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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 12-17-79 Time 0600

Present Depth 20,147' Previous Depth 20,085' Footage 24 Hrs. 62'

Formation(s) LISBURNE Top 17,100'

Present Activity: POH for bit

LITHOLOGIC DESCRIPTION

Interval Reported 20,060'-20,140' Sampling Interval 5' ft. Sample Quality fair - good
Lag Time: 217 min. @ 20,148 ft.

Interval	Description	Avg. Drill Rate min./ft.
20,060-20,100'	Intbdd Ls, calcarenite, mottled lt brn to tn; w/Ls, calcilutite, blk, slty, a/a; w/some Cht, blk - smokey gy; tr Sh, blk, carb, blky a/a.	11.6 - 16.0
20,100-20,120'	Pred Ls, calcilutitic, blk, slty, pyr, arg, carb, crypto - f. xl; some crs detrital mat; occ calcite seams, a/a; w/some Cht, blk - smokey gy; and thn Ls, calcarenite, tn, a/a.	11.2 - 2.7
20,120-20,140'	Intbdd Ls calcarenite, tn a/a; and Ls blk calcilutite a/a.	11.2 - 18.4

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10-16 Connection 27 @ 20,137' Trip Peaks 18 @ 20,135'

Mud: Wt 15.5 Vis 58 W.L. 5.8 ph 10 cc Oil - % Cl_2 1200 Temp. 122 °F. in 128 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,075'	2.66	1.05	14.98
20,100'	2.60	1.08	14.89
20,125'	2.60	1.01	14.86

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	19,000-20,090'	1	Bx #21, Sets 1&2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist: DAVE FENEX

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 12-18-79 Time 0600

Present Depth 20,171' Previous Depth 20,147' Footage 24 Hrs. 24

Formation(s) LISBURNE Top 17,100'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 20,140-20,155' Sampling Interval 5' ft. Sample Quality poor-fair
Lag Time: 214 min. @ 20,165 ft. @ 60 strokes/min.

Interval	Description	Avg. Drill Rate min./ft.
20,140-20,155'	Pred Ls, blk, slty, v. arg, grds to Sh in pt, a/a.	16.6 - 25.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10-14 Connection - Trip 528 @ 20,147' Peaks -

Mud: Wt. 15.5 Vis 73 W.L 6.0 ph 9.9 cc Oil - % Cl_2 1200 Temp. 107 °F. in 116 °F. out
Max temp on trip: 111° @ 20,147'

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,150'	2.62	1.13	14.78

Dispatched Samples:

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

Geologist: DAVE FENEX

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 12-19-79 Time 0600

Present Depth 20,222' Previous Depth 20,171' Footage 24 Hrs. 51

Formation(s) LISBURNE Top 17,100'

Present Activity: Tripping for bit. POH at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 20,155-20,220' Sampling Interval 5 ft. Sample Quality fair
Lag Time: 215 min. @ 20,222 ft.

Interval	Description	Avg. Drill Rate min./ft.
20,155-20,178'	Pred Ls, calcarenitic to calcilutitic, mottled lt gy - brn, f. - med grn, spar calcite cmt; rr crinoid stems, rr - com blk phosphate pels, mod w. ind, nil por; w/some Ls blk, calcilutitic a/a.	8.6 - 12.0
20,178-20,202'	Ls, calcilutitic, blk, crypto - f. xl, calcite seams a/a; grds to Ls calcarenite a/a in pt.	14.0 - 21.5
20,202-20,220'	Ls, calcarenitic to calcilutitic, mottled lt gy - brn a/a, becoming finer grn; abnt Cht, smokey gy.	17.4 - 31.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 6-12 Connection 33 @ 20,168' Trip - Peaks -

Mud: Wt. 15.5 Vis 64 W.L. 5.7 ph 10.2 cc Oil ____ % Cl_2 1200 Temp. 119 °F. in 126 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,150'	2.62	1.13	14.78
20,175'	2.60	1.02	14.80
20,200'	2.62	1.12	14.83

Dispatched Samples:

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

Geologist: DAVE PENEY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 12-20-79 Time 0600

Present Depth 20,232' Previous Depth 20,222' Footage 24 Hrs. 10

Formation(s) LISBURNE Top 17,100'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported – Sampling Interval _____ ft. Sample Quality _____
Lag Time: 215 min. @ 20,230 ft.

Interval	Description	Avg. Drill Rate min./ft.
	NO SAMPLES TO SURFACE AT REPORT TIME.	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 8-12 Connection _____ Trip 960 @ 20,222' Peaks _____

Mud: Wt. 15.5 Vis 84 W.L. 4.8 ph 10.1 cc Oil _____ % Cl_2 1200 Temp. 92 °F. in 105 °F. out
Max temp on trip: 108°F. @ 20,222'

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,225'	2.62	1.12	14.83

Dispatched Samples:

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

Geologist DAVE FENEX

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

DAILY GEOLOGICAL REPORT

WELL EUNALIK #1 Date 12-21-79 Time 0600

Present Depth 20,297' Previous Depth 20,232' Footage 24 Hrs. 65'

Formation(s) LISBURNE Top 17,100'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 20,220-20,285' Sampling Interval 5 ft. Sample Quality poor-fair
Lag Time: 215 min. @ 20,285 ft.

Interval	Description	Avg. Drill Rate min./ft.
20,220-20,250'	Ls, tn to med - dk gy, calcarenite, a/a; w/thn intbdd Ls, blk, slty, sil, a/a.	11.0 - 17.2
20,250-20,260'	Ls, blk, v. sil, v. slty, and arg a/a.	22.4 - 28.2
20,260-20,285'	Ls, tn, med - dk gy, a/a; w/thn Ls strgs, blk, slty a/a; and Cht, smokey to dk gy, occ in seams and incls.	17.3 - 19.5

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 12-18 Connection 23 Trip 960 @ 20,222' Peaks

Mud: Wt. 15.5 Vis 78 W.L. 52 ph 10.2 cc Oil % Cl_2 Temp. 118 °F. in 127 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,225'	2.62	1.09	14.80
20,250'	2.66	1.14	14.81
20,275'	2.62	1.07	14.81

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	19,890-20,260'	1	Bx #64
Unwashed Ditch (USGS)	19,890-20,260'	1	Bx #64
GeoChem (canned)			
Cores	No.		

Author DAVE FENEN

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/22/79 Time 06:00

Present Depth 20,335' Previous Depth 20,297' Footage 24 Hrs. 38'

Formation(s) Lisburne Top 17,100

Present Activity: P.O.H. to log.

LITHOLOGIC DESCRIPTION

Interval Reported 20,285-20,335' Sampling Interval 5 ft. Sample Quality fair
Lag Time: 212 min. @ 20,335 ft.

Interval	Description	Avg. Drill Rate min./ft.
20,285-20,305	Ls. med - dk. gy calcilutite, smooth, crypto- v.f. xln. sil. arg, v.w. indur, calc seams w/ inclus of smoky Cht.	19.2 - 22.6
20,305-20,335	Ls, calcarenite, grds to calcilutite, wht gy, brn, to tan, crs fossil frags, spar calc cmt, Cht inclus; calcilutite, tan, chalky, mod w. indur, rr phosphate pels; w/thin intrbds dk gy calcilutite a/a @ 20,285.'	11.7 - 16.6

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 14-20 Connection 28 @ 20,329', 25 @ 20,299' Trip _____ Peaks _____

Mud: Wt. _____ Vis _____ W.L. _____ ph _____ cc Oil _____ % Cl_2 _____ Temp. 112 °F. in 128 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
20,275'	2.62	1.07	14.81
20,300'	2.60	1.12	14.78
20,325'	2.60	1.07	14.77

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	19,930 - 20,290'	1	Bx 65
Cores	No.		

Geologist Dave Fenex

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/23/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: R.I.H. to fish for sonic tool (see below)

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	R.I.H. w/ BHC/GR to log; hit bridge @ 15,200', P.O.H., lost tool, fishing at report time.	

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.		

Dave Fenex

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/24/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Fishing sonic tool; R.I.H. to 20,234'; circulating pressure indicates fish is in overshot; P.O.H. @ 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. 15.5 Vis 60 W.L. 4.6 ph 10.4 cc Oil _____ % Cl_2 1200 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 Fenex

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/25/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Lay down fish, prep to make clean out run.

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 Dave Fenex

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/26/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Circ and cond mud; R.I.H. in stages to 20,265', ream 20,265-20,335'; circ on btm 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. _____ 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 Dave Fenex

8/78

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/27/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Logging; running BHCS/GR @ report time.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	Ran following logs:	
	DIL/GR/SP 18,000' - 20,329'	
	BHCS/GR Logging at report time.	

SHOW DESCRIPTION (Gas and/or Oil)

NOTED
JAN 1 1980
GRYC

RECEIVED
DEC 31 1979
ONPRA
MENLO PARK

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

Mud: Wt. 15.4 Vis 82 W.L. 4.6 ph 10.0 cc Oil – % Cl_2 1200 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 Fenex

8/78

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/28/79 Time 06:00

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Fishing Velocity survey tool (stuck @ 15,385'); circ @ 15,335' with overshot at report time, prep to P & A well.

LITHOLOGIC DESCRIPTION

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

Interval	Description	Avg. Drill Rate min./ft.
	COMPLETED LOGGING AS FOLLOWS:	
	BHCS/GR 18,000-20,335'	
	Velocity survey shot #1) 20,278' -deepest shot in well	
	2) 19,062' - top "ratty" zone	
	3) 18,383' - top massive Ls	
	4) 18,279' - Base volcanics	
	5) 17,563' - Top volcanics	
	6) 19,620' - no record	

SHOW DESCRIPTION (Gas and/or Oil)

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

Mud: Wt. 15.2 Vis 63 W.L. 5.6 ph 9.8 cc Oil -- % Cl_2 1200 Temp. 70 °F. in 90 °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 Fenex

8/78

FINAL REPORT

FINAL REPORT

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK No. 1 Date 12/29/79 Time 0600

Present Depth 20,335' Previous Depth 20,335' Footage 24 Hrs. 0

Formation(s) Lisburne Top 17,100'

Present Activity: Prep to P & A well; attempt to recover fish unsuccessful.

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. 15.2 Vis 62 W.L. 5.6 ph 9.8 cc Oil 0 % Cl_2 1200 Temp. _____ °F. in _____ °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

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

Geologist _____

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