



Well Name Nom du puits	Union Aklavik F-17	Drilling Authority No. Autorisation de forage n°	619
Field/Area Champ/Région	Mackenzie Delta, N.W.T.	Date issued Date d'émission	26-10-72
Location Emplacement	Unit Unité F-17-63-10-135-00	Section	Permit or Lease 3880
Latitude	68°06'20"	Longitude	135°04'00"
U.W.L.R. N.R.U.E.P.	68.10556 -- 135.06667		
U.W.I. No. N.I.P. No.	300F176810135000		
File Microfilmed		Rig Release Date Date de transfert de la tour de forage	08-02-73
Tour Sheets, Microfilmed		Status Statut	0 + A
		Information Release Date Date de publication autorisée des informations	08-02-75

CHANGE OF NAME:
CHANGEMENT DE NOM:Change of Location
Changement de emplacement:

INDEX	DATE RECEIVED RECU LE	INDEX
Application for a Drilling Authority	6-11-72 K	Demande d'autorisation de forage
Well Completion Data	15-10-73 K	Renseignements sur le forage d'un puits
Well History Report	15-10-73 K	Données chronologiques sur le puits
Application to Amend a Drilling Authority		Demande de modification d'une autorisation de forage
Application to Change a Well Name		Demande de changement du nom d'un puits
Application to Abandon a Well or Suspend Drilling	16-2-73 K	Demande d'abandon d'un puits ou de suspension du forage
Application to Alter Condition of a Well		Demande d'autorisation de modifier l'état d'un puits
Well History Supplement		Supplément aux données chronologiques sur le puits
Well Completion Data	5-11-73 1B	Renseignements sur le forage d'un puits
Work-Over Report No.		Rapport de reconditionnement n°
Application to Commingle Production before Measurement		Demande d'autorisation de mélanger la production avant jaugeage
Data for Back Pressure Test on Natural Gas Wells		Données de calcul de la capacité de production d'un puits de gaz naturel - Méthode graphique n° 7
Data for Back Pressure Test on Natural Gas Wells		Données de calcul de la capacité de production d'un puits de gaz naturel - Méthode de Vitter
M.P.R. - Oil - Calculations		Calcul du T.M.P. (Taux maximal de production) de pétrole
New Oil Well Report		Rapport sur un nouveau puits de pétrole
New Gas Well Report		Rapport sur un nouveau puits de gaz naturel
Well Inspection Report		Rapport d'inspection de l'emplacement d'un puits
Rig Inspection Report	18-1-73	Rapport d'inspection d'une tour de forage
Battery Inspection Report		Rapport d'inspection d'une batterie de puits
Equipment Report		Rapport d'inspection des compteurs
Well Card	5-11-73 1B	Fiche de puits
New Service Well Report		Rapport sur un nouveau puits de service
Strat Service Logs		Rapport mensuel des injections d'eau
Logs - Large scale		Diagrammes: Grande échelle
Logs - Small scale		Diagrammes: Petite échelle

To be submitted in duplicate within thirty days after completion, rework, abandonment, recompletion or suspension of every well.
À présenter en double dans les trente jours suivant l'achèvement, le remaniement, l'abandon et la reconditionnement de chaque puits, ou après suspension.

Well Name & No. - Nom et n° du puits Union Aklavik F-17	Permit No. - N° de permis 3880	Lease No. - N° de concession
(Permitter, Licensee, Lessee) - (Détenant de permis ou de licence, du concessionnaire)	Exploratory Licence No. - N° de licence de sondage 1429	
(Operator) - (Exploitant) Union Oil Company of Canada Limited	Exploratory Licence No. - N° de licence de sondage 1429	

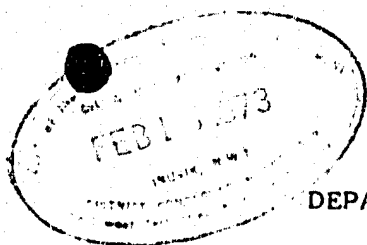
LOCATION - IMPLACEMENT	
Unit - Unité F	Section 17
Grid - (rendue quadrillée) 68°10'N, 135°00'W	Latitude 68°06'20"N
Longitude 135°04'00"W	
Unique Well Identifier - Code d'ordinateur 300F176810135000	Universal Well Location Reference - Références universelles d'emplacement du puits 68.10556°N, 135.06667°W

Date	Depth - Profondeur	Pool(s) Cisements(s)
Spudded Début des travaux Jan. 6/73	60'	
Suspended Suspension des travaux Jan. 19/73	2231	Interval(s) Open to Production Interval(s) de production
Resumed Operations Reprise des travaux Jan. 21/73		
Finished Drilling Forage terminé Feb. 4/73	2925'	
Deepened Approfondissement		
Complete (Gas/Oil) Achèvement (Gaz/Pétrole)		Elevation Gr. Altitude du sol 8.9' K.B. 27'
Abandoned Abandon Feb. 8/73	2925'	Rig No. N° de la tour de forage 1E Drilling Contractor Entrepreneur en forage S&T Drilling Ltd.
Rig Released Fin des travaux Feb. 8/73		Contractor's Business Licence No. N° du permis de l'entrepreneur

CASING RECORD - TUBAGE					
Casing Size (inches) Diamètre (en pouces)	Grade Qualité	Weight Poids	Amount Longueur	Set at - Fixation à	Sacks of Cement and Additives Sacs de ciment et d'additifs
1. 32 x 28 Refrigerated Conductor Pipe			68'	60'	160 cement fondu
2. 13-3/8	K-55	68	534.75'	530'	980 cement fondu
3.					
4.					
5.					
6.					

Geological Type Sommet des formations	Elevation - Profondeur		Core Record - Carottes				
	Depth Sous le niveau du sol	Sub-Sea Sous le niveau de la mer	From - de	To - à	Rec. Profondeur	From - de	To - à
Delta River Deposits	0	+8.9'	2922	2924	1.7		
Upper Cretaceous	515'	-488'					
Lower Cretaceous	772'	-745'					
Cambrian	2620'	-2593'					

Log Record - Diagrammes			
Run Série	Type of Log Genre de diagramme	From - De	To - À
1	D111 BHC gr HDT	2925 2927 2927	530 530 530



Drilling Authority No. 619

DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application to Abandon a Well or Suspend Drilling

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to abandon, to suspend drilling:—

Name and number of well Union Aklayik F-17
Location: Unit F Section 17 Grid 68 40 135 00
Latitude 68°06'20"N Longitude 135°04'00"W
From Established Reference Marker 300F176810135000
Universal Well Location Reference 68.10556°N, 135.06667°W
Permit No. 3880 Lease No.

Union Oil Company of Canada Limited
(Permitter, Licencee, Lessee)

Date of commencement of proposed program January 6, 1973

OIL, GAS, AND WATER ENCOUNTERED (Depths)

Oil at
Gas at
Water at
Total Depth 2925 Date of last operations February 8, 1973
Present condition of well D&A

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 32x28 Refrigerated Conductor		68'	60'	160 cement fondu	Nil
2. 13-3/8	68	534.75'	530'	900 cement fondu	Set in tension
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

No.	Plug Position	Geological Formation	Number of Sacks of Cement	Remarks
1	2925' - 2825'	Cambrian	100	No feel
2	580' - 480'	Upper Cretaceous and Delta River Deposits	125	Felt plug @ 470'
	Cut casing off 3' below ground level, set 5 sacks cement plug inside casing, welded steel plate on top; welded pipe to top of casing, extending 6' above ground level, weld well name plate horizontally to the top of pipe.			

The following logs have been run Dill, BHC gr. HDT, CST
Other operations proposed Abandon well, restore well site location and access road.

Operations to be carried out by S&T Drilling Rig #1E Contractor Licence No.
Address 5825 - 98th Street, Edmonton 85, Alberta Address
Responsible Agent in field J. J. Sullivan
Dated at Calgary, Alberta, this 14 Day of February 1973
Signed by J. J. Sullivan Company Union Oil Company of Canada Limited
Title Drilling Superintendent Operator's Exploratory Licence No. 1429

Note:—The District Conservation Engineer's office must be notified before work is commenced.

(For OIL AND MINERAL DIVISION use only)

APPROVAL

This application has been examined and proposed programme approved, subject to the following conditions:

Dated February 16, 1973
District Conservation Engineer



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
OIL AND MINERAL DIVISION

Application for a Drilling Authority

This notice of intention to begin drilling operations, in triplicate, and where required a plan of survey approved by the Surveyor General showing the target area or the site of the well must be submitted and approved before commencing operations.

In compliance with the "Canada Oil and Gas Land Regulations", application is hereby made for approval to drill:—

Name and number of well . . . **UNION AKLAVIK F-17**

Location: Unit . . . **F** . . . Section . . . **17** . . . Grid **68-10-135-00** . . .
Latitude . . . **68°06'20"N.** . . . Longitude . . . **135°04'00"W.** . . .
Unique Well Identifier . . . **300F176810135000** . . .
Universal Well Location Reference. **68.10556°N 135.06667°W**

Elevation: Ground . . . **20' (est.)** . . . **K.B.** . . . feet above sea-level.
Well is expected to produce from . . . **L. Cret, Jurassic, Devonian, Ordovician** . . . formation at a depth
of about . . . **1140' - TD** . . . feet. . . Expected total final depth . . . **8700'**
Area assigned to well . . .
(for District Conservation Engineer's use only)

Permit No. . . **3880** . . . Lease No. . . . Acreage **47,858**
Permittee, licensee, or lessee . . . **Union Oil Company of Canada Limited**
Explanatory Licence No. . . . **1429**
Surface owned by Crown or . . . **Crown**
(If alienated submit name and address of owner and occupant.)

Petroleum and natural gas rights owned by . . . **Crown**
We propose to use the following strings of casing, either cementing or landing them as indicated below:—

Casing Size O.D. (Inches)	Weight (Lb./Ft.)	Grade	New or Used	Estimated Depth	Sacks of Cement
32"		Refrigerated	New	60'	160
13-3/8"	68#	H-40	New	500'	800
9-5/8"	40#	K-55	New	1500-2800'	705-1320
7" (if required)	26#	N-80, K-55	New	8700'	800-964

Expected water, gas, and oil horizons and type of control equipment. **L. Cretaceous Se-coal div., Mid-L. Jurassic Se., Permian, Mid-Devonian, Silurian and Ordovician. Control by adequate mud weight and Shaffer and Hydril BOP's.**

Well will be drilled with Rotary Rig No. **1E** by **S & T Drilling (Western) Co. Ltd.**
(Drilling Contractor or company)

Responsible agent of applicant:— Contractor's Business Licence No. . . .
At well. **J. J. Sullivan** . . . At registered office. **Eric J. Connor**
Address **P.O. Box 999, 335-8 Ave. SW, Calgary, Alberta.** . . . **P.O. Box 999, 335-8 Ave. SW, Calgary, Alberta.**
It is understood that if changes become necessary, notice of the change of plan will be submitted.
Dated at **Calgary, Alberta** this **17** day of **October** 19 **72**
Signed by **[Signature]** Company **Union Oil Company of Canada Limited**
Title **Manager, Production Operations** Operator's Licence No. . . . **1429**

(For Oil and Mineral Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:
PLEASE SEE ATTACHED CONDITIONS OF APPROVAL.

Dated. 19.
District Conservation Engineer
Forms to be submitted to District Conservation Engineer,
Department of Indian Affairs and Northern Development.

CONDITIONS OF APPROVAL FOR DRILLING AUTHORITY NO.
FOR

1. Copies of this Drilling Authority shall be exhibited at the Drilling Rig in both the Doghouse and the Drilling Foreman's Office between spud and rig release dates.
2. The Company will submit to this office, on Tuesday of each week/daily, the latest reports received by radio on the progress of the well.
3. During well drilling and testing operations, every effort shall be made to ensure that drilling fluids, chemicals and wastes shall be disposed of or contained in a manner that will prevent the contamination of adjacent vegetation and surface or sub-surface waters.
4. We draw your attention to Sections 95 and 96 of the Canada Oil and Gas Land Regulations.
5. Any additional strings of casing must be approved by the District Conservation Engineer prior to running.

A. H. H. H. H.

UNION AKLAVIK F-17

FORMATION TOPS

	<u>Depth</u>	<u>Subsea</u>
Lower Cretaceous "PERMAFROST"	300'	
Upper Shale-Siltstone Division	0	
Lower Sandstone-Coal Division	1140'	-1117
Upper Jurassic		
Husky Formation Shale	1790'	-1767
Middle-Lower Jurassic		
Bug Creek Sandstone(Upper)	3140'	-3117
Bug Creek Sandstone(Middle)	3273'	-3250
Bug Creek Sandstone(Lower)	3444'	-3421

MAJOR UNCONFORMITY

Fernian

Sandstone, Silt and Conglomerate	3960'	-3937
----------------------------------	-------	-------

UNCONFORMITY

Devonian or Silurian(Carbonate)	4040'	-4017
---------------------------------	-------	-------

UNCONFORMITY

Upper Ordovician

Mt. Kindle Dolomite	7040'	-7017
---------------------	-------	-------

Lower Ordovician

Vunta Formation	7740'	-7717
-----------------	-------	-------

Adjoining Chart 1387

135°00'

15'

30'

15'

Schooner Channel

AKLAVIK

WEST CHANNEL

1000 via Peel Channel

AKLAVIK

via Aklatik Channel 987

RCMP, P.O., H.B. CO.,
REARMS SIV
ARE & R.C.
MISSION
H310

Seaplane
Landing Area

Mt. Gifford

RICHARDSON MOUNTAINS
Rising to 2000 feet

Pokiat

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Channel

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Low level country with spruce to 14 inches.

dense willows and alders

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

Cabin

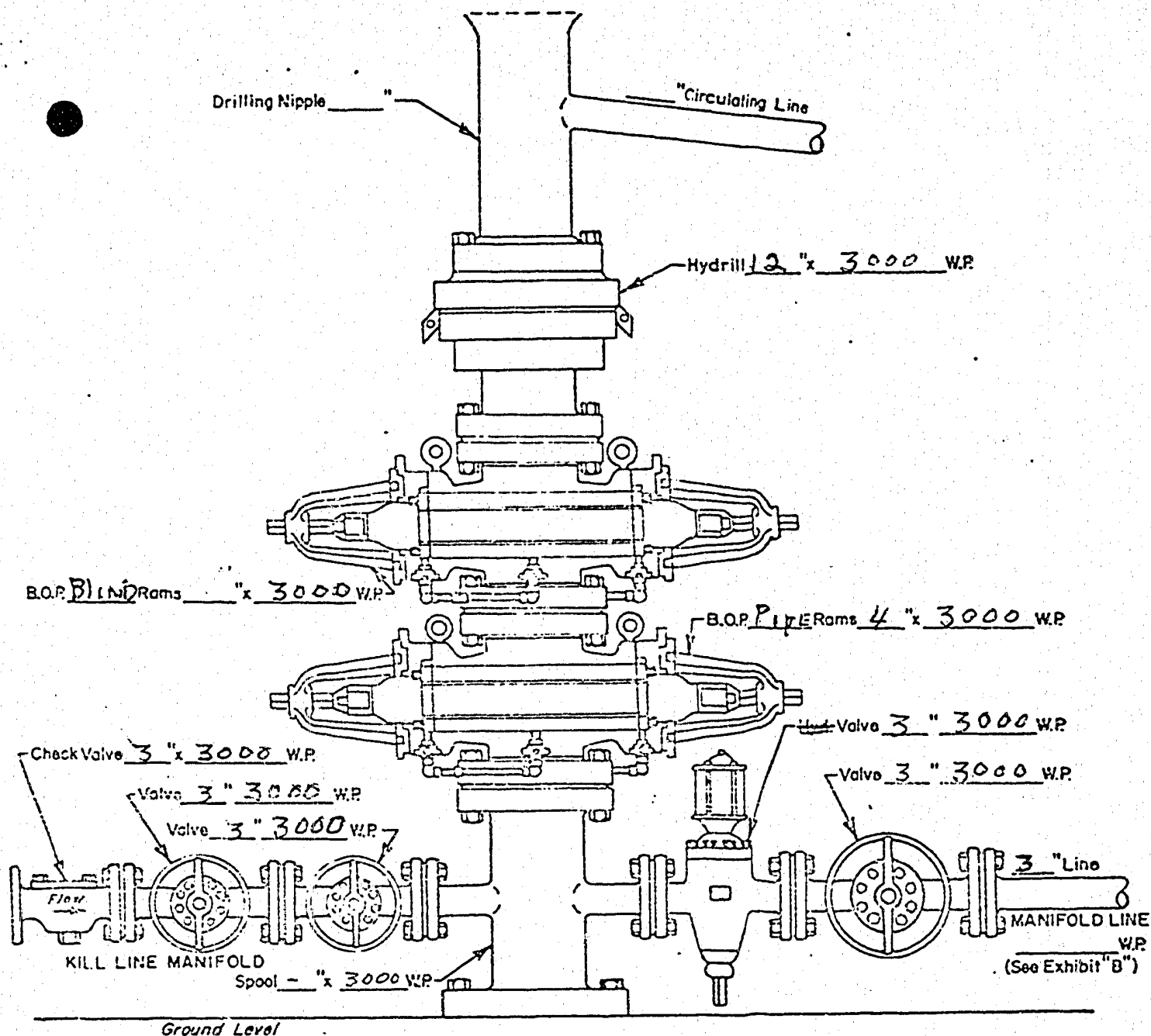
Cabin

Cabin

Cabin

Cabin

Cabin

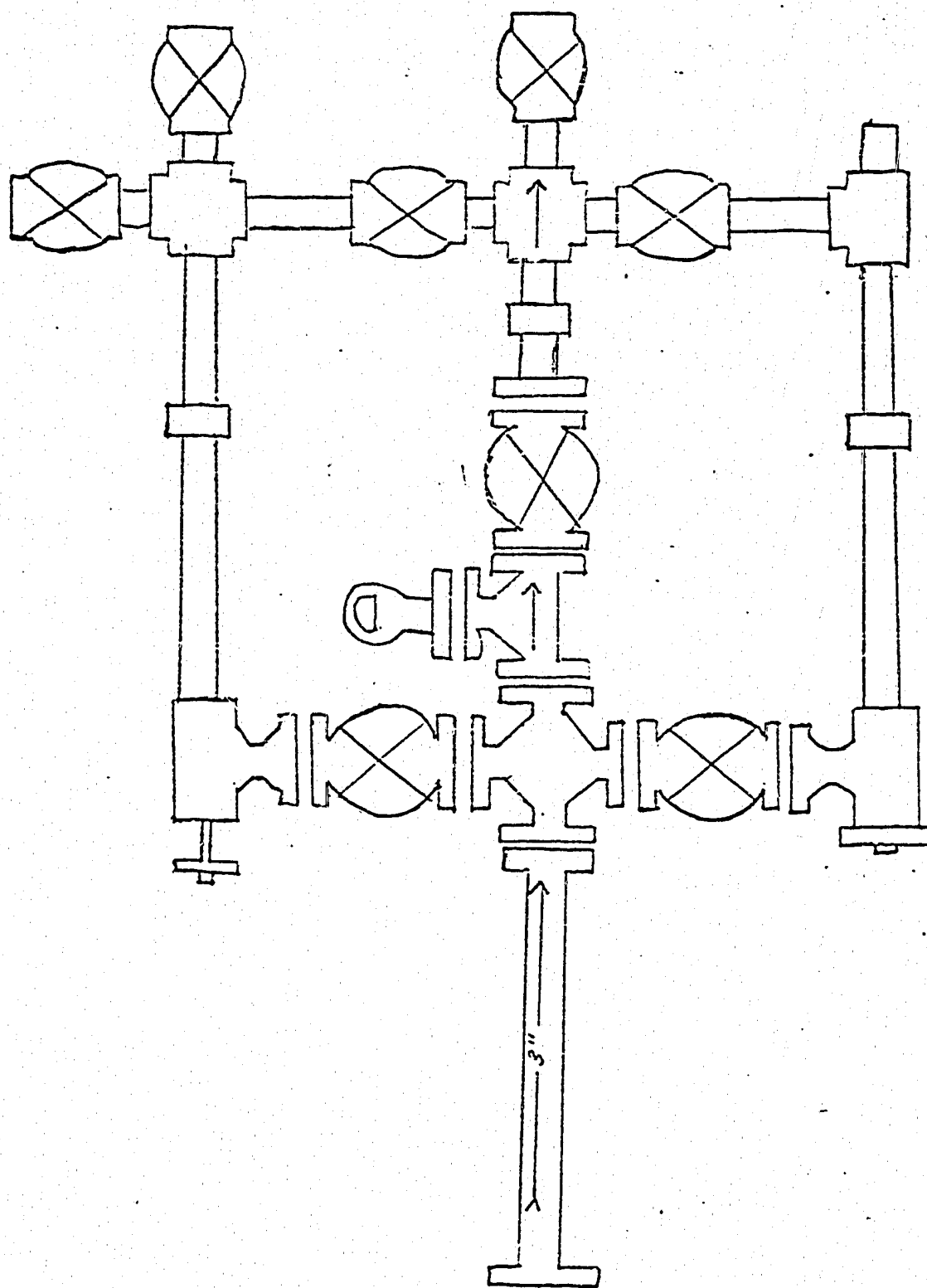


WELL HEAD B.O.P.
3000 # W.P.

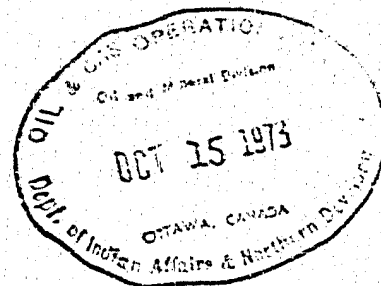
☐ Manual
☒ Hydraulic

Substitute regular valve for hydraulic valve

Rig 1-E

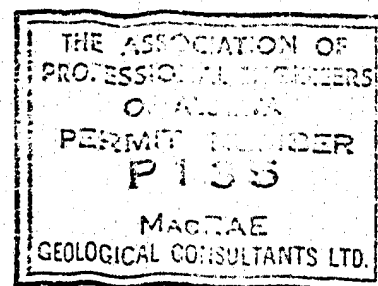


3000 W.P. MANIFOLD.



028-11-07-047

REPORT
on the
DRILLING AND ABANDONMENT
of
UNION AKLAVIK F-17
Unit F, Section 17,
Grid Corner 68° 10' N & 135° 00' W



Reported by:

MACRAE GEOLOGICAL CONSULTANTS LTD.

L. B. Macrae
L. B. Macrae, P. Geol.

February, 1973

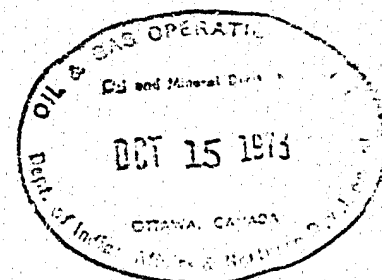


TABLE OF CONTENTS

Geological Summary & Pertinent Data...	1
Core Description.....	3
Sidewall Core Descriptions.....	4
Sample Descriptions.....	5
Paleontology:	
Robert Research (N.A.) Limited...	29
Imperial Oil Limited.....	37
Deviation Record.....	40
Mud Properties.....	42
Bit Record.....	43
Daily Drilling Record.....	44
Well History Log.....	Pocket

GEOLOGICAL SUMMARY & PERTINENT DATA

Company: Union Oil Company of Canada Limited,
335 Eighth Avenue South West,
Calgary, Alberta.

Well Name: Union Aklavik F-17

Location: Unit F, Section 17, Grid Corner
68° 10' N & 135° 00' W

Coordinates: Latitude 68° 06' 20" N, Longitude 135°
04' 00" W

Unique Well Identifier: 300F176810135000

Universal Well Location Reference: 68.10556° N & 135.06667° W

Permit No.: 3880 - September 16, 1964

Well Classification: New Field Wildcat

Elevations: Ground - 8.9 feet; Kelly Bushing - 27 feet

Objective: To evaluate the hydrocarbon potential of a structure defined by Geophysics, where good reservoir characteristics are suspected to exist in the Lower Cretaceous, Jurassic and Permian sandstones. Also carbonate porosity is predicted in the Middle Devonian, Silurian and Ordovician formations.

Final Status: Dryhole - Abandoned

Stratigraphy:

	<u>Sample Top</u>	<u>Log Tops</u>	
		<u>Drilled Depth</u>	<u>Subsea</u>
Quaternary:			
Base of Muskeg	235	?	
Base of Glacial sand	53C	568	- 541
Upper Cretaceous:	NP	568	- 541
Lower Cretaceous:	NP	600	- 573
Base Permafrost	810	800	- 773
Unconformity	NP	1618	-1591
Upper Jurassic:	NP	2396	-2369
Unknown Age:			
Green Shale	2540	2546	-2519
Cambrian:	2615	2614	-2587
T.D.	2925	2928	-2901

GEOLOGICAL SUMMARY & PERTINENT DATA

Formation Tests: None

Cored Intervals: Core No. 1 - 2922 to 2924

Sidewall Cores: 24 cores from 740 to 2873 feet.

Oil Shows: None

Gas Shows: 810 at Base of Permafrost

Schlumberger Logs: Dipmeter 2928 - 530
Dual Induction Laterlog 2928 - 530
BHC Sonic Log 2928 - 110

Gas Mud Logging: Baroid

Wellsite Supervision:
Supervisors: Drilling - John Dorch
Geological - Blair MacRae

Contractor: S & T Drilling (Western) Co. Ltd.
Rig No. 1E

Casing: 13³/₈" to 530 feet

Plugs: No. 1 - 2925 to 2825 with 100 sacks of cement.
No. 2 - 580 to 480 with 125 sacks of cement.

Spud Date: January 6, 1973 at 9:00 A.M.

Rig Released: February 8, 1973 at 8:00 A.M.

Total Days: 33

CORE DESCRIPTION

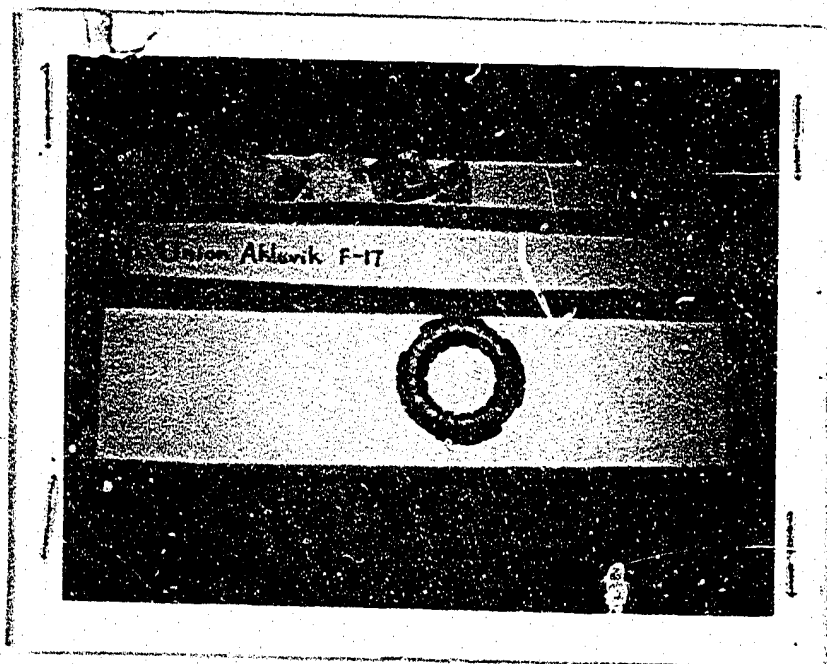
CORE NO. 1 - 2922 to 2924 (2 feet). Recovered 1.7 feet.

2922.0 - 2923.7 (1.7') Quartzite - light grey, very fine grained, very hard, massive bedding, trace medium sized "vugs" lined with well-formed quartz crystals, common high angle (70 degree) oblique fractures which are closed and filled with calcite in part.

CORE TIMES:

2922 - 23 95 min.

2923 - 24 80 min.



CORE DESCRIPTION

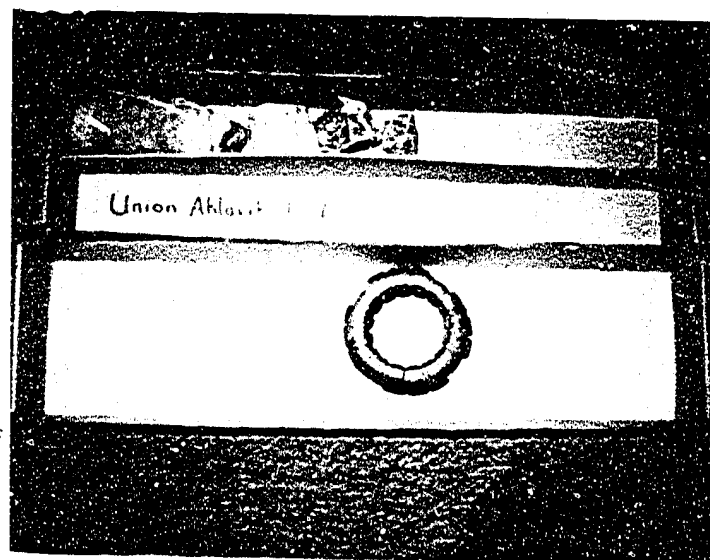
CORE NO. 1 - 2922 to 2924 (2 feet). Recovered 1.7 feet.

2922.0 - 2923.7 (1.7') Quartzite - light grey, very fine grained, very hard, massive bedding, trace medium sized "vugs" lined with well-formed quartz crystals, common high angle (70 degree) oblique fractures which are closed and filled with calcite in part.

CORE TIMES:

2922 - 23 95 min.

2923 - 24 80 min.



SIDEWALL CORE DESCRIPTIONS

<u>DEPTH</u>	<u>RECOVERY</u>	<u>DESCRIPTION</u>
740	-0-	
1082	1½"	Shale - dark grey.
1225	1"	Shale - dark grey.
1438	1"	Shale - dark grey.
1619	¾"	Shale - dark grey.
1675	1"	Shale - dark grey.
1805	¾"	Shale - dark grey.
1875	1"	Shale - dark grey.
1974	1"	Shale - dark grey.
2110	½"	Shale - dark grey.
2262	1¼"	Shale - dark grey.
2332	1"	Shale - dark grey.
2413	1¼"	Shale - dark grey.
2490	1½"	Shale - dark grey.
2512	½"	Shale - dark grey.
2555	1"	Shale - light green.
2590	¾"	Shale - light green.
2610	¾"	Shale - light green.
2715	¾"	Sandstone - white, quartzose, (possibly quartzite).
2748	¾"	Interbedded light green and dark grey shales.
2770	½"	Shale - light green.
2795	¾"	Shale - light green.
2842	¾"	Shale - dark grey.
2873	-0-	

SAMPLE DESCRIPTIONSPermafrost (Muskeg Section)

- 0 - 10 Clay - medium brown, with some wood and plant fibre fragments.
- 10 - 90 Samples not caught.
- 90 - 100 Wood and plant fibre - white to dark grey, some light and dark grey (biotite) mica.
- 100 - 110 Wood and plant fibre - generally black to dark grey, occasionally light grey, with traces of light and dark grey mica.
- 110 - 120 Sand - light grey, fine grained, quartzose, unconsolidated loose grains, subangular to subrounded, well sorted, probably cemented with ice, with much wood and plant fibre, as above.
- 120 - 130 Wood and plant fibre, dark grey, some brown, trace mica.
- 130 - 140 Wood and plant fibre, dark grey, some brown, as above.
- 140 - 150 Wood and plant fibre, dark grey, common light to medium brown, trace white mica.
- 150 - 160 Wood and plant fibre, dark grey and medium brown.
- 160 - 170 Wood and plant fibre, dark grey and medium brown, common white mica, some muscovite.
- 170 - 180 Wood and plant fibre, dark grey, (thin long fibre splinters), trace white micaceous material.
- 180 - 190 Wood and plant fibre, dark grey, trace white mica.
- 190 - 200 Wood and plant fibre, dark grey and medium brown, with stringer of dark grey shale.
- 200 - 210 Wood and plant fibre, dark grey.
- 210 - 220 Wood and plant fibre, dark grey, with stringer of sand, light grey, very fine to medium grained, quartzose, poorly sorted, unconsolidated loose grains.

SAMPLE DESCRIPTIONS (cont'd)

- 220 - 230 Wood and plant fibre - trace white mica.
- 230 - 240 Wood fibre and plant fibre - dark grey, with some light grey clay matrix.

Note: Wood and plant fibre probably in a silt matrix, which completely disperses in the mud system.

Permafrost (Glacial Sand)

- 240 - 250 Sand - light grey, fine to medium grained, quartzose, clear, trace chlorite, some muscovite and biotite, subangular, fair sorting, unconsolidated, loose grains, good porosity and probably completely infilled with ice, with much wood and plant fibre.
- 250 - 260 Sand - light grey, pinkish-grey, fine grained, quartzose, generally clear, some rose quartz and red feldspar, trace muscovite, well sorted, subangular to subrounded, unconsolidated, porosity good and completely infilled with ice.
- 260 - 270 Sand - light pinkish-grey, fine to medium grained, quartzose, clear, common rose quartz, common green chlorite, some muscovite, unconsolidated, as above, with stringer of wood and plant fibre.
- 270 - 280 Sand - light grey, slightly pink, very fine to coarse grained, quartzose, clear, some rose quartz, common green chlorite, subangular, poorly sorted, (common black biotite, trace muscovite), unconsolidated, as above.
- 280 - 290 Sand - light grey, slightly pink, very fine to medium grained, quartzose, clear, red feldspar and rose quartz, slightly coaly, trace muscovite and chlorite, subangular, poorly sorted, unconsolidated.
- 290 - 300 Sand - pink, fine to medium grained, quartzose, clear, common to abundant red feldspar, trace green chlorite, fair sorting, subangular, unconsolidated.
- 300 - 310 Sand - pink, fine to coarse grained, quartzose, clear, some rose, common red feldspars, subangular to angular, poorly sorted, loose grains, with occasional black chert pebble.

SAMPLE DESCRIPTIONS (cont'd)

- 310 - 320 Sand - pink, very fine to very coarse grained, quartz and feldspars, some red and black shale fragments, trace granite fragments, occasional sandstone fragment, trace coaly fragments, angular to round, very poorly sorted, loose grains.
- 320 - 380 No samples - suspected clay which dissolved in mud system.
- 380 - 390 Sand - pinkish-grey, fine to medium grained, quartz, clear, with some rose, some red feldspars, fair sorting, loose grains.
- 390 - 400 Sand - pink, coarse to very coarse grained, conglomeratic in part, vari-coloured chert fragments - white, light grey, yellow, black, abundant red feldspars, some medium grey sandstone fragments, some red shale fragments, trace coaly fragments, loose grains.
- 400 - 410 Sand - pink, very coarse grained, some fine grained, vari-coloured chert and red feldspars, occasional granite fragments, common very fine grained, medium grey, sandstone fragments, loose grains.
- 410 - 420 Sand - light grey, slightly pinkish, very coarse grained, conglomeratic in part, clear quartz, abundant very fine grained medium grey sandstone fragments, abundant red feldspars, common vari-coloured chert granules, loose grains.
- 420 - 430 Sand - pink, very coarse grained, conglomeratic in part, vari-coloured chert, occasional clear quartz, abundant very fine grained and medium grey sandstone fragments, loose.
- 430 - 440 Sand - pinkish-grey, fine to very coarse grained, quartz, clear, some vari-coloured chert and common red feldspars, trace granite fragments, some blackish-grey shale fragments, very poorly sorted, loose grains.
- 440 - 450 Sand - pinkish-grey, fine to medium grained, occasionally coarse grained, quartz, clear, common red feldspars, generally loose grains, with some soluble clays.

SAMPLE DESCRIPTIONS (cont'd)

- 450 - 460 Sand - pinkish-grey, fine to coarse grained, quartz and red feldspars, as above, with probable interbeds of clay - mostly dissolved in mud system.
- 460 - 470 Clay - light grey, mostly dissolved in mud system with many interbeds of sand, as above.
- 470 - 480 Sand - pinkish-grey, fine to medium grained, quartz, clear, common red feldspars, some vari-coloured chert, some medium to dark grey siltstone fragments.
- 480 - 490 Sand - light grey, very slightly pink, fine to medium grained, quartz, clear, trace red feldspars, loose, with some interbeds of light grey clay.
- 490 - 500 Sand - light grey, slightly pink, fine to medium grained, clear, trace red feldspars, with common dark grey, micromicaceous shale fragments, some cavings of plant and wood fibres, loose grains.
- 500 - 510 Sand - pinkish-grey, fine to very coarse grained, quartz, clear, some red feldspars, some dark grey chert pebbles, loose, with some cavings of wood and plant fibres.
- 510 - 520 Sand - light to medium grey, slightly pink, fine to coarse grained, slightly conglomeratic, quartz, clear, some rose, some red feldspars, occasionally light grey chert pebbles, loose grains.
- 520 - 530 Sand - light to medium grey, slightly pink, fine to coarse, clear, some red feldspars, abundant dark grey shale fragments, trace mica, generally loose grains, some weakly cemented with clay and poorly packed with good porosity.

Base of Glacial Sand

- 530 - 540 Claystone - medium grey, slightly silty, bentonitic, soft, plastic when wet, with trace of coarse sand, as above.
- 540 - 550 Claystone - medium grey, silty, as above.
- 550 - 560 Claystone - medium grey, slightly silty, bentonitic, soft, plastic when wet.

SAMPLE DESCRIPTIONS (cont'd)

- 560 - 570 Claystone - medium grey, as above.
- 570 - 580 Claystone - medium grey, silty, bentonitic, soft, as above.
- 580 - 590 Claystone - medium grey, as above.
- 590 - 600 Claystone - medium grey, slightly silty, bentonitic, soft, plastic when wet.
- 600 - 610 Claystone - medium grey, as above.
- 610 - 620 Claystone - medium grey, as above.
- 620 - 630 Claystone - medium grey, as above.
- 630 - 640 Claystone - medium grey, as above.
- 640 - 650 Claystone - medium grey, as above.
- 650 - 660 Claystone - medium grey, slightly silty, bentonitic, soft.
- 660 - 670 Claystone - medium grey, as above.
- 670 - 680 Claystone - medium grey, as above.
- 680 - 690 Claystone - medium grey, as above.
- 690 - 700 Claystone - medium grey, as above.
- 700 - 710 Claystone - medium grey, as above.
- 710 - 720 Claystone - medium grey, as above.
- 720 - 730 Claystone - medium grey, bentonitic, soft to slightly firm.
- 730 - 740 Claystone - medium grey, as above.
- 740 - 750 Claystone - medium grey, as above.
- 750 - 760 Claystone - medium grey, bentonitic, soft to slightly firm.
- 760 - 770 Claystone - medium grey, as above.
- 770 - 780 Claystone - medium grey, as above.

SAMPLE DESCRIPTIONS (cont'd)

- 780 - 790 Siltstone - medium to dark grey, slightly micaceous, chunky, medium hard, with interbeds (or cavings?) of sand, pinkish-grey, fine to very coarse grained, slightly conglomeratic, quartz, clear to white, some red feldspars, poorly sorted, unconsolidated loose grains.
- 790 - 800 Siltstone - medium grey, medium hard, with thin interbeds of above sand.

Base of Permafrost

- 800 - 810 Shale - medium grey, slightly brownish-grey, very silty, chunky, medium hard, occasionally pyritic, with some granules of vari-coloured chert and granite fragments (cavings).
- 810 - 820 Shale - medium brownish-grey, very silty, occasionally pyritic, chunky, medium hard.
- 820 - 830 Shale - medium grey, slightly brownish-grey, very silty in part, trace pyritic, chunky, medium hard.
- 830 - 840 Siltstone - light to medium grey, very argillaceous, medium hard, with thin interbeds of above shale, trace coal and pyrite.
- 840 - 850 Shale - medium brown to medium grey, silty, chunky, medium hard.
- 850 - 860 Shale - medium grey, some medium brown, silty, chunky, medium hard.
- 860 - 870 Shale - medium grey, some medium brown, silty, chunky, medium hard, with some angular black chert fragments, trace pyrite.
- 870 - 880 Shale - light to medium grey, silty, chunky, medium hard, with trace of cement cavings.
- 880 - 890 Shale - medium grey, some medium brown, silty, chunky, medium hard, trace pyrite nodules.
- 890 - 900 Shale - light to medium grey, silty, chunky, medium hard, trace pyrite, some cement cavings.
- 900 - 910 Shale - medium grey, common medium brown, silty, chunky, medium hard.

SAMPLE DESCRIPTIONS (cont'd)

- 910 - 920 Shale - light to medium grey, very silty, trace pyrite, chunky, medium hard.
- 920 - 930 Shale - medium grey, some brown, very silty in part, chunky, medium hard.
- 930 - 940 Siltstone - medium grey, very argillaceous, medium hard, with many interbeds of shale, medium grey, very silty, chunky, medium hard.
- 940 - 950 Shale - medium grey, silty, trace pyritic, chunky, medium hard.
- 950 - 960 Shale - medium to dark grey, silty, occasional pyrite nodule, chunky, medium hard.
- 960 - 970 Shale - medium grey, silty, as above.
- 970 - 980 Shale - medium grey, very silty, chunky, medium hard, with interbeds of siltstone, medium grey, very argillaceous, medium hard.
- 980 - 990 Siltstone - medium grey, very argillaceous, medium hard, with many interbeds of above silty shale.
- 990 - 1000 Shale - medium grey, silty, slightly micromicaceous, chunky, medium hard.
- 1000 - 1010 Siltstone - medium grey, trace sandy, very argillaceous, hard, with interbeds of shale, brown, silty, chunky, medium hard.
- 1010 - 1020 Siltstone - medium grey, very slightly sandy, slightly micromicaceous, very argillaceous, medium hard, with stringer of shale, medium grey, silty, trace pyrite nodules.
- 1020 - 1030 Shale - medium grey, very silty, chunky, medium hard, trace pyrite nodules.
- 1030 - 1040 Siltstone - light to medium grey, argillaceous, bentonitic in part, chunky, medium hard.
- 1040 - 1050 Siltstone - light to medium grey, as above, with interbeds of shale, medium brown to medium grey, silty, trace pyritic, chunky, medium hard.

SAMPLE DESCRIPTIONS (cont'd)

- 1050 - 1060 Siltstone - light to medium grey, argillaceous, medium hard.
- 1060 - 1070 Siltstone - medium grey, argillaceous, medium hard.
- 1070 - 1080 Siltstone - medium grey, occasionally light grey in part, very argillaceous, medium hard.
- 1080 - 1090 Siltstone - medium grey, as above.
- 1090 - 1100 Siltstone - medium grey, sandy in part, argillaceous, medium hard.
- 1100 - 1110 Siltstone - medium grey, sandy in part, argillaceous, trace carbon flecked, medium hard.
- 1110 - 1120 Siltstone - medium grey, slightly light grey in part, argillaceous, medium hard.
- 1120 - 1130 Siltstone - medium grey, some brown, argillaceous, medium hard, with some medium brown ironstone.
- 1130 - 1140 Siltstone - medium grey, as above, trace ironstone, as above, with interbeds of silty medium grey shale.
- 1140 - 1150 Shale - medium grey to greyish-brown, silty, chunky, medium hard, with interbeds of above siltstone.
- 1150 - 1160 Siltstone - medium brown to medium grey, very argillaceous, trace pyrite, medium hard.
- 1160 - 1170 Siltstone - medium brown, sandy in part, argillaceous, medium hard.
- 1170 - 1180 Siltstone - as above, common medium grey, with many interbeds of shale, medium grey and very silty, trace pyrite nodules.
- 1180 - 1190 Siltstone - medium grey and medium brown, slightly sandy in part, medium hard, with trace cement cavings.
- 1190 - 1200 Siltstone - medium grey, slightly sandy, argillaceous, slightly pyritic in part, medium hard.

SAMPLE DESCRIPTIONS (cont'd)

- 1200 - 1210 Siltstone - medium grey, argillaceous, medium hard.
- 1210 - 1220 Siltstone - medium grey, slightly light grey in part, very slightly sandy, argillaceous, medium hard, with trace pyrite nodules.
- 1220 - 1230 Siltstone - medium grey, as above, with thin interbeds of shale, medium grey, very silty.
- 1230 - 1240 Siltstone - medium grey, some brown, argillaceous, medium hard, trace brown ironstone.
- 1240 - 1250 Siltstone - medium grey, slightly sandy in part, argillaceous, medium hard, with common brown ironstone.
- 1250 - 1260 Siltstone - medium grey, occasionally light grey, slightly sandy, trace sideritic brown ironstone.
- 1260 - 1270 Siltstone - as above, with many interbeds of shale, medium grey, silty, chunky, medium hard, trace sideritic ironstone.
- 1270 - 1280 Shale - medium grey, silty, slightly micaceous, chunky, medium hard, with stringer of above siltstone.
- 1280 - 1290 Shale - medium grey, silty, slightly micaceous, chunky, medium hard.
- 1290 - 1300 Shale - medium grey, as above, with many interbeds of siltstone, medium grey, argillaceous, medium hard.
- 1300 - 1310 Shale - medium grey, silty, slightly micaceous, chunky, medium hard, with many interbeds of siltstone, as above.
- 1310 - 1320 Shale - medium grey, some brown, silty, as above.
- 1320 - 1330 Shale - medium grey, some brown, silty, slightly micaceous, chunky, medium hard.
- 1330 - 1340 Shale - medium grey, occasionally brown, silty in part, micaceous, chunky, medium hard.
- 1340 - 1350 Shale - medium grey, silty, as above.

SAMPLE DESCRIPTIONS (cont'd)

- 1350 - 1360 Shale - medium grey, occasionally brown, micro-micaceous, slightly silty to silty, chunky, medium hard, with trace of pyrite and brown ironstone.
- 1360 - 1370 Shale - medium grey, occasionally brown, as above, trace pyrite.
- 1370 - 1380 Siltstone - medium grey, slightly sandy, argillaceous, medium hard, with thin interbeds of above shale.
- 1380 - 1390 Shale - medium to dark grey, slightly micro-micaceous, silty, chunky, medium hard.
- 1390 - 1400 Shale - medium grey, as above.
- 1400 - 1410 Shale - medium grey, silty, slightly micro-micaceous, chunky, medium hard.
- 1410 - 1420 Shale - medium grey, silty, as above.
- 1420 - 1430 Shale - medium grey, silty, as above.
- 1430 - 1440 Shale - medium grey, silty, slightly micro-micaceous, chunky, medium hard.
- 1440 - 1450 Shale - medium to dark grey, slightly micro-micaceous, silty, chunky, medium hard, with stringer of siltstone.
- 1450 - 1460 Shale - medium grey, slightly micromicaceous, silty, as above.
- 1460 - 1470 Shale - medium grey, some brownish-grey to brown, silty, chunky, medium hard.
- 1470 - 1480 Shale - medium grey, silty, slightly micro-micaceous, chunky, medium hard.
- 1480 - 1490 Shale - medium grey, as above, trace pyrite.
- 1490 - 1500 Shale - medium grey, some brown, slightly silty, slightly micromicaceous, chunky, medium hard.
- 1500 - 1510 Shale - medium grey, some brown, as above.
- 1510 - 1520 Shale - medium grey, occasionally brown, silty, as above.
- 1520 - 1530 Siltstone - medium grey, argillaceous, medium hard.

SAMPLE DESCRIPTIONS (cont'd)

- 1530 - 1540 Siltstone - medium grey, as above, trace pyrite, with thin interbeds of above shale.
- 1540 - 1550 Shale - medium grey, silty, chunky, medium hard, trace pyrite, with stringer of siltstone, as above.
- 1550 - 1560 Shale - medium grey, occasionally brown, silty, trace carbon-flecked, as above, with thin interbeds of above siltstone.
- 1560 - 1570 Shale - medium grey, occasionally brown, silty, slightly micromicaceous, as above, with thin interbeds of above siltstone.
- 1570 - 1580 Shale - medium grey, as above, with many interbeds of siltstone, medium grey, with stringer of sandstone, medium grey, very fine grained, silty, salt and pepper, well cemented, argillaceous, tight, with some chips of angular medium blue-grey chert fragments, trace glauconitic brown ironstone.
- 1580 - 1590 Siltstone - medium grey, argillaceous, medium hard, with some round dark grey chert granules.
- 1590 - 1600 Siltstone - medium grey, argillaceous, medium hard, with trace pyrite nodules.
- 1600 - 1610 Shale - medium grey, silty, chunky, medium hard, with abundant brown ironstone, trace reddish-brown ironstone.
- 1610 - 1620 Siltstone - medium grey, argillaceous, medium hard, with many interbeds of above shale, trace brown ironstone.
- 1620 - 1630 Ironstone - medium brown, hard, with interbeds of shale, medium grey, silty, chunky, medium hard, some black carbonaceous partings, some pyrite nodules.
- 1630 - 1640 Chert conglomerate - vari-coloured, black, dark grey, some medium grey, occasionally light grey, pyritic in part, with interbeds of above brown ironstone.
- 1640 - 1650 Shale - medium grey, silty, medium hard, with interbeds of siltstone, medium grey, and stringer of sandstone, medium grey, very fine grained,

SAMPLE DESCRIPTIONS (cont'd)

- 1640 - 1650 (cont'd)... silty, salt and pepper, well cemented, argillaceous, tight, with common round black chert granules, trace green and light grey chert granules.
- 1650 - 1660 Siltstone - light to medium grey, sandy, limy, medium hard, grading to sandstone in part, with many interbeds of shale, medium grey, as above, with some mottled white and reddish-brown calcitic material, some pyrite and trace brown ironstone.
- 1660 - 1670 Shale - medium to dark grey, micromicaceous, slightly silty, chunky, medium hard, with stringer of above siltstone, trace brownish-red calcitic material, trace pyrite.
- 1670 - 1680 Sandstone - light to medium grey, very fine grained, silty, salt and pepper, well cemented, slightly limy, silty and clay, tight, with trace black chert pebble, with many interbeds of above shale and siltstone.
- 1680 - 1690 Siltstone - light to medium grey, sandy, argillaceous, medium hard, with interbeds of shale, medium to dark grey, slightly silty, trace carbon flecked, chunky, medium hard.
- 1690 - 1700 Sandstone - light grey, very fine grained, silty, salt and pepper, well cemented, very slightly limy, silty and clay, tight, with interbeds of siltstone, light to medium grey, sandy, argillaceous, medium hard.
- 1700 - 1710 Siltstone - light to medium grey, argillaceous, medium hard, with many interbeds of shale, medium grey, silty, trace brown ironstone and black chert pebble.
- 1710 - 1720 Sandstone - light grey, very fine grained, silty, salt and pepper, faintly glauconitic, well cemented, limy, tight, with stringer of shale, as above.
- 1720 - 1730 Siltstone - light grey, sandy, slightly limy, slightly carbon flecked in part, medium hard, with trace brown ironstone.

SAMPLE DESCRIPTIONS (cont'd)

- 1730 - 1740 Shale - medium grey, silty, slightly micromicaceous, chunky, medium hard, with common interbeds of siltstone, light grey, sandy in part, argillaceous, medium hard.
- 1740 - 1750 Shale - medium to dark grey, micromicaceous, slightly silty, chunky, medium hard, with stringer of above siltstone.
- 1750 - 1760 Shale - medium to dark grey, micromicaceous, slightly silty, chunky, medium hard.
- 1760 - 1770 Shale - medium to dark grey, as above, with thin interbeds of siltstone, as above.
- 1770 - 1780 Shale - medium to dark grey, as above, with thin interbeds of above siltstone.
- 1780 - 1790 Shale - medium to dark grey, silty, slightly micromicaceous, chunky, medium hard, with thin interbeds of above siltstone.
- 1790 - 1800 Siltstone - light to medium grey, argillaceous, medium hard, with interbeds of above shale.
- 1800 - 1810 Siltstone - light to medium grey, as above, with thin interbeds of above shale.
- 1810 - 1820 Sandstone - light grey, very fine grained, silty, quartzose, slightly glauconitic, well cemented, slightly limy, mostly silt and clay, tight, with many interbeds of above shale.
- 1820 - 1830 Shale - medium to dark grey, micromicaceous, chunky, medium hard, with occasional slickensides, with many interbeds of siltstone, light to medium grey, sandy in part, and stringer of sandstone, as above.
- 1830 - 1840 Shale - dark grey, micromicaceous, chunky, medium hard, with stringer of siltstone, light to medium grey, argillaceous and trace of sandstone.
- 1840 - 1850 Shale - medium brownish-grey to brown, silty, chunky, medium hard.
- 1850 - 1860 Shale - medium to dark brown, silty, chunky, medium hard, with stringer of medium grey siltstone.

SAMPLE DESCRIPTIONS (cont'd)

- 1860 - 1870 Shale - dark grey, micromicaceous, chunky, medium hard, with many interbeds of ironstone, light to medium brown, limy, (sideritic), hard.
- 1870 - 1880 Shale - dark grey, micromicaceous, trace slickensides, chunky, medium hard, with some ironstone, as above.
- 1880 - 1890 Shale - medium grey, slightly micromicaceous, slightly silty, with abundant ironstone fragments.
- 1890 - 1900 Shale - medium to dark grey, micromicaceous, chunky, some splintery, medium hard, with trace of brown ironstone.
- 1900 - 1910 Shale - medium to dark grey, slightly micromicaceous, chunky to platy, some splintery, medium hard, with trace ironstone.
- 1910 - 1920 Shale - dark grey, some medium to dark brownish-grey, micromicaceous, common slickensides, chunky, occasionally splintery, medium hard, with some brown ironstone, trace pyrite.
- 1920 - 1930 Shale - medium to dark grey, slightly micromicaceous, chunky to platy, occasionally splintery, medium hard, trace slickensides.
- 1930 - 1940 Shale - medium to dark grey, micromicaceous, chunky, medium hard, trace pyrite.
- 1940 - 1950 Shale - medium to dark grey, some dark brown, micromicaceous, occasional slickensides, chunky, trace splintery, medium hard, with one chip of dolomite, limy, light grey, crypto-x-lline, pure, medium hard.
- 1950 - 1960 Shale - dark grey, micromicaceous, chunky, trace splintery, medium hard.
- 1960 - 1970 Shale - dark grey, as above, some slickensides.
- 1970 - 1980 Shale - medium to dark grey, micromicaceous, trace slickensides, chunky, occasionally platy and splintery, medium hard.
- 1980 - 1990 Shale - medium to dark grey, micromicaceous, silty in part, trace slickensides, chunky, medium hard, with stringer of siltstone, medium grey,

SAMPLE DESCRIPTIONS (cont'd)

- 1980 - 1990 (cont'd)... argillaceous, medium hard, trace sandstone, light grey, very fine grained, silty, salt and pepper, glauconitic, well cemented, tight.
- 1990 - 2000 Siltstone - light to medium grey, argillaceous, medium hard, with many interbeds of above shale, with trace of calcitic material (possible fracture fill).
- 2000 - 2010 Siltstone - light to medium grey, argillaceous, medium hard, with many interbeds of above shale, common light grey to buff calcitic material (probable large fracture fill).
- 2010 - 2020 Shale - dark grey, micromicaceous, common slickensides, chunky, medium hard, with common brown ironstone, some calcitic material.
- 2020 - 2030 Siltstone - medium grey, sandy in part, argillaceous, medium hard, with many interbeds of above shale, with stringer of sandstone, light grey, very fine grained, silty, slightly salt and pepper, well cemented, silt and clay, tight.
- 2030 - 2040 Sandstone - light grey, very fine grained, silty, dirty in part, slightly salt and pepper, well cemented, silt and clay, tight, with interbeds of above siltstone and shale, some brown ironstone fragments.
- 2040 - 2050 Shale - dark grey, micromicaceous, occasional slickensides, chunky, medium hard, with many interbeds of siltstone, medium grey, slightly sandy in part, argillaceous, medium hard, with stringer of sandstone, light grey, very fine grained, silty, slightly salt and pepper, trace glauconite, well cemented, silt and clay, tight.
- 2050 - 2060 Shale - medium grey, medium brown, silty, chunky, medium hard, with thin interbeds of sandstone, light grey, very fine to fine grained, trace medium grained, salt and pepper, bright glauconite, well cemented, silt and clay, tight, and stringer of brown ironstone.
- 2060 - 2070 Shale - medium grey, silty, chunky, medium hard, with common brown ironstone and thin interbeds of sandstone, light grey, very fine to medium

SAMPLE DESCRIPTIONS (cont'd)

- 2060 - 2070 (cont'd)... grained, occasionally coarse grained, salt and pepper, bright glauconite, poorly sorted, well cemented, silt and clay, tight, common dark grey to black chert pebbles.
- 2070 - 2080 Sandstone - light grey, some medium to dark grey, very fine to fine grained, silty in part, dirty in part, salt and pepper, trace glauconite, well cemented, silt and clay, occasionally siliceous, tight, with trace medium grey to black chert pebbles, with many interbeds of shale, dark grey, very silty in part, chunky, medium hard.
- 2080 - 2090 Shale - dark grey, micromicaceous, silty to sandy, trace slickensides, chunky, medium hard, with common to abundant dark brown ironstone fragments, and stringer of sandstone, light grey, very fine grained, silty, salt and pepper, well cemented, silt and clay, tight.
- 2090 - 2100 Shale - dark grey, as above, with thin interbeds of siltstone, medium grey, sandy, very argillaceous, medium hard, and stringer of above sandstone, some brown ironstone and trace of buff calcite.
- 2100 - 2110 Siltstone - medium grey, sandy in part, argillaceous, medium hard, with some interbeds of above shale and trace of sandstone.
- 2110 - 2120 Siltstone - medium grey, sandy in part, argillaceous, medium hard, with thin interbeds of shale, dark grey, silty, chunky, medium hard, and stringer of sandstone.
- 2120 - 2130 Siltstone - medium grey, sandy, argillaceous, medium hard, with stringer of sandstone, light to medium grey, very fine grained, silty, dirty, salt and pepper, well cemented, clay and silty, tight.
- 1230 - 2140 Shale - medium brownish-grey, silty, chunky, medium hard, with stringer of above siltstone, and trace of above sandstone.
- 2140 - 2150 Siltstone - medium brownish-grey to medium grey, sandy in part, very argillaceous, chunky, medium hard, with stringer of sandstone, light to medium grey, very fine grained, silty, salt and pepper, trace glauconite, trace chert pebbles, well cemented, silty and clay, tight.

SAMPLE DESCRIPTIONS (cont'd)

- 2150 - 2160 Siltstone - medium brownish-grey to medium brown, sandy, argillaceous, medium hard, with some interbeds of sandstone, light grey, some medium greyish-brown, dirty in part, very fine to fine grained, salt and pepper, bright glauconite, well cemented, limy, tight, with some dark grey to black chert pebbles.
- 2160 - 2170 Siltstone - as above, with some interbeds of above sandstone, light to medium grey, occasionally dark grey, very fine to fine grained, generally dirty, salt and pepper, glauconitic, well cemented, limy, tight, with abundant brown ironstone.
- 2170 - 2180 Siltstone - medium brown, very sandy in part, medium hard to hard, with interbeds of shale, medium to dark grey, silty.
- 2180 - 2190 Sandstone - dirty brownish-grey, occasionally light grey, very fine grained, salt and pepper, well cemented, very argillaceous, silty, tight, hard, with many interbeds of silty shale.
- 2190 - 2200 Siltstone - medium grey, sandy in part, very argillaceous in part, medium hard, with stringer of sandstone, light grey, fine grained, trace coarse grained, salt and pepper, glauconitic, occasionally pyritic, well cemented, silt and clay, tight, with common brown ironstone fragments (occasional fracture filled with calcite).
- 2200 - 2210 Siltstone - as above, with many interbeds of shale, medium to dark grey, silty, chunky, medium hard, common dark brown ironstone.
- 2210 - 2220 Shale - dark grey, silty, trace slickensides, chunky, medium hard, with common sideritic ironstone, and thin interbeds of above siltstone and sandstone, light grey, very fine to fine grained, salt and pepper, well cemented, silt and clay, very slightly siliceous, tight, with trace black chert pebbles.
- 2220 - 2230 Shale - medium to dark grey, silty in part, chunky, medium hard, with many interbeds of siltstone, light to medium grey, sandy in part, medium hard, with stringer of sandstone, light grey, very fine grained to silty, salt and pepper, trace glauconitic, well cemented, silty and clay, tight, with trace black chert pebbles, some brown ironstone.

SAMPLE DESCRIPTIONS (cont'd)

- 2230 - 2240 Shale - dark grey, slightly micromicaceous, trace slickensides, chunky to platy, medium hard, with some pyrite nodules, with thin interbeds of sandstone, light grey, very fine to fine grained, salt and pepper, glauconitic, well cemented, clay, tight, and siltstone, medium grey, as above, (common discoloured cement cavings).
- 2240 - 2250 Siltstone - medium grey, sandy, medium hard, with many interbeds of above shale with some brown ironstone, and stringer of sandstone, light grey, very fine grained to silty, salt and pepper, well cemented, silt and clay, tight, (common reddish cement cavings).
- 2250 - 2260 Sandstone - white to light grey, very fine to fine grained, salt and pepper, very well cemented, silty and clay, in part very slightly siliceous, tight, with trace blue-grey chert, with many interbeds of shale, dark grey, micromicaceous, chunky, medium hard, (common cavings of discoloured cement with some coarse glacial sand).
- 2260 - 2270 Shale - dark grey, micromicaceous, chunky, medium hard, with thin interbeds of above sandstone, (some discoloured cement cavings).
- 2270 - 2280 Shale - medium to dark grey, micromicaceous, silty in part, trace slickensides, chunky, medium hard, with thin interbeds of sandstone, light grey, very fine grained to silty, salt and pepper, well cemented, limy in part, tight, and siltstone, light to medium grey, slightly sandy, medium hard, with trace black chert pebbles, (trace cement cavings).
- 2280 - 2290 Shale - dark grey, silty in part, as above, with stringer of sandstone, light grey, fine to coarse grained, salt and pepper, glauconitic, well cemented, limy, tight.
- 2290 - 2300 Sandstone - whitish-grey, very fine to fine grained, salt and pepper, trace glauconitic, very well cemented, silt and clay, very slightly limy, tight, with occasionally very coarse dark grey chert fragments, and with many interbeds of shale, dark grey, silty, chunky, medium hard, (trace cement and glacial sand cavings).

SAMPLE DESCRIPTIONS (cont'd)

- 2300 - 2310 No sample - shaker repairs.
- 2310 - 2320 Shale - dark grey, micromicaceous in part, chunky, medium hard, common brown ironstone, with thin interbeds of sandstone, whitish-grey, very fine grained, silty, occasionally fine grained, slightly salt and pepper to quartzose, well cemented silt and clay, tight, (trace cement cavings).
- 2320 - 2330 Shale - dark grey, as above, common brown ironstone fragments, with thin interbeds of sandstone, light grey, very fine grained to silty, slightly salt and pepper, trace glauconitic, well cemented silt and clay, tight, some dark grey chert fragments, (trace cement and glacial sand cavings).
- 2330 - 2340 Shale - dark grey, micromicaceous, silty in part, chunky, medium hard, with some interbeds of siltstone, medium grey, sandy, medium hard, some brown ironstone, trace pyrite, with thin interbeds of above sandstone.
- 2340 - 2350 Shale - dark grey, as above, with many interbeds of above siltstone and thin interbeds of above sandstone.
- 2350 - 2360 Shale - medium to dark grey, silty, with common brown ironstone fragments, with stringer of sandstone, light grey to greenish-grey, very fine to fine grained, slightly salt and pepper, occasional coarse bright green glauconite, well cemented limy and silt, tight, with scattered light grey and black chert fragments.
- 2360 - 2370 Sandstone - light grey, very fine grained to silty, quartzose, carbonaceous (mostly finely disseminated), well cemented, silt, tight, with interbeds of above shale and siltstone, with common brown ironstone.
- 2370 - 2380 Sandstone - light grey, slightly dirty brownish-grey in part, very fine grained, quartzose, carbonaceous (finely disseminated to occasionally patchy), well cemented, very slightly limy, silty, tight, common to abundant pyrite, traces of coal (coaly partings), with some interbeds of above shale.

SAMPLE DESCRIPTIONS (cont'd)

- 2380 - 2390 Sandstone - light grey, very fine grained to silty, quartzose, carbonaceous, well cemented, limy and silty, tight, some pyrite, common very coarse loose quartz grains, trace chert pebbles, with some interbeds of above shale.
- 2390 - 2400 Shale - dark grey to blackish-grey in part, micromicaceous, silty, chunky, medium hard, with thin interbeds of above sandstone, trace glauconitic, common loose clear to frosted coarse sand grains (possible glacial sand cavings in part).
- 2400 - 2410 Shale - dark grey, micromicaceous, chunky, medium hard, with thin interbeds of siltstone, light grey, clean, occasionally medium grey and brownish-grey, sandy, medium hard.
- 2410 - 2420 Shale - dark grey, as above, with stringer of above siltstone.
- 2420 - 2430 Shale - dark grey, as above, with stringer of above siltstone.
- 2430 - 2440 Shale - dark grey, micromicaceous, chunky, medium hard, some pyrite, with stringer of above siltstone and sandstone.
- 2440 - 2450 Shale - dark grey to blackish-grey, as above, with trace of siltstone and sandstone.
- 2450 - 2460 Shale - dark grey, as above, with trace of sandstone, light grey, very fine grained to silty, quartzose, pyritic, well cemented, tight.
- 2460 - 2470 Shale - dark grey, as above, trace slickensides, with trace of above sandstone.
- 2470 - 2480 Shale - dark grey, micromicaceous, chunky, medium hard.
- 2480 - 2490 Shale - dark grey to blackish-grey, micromicaceous, chunky, medium hard.
- 2490 - 2500 Shale - dark grey, as above, common pyrite nodules.
- 2500 - 2510 Shale - dark grey, micromicaceous, chunky to platy, trace slickensides, with stringer of sandstone, whitish-grey, very fine grained, quartzose, very slightly carbonaceous, well cemented, limy, tight.

SAMPLE DESCRIPTIONS (cont'd)

- 2380 - 2390 Sandstone - light grey, very fine grained to silty, quartzose, carbonaceous, well cemented, limy and silty, tight, some pyrite, common very coarse loose quartz grains, trace chert pebbles, with some interbeds of above shale.
- 2390 - 2400 Shale - dark grey to blackish-grey in part, micromicaceous, silty, chunky, medium hard, with thin interbeds of above sandstone, trace glauconitic, common loose clear to frosted coarse sand grains (possible glacial sand cavings in part).
- 2400 - 2410 Shale - dark grey, micromicaceous, chunky, medium hard, with thin interbeds of siltstone, light grey, clean, occasionally medium grey and brownish-grey, sandy, medium hard.
- 2410 - 2420 Shale - dark grey, as above, with stringer of above siltstone.
- 2420 - 2430 Shale - dark grey, as above, with stringer of above siltstone.
- 2430 - 2440 Shale - dark grey, micromicaceous, chunky, medium hard, some pyrite, with stringer of above siltstone and sandstone.
- 2440 - 2450 Shale - dark grey to blackish-grey, as above, with trace of siltstone and sandstone.
- 2450 - 2460 Shale - dark grey, as above, with trace of sandstone, light grey, very fine grained to silty, quartzose, pyritic, well cemented, tight.
- 2460 - 2470 Shale - dark grey, as above, trace slickensides, with trace of above sandstone.
- 2470 - 2480 Shale - dark grey, micromicaceous, chunky, medium hard.
- 2480 - 2490 Shale - dark grey to blackish-grey, micromicaceous, chunky, medium hard.
- 2490 - 2500 Shale - dark grey, as above, common pyrite nodules.
- 2500 - 2510 Shale - dark grey, micromicaceous, chunky to platy, trace slickensides, with stringer of sandstone, whitish-grey, very fine grained, quartzose, very slightly carbonaceous, well cemented, limy, tight.

SAMPLE DESCRIPTIONS (cont'd)

- 2616 - 2620 Shale - light greyish-green, pyritic, as above, with many interbeds of shale, medium to dark brown, and with thin interbeds of quartzite, white to light grey, very hard.

CAMBRIAN

- 2620 - 2630 Quartzite - white, some light grey, extremely hard (originally a very fine grained quartzose sandstone where the grain and cement are now in optical continuity), with stringer of brown shale (cavings?).
- 2630 - 2637 Circulated sample - Quartzite - white to light grey, as above, very hard, with cavings of brown and green shale.
- 2637 - 2650 Quartzite - white to light grey, very fine to fine grained, slightly pyritic, very hard, with thin interbeds of shale, dark grey to dull black, micromicaceous, platy, brittle, hard.
- 2650 - 2660 Circulated sample - Quartzite - white, very hard, (where evidence of grain size now nearly destroyed).
- 2660 - 2665 Quartzite - white to light grey, some clear, very hard.
- 2665 - 2670 Quartzite - as above, with several chips showing medium to coarse rounded quartz grains with open pores adjacent to pebble size quartzite fragments - strongly suggests an original conglomerate.
- 2670 - 2678 Circulated sample - Quartzite - white to light grey, very hard, some rounded contact lines indicates an original conglomerate, trace fragments of white "weathered" clays.
- 2678 - 2680 Trip sample - sample caught in mud tank ditch while bypassing the shaker - Quartzite - white to light grey, very hard, with many cavings of shale and discoloured cement.
- 2680 - 2690 Trip sample - bypassing shaker - Quartzite - as above, with many cavings of shale and some cement.
- 2690 - 2700 Quartzite - white, some clear, very hard, with trace shale cavings.

SAMPLE DESCRIPTIONS (cont'd)

- 2700 - 2710 Quartzite - white, trace clear, very hard, trace white clay fragments.
- 2710 - 2720 Quartzite - white, some clear, very hard, common white clay fragments.
- 2720 - 2730 Quartzite - white, some clear, very hard, some white clay fragments.
- 2730 - 2740 Quartzite - as above, with some white clay fragments.
- 2740 - 2750 Quartzite - as above, with stringer of shale, light green, pyritic, chunky, medium hard.
- 2750 - 2760 Quartzite - white, some clear, very hard, (one chip with open fracture), with thin interbeds of shale, light green, pyritic, as above, medium to very hard.
- 2760 - 2770 Quartzite - white, very hard, with several interbeds of shale, light green, silty, slightly pyritic, very hard.
- 2770 - 2780 Shale - light green, slightly pyritic, silty in part, medium to very hard, with some interbeds of above quartzite.
- 2780 - 2790 Shale - light green, pyritic, chunky, hard, with thin interbeds of above quartzite.
- 2790 - 2800 Shale - light green, pyritic, as above, with stringer of above quartzite.
- 2800 - 2810 Shale - light green, some light greenish-grey, pyritic, chunky, very hard.
- 2810 - 2820 Shale - light green, occasionally mottled green and pink, silty to sandy in part, pyritic, chunky, very hard, with trace of quartzite, as above.
- 2820 - 2830 Shale - pale light green, some light greenish-grey, pyritic, chunky, occasionally splintery, hard, with trace of sandstone, light grey to pink, very fine grained, quartzose, very well cemented, very dolomitic, tight, hard.
- 2830 - 2840 Shale - pale light green, common medium grey, as above, with thin interbeds of sandstone, mottled light and dark grey, very fine grained, quartzose, very well cemented, dolomitic, tight, grading at times to a sandy dolomite.

SAMPLE DESCRIPTIONS (cont'd)

- 2840 - 2845 Circulated sample - Shale - pale light green, some medium grey, pyritic, as above, common large pyrite nodules, with many interbeds of white quartzite.
- 2845 - 2850 Shale - medium grey, some light green, chunky, hard, with thin interbeds of quartzite, white, very hard, and sandstone, mottled light and dark grey, very fine grained, quartzose, extremely well cemented, very dolomitic, hard, grading to a sandy dolomite.
- 2850 - 2860 Sandstone - white to light grey, common mottled light and dark grey, very fine grained, quartzose, argillaceous, very well cemented, dolomitic, tight, very hard, with abundant large slightly rounded fragments of quartzite, with thin interbeds of shale, pale green to medium grey, occasionally dark grey, as above.
- 2860 - 2870 Siltstone - mottled light and medium grey, some light grey, sandy, quartzose, dolomitic in part, siliceous in part, very hard, with abundant fragments of white chert (possible fracture fill), with thin interbeds of shale, medium grey, very slightly dolomitic, platy to chunky, hard.
- 2870 - 2880 Siltstone - mottled light and medium grey, sandy in part, dolomitic in part, siliceous in part, very hard, with abundant large fragments of white chert (possible fracture fill), with thin interbeds of above medium grey shale.
- 2880 - 2890 Siltstone - mottled light and medium grey, sandy, as above, with many large chips of white dolomite and chert - fracture fill, and many interbeds of shale, medium grey, silty in part, dolomitic, hard.
- 2890 - 2898 Siltstone - mottled light and medium grey, sandy in part, as above, with abundant white dolomite and chert - fracture fill, and several interbeds of shale, medium grey, dolomitic, as above.
- 2898 - 2910 Siltstone - medium grey, common mottled light and medium grey, sandy, quartzose, dolomitic, very hard, with thin interbeds of shale, medium grey, platy, hard, with abundant white chert, quartz, and some dolomite fragments - probable fracture fill.
- 2910 - 2920 Quartzite - white, some clear, very hard, with many interbeds of siltstone, medium grey, slightly sandy, siliceous, very hard, and stringer of shale, medium grey, as above.

ROBERTSON RESEARCH (NORTH AMERICA) LIMITED

MEMORANDUM NO. 17

A MICROPALAEONTOLOGICAL AND PALYNOLOGICAL STUDY OF
SELECTED CUTTINGS AND SIDEWALL CORE SAMPLES FROM THE
UNION AKLAVIK F-17 WELL

PROJECT NO. RRNA/054

Age Determination

Sixteen sidewall core samples from interval 1082' - 2590' and 10' cuttings samples from intervals 100' - 590' and 1000' - 2920' were available for examination; both micropalaeontological and palynological data derived from the examination of sidewall cores and a selected sequence of cuttings samples indicate the following stratigraphic succession:

±160' - ±590':	Cenomanian - Albian
±590' - ±990':	No samples available
±1000' - ±1600':	Albian
±1600' - ±1800':	Albian - Aptian
±1800' - ±1900':	Aptian - Barremian
±1900' - ±2250':	Neocomian, Barremian - Hauterivian
±2250' - ±2400':	?Lower Cretaceous - Upper Jurassic, probably ?Valanginian - Tithonian
±2400' - ±2540':	Upper Jurassic, Kimmeridgian - Oxfordian
±2540' - ±2920':	Not older than Upper Jurassic; the occurrence of presumably reworked Triassic (at ±2800') and Carboniferous (at ±2900') palynomorphs is of note.

MicropalaeontologyINTERVAL $\pm 160'$ - $\pm 590'$

The cuttings samples yielded a relatively poor microfauna, restricted in both specimens and species. In samples $\pm 160'$ - $\pm 200'$, Recent - subRecent Ostracoda and Chara remains occur. From $\pm 210'$ to $\pm 590'$ the occurrence of the following Foraminifera are noteworthy:

- Psammionopelta bowsheri,
- Haplophragmoides topagorukensis,
- Ammobaculites fragmentarius,
- Bathysiphon brosgel,
- Bathysiphon vitta,
- Ammodiscus sp.,
- Ammobaculites wenonahae,
- Reophax spp.

This association tentatively indicates a Cenomanian - Albian age for this part of the well section.

INTERVAL $\pm 1000'$ - $\pm 1600'$

Foraminiferal species of interest, in order of first occurrence with increasing depth, are Glomospira corona, Gaudryina canadensis, Dorothia smokyensis, Gaudryina cf. tailleuri, Haplophragmoides topagorukensis/rota group, and Glomospirella gaultina. Most of the species recovered from interval $\pm 160'$ - $\pm 590'$ also occur. This association is known to indicate strata of an Albian age, which age determination is further corroborated by palynological evidence derived from sidewall cores.

INTERVAL $\pm 1600'$ - $\pm 1800'$

An often rich microfaunal distribution is observed. Characteristic species are Saracenaria trollopei/projectura group, Haplophragmoides gigas, Globorotalites alaskensis, Marginulinopsis collinsi/jonesi vars., Conorboides umiatensis, Cavelinella stictata. This microfaunal association is mainly observed in sequences of an Albian age, although an Aptian determination cannot be entirely excluded.

INTERVAL $\pm 1800'$ - $\pm 2250'$

The effect of caving is noticeable in this part of the section.

The occurrence of Haplophragmoides canui, Haplophragmoides 40, Gaudryina tailleuri and Lenticulina 14, suggest that Neocomian strata are penetrated. A more detailed subdivision is derived from the palynological analysis of sidewall cores.

INTERVAL $\pm 2250'$ - $\pm 2540'$

The presence of Lenticulina audax, Lenticulina delicta, Astacolus cf. ectypus, Globulina prisca, and Ammobaculites cobbani, suggest that sediments occur of Upper Jurassic, probably Kimmeridgian - Oxfordian age.

INTERVAL $\pm 2540'$ - $\pm 2920'$

The microfaunal development is poor and the specimens are mainly derived from cavings. No microfauna indicative of an age older than Upper Jurassic has been observed.

SIDEWALL CORE 1082'

The association of the microplankton species Apteodinium sp. 1, Canningia colliveri (s.l.), Diconodinium cf. arcticum, Hystrichosphaeridium cf. arundum, Oligosphaeridium complex and O. pulcherrimum is suggestive of an Albian, probably Middle or Upper Albian age.

SIDEWALL CORE 1225'

The relatively impoverished assemblage recorded from this depth includes the microplankton Odontochitina operculata, Pareodinia ceratophora, Pterospermopsis harti and ?Tuberculodinium sp. together with the pollen and spore morphotypes Couperisporites tabulatus, Rugubivesiculites sp. and Tsugaepollenites dampieri which suggest an Albian age.

SIDEWALL CORE 1483'

Albian palynofloras persist at this depth although the first occurrence of the microplankton species Aptea polymorpha, in association with Oligosphaeridium complex, O. pulcherrimum and Palaeocystodinium cf. denticulatum indicates that older, Middle or Lower, Albian strata may have been encountered.

SIDEWALL CORE 1612'

Microplankton are less commonly encountered here and the spore/pollen content is proportionately greater; Cicatricosisporites spp. and Cerebropollenites mesozoicus are common and Couperisporites tabulatus is also recorded. Microplankton are represented by Oligosphaeridium complex and Cyclonephelium compactum. The age of the assemblage is older Albian or possibly Aptian.

SIDEWALL CORE 1675'

Oligosphaeridium complex persists from the overlying assemblages and is found in association with the microplankton Gardodinium eisenacki and Pterodinium cf. cornutum and the spore Concavissimisporites punctatus. This palynoflora is suggestive of an Aptian age, although an Albian age determination cannot be entirely excluded.

SIDEWALL CORE 1805'

The rich palynoflora recorded from this horizon is indicative of a probable Aptian or possibly older Cretaceous age. The microplankton assemblage, including Apteodinium granulatum, Astrocysta cretacea, Broomea jaegeri, Canningia colliveri, Gardodinium eisenacki, G. "magnum", Gonyaulacysta cf. muderongensis, Muderongia cf. mcwhaei, Odontochitina operculata, Oligosphaeridium complex, Palaeostomocystis sp., Pseudoceratium nudum, Senoniasphaera sp. and Wallodinium krutzschii and the spore assemblage, including Cicatricosisporites australiensis group, Trilobosporites apiverrucatus and T. minor contain a number of species only rarely recorded other than in Aptian strata, although some forms do range into the Neocomian.

SIDEWALL CORE 1875'

Although of similar age to the overlying sample (1805'), the microplankton assemblage recorded from this depth is dominated by Aptea polymorpha, Cribopteridinium orthoceras and Deflandrea perlucida/pontis-mariae group; Apteodinium granulatum, Gardodinium eisenacki, Odontochitina operculata, Oligosphaeridium pulcherrimum and Wallodinium krutzschii persist from overlying

horizons whilst Fromea amphora, Muderongia perforata, Polystephanophorus cf. urnaformis and Psaligonyaulax sp. cf. Gonyaulacysta cassidata are recorded for the first time.

The spore/pollen assemblage includes Rouseisporites reticulatus, Trilobosporites apiverrucatus group, T. trioreticulosus and Tsugaenollenites dampieri.

Although probably of Aptian age, the assemblage in toto should perhaps be more accurately assigned a Barremian-Aptian age.

SIDEWALL CORE 1974'

Neocomian microplankton species are more commonly encountered at this depth. The association of Broomea gochti, B. ?longicornuta, B. pelliifera, Cribrasperidinium orthoceras, Canningia hirtella, Gonyaulacysta cf. globata, Odontochitina operculata, Oligosphaeridium complex, Psaligonyaulax cf. apatelum, Pseudoceratium nudum, P. pelliiferum (common) and Spiniferites cf. dentata is suggestive of an Hauterivian age.

SIDEWALL CORE 2110'

Microplankton are only rarely encountered in this sample, although the spore assemblage, which includes Cicatricosisporites recticicatricosus and Klukisporites variegatus is indicative of a Neocomian age.

The occurrence of the microplankton species Prolixosphaeridium xanthiopyxides is of local biostratigraphical significance.

SIDEWALL CORE 2261'

Jurassic-Cretaceous transition palynofloras are recorded from this horizon and microplankton are only rarely encountered. The occurrence of the microplankton Endoscrinium galeritum, however, also confirms that this sample is of basal Cretaceous-upper Jurassic (?Valanginian-Kimmeridgian) age.

SIDEWALL CORE 2332'

The microplankton assemblage recorded from this sample is numerically dominated by Endoscrinium oligodontatum which is found in association with Canningia hirtella, Chlamydophorella cf. wallala, Endoscrinium luridum, Egmontodinium sp., Lunatadinium dissilutum, Oligosphaeridium complex, Pareodinia aphelia, P. spinosa and Tenua capitata. Although Oligosphaeridium complex is only very rarely encountered in sediments older than Cretaceous in age, the total palynoflora suggests an uppermost Jurassic (Tithonian) age although a basal Cretaceous (?Berriasian) age cannot be entirely discounted.

SIDEWALL CORE 2413'

Although the palynoflora recorded here is composed of relatively long-ranging morphotypes, the occurrence of a single specimen of Gonyaulacysta jurassica indicates that Kimmeridgian or older Upper Jurassic strata have been encountered.

SIDEWALL CORE 2490'

Gonyaulacysta jurassica, which was first recorded in the overlying sample, is numerically dominant in the microplankton assemblage recorded from this horizon. Associated with this species are Chytroeisphaeridia chytroeides, C. pococki, Gonyaulacysta sp. F. Gitmez & Sarjeant, G. jurassica longicornis,

G. cf. perforans, Leptodinium cf. norrisii, L. subtile, Meiourugonyaulax cf. dicryptos and Pareodinia ceratophora. This microplankton assemblage is considered to be of Upper Jurassic, Oxfordian - Lower Kimmeridgian, age.

SIDEWALL CORE 2512'

The palynoflora recorded here is composed entirely of Mississippian spores, including Densosporites bialatus, D. pseudoannulatus, Laevigatosporites sp., Murospora spp., Pustulatisporites gibberosus, Stenozonotriletes extensus, Tripartites sp., Verrucosisporites sp. and aff. Waltzispora sp.. It is not apparent whether these spores are in situ or have resulted from reworking.

SIDEWALL CORE 2555'

This sample was barren of palynomorphs.

SIDEWALL CORE 2590'

Single specimens of an unidentifiable bisaccate pollen grain and of Cycadopites sp. were recorded. These forms may be in situ or may be the result of sidewall core contamination.

INTERVAL $\pm 2600'$ - $\pm 2920'$

Lower Cretaceous and Upper Jurassic palynomorphs persist in the ditch cuttings samples to the base of the section examined. Middle - Lower Triassic morphotypes were recorded at $\pm 2800'$ (similar forms had been encountered in the sidewall core at 1612' where they were presumed to have resulted from reworking) and carboniferous spores were present in the lowest sample examined ($\pm 2900'$ - $\pm 2920'$). No evidence of Permian palynofloras was found.

IMPERIAL OIL LIMITED -- PRODUCING DEPARTMENT
 PRODUCT IN RESEARCH & TECHNICAL SERVICE LABORATORY
 MEMORANDUM

February 15, 1973

Mr. R. O. Grieve
Beaufort Exploration

Attn: Mr. E. M. Manko

Union Aklavik F-17
F-17 68°10'N. 135°00'W
 Preliminary Report on Well

100 ft. - 370 ft. +

Quaternary

Samples carry much well preserved cuticle and woody material associated with many recent taxa of spores and pollen. Cretaceous reworking, sometimes in considerable quantity occurs throughout and most sapropel recorded from the samples is reworked from the Upper Cretaceous. Thermal Index 1.0. Sapropel:cuticle ratio 2:8 to 1:9.

510 ft. +

Cenomanian-Turonian

Fossils include *Deflandrea* spp. and Palambages. Sapropel is very abundant ($\pm 10\%$). Thermal Index 1.9. This represents the lower part of the Bituminous zone of the Upper Cretaceous of the Beaufort region.

600 ft. - 690 ft. +

Upper Albian (Cr16-7)

Fossils abundant. Thermal Index 1.8. Sapropel:cuticle ratio 2:8. Fossils include:

Gonyaulax cysta orthoceras
Deflandrea terrula
Chlamydocorelia nyellii
Cyclorhynchium areolatum
Pseudoceratium sp. A
Astrocosta pocockii

780 ft. - 1230 ft.

Albian

Footage

Sapropel

Cuticle

Thermal Index

780	2	8	1.8
870	2	8	1.8
960	2	8	1.8
1050	1	9	1.8
1140	1	9	1.8
1230	1	9	1.8

.../2

*Original to Beaufort Division
 Copy sent to R. O. Grieve*

Mr. R. O. Grieve
Attn: Mr. E. M. Manko

- 2 -

February 15, 1973

1230 ft. - 1770 ft.

Lower Albian (Cr14)

Fossils include Rouseisporites reticulatus, Odontochitina operculata, Gonyaulacysta orthoceras, Microdinium deflandrea, cysts and other species.

Footage	Sapropel	Cuticle	Thermal Index
1230	1	9	1.8
1320	2	8	1.8
1410	2	8	1.8
1500	1	9	1.8
1590	1	9	1.8
1680	1	9	1.8
1770	1	9	1.8

1860 ft. - 2360 ft.

Aptian (Cr13)

Fossils include:

Chytroeisphaeridia canadensis
Rouseisporites reticulatus
Deflandrea terrula
Astrocysta pocockii
Gonyaulacysta orthoceras
Pseudoceratium sp. cf. P. pelliferum
Hexagonifera heteracantha
Apteodinium maculatum
Odontochitina operculata
Scriniodinium dictyotum
Cyclonephelium comactum
Trilobosporites sp. cf. T. apiverrucatus
Gardodinium eisenackii

Footage	Sapropel	Cuticle	Thermal Index
1860	1	9	1.8
1950	2	8	1.8
2000	2	8	1.7
2090	2	8	1.7
2180	2	8	1.7
2270	2	8	1.7
2360	2	8	1.7

.../3

Mr. R. O. Grieve
Attn: Mr. E. M. Manko

- 3 -

February 15, 1973

2450 ft. - $\pm$ 2650 ft.
Fossils include:

Barremian (Cr13)

Podocarpidites multesimus
Classopollis classoides
Scriiniodium abatalum
Hystrichosphaera chlamydata
Apteodinium maculatum
Pareodinia ceratophora
Gonyaulacysta jurassica (Reworked)
Dinodinium cooksonii
Gonyaulacysta orthoceras
G. edwardsii
Chlamydophorella nyeii
Gardodinium eisenackii
Cyclonephelium areolatum

Footage	Sapropel	Cuticle	Thermal Index
2450	I	9	1.8
2500	I	9	1.8
2530	I	9	1.8
2560	I	9	1.8
2620	I	9	1.8
2650	I	9	2.0

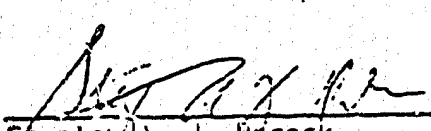
2660 ft. - T.D.

Cambrian or Proterozoic

Organic matter highly altered. Thermal Index 4.5+. Sapropel:
cuticle ratios indeterminate. No fossils preserved.
Sampled Intervals include:

2660' (cuttings
2610')
2715')
2748') sidewall core
2770')
2795')
2842')
2922-24' Conventional core

F. J. MORETTI


Stanley A. J. Paddock
For F. L. Staplin

SAJP/bam

cc: F. J. Moretti
F. L. Staplin
N. J. L. Bailey

DEVIATION RECORD

<u>DEPTH</u>	<u>ANGLE</u>	<u>DEPTH</u>	<u>ANGLE</u>
90	0	1380	$\frac{7}{8}$
120	0	1443	1
150	$\frac{1}{8}$	1505	$\frac{7}{8}$
180	$\frac{1}{8}$	1569	1
210	$\frac{1}{8}$	1632	$\frac{1}{2}$
244	$\frac{1}{8}$	1694	$\frac{3}{4}$
273	$\frac{1}{8}$	1754	$\frac{1}{8}$
303	$\frac{1}{8}$	1820	$\frac{1}{8}$
391	$\frac{1}{8}$	1883	$\frac{1}{8}$
450	$\frac{1}{4}$	1946	$\frac{1}{8}$
518	$\frac{1}{8}$	2009	1
530	0	2073	$\frac{3}{4}$
568	$\frac{1}{4}$	2135	$\frac{7}{8}$
628	$\frac{1}{4}$	2199	$\frac{3}{4}$
688	$\frac{1}{8}$	2230	$\frac{7}{8}$
751	$\frac{1}{8}$	2261	$\frac{1}{2}$
814	$\frac{1}{4}$	2302	$\frac{7}{8}$
877	$\frac{1}{8}$	2329	$\frac{3}{4}$
940	$\frac{1}{4}$	2365	$\frac{5}{8}$
1001	$\frac{1}{2}$	2395	$\frac{1}{4}$
1064	$\frac{3}{4}$	2417	$\frac{3}{4}$
1128	$\frac{3}{4}$	2448	$\frac{3}{4}$
1191	$\frac{1}{4}$	2490	$\frac{7}{8}$
1254	$\frac{3}{4}$	2512	$\frac{3}{4}$

DEVIATION RECORD (cont'd)

<u>DEPTH</u>	<u>ANGLE</u>
2543	$\frac{1}{2}$
2585	$\frac{3}{4}$
2616	1
2637	1
2688	$\frac{1}{2}$
2736	$\frac{1}{8}$
2801	1
2833	2
2847	$2\frac{1}{2}$
2866	$2\frac{1}{4}$
2898	$2\frac{1}{8}$
2919	$2\frac{1}{4}$
2925	$2\frac{7}{8}$

MUD PROPERTIES

<u>DATE</u>	<u>DEPTH</u>	<u>WEIGHT</u>	<u>VIS</u>	<u>W.L.</u>	<u>P.V.</u>	<u>Y.P.</u>	<u>TEMPERATURE</u>	<u>BACKGROUND GAS</u>
Jan 7	330	9.9	47	---	19	16	45	1
Jan 8	518	9.7	47	20.0	15	19	35	1
Jan 9	530	10.0	60					1
Jan 10	530	---	--	---	--	--	--	-
Jan 11	530	---	--	---	--	--	--	-
Jan 12	530	9.6	42	---	--	--	--	-
Jan 13	1040	10.0	49	18	10	22	68	2
Jan 14	1354	10.2	52	16	17	10	90	0
Jan 15	1605	10.3	60	12	27	18	90	0
Jan 16	1850	10.4	60	12	26	18	95	0
Jan 17	2087	10.1	50	11	19	14	96	0
Jan 18	2151	10.2	46	12	16	9	86	0
Jan 19	2230	10.2	65	9.5	26	28	97	0
Jan 20	2230	10.3	58	10.4	28	19	73	0
Jan 21	2230	10.3	50	---	--	--	--	-
Jan 22	2288	9.9	47	10.2	20	12	60	0
Jan 23	2369	10.1	47	10.0	20	16	75	0
Jan 24	2484	10.2	60	9.0	18	46	72	0
Jan 25	2558	10.3	57	9.0	28	19	80	0
Jan 26	2636	10.1	45	10.2	20	14	80	0
Jan 27	2659	10.2	47	10.2	20	15	80	0
Jan 28	2678	9.9	55	9.0	23	19	77	0
Jan 29	2708	9.6	53	10.4	20	20	78	0
Jan 30	2836	9.7	48	10.6	20	19	82	0
Jan 31	2860	9.5	50	9.8	20	15	84	0
Feb 1	2898	9.5	60	10.6	23	19	90	0
Feb 2	2919	9.5	70	10.2	25	30	89	0
Feb 3	2924	9.5	52	10.6	22	21	82	0
Feb 4	2925	9.5	62	10.4	22	24	83	0

NO.	SIZE	TYPE	DEPTH OUT	BIT RECORD		BIT COND.			W.O.B.	RPM	PP
				FOOT- AGE	HOURS	T	B	G			
1A	12 $\frac{1}{4}$	S3TJ	518	458	13	2	1	I	10,000	80	300
2A	17 $\frac{1}{2}$	Smith	530	12		1	1	I	10,000	80	300
1RR	12 $\frac{1}{4}$	ST3J	1354	824	36	2	4	I	25,000	80	900
2	12 $\frac{1}{4}$	S33	2097	743	66	5	5	I	12,000	80	1000
3	12 $\frac{1}{4}$	M44	2230	132	28	4	1	I	12,000	70	800
4	12 $\frac{1}{4}$	DMN	2302	71	21 $\frac{1}{2}$	2	2	I	40,000	35	700
5	12 $\frac{1}{4}$	DSJ	2505	203	40 $\frac{3}{4}$	4	3	I	40,000	45	850
6	12 $\frac{1}{4}$	S3TJ	2616	111	18 $\frac{1}{4}$	5	3	I	20,000	70	1150
7	12 $\frac{1}{4}$	DSJ	2637	21	10	8	3	I	40,000	36	1050
8	12 $\frac{1}{4}$	DMN	2644	7	3 $\frac{1}{2}$	7	2	I	40,000	35	1050
9	12 $\frac{1}{4}$	HWG	2660	16	7 $\frac{3}{4}$	8	4	I	40,000	35	1050
10	12 $\frac{1}{4}$	YAG	2670	10	2 $\frac{1}{4}$	7	3	I	40,000	35	1100
11	12 $\frac{1}{4}$	XDV	2678	8	3 $\frac{3}{4}$	8	2	I	40,000	35	1100
12	12 $\frac{1}{4}$	DMNRR	2688	10	4 $\frac{1}{2}$	7	5	I	40,000	55	850
13	12 $\frac{1}{4}$	M88	2833	145	27	8	2	I	30,000	25	850
14	12 $\frac{1}{4}$	DSJ	2847	14	5 $\frac{3}{4}$	8	2	I	30,000	35	1050
15	12 $\frac{1}{4}$	M88	2898	78	26 $\frac{1}{2}$	3	1	I	15,000	35	1050
16	8 $\frac{3}{8}$	H77S	2919	21	16 $\frac{1}{4}$	8	2	I	15,000	35	1100
17	8 $\frac{1}{2}$	M4NG	2922	3	3 $\frac{1}{2}$	5	2	I	15,000	35	1100
18	Diamond	2924	2	3		Destroyed			10,000	60	850
19	8 $\frac{3}{8}$	H77S	2925	1	4 $\frac{3}{4}$	8	2	I	15,000	35	1100

DAILY DRILLING RECORD

<u>DATE (1973)</u>	<u>DEPTH</u>	<u>PROGRESS</u>	<u>OPERATION</u>	<u>DAYS</u>	<u>REMARKS</u>
Jan 7	330	330	Drilling	1	Spud at 9:00 A.M., Jan. 6, 1973.
Jan 8	518	188	Take out BOP's	2	Preparing to install flow pipe.
Jan 9	530	12	Running csg	3	13 $\frac{3}{8}$ "; KS; 68# csg
Jan 10	530	-0-	W.O.C.	4	Cemented w/990 sxs
Jan 11	530	-0-	W.O.C.	5	Install BOP's
Jan 12	530	-0-	Mixing mud	6	Increasing mud wt
Jan 13	1040	510	Drilling	7	Drlg 12 $\frac{1}{4}$ hole
Jan 14	1354	314	Tripping	8	
Jan 15	1605	251	Drilling	9	
Jan 16	1850	245	Drilling	10	
Jan 17	2087	237	Drilling	11	
Jan 18	2151	64	Drilling	12	
Jan 19	2230	79	Tripping	14	
Jan 20	2230	-0-	Rig shut down	15	BOP's close too slow-require a new diaphragm for Hydrill Accumulator. Rig shut down 5:00 P.M. Jan 19, 1973.
Jan 21	2230	-0-	Rig shut down	16	
Jan 22	2288	58	Drilling	17	Rig cleared to continue drilling at 1:45 P.M. Jan 21, 1973.
Jan 23	2369	81	Drilling	17	

DAILY DRILLING RECORD (cont'd)

<u>DATE (1973)</u>	<u>DEPTH</u>	<u>PROGRESS</u>	<u>OPERATION</u>	<u>DAYS</u>	<u>REMARKS</u>
Jan 24	2484	115	Drilling	18	
Jan 25	2558	74	Drilling	19	
Jan 26	2636	51	Drilling	20	
Jan 27	2659	23	Drilling	21	
Jan 28	2678	19	Drilling	22	Lost 30 bbls at 2665
Jan 29	2708	30	Drilling	23	Lost 200 bbls mud at 2678 feet
Jan 30	2836	128	Drilling	24	Drilling 12 $\frac{1}{4}$ hole
Jan 31	2860	27	Drilling	25	
Feb 1	2898	38	Tripping	26	
Feb 2	2919	21	Drilling	27	Pilot with 8 $\frac{3}{4}$ "
Feb 3	2924	5	Wait on bit	28	Core No. 1
Feb 4	2925	1	Wait on Schlumberger	29	Unable to drill ahead because of lack of proper bits.
Feb 5	2925	-0-	Logging	30	Ran DIL; BHC Sonic, Dipmeter
Feb 6	2925	-0-		31	
Feb 7	2925	-0-	Plugging	32	Ran plugs 1 and 2
Feb 8	2925	-0-	Abandonment	33	Tear out BOP's. Rig released 8:00 A.M. Feb. 8, 1973.

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR		LEASE		WELL NO.		FIELD OR DIST.		COUNTY		STATE															
Union Oil Co. Ltd.		32		FEB 6/73		F17 AKLAVIK		M.M.T.		CANADA															
CONTRACTOR		RIG NO.	DRILL PIPE STRING	TOOL JOINT	PUMPS	SIZE	MAKE	WT. & GR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT	REMARKS												
S & T DRILLING (WESTERN) CO. LTD.		E 1	2 4	TYPE THD 3 1/2 IF	1. NSCO 1380 14	13 1/2 VSS	68 KS	15	63459	1710	550														
SIGNATURE OF OPERATOR'S REPRESENTATIVE		SIGNATURE OF CONTRACTOR'S TOOL PUMPER		NO.		MANUFACTURER		TYPE		STROKE LENGTH		LAST CASING TUBING OR LINER													
[Signature]		[Signature]		1.		NSCO		1380		14		13 1/2 VSS													
				2.		NSCO		1380		14															
				3.																					
TIME DISTRIBUTION - HOURS		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR-D RM-R CORE-C		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. 1		PUMP NO. 2		METHOD RUN	
MORN DAY EYE		NO.		STANDS D.P.		2263.51 FT.		BIT NO.		RR 3		TIME				FROM		TO							
RIG UP & TEAR DOWN		2		SINGLES D.P.		12.88 FT.		SIZE		8 3/4		WEIGHT				2925									
DRILLING ACTUAL		18		D.C.		5'32.32 FT.		MFG.		SEC.		VISC.-SEC													
REAMING		1		I.D. O.D.		5'32.32 FT.		TYPE		H775		W.L.-C.C.													
CONDITIONING MUD & CIRCULATING		4 8 1		D.C.				NO.		3		FLTR. CK.													
TRIPS		23		I.D. O.D.		8.13 FT.		NOZZLE		SIZE 14		PH													
LUBRICATE RIG				STB. BODY O.D.		8.13 FT.		SER. NO.		30944		SD. CONT. %													
DEVIATION SURVEY				STB. BODY O.D.		7.60 FT.		DEPTH OUT				PRESSURE GRADIENT													
TEST S.O.P.				RMR. BODY O.D.		7.68 FT.		DEPTH IN		2925															
CUT OFF DRILLING LINE				SUBS O.D.		7.68 FT.		TOTAL FTG.				MUD & CHEMICALS ADDED													
REPAIR RIG				BIT OR C.B.		9.08 FT.		TOTAL HR. RUN				TYPE		AMT.											
LUBRICATING				1 Shock Sub		9.25 FT.		COND. OF BIT																	
WIRE LINE LOGGING				KELLY DOWN		23.28 FT.		REAMER NO.				DRILLER		R. Brundage											
RUNNING CASING & CEMENTING				TOTAL		2925 FT.		REAMER TYPE																	
WAITING ON CEMENT				WT. OF STRING		83 m. LBS.																			
COMPLETION WORK		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR-D RM-R CORE-C		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. 1		PUMP NO. 2		METHOD RUN	
A. PERFORATING		NO.		STANDS D.P.		2263.51 FT.		BIT NO.		RR 3		TIME				FROM		TO							
B. TUBING TRIPS		2		SINGLES D.P.		12.88 FT.		SIZE		8 3/4		WEIGHT				2925									
C. SWABBING		18		D.C.		5'32.32 FT.		MFG.		SEC.		VISC.-SEC													
D. TESTING		1		I.D. O.D.		5'32.32 FT.		TYPE		H775		W.L.-C.C.													
E. ADDITIONAL		1		D.C.				NO.		3		FLTR. CK.													
TOTALS		7 8 8		I.D. O.D.		8.13 FT.		NOZZLE		SIZE 14		PH													
TIME SUMMARY (OFFICE USE ONLY)				STB. BODY O.D.		8.13 FT.		SER. NO.		30944		SD. CONT. %													
DAY WORK				STB. BODY O.D.		7.60 FT.		DEPTH OUT				PRESSURE GRADIENT													
HRS. W/DP				RMR. BODY O.D.		7.68 FT.		DEPTH IN		2925															
HRS. NO/DP				SUBS O.D.		7.68 FT.		TOTAL FTG.				MUD & CHEMICALS ADDED													
HRS. STANDBY				BIT OR C.B.		9.08 FT.		TOTAL HR. RUN				TYPE		AMT.											
				1 Shock Sub		9.25 FT.		COND. OF BIT																	
				KELLY DOWN		23.28 FT.		REAMER NO.				DRILLER		Don Doyle											
				TOTAL		2925.00 FT.		REAMER TYPE																	
				WT. OF STRING		83 m. LBS.																			
WIRE LINE RECORD		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR-D RM-R CORE-C		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. 1		PUMP NO. 2		METHOD RUN	
REEL NO.		NO.		STANDS D.P.		294172 FT.		BIT NO.				TIME				FROM		TO							
NO. OF LINES		SIZE		SINGLES D.P.		FT.		SIZE				WEIGHT				2925									
FEET SLIPPED				D.C.				MFG.				VISC.-SEC													
FEET CUT OFF				I.D. O.D.		FT.		TYPE				W.L.-C.C.													
PRESENT LENGTH				D.C.				NO.				FLTR. CK.													
TON M. OR TRIPS SINCE LAST CUT				I.D. O.D.		FT.		NOZZLE		SIZE		PH													
CUMULATIVE TON M. OR TRIPS				STB. BODY O.D.		FT.		SER. NO.				SD. CONT. %													
NO. OF DAYS FROM SPUD				STB. BODY O.D.		FT.		DEPTH OUT				PRESSURE GRADIENT													
CUMULATIVE ROTATING HRS.				RMR. BODY O.D.		FT.		DEPTH IN																	
				SUBS O.D.		FT.		TOTAL FTG.				MUD & CHEMICALS ADDED													
				BIT OR C.B.		FT.		TOTAL HR. RUN				TYPE		AMT.											
				KELLY DOWN		FT.		COND. OF BIT																	
				TOTAL		FT.		REAMER NO.				DRILLER													
				WT. OF STRING		50 m. LBS.		REAMER TYPE																	

DRILLING CREW PAYROLL DATA

DATE FEB 4/73
WELL NAME & NO. Union Oil Co. Ltd. F17 AKLAVIK 1-17
COMPANY Union Oil Co. Ltd.
TOOL PUMPER Barry D. Smith RIG NO. 1E

MORNING TOUR 12:00 P.M. 8:00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Brundage	12
DRKMAN		E. S. W. E. K. 12	
MTRMAN		L. Collins	12
FIREMAN			
FLRMAN		A. Smith	12
FLRMAN		T. Hanson	12
FLRMAN			
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

DAY TOUR 8:00 A.M. 4:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		D. Doyle	12
DRKMAN		B. Hiebert	12
MTRMAN		H. Kiehn	12
FIREMAN			
FLRMAN		K. McHale	12
FLRMAN		D. Carlson	12
FLRMAN		B. Taylor	12
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

EVENING TOUR 4:00 P.M. 12:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MTRMAN			
FIREMAN			
FLRMAN			
FLRMAN			
FLRMAN			
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR Union Oil Co. Ltd.		LEASE 31 FEB 5/77		WELL NO. F17		FIELD OR DIST. AKLAVIK		COUNTY Manit.		STATE CANADA	
CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.		RIG NO. 1E	DRILL PIPE STRING 5" O.D.	TOOL JOINT 5" O.D.	PUMPS		SIZE 13 1/2 VSS	MAKE AKS	WT. & GR. 15'	FEET 534391710530	REMARKS
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S TOOL PUSHER <i>[Signature]</i>		NO. 1 DSCO		TYPE K380 14		LAST CASING TUBING OR LINER			

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
RIG UP & TEAR DOWN				STANDS D.P.		FT.		TIME		FROM		TO		DR. D R.M. R CORE. C		CORE NO.		FORMATION		ROTARY RPM	
DRILLING ACTUAL				SINGLES D.P.		FT.		WEIGHT		2925											
REAMING				D.C.		MFG.		VISC. - SEC													
CONDITIONING MUD & CIRCULATING				I.D. O.D.		FT.		TYPE		W.L. - C.C.											
TRIPS				D.C.				NO. NOZZLE		FLTR. CK.											
LUBRICATE RIG				I.D. O.D.		FT.		PH													
DEVIATION SURVEY				STB. BODY O.D.		FT.		SD. CONT. %													
TEST B.O.P.				STB. BODY O.D.		FT.		PRESSURE GRADIENT													
CUT OFF DRILLING LINE				RMR. BODY O.D.		FT.		DEPTH OUT													
REPAIR RIG				SUBS O.D.		FT.		DEPTH IN													
CURING				BIT OR C.B.		FT.		TOTAL FTG.													
WIRE LINE LOGGING				TOTAL HR. RUN				COND. OF BIT													
RUNNING CASING & CEMENTING				KELLY DOWN		FT.		REAMER NO.													
WAITING ON CEMENT				TOTAL		FT.		REAMER TYPE													
DRILL STEM TEST				WT. OF STRING		LBS.		DRILLER													

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
RIG UP & TEAR DOWN				STANDS D.P.		FT.		TIME		FROM		TO		DR. D R.M. R CORE. C		CORE NO.		FORMATION		ROTARY RPM	
DRILLING ACTUAL				SINGLES D.P.		FT.		WEIGHT		2925											
REAMING				D.C.		MFG.		VISC. - SEC													
CONDITIONING MUD & CIRCULATING				I.D. O.D.		FT.		TYPE		W.L. - C.C.											
TRIPS				D.C.				NO. NOZZLE		FLTR. CK.											
LUBRICATE RIG				I.D. O.D.		FT.		PH													
DEVIATION SURVEY				STB. BODY O.D.		FT.		SD. CONT. %													
TEST B.O.P.				STB. BODY O.D.		FT.		PRESSURE GRADIENT													
CUT OFF DRILLING LINE				RMR. BODY O.D.		FT.		DEPTH OUT													
REPAIR RIG				SUBS O.D.		FT.		DEPTH IN													
CURING				BIT OR C.B.		FT.		TOTAL FTG.													
WIRE LINE LOGGING				TOTAL HR. RUN				COND. OF BIT													
RUNNING CASING & CEMENTING				KELLY DOWN		FT.		REAMER NO.													
WAITING ON CEMENT				TOTAL		FT.		REAMER TYPE													
DRILL STEM TEST				WT. OF STRING		LBS.		DRILLER													

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
RIG UP & TEAR DOWN				STANDS D.P.		FT.		TIME		FROM		TO		DR. D R.M. R CORE. C		CORE NO.		FORMATION		ROTARY RPM	
DRILLING ACTUAL				SINGLES D.P.		FT.		WEIGHT		2925											
REAMING				D.C.		MFG.		VISC. - SEC													
CONDITIONING MUD & CIRCULATING				I.D. O.D.		FT.		TYPE		W.L. - C.C.											
TRIPS				D.C.				NO. NOZZLE		FLTR. CK.											
LUBRICATE RIG				I.D. O.D.		FT.		PH													
DEVIATION SURVEY				STB. BODY O.D.		FT.		SD. CONT. %													
TEST B.O.P.				STB. BODY O.D.		FT.		PRESSURE GRADIENT													
CUT OFF DRILLING LINE				RMR. BODY O.D.		FT.		DEPTH OUT													
REPAIR RIG				SUBS O.D.		FT.		DEPTH IN													
CURING				BIT OR C.B.		FT.		TOTAL FTG.													
WIRE LINE LOGGING				TOTAL HR. RUN				COND. OF BIT													
RUNNING CASING & CEMENTING				KELLY DOWN		FT.		REAMER NO.													
WAITING ON CEMENT				TOTAL		FT.		REAMER TYPE													
DRILL STEM TEST				WT. OF STRING		LBS.		DRILLER													

DRILLING CREW PAYROLL DATA

DATE **FEB 5/77**WELL NAME & NO. **Union AKLAVIK F-17**COMPANY **Union Oil Co. Ltd.**TOOL PUSHER **Barry D. Amstrong** RIG NO. **1E**

MORNING TOUR 12:00 P.M. 8:00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		A. BRUNDAGE	12
DRKMAN		E. SYKES	12
MTRMAN		L. COLLINS	12
FIREMAN			
FLRMAN		A. SMITH	12
FLRMAN		T. HANSEN	12
FLRMAN			

NO. OF DAYS _____ SINCE LAST LOST TIME ACCIDENT

DAY TOUR 8:00 A.M. 4:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		D. DOYLE	12
DRKMAN		G. HIGBERT	12
MTRMAN		H. KLEEN	12
FIREMAN			
FLRMAN		K. MCMALE	12
FLRMAN		D. CARLSON	12
FLRMAN		B. TAYLOR	12

NO. OF DAYS _____ SINCE LAST LOST TIME ACCIDENT

EVENING TOUR 4:00 P.M. 12:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MTRMAN			
FIREMAN			
FLRMAN			
FLRMAN			

NO. OF DAYS _____ SINCE LAST LOST TIME ACCIDENT

DAILY DRILLING REPORT

OPERATOR: UNION OIL CO. LTD. LEASE: 30 DATE: FEB 4/73
CONTRACTOR: S & T DRILLING (WESTERN) CO. LTD. RIG NO.: 112
WELL NO.: F17 FIELD OR DIST.: AKLAVIK COUNTY: P-20-7 STATE: CANADA
SIGNATURE OF OPERATOR'S REPRESENTATIVE: [Signature] SIGNATURE OF CONTRACTOR'S TOOL PUSHER: [Signature]

TIME DISTRIBUTION - HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	NO.	STANDS D.P.	BIT NO.	TIME	NO.	WEIGHT	FROM	TO	DR-O R.M.R. CORE-C	CORE NO.	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD RUN SOLID PARTIAL COM'D-C
			24	STANDS D.P. 2263.5 FT.	BIT NO. RR 3	TIME 10 60		WEIGHT 9.6 9.6	2925							750 5 1/2 58 5 1/2		5
			2	SINGLES D.P. 62.88 FT.	SIZE 8 3/8			VISC.-SEC 59 62										
			18	D.C. 6 3/4 I.D. O.D. 532.32 FT.	MFG. SEG TYPE H77S			W.L.-C.C.										
			1	D.C. I.D. O.D. 8.13 FT.	NOZZLE NO. 3 SIZE 14			FLTR. CK.										
			1	STB. BODY O.D. 7.60 FT.	SER. NO. 309446			PH 8.5 9.0										
			1	STB. BODY O.D. 7.60 FT.	DEPTH OUT			SD. CONT. %										
			1	RMR. BODY O.D. 7.60 FT.	DEPTH IN			PRESSURE GRADIENT										
			1	SUBS O.D. 7.68 FT.	TOTAL FTG. 1													
			1	BIT OR C.B. 9.08 FT.	TOTAL HR. RUN 4 3/4													
			1	SHACKS 9.25 FT.	COND. OF BIT													
			1	KELLY DOWN 22.28 FT.	REAMER NO.													
				TOTAL 2925.00 FT.	REAMER TYPE													
				WT. OF STRING 83 M. LBS.														

TIME DISTRIBUTION - HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	NO.	STANDS D.P.	BIT NO.	TIME	NO.	WEIGHT	FROM	TO	DR-O R.M.R. CORE-C	CORE NO.	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD RUN SOLID PARTIAL COM'D-C
			24	STANDS D.P. 2263.5 FT.	BIT NO. RR 3	TIME 4:00		WEIGHT 9.5	2925							750 5 1/2 58 5 1/2		5
			2	SINGLES D.P. 62.88 FT.	SIZE 8 3/8			VISC.-SEC 57										
			18	D.C. 6 3/4 I.D. O.D. 532.32 FT.	MFG. SEG TYPE H77S			W.L.-C.C.										
			1	D.C. I.D. O.D. 8.13 FT.	NOZZLE NO. 3 SIZE 14			FLTR. CK.										
			1	STB. BODY O.D. 7.60 FT.	SER. NO. 309446			PH 9.0										
			1	STB. BODY O.D. 7.60 FT.	DEPTH OUT			SD. CONT. %										
			1	RMR. BODY O.D. 7.60 FT.	DEPTH IN			PRESSURE GRADIENT										
			1	SUBS O.D. 7.68 FT.	TOTAL FTG. 1													
			1	BIT OR C.B. 9.08 FT.	TOTAL HR. RUN 4 3/4													
			1	SHACKS 9.25 FT.	COND. OF BIT													
			1	KELLY DOWN 22.28 FT.	REAMER NO.													
				TOTAL 2925.00 FT.	REAMER TYPE													
				WT. OF STRING 83 M. LBS.														

TIME DISTRIBUTION - HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	NO.	STANDS D.P.	BIT NO.	TIME	NO.	WEIGHT	FROM	TO	DR-O R.M.R. CORE-C	CORE NO.	ROTARY RPM	WT. ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD RUN SOLID PARTIAL COM'D-C
			24	STANDS D.P. 2263.5 FT.	BIT NO. RR 3	TIME 4:00		WEIGHT 9.5	2925							750 5 1/2 58 5 1/2		5
			2	SINGLES D.P. 62.88 FT.	SIZE 8 3/8			VISC.-SEC										
			18	D.C. 6 3/4 I.D. O.D. 532.32 FT.	MFG. SEG TYPE H77S			W.L.-C.C.										
			1	D.C. I.D. O.D. 8.13 FT.	NOZZLE NO. 3 SIZE 14			FLTR. CK.										
			1	STB. BODY O.D. 7.60 FT.	SER. NO. 309446			PH										
			1	STB. BODY O.D. 7.60 FT.	DEPTH OUT			SD. CONT. %										
			1	RMR. BODY O.D. 7.60 FT.	DEPTH IN			PRESSURE GRADIENT										
			1	SUBS O.D. 7.68 FT.	TOTAL FTG. 1													
			1	BIT OR C.B. 9.08 FT.	TOTAL HR. RUN 4 3/4													
			1	SHACKS 9.25 FT.	COND. OF BIT													
			1	KELLY DOWN 22.28 FT.	REAMER NO.													
				TOTAL 2925.00 FT.	REAMER TYPE													
				WT. OF STRING 83 M. LBS.														

DRILLING CREW PAYROLL DATA				
DATE <u>FEB 4/72</u>				
WELL NAME & NO. <u>Union Oil Co. Ltd. F-17</u>				
COMPANY <u>Union Oil Co. Ltd.</u>				
TOOL PUSHER <u>Bary D. [Signature]</u> RIG NO. <u>1E</u>				
MORNING TOUR <u>12</u> <u>8:00</u> P.M. <u>8:00</u> A.M.				
CREW	SOC. SEC. NO.	NAME	HRS.	
DRILLER		<u>R. B. [Signature]</u>	<u>12</u>	
DRKMAN		<u>E. [Signature]</u>	<u>12</u>	
MTRMAN		<u>L. [Signature]</u>	<u>12</u>	
FIREMAN				
FLRMAN		<u>A. S. [Signature]</u>	<u>12</u>	
FLRMAN		<u>T. [Signature]</u>	<u>12</u>	
FLRMAN				
NO. OF DAYS <u>2</u> SINCE LAST LOST TIME ACCIDENT				
DAY TOUR <u>8:00</u> A.M. <u>4:00</u> P.M.				
CREW	SOC. SEC. NO.	NAME	HRS.	
DRILLER		<u>D. DOYLE</u>	<u>12</u>	
DRKMAN		<u>G. HIEBERT</u>	<u>12</u>	
MTRMAN		<u>H. KLEEM</u>	<u>12</u>	
FIREMAN				
FLRMAN		<u>K. McHALE</u>	<u>12</u>	
FLRMAN		<u>D. CARLSON</u>	<u>12</u>	
FLRMAN		<u>B. TAYLOR</u>	<u>12</u>	
		<u>J. CARMICHAEL</u>	<u>12</u>	
NO. OF DAYS <u>2</u> SINCE LAST LOST TIME ACCIDENT				
EVENING TOUR <u>4:00</u> P.M. <u>12:00</u> P.M.				
CREW	SOC. SEC. NO.	NAME	HRS.	
DRILLER				
DRKMAN				
MTRMAN				
FIREMAN				
FLRMAN				
FLRMAN				
FLRMAN				
NO. OF DAYS <u>2</u> SINCE LAST LOST TIME ACCIDENT				

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR UNION OIL CO. LTD.		LEASE 27 FEB 1/73		WELL NO. F-17		FIELD OR DIST. AKLAVIK		COUNTY N.W.T.		STATE CANADA	
CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.		RIG NO. 1E		DRILL PIPE STRING 5" O.D.		TOOL JOINT 5"		PUMPS		LAST CASING TUBING OR LINER	
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		SIGNATURE OF CONTRACTOR'S TOOL PUSHER <i>[Signature]</i>		NO.		MANUFACTURER		TYPE		STROKE LENGTH	
				1.		NSCO		K-380		14	
				2.		NSCO		K-380		14	
				3.							

TIME DISTRIBUTION—HOURS			
WORN	DAY	EVE	
RIG UP & TEAR DOWN			
DRILLING ACTUAL	4	7 1/2	
REAMING			
CONDITIONING MUD & CIRCULATING			
TRIPS	2 3/4	3 3/4	
LUBRICATE RIG	4 1/4	4	
DEVIATION SURVEY	1	1/4	
TEST B.O.P.			
CUT OFF DRILLING LINE			
REPAIR RIG			
LOGGING			
WIRE LINE LOGGING			
RUNNING CASING & CEMENTING			
WAITING ON CEMENT			
DRILL STEM TEST			
OTHER	4	4	
FISHING			
COMPLETION WORK			
A. PERFORATING			
B. TUBING TRIPS			
C. SWABBING			
D. TESTING			
E. ADDITIONAL			
TOTALS	8	8	8
TIME SUMMARY (OFFICE USE ONLY)			
DAY WORK			
HRS. W/DP			
HRS. WO/DP			
HRS. STANDBY			
TOTAL DAY WORK			
WIRE LINE RECORD			
REEL NO.			
NO. OF LINES			
SIZE			
FEET SLIPPED			
FEET CUT OFF			
PRESENT LENGTH			
TON MI. OR TRIPS SINCE LAST CUT			
CUMULATIVE TON MI. OR TRIPS			
NO. OF DAYS FROM SPUD			
CUMULATIVE ROTATING HRS.			

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. 1		PUMP NO. 2		METHOD RUN	
24		STANDS D.P. 2261.89 FT.		BIT NO. 14A		TIME 1:00 9:00 6:00		FROM TO		FUEL 9' 3"		35 20		1050		5 1/2 74 5 1/2		5					
3		SINGLES D.P. 80.91 FT.		SIZE 12 1/4		WEIGHT 9.7 9.7 9.5		2887 2898		D													
18		D.C. 9" 80.91 FT.		MFG. GEC.		VISC.-SEC 55 55 60																	
18		I.D. O.D. 552.32 FT.		TYPE M88		W.L.-C.C.																	
5		D.C. 6 1/2" 552.32 FT.		NOZZLE NO. 3		FLTR. CK.																	
5		STB. BODY O.D. 8.13 FT.		SER. NO. 493906		SD. CONT. %																	
5		STB. BODY O.D. 7.60 FT.		DEPTH OUT 2898		PRESSURE GRADIENT																	
5		SUBS O.D. 12.26 FT.		DEPTH IN 2847																			
5		BIT OR C.B. 908 FT.		TOTAL FTG. 7851																			
5		KELLY DOWN 10.59 FT.		TOTAL HR. RUN 26 1/2																			
5		TOTAL 2898.00 FT.		COND. OF BIT 9 11		Barite 55x.																	
5		WT. OF STRING 95 M LBS.		REAMER NO.		DRILLER Don Doyle																	
5		REAMER TYPE																					
1		SINGLES D.P. 2263.51 FT.		BIT NO. 1		TIME 5:00 11:00		2898															
1		D.C. 6 1/2" 2263.51 FT.		MFG. SFC		VISC.-SEC TR																	
1		I.D. O.D. 532.32 FT.		TYPE 15715		W.L.-C.C.																	
1		STB. BODY O.D. 8.13 FT.		NOZZLE NO. 3		FLTR. CK.																	
1		STB. BODY O.D. 7.60 FT.		SER. NO. 309465		SD. CONT. %																	
1		SUBS O.D. 7.68 FT.		DEPTH OUT 2898		PRESSURE GRADIENT																	
1		BIT OR C.B. 908 FT.		DEPTH IN 2848																			
1		KELLY DOWN 29.15 FT.		TOTAL FTG. 7851																			
1		TOTAL 2898 FT.		TOTAL HR. RUN 26 1/2																			
1		WT. OF STRING 80 M LBS.		COND. OF BIT		Barite 55x.																	
1		REAMER NO.		DRILLER R Brundage																			
1		REAMER TYPE																					
2		SINGLES D.P. 62.88 FT.		SIZE 8 1/2		WEIGHT 9.6 9.7		2898 2912		D													
18		D.C. 6 1/2" 532.32 FT.		MFG. GEC.		VISC.-SEC 66 60 60																	
18		I.D. O.D. 532.32 FT.		TYPE 4225		W.L.-C.C.																	
1		STB. BODY O.D. 8.13 FT.		NOZZLE NO. 3		FLTR. CK.																	
1		STB. BODY O.D. 7.60 FT.		SER. NO. 309465		SD. CONT. %																	
1		SUBS O.D. 7.68 FT.		DEPTH OUT 2898		PRESSURE GRADIENT																	
1		BIT OR C.B. 908 FT.		DEPTH IN 2848																			
1		KELLY DOWN 11.28 FT.		TOTAL FTG. 14																			
1		TOTAL 2912.04 FT.		TOTAL HR. RUN 7																			
1		WT. OF STRING 84 M LBS.		COND. OF BIT DALG.		Benex 4 #																	
1		REAMER NO.		DRILLER Don Doyle																			
1		REAMER TYPE																					

DRILLING CREW PAYROLL DATA

DATE **FEB 1/73**

WELL NAME & NO. **UNION AKLAVIK F-17**

COMPANY **UNION OIL CO. LTD.**

TOOL PUSHER *[Signature]* RIG NO. **1E**

MORNING TOUR 12:30 P.M. 8:00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		D. DOYLE	16
DRKMAN		M. SAUARD	8 T
MTRMAN		D. BEGIN	8 T
FIREMAN			
FLRMAN		E. FIRTH	8 T
FLRMAN		D. PRETULAG	8 T
FLRMAN		J. GARMICHAEL	8
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
DAY TOUR 8:00 A.M. 4:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R Brundage	8
DRKMAN		E. SYWENKY	8
MTRMAN		L COLLINS	8
FIREMAN			
FLRMAN		A SMITH	8
FLRMAN		T HANSON	8
FLRMAN		E. KINDI	4
FLRMAN		B. TAYLOR	12
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
EVENING TOUR 4:00 P.M. 12:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN		G. HIEBERT	T 8
MTRMAN		H. KLEEN	T 8
FIREMAN			
FLRMAN		K. McHALE	T 8
FLRMAN		D. CARLSON	T 8
FLRMAN			
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

DAILY DRILLING REPORT

REPORT NO. 18 DATE Jan 23/73

OPERATOR Union Oil Co. LTD. CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.

LEASE 21400 AKLOOIK F17

WELL NO. F17 FIELD OR DIST. AKLOOIK COUNTY N.W.T. STATE Canada

RIG NO. 1E

SIGNATURE OF OPERATOR'S REPRESENTATIVE [Signature]

SIGNATURE OF CONTRACTOR'S TOOL PUSHER [Signature]

TIME DISTRIBUTION - HOURS

MORNING TOUR

DAY TOUR

EVENING TOUR

NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DRILLING CREW PAYROLL DATA

DATE Jan, 23/73

WELL NAME & NO. 21400 AKLOOIK F17

COMPANY Union Oil Co. LTD.

TOOL PUSHER [Signature] RIG NO. 1E

MORNING TOUR 12:00 P.M. - 9:00 A.M.

DAY TOUR 8:00 A.M. - 4:00 P.M.

EVENING TOUR P.M. - P.M.

NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DRILLING CREW PAYROLL DATA

DATE Jan, 23/73

WELL NAME & NO. 21400 AKLOOIK F17

COMPANY Union Oil Co. LTD.

TOOL PUSHER [Signature] RIG NO. 1E

MORNING TOUR 12:00 P.M. - 9:00 A.M.

DAY TOUR 8:00 A.M. - 4:00 P.M.

EVENING TOUR P.M. - P.M.

NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DRILLING CREW PAYROLL DATA

DATE Jan, 23/73

WELL NAME & NO. 21400 AKLOOIK F17

COMPANY Union Oil Co. LTD.

TOOL PUSHER [Signature] RIG NO. 1E

MORNING TOUR 12:00 P.M. - 9:00 A.M.

DAY TOUR 8:00 A.M. - 4:00 P.M.

EVENING TOUR P.M. - P.M.

NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DRILLING CREW PAYROLL DATA			
DATE Jan, 23/73			
WELL NAME & NO. 21400 AKLOOIK F17			
COMPANY Union Oil Co. LTD.			
TOOL PUSHER [Signature] RIG NO. 1E			
MORNING TOUR 12:00 P.M. - 9:00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Henley	12
DRKMAN		M. Seward	12
MTRMAN		D. Degin	12
FIREMAN			
FLRMAN		D. Pictulac	12
FLRMAN		E. Firth	12
FLRMAN		J. Carmichael	12
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
DAY TOUR 8:00 A.M. - 4:00 P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Brandt	12
DRKMAN		F. Szwedny	12
MTRMAN		L. Collins	12
FIREMAN			
FLRMAN		A. Smith	12
FLRMAN		T. Hanson	12
FLRMAN		F. Kendi	12
FLRMAN		B. Taylor	12
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
EVENING TOUR P.M. - P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MTRMAN			
FIREMAN			
FLRMAN			
FLRMAN			
FLRMAN			
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR <i>Union Oil Co. L.T.D.</i>	LEASE <i>Union Aklovik F17</i>	DATE <i>Jan 21/73</i>	WELL NO. <i>F17</i>	FIELD OR DIST. <i>AKLOVIK</i>	COUNTY <i>Canada N.W.T.</i>	STATE <i>Canada</i>
CONTRACTOR <i>S & T DRILLING (WESTERN) CO. LTD.</i>	RIG NO. <i>1E</i>	DRILL PIPE STRING <i>5" 11</i>	TOOL JOINT <i>5" 11</i>	O.D. <i>3 1/2</i>	PUMPS <i>K 380 14"</i>	LAST CASING TUBING OR LINER <i>13 3/4 455 64KS 15 534.59 12.10 530 Cemented w/ 930sk Endue</i>
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>[Signature]</i>	SIGNATURE OF CONTRACTOR'S TOOL PUSHER <i>[Signature]</i>					

TIME DISTRIBUTION—HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
RIG UP & TEAK DOWN	MORN	DAY	NO.	STANDS D.P.	FT.	BIT NO.	TIME	WEIGHT	FROM	TO	DR-O RM-R CORE-C	CORE NO.	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION
DRILLING ACTUAL	2	7 1/2	16	STANDS D.P.	1511.39	4			2231															
REAMING			2	SINGLES D.P.	6166	12 1/4																		
CONDITIONING MUD & CIRCULATING	6		3	D.C. 3" 9"	8098	5160																		
TRIPS			18	I.D. O.D.	532.32	DMN																		
LUBRICATE RIG			5	STB. BODY O.D.	12.26	912031																		
DEVIATION SURVEY				STB. BODY O.D.																				
TEST B.O.P.				RMR. BODY O.D.																				
CUT OFF DRILLING LINE				SUBS O.D.																				
REPAIR RIG				BIT OR C.B.																				
WIRING				KELLY DOWN	32.43																			
WIRE LINE LOGGING				TOTAL	2231																			
RUNNING CASING & CEMENTING				WT. OF STRING	LBS.	REAMER TYPE																		
WAITING ON CEMENT																								
DRILL STEM TEST																								
OTHER																								
FISHING																								
A. PERFORATING																								
B. TUBING TRIPS																								
C. SWABBING																								
D. TESTING																								
E. ADDITIONAL																								
TOTAL DAY WORK	8																							
WIRE LINE RECORD																								
REEL NO.																								
NO. OF LINES																								
FEET SLIPPED																								
FEET CUT OFF																								
PRESENT LENGTH																								
TON MI. OR TRIPS SINCE LAST CUT																								
CUMULATIVE TON MI. OR TRIPS																								
NO. OF DAYS FROM SPUD																								
CUMULATIVE ROTATING MRS.																								

DRILLING CREW PAYROLL DATA

DATE <i>Jan 21/73</i>			
WELL NAME & NO. <i>Union Aklovik F17</i>			
COMPANY <i>Union Oil Co. L.T.D.</i>			
TOOL PUSHER <i>[Signature]</i> RIG NO. <i>1E</i>			
MORNING TOUR 12.00 P.M. 4.00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		<i>R. Henley</i>	12
DRKMAN		<i>M. Savard</i>	12
MYRMAN		<i>D. Regier</i>	12
FIREMAN			
FLRMAN		<i>D. Pictulac</i>	12
FLRMAN		<i>E. Firth</i>	12
FLRMAN		<i>J. Carmichael</i>	12
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
DAY TOUR A.M. P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		<i>A. Brundage</i>	12
DRKMAN		<i>E. Brundage</i>	12
MYRMAN		<i>L. Collins</i>	12
FIREMAN			
FLRMAN		<i>A. Smith</i>	12
FLRMAN		<i>T. Hanson</i>	12
FLRMAN		<i>F. Kind</i>	12
FLRMAN		<i>B. Tuzler</i>	13
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			
EVENING TOUR P.M. P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MYRMAN			
FIREMAN			
FLRMAN			
FLRMAN			
FLRMAN			
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT			

DAILY DRILLING REPORT

OPERATOR: Union Oil Co. LTD. LEASE: Union Aklavik F17 DATE: Jan 20/73

CONTRACTOR: S & T DRILLING (WESTERN) CO. LTD. RIG NO. 1E

WELL NO. F17 FIELD OR DIST. Aklavik COUNTY N.W.T. STATE Canada

DRILL PIPE STRING: 5" O.D. PUMPS: 1. NaT K 380 2. NaT K 380

SIGNATURE OF OPERATOR'S REPRESENTATIVE: [Signature] SIGNATURE OF CONTRACTOR'S TOOL PUSHER: [Signature]

TIME DISTRIBUTION - HOURS: MORN DAY EVE

MORNING TOUR: 16 STANDS D.P. 1511.39 FT. BIT NO. 4 TIME 12:00 6:00 2 SINGLES D.P. 61.66 FT. SIZE 12 1/4 WEIGHT 10.4 10.4 3 D.C. 9" 8098 FT. MFG. SEC VISC.-SEC 60 60 18 D.C. 2 3/4 6 3/4 532.32 FT. NOZZLE NO. 3 SIZE 1 1/4 PH 10 10

DAY TOUR: 16 STANDS D.P. 1511.39 FT. BIT NO. 4 TIME 8:00 11:30 2 SINGLES D.P. 61.66 FT. SIZE 12 1/4 WEIGHT 10.4 10.4 3 D.C. 9" 8098 FT. MFG. SEC VISC.-SEC 59 58 18 D.C. 2 3/4 6 3/4 532.32 FT. NOZZLE NO. 3 SIZE 1 1/4 PH 10.0 10.0

EVENING TOUR: 16 STANDS D.P. 1511.39 FT. BIT NO. 4 TIME 7:00 2 SINGLES D.P. 61.66 FT. SIZE 12 1/4 WEIGHT 10.4 3 D.C. 9" 8098 FT. MFG. SEC VISC.-SEC 57

WIRE LINE RECORD: REEL NO. NO. OF LINES SIZE FEET SLIPPED FEET CUT OFF PRESENT LENGTH TON MI. OR TRIPS SINCE LAST CUT CUMULATIVE TON MI. OR TRIPS NO. OF DAYS FROM SPUD CUMULATIVE ROTATING HRS.

DRILLING CREW PAYROLL DATA

DATE: Jan 20/73

WELL NAME & NO.: Union Aklavik F17

COMPANY: Union Oil Co. LTD.

TOOL PUSHER: Barry D. Hastings REG NO. 1E

MORNING TOUR: 12:00 P.M. 8:00 A.M.

CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Hanley	12
DRKMAN		M. Savard	12
MTRMAN		D. Babin	12
FIREMAN			
FLRMAN		D. Picot	12
FLRMAN		E. Firth	12
FLRMAN		J. Carmichael	12

NO. OF DAYS: _____ SINCE LAST LOST TIME ACCIDENT

DAY TOUR: A.M. P.M.

CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. B. Burdick	12
DRKMAN		E. S. W. P. H. G.	12
MTRMAN		L. COLLINS	12
FIREMAN			
FLRMAN		A. Smith	12
FLRMAN		T. Hanson	12
FLRMAN		P. K. H. D.	12
FLRMAN		B. Taylor	15

NO. OF DAYS: _____ SINCE LAST LOST TIME ACCIDENT

EVENING TOUR: P.M. P.M.

CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MTRMAN			
FIREMAN			
FLRMAN			
FLRMAN			
FLRMAN			

NO. OF DAYS: _____ SINCE LAST LOST TIME ACCIDENT

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR Union Oil Co. LTD	LEASE Union Aklovik F17	DATE Jan 14/73	WELL NO. F17	FIELD OR DIST. AKlovik	COUNTY N.W.T.	STATE Canada
CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.	RIG NO. 1E	DRILL PIPE STRING NO. 2 SIZE 4 TYPE THD. 3 1/2 IF	TOOL JOINT 5"	O.D. 5.00	PUMPS NO. 1 MANUFACTURER Nal TYPE K-380 STROKE LENGTH 14"	SIZE 1 3/4 MAKE VSS WT. & CR. 64 KS NO. JOINTS 15 FEET 534.59 RKB. TO CSG. MD. 17.10 SET AT 536 REMARKS Cemented w/93025
SIGNATURE OF OPERATOR'S REPRESENTATIVE <i>Union Oil Co. LTD</i>	SIGNATURE OF CONTRACTOR'S TOOL PUSHER <i>Barry J. Smith</i>					

TIME DISTRIBUTION-HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	STANDS D.P.	NO.	SIZE	TIME	WEIGHT	FLTR. CK.	FROM	TO	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	
			1511.39 FT.	2	12 1/4	12 00	10.3	10.3	2209	2231	10									
			61.66 FT.	3	12 1/4	12 15	6.5	6.5												
			8098 FT.	18	12 1/4	12 30														
			532.32 FT.	5	12 1/4	12 45														
			1226 FT.																	
			3243 FT.																	
			2231 FT.																	
			92.22 LBS.																	

TIME DISTRIBUTION-HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	STANDS D.P.	NO.	SIZE	TIME	WEIGHT	FLTR. CK.	FROM	TO	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	
			1511.39 FT.	2	12 1/4	12 00	10.3	10.3	2231											
			61.66 FT.	3	12 1/4	12 15	6.5	6.5												
			8098 FT.	18	12 1/4	12 30														
			532.32 FT.	5	12 1/4	12 45														
			1226 FT.																	
			3243 FT.																	
			2231 FT.																	
			92.22 LBS.																	

TIME DISTRIBUTION-HOURS			DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		PUMP NO.		PUMP NO.		METHOD RUN	
MORN	DAY	EVE	STANDS D.P.	NO.	SIZE	TIME	WEIGHT	FLTR. CK.	FROM	TO	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	
			1511.39 FT.	2	12 1/4	12 00	10.3	10.3	2231											
			61.66 FT.	3	12 1/4	12 15	6.5	6.5												
			8098 FT.	18	12 1/4	12 30														
			532.32 FT.	5	12 1/4	12 45														
			1226 FT.																	
			3243 FT.																	
			2231 FT.																	
			92.22 LBS.																	

DRILLING CREW PAYROLL DATA

DATE	Jan 19/73
WELL NAME & NO.	Union Aklovik F.17
COMPANY	Union Oil Co. LTD.
TOOL PUSHER	Barry J. Smith
RIG NO.	1E

MORNING TOUR 12.00 P.M. 8.00 A.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Henley	12
DRKMAN		M. Savard	12
MTRMAN		D. Babin	12
FIREMAN			
FLRMAN		D. Pictulac	12
FLRMAN		E. Firth	12
FLRMAN		J. Carmichael	12

DAY TOUR A.M. P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER		R. Brundage	12
DRKMAN		E. S. Wierky	12
MTRMAN		L. Collins	12
FIREMAN			
FLRMAN		A. Smith	12
FLRMAN		T. Hanson	12
FLRMAN		I. Kindi	12
FLRMAN		B. Taylor	12

EVENING TOUR P.M. P.M.			
CREW	SOC. SEC. NO.	NAME	HRS.
DRILLER			
DRKMAN			
MTRMAN			
FIREMAN			
FLRMAN			
FLRMAN			
FLRMAN			

OPERATOR
CONTRACTOR
SIGNATURE OF OPERATOR'S REPRESENTATIVE
TIME DISTRIBUTION-HOURS
MORNING TOUR
DAY TOUR
EVENING TOUR
TOTAL DAY WORK
WIRE LINE RECORD
REEL NO.
NO. OF LINES
SIZE
FEET SLIPPED
FEET CUT OFF
PRESENT LENGTH
TON MI. OR TRIPS
SINCE LAST CUT
CUMULATIVE
TON MI. OR TRIPS
NO. OF DAYS
FROM SPUD
CUMULATIVE
ROTATING HRS.

DAILY DRILLING REPORT
REPORT NO. 13
DATE Jan 18/1973
LEASE
WELL NO. F-17
FIELD OR DIST. FURMAN
COUNTY N.W.T.
STATE CANADA
CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.
RIG NO. 1E
DRILL PIPE STRING NO. 2
TOOL JOINT 5" O.D.
PUMPS
NO. 1
MANUFACTURER NAT
TYPE K-380
STROKE LENGTH 14"
LAST CASING TUBING OR LINER
SIZE 13 3/4
MAKE LBS
WT. & GR. 15
NO. JOINTS 534
FEET 59
RKB. TO CSG. HD. 12.10
SET AT 590
REMARKS CEMENTED w/ 930-45 FINE
SIGNATURE OF CONTRACTOR'S TOOL PUSHER
NO. 16
DRILLING ASSEMBLY AT END OF TOUR
BIT RECORD
MUD RECORD
FOOTAGE
FORMATION (SHOW CORE RECOVERY)
ROTARY RPM
WT. ON BIT 1000#
PUMP PRESS
PUMP NO. 1
PUMP NO. 2
METHOD RUN
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DRILLING CREW PAYROLL DATA
DATE Jan 18/1973
WELL NAME & NO. UNION ARKADIA F-17
COMPANY UNION OIL CO. LTD.
TOOL PUSHER Barry D. Armstrong
RIG NO. 1E
MORNING TOUR 12:00 P.M. 5:00 A.M.
CREW SOC. SEC. NO. NAME HRS.
DRILLER W. SMITH 8 T
DRKMAN G. HIEBERT 8 T
MTRMAN H. KREEN 8 T
FIREMAN K. McNAUL 8 T
FLRMAN D. CARLSON 8 T
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT
DAY TOUR 9:00 A.M. 4:00 P.M.
CREW SOC. SEC. NO. NAME HRS.
DRILLER R. Henley 8
DRKMAN M. Sarsad 8
MTRMAN D. Regin 8
FIREMAN J. Carmichael 8
FLRMAN D. Pictulac 8
FLRMAN B. Taylor 12
FLRMAN E. Kendi 12
FLRMAN E. Firth 8
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT
EVENING TOUR P.M. P.M.
CREW SOC. SEC. NO. NAME HRS.
DRILLER R. BRUNDIGE 8 T
DRKMAN E. WICK 8 T
MTRMAN L. COLLINS 8 T
FIREMAN H. SMITH 8 T
FLRMAN T. HANSEN 8 T
FLRMAN
NO. OF DAYS SINCE LAST LOST TIME ACCIDENT

DATE _____

[illegible]

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR		LEASE		WELL NO.		FIELD OR DIST.		COUNTY		STATE	
UNION OIL Co Ltd		10		F-17		ANLARK		N.W.T.		CANADA	
CONTRACTOR		RIG NO.		DRILL PIPE STRING		TOOL JOINT		PUMPS		REMARKS	
S & T DRILLING (WESTERN) CO. LTD.		12		5" O.D.		5" O.D.		13 1/2		Generated by 990157	
SIGNATURE OF OPERATOR'S REPRESENTATIVE		SIGNATURE OF CONTRACTOR'S TOOL PUSHER		NO.		MANUFACTURER		TYPE		STROKE LENGTH	
A.C. Sanderson		A. J. Whelan		1.		NAT		K-110		1'	
				2.		CAT		K-110		1'	
				3.							
TIME DISTRIBUTION-HOURS		NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE	
MORN DAY EVE		10		STANDS D.P. 944.21 FT.		BIT NO. 2		TIME 2:00 5:00 7:00		FROM TO	
RIG UP & TEAR DOWN				SINGLES D.P. FT.		SIZE 12 1/4		WEIGHT 10.1 10.3 10.3		1515 1600	
DRILLING ACTUAL		1 1/2 7 7 1/4		D.C. 3" 9"		MFG. SEC		VISC.-SEC 58 60 58		D	
REAMING				I.D. O.D. 80.94 FT.		TYPE S-33		W.L.-C.C.		F-1 7'	
CONDITIONING MUD & CIRCULATING		1/2		D.C.		NO. 3		FLTR. CK.		90 120 1000 7 1/4	
TRIPS				I.D. O.D. 532.32 FT.		NOZZLE SIZE 1 1/8		PH 9.5 10.0 10.0		1569	
LUBRICATE RIG		1/4 1/4 1/4		STB. BODY O.D. FT.		SER. NO. 281157		SD. CONT. %		DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	
DEVIATION SURVEY		1/4 1/4 1/2		STB. BODY O.D. FT.		DEPTH OUT		PRESSURE GRADIENT		12 1/2 12 1/2 1/4 SER RIG 1300's	
TEST B.O.P.				RMR. BODY O.D. FT.		DEPTH IN				12 1/2 5:30 5 1/2 DRUG	
CUT OFF DRILLING LINE				SUBS O.D. 12.26 FT.		TOTAL FTG. 246		MUD & CHEMICALS ADDED		5:30 5:45 1/4 W.L. SURVEY	
REPAIR RIG				BIT OR C.B. FT.		TOTAL HR. RUN 20 1/4		TYPE AMT. TYPE AMT.		5:45 5:55 1/4 DRUG	
DRILLING				KELLY DOWN 3027 FT.		COND. OF BIT DRUG		100# Q Brox 2			
WIRE LINE LOGGING				TOTAL 1608.00 FT.		REAMER NO.		Soda Ash 200#			
RUNNING CASING & CEMENTING				WT. OF STRING 8500 LBS.		REAMER TYPE		DRILLER W.A. Smith			
WAITING ON CEMENT				NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD	
DRILL STEM TEST				11		STANDS D.P. 1038.46 FT.		BIT NO. 2		TIME 9:00 12:00 2:00	
OTHER				SINGLES D.P. FT.		SIZE 12 1/4		WEIGHT 10.3 10.2 10.2		FROM TO	
FISHING				D.C. 3" 9"		MFG. SEC		VISC.-SEC 55 47 55		1600 1690	
A. PERFORATING				I.D. O.D. 80.94 FT.		TYPE S-33		W.L.-C.C.		D	
B. TUBING TRIPS				D.C. 2 1/2 6 3/4		NO. 3		FLTR. CK.		90 120 1000 7 1/4	
C. SWABBING				I.D. O.D. 532.32 FT.		NOZZLE SIZE 1 1/8		PH 10. 10.5 10.5		1632	
D. TESTING				STB. BODY O.D. FT.		SER. NO. 281157		SD. CONT. %		DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	
E. ADDITIONAL				STB. BODY O.D. FT.		DEPTH OUT		PRESSURE GRADIENT		9:00 9:45 1/4 DRUG	
TOTALS		8 8 6		RMR. BODY O.D. FT.		DEPTH IN				8:45 7:00 1/4 RIG SER. & POP's	
TIME SUMMARY (OFFICE USE ONLY)				SUBS O.D. 12.26 FT.		TOTAL FTG. 336		MUD & CHEMICALS ADDED		9:00 11:30 2 1/2 DRUG	
DAY WORK				BIT OR C.B. FT.		TOTAL HR. RUN 27 1/4		TYPE AMT. TYPE AMT.		11:30 11:45 1/4 W.L. SURVEY	
HRS. W/DP				KELLY DOWN 26.05 FT.		COND. OF BIT DRUG		GEL 10 Q Brox 2		11:45 1:15 1 1/2 DRUG	
HRS. WO/DP				TOTAL 1690 FT.		REAMER NO.		Soda Ash 4		1:15 1:45 1/4 CICK sample	
HRS. STANDBY				WT. OF STRING 8600 LBS.		REAMER TYPE		DRILLER R. Hargrave		1:45 4:00 2 1/4 DRUG	
TOTAL DAY WORK				NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD	
WIRE LINE RECORD				12		STANDS D.P. 1133.03 FT.		BIT NO. 2		TIME 4:00 6:00 9:00	
REEL NO.				SINGLES D.P. FT.		SIZE 12 1/4		WEIGHT 10.2 10.2 10.3		FROM TO	
NO. OF LINES				D.C. 3" 9"		MFG. SEC		VISC.-SEC 50 47 54		1690 1770	
SIZE				I.D. O.D. 80.94 FT.		TYPE S-33		W.L.-C.C.		90 120 1000 7 1/4	
FEET SLIPPED				D.C. 2 1/2 6 3/4		NO. 3		FLTR. CK.		1694	
FEET CUT OFF				I.D. O.D. 532.32 FT.		NOZZLE SIZE 1 1/8		PH 10.5 10 10.5		DETAILS OF OPERATIONS IN SEQUENCE AND REMARKS	
PRESENT LENGTH				STB. BODY O.D. FT.		SER. NO. 281157		SD. CONT. %		4:00 5:30 1 1/2 DRUG 1	
TON MI. OR TRIPS SINCE LAST CUT				STB. BODY O.D. FT.		DEPTH OUT		PRESSURE GRADIENT		5:30 5:45 1/4 RIG SER	
CUMULATIVE TON MI. OR TRIPS				RMR. BODY O.D. FT.		DEPTH IN				5:45 6:00 1/2 W.L. SURVEY	
NO. OF DAYS FROM SPUD				SUBS O.D. 12.26 FT.		TOTAL FTG. 416		MUD & CHEMICALS ADDED		6:00 11:30 5 1/2 DRUG	
CUMULATIVE ROTATING HRS.				BIT OR C.B. FT.		TOTAL HR. RUN 34 1/2		TYPE AMT. TYPE AMT.		11:30 11:45 1/4 W.L. SURVEY	
				KELLY DOWN 11.45 FT.		COND. OF BIT DRUG		Soda Ash 200#		11:45 12:00 1/4 DRUG	
				TOTAL 1770.60 FT.		REAMER NO.		Borex 2 #			
				WT. OF STRING 4600 LBS.		REAMER TYPE		DRILLER			

DATE _____

[illegible]

DATE _____

[illegible]

DATE _____

OPERATOR UNION OIL CO LTD							LEASE <u>S</u>						<u>FANBY 1973</u>								WELL NO. F-17			FIELD OR DIST. EKLAKK F-10			COUNTY N.W.T.			STATE CANADA						
CONTRACTOR S & T DRILLING (WESTERN) CO. LTD.							RIG NO. IE	DRILL PIPE STRING NO. SIZE		TOOL JOINT O.D.				PUMPS			LAST CASING TUBING OR LINER		SIZE 13 3/4	MAKE	WT. & GR.	NO. JOINTS 15	FEET	BKS. TO CSG. HD.	SET AT 530	REMARKS										
SIGNATURE OF OPERATOR'S REPRESENTATIVE <u>[Signature]</u>							SIGNATURE OF CONTRACTOR'S TOOL PUSHER <u>[Signature]</u>							1. NAT H-360 12"		TYPE STROKE LENGTH																				
TIME DISTRIBUTION - HOURS							MORN		DAY		EVE		NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DEVIATION RECORD		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. LINDER SIZE S.P.M.	PUMP NO. LINDER SIZE S.P.M.	METHOD RUN SOLID PARCEL COM'D-C	
RIG UP & TEAR DOWN													STANDS D.P.		FT.		BIT NO.		TIME		FROM		TO													
DRILLING ACTUAL													SINGLES D.P.		FT.		SIZE		WEIGHT		530															
REAMING													D.C.				MFG.		VISC.-SEC																	
CONDITIONING MUD & CIRCULATING													I.D. O.D.		FT.		TYPE		W.L.-C.C.																	
TRIPS													D.C.				NOZZLE		FLTR. CK.																	
LUBRICATE RIG													STB. BODY O.D.		FT.		SER. NO.		SD. CONT. %																	
DEVIATION SURVEY													STB. BODY O.D.		FT.		DEPTH OUT		PRESSURE GRADIENT																	
TEST B.O.P.													RM.R. BODY O.D.		FT.		DEPTH IN																			
CUT OFF DRILLING LINE													SUBS O.D.		FT.		TOTAL FTG.		MUD & CHEMICALS ADDED TYPE AMT. TYPE AMT.																	
REPAIR RIG													BIT OR C.B.		FT.		TOTAL HR. RUN																			
BORING													KELLY DOWN		FT.		COND. OF BIT																			
WIRE LINE LOGGING													TOTAL		FT.		REAMER NO.																			
RUNNING CASING & CEMENTING													WT. OF STRING		LBS.		REAMER TYPE		DRILLER W.H. Smith																	
WAITING ON CEMENT																																				
DRILL STEM TEST													NQ.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DEVIATION RECORD		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO. LINDER SIZE S.P.M.	PUMP NO. LINDER SIZE S.P.M.	METHOD RUN SOLID PARCEL COM'D-S	
OTHER													STANDS D.P.		FT.		BIT NO.		TIME		FROM		TO													
FISHING													SINGLES D.P.		FT.		SIZE		WEIGHT																	
COMPLETION WORK A. PERFORATING													D.C.				MFG.		VISC.-SEC																	
B. TUBING TRIPS													I.D. O.D.		FT.		TYPE		W.L.-C.C.																	
C. SWABBING													D.C.				NOZZLE		FLTR. CK.																	
D. TESTING													I.D. O.D.		FT.		PH																			
E. ADDITIONAL													STB. BODY O.D.		FT.		SER. NO.		SD. CONT. %																	
TOTALS													STB. BODY O.D.		FT.		DEPTH OUT		PRESSURE GRADIENT																	
TIME SUMMARY (OFFICE USE ONLY)													RM.R. BODY O.D.		FT.		DEPTH IN																			
DAY WORK													SUBS O.D.		FT.		TOTAL FTG.		MUD & CHEMICALS ADDED TYPE AMT																	

DAILY DRILLING REPORT

REPORT NO.

DATE

OPERATOR		LEASE		WELL NO.		FIELD OR DIST.		COUNTY		STATE																			
UNION OIL Co Ltd		UNION OIL N17		N17		BRANSON		N.W.T.		CANADA																			
CONTRACTOR		RIG NO.	DRILL PIPE STRING	TOOL JOINT	O.D.	PUMPS		SIZE	MAKE	WT. & CR.	NO. JOINTS	FEET	RKB. TO CSG. HD.	SET AT	REMARKS														
S & T DRILLING (WESTERN) CO. LTD.		1E	NO. SIZE	TYPE THD.		NO.	MANUFACTURER	TYPE	STROKE LENGTH	LAST CASING TUBING OR LINER																			
SIGNATURE OF OPERATOR'S REPRESENTATIVE		SIGNATURE OF CONTRACTOR'S TOOL PUSHER			1. NAT		K-360	15																					
2. NAT					3.																								
TIME DISTRIBUTION-HOURS		NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR. D RM. R CORE-C		CORE NO.		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN	
MORN DAY EVE		STANDS D.P.		FT.		BIT NO.		TIME		FROM TO		CORE NO.		FORMATION		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
RIG UP & TEAK DOWN		SINGLES D.P.		FT.		SIZE		WEIGHT		120 330		D				60		800		300		74		41		74 - 3			
DRILLING ACTUAL 6		D.C.		FT.		MFG.		VISC.-SEC																					
REAMING		I.D. O.D.		FT.		TYPE		W.L.-C.C.																					
CONDITIONING MUD & CIRCULATING		2 1/2 6 1/4		210.91		5735		45 50 45																					
TRIPS		NO. O.D.		FT.		NOZZLE		FLTR. CK.																					
LUBRICATE RIG		STB. BODY O.D.		FT.		SER. NO.		SD. CONT. %																					
DEVIATION SURVEY 1 3/4		STB. BODY O.D.		FT.		DEPTH OUT		PRESSURE GRADIENT																					
TEST B.O.P.		RMR. BODY O.D.		FT.		DEPTH IN																							
CUT OFF DRILLING LINE		SUBS O.D.		FT.		TOTAL FTG.		COND. OF BIT																					
REPAIR RIG		BIT OR C.B.		FT.		TOTAL HR. RUN		REAMER NO.																					
DRILLING		KELLY DOWN		FT.		COND. OF BIT		REAMER TYPE																					
WIRE LINE LOGGING		TOTAL		330.00		REAMER NO.		DRILLER																					
RUNNING CASING & CEMENTING		WT. OF STRING		54,000		REAMER TYPE		DRILLER																					
WAITING ON CEMENT																													
DRILL STEM TEST																													
OTHER																													
FISHING																													
COMPLETION WORK																													
A. PERFORATING																													
B. TUBING TRIPS																													
C. SWABBING																													
D. TESTING																													
E. ADDITIONAL																													
TOTALS																													
TIME SUMMARY (OFFICE USE ONLY)																													
DAY WORK																													
HRS. W/DP																													
HRS. WO/DP																													
HRS. STANDBY																													
TOTAL DAY WORK																													
WIRE LINE RECORD																													
REEL NO.																													
NO. OF LINES																													
SIZE																													
FEET SLIPPED																													
FEET CUT OFF																													
PRESENT LENGTH																													
TON MI. OR TRIPS SINCE LAST CUT																													
CUMULATIVE TON MI. OR TRIPS																													
NO. OF DAYS FROM SPUD																													
CUMULATIVE ROTATING HRS.																													

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR. D RM. R CORE-C		CORE NO.		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN	
STANDS D.P.		FT.		BIT NO.		TIME		FROM TO		CORE NO.		FORMATION		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
SINGLES D.P.		FT.		SIZE		WEIGHT		330																			
D.C.		FT.		MFG.		VISC.-SEC																					
I.D. O.D.		FT.		TYPE		W.L.-C.C.																					
D.C.		FT.		NOZZLE		FLTR. CK.																					
STB. BODY O.D.		FT.		SER. NO.		SD. CONT. %																					
STB. BODY O.D.		FT.		DEPTH OUT		PRESSURE GRADIENT																					
RMR. BODY O.D.		FT.		DEPTH IN																							
SUBS O.D.		FT.		TOTAL FTG.		COND. OF BIT																					
BIT OR C.B.		FT.		TOTAL HR. RUN		REAMER NO.																					
KELLY DOWN		FT.		COND. OF BIT		REAMER TYPE																					
TOTAL		FT.		REAMER NO.		DRILLER																					
WT. OF STRING		LBS.		REAMER TYPE		DRILLER																					

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR. D RM. R CORE-C		CORE NO.		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN	
STANDS D.P.		FT.		BIT NO.		TIME		FROM TO		CORE NO.		FORMATION		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
SINGLES D.P.		FT. <td colspan="2">SIZE</td> <td colspan="2">WEIGHT</td> <td colspan="2">330</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SIZE		WEIGHT		330																			
D.C.		FT. <td colspan="2">MFG.</td> <td colspan="2">VISC.-SEC</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		MFG.		VISC.-SEC																					
I.D. O.D.		FT. <td colspan="2">TYPE</td> <td colspan="2">W.L.-C.C.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TYPE		W.L.-C.C.																					
D.C.		FT. <td colspan="2">NOZZLE</td> <td colspan="2">FLTR. CK.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		NOZZLE		FLTR. CK.																					
STB. BODY O.D.		FT. <td colspan="2">SER. NO.</td> <td colspan="2">SD. CONT. %</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SER. NO.		SD. CONT. %																					
STB. BODY O.D.		FT. <td colspan="2">DEPTH OUT</td> <td colspan="2">PRESSURE GRADIENT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH OUT		PRESSURE GRADIENT																					
RMR. BODY O.D.		FT. <td colspan="2">DEPTH IN</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH IN																							
SUBS O.D.		FT. <td colspan="2">TOTAL FTG.</td> <td colspan="2">COND. OF BIT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL FTG.		COND. OF BIT																					
BIT OR C.B.		FT. <td colspan="2">TOTAL HR. RUN</td> <td colspan="2">REAMER NO.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL HR. RUN		REAMER NO.																					
KELLY DOWN		FT. <td colspan="2">COND. OF BIT</td> <td colspan="2">REAMER TYPE</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		COND. OF BIT		REAMER TYPE																					
TOTAL		FT. <td colspan="2">REAMER NO.</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER NO.		DRILLER																					
WT. OF STRING		LBS. <td colspan="2">REAMER TYPE</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER TYPE		DRILLER																					

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR. D RM. R CORE-C		CORE NO.		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN	
STANDS D.P.		FT.		BIT NO.		TIME		FROM TO		CORE NO.		FORMATION		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
SINGLES D.P.		FT. <td colspan="2">SIZE</td> <td colspan="2">WEIGHT</td> <td colspan="2">330</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SIZE		WEIGHT		330																			
D.C.		FT. <td colspan="2">MFG.</td> <td colspan="2">VISC.-SEC</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		MFG.		VISC.-SEC																					
I.D. O.D.		FT. <td colspan="2">TYPE</td> <td colspan="2">W.L.-C.C.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TYPE		W.L.-C.C.																					
D.C.		FT. <td colspan="2">NOZZLE</td> <td colspan="2">FLTR. CK.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		NOZZLE		FLTR. CK.																					
STB. BODY O.D.		FT. <td colspan="2">SER. NO.</td> <td colspan="2">SD. CONT. %</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SER. NO.		SD. CONT. %																					
STB. BODY O.D.		FT. <td colspan="2">DEPTH OUT</td> <td colspan="2">PRESSURE GRADIENT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH OUT		PRESSURE GRADIENT																					
RMR. BODY O.D.		FT. <td colspan="2">DEPTH IN</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH IN																							
SUBS O.D.		FT. <td colspan="2">TOTAL FTG.</td> <td colspan="2">COND. OF BIT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL FTG.		COND. OF BIT																					
BIT OR C.B.		FT. <td colspan="2">TOTAL HR. RUN</td> <td colspan="2">REAMER NO.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL HR. RUN		REAMER NO.																					
KELLY DOWN		FT. <td colspan="2">COND. OF BIT</td> <td colspan="2">REAMER TYPE</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		COND. OF BIT		REAMER TYPE																					
TOTAL		FT. <td colspan="2">REAMER NO.</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER NO.		DRILLER																					
WT. OF STRING		LBS. <td colspan="2">REAMER TYPE</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER TYPE		DRILLER																					

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD		FOOTAGE		DR. D RM. R CORE-C		CORE NO.		FORMATION (SHOW CORE RECOVERY)		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN	
STANDS D.P.		FT.		BIT NO.		TIME		FROM TO		CORE NO.		FORMATION		ROTARY RPM		WT. ON BIT 1000#		PUMP PRESS		PUMP NO.		PUMP NO.		METHOD RUN			
SINGLES D.P.		FT. <td colspan="2">SIZE</td> <td colspan="2">WEIGHT</td> <td colspan="2">330</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SIZE		WEIGHT		330																			
D.C.		FT. <td colspan="2">MFG.</td> <td colspan="2">VISC.-SEC</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		MFG.		VISC.-SEC																					
I.D. O.D.		FT. <td colspan="2">TYPE</td> <td colspan="2">W.L.-C.C.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TYPE		W.L.-C.C.																					
D.C.		FT. <td colspan="2">NOZZLE</td> <td colspan="2">FLTR. CK.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		NOZZLE		FLTR. CK.																					
STB. BODY O.D.		FT. <td colspan="2">SER. NO.</td> <td colspan="2">SD. CONT. %</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		SER. NO.		SD. CONT. %																					
STB. BODY O.D.		FT. <td colspan="2">DEPTH OUT</td> <td colspan="2">PRESSURE GRADIENT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH OUT		PRESSURE GRADIENT																					
RMR. BODY O.D.		FT. <td colspan="2">DEPTH IN</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		DEPTH IN																							
SUBS O.D.		FT. <td colspan="2">TOTAL FTG.</td> <td colspan="2">COND. OF BIT</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL FTG.		COND. OF BIT																					
BIT OR C.B.		FT. <td colspan="2">TOTAL HR. RUN</td> <td colspan="2">REAMER NO.</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		TOTAL HR. RUN		REAMER NO.																					
KELLY DOWN		FT. <td colspan="2">COND. OF BIT</td> <td colspan="2">REAMER TYPE</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		COND. OF BIT		REAMER TYPE																					
TOTAL		FT. <td colspan="2">REAMER NO.</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER NO.		DRILLER																					
WT. OF STRING		LBS. <td colspan="2">REAMER TYPE</td> <td colspan="2">DRILLER</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td>		REAMER TYPE		DRILLER																					

NO.		DRILLING ASSEMBLY AT END OF TOUR		BIT RECORD		MUD RECORD	
-----	--	----------------------------------	--	------------	--	------------	--

[illegible]