HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-19-79 Time 06:00

Present Depth 8385' Previous Depth 8301' Footage 24 Hrs. 84'

Formation(s) TOROK Top 6015' (sample)

Present Activity: Tripping for new bit

LITHOLOGIC DESCRIPTION

Interval Reported 8301-8370' Sampling Interval 10 ft. Sample Quality V. poor
Lag Time: 83.1 min. @ 8350 ft.

Interval	Description	Avg. Drill Rate min./ft.
8301-8370'	Predominantly Shly Clyst: lt gy, lumpy to sl soluble, sticky and gummy, v. calc, w/Sh: gy - dk gy, micromica in pt, lumpy - splintery, slty in pt, grdg to Sltst.	8.1 - 11.9
	REQUEST:	
	1) 2 each - blueline of FY 77-79 Well Location Map	
	2) 2 each - Colored Topo Maps - NPRA	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 12-20 Connection nil Trip - Peaks -

Mud: Wt. 11.3 Vis 44 W.L. 9.0 ph 10.5 cc Oil - % Cl2 22,000 Temp. 112 °F. in 94 °F. out
Max temp on trip: 112°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8350'	2.64	1.96	10.5

Dispatched Samples:

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

Geologist GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-20-79 Time 06:00

Present Depth 8485' Previous Depth 8385' Footage 24 Hrs. 100'

Formation(s) TOROK Top 6815' (sample tops)

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 8370-8450' Sampling Interval 10 ft. Sample Quality poor
Lag Time: 93 min. @ 8400 ft.

Interval	Description	Avg. Drill Rate min./ft.
8370-8450'	Cly Sh: lt gy, lumpy, sft and sticky, ptly soluble, calc, occ carb, occ sl firmer, occ slty.	2.8 - 5.3

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 40 Connection nil Trip nil Peaks 70 @ 8435'

Mud: Wt. 11.4 Vis 48 W.L. 9.0 ph 10 cc Oil ____ % Cl_2 25,000 Temp. 99 °F. in 102 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8400'	2.62	1.69	10.9
8450'	2.62	1.60	10.9

Dispatched Samples:

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

Geologist: GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-21-79 Time 06:00

Present Depth 8712' Previous Depth 8485' Footage 24 Hrs. 227'

Formation(s) TOROK Top 6015' (sample top)

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 8450-8690 Sampling Interval 10 ft. Sample Quality fair
Lag Time: 100 min. @ 8690 ft.

Interval	Description	Avg. Drill Rate min./ft.
8450-8690'	Cly Sh: lt gy, sft, sticky, lumpy, sl sdy, sl bentonitic, calc; w/intbdd Sh, dk gy, mod w. ind. sl splintery, carb.	5.4 - 8.4

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 38 Connection - Trip - Peaks 124 @ 8540-8550'

Mud: Wt. 11.4 Vis 44 W.L. 7.0 ph 10.0 cc Oil ____ % Cl_2 27,000 Temp. 116 °F. in 120 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8500'	2.83	1.64	10.9
8550'	2.32	1.56	10.8
8600'	2.44	1.56	10.6
8650'	2.36	1.57	10.6
8700'	2.55	1.60	10.6

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	8120-8510'	1	Box #24
Unwashed Ditch (USGS)	8120-8510'	1	
GeoChem (canned)	8060-8420'	1	Box #1
Cores	No.		

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

DAILY GEOLOGICAL REPORT

WELL TINALIK #1 Date 2-22-79 Time 06:00

Present Depth 8800' Previous Depth 8712' Footage 24 Hrs. 88'

Formation(s) TOROK Top 6243' (log top)

Present Activity: Cutting Core #6 (8782-8800 @ report time).

LITHOLOGIC DESCRIPTION

Interval Reported 8690-8780' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 100 min. @ 8690 ft.

Interval	Description	Avg. Drill Rate min./ft.
8690-8780'	Sh and Cly Sh: lt gy - dk gy, lumpy, sticky, sl splintery, occ slty; w/occ intbd Ss, wh - gy, v. agg, slty, abunt wh cly matrix, w. ind, poor - nil por, NOSCF; becoming slty and grdg to Sltst.	5.5 - 7.2
	REQUEST: GeoChem Labels 1/2 pt. cans 200 qt. cans extra caps	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 30-40 Connection - Trip 40 @ 8782' Peaks 60 @ 8770'

Mud: Wt. 11.4 Vis 55 W.L. 7 ph 10 cc Oil ___ % Cl_2 27,000 Temp. 120 °F. in 122 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8700'	2.55	1.74	10.6
8750'	2.60	1.74	10.6

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	8420-8770'	1	Box #28
Cores	No.		

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-23-79 Time 06:00

Present Depth 8877' Previous Depth 8800' Footage 24 Hrs. 77

Formation(s) TOROK Top 6243' (log top)

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 8780-8860' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 110 min. @ 8827 ft.

Interval	Description	Avg. Drill Rate min./ft.
8780-8782'	Sh: a/a	5.0 - 8.0
8782-8810'	Core #6: Cut 28', Rec. 28' (100%); Sh, med - dk gy, micromica v. sl calc, brittle, subfis, sl splintery; w/occ irreg turbide structures of v.f. grn Ss, grdg to Sltst, lt gy, v.f. grn, sl - mod calc, tightly cmt w/Cly and sil; abunt recrystallization and overgrowths on Qtz grns; bdg hctl, appears non-fos except for plant and wood frags 8805-8808'	5.0 - 8.0
8810-8843'	Sh: gy, sl mica, subfis, w/tr slty Ss, v. arg, tight.	4.4 - 6.8
8843-8855'	Sh: a/a w/Ss, off wh - lt gy, mottled dk gy, v.f. grn - slty, v. arg w/Cly and wh Cly matrix, grds to slty, sdy Clyst; mnr gilsonite blk, vitreous, w/conchoidal frac; had 1000 units gas kick (predom C1), NOSCF.	1.3 - 2.8
8855-8860'	Sh: w/mnr Ss a/a.	5.8
	REQUEST: 5 rolls filament tape	

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas	Peak Units	
8843-8855'	140	1000	In intbdd Sltst and Ss, tight, NOSCF

Ditch Gas (Units): Legg Background 140 Connection 1120 @ 8858' Trip 44 @ 8810' Peaks 1000 @ 8850'

Mud: Wt. 11.4 Vis 47 W.L. 7.0 ph 9.5 cc Oil ____ % Cl_2 27,000 Temp. 108 °F. in 110 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8800'	2.68	1.42	10.6
8850'	2.60	1.29	10.8

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	8510-8780	1	Box #25
Unwashed Ditch (USGS)	8510-8780'	1	
GeoChem (canned)	8782-8810 (Core #6)	1	Box #29
Cores	No.6 8782-8810'	10	

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-24-79 Time 06:00

Present Depth 9047' Previous Depth 8877' Footage 24 Hrs. 170

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 8860-9030' Sampling Interval 10 ft. Sample Quality fair - v. poor
Lag Time: 110 min. @ 9030 ft.

Interval	Description	Avg. Drill Rate min./ft.
8860-9030'	Sh: gy - lt gy, micromica in pt, v. sl calc; intbdd w/Ss and Slst, wh - gy, v. f. grn to slt, occ f. grn, v. arg, v. well cmt w/calc cly and silica, v. p. vis por, NOSCF.	1.8 - 9.2

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 300-400 Connection 1280 @ 8921 Trip Peaks 800 @ 9025' 1490 @ 8930'

Mud: Wt. 12.0 Vis 45 W.L. 6.0 ph 10 cc Oil % Cl 26,000 Temp. 120 °F. in 124 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
8900'	2.58	1.75	10.8
8950'	2.62	1.69	10.8
9000'	2.52	1.71	11.1

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 TUNALIK #1 Date 2-25-79 Time 06:00

Present Depth 9180' Previous Depth 9047' Footage 24 Hrs. 133

Formation(s) TOROK Top 6243'

Present Activity: POH.

LITHOLOGIC DESCRIPTION

Interval Reported 9030-9170' Sampling Interval 10 ft. Sample Quality very poor
Lag Time: 116 min. @ 9150 ft.

Interval	Description	Avg. Drill Rate min./ft.
9030-9170'	Sh: a/a, becoming v. bentonitic below 9070' w/marked swelling of clays in fresh water; intbdd w/occ Ss and Slst a/a.	6.0 - 9.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 400-700 Connection 360 @ 9047' Trip - Peaks 1800 @ 9110'

Mud: Wt. 12.5 Vis 47 W.L. 6.0 ph 9.5 cc Oil ____ % Cl_2 27,000 Temp. 120 °F. in 124 °F. out

Date Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
9050'	2.58	1.69	11.44
9100'	2.52	1.73	11.39
9150'	2.36	1.66	11.50

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	8780-9110'	1	Box #26
Unwashed Ditch (USGS)	8780-9110'	1	Box #26
GeoChem (canned)	8770-9130'	1	Box #30
Cores	No.		

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-26-79 Time 06:00

Present Depth 9312' Previous Depth 9180' Footage 24 Hrs. 132'

Formation(s) TOBOK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 9170-9290' Sampling Interval 10 ft. Sample Quality very poor
Lag Time: 117 min. @ 9265 ft.

Interval	Description	Avg. Drill Rate min./ft.
9170-9290'	Sh: lt gy - gy, slty in pt, bentonitic, sl calc, mnr Ss and Sltst a/a, v. slty and arg; p. vis per. NOSCP.	4.7 - 6.5

SHOW DESCRIPTION (Gas and/or Oil)

Depth	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	C_4
9215'	740	220,000	14,000	3000	Tr

Ditch Gas (Units): Background 380-740 units 500 avg Connection 120 @ 9267' Trip 1500 @ 9180' Peaks 640 @ 9270' 740 @ 9215'

Mud: Wt. 12.5 Vis 47 W.L. 7.0 ph 10 cc Oil ____ % Cl_2 24,000 Temp. 118 °F. in 122 °F. out
Max temp on trip 122°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
9200'	2.38	1.50	11.9
9250'	2.64	1.57	11.8
9300'	2.62	1.59	11.9

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	8300-9170'	2	1 & 2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL: TUNALIK #1 Date: 2-27-79 Time: 06:00

Present Depth: 9491' Previous Depth: 9312' Footage 24 Hrs.: 179'

Formation(s): TOROK Top: 6243'

Present Activity: Trip for bit

LITHOLOGIC DESCRIPTION

Interval Reported: 9290-9480' Sampling Interval: 10 ft. Sample Quality: v. poor
Lag Time: 118 min. @ 9400 ft.

Interval	Description	Avg. Drill Rate min./ft.
9290-9480'	Predominantly Sh, gy and gy blk, v. sl calc, occ sl splintery, lumpy, bentonitic; becoming sl micromica and grdg to Sltst below 9410', intbdd occ Slty Ss, and Sltst, dk gy - brn, v. arg, v. slty, v.f. grn to Slt, grdg to Sh; v. p. - p. vis por, NOSCF.	2.6 - 7.2

SHOW DESCRIPTION (Gas and/or Oil)

Depth	Background Gas Units	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	C_4	C_5
9435'	1100	1920 (Sltst)	320,000	16,000	8000	800	Tr

Ditch Gas (Units): 9420-9491' - 1100 - 1200 units
9312-9420' - 500 - 600 units
Background _____ Connection 1700 @ 9424' 1500 @ 9393' Trip _____ Peaks 1920 @ 9435'

Mud: Wt. 12.5 Vis 45 W.L. 7 ph 10.0 cc Oil _____ % Cl_2 25,000 Temp. 122 °F. in 126 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
9350'	2.60	1.58	12.0
9400'	2.58	1.57	12.0
9450'	2.38	1.65	12.1

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	9110-9400'	1	Box #27
Unwashed Ditch (USGS)	9110-9400'	1	Box #27
GeoChem (canned)			
Cores	No.		

Geologist: GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 2-28-79 Time 06:00

Present Depth 9657' Previous Depth 9491' Footage 24 Hrs. 166'

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 9480-9640' Sampling Interval 10 ft. Sample Quality Extremely poor
Lag Time: 116 min. @ 9644 ft.

Interval	Description	Avg. Drill Rate min./ft.
9480-9640'	Sh, gy - lt gy, gy brn, typically sft, and sticky, bentonitic, occ sl splintery, sl calc, mod w. ind; w/mnr Sltst and Ss, gy brn, v. dirty, slty, v.f. grn to slty, mod w. ind, poor to nil vis por, NOSCF.	3.6 - 5.2

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): 9585-9657' 200-300 units
9491-9585' 600-700 units
Background _____ Connection - Trip 3000 @ 9491' Peaks nil

Mud: Wt. 12.7 Vis 47 W.L. 7.0 ph 10.0 cc Oil _____ % Cl 25,000 Temp. 116 °F. in 118 °F. out
Max temp on trip 126°F. @ 9491'

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
9500'	2.48	1.61	12.00
9550'	2.30	1.57	11.60
9600'	2.50	1.61	12.00
9650'	2.60	1.61	12.09

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	9130-9490'	1	Box 31
Cores	No.		

Geologist GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-1-79 Time 06:00

Present Depth 9832' Previous Depth 9657' Footage 24 Hrs. 175

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 9640-9810' Sampling Interval 10 ft. Sample Quality poor - fair
Lag Time: 121 min. @ 9830 ft.

Interval	Description	Avg. Drill Rate min./ft.
9640-9810'	Predom Sh: a/a: w/occ Sh, dk gy - blk, carb sl submetalic luster, micromica, and sl splintery; w/occ mnr Ss, gy - brn, v.f. grn - f. grn, SA-SR, mottled blk w/Sh ptgs, v. calc, arg, poor vis por, NOSCF.	5.2 - 9.4

REQUEST: Paleo data below 5850'

SHOW DESCRIPTION (Gas and or Oil)

Depth	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	
9825	640	15,000	100	Tr	9.4

Ditch Gas (Units): Background 60-80 Connection 140 @ 9801' Trip Peaks as above

Mud: Wt. 12.7 Vis 45 W.L. 9.0 ph 9.5 cc Oil % Cl_2 26,000 Temp. 124 °F. in 130 °F. out

Data Chart

Depth	Shale Density	D-Exponent	Pore Pressure
9700'	2.64	1.57	12.2
9750'	2.64	1.58	12.0
9800'	2.62	1.58	12.1

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	9400-9650'	1	Box 28
Unwashed Ditch (USGS)	9400-9650'	1	Box 28
GeoChem (canned)			
Cores	No.		

Geologist GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-2-79 Time 06:00

Present Depth 9938' Previous Depth 9832' Footage 24 Hrs. 106'

Formation(s) TOROK Top 6243

Present Activity: DRILLING

LITHOLOGIC DESCRIPTION

Interval Reported 9810 - 9920' Sampling Interval 10' ft. Sample Quality fair
Lag Time: 122 min. @ 9930' ft.

Interval	Description	Avg. Drill Rate min./ft.
9810-9920	Sh: a/a w/rare tr. Ss a/a.	5.6-9.4

REQUEST: Logs from Paard, mud log, e log when they log.

SHOW DESCRIPTION (Gas and/or Oil)

CHROMATOGRAPH (PPM)

DEPTH	BACKGROUND	PEAK	C_1	C_2	C_3	C_4	C_5
9925'	140	500	231,000	8000	2000	tr	tr 9.4 min/ft.

Ditch Gas (Units): Background 140 Connection nil Trip 1100 @ 9840' Peaks a/a

Mud: Wt. 12.7 Vis 47 W.L. 8 ph 10 cc Oil ____ % Cl_2 23000 Temp. 108 °F. in 116 °F. out
124 deg.

Data Units

Depth	Shale Density	Dc Exponent	Pore Pressure
9850	2.64	1.44	12.0
9900	2.60	1.66	11.9

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	9490-9850	1	BOX #32
Cores	No.		

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-3-79 Time 06:00

Present Depth 10,068' Previous Depth 9938' Footage 24 Hrs. 130

Formation(s) TOROK Top 6243'

Present Activity: POH for new bit

LITHOLOGIC DESCRIPTION

Interval Reported 9920-10,060' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 123 min. @ 10,000 ft.

Interval	Description	Avg. Drill Rate min./ft.
9920-10,030'	Sh: gy - lt gy, typically fluffy and bentonitic, occ becoming slty and less bentonitic.	4.4 - 11.0
10,030-10,060'	Sh: mostly a/a, becoming more slty, grdg in pt to Sltst: off wh - lt gy, v. arg, w/abnt wh cly, grdg to slty Sh	8.9 - 11.9

SHOW DESCRIPTION (Gas and/or Oil)

	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	
10,018'	512	100,000	4000	100	6.0

Ditch Gas (Units): Background 200 Connection nil Trip - Peaks 512 @ 10,018'

Mud: Wt. 12.7 Vis 60 W.L. 8 ph 10 cc Oil 0 % Cl_2 25,000 Temp. 118 °F. in 122 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
9950'	2.63	1.69	12.2
10,000'	2.64	1.76	12.0
10,050'	2.62	1.85	11.6

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	9650-9930'	1	Box #29
Unwashed Ditch (USGS)	9650-9930'	1	Box #29
Washed/Dried (Canned)			
Cores	No.		

Geologist GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-4-79 Time 06:00

Present Depth 10,218' Previous Depth 10,068' Footage 24 Hrs. 150

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,060-10,200' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 119 min. @ 10,200 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,060-10,100'	Predominantly Sh: gy - lt gy, a/a, becoming v. slty w/occ Sltst.	3.3 - 11.7
10,100-10,200'	Predominantly Sltst: brn, v. arg, v. sdy, grds to Sh and Ss, Ss: brn, v. arg and slty, v.f. grn, carb, sl fri, poor por: becoming Ss: f. grn - v.f. grn, fri, poor por w/mnr Sh: a/a.	2.0 - 15.0

SHOW DESCRIPTION (Gas and/or Oil)

	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	
10,130'	896	178,000	1000	500	4.4
10,150'	896	142,000	1000	500	5.4

Ditch Gas (Units): Background 350 Connection 900 @ 10,112' Trip 2050 @ 10,068' Peaks see above

Mud: Wt. 12.5 Vis 56 W.L. 10 ph 9.5 cc Oil 0 % Cl 24,000 Temp. 118 °F. in 122 °F. out
Max temp on trip 116°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,100'	2.60	1.34	12.1
10,150'	2.61	1.33	12.1
10,200'	2.58	1.64	11.9

Dispatched Samples:

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

Geologist GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-5-79 Time 06:00

Present Depth 10,316' Previous Depth 10,218' Footage 24 Hrs. 98'

Formation(s) TOROK Top 6243'

Present Activity: POH for bit

LITHOLOGIC DESCRIPTION

Interval Reported 10,200-10,300' Sampling Interval 10' ft. Sample Quality fair
Lag Time: 120 min. @ 10,300 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,200-10,300'	Ss, Sltst and Sh, gradational from slty carb Sh to v. arg Sltst and slty Ss.	6.6 - 12.4
	REQUEST: 50 Core Boxes	

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	C_4	C_5
10,285'	700	1900	370,000	16,000	400	100	Tr

Ditch Gas (Units): 10,280-10,316' - 700 units
10,200-10,280' - 400 units
Background _____ Connection 960 @ 10,298' Trip - Peaks as above

Mud: Wt. 12.7 Vis 49 W.L. 12.0 ph 9 cc Oil _____ % Cl_2 24,000 Temp. 114 °F. in 118 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,250'	2.64	1.76	12.1
10,300'	2.60	1.82	12.3

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	9170-10,160'	2	1 & 2
Unwashed Ditch (Paleo)	9830-10,200'	1	Box #30
Unwashed Ditch (USGS)	9830-10,200'	1	Box #30
Gas Chem (canned)	9850-10,210'	1	Box 33
Cores	No.		

Geologist GORDON LEGG

8/75

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-6-79 Time 06:00

Present Depth 10,440' Previous Depth 10,316' Footage 24 Hrs. 124

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,300-10,420' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 125 min. @ 10,435 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,300-10,420'	Predominantly Sh, gy - lt gy, sft, and sticky; w/Sh dk gy, splintery, fis - subfis, v. f. mica; intbdd w/Sltst, gy, v. arg, sdy; grdg to Ss, gy brn, v. slty, grdg to Sltst w/carb and Sh particles, v. arg, calc, poor vis por, NOSCF.	3.2 - 9.4

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	C_4	C_5
10,415'	700	1200	300,000	200,000	7000	Tr	Tr

Ditch Gas (Units): 10,390-10,440' - 700 units
10,300-10,390' - 300-400 units
Background _____ Connection 960 @ 10,390' Trip 2900 @ 10,316' Peaks a/a

Mud: Wt. 12.7 Vis 53 W.L. 14 ph 10 cc Oil _____ % Cl_2 18000 Temp. 108 °F. in 110 °F. out
Max temp on trip 110°F @ 10,3

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,350'	2.64	1.60	12.1
10,400'	2.60	1.65	12.3

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-7-79 Time 06:00

Present Depth 10,472' Previous Depth 10,440' Footage 24 Hrs. 32

Formation(s) TORUK Top 6243'

Present Activity: RIH w/core bbl to cut Core #7 (stratcore)

LITHOLOGIC DESCRIPTION

Interval Reported 10,420-10,470' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 125 min. @ 10,435 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,420-10,470'	Sh, a/a intbdd w/Ss. Sh is dk gy, splintery, subfis - fis, v.f. mica; Ss wh - lt gy, v.f. - f. grn, v. arg, abnt wh cly matrix in pt, fri, poor - fair vis por, NOSCF; Sh increasing downward, Ss decreasing downward.	4.8 - 10.2

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): 10,435-10,470' - 300-400 units
10,420-10,435' - 700 units
Background _____ Connection nil Trip nil Peaks nil

Mud: Wt. 12.5 Vis 48 W.L. 14 ph 10 cc Oil _____ % Cl_2 20,000 Temp. 104 °F. in 112 °F. out
Max temp on trip 114°F. @ 10,442

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,450'	2.60	1.77	12.2

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	10,200-10,450'	1	Box #31
Unwashed Ditch (USGS)	10,200-10,450'	1	Box #31
GeoChem (canned)			
Cores	No.		

Geologist GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-8-79 Time 06:00

Present Depth 10,502' Previous Depth 10,472' Footage 24 Hrs. 30

Formation(s) TOROK Top 6243'

Present Activity: RIH

LITHOLOGIC DESCRIPTION

Interval Reported 10,472-10,502' Sampling Interval core ft. Sample Quality
Lag Time: 116 min. @ 10,500 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,470-10,472'	No samples recovered.	8.2
10,472-10,502'	Core #7, Cut 30', Rec. 30' (100%)	
	Sh, med gy, submetallic luster, micro - v.f. mica, non-calc to v. sl calc, subfis, breaks into splintery frags at random angles, hd, brittle, rr ireg patches and pods of sdy and slty Sh, no fos, no vis bdg.	22.0
	REQUEST: Bx of plastic liners	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 1200 Connection 1400 Trip 2300 @ 10,470' Peaks -

Mud: Wt. 13.0 Vis 40 W.L. 14 ph 10 cc Oil % Cl2 27,000 Temp. 112 °F. in 116 °F. out
Max temp on trip 112°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,500'	2.62	1.63	12.3

Dispatched Samples:

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

Geologist GORDON LEGG

8/7

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-9-79 Time 06:00

Present Depth 10,602' Previous Depth 10,502' Footage 24 Hrs. 100

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,502-10,590' Sampling Interval 10 ft. Sample Quality v. poor
Lag Time: 123 min. @ 10,600 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,502-10,550'	Sh as in Core #7, w/Sh lt gy, sft, sticky; and mnr Ss, dirty gy, v. arg and slty, v.f. grn to slty, poor vis por, NOSCF.	7.1 - 9.3
10,550-10,560'	No sample returns; all L.C.M.	8.0 - 12.0
10,560-10,580'	Sh and Ss a/a at 10,502'	11.1 - 14.0
10,580-10,590'	No sample returns - 100% L.C.M.	
	REQUEST: Dry sample envelopes	
	5x8" cloth bags	
	5x8" plastic sample bags	
	Labels: USGS-Adkison	
	USGS-Bowsher	
	Anderson Warren	
	10x10x10" boxes	
	5x13x17½" boxes	

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas	Peak Units	Chromatograph (ppm) C_1	C_2	C_3	
10,550'	30-40	340	66,000	500	500	

Ditch Gas (Units): Background 30-40 Connection - Trip - Peaks 340 @ 10,550'

Mud: Wt. 13 Vis 42 W.L. 13 ph 10 cc Oil ____ % Cl_2 2800 Temp. 108 °F. in 112 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,550'	2.60	1.57	12.4
10,600'	2.60	1.63	12.5

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	10,210-10,570' Core #7	2	
Cores	No. 7	10	

Geologist GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-10-79 Time 06:00

Present Depth 10,652' Previous Depth 10,602' Footage 24 Hrs. 50'

Formation(s) TOROK Top 6243'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,590-10,630' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 120 min. @ 10,650 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,590-10,600'	No samples; all LCM.	11.0 - 12.0
10,600-10,630'	Predominantly Sh, lt gy, sticky and Sh dk gy, splintery, v.f. mica; and mnr to tr Ss gy, v. silty and arg grdg to Siltst.	6.1 - 10.8

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20 Connection - Trip 140 @ 10,614' Peaks

Mud: Wt. 13.0 Vis 42 W.L. 9.0 ph 9.5 cc Oil % Cl_2 27,000 Temp. 106 °F. in 108 °F. out
Max temp on trip 108°F. @ 10,61

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,650'		1.43	12.5

Dispatched Samples:

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

Geologist: GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-11-79 Time 06:00

Present Depth 10,685' Previous Depth 10,652' Footage 24 Hrs. 33

Formation(s) PEBBLE SHALE Top 10,642'

Present Activity: Coring: cut 10,670-10,685' at report time.

LITHOLOGIC DESCRIPTION

Interval Reported 10,630-10,670' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 120 min. @ 10,650 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,630-10,642'	Sh, w/mnr Ss a/a.	9.0
10,642-10,670'	Sh, med gy, organic, micromica, greasy appearance, sub-fis, mostly blky, sl calc: w/some f. grn, clear, polished, rounded free qtz grns, occ free pyr; some rounded, smokey, free qtz grns below 10,650'.	5.8 - 9.2

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 40 Connection - Trip 130 Peaks none

Mud: Wt. 13.0 Vis 45 W.L. 7.0 ph 9.5 cc Oil ____ % Cl_2 20,000 Temp. 110 °F. in 114 °F. out
Max temp on trip 120°F. @ 10,67

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,650'	2.64		

Dispatched Samples:

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

Geologist: GORDON LEGG

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U. S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-12-79 Time 06:00

Present Depth 10,702' Previous Depth 10,685' Footage 24 Hrs. 17

Formation(s) PEBBLE SHALE Top 10,642'

Present Activity: Change out blocks

LITHOLOGIC DESCRIPTION

Interval Reported 10,671-10,702' Sampling Interval - ft. Sample Quality -
Lag Time: 124 min. @ 10,700 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,671-10,702'	Core #8, Cut 31', Rec. 31', 100%	30.0
	Sh, med - charcoal gray, mod fis, v.f. mica, w/occ flakes up to 1 mm; occ breaks w/conchoidal frac, v. sl calc, organic, rr nodules pyr (1-2 mm) becoming occ w/veinlets below 10,678'; bdg hztl.	
	- v. rr scat random v.f. - med grn polished SR to Rd Qtz grns.	
	- 45° frac at 10,682-10,683', possibly slickensided.	
	- 2 parallel 45° fracs at 10,687-10688'.	
	- pyr worm borings or tr fos at 15° angle to bdg 10,693-10,694'.	

SHOW DESCRIPTION (Gas and/or Oil)

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

Mud: Wt. 13.0 Vis 45 W.L. 6 ph 10.0 cc Oil _____ % Cl_2 27,000 Temp. 110 °F. in 114 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,700'	2.62	1.45	12.4

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	10,450-10,670'	1	Box #32
Unwashed Ditch (USGS)	10,450-10,670'	1	Box #32
GeoChem (canned)	(Core #8)10,671-10,702'	1	Box #36
Cores	No. 8 10,671-10,702'	11	

Geologist: GORDON LEGG

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

DAILY GEOLOGICAL REPORT

Well: TUNALIK #1 Date: 3-13-79 Time: 06:00

Present Depth: 10,755' Previous Depth: 10,702' Footage 24 Hrs.: 53

Formation(s): PEBBLE SHALE Top: 10,642'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported: 10,702-10,740' Sampling Interval: 10 ft. Sample Quality: fair
Lag Time: 119 min. @ 10,732 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,702-10,720'	Sh: a/a w/tr rd sd grns and pyr a/a, tr smokey Cht.	10.3 - 12.8
10,720-10,740'	Sh: a/a w/Sh, lt gy, v. earthy, lumpy, bentonitic, non-sub fis.	9.8 - 14.9

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 50 Connection nil Trip 320 @ 10,702' Peaks nil

Mud: Wt. 13.0 Vis 45 W.L. 6.0 ph 10.0 cc Oil ____ % Cl_2 27,000 Temp. 122 °F. in 126 °F. out
Max temp on trip 110°F. @ 10,70

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,750'	2.45	1.40	12.4

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: TUNALIK #1 Date: 3-24-79 Time: 06:00

Present Depth: 10,869' Previous Depth: 10,755' Footage 24 Hrs.: 114

Formation(s): PEBBLE SH Top: 10,642'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported: 10,740-10,850' Sampling Interval: 10 ft. Sample Quality: fair - poor
Lag Time: 126 min. @ 10,870 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,740-10,840'	Sh: charcoal blk, splintery, pyr, w/Sh: lt gy, sticky a/a; w/varying amounts of loose rd Sd grns a/a; occ frag Cht.	9.9 - 16.4
10,840-10,850'	Sh: a/a w/tr Ss: brn, S&P from Sh inclus, f. grn, SA-SR, hd, sil, v. sl calc, poor - nil por, NOSCF.	11.5 - 11.7
	REQUEST: Zephrin Chloride	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 40 Connection nil Trip - Peaks none

Mud: Wt. 13.0 Vis 48 W.L. 7.0 ph 9.0 cc Oil - % Cl_2 27,000 Temp. 124 °F. in 132 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,800'	2.45	1.48	12.5
10,850'	2.45	1.52	12.3

Dispatched Samples:

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

Geologist: GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL: TUNALIK #1 Date: 3-15-79 Time: 06:00

Present Depth: 10,910' Previous Depth: 10,869' Footage 24 Hrs.: 41'

Formation(s): PEBBLE SH/KUPARUK SS Top: 10,642'/10,905'

Present Activity: Cutting Core #9

LITHOLOGIC DESCRIPTION

Interval Reported: 10,850-10,910' Sampling Interval: 10 ft. Sample Quality: fair
Lag Time: 126 min. @ 10,870 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,850-10,905'	Sh: a/a.	10.1 - 14.0
10,905-10,910'	Ss: pale gy, v.f. grn w/some f. grn, SA-SR, occ specks of Sh, v. calc w/heavy concentration of calc cmt, abnt zones of wh Kaolinite cly, hd, occ sil, p. intgran por, NOSCF.	5.3

SHOW DESCRIPTION (Gas and/or Oil)

	Units Peak Units	Units Background Gas	Chromatograph (ppm) C_1	C_2	C_3
10,905'	100	40	26,000	300	Tr.

Ditch Gas (Units): Background 40 Connection - Trip - Peaks 100 @ 10,905'

Mud: Wt. 13.0 Vis 48 W.L. 7.0 ph 10.0 cc Oil - % Cl_2 27,000 Temp. 128 °F. in 138 °F. out
Max temp on trip 128°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,900'	2.4	1.48	12.3

Dispatched Samples:

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

Geologist: GORDON LEGG

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

DAILY GEOLOGICAL REPORT

WELL TINALIK #1 Date 3-16-79 Time 06:00

Present Depth 10,941' Previous Depth 10,910' Footage 24 Hrs. 31

Formation(s) KUPARUK SS Top 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,910-10,940' Sampling Interval core ft. Sample Quality excellent
Lag Time: 126 min. @ 10,870' ft.

Interval	Description	Avg. Drill Rate min./ft.
10,910-10,940'	Core #9, Cut 30', Rec. 30', (100%)	
	Ss: lt gy, v.f., grn, sl slty - arg, mod calc, tight, cmt w/silica and calcite, v. hd, dns, frag of gy - wh mineral of prob feldspar, some secondary rexl of Qtz grns, occ muscovite flakes, SA-SR, mod w. srtd, p. - v.p. intergran por; becoming more shly w/pods and veinlets of shly v. carb material and specks of glau below 10,914'; below 10,933' becomes Ss: v.f. - med grn, p. srtd, w/SR-Rd crs Qtz grns; below 10,938' becomes f. grn, w. srtd, v.p. - p. por, NOSOF; closed vertical hairline fracs throughout core, no apparent bdg, Ss breaks w/conchoidal frac.	10.0 (5.0 - 40.0)
	REQUEST: - Lith & Core Description forms - Conventional Core Description forms	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 80 Connection - Trip 1100 @ 10,940' Peaks none

Mud: Wt. 13.0 Vis 48 W.L. 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 Temp. 126 °F. in 138 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	10,160-10,910'	2	1&2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	10,570-10,930; Core #9 10,910-10,940; #37; #38		
Cores	No. 9 10,910-10,940'	10	

Geologist GORDON LEGG

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U.S. GEOLOGICAL SURVEY/ONPRA

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-17-79 Time 06:00

Present Depth 10,955' Previous Depth 10,941' Footage 24 Hrs. 14'

Formation(s) KINGAK Top 10,950'

Present Activity: Reaming at 10,941'

LITHOLOGIC DESCRIPTION

Interval Reported 10,940-10,955' Sampling Interval 10 ft. Sample Quality fair
Lag Time: 127 min. @ 10,950 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,940-10,945'	Ss a/a	9.0
10,945-10,955'	Sh. blk, smooth, occurs as large splinters, probably slough from overlying Pebble Sh unit.	13.0 - 14.0
	REQUEST: 5 pads of Percent Sample Descrip. form	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 200-50 Connection - Trip 1300 @ 10,955' Peaks none

Mud: Wt. 13.0 Vis 48 W.L. 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 Temp. 120 °F. in 128 °F. out
Max temp on trip 122°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,950'	2.40	1.53	12.6

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 3-18-79 Time 06:00

Present Depth 10,993' Previous Depth 10,955' Footage 24 Hrs. 38

Formation(s) NENGAK Top 10,950'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 10,955-10,980' Sampling Interval 10 ft. Sample Quality good
Lag Time: 127 min. @ 10,950 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,955-10,980'	Shed Sh: dk gy, smooth, blky, firm w/pyr inclus; w/thin bds of Ss: gy brn, f. - v.f. grn, occ slty, calcite cmt, rr green glau pels, hd, brittle, nil intgran por, NOSOF.	8.5 - 12.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 150-100 Connection nil Trip 2240 @ 10,955' Peaks none

Mud: Wt 13.1 Vis 50 W.L. 7.0 ph 10.0 cc Oil 0 % Cl_2 27000 Temp. 120 °F. in 126 °F. out
Max temp on trip 120°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
10,975'	2.50	1.45	12.75

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 3-19-79 Time 06:00

Present Depth 11,078' Previous Depth 10,993' Footage 24 Hrs. 85

Formation(s) KUPARUK RIV. Top 10,905' (revised to previous 2 days reports)

Present Activity: Trip in w/new bit

LITHOLOGIC DESCRIPTION

Interval Reported 10,980-11,060' Sampling Interval 10 ft. Sample Quality good
Lag Time: 127 min. @ 10,958 ft.

Interval	Description	Avg. Drill Rate min./ft.
10,980-11,060'	Pred Ss: lt gy, v.f. grn - slty, SA-SR, w. srtd, v. w. ind, generally sil, calc in pt, w/f. grn glau pels, some feldspar; nil por, NOSCF; w/thin Sh strks, blk - dk gy, a/a.	9.0 - 12.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 50-30 Connection none Trip - Peaks none

Mud: Wt. 13.2 Vis 48 W.L 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 Temp. 130 °F. in 136 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,000'	2.50	1.30	12.8
11,025'	2.55	1.50	12.7
11,050'	2.52	1.53	12.7

Dispatched Samples:

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

Geologist DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-20-79 Time 06:00

Present Depth 11,081' Previous Depth 11,078' Footage 24 Hrs. 3

Formation(s) KUPARUK RIVER SS Top 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,060-11,070' Sampling Interval 10 ft. Sample Quality Fair - good
Lag Time: 127 min. @ 10,950 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,060-11,070'	Ss: a/a	12.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10 - 20 Connection - Trip 140 @ 11,078 Peaks none

Mud: Wt 13.2 Vis 47 W.L 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 Temp. 126 °F. in 130 °F. out
Max temp on trip 128°F.

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

8/7

HUSKY

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

DAILY GEOLOGICAL REPORT

Well: TUNALIK #1 Date: 3-21-79 Time: 06:00

Present Depth: 11,142' Previous Depth: 11,081' Footage 24 Hrs.: 61'

Formation(s): KUPARUK RIVER SS Top: 10,905'

Current Activity: POH for new bit

LITHOLOGIC DESCRIPTION

Interval Reported: 11,070-11,140' Sampling Interval: 10 ft. Sample Quality: good
Lag Time: 130 min. @ 11,140 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,070-11,140'	Ss: lt gy, v.f. - f. grn, SA- SR,w. srtd, v. w. ind, sr glau pels, mica in pt, occ S&P, sl calc, becomes arg in pt, some carb lam, nil por, NOSCF; w/occ thin bds of Sh; blk, blky - plty, smooth, abnt pyr nodules, w. ind.	14.0 - 21.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 30-20 Connection none Trip - Peaks none

Mud: Wt. 13.2 Vis 45 W.L 7.0 ph 9.0 cc Oil - % Cl_2 27000 Temp. 130 °F. in 136 °F. out

Pore Press:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,075'	2.50	1.53	12.7
11,100'	2.55	1.33	12.7

Lithologic Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	10,670-10,980'	1 (#33)	
Unwashed Ditch (USGS)	10,670-10,980'	1 (#33)	
GeoChem (canned)			
Cores	No.		

DAVE PENEX

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

DAILY GEOLOGICAL REPORT

WELL: TUNALIK #1 Date: 3-22-79 Time: 06:00

Present Depth: 11,217' Previous Depth: 11,142' Footage 24 Hrs.: 75

Formation(s): KUPARUK RIVER Top: 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported: 11,140-11,200' Sampling Interval: 10 ft. Sample Quality: good
Lag Time: 127 min. @ 11,200 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,140-11,157'	Ss a/a, v.f. grn, v. w. ind, com carb lam.	10.0 - 12.0
11,157-11,195'	Ss: lt gy - tn, f. - med grn, w. srtd, SR-SA, rr green glau pels, mod ind, nil - poor intgran por, NOSCF.	7.0 - 8.0
11,195-11,200'	Ss: a/a becomes v. w. ind.	11.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20 Connection nil Trip 50 @ 11,142' Peaks none

Mud: Wt. 13.2 Vis 46 W.L. 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 Temp. 122 °F. in 138 °F. out
Max temp on trip 125°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,150'	2.60	1.44	12.7
11,200'	2.60	1.25	12.7

Dispatched Samples:

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

Geologist: DAVE PENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-23-79 Time 06:00

Present Depth 11,251' Previous Depth 11,217 Footage 24 Hrs. 34'

Formation(s) KUPARUK RIVER Top 10,505'

Present Activity: Wash and ream to btm, w/new bit at 11,176'

LITHOLOGIC DESCRIPTION

Interval Reported 11,200-11,240' Sampling Interval 10 ft. Sample Quality good
Lag Time 128 min. @ 11,214 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,200-11,215'	Ss: lt gy - tn a/a, becomes v.f. grn - slty, w. ind, no por, NOSCF: w/thin strks of Sh: a/a, v. pyr.	15.0 - 19.0
11,215-11,240'	Ss: a/a, becomes mod ind, w/up to 40% Sh: a/a.	10.0 - 14.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20 Connection none Trip - Peaks 110 @ 11,210-20'

Mud: Wt. 13.2 Vis 56 W.L. 7.0 ph 10.2 cc Oil - % Cl 27000 Temp. 126° F. in 136 °F. out
Max temp on trip: 126°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,200'	2.60	1.25	12.7

Dispatched Samples:

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

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-24-79 Time 06:00

Present Depth 11,306' Previous Depth 11,251' Footage 24 Hrs. 55'

Formation(s) KUPARUK RIVER Top 10,905'

Present Activity: Tripping in w/new bit.

LITHOLOGIC DESCRIPTION

Interval Reported 11,240-11,300' Sampling Interval 10 ft. Sample Quality good
Lag Time: 163 min. @ 11,300 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,240-11,300'	Intbdd Ss and Sh a/a.	12.0 - 15.[illegible]
	Ss = 70% of sample.	
	Sh = 30% of sample, of 7 cvg from Pebble Sh. junk basket	
	core on trip composed of blk Sh w/abnt pyr nodules.	
	REQUEST: North Slope Well location map (2)	
	@ 1:500,000 and @ 1:1,000,000	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10 - 20 Connection none Trip 130 @ 11,251' Peaks none

Mud: Wt. 13.3 Vis 45 W.L. 7.0 ph 9.5 cc Oil 0 % Cl_2 27,000 Temp. 129 °F. in 141 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,250'	2.60	1.44	12.7
11,300'	2.60	1.54	12.7

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	10,980-11,240'	1 (#34)	
Unwashed Ditch (Paleo)	10,980-11,240'	1 (#34)	
Unwashed Ditch (USGS)	10,930-11,290'	1 (#39)	
GeoChem (canned)			
Cores	No.		

Geologist DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-25-79 Time 06:00

Present Depth 11,308' Previous Depth 11,308' Footage 24 Hrs. 0'

Formation(s) KUPARUK RIVER Top 10,905'

Present Activity: Inspect btm hole assembly after twisting off and recovering 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 _____ Peaks _____

Mud: Wt. 13.3 Vis 52 W.L. 7.0 ph 9.5 cc Oil 0 % Cl_2 27000 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

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-26-79 Time 05:00

Present Depth 11,334' Previous Depth 11,308' Footage 24 Hrs. 26'

Formation(s) KUPARUK RIVER Top 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,300-11,320' Sampling Interval 10' ft. Sample Quality good
Lag Time: 163 min. @ 11,300 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,300-11,320'	Ss. a/a becoming v. sil.	16.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10-20 Connection nil Trip 310 @ 11,308' Peaks nil

Mud: Wt 13.2 Vis 47 W.L. 7.0 ph 9.0 cc Oil ____ % Cl_2 27,000 Temp 120 °F. in 134 °F. out
Max temp on trip 126°F.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,310'	2.60	1.50	12.7

Dispatched Samples:

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

Geologist DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-27-79 Time 06:00

Present Depth 11,434' Previous Depth 11,334' Footage 24 Hrs. 100

Formation(s) KUPARUK RIVER Top 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,320-11,420' Sampling Interval 10 ft. Sample Quality good
Lag Time: 160 min. @ 11,425 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,320-11,372'	Ss: clr, med-crs grn, qtzc, recmt w/silica, w. srtd, SR, some pink feldspar grns, nil intgran por, NOSCF; w/strks of Sh: blk, smooth, blky a/a.	13.5 - 20.
11,372-11,420'	Ss: a/a, becoming S&P in pt; grds to Ss: m, v.f. grn - slt, v. w. ind, com blk carb lam, nil vis por, NOSCF, w/strks of Sh: a/a.	20.0 - [illegible]

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 10-20 Connection none Trip - Peaks none

Mud: Wt. 13.2 Vis 47 W.L. 7.0 ph 9.0 cc Oil 0 % Cl 27,000 Temp. 130 PP - in 142 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,350'	2.55	1.67	12.7
11,375'	2.60	-	12.7
11,400'	2.65	1.63	12.8
11,425'			12.8

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

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

DAILY GEOLOGICAL REPORT

WELL: TINMIAK #1 Date: 1-25-79 Time: 06:00

Present Depth: 11,484' Previous Depth: 11,434' Footage 24 Hrs.: 50'

Formation(s): KUPARUK RIVER SS Top: 10,905'

Present Activity: Drilling (stripped at 11,480' for bit)

LITHOLOGIC DESCRIPTION

Interval Reported: 11,420-11,470' Sampling Interval: 10 ft. Sample Quality: good
Log Time: 140 min. @ 11,435 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,420-11,470'	Pred Ss, clr, med - crs grn a/a; w/intbdd Sh, blk, smooth, a/a; and Ss brn, ang, v.f. - f. grn, w. fnd, nil vis por, NOSCF.	10.0 - 14.0

SHOW DESCRIPTION (Gas and/or Oil)

	Ditch Gas		Chromatograph (ppm)	
	Background Units	Peak Units	C_1	C_2
11,435'	10-20	60	15,000	Tr
11,440'	10-20	100	30,000	Tr
11,445'	10-20	20	5,000	Tr

Ditch Gas (Units): Background 10-20 Connection 40 @ 11,430' Trip 60 @ 11,460' Peaks 100 @ 11,440'

Mud: Wt. 13.2 Vis 46 W.L. 7.0 pH 9.0 % Oil % Cl 27,000 Temp. 120 °F. in 150 °F. out
Max temp on trip 124°F.

Drill Data

Depth	Shale Density	Dc Exponent	Pore Pressure
11,475'			12.8

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

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-29-79 Time 06:00

Present Depth 11,619' Previous Depth 11,484' Footage 24 Hrs. 135

Formation(s) KUPARUK RIVER SS (PEBBLE SH SS) Top 10,905'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,470-11,600' Sampling Interval 10 ft. Sample Quality good
Lag Time: 1c. min. @ 11,500 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,470-11,513'	Ss, brn, arg, v.f. - med grn, S&P, some pink feldspar grns, w. ind, SA-SR, p. srtd, carb lams, nil vis por, NOSCF; w/thin strks Ss, clr, med grn a/a; and Sh blk, a/a.	10.5 - 11.0
11,513-11,520'	Ss, clr, some pink fieldspar grns, med - occ crs grn, w. srtd, med fri, p. intgran por, v. rr yel cut fluor, no stn, no cut, 24 units ditch gas.	7.5
11,520-11,600'	Ss, clr a/a, becomes w. ind w/nil vis por; and intbdd Ss brn, arg a/a w/com carb lams.	10.0 - 12.1

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas	Peak Units	Chromatograph (ppm) C_1	C_2
11,510'	20	nil	5,000	Tr
11,515'	20	240	71,000	Tr
11,520'	20	nil	5,000	Tr

Ditch Gas (Units): Background 20-30 Connection nil Trip Peaks 240 @ 11,515'

Mud: Wt. 13.2 Vis 48 W.L. 6.0 ph 9.0 cc Oil % Cl_2 27,000 Temp. 132 °F. in 142 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,525'	2.60	1.42	12.8
11,550'	2.60	1.38	12.8
11,575'	2.60	1.41	12.8
11,600'	2.60	1.41	12.9

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	11,240-11,570'	1	Bx #35
Unwashed Ditch (USGS)	11,240-11,570'	1	Bx #35
GeoChem (canned)			
Cores	No.		

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 3-30-79 Time 06:00

Present Depth 11,678' Previous Depth 11,619' Footage 24 Hrs. 59

Formation(s) KUPARUK Top 10,905'

Present Activity: Cutting Core #10 (11,672-11,678')

LITHOLOGIC DESCRIPTION

Interval Reported 11,600-11,660' Sampling Interval 10 ft. Sample Quality good
Lag Time: 170 min. @ 11,670 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,600-11,625'	Ss: brn - tn, v.f. grn, SA-SR, p. srtd, arg, w. ind, carb lams, nil vis por, NOSCF; w/strks of Sh a/a.	11.0 - 12.0
11,625-11,637'	Ss: clr, med - crs grn, in general clean, S&P in pt, w. srtd, SA-SR, mod fri, p. vis intgran por, NOSCF; 560 units ditch gas associated w/drilling break.	7.0
11,637-11,660'	Ss: clr a/a, med grn, becomes v. w. ind, nil vis por, grds to brn, arg Ss a/a at 11,600.	9.0 - 12.0
	REQUEST: Wellsite Sample Transmittal forms; Wide Tip black Markette markers; 10 legal file folders w/acco fasteners	

SHOW DESCRIPTION (Gas and/or Oil)

	Ditch Gas	Chromatograph (ppm) C_1	C_2
11,630'	42	12,000	Tr
11,635'	560	191,000	Tr
11,640'	62	2,000	Tr

Ditch Gas (Units): Background 30-60 Connection nil Trip - Peaks 560 @ 11,635'

Mud: Wt. 13.2 Vis 49 W.L. 6.5 ph 9.0 cc Oil ____ % Cl_2 27,000 Temp. 130 °F. in 140 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,625'	2.60	1.35	12.8
11,650'	2.60	1.31	12.8

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	10,910-11,600'	2	A&B Bx #13
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)	11,250-11,650'	1	Bx #40
Cores	No.		

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

Well: TINALIK #1 Date: 3-31-79 Time: 06:00

Present Depth: 11,694' Previous Depth: 11,678' Footage 24 Hrs.: 16'

Formation: NINGAN Top: 11,665' (?)

Present Activity: Reaming core hole.

LITHOLOGIC DESCRIPTION

Interval Reported: 11,660-11,694' Sampling Interval: 10 ft. Sample Quality: good
Log Time: 170 min. @ 11,694 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,660-11,672'	Ss, w/interbdd Slstr and Sh a/a	11.0
11,672-11,694'	Core #10 (11672-11,694'), Cut 22', Rec. 22' (100%):	
	Sh, dk gy brn to blk, slty, microcsa, carb strgs w/submetallic luster, w. fnd, plty - fis, occ worm burrows; w/v. thinly intbdd (1/8"-1/2") bds and lams of Ss (40% of core), clr, lt gy brn, med - occ crs grn, com blk Fe/Mg minerals, SR-SA, f. srtd, p. intergran por, NOSCF; btm 2' of core has near vert fracs (75%); bdg planes throughout core near hzl.	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 60-80 Connection - Trip 162 @ 11,694' 480 @ 11,672' Peaks -

Mud: Wt. 13.3 Vis 46 W.L. 7.0 pH 9.0 % Oil - % Cl 28,000 Temp. 129 °F. In 140 °F. Out
Max temp 124°F. on trip @ 11,672'
Max temp 124°F. on trip @ 11,694'

Time Drill

Depth	Shale Density	Dc Exponent	Pore Pressure
11,650'	2.60	1.31	12.9
11,675'	2.60	1.31	13.0

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
Gas Chrom (canned)	11,672-11,694' (Core #10)	1	Bx #41
Cores	No. 10, 11,672-11,694'	8	

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

Well TUNALIK #1 Date -1-79 Time 06:00

Present Depth 11,739' Previous Depth 11,684' Footage 24 Hrs. 44

Formation: NINGAK Top 11,665'

Present Activity: Drilling (tripped for bit at 11,705')

LITHOLOGIC DESCRIPTION

Interval Reported 11,684-11,720' Sampling Interval 10 ft. Sample Quality good
Lag Time: 178 min. @ 11,739 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,684-11,720'	Sh, a/a w/thin Ss lam a/a.	9.0 - 10.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 50-60 Connection nil Trip 1500 @ 11,705' Peaks nil

Mud: Wt. 13.3 Vis 43 W.L. 7.5 pH 9.0 % Oil % Cl. 27,000 Temp. 118 °F. in 104 °F. out
Max temp on trip 120°F. @ 11,705'

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,675'	2.60	1.34	13.0
11,700'	2.60	1.34	13.0

Dispatched Samples:

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

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL: TINALIK #1 Date: 4-2-79 Time: 06:00

Present Depth: 11,858' Previous Depth: 11,738' Footage 24 Hrs.: 120

Formation: NINGAN Top: 11,665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported: 11,720-11,840' Sampling Interval: 10 ft. Sample Quality: good
Lag Time: 170 min. @ 11,850 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,720-11,760'	Sh: a/a. w/thinly intbdd Ss and Sltst a/a.	10.0 - 13.0
11,760-11,840'	Pred Sh: a/a, w/mnr amts of Sltst and Ss a/a.	9.0 - 11.0
	REQUEST: Shipping Labels - USGS-Adkison	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 40-50 Connection 60 @ 11,767' Trip - Peaks none

Mud: Wt. 13.4 Vis 54 W.L. 6.5 pH 9.0 cc Oil - % Cl- 27,000 Temp. 128 °F. in 138 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,750'	2.6	1.31	13.0
11,775'	2.6	1.37	12.9
11,800'	2.58	1.41	12.95
11,825'	2.5	1.40	13.0
11,850'	-	1.40	13.0

Dispatched Samples:

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

Geologist: DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 4-3-79 Time 06:00

Present Depth 11,991' Previous Depth 11,858' Footage 24 Hrs. 133

Formation(s) KINGAK Top 11,665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 11,840-11,970' Sampling Interval 10 ft. Sample Quality good
Lag Time: 183 min. @ 11,985 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,840-11,860'	Sh, blk a/a,	11.0
11,860-11,895'	Intbdd Sh a/a and Ss gy brn, f. grn - slty, SR-SA, S&P, fair srtg, w. ind, arg in pt, nil vis por, NOSCF.	8.0 - 11.0
11,895-11,970'	Sh a/a pred, w/mnr intbdd Ss a/a grdg to Sltst in pt.	10.0 - 12.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 20-30 Connection nil Trip - Peaks -

Mud: Wt. 13.3 Vis 51 W.L. 7.5 ph 9.0 cc Oil ____ % Cl_2 25,000 Temp. 130 °F. in 140 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
11,875'	2.50	1.40	13.00
11,900'	2.58	1.37	13.00
11,925'	2.56	1.37	12.95
11,950'	2.55	1.42	12.95
11,975'	-	1.42	13.00

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	11,570-11,820'	1	Bx #36
Unwashed Ditch (USGS)	11,570-11,820'	1	Bx #36
GeoChem (canned)			
Cores	No.		

Geologist DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 4-4-79 Time 06:00

Present Depth 12,075' Previous Depth 11,991' Footage 24 Hrs. 84

Formation(s) KINGAK Top 11,665'

Present Activity: RIH w/bit to drill

LITHOLOGIC DESCRIPTION

Interval Reported 11,970-12,055' Sampling Interval 10 ft. Sample Quality good
Lag Time: 180 min. @ 12,000 ft.

Interval	Description	Avg. Drill Rate min./ft.
11,970-11,995'	Sh a/a.	11.0
11,995-12,010'	Ss, brn - gy, v.f. - f. grn a/a, tight, NOSCF.	8.0
12,010-12,055'	Sh, a/a becomes v. slty, grdg to Slst in pt.	9.0 - 10.0

SHOW DESCRIPTION (Gas and/or Oil)

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

Mud: Wt. 13.3 Vis 50 W.L 7.5 ph 9.0 cc Oil ____ % Cl_2 27,000 Temp. 133 °F. in 141 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,000'	2.60	2.20	13.0
12,050'	2.50	2.12	13.1

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	11,820-12,050'	1	Ex #37
Unwashed Ditch (USGS)	11,820-12,050'	1	Ex #37
GeoChem (canned)	11,650-12,010'	1	Ex #42
Cores	No.		

Geologist DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL TUNALIK #1 Date 4-5-79 Time 06:00

Present Depth 12,195' Previous Depth 12,075' Footage 24 Hrs. 120

Formation(s) KINGAK Top 11,665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,055-12,170' Sampling Interval 10 ft. Sample Quality good
Lag Time: 205 min. @ 12,186 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,055-12,092'	Sh, a/a, blk, micromica, slty in pt.	10.0 - 12.0
12,092-12,137'	Intbdd Sh and Ss; Sh a/a; Ss, brn - gy, S&P, v.f. - f. grn, fair srtg, SA-SR, w. ind, some wh Cly filling, nil vis por, NOSCF.	9.0 - 11.0
12,137-12,170'	Sh, a/a, slty, w/mnr Ss a/a at 12,092'.	9.0 - 10.0
	REQUEST: 250 Clear plastic bags for Anderson, Warren samples	

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 32-44 Connection 50 @ 12,110' Trip 800 @ 12,075' Peaks

Mud: Wt 13.4 Vis 55 W.L. 7.5 ph 9.5 cc Oil % Cl_2 26,000 Temp 131 °F. in 136 °F. out
Max temp 140° during trip at 12,075'.

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,100'	2.57	1.37	13.1
12,125'	2.56	-	13.2
12,150'	2.57	1.37	13.1
12,175'	-	-	13.2

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 #1 Date 4-6-79 Time 06:00

Present Depth 12,317' Previous Depth 12,195' Footage 24 Hrs. 122'

Formation(s) KINGAK Top 11,665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported 12,170-12,290' Sampling Interval 10 ft. Sample Quality good
Lag Time: 207 min. @ 12,308 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,170-12,178'	Sh, a/a blk, micromica, plty - fis, pyr nods.	10.0
12,178-12,215'	Ss, gy brn, arg in pt, some carb lams, nil vis por, NOSCF, w/intbdd Sh a/a.	8.0 - 10.0
12,215-12,230'	Sh, blk, micromica.	11.0 - 13.0
12,230-12,237'	Ss, gy brn a/a at 12,178', nil vis por, NOSCF.	9.0
12,237-12,267'	Sh, blk, a/a.	11.0
12,267-12,274'	Ss, tn - gy brn, f. grn to occ med grn, SR-SA, fr-w. srtd, mod fri, p. intgran por, w/300 units total ditch gas, NOSCF.	10.0
12,274-12,290'	Sh, a/a.	11.0 - 12.0

SHOW DESCRIPTION (Gas and/or Oil)

	Total Gas (Units)	Chromatograph (ppm)
12,265'	100	
12,270'	140	NO BREAKDOWN; ON TOMORROW'S
12,275'	300	REPORT.
12,280'	240	
12,285'	240	
12,290'	120	

Ditch Gas (Units): Background 176 Connection 120 @ 12,237' Trip Peaks 285 @ 12,285'

Mud: Wt. 13.5 Vis 49 W.L. 8.0 ph 9.0 cc Oil % Cl_2 29,000 Temp. 134 °F. in 140 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,200'	2.56	1.39	13.2
12,225'	2.53	-	13.1
12,250'	2.55	1.40	13.1
12,275'	2.53	-	13.0
12,300'	2.48	1.44	13.1

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/-

NUSKY

SOHIO ALASKA PETROLEUM OPERATIONS, INC.
U.S. GEOLOGICAL SURVEY/CNPRA

DAILY GEOLOGICAL REPORT

WELL TINMIAK #1 Date 4-7-79 Time 06:00

Present Depth 12,428' Previous Depth 12,316' Footage 24 Hrs. 112'

Formation(s) KINGAK Top 11,665'

Present Activity: Short tripping

LITHOLOGIC DESCRIPTION

Interval Reported 12,290-12,400' Sampling Interval 10 ft. Sample Quality good
Lag Time: 225 min. @ 12,428 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,290-12,397'	Sh: dk gy brn - blk, w/pr pyr nodules, micromica, ply - fis; w/thin strgs Ss: gy - brn, mottled. v.f. - f. grn, SA-SR, fair srtg, arg, SSP, w. ind, nil integran por, NOSCF.	10.0 - 13.0
12,397-12,405'	Probable Ss. No indication of sample change at report time. See Show Description below.	9.0

SHOW DESCRIPTION (Gas and/or Oil)

	Units Background Gas Before	Peak Units	Units Background Gas After	
12,405'	176	430	200	All Methane (C_1)

Ditch Gas (Units): Background 160-220 Connection 340 @ 12,329' 300 @ 12,360' 310 @ 12,390' Trip - Peaks 430 @ 12,405'

Mud: Wt. 13.5 Vis 49 W.L. 8.0 pH 9.0 cc Oil - % Cl_2 26,000 Temp. 136 °F. in 144 °F. out

Data Unit

Depth	Shale Density	Dc Exponent	Pore Pressure
12,325'	2.42	-	13.10
12,350'	2.48	1.45	13.10
12,375'	2.45	-	13.13
12,400'	2.42	1.35	13.16
12,425'	2.50		13.10

Impounded Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch			
Unwashed Ditch (Paleo)	12,050-12,320'	1	Bx #36
Unwashed Ditch (USGS)	12,050-12,320'	1	Bx #38
Core (Preserved)	12,010-12,370'	1	Bx #43
Cores	No.		

Geologist DAVE PINEY

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL: TUNALIK #1 Date: 4-8-79 Time: 06:00

Present Depth: 12,543' Previous Depth: 12,428' Footage 24 Hrs.: 115

Formation(s): KINGAK Top: 11,665'

Present Activity: Drilling

LITHOLOGIC DESCRIPTION

Interval Reported: 12,405-12,510' Sampling Interval: 10 ft. Sample Quality: good
Lag Time: 215 min. @ 12,525 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,397-12,405'	Pred Ss: a/a.	9.0
12,405-12,430'	Sh: blk, plty to fis, firm, micromica, abnt pyr nodules; intbdd w/thin lam Ss: a/a.	10.0 - 13.0
12,430-12,452	Intbdd Ss and Sh; Ss: gy brn, S&P, v. arg in pt, v.f. - f. grn, some finely dis pyr and pyr nodules, w. lnc - frl, mdl - p. intgran por. NOSCF: Sh: a/a, w/pyr nodules, micromica, becoming v. slty in pt.	10.0 - 12.0
12,452-12,468'	Pred Sh: a/a	12.0 - 14.0
12,468-12,510'	Alternating bds of Ss and Sh: a/a.	11.0 - 13.0

SHOW DESCRIPTION (Gas and/or Oil)

Ditch Gas (Units): Background 255-300 Connection 320 @ 12,482' Short 460 @ 12,524' Trip 570 @ 12,428' Peaks none

Mud: Wt. 13.5 Vis 44 W.L. 7.0 ph 9.0 cc Cl 0 % Cl 26,000 Temp. 138 °F. in 144 °F. out
Max temp on short Trip: 134°F.

Bit Log:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,450'	2.50	1.44	13.10
12,475'	2.48	-	13.05
12,500'	2.41	1.43	13.15
12,525'	-	-	13.20

Preserved Samples:

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

DAVE FENEX

HUSKY

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

DAILY GEOLOGICAL REPORT

WELL: TUNALIK #1 Date: 4-9-79 Time: 08:00

Present Depth: 12,557' Previous Depth: 12,540' Footage 24 Hrs.: 17'

Formation(s): KINGAK/KINGAK SS Top: 11,665'/12,549'

Present Activity: Circ out gas cut mud

LITHOLOGIC DESCRIPTION

Interval Reported: 12,510-12,557' Sampling Interval: 10 ft. Sample Quality: good
Lag Time: 358 min. @ 12,547 ft.

Interval	Description	Avg. Drill Rate min./ft.
12,510-12,549	Pred Ss: tn - clr, v.f. - f. grn, SA-SR, rr S&P, w. srtd, w. - mod ind, w/wh Cly fill in pore space, nil - p. intgran por, NOSCF; w/thin Sh strgs a/a.	9.0 - 14.0
12,549-12,557'	Ss: tn - clr, f. grn, clr Qtz grns, SA- SR, w. srtd, mod fri - mod ind, fair - p. intgran por, some finely dis carry residue in pore space, no cut, no fluor.	2.0

REQUEST: 240 Qt cans
3,000 dry sample envelopes
600 cloth sample bags
6 rolls filament tape
LABELS: Bowsher
Anderson, Warren

SHOW DESCRIPTION (Gas and/or Oil)

	Max Ditch Gas	Chromatograph (ppm)
12,557'	1250*	All C_1 - methane

* Closed hydril before max gas circ out.

Ditch Gas (Units): Background 450 Connection - Trip - Peaks 1250 @ 12,557'

Mud: Wt. 14.3 Vis 50 W.L. 9.0 ph 9.0 cc Oil 0 % Cl_2 25,000 Temp. 138 °F. in 144 °F. out

Data Unit:

Depth	Shale Density	Dc Exponent	Pore Pressure
12,550'	2.43	1.37	13.2

Dispatched Samples:

Type	Interval	No. of Boxes	Set No.
Washed & Dried Ditch	11,600-12,530'	2	1 & 2
Unwashed Ditch (Paleo)			
Unwashed Ditch (USGS)			
GeoChem (canned)			
Cores	No.		

Geologist: DAVE FENEX