HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE No. 1 Date 12/30/79 Time 0600

Present Depth 10,143' Previous Depth 10,026' Footage 24 Hrs. 117'

Formation(s) Lisburne Top 9665'

Present Activity: Drilling.

LITHOLOGIC DESCRIPTION

Interval Reported 10,020' - 10,135' Sampling Interval 5 ft. Sample Quality good
Lag Time: 86 min. @ 10,140 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,020-10,135'	Dolo: mottled wht & brn - wht & gy - dk brn, f. - crs xtall, v. hd, becomes calc below 10,080', arg, scat-abund dolo rhombs; w/ Sh: v. dk brn, v. hd, sil, blky; Cht: tan mottled brn, w/ occ ghosts Dolo rhombs; & Cht: lt brn, v.f. - crypto-xtall, w/ dolo rhombs and inclusions having sucrosic texture.	10.8

SHOW DESCRIPTION (Gas and/or Oil)

	Total Gas	CHROMATOGRAPH (PPM) C_1	C_2
10,030'	90 units	18,000	300

Ditch Gas (Units): Background 50 Connection nil Trip 360 @ 10,026' Peaks a/a

Mud: Wt 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 89 °F. in 92 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,050'	2.43	1.60	10.3
10,100'	2.46	1.60	10.3

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	9900' - 10,100'	1	Bx #39
Unwashed Ditch (USGS)	" "	1	" "
GeoChem (canned)	9750' - 10,100'	1	Bx #31
Cores	No.		

Geologist R. Wermeyer

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE No. 1 Date 12/31/79 Time 0600

Present Depth 10,210' Previous Depth 10,143' Footage 24 Hrs. 73'

Formation(s) Lisburne Top 9665'

Present Activity: Testing B.O.P's

LITHOLOGIC DESCRIPTION

Interval Reported 10,135'-10,205' Sampling Interval 5' ft. Sample Quality good
Lag Time: 85 min. @ 10,200' ft.

Interval	Description	Avg. Drill Rate min./ft
10,135-10,165'	DOLO, brn - v. dk. brn, and mottled buff and dk brn; w/mnr Sh, v. dk brn-blk, and Cht a/a.	11.1
10,165-10,185'	PRED Ls, mottled lt and v. dk gy, some wht, firm in pt, sft and chalky, f. - med xln, occ crs xln, v. arg, occ crinoid and abund other rexlzd fos frags; some Ls, buff - lt brn, rexlzd lime mud, firm - hd; and mnr Dolo, lt brn, med-crs xln a/a, mnr Sh, v. dk brn a/a.	15.0
10,185-10,205'	PRED DOLO, lt - dk brn, in pt blk a/a, w/mnr Ls, sh and Cht a/a.	13.5

SHOW DESCRIPTION (Gas and/or Oil)

Depth	Total Gas	Background Gas	CHROMATOGRAPH (PPM) C_1	C_2
10,195'	54 units	45 units	10,100	500

Ditch Gas (Units): Background 45 Connection - Trip - Peaks -

Mud: Wt. 10.5 Vis 48 W.L. 5.8 ph 8.5 cc Oil 0 % Cl_2 200 Temp. 93 °F. in 95 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,150'	2.44	1.65	10.30
10,200'	2.44	1.69	10.30

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE No. 1 Date 1-1-80 Time 0600

Present Depth 10,292' Previous Depth 10,210' Footage 24 Hrs. 82

Formation(s) Lisburne Top 9665'

Present Activity: Drilling.

LITHOLOGIC DESCRIPTION

Interval Reported 10,205' - 10,280' Sampling Interval 5 ft. Sample Quality good
Lag Time: 87 min. @ 10,285 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,205-10,280'	Dolo: dk brn-blk-occ lt brn-occ mottled wht-dk brn, med-crs xtal, sil, calc, rr clr calcite veins, common gilsonite ? filling in small vugs; Sh: dk brn-blk, v. hd, in pt sil, occ scat dolo rhombs, w/ gilsonite on bdd & frac; Cht: mottled wht and brn, hd, glassy, w/ inclusions dolo rhombs; occ mnr Ls: wh, mottled dk gy, firm - chalky - sft, arg, occ clr euhedral calcite xtal from prob fractures.	12.1

SHOW DESCRIPTION (Gas and/or Oil)

Depth	Total Gas	CHROMATOGRAPH (PPM) C_1	C_2
10,200'	53	5000	500

Ditch Gas (Units): Background 45 Connection 55 @ 10,235' Trip 104 @ 10,210' Peaks a/a

Mud: Wt. 10.5 Vis 45 W.L. 5.6 ph 8.5 cc Oil - % Cl_2 200 Temp. 87 °F. in 90 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,250'	2.53	1.88	10.3

Dispatched Samples:

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

Geologist R. Wermeyer

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-5-80 Time 0600

Present Depth 10,819' Previous Depth 10,684' Footage 24 Hrs. 135'

Formation(s) LISBURNE Top 9665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,670-10,810' Sampling Interval 5' ft. Sample Quality good
Lag Time: 90 min. @ 10,810' ft.

Interval	Description	Avg. Drill Rate min./ft.
10,670-10,720'	Dol: sl calc, brn; and Sh a/a.	10.5
10,720-10,775'	Ls: gy - tn, becoming dk brn, pred rexlized lime mud, micro-crypto xl, loc scat fos frags, arg, firm; and Ls mottled and banded wh and dk gy, sft, firm, arg, loc scat rexlized fos frags; mnr Sh, brn, hd, v. rr fos frags, and rr calcite seams.	11.2
10,775-10,810'	Dol: brn, in pt dk brn, some mottled wh and brn, gen f. xl, rr crs xl, in pt calc, occ calcite veins; mnr Sh, dk brn, in pt v. dk brn to blk, blky, hd.	9.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
10,760'	72 units	56 units	14,000	500

Ditch Gas (Units): Background 56 Connection 0 Trip 0 Peaks 0

Mud: Wt. 10.5 Vis 49 W.L. 5.6 ph 8.5 cc Oil - % Cl_2 200 Temp. 96 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,700'	2.57	1.90	9.99
10,750'	2.54	1.86	9.82
10,800'	2.56	1.90	9.83

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-6-80 Time 0600

Present Depth 10,872' Previous Depth 10,819' Footage 24 Hrs. 53

Formation(s) LISBURNE Top 9665'

Present Activity: Tripping, RIH at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 10,810-10,865' Sampling Interval 5' ft. Sample Quality good
Lag Time: 90 min. @ 10,870 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,810-10,865'	Ls: tn - gy brn to brn, pred rexlized lime mud, in pt f. xl, sl dol, firm - hd, rr fos frags; and Ls mottled and banded blk and wh, sft, chalky, arg; w/intbdd and lam Dol, brn, f. xl, hd, occ calc veins; mnr Sh, brn, hd, blky.	10.5

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
10,855'	40 units	30 units	4000	Tr	

Ditch Gas (Units): Background 30 Connection 0 Trip 0 Peaks 0

Mud: Wt. 10.5 Vis 46 W.L. 5.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 96 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,850'	2.60	1.91	9.83

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	9920-10,710'	2	162, Bx #12
Unwashed Ditch (Paleo)	10,540-10,820'	1	Bx 42
Unwashed Ditch (USGS)	10,540-10,820'	1	Bx 42
GeoChem (canned)	10,450-10,820'	1	Bx 33
Cores	No.		

Geologist: RAY WERMEYER

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-7-80 Time 0600

Present Depth 10,942' Previous Depth 10,872' Footage 24 Hrs. 70

Formation(s) LISBURNE/CLASTICS Top 9665'/10,910'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,865-10,935' Sampling Interval 5' ft. Sample Quality good
Lag Time: 91 min. @ 10,940 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,865-10,910'	Pred Dol, brn, v.f: - med xl, sucrosic, hd, w/varying amts Ls, brn, mottled bf and brn, firm, hd, rexlized lime mud w/rr rexlized fos frags; and Ls wh - gy, sft, chalky, arg; w/mnr Sh, brn to dk brn, and blk, in pt earthy, occ subfis, and calc wh.	12.5
10,910-10,935'	Sh: v. dk brn, in pt blk, sft - firm, in pt hd, earthy, micro-pyr, p. - mod w. ind, occ calc veins.	20.8

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
10,880'	85 units	40 units	15,000	500	
10,872-10,880'	sl tr dull yel gold spl fluor, tr wh blue fluor on spot plate residue: appears to be contemination from trip @ 10,872'				

Ditch Gas (Units): Background 40. Connection 0 Trip 456 @ 10,872' Peaks -

Mud: Wt. 10.5 Vis 47 W.L. 5.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 90 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,900'	2.62	1.84	9.88

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-8-80 Time 0600

Present Depth 10,971' Previous Depth 10,940' Footage 24 Hrs. 31'

Formation(s) CLASTICS Top 10,910'

Present Activity: RIH w/bit to drill

LITHOLOGIC DESCRIPTION

Interval Reported 10,935-10,969' Sampling Interval 5' ft. Sample Quality good
Lag Time: 91 min. @ 10,940 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,935-10,965'	Sh: dk gy, hd, blky, com calc filled fracs, com micropyr, occ lenses pyr, rr slickensided; w/strgs Dolomitic Ls, tn - brn and dk brn; 10% Cht, blk, micropyr.	35 - 40
10,965-10,969'	Cht (50%): lt gy - bf, micropyr, w/tr lt gy sft Sh.	35 - 40
	REQUEST: Acid ampules from The Analyst.	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
10,945'	39 units	23 units	6800	100

Ditch Gas (Units): Background 23 Connection - Trip - Peaks -

Mud: Wt. 10.5 Vis 45 W.L. 5.4 ph 8.5 cc Oil - % Cl_2 200 Temp. 96 °F. in 99 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Cal / Dol
10,950'	2.62	2.11	9.88	15 25

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-9-80 Time 0600

Present Depth 11,046' Previous Depth 10,971' Footage 24 Hrs. 75'

Formation(s) CLASTICS Top 10,910'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,969-11,035' Sampling Interval 5 ft. Sample Quality good
Lag Time: 93 min. @ 11,040 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,969-10,990'	Sh: dk gy - blk, hd, blky, w/occ calcite filled veins, dis micropyr, occ becoming med hd - firm; rr tr lt gy earthy Sh; thn strgs Dol Ls and tr blk Cht.	16.0
10,990-11,000'	Sh: dk gy, hd, rr pyr, rr calcite, in pt med - lt gy, firm; grds to earthy; w/10-20% Ls, lt gy - wh, med hd, slty.	12.0
11,000-11,035'	Sh: dk gy, hd, sl calc; intbdd w/Sh med gy, sl brn cast, sl calc, splintery micropyr.	16.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACK GROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
10,985'	23 units	20 units	3600	200

Ditch Gas (Units): Background 20 Connection - Trip 114 @ 10,971' Peaks -

Mud: Wt. 10.5 Vis 47 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 Temp. 84 °F. in 89 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Cal / Dol
11,000'	2.64	2.19	9.81	8 / 15

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

8/78

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-10-80 Time 0600

Present Depth 11,162' Previous Depth 11,046' Footage 24 Hrs. 116

Formation(s) SHUBLIK Top 11,040'

Present Activity: Tripping for core barrel.

LITHOLOGIC DESCRIPTION

Interval Reported 11,035-11,157' Sampling Interval 5' ft. Sample Quality good
Lag Time: 94 min. @ 11,162' ft.

Interval	Description	Avg. Drill Rate min./ft.
11,035-11,040'	Sh: dk gy, hd, blky rr slickensides, Sh med gy and dk gy, firm, occ tr brn siderite veins; intbdd w/Ls tn, hd, micro-xl, dolomitic.	11.0
11,040-11,110'	Ls: tn, hd, cryptoxl, in pt chty, small rd fos ghosts, occ Monotis sp and impressions of Monotis sp; in pt bf, rexlized, f. xl, med hd w/free calc, rr glau; 10-30% Cht brn, blk, tn, clr.	9.5
11,110-11,140'	Sh: dk gy - blk, hd, in pt sil, intbdd w/Ls, bf - lt gy, rexlized, f. xl, mod hd, in pt w/f. xl pyr; intbdd w/Cht (10-30%), dk gy - blk, brn, clr, conchoidal frac.	8.0
11,140-11,157'	Sh: dk gy - blk, hd, sl calc, sl slty, in pt sil, com Monotis sp impressions, rr slickensides, rr calcite filled fracs; in pt micropyr; w/thn strgs Cht (10%), dk gy.	10.0 - 15.0
	REQUEST: Prelim paleo reports 18 & 19	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,140'	43 units	20 units	8400	Tr

Ditch Gas (Units): Background 20 Connection - Trip - Peaks -

Mud: Wt. 10.5 Vis 47 W.L. 5.8 ph 8.5 cc Oil - % Cl_2 200 Temp. 95 °F. in 97 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc	Dol
11,050'	2.63	2.04	9.92	17	2
11,100'	2.62	1.90	9.92	45	10
11,150'	2.61	1.85	9.97	15	10

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	10,820-11,110'	1	Bx #42
Unwashed Ditch (USGS)	10,820-11,110'	1	Bx #42
GeoChem (canned)			
Cores	No.		

Geologist DAVE YOUNG

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HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-11-80 Time 0600

Present Depth 11,172' Previous Depth 11,162' Footage 24 Hrs. 10

Formation(s) Shublik Top 11,040'

Present Activity: Cutting Core #10, Cut 11,162-11,172' (10') at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 11,157-11,165' Sampling Interval 5 ft. Sample Quality good
Lag Time: 75 min. @ 11,172 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,157-11,162'	Sh: dk gy, hd, sl calc, sl sil, pyr; intbdd w/strgs of Cht, blk, tn; w/tr Ls, brn, tr dd oil stn.	60
11,162-11,172	Cut Core #10.	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1
11,165'	14 units	11 units	2800

Ditch Gas (Units): Background 11 Connection nil Trip 86 @ 11,162' Peaks -

Mud: Wt. 10.5 Vis 46 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 93 °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

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HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-12-80 Time 0600

Present Depth 11,208' Previous Depth 11,172' Footage 24 Hrs. 36

Formation(s) SHUBLIK (?) Top 11,040'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,162-11,195' Sampling Interval cored, 5 ft. Sample Quality good
Lag Time: 93 min. @ 11,200 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,162-11,173'	Core #10, Cut 11', Rec. 11' (100%)	
	11,162-11,170' - Sh: dk gy - blk, hd, sl calc, sl slty w/sl contorted microlam, rr small calcite filled veins, batches blk Cht, apparent bdg at 25-30°.	68.0
	11,170-11,173' - Sh: a/a, becoming highly frac w/large random calcite filled fracs, some fracs ptly open up to 1" wide and 2.5" long, abnt vert slickensided bdg planes w/ graphite (?), NOSCF.	68.0
11,173-11,185'	Sh: dk gy - blk, a/a, w/abnt calcite, w/approx 20% blk Cht.	11.0
11,185-11,195'	Sltst: dk gy - brn, hd, sl calc, some free calcite.	11.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2	
11,190'	35 units	7000	Tr	

Nil cuttings gas

Ditch Gas (Units): Background 35 Connection nil Trip 326 @ 11,173' Peaks none

Mud: Wt. 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil 0 % Cl_2 200 Temp. 85 °F. in 87 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,200'	NA	2.02	9.84

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	10,820-11,090' and includes 3 spls from Core #10		
Cores	No. 10, 11,162-11,173'	4	

Geologist DAVE YOUNG

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HUSKY

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

DAILY GEOLOGICAL REPORT

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

Present Depth 11,325' Previous Depth 11,208' Footage 24 Hrs. 117'

Formation(s) SHUBLIK Top 11,040'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,195-11,350' Sampling Interval 5 ft. Sample Quality good
Lag Time: 122 min. @ 11,321 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,195-11,230'	Sltst: dk gy - brn, hd - mod hd, calc in pt, w/calcite micro-lam, occ f. dis pyr, some free euhedral calcite xls as prob frac fill; intbdd w/Sh: dk brn - gy, hd, calc, in pt sil, mod hd - firm.	8.5
11,230-11,300'	Sh: dk gy - blk, v. hd - hd, sil, non - sl calc, slty, occ micropyr, w/rr pyr lenses; in pt grds to Sltst: brn - gy, sft; mnr Cht (0-10%): dk gy - blk	12.0
11,300-11,350'	Cht: lt - med gy - tn, w/dk gy - blk Cht filled microfrac, conchoidal frac.	11.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2	
11,205'	100 units	20,000	200	

Ditch Gas (Units): Background 20 Connection nil Trip nil Peaks a/a

Mud: Wt. 10.5 Vis 50 W.L. 5.8 ph 8.5 cc Oil 0 % Cl_2 200 Temp. 95 °F. in 97 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
11,200'	2.62	2.02	9.84	23 / 12
11,250'	2.61	1.97	9.84	16 / 14
11,300'	2.65	1.96	9.70	0 / 7

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

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HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-14-80 Time 0600

Present Depth 11,370' Previous Depth 11,325' Footage 24 Hrs. 45

Formation(s) SHUBLIK Top 11,040'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,315-11,360' Sampling Interval 5' ft. Sample Quality good
Lag Time: 94 min. @ 11,366 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,315-11,325'	Cht, gy, pyr, w/dk stnd fracs, intbdd w/Sh, dk gy, hd, sil, slty.	11.0
11,325-11,345'	Sh: dk gy, hd, sil, slty, in pt mod hd - firm, w/tr dk brn sft earthy Sh; intbdd w/Sltst dk gy, hd - mod hd, loc micropyr, microlam.	15.0
11,345-11,360'	Sh: lt gy, sil, hd, highly pyr; intbdd w/dk gy slty Sh and dk gy Sltst, microlam, micropyr; tr lt gy Cht.	19.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,330'	30 units	20 units	5600	Tr

Ditch Gas (Units): Background 20 Connection - Trip 350 @ 11,364' Peaks -

Mud: Wt. 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 96 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Cal/ Dol
11,350'	2.63	2.01	9.77	0 / 23

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

8/78

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-24-80 Time 0600

Present Depth 11,974' Previous Depth 11,911' Footage 24 Hrs. 63'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,765-11,960' Sampling Interval 5' ft. Sample Quality good
Lag Time: 111 min. @ 11,970' ft.

Interval	Description	Avg. Drill Rate min./ft.
11,765-11,830'	Dol: bf - brn - wh mottled, f. - med xl, occ crs xl, crinoid debris; in pt gy - brn, f. - med xl, arg; intbdd w/Sh, dk gy, hd, sil, small dol rhombs, calcite patches, tt, NOSCF; occ calcite filled fracs.	11.0
11,830-11,855'	Dol: gy - brn, f. - med xl, hd, arg; in pt brn to bf, wh, mottled a/a, occ crinoid debris. NOSCF; intbdd w/Cht, wh - tn mottled, some trnsl; and Sh dk gy, hd, sil, slty.	10.5
11,855-11,885'	Dol: brn - bf - wh mottled, f. - med xl, hd; in pt gy - blk, shly, rr bryozoan and crinoid debris, tt, NOSCF, rr calcite filled fracs; rr Cht tn - wh mottled and lt gy.	11.0
11,885-11,900'	Dol: becoming bf, med xl, sl calc, hd, clean, in pt w/gilsonite in intxl pore space; intbdd w/Sh strgs, dk brn, gy, hd, dol, blky; tr Ls, lt brn, micritic.	11.0
11,900-11,960'	Dol: bf, wh, occ mottled, w/gilsonite patches and frac filling, med xl, rhombic to massive; pelletal ghosts, w/Sh dk gy, hd sil.	8.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,835'	43 units	35 units	2500	300

Ditch Gas (Units): Background 35 Connection - Trip 240 @ 11,930' 232 @ 11,691' Peaks a/a

Mud: Wt. 10.5 Vis 48 W.L. 5.6 ph 8.5 cc Oil - % Cl_2 200 Temp. 100 °F. in 104 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
11,800'	2.53	2.20	9.80	0 / 76
11,850'	2.54	2.22	9.81	0 / 78
11,900'	2.53	1.76	9.83	2 / 68
11,950'	2.52	1.74	9.85	0 / 85

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-25-80 Time 0600

Present Depth 11,977' Previous Depth 11,974' Footage 24 Hrs. 3

Formation(s) LISBURNE Top 11,548'

Present Activity: POH w/reverse circulating basket.

LITHOLOGIC DESCRIPTION

Interval Reported 11,960-11,975' Sampling Interval 5 ft. Sample Quality good
Lag Time: 111 min. @ 11,976 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,960-11,975'	Dol: wh - bf, occ mottled, f. - med xl, massive, hd, tt, patches and intxl gilsonite, tr gilsonite on frac surfaces; tr Cht, wh, trnsl; tr Sh, dk gy, hd, sil.	7.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,970'	20 units	17 units	3000	nil

Ditch Gas (Units): Background 17 Connection - Trip 56 @ 11,976' Peaks -

Mud: Wt. 10.5 Vis 48 W.L. 5.6 ph 8.5 cc Oil ____ % Cl_2 200 Temp. 89 °F. in 92 °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)	11,680-11,970'	1	Bx #45
Unwashed Ditch (USGS)	11,680-11,970'	1	Bx #45
GeoChem (canned)			
Cores	No.		

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-26-80 Time 0600

Present Depth 12,068' Previous Depth 11,977' Footage 24 Hrs. 91

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,975-12,055' Sampling Interval 5 ft. Sample Quality good
Lag Time: 110 min. @ 12,066 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,975-12,055'	Dol (80-90%): wh - bf, med xl, in pt mottled w/gilsonite	8.0
	occurring as intxl and on frac faces, in pt calc, rr small	(7.0 - 10.0)
	vugs lined w/dol rhmbs, no por, NOCF; w/Sh (10-20%): dk gy,	
	hd, com dol and calcite incls; tr Cht: wh - trnsl.	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2	
12,020'	48 units	2000	50	

Ditch Gas (Units): Background 29 Connection 40 @ 12,010' Trip 228 @ 11,976' Peaks a/a

Mud: Wt 10.5 Vis 60 W.L. 5.2 ph 8.5 cc Oil 0 % Cl_2 200 Temp. 90 °F. in 94 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
12,000'	2.50	1.68	9.81	0 / 85
12,050'	2.65	1.68	9.85	0 / 87

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

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

Present Depth 12,092' Previous Depth 12,068' Footage 24 Hrs. 24

Formation(s) LISBURNE Top 11,548'

Present Activity: Fishing; POH after backoff at 12,027'; 65' fish in hole.

LITHOLOGIC DESCRIPTION

Interval Reported 12,055-12,092' Sampling Interval 5 ft. Sample Quality good
Lag Time: 108 min. @ 12,092 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,055-12,092'	Dol: wh - bf, med xl, mosaic, hd, sl calc, w/intraxl "gilsonite" and on frac surfaces, occ small vugs, no por, NOCF; tr-10% Sh: dk gy, hd, w/dol and calcite incls.	9.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS MAX	CHROMATOGRAPH (PPM) C_1	C_2	
12,070'	25 units	2500	50	

Ditch Gas (Units): Background 24 Connection nil Trip 228 @ 11,976' Peaks none

Mud: Wt. 10.5 Vis 60 W.L. 5.2 ph 8.5 cc Oil 0 % Cl_2 200 Temp. 96 °F. in 99 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
12,050'	2.65	1.68	9.85	2 / 87

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

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

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Fishing, have 65.72' of fish in btm of hole, top fish at 12,026'

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 46 W.L. 5.6 ph 8.5 cc Oil - % Cl_2 200 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.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-29-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Washing over fish (12,026-12,031' 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. 10.5 Vis 47 W.L. 6.2 ph 8.5 cc Oil - % Cl_2 200 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	11,550-12,090'	2	#14, Sets 162
Unwashed Ditch (Paleo)	11,970-12,090'	1	#46
Unwashed Ditch (USGS)	11,970-12,090'	1	#46
GeoChem (canned)	11,780-12,090'	1	#37
Cores	No.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-30-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Washing over fish.

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 175 @ 12,026' Peaks _____

Mud: Wt. 10.5 Vis 47 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 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.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-31-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 12,548'

Present Activity: Repair rig, No. 1 engine compound bearing froze up.

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 49 W.L. 6.2 ph 8.5 cc Oil _____ % Cl_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

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

DAILY GEOLOGICAL REPORT

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

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Repair rig; wait on parts for compound.

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 51 W.L. 6.2 ph 8.5 cc Oil 0 % Cl_2 800 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-15-80 Time 0600

Present Depth 11,477' Previous Depth 11,370' Footage 24 Hrs. 107'

Formation(s) SHUBLIK Top 11,040'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,360-11,470' Sampling Interval 5 ft. Sample Quality good
Lag Time: 104 min. @ 11,472 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,360-11,375'	Sh: lt gy, mod hd - hd, sil, pyr in pt, w/dk bituminous stnd microfracs and Sh dk gy, hd, blky, tr w/pos "Ostracods"; intbdd w/Sltst, dk gy, mod hd, in pt microlam.	14.0
11,375-11,380'	Sh: dk brn - gy, firm, fis, micropyr, micromica.	13.0
11,380-11,460'	Sltst: dk gy - brn, mod hd - firm, sl calc, loc micropyr, microlam, micromica; intbdd w/Sh, dk gy, mod hd, and Sh, brn, sft, earthy; rr strgs Dol, tn - lt gy, arg, microxl.	13.5
11,460-11,470'	Sh: med gy, hd, sl sil, w/small tn phosphate pels, rr siderite veins.	13.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,450'	44 units	15 units	8400	100

Ditch Gas (Units): Background 15 Connection - Trip - Peaks -

Mud: Wt. 10.5 Vis 48 W.L. 60 ph 8.5 cc Oil ____ % Cl_2 200 Temp. 95 °F. in 97 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Cal / Dol
11,400'	2.68	2.10	9.77	0 / 45
11,450'	2.67	2.04	9.84	0 / 25

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	11,110-11,390'	1	Bx #43
Unwashed Ditch (USGS)	11,110-11,390'	1	Bx #43
GeoChem (canned)	11,090-11,450'	1	Bx #35
Cores	No.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-16-80 Time 0600

Present Depth 11,507' Previous Depth 11,477' Footage 24 Hrs. 30

Formation(s) SHUBLIK Top 11,040'

Present Activity: Running in hole w/bit

LITHOLOGIC DESCRIPTION

Interval Reported 11,470-11,500' Sampling Interval 5 ft. Sample Quality good
Lag Time: 105 min. @ 11,507 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,470-11,475'	Sh: brn, hd, sil, blky, in pt w/small phosphate pels, rr large pels; grds in pt to Cht, tn to brn.	11.0
11,475-11,500'	Cht: tn - brn, hd: grds to sil Sh, in pt lt gy, w/com small phosphate pels, rr large brn phosphate pels; occ dk stn on hairline fracs; tr Sh wh, sft.	12.0
	REQUEST: 2 pads % Spl Description forms	

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,475'	15 units	13 units	3000	Tr

Ditch Gas (Units): Background 13 Connection nil Trip - Peaks -

Mud: Wt. 10.5 Vis 45 W.L. 6.2 ph 8.5 cc Oil ____ % Cl_2 200 Temp. 94 °F. in 96 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Cal / Dol
11,500'	2.67	2.06	9.81	0 3

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-17-80 Time 0600

Present Depth 11,537' Previous Depth 11,507' Footage 24 Hrs. 30

Formation(s) SHUBLIK Top 11,040'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,500-11,535' Sampling Interval 5 ft. Sample Quality good
Lag Time: 98 min. @ 11,535 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,500-11,525'	Sh: lt gy - green, firm - mod hd, in pt w/pink lam and small pink - tn phosphate pels; w/Sh lt - med gy, micropyr; w/tr-10% Sh brn, firm, mod hd in pt w/gilsonite on frac surfaces; and 0-10% Clyst, wh, sft, sl soluble, earthy.	23
11,525-11,530'	Clyst: wh, sft, earthy, streaked lt gy; intbdd w/Sh, lt - med gy, mod hd, micropyr.	31
11,530-11,535'	Ss (30%): lt gy, v.f. - slty, mod hd; intbdd w/Sh, lt - med gy a/a becomes sl slty; and Clyst wh a/a; tr Sh, brn a/a.	32

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 13 Connection Trip 160 @ 11,507' Peaks

Mud: Wt 10.5 Vis 47 W.L. 6.0 ph 8.5 cc Oil % Cl_2 200 Temp. 94 °F. in 96 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

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HUSKY

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

DAILY GEOLOGICAL REPORT

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

Present Depth 11,565' Previous Depth 11,537' Footage 24 Hrs. 28'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,535-11,555' Sampling Interval 5 ft. Sample Quality good
Lag Time: 95 min. @ 11,560 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,535-11,545'	Ss: wh - lt gy, v.f. grn, slty, w. srt, mod hd - hd, sl dol, dis pyr; intbdd w/Sh, dk gy brn - dk brn; tr Clyst, wh, sft.	21
11,545-11,555'	Ss a/a, becoming glau; w/Dol (20%), wh, med xl, intxl bituminous residue, clean, tt, NOSCF; w/intbdd Sh dk brn, hd, blky; tr tn color Cht.	9

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL DITCH GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
11,559'	42 units	35 units	3200	200

Ditch Gas (Units): Background 35 Connection - Trip 208 @ 11,140' Peaks -

Mud: Wt 10.5 Vis 46 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 85 °F. in 90 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc/Dol
11,550'	2.64	2.26	9.73	0 / 25

Dispatched Samples:

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 11-19-80 Time 0600

Present Depth 11,630' Previous Depth 11,565' Footage 24 Hrs. 65'

Formation(s) LISBURNE Top 11,548'

Present Activity: RIH w/bit

LITHOLOGIC DESCRIPTION

Interval Reported 11,555-11,630' Sampling Interval 5 ft. Sample Quality good
Lag Time: 106 min. @ 11,630 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,555-11,560'	Sh: dk brn, hd, dolomitic, occ calc filled fracs, intbdd w/Ss, wh, v.f. grn, mod hd, glau, w/min iron mnrl, pyr; and Dol, bf, med xl, in pt mosaic.	9.0
11,560-11,580'	Dol: brn - gy, hd - mod hd, f. med xl, arg; in pt bf, hd, med xl, mosaic, rhombohedral w/blk scat gilsonite.	9.0
11,580-11,615'	Dol: brn, gy, f. - med xl, arg, sdy, hd, locally bf, f. - med xl, mosaic; w/thn bds Ss, med gy, v.f. grn, firm, arg; and Cht, wh, bf, mottled, com unidentified microfos.	11.0
11,615-11,630'	Cht: wh - brn - gy mottled, in pt trnsl w/microfos frags (spicules, Bryozoa); intbdd w/Ss, med - dk gy, v.f. grn, firm, highly arg, and Dol, a/a.	15.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2
10,585'	100 units	20 units	9000	250

Ditch Gas (Units): Background 20 Connection - Trip - Cuttings 14 @ 11,610'

Mud: Wt 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil ____ % Cl_2 200 Temp. 96 °F. in 99 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
11,600'	-	1.96	9.76	0 / 52

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	10,710-11,550'	2	Bx #13
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-20-80 Time 0600

Present Depth 11,686' Previous Depth 11,630' Footage 24 Hrs. 56

Formation(s) LISBURNE Top 11,548'

Present Activity: RIH w/core bbl for Core #11.

LITHOLOGIC DESCRIPTION

Interval Reported 11,630-11,686' Sampling Interval 5 ft. Sample Quality good
Lag Time: 103 min. @ 11,686 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,630-11,645'	Cht: dk gy brn, amber, brn and wh mottled, com microfos debris.	9.0
11,645-11,675'	Dol: lt gy, f. xl, suc, mosaic, mod hd, arg, w/gilsonite on xl faces; com Cht nodules, dk gy, brn, blk.	12.0
11,675-11,686'	Intbdd Cht: blk, brn, amber, trusl; w/Dol, med gy, f. xl, mod hd, arg, occ nodule; w/Sh, blk, hd, sil, calc filled fracs.	18.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
11,645'	52 units	35 units	1500	200	

Ditch Gas (Units): Background 35 Connection - Trip 408 @ 11,630' Peaks -

Mud: Wt. 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 95 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
11,650'	-	1.86	9.84	0 / 47

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	11,390-11,680'	1	Bx #44
Unwashed Ditch (USGS)	11,390-11,680'	1	Bx #44
GeoChem (canned)			
Cht spls	10,490-11,680'		

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-21-80 Time 0600

Present Depth 11,691' Previous Depth 11,686' Footage 24 Hrs. 5'

Formation(s) LISBURNE Top 11,548'

Present Activity: RIH w/bit to drill

LITHOLOGIC DESCRIPTION

Interval Reported 11,686.5-11,691' Sampling Interval core ft. Sample Quality good
Lag Time: 103 min. @ 11,686 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,686.5-11,691'	Core #11, Cut 4.5', Rec. 4.0', (89%)	
	11,686.5-11,688' (1.5') - Cht: blk - lt gy; w/mnr Dol, med gy, hd, f. xl, w/rdd healed fracs, rr calc, tt, no shows, no dips.	120
	11,688-11,690.5' (2.5') - Dol: gy - brn, f. xl, hd w/com Cht patches, nodules, and clasts, blk - lt gy mottled w/microfracs.	110
	11,690.5-11,691.0 (0.5') - No recovery.	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 13 Connection Trip 102 @ 11,686' Peaks

Mud: Wt. 10.5 Vis 49 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 95 °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. 11 11,686.5-11,691'	2	

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 1-22-80 Time 0600

Present Depth 11,779' Previous Depth 11,691' Footage 24 Hrs. 88'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,691-11,765' Sampling Interval 5 ft. Sample Quality good
Lag Time: 107' min. @ 11,773' ft.

Interval	Description	Avg. Drill Rate min./ft.
11,691-11,695'	Sh: med gy and brn, mod hd w/siderite veins, in pt w/blk dd oil stn in fracs.	12.0
11,695-11,700'	Dol: brn - gy, f. - med xl, hd, sucrosic to rhombic, tt, w/some sl intxl por, in pt w/sil replacement, occ tr wh calc, intbdd w/Cht, lt brn, mottled, trnsl.	13.0
11,700-11,715'	Cht: lt brn, mottled, trnsl, and Cht, dk brn, blky w/conchoidal frac; mnr Dol, gy - brn, f. - med xl, mod hd, arg, sl slty.	11.0
11,715-11,730'	Dol: gy - brn, in pt bf - brn - wh mot, f. - med xl, some crs xl, hd, tt, in pt chty; and Cht, amber, in pt wh, cloudy, trnsl.	13.0
11,730-11,755'	Sh: dk gy, hd, sil, w/rr crinoid stems, rr calc filled fracs, occ dol rhombs; w/intbdd Dol, gy - brn, f. - med xl, hd, arg in pt bf, med - crs xl.	12.0
11,755-11,765'	Dol: bf - brn, sl mot, f. xl, sucrosic, arg, some free calc, tt, NOSCF.	12.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
11,735'	56 units	37 units	2800	- tr hydrogen	gas.

Ditch Gas (Units): Background 37 Connection - Trip 232 @ 11,691' Peaks

Mud: Wt. 10.5 Vis 49 W.L. 5.8 ph 8.5 cc Oil % Cl_2 200 Temp. 101 °F. in 102 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
11,700'	-	1.99	9.83	0 / 49
11,750'	2.56	1.87	9.82	0 / 50

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	11,450-11,750'	1	Bx #36
Cores	No.		

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DAILY GEOLOGICAL REPORT

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

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 1,548'

Present Activity: Fishing

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 52 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 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.		

Geologist None on location.

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DAILY GEOLOGICAL REPORT

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

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Fishing; making up overshot; have washed over fish to 12,035' (top 12,026'), left 2/3 washover shoe in hole at 12,035' on last trip.

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_2 _____ Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

Geologist None on location

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-12-80 Time 0600

Present Depth 12,425' Previous Depth 12,369' Footage 24 Hrs. 56

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,355-12,420' Sampling Interval 5 ft. Sample Quality good
Lag Time: 102 min. @ 12,420 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,355-12,420'	Ls: gy brn, some v. lt gy - wh, med xl - microxl, rexlized fos debris, in pt rexlized lime mud, rr crinoid frags, y. rr, y. small pelecypods, mod hd, tt, no shows, w/mnr Sh blk, hd, sil, in pt Chty, sl calc; and mnr - tr Cht, blk, hd, sub-conchoidal frac.	10.4

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20 Connection - Trip 320 @ 12,420' Peaks -

Mud: Wt 10.5 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 100 °F. in 102 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,400'	2.62	1.68	10.34

Dispatched Samples:

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

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-13-80 Time 0600

Present Depth 12,533' Previous Depth 12,425' Footage 24 Hrs. 108'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,420-12,525' Sampling Interval 5 ft. Sample Quality good
Lag Time: 101 min. @ 12,530 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,420-12,435'	Ls: gy brn, in pt mottled wh and gy brn, mod hd, rexlized lime mud and fos debris, gen f. - med xl, rr calc filled fracs; intbdd w/Sh (20-40%); dk gy brn - blk, sil, mod hd, in pt dol; and v. mnr Cht, v. dk brn - blk.	16.5
12,435-12,525'	Ls: lt gy, becoming gy brn to v. dk gy brn, pred rexlized lime mud, gen. f. xl - microxl, rr v. crs rexlized fos frags, v. rr crinoid, Gastropod and coral frags, arg, becoming v. arg w/depth; w/Sh (5-10%) a/a v. dk brn and blk, some earthy and slty; tr Cht.	11.9

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20 Connection nil Trip 0 Peaks none

Mud: Wt. 10.5 Vis 47 W.L. 6.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 101 °F. in 102 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,450'	2.64	1.90	10.33
12,500'	2.60	1.86	10.28

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,270-12,470'	1	Bx 48
Unwashed Ditch (USGS)	12,270-12,470'	1	Bx 48
GeoChem (canned)	12,090-12,450'	1	Bx 38
Cores	No.		

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-14-80 Time 0600

Present Depth 12,665' Previous Depth 12,533' Footage 24 Hrs. 132'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,525-12,655' Sampling Interval 5' ft. Sample Quality good
Lag Time: 111 min. @ 12,660 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,525-12,615'	Ls: bf - gy - brn, med - crs xl, rexlized lime mud mtx w/com rexlized fos frags, rr crinoid frags, v.rr fos casts, mod hd, rr calc filled fracs, sl dol, in pt arg; w/tr-10% Sh, v.dk brn-blk, sil, in pt chty, in pt sl sol to calc, w/free dol rhombs 12,535-12,537'; tr Cht.	11.4
12,615-12,655'	Ls: gy - brn, pred rexlized lime mud, f. - microxl, rr fos frags, w/v. rr, thn calc filled veins, sl dol, arg; 10-15% Sh, v. dk brn - blk, sl slty, sl dol, in pt chty; and 5-15% Cht, v. dk brn to blk. in pt vitreous.	9.5

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	H_2
12,535-12,540'	1072 units	40 units	214,000	Tr	Tr

NOTE: Had sl drilling break at 12,535' (8.3 min/ft) and 12,537' (6.6 min/ft), w/com euhedral dol rhombs free in spls indicating prob fracs.

Ditch Gas (Units): Background 28 Connection 240 @ 12,630'; 208 @ 12,598; 298 @ 12,567'; 900 @ 12,535' Trip - Peaks a/a

Mud: Wt. 10.6 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 102 °F. in 105 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,550'	2.62	1.83	10.24
12,600'	2.62	1.72	10.28
12,650'	2.62	1.72	10.40

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,470-12,640'	1	Bx 49
Unwashed Ditch (USGS)	12,470-12,640'	1	Bx 49
GeoChem (canned)			
Cores	No.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-15-80 Time 0600

Present Depth 12,779' Previous Depth 12,665' Footage 24 Hrs. 114'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,655-12,765' Sampling Interval 5 ft. Sample Quality good
Lag Time: 108 min. @ 12,770 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,655-12,695'	Ls: bf-lt brn, loc gy brn, pred f.-v.f. xl, loc med xl, gen rexlized lime mud w/occ rr scat fos frags (crinoid decris), arg,-v.arg, in pt sl dol, v. loc pos phosphate pels, mod hd; w/mnr Cht v.dk brn-blk; and Sh, v.dk brn-blk, mod hd, sl calc, loc rr microfos.	10.9
12,695-12,723'	Ls: bf-brn, gen a/a; w/5-20% Sh a/a; and intbdd mnr Cht and Dol, brn, becoming wh, f. xl, calc.	11.0
12,723-12,750'	Dol: wh and mot wh and lt gy brn, med-crs xl, macrosuc, calc, v. sl arg; w/5-10% Sh, v.dk brn-blk, mod hd, calc, and Cht, v.dk brn, loc some blu-gy.	9.4
12,750-12,765'	Intbdd Dol, Ls and Sh: Dol, v.dk brn, micro-crypto xl, mod hd, arg, occ calc; Ls, gy brn, dolomitic, a lime mud, v. arg, firm and dns; Sh (20%) v.dk brn-blk, mod hd, in pt chty, sl sil.	12.2

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2
12,724'	86 units	18000	500
12,762'	128 units	18000	Tr

Ditch Gas (Units): Background 30 Connection 104 @ 12,756'; 126 @ 12,724'; 144 @ 12,693'; 150 @ 12,662' Trip - Peaks a/a

Mud: Wt. 10.7 Vis 48 W.L. 6.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 102 °F. in 105 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,700'	2.58	1.70	10.62
12,750'	2.60	1.73	10.78

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-16-80 Time 0600

Present Depth 12,891' Previous Depth 12,779' Footage 24 Hrs. 112'

Formation(s) LISBURNE Top 11,584'

Present Activity: Trip for bit

LITHOLOGIC DESCRIPTION

Interval Reported 12,765-12,875' Sampling Interval 5 ft. Sample Quality good
Lag Time: 110 min. @ 12,870 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,705-12,785'	Dol: v. dk brn, micro - crypto xl, mod hd, arg; and Ls mot wh and dk gy, pred lime mud, v. arg, firm, dns; w/Sh (5-20%), v. dk brn, blky, dol to calc, sl slty, in pt sl sil.	8.4
12,785-12,830'	Ls: gy brn, pred f. xl, rexlized lime mud, v. arg; and Ls f. - med xl, arg, v. rr fos frags, dol; w/intbdd Dol, v. dk brn, euhedral, suc xls, v.f. xl, arg; w/Sh (5-20%) a/a.	9.9
12,830-12,850'	Ls: bf - lt brn, med xl, rexlized fos frags, sl arg, abnt lime mud; and Ls. dk brn. micro - f. xl. arg; w/Sh a/a (5-20%).	9.0
12,850-12,875'	Ls: mot wh - lt gy, rexlized lime mud, rr crs rexlized fos debris; and intbdd Ls gy brn. micritic; w/5-10%) Sh a/a; tr Cht.	8.3

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	C_3	
12,850'	44 units	28 units	5000	Tr	Tr	
12,855'	58 units	28 units				

Ditch Gas (Units): Background 28 Connection 88 @ 12,851' / 192 @ 12,820' / 128 @ 12,788' Trip - Peaks -

Mud: Wt. 10.7 Vis 48 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 103 °F. in 105 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,800'	2.61	1.77	10.51
12,850'	2.60	1.74	10.59

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,640-12,840'	1	Bx 50
Unwashed Ditch (USGS)	12,640-12,840'	1	Bx 50
GeoChem (canned)	12,450-12,810	1	Bx 39
Cores	No.		

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-17-80 Time 0600

Present Depth 12,970' Previous Depth 12,891' Footage 24 Hrs. 79'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,875-12,950' Sampling Interval 5 ft. Sample Quality good
Lag Time: 123 min. @ 12,950 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,875-12,900'	Sh (10-80%): v. dk brn - blk, mod hd, micropyr, in pt gilsonitic; w/intbdd Ls, dk brn, f. xl, mod hd, arg, abnt dol rhombs in gilsonite mtx; w/some Ls wh - lt brn, micrite; and mnr Cht v. dk brn, blu gy.	7.2
12,900-12,950'	Sh (30-50%): a/a, w/scat Qtz veins, w/Dol, rhombic w/gilsonite mtx; mnr Ls, bf, micrite w/scat fos frags, in pt chalky; tr Cht a/a.	8.3

SHOW DESCRIPTION (Gas and/or Oil)

Lost mud as follows:

128 bbls on trip @ 12,891'
122 bbls while drilling 12,891-12,970'

Ditch Gas (Units): Background 20 Connection 35 @ 12,946' 85 @ 12,914' Trip 1792 @ 12,891' Peaks

Mud: Wt. 10.7 Vis 53 W.L. 5.8 ph 8.5 cc Oil - % Cl_2 200 Temp. 89 °F. in 92 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,900'	2.61	1.69	10.51
12,950'	-	1.62	10.52

Dispatched Samples:

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

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-18-80 Time 0600

Present Depth 13,066' Previous Depth 12,970' Footage 24 Hrs. 96'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,950-13,055' Sampling Interval 5 ft. Sample Quality good
Lag Time: 113 min. @ 13,060 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,950-13,030'	Ls: bf, lt brn, loc becoming gy brn to med brn, gen microxl w/loc crs - v. crs. fos frags, arg to v. arg, mod hd, rr Qtz filled fracs; w/20-40% intbdd Sh, v. dk brn to blk; and gilsonite frac fill w/euhedral dol rhombs enclosed in the gilsonite.	11.7
13,030-13,055'	Pred Ls: mot and occ banded wh and dk gy gen microxl w/rr med - crs grn fos frags, arg; w/20-40% intbdd Sh, blk, mod hd, blky, in pt slty; tr - rr Cht.	14.7
	NOTE: Losing 6 BPH mud	
	REQUEST: 2 bxs cloth spl bags 1 case cans (no lids) 15 dry spl bxs	

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

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2
13,000'	28 units	2000	Tr

Ditch Gas (Units): Background 20 Connection 123 @ 13,009' / 50 @ 12,978' Trip Peaks

Mud: Wt. 10.7 Vis 44 W.L. 6.6 ph 8.5 cc Oil - % Cl_2 200 Temp. 96 °F. in 98 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,950'	2.61	1.62	10.52
13,000'	2.62	1.70	10.53
13,050'	2.62	1.84	10.45

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	12,090-12,920'	2	1&2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

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DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-4-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Laying down fish 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. 8.5 Vis 48 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 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.		

Geologist None on location

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-5-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Cutting core w/junk basket to clean up btm of 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. 10.5 Vis 46 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 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.		

Geologist DAVE YOUNG

S/75

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-6-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Tripping out of hole; drilled on junk 12,089-12,092', torque on btm, unable to rotate, 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. 10.6 Vis 45 W.L. 6.6 ph 8.5 cc Oil - % Cl_2 200 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.		

Geologist DAVE YOUNG

8/28

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-7-80 Time 0600

Present Depth 12,092' Previous Depth 12,092' Footage 24 Hrs. 0

Formation(s) LISBURNE Top 11,548'

Present Activity: Tripping in w/bit; milled up and recovered 3.5 lbs. junk last 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. 11.5 Vis 47 W.L. 6.4 ph 8.5 cc Oil _____ % Cl_2 200 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.		

Geologist DAVE YOUNG

8/78

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-8-80 Time 0600

Present Depth 12,157' Previous Depth 12,092' Footage 24 Hrs. 65'

Formation(s) LISBURNE Top 11,548'

Present Activity: Tripping

LITHOLOGIC DESCRIPTION

Interval Reported 12,092-12,150' Sampling Interval 5' ft. Sample Quality good
Lag Time: 115 min. @ 12,157 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,092-12,150'	Dol: wh, mottled dk gy w/gilsonite patches, f. - med xl, mas, hd, tt, fracs w/gilsonite on faces, rr fos frags (pos Brachiopod shells); occ patch Sh, dk gy, hd, w/dol incls; loc secondary silica and Cht, wh - lt gy - trnsl, and amber, w/dk stns on microfracs, NOSCF.	8 - 19

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL PEAK GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
12,095'	36 units	15 units	300	tr	

Ditch Gas (Units): Background 15 Connection - Trip 320 @ 12,092' Peaks a/a

Mud: Wt. 10.5 Vis 52 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 89 °F. in 92 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
12,100'	2.58	1.69	10.20	tr / 75
12,150'	2.61	1.78	10.29	5 / 85

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

8/78

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-9-80 Time 0600

Present Depth 12,187' Previous Depth 12,157 Footage 24 Hrs. 30

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,150-12,180' Sampling Interval 5 ft. Sample Quality good
Lag Time: 113 min. @ 12,180 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,150-12,165'	Dol: wh mottled w/gilsonite and dk gy Sh patches, f. - med xl, hd, no por, NOSCF; w/intbdd Sh: med gy - brn, siderite veins; w/occ dk gy Sh; tr Cht: lt gy - wh, mottled.	12.0
12,165-12,180'	Dol: wh - bf, in pt mot dk gy, f. - med xl, hd, no por, w/rr gilsonite in closed fracs; tr Ls: brn, microxl, w/Cht: brn, rr crinoid stems.	11.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS MAX	CHROMATOGRAPH (PPM) C_1	C_2
12,165'	36 units	3000	Tr

Ditch Gas (Units): Background 27 Connection nil Trip 608 @ 12,157' Peaks a/a

Mud: Wt. 10.5 Vis 47 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 Temp. 85 °F. in 88 °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

8/7

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-10-80 Time 0600

Present Depth 12,253' Previous Depth 12,187' Footage 24 Hrs. 66

Formation(s) LISBURNE Top 11,548'

Present Activity: RIH w/new bit

LITHOLOGIC DESCRIPTION

Interval Reported 12,180-12,250' Sampling Interval 5 ft. Sample Quality good
Lag Time: 112 min. @ 12,254 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,180-12,185'	Dol: wh - bf, in pt w/dk gy mottling of gilsonite and dk gy Sh patches, f. - med xl, hd, few gilsonite filled frac, no por, NOSCF.	15.0
12,185-12,235'	Ls: gy - brn, in pt dk gy - in pt tn and rexlized, microxl, hd - mod hd, arg, no por, NOSCF, few calcite filled fracs, rr crinoid stem and bryozoan, occ chty.	11.0 (8 - 17)
12,235-12,250'	Dol and Dolomitic Ls: gy brn - dk gy - tn, micro - f. xl, hd - mod hd, ptly rexlized; tr -10% Cht, no por, rr crinoid stem.	15.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS MAX	CHROMATOGRAPH (PPM) C_1	C_2	C_3	
12,185'	80 units	11000	100	Tr	

Ditch Gas (Units): Background 30 Connection nil Trip nil Cuttings gas Peaks 3 @ 12,210'

Mud: Wt. 10.5 Vis 48 W.L. 6.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 93 °F. in 96 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
12,200'	2.62	1.84	10.2	85 / 2
12,250'	2.63	1.74	10.16	70 / 30

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

8/7

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-11-80 Time 0600

Present Depth 12,369' Previous Depth 12,253' Footage 24 Hrs. 116

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,250-12,355' Sampling Interval 5' ft. Sample Quality good
Lag Time: 107 min. @ 12,360 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,250-12,290'	Ls: gy - brn, and dk gy - brn, mod hd - hd, microxl, arg, loc slty, w/rr calcite filled fracs, rr slickensided surfaces.	14.4
12,290-12,300'	Ls: a/a; intbdd w/Dol bf - wh, med - crs xl, calc, hd - mod hd, tt, NOSCF; rr intxl gilsonite; tr Cht, lt gy, sl tripolitic.	7.0
12,300-12,325'	Dol: bf - wh, med - crs xl, mod hd, calc, rhombic, occ patches intxl gilsonite; intbdd w/Ls, gy - brn, mod hd.	9.0
12,325-12,355'	Ls: gy - brn to lt brn, rexlized microxl, mod hd - hd, dol, arg, tt; occ calcite filled fracs, rr crinoid stems; w/thn strgs blk hd dol Sh; and med dk gy brn sil Ls; tr dk brn Cht.	13.0

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	BACKGROUND GAS	CHROMATOGRAPH (PPM) C_1	C_2	
12,260'	54 units	20 units	3600	Tr	Tr H_2S

Ditch Gas (Units): Background 20 Connection - Trip 1280 @ 12,253' Peaks nil

Mud: Wt. 10.5 Vis 52 W.L. 6.0 ph 8.5 cc Oil - % Cl_2 200 Temp. 100 °F. in 102 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure	Calcimeter Calc / Dol
12,300'	2.58	1.61	10.27	80 / 10
12,350'	2.62	1.74	10.35	70 / 30

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,090-12,270'	1	Bx #47
Unwashed Ditch (USGS)	12,090-12,270'	1	Bx #47
GeoChem (canned)			
Cores	No.		

Geologist DAVE YOUNG

8/7

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-19-80 Time 0600

Present Depth 13,144' Previous Depth 13,066' Footage 24 Hrs. 78'

Formation(s) LISBURNE Top 11,548'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 13,055-13,135' Sampling Interval 5 ft. Sample Quality good
Lag Time: 120 min. @ 13,140 ft.

Interval	Description	Avg. Drill Rate min./ft.
13,055-13,130'	Ls: lt gy, and mot lt and dk gy, loc becoming gy brn, v.crs rexlized fos frags in lime mud, including rr crinoid frags, rr molusk frags, becoming pyr, sl arg; w/10-40% intbdd Sh, dk brn, becoming earthy, sl slty, micropyr, loc rr scat fos frags, in pt calc.	15.5
13,130-13,135'	Sh (50-80%): dk brn, some brn, in pt mod hd, in pt sft, firm, and slty, micropyr, calc in pt, occ scat fos frags, rr calc veins, w/intbdd Ls a/a becoming increasingly arg.	20.8

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2
13,080'	85 units	15,000	500

Ditch Gas (Units): Background 18 Connection 58 @ 13,136'; 32 @ 13,104'; 55 @ 13,072' Trip - Peaks -

Mud: Wt. 10.7 Vis 30 W.L. 6.4 ph 8.5 cc Oil - % Cl_2 200 Temp. 97 °F. in 99 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,100'	2.60	1.89	10.46

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,840-13,070'	1	Bx 51
Unwashed Ditch (USGS)	12,840-13,070'	1	Bx 51
GeoChem (canned)			
Cores	No.		

Geologist RAY WERMEYER

8/78

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-20-80 Time 0600

Present Depth 13,233' Previous Depth 13,144' Footage 24 Hrs. 89'

Formation(s) LISBURNE Top 11,548'

Present Activity: Circ drilling break (from 11.5 min/ft. to 6.5 min/ft.)

LITHOLOGIC DESCRIPTION

Interval Reported 13,135-13,220' Sampling Interval 5 ft. Sample Quality good
Lag Time: 120 min. @ 13,230' ft.

Interval	Description	Avg. Drill Rate min./ft.
13,135-13,165'	Pred Sh, brn - dk brn, slty, micropyr, in pt earthy, sl chty, in pt w/rr to scat microfos; w/intbdd mnr Ls, lt gy and mot wh gy and brn, med - v. crs xl, abnt fos debris including rr crinoid frags, in pt arg, mod hd; w/loc mnr Sh brn, slty, earthy, sft.	17.0
13,165-13,195'	Pred Ls; w/mnr Sh brn - dk brn a/a; and tr Sh brn, sft, earthy.	15.7
13,195-13,220'	Pred Ls, dk brn, f. - crs xl, com fos debris; occ scat Cht, v. arg, mod hd; w/Sh dk brn a/a, and loc Sh brn, sft, earthy.	15.7

SHOW DESCRIPTION (Gas and/or Oil)

	TOTAL GAS	CHROMATOGRAPH (PPM) C_1	C_2
13,145'	88 units	15,000	300

Ditch Gas (Units): Background 22 Connection 16 @ 13,198'; 38 @ 13,167'; 58 @ 13,136' Trip - Peaks -

Mud: Wt. 10.7 Vis 47 W.L. 6.2 ph 8.5 cc Oil - % Cl_2 200 Temp. 99 °F. in 100 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
13,150'	2.66	1.95	10.42
13,200'	2.65	1.89	10.41

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

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

DAILY GEOLOGICAL REPORT

WELL LISBURNE #1 Date 2-29-80 Time 0600

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

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

Present Activity: Running logs prior to setting 7 5/8" csg; running HDT (Dipmeter) at report time.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	Ran the following logs:	
	DIL/GR/SP 8005-13,645'	
	BHCS/GR 8005-13,642'	
	FDC/CNL/GR/CAL 8012-13,648'	
	HDT (Dipmeter) running at report time.	
	TOPS	
	1st Plate Lisburne Ls (base) 8599'	
	2nd " " Ls (top) 9670'	
	(base) 10,898'	
	3rd " " Ls (top) 11,549'	
	(base) 13,370'	

SHOW DESCRIPTION (Gas and/or Oil)

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

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

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

Geologist RAY WERMEYER/H. HAYWOOD

8/7