



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

LOGGING REPORT

WELL NAME TUNALIK RIVER #1
 Date January 24, 25, 26, 27, 1979 Driller Depth 8301'
 Elevation 110' K.B. Logger Depth 8302'

Logs Ran and Intervals

SP/GR/DLL/MSFL 2584-8301'
GR/BHC 2584-8294'
GR/CAL/FDC/CNL 2582-8300'
HRD-Dipmeter 2584-8300'
CST-Sidewall Sampler 3319-8112'

Additional Logs to Run

None

Zones of Interest

Depth	Gross Thickness	Net Feet of Porosity	Lith	Porosity	Probable Fluid Content	
					Sw	
5666-5674'	8'	8'	Sandstone	14	75	Gas & Water
7966-7971'	5'	5'	Sandstone	15	57	Gas & Water
7974-7978'	4'	4'	Sandstone	12	55	Gas & Water
8106-8110'	4'	4'	Sandstone	15	42	Gas
8110-8112'	3'	3'	Sandstone	9	74	Gas & Water

Discussion:

Above quantitative values obtained using $R_w = 0.1$ at 566' calculated from SP
 Used $R_w = .08$ for lower-zones assuming $R_w = R_{mf}$ since SP is a straight line.

Log Tops & Correlations:

Torok 6015' (Tentative from ditch samples)

Additional Evaluation Plans:

DAVE FENEX

Wellsite Geologist

ARMOUR KANE

Log Analyst



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LOGGING REPORT

WELL NAME TUNALIK #1

Date May 31, June 1, 1979 Driller Depth 12,386'

Elevation 110' KB Logger Depth 12,388'

Logs Ran and Intervals

GR/SP/DLL	8298-12,374'
GR/CAL/CNL/FDC	8298-12,387'
GR/BHC	8298-12,384'
HRD-Dipmeter	8298-12,387'
Birdwell Velocity Survey	6500-12,355'
GST-Sidewall Samples	8450-12,374'

Additional Logs to Run

Zones of Interest

Depth	Gross Thickness	Net Feet of Porosity	Lith	Porosity	Probable Fluid Content
11,440-50'	10	10	Sandstone	10%	GAS - Sw 55% ±
11,517-19'	2	2	Sandstone	12%	GAS-Sw 53% ±

Discussion:

The above Sw values are based on $R_w = 0.15$ assuming $R_w = R_{mf}$ since the SP is a straight line. This may or may not be a valid assumption. Sonic response is not characteristic of gas but confirms the 10% porosity.

Log Tops & Correlations:

	TUNALIK	PEARD	KUGRUA	S. MEADE
PEBBLE SHALE	10,632'	6195'	6890'	6475'
KUPARUK RIVER SAND	10,902'	6530'	7201'	6716'
KINGAK	11,460'	6590'	7304'	6730'

Additional Evaluation Plans:

GORDON LEGG

Wellsite Geologist

ARMOUR KANE

Log Analyst



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LOGGING REPORT

WELL NAME TUNALIK #1
Date Nov. 3 - 7, 1979 Driller Depth 18,295'
Elevation 110' KB Logger Depth 18,282'

Logs Ran and Intervals
GR/SP/DIL 14,722-18,276'
GR/CAL/CNL/FDC 14,723-18,278'
GR/BHC 14,722-18,273'
Temperature (2) 1) 100-15,485'; 2) 75-14,772'
Birdwell Velocity Survey 14,690-TD (12 levels)
HRD-Dipmeter 14,705-18,271'
Additional Logs to Run
None

Zones of Interest

Depth	Gross Thickness	Net Feet of Porosity	Lith	Porosity	Probable Fluid Content
NO ZONES OF INTEREST					

Discussion:
BHC very noisy due to rugose; deviated borehole with numerous tight spots; "M" "N" calculations plot mainly in the Dolomite region through the Volcanics interval.

Log Tops & Correlations:

	TUNALIK	KUGRUA
Sadlerochit	14,820'	9,989'
Kavik	15,560'	10,828'
Echooka	16,890'	10,988'
Lisburne	17,100'	11,160'
Volcanics	17,563'	

Additional Evaluation Plans:

DAVE FENEX

Wellsite Geologist

ARMOUR KANE

Log Analyst



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LOGGING REPORT

WELL NAME TUNALIK #1

Date December 22-27, 1979 Driller Depth 20,335'

Elevation 110' KB Logger Depth 20,328'

Logs Ran and Intervals

GR/SP/DIL 18,000-20,322' *

GR/BHC 18,000-20,329'

Birdwell Velocity Survey Top: 17,563 - Bottom: 20,300'

HRD, CNL/FDC and CST cancelled due to adverse hole conditions.

Additional Logs to Run

NONE

Zones of Interest

Depth	Gross Thickness	Net Feet of Porosity	Lith	Porosity	Probable Fluid Content
NO ZONES OF INTEREST					

Discussion:

Borehole very rough and hot - burned out 2 GR tools and one DIL.

* DIL was recorded 19' shallow. Depths shown above have been corrected.

Log Tops & Correlations:

No identifiable formation tops.

Base Volcanics 18,278'

Additional Evaluation Plans:

DAVE FENEX

Wellsite Geologist
ARMOUR KANE

Log Analyst