Formation(s): FORTRESS MTN/OKPIKRUAK Top: Surface

Well Activity: Circ at 4378', prep to suspend well pending union negotiations.

GEOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.

FLOW DESCRIPTION (Gas and/or Oil)

Interval	Description	Avg. Drill Rate min./ft.

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

Spud: Wt. 10.4 Vis 43 W.L. 5.6 ph 9.5 cc Oil 0 % Cl₂ 300 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Attached Samples:

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



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 8-22-79 Time 0600

Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0

Formation(s) FORTRESS MTN/OKPIKRUAK Top Surface

Present Activity: POH to run Schlumberger logs.

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. 10.5 Vis 60 W.L. 5.9 ph 10.0 cc Oil - % Cl₂ 300 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 11-3-79 Time 0600
Present Depth 6773' Previous Depth 6773' Footage 24 Hrs. 0
Formation(s) FORTRESS MTN/OKPIKRUAK Top surface
Present Activity: Wash and ream into hole; at 6764 at report time.

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. 10.9 Vis. 65 W.L. 10 ph 9.0 cc Oil - % Cl₂ 500 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	De Exponent	Core 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 11-4-79 Time 0600
 Present Depth 6789' (Corrected ^{SIM}) Previous Depth 6773' Footage 24 Hrs. Corrected 6773' to 6789'
 Formation(s) FORTRESS MTN/OKPIKRUAK Top surface
 Present Activity: Picking up bottom hole assembly to drill after washing and reaming to bottom and making depth correction.

LITHOLOGIC DESCRIPTION

Interval Reported _____ min. @ _____ ft. 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. 11.0 Vis 74 W.L. 9.6 ph 8.5 cc Oil _____ % Cl₂ 600 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 DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-13-79 Time 0600
 Present Depth 7292' Previous Depth 7206' Footage 24 Hrs. 86'
 Formation(s) SHUBLIK Top 6945'
 Present Activity: Tripping for bit and rig repair.

LITHOLOGIC DESCRIPTION

Interval Reported 7200-7285 Sampling Interval 5 ft. Sample Quality good
 Lag Time: 123 min. @ 7292 ft.

Interval	Description	Avg. Drill Rate min./ft.
7200-7285'	Siltst: dk - med gy - gy - brn, med hd - firm, micromica, micro-pyr, occ lam, occ calc; intbdd w/and grdg in pt to Sh: dk gy - gy - brn, silty.	16.0 (8.0 - 24.0)

SHOW DESCRIPTION (Gas and/or Oil)

PEAK UNITS CHROMATOGRAPH (PPM)
DITCH GAS

Interval	DITCH GAS	
	C1	C2
7255'	20	500

Ditch Gas (Units): Background 14 Connection nil Trip nil Peaks a/a
 cuttings gas peak 28 @ 7260'

Mud: Wt. 10.9 Vis 59 w.l. 6.8 ph 8.5 cc Oil 0 % Cl₂ 400 Temp. 106 °F. in 109 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
7250'	2.60	1.77	9.1

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	6980-7280	1 (#27)	1
Unwashed Ditch (USGS)	6980-7280'	1 (#27)	2
GeoChem (canned)			
Cores	No.		



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-14-79 Time 0600

Present Depth 7292' Previous Depth 7292' Footage 24 Hrs. 0

Formation(s) SHUBLIK Top 6945'

Present Activity: Reaming to btm (6270' at report time)

LITHOLOGIC DESCRIPTION

Interval Reported 7285-7292' Sampling Interval 5 ft. Sample Quality good
Lag Time: 123 min. @ 7292' ft.

Interval	Description	Avg. Drill Rate min./ft.
7285-7292'	Sltst. gy - brn. med hd to firm. micromica. micropyr. in pt. med gy. mod hd: intbdd w/Sh. dk gy to gy brn. mod hd. slty.	12.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 14 Connection _____ Trip 160 @ 7292' Peaks _____

Mud: Wt. 11.0 Vis 62 W.L. 6.8 pH 8.5 cc Oil - %Cl₂ 450 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 DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-15-79 Time 0600
Present Depth 7292' Previous Depth 7292' Footage 24 Hrs. 0
Formation(s) SHUBLIK Top 6945'
Present Activity: Washing and reaming into hole from 6240-7285'.

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. 11 Vis 63 W.L. 6.7 ph 8.5 cc Oil - % Cl₂ 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 DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-16-79 Time 0600

Present Depth 7340' Previous Depth 7292' Footage 24 Hrs. 48

Formation(s) SHUBLIK Top 6945'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 7292-7330' Sampling Interval 5 ft. Sample Quality good
Lag Time: 128 min. @ 7335 ft.

Interval	Description	Avg. Drill Rate min./ft.
7292-7330'	Sh: med - dk gy - brn gy, mod hd, w/occ pyr and occ Sltst lam; w/Sltst: med - dk gy, mod hd; grdg to Ss: lt gy, v.f. grn, occ calc, w/rr dd stn, NOCF, w/rr euhedral Qtz xls.	16.0

SHOW DESCRIPTION (Gas and/or Oil)

PEAK UNITS DITCH GAS	CHROMATOGRAPH (PPM)	
	C ₁	C ₂
7300'	18	500

Ditch Gas (Units): Background 10 Connection n11 Trip 140 @ 7292' Peaks a/a

Mud: Wt. 11.0 Vis 61 W.L. 6.4 ph 8.5 cc Oil 0 % Cl₂ 400 Temp. 89 °F. in 90 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
7300'	2.58	1.78	9.01

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 OPERATIONS, INC.
U. S. GEOLOGICAL SURVEY/ONPRA
DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-17-79 Time 0600
Present Depth 7460' Previous Depth 7340' Footage 24 Hrs. 120'
Formation(s) SHUBLIK; LISBURNE Top 6945'; 7400'
Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 7330-7440' Sampling Interval 5 ft. Sample Quality good
Lag Time: 128 min. @ 7450 ft.

Interval	Description	Avg. Drill Rate min./ft.
7330-7360'	Sh: brn - gy. hd. flky. sil; in pt med gy. mod hd and dk gy. micromica; w/thn intbds of Slst. med gy.	14.0
7360-7395'	Sh: lt gy - green. hd. flky. some brn - gy. hd and sil, some dk gy. mod hd; locally small frags w/dk dd oil stn on frac faces; locally dis and nodular pyr.	16.0
7395-7440'	Ls (50-70%): brn to tn to wh mottled, mod hd, in pt rexalized, a bioclastic crinoidal grainstone, w/wh - tn chalky Ls; intbdd w/Sh. lt green - gy. pyr; w/thn strgs Ss, wh, v.f. grn, tr. glauconitic; and thn strg Cht, wh brn w/w. preserved fos ghosts of bryozoan debris and spicules; NOSCF.	9.0

SHOW DESCRIPTION (Gas and/or Oil)

Interval	BACKGROUND		CHROMATOGRAPH (PPM)		
	TOTAL GAS	GAS	C ₁	C ₂	C ₃
	7410'	48 units	46 units	1800	300

Ditch Gas (Units): Background 46 Connection - Trip - Peaks a/a

Mud: Wt. 11 Vis 64 w.L. 6.4 ph 3.5 cc Oil - %Cl₂ 450 Temp. 106 °F. in 107 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure		Calc/Dol
7350'	2.60	1.74	9.00		0 / 0
7400'	2.60	1.81	9.08		0 / 0
7425'	-	-	-		65 / 0
7450'	2.60	1.55	9.10		-

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 11-18-79 Time 0600
Present Depth 7568' Previous Depth 7460' Footage 24 Hrs. 108'
Formation(s) LISBURNE Top 7400'
Present Activity: Tripping for bit, POH at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 7440-7565' Sampling Interval 5-10 ft. Sample Quality good
Lag Time: 159 min. @ 7550 ft.

Interval	Description	Avg. Drill Rate min./ft.
7440-7490'	ls; tn to brn to wh mottled, and lt gy, mod hd - hd, in pt rexlized, crinoid and echinoidal bioclastic packstone, locally arg and chty, nil to p. intgran por, NOSCF; w/thn strgs dk gy Siltst and med - dk gy Sh; tr-10% Cht, wh and gy wh.	10.0
7490-7565'	Dol (as shown by autocalcimeter) brn - bf - wh mottled, mod hd - hd, sl - mod calc, biocalcarenite w/some crinoids and echinoids, locally chty and arg; w/5-10% Cht, wh, trnsi, and brn - gy; p. - nil por, NOSCF; rr calc filled frac.	5.5 - 13.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM)		
			C ₁	C ₂	C ₃
7465'	60 units	20 units	1600	300	Tr
7520'	60 units	20 units	NOT RECORDED		

Ditch Gas (Units): Background 22 Connection short Trip 70 @ 7464' Peaks a/a

Mud: Wt. 10.9 Vis 63 W.L. 6.5 ph 8.5 cc Oil - % Cl₂ 400 Temp. 107 °F. in 109 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	
				Calc/Dol
7450'	2.63	1.53	9.1	50/0
7500'	2.51	1.79	9.1	30/30
7550'	2.65	1.55	9.3	30/30

Dispatched Samples:

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

DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-19-79 Time 0600
 Present Depth 7568' Previous Depth 7568' Footage 24 Hrs. 0
 Formation(s) LISBURNE Top 7400'
 Present Activity: Tripping, reaming back to btm at 7558'

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. 11 Vis 63 W.L. 6.5 ph 8.5 cc Oil - % Cl₂ 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)	7280-7570'	1	Bx #28
Unwashed Ditch (USGS)	7280-7570'	1	Bx #28
GeoChem (canned)	7110-7470'	1	Bx #22
Cores	No.		

DAVE YOUNG



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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-20-79 Time 0600

Present Depth 7690' Previous Depth 7568' Footage 24 Hrs. 122

Formation(s) LISBURNE Top 7400'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 7565-7680' Sampling Interval 5 ft. Sample Quality good
Lag Time: 126 min. @ 7685 ft.

Interval	Description	Avg. Drill Rate min./ft.
7565-7680'	Dol; brn, brn - wh mottled, hd, microxl to crs xl, in pt chty, in pt calc, tt, nil to p. intxl por; occ small vugs and healed fracs, NOSCF; w/tn strgs Sh, med and dk gy; and strgs and nodules Cht, amber, clr, trnsl to wh, and brn; occ fos ghost in both Dol and Cht, rr to tr crinoidal debris.	9.6

SHOW DESCRIPTION (Gas and/or Oil)	PEAK UNITS	BACKGROUND	CHROMATOGRAPH (PPM)		
	DITCH GAS	GAS (UNITS)	C ₁	C ₂	C ₃
7620'	80	42	1500	300	Tr

Ditch Gas (Units): Background 42 Connection nil Trip 122 @ 7568' Peaks a/a

Mud: Wt. 11 Vis 65 W.L. 6.8 ph 8.5 cc Oil 450 % Cl₂ 98 Temp. 98 °F. in 101 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Autocalcimeter Calc/Dol
7600'	2.64	1.40	9.30	10 / 30
7650'	2.46	1.44	9.37	7 / 54

Dispatched Samples:

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