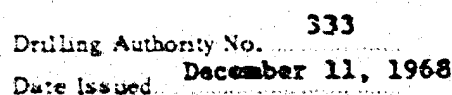


SHELL H.B. GRUMBLER I-16

WELL NAME Shell H.B. Grumbler I-16
FIELD
LOCATION: Unit I Area: Section 16 Grid XXXX 60-30-115-65
Latitude 60-29-27.66 Longitude 115-46-55.57
From Established Reference Marker NE 36-131-10 WSM
U.W.L.R. 60-42713 -- 115.78210
U.W.I. 300E166030115450
Rig Release Date: 23-1-69
Status L-a
Information Release Date

CHANGE OF NAME:

DATE RECEIVED	INDEX
11/12/68	Application for a Drilling Authority. Well Completion Data. Well History Report.
	Application to Amend a Drilling Authority.
	Application to change a Well Name.
30-1-69	Application to Abandon a Well or Suspend Drilling.
	Application to Alter Condition of a Well. Well History Supplement.
2-4-69	Well Completion Data. Work-over Report No.
	Application to Commence Production before Measurement.
	Data for Back Pressure Test on Natural Gas Wells — Monograph 7 Method.
	Data for Back Pressure Test on Natural Gas Wells — Vitter's Method.
	M.P.R. — Oil — Calculations.
	New Oil Well Report.
	New Gas Well Report.
	Well Inspection Report.
	Rig Inspection Report.
	Battery Inspection Report.
	Equipment Report.
	Well Card.
	New Service Well Report.
	Monthly Water Flood Operations Report
	Monthly Water Receipts and Disposal of Fluids Report Logs. Large scale Small scale



~~RESTRICTED~~ DIVISION
OIL AND MINERAL

To be submitted in duplicate within thirty days after the completion, rework, abandonment, recompletion or suspension of every well.

Permit No. 4149

Premier No. _____

Lease No. _____

Hudson's Bay Oil & Gas Company Ltd

Exploratory Licence No. 1096

Shell Canada Limited
(Operator)

Exploratory Licence No. 1881

Location: Unit

I

Section

16

60° 30' 115° 45'

Lat: Nide 60° 25' 37.66"

115° 46' 55.57"

From Established Reference Market:

N.E. 36-131-10-5

Universal Well Location Reference

60. 42713° N. Lat. 115. 78210° W. Long

CASTING RECORD

GEOLOGICAL TOPS

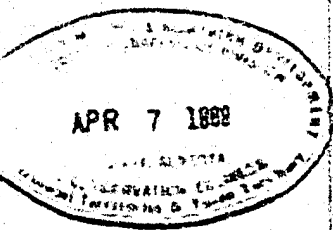
ELEVATION

CORE RECORD

LOG RECORD

Run No.	Type of Log	From	To
1	Induction Electrollog	2320	217
1	Acoustilog	2318	217
1	Minilog	2323	216
1	Densilog	2322	217
1	Diplog	2322	600
	Seismic Reference		
	Survey (BHC-Acoustilog		
	- Seismic)	2318	217

CEMENTING RECORD (Plug, Squeeze, etc.)				PERFORATING RECORD (Bullet, Jet)				SERVICING RECORD (Acidizing, Flooding, etc.)			
Date	From	To	Remarks	Date	From	To	Remarks	Date	From	To	Remarks
23/1/69	2324	1590	Plug #1 170 Sx. Const. Cement				Nil				Nil
23/1/69	1260	910	Plug #2 87 Sx. + 2X CaCl ₂ . Felt at 865' R.B.								
23/1/69	270	Surface	Plug #3 59 Sx. Const. cement. Plug down 11:55 A.M. 5 Sx. in rat hole. Cut casing off 3' below G.L. Welded on plate & erected 4' riser and name plate.								



DRILL STEM TESTS

No.	Date	Formation	From	To	V.O. Mins.	I.S.I. Mins.	F.S.I. Mins.	L.S.I.R.H.P.	F.S.I.R.H.P.	L.F.R.H.P.	F.P.R.H.P.	I.H.P.	F.H.P.	REMARKS
1	11/1/69	Slave Point	990	1010	60	37	60	355	62	356	81	494	482	Recovered 140' water cushion and 40' water.
2	19/1/69	Keg River	1690	1750				696	172	687	223	808	815	Missrun - packer failure
2A	21/1/69	Keg River	1680	1760	90	60	90	601	346	471	408	600	597	Recovered 216' water cushion and 226' mud.
3	22/1/69	Steen River	1200	1250	90	60	90	601	346	471	408	600	597	Recovered 100' water cushion and 685' muddy water.

ANALYSIS

Lab. No.	Sample	From	To	Source	Remarks
14	DST #1	990	1010	Slave Point	Salinity 922 Cl ⁻
15	DST #2A	1680	1760	Keg River	Salinity 698 Cl ⁻
16	DST #3	1200	1250	Steen River	Salinity 1676 Cl ⁻

PRESENT STATUS OF WELL

Oil		(Interval)
Gas		(Interval)
Dry		D & A
Susp.		

Company: SHELL CANADA LIMITED
 Signed by: *P. J. Penn* (P. J. Penn) JN
 Title: MANAGER - EXHAUSTION DIVISION PRODUCTION
 Date: APRIL 2, 1969

Form to be prepared in duplicate and forwarded to the Oil Conservation Engineer, Calgary, Alberta.



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT

Resource Management Division

Oil and Mineral

Application to Abandon a Well ~~and 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 SHELL H.B. GRISLER I-16
Location: Unit I Section 16 Grid 60° 30' 115° 45'
Latitude 60° 25' 37.66" Longitude 115° 46' 55.57"
From Established Reference Marker 115° 46' 55.57"
Universal Well Location Reference
Permit No. 4149 Lease No.

(Operated, Leased, Lessor)

Date of commencement of proposed program January 23, 1967

OIL, GAS, AND WATER ENCOUNTERED
(Depths)

Oil at H11
Gas at H11
Water at 1000' 1225 (DST #1 910-1010 METHY) (DST #3 1200-1250 STEEN RIVER)
Total Depth 2324 Date of last operations
Present condition of well Abandoned

CASING RECORD

Casing Size O.D. Inches	Weight	Amount	Set At—	Sacks of Cement and Additives	Amount Pulled
1. 7"	20#	209.78	219.78'	175 Sx. + 3% CaCl ₂	—
2.		from casing head	K.B.		
3.					
4.					
5.					

PROPOSED ABANDONMENT PROGRAM

Plug		Geological Formation	Number of Sacks of Cement	Remarks
No.	Position			
I	2324-1590	Keg River, Bear Rock, Pre-Cambrian	170 Sx	
II	1260-910	Muskeg, Steen River, Watt Mountain, Slave Point	87 Sx. + 2% CaCl ₂	
III	267 - Surface	In Casing	63 Sx.	Steel Riser 4' above G.L. with well name welded on Steel Plate

The following logs have been run DRL, AGR-C, Density, Minilog Caliper, CCM, Velocity Survey
Other operations proposed H11

Operations to be carried out by Sedco Exploration Ltd. Contractor Licence No. A11203
Address Address
Responsible Agent in field R. W. Miller
Dated at Edmonton, Alberta this 27th Day of January 19 69
Signed by P. Blin for H.M. McLaughlin Company SHELL CANADA LIMITED
Title Manager-Edmonton Div. Prod. Operator's Exploratory Licence No. 1096

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

(For RESOURCE MANAGEMENT DIVISION use only)

APPROVAL

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

Confirming oral approval given by Mr. R.H.J. Thomas on the 22nd January 1969

Dated 30th January, 1969, (for) Oil Conservation Engineer

Forms to be submitted in triplicate to Oil Conservation Engineer,
Department of Indian Affairs and Northern Development, Calgary, Alberta.

Drilling Authority No. 333

Project No.

File No.



DEPARTMENT OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT
~~MINERAL DEVELOPMENT~~ DIVISION
 OIL & MINERAL

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 **SHELL H.B. GAUSLER I-16**
 Location: Unit **I** Section **16** Grid **60° 30' 115° 45'**
 Latitude **60° 23' 37.66"** Longitude **115° 46' 55.57"**
 From Established Reference Marker **NE 36-131-10 WSM**
 Universal Well Location Reference **60.42713° N. Lat. 115.78210° W. Long.**
 Elevation: Ground **876.7** K.B. Approx. **890** feet above sea-level.
 Well is expected to produce from the **Keg River** formation at a depth
 of about **1400** feet. Expected total final depth **1935**
 Area assigned to well

(For Oil Conservation Engineer's use only)

Permit No. **4149** Lease No. **63,212**
 Permittee, licensee, or lessee **HUDSON'S BAY OIL AND GAS COMPANY LIMITED**
 Exploratory Licence No. **1096**
 Surface owned by Crown or **Crown**

(If applicant submit name and address of owner and acreage.)

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	Barrels of Cement
1. 7	20	J-55	New	200	90 sacks
2.					
3.					
4.					
5.					

Expected water, gas, and oil horizons and type of control equipment

Slave Point, Keg River

10" series 900 Mechanical Double Shaffer

10" series 600 G.R. Rydrill

Well will be drilled with Rotary Rig No. **93** by **SEDCO EXPLORATION LTD.**
 (Drilling Contractor or company)

Responsible agent of applicant:—

Contractor's Business Licence No. **A11203**

At well **R. W. Miller**
 Address **Box 186, Edmonton**

At registered office **A. H. McLechin**
 Address **Box 186, Edmonton**

It is understood that if changes become necessary, notice of the change of plan will be submitted.

Dated at **Edmonton**, this **9th** day of **December** 19 **68**

Signed by **[Signature]** Company **SHELL CANADA LIMITED**
 Title **MANAGER - EDMONTON DIVISION** Operator's Licence No. **1851**
PRODUCTION

(For Resource Management Division use only)

APPROVED

This application has been examined and approved subject to the following conditions:—
The Company will submit to this office, on Tuesday of each week, the latest report received by radio on the progress of the well.

Dated **11th December** 19 **68**

Oil Conservation Engineer

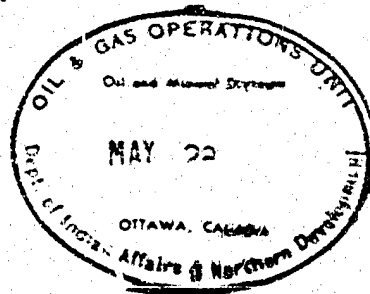
Forms to be submitted to Oil Conservation Engineer,
 Department of Indian Affairs and Northern Development, Calgary, Alberta.

LAND 52-90-1 (3-67)

UNIQUE WELL IDENTIFIER: 3001166030115450

SHELL HUDSON'S BAY GRUNTLE I-16

60 25 37.64 115 45 55.57



WELL HISTORY REPORT
SHELL H.B. GRUMBLER I-16
SHELL CANADA LIMITED
FEBRUARY 24, 1969



WELL HISTORY REPORT

GRUMBLER I-16

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SECTION I - SUMMARY OF WELL DATA

(a) Well Name and Number

Shell H.B. Grumbler I-16

(b) Permittee

Hudson's Bay Oil and Gas Company Limited

(c) Operator

Shell Canada Limited
P. O. Box 186
Edmonton, Alberta.

(d) Location

Latitude: 60° 25' 37.66"
Longitude: 115° 46' 55.57"
Unit I, Section 16, Grid 60°30'; 115°45'

(e) Co-Ordinates

Universal Well Location Reference - Lat. 60.42713° N.
Long. 115.78210° W.

(f) Unique Well Identifier - 3001266030115450
Permit or Lease Number

4149

(g) Drilling Contractor

Sedco Exploration Rig No. 94
Rotary

(h) Drilling Authority

No. 333 issued December 11, 1968

(i) Classification

Wildcat

(j) Elevations

G.L. 876.7'
K.B. 886.7'

(k) Spudded

10:00 A.M. January 4, 1969

(l) Completed Drilling

January 17, 1969

(m) Total Depth and Plugged Back Total Depth

T.D. 2324'

P.B.T.D. Surface

(n) Well Status

Dry and Abandoned

(o) Rig Released

3:00 P.M. January 23, 1969

(p) Hole Size

9 7/8" 0 - 169'

6-1/4" 169 - 2324'

(q) Casing

7" 20# J-55 ST&C new casing

set @ 219.78' K.B. with 175 sacks cement + 3% CaCl₂

SECTION II - GEOLOGICAL SUMMARY(a) Formation Tops

<u>Formation</u>	<u>Log</u>	<u>Sample</u>
Slave Point	960	960
Watt Mountain	1183	1225
Steen River	1192	1240
Muskeg	1270	
Methy	1696	1710
Bear Rock	2002	2000
Precambrian	2300	2314

(b) No Cores Cut(c) Sample Description

See Appendix 'A'

SECTION III - ENGINEERING SUMMARY

(a) Drill Stem Tests

<u>No.</u>	<u>Interval (Formation)</u>	<u>Remarks</u>
1	990-1010 (Slave Point)	Misrun, Packers failed
2	1090-1750 (Keg River)	
2A	1680-1760 (Keg River)	
3	1200-1250 (Steen River)	

For detailed description, see Appendix 'B'.

(b) Casing Record

7 Jts. 7" 20# J-55 ST&C new set @ 219.78' K.B.
 Plug down at 2:47 A.M. January 4, 1969 with 500 psi., with 175 sacks
 cement + 3% CaCl₂.

(c) Bit Record

<u>Run No.</u>	<u>Size</u>	<u>MFG.</u>	<u>Type</u>	<u>Serial No.</u>	<u>Cum Hrs.</u>	<u>Footage</u>
1A	9-7/8	H.W.	OSC-1G	BB201	14-1/2	188
2A	9-7/8	H.W.	OSC-1G	RR	3-3/4	37
1	6-1/4	H.W.	OSC-3J	1072	14-3/4	788
2	6-1/4	H.W.	OSC-1GJ	7153	12-1/4	131
3	6-1/4	H.W.	OWV-J	99625	17-1/4	152
4	6-1/4	H.W.	OWV-J	145	18-3/4	136
5	6-1/4	H.W.	OWV-J	979	6-3/4	57
6	6-1/4	H.W.	OWV-J	7152	20-1/4	148
7	6-1/4	H.W.	OWC-J	7140	20-3/4	141
8	6-1/4	H.W.	OWC-J	7144	19-1/4	146
9	6-1/4	H.W.	OWC-J	7142	12-3/4	105
10	6-1/4	H.W.	W7	2840	20-1/4	192
11	6-1/4	H.W.	W7	4243	13	103

(d) Mud Report

Caustic 650#
 Gel 16,600#
 CMC 450#
 Speresene 350#
 Soda Ash 750#

(e) Deviation Record

<u>Depth</u>	<u>Degrees</u>	<u>Depth</u>	<u>Degrees</u>
98	3/4	2176	3/4
188	3/4	2324	1
414	1/2		
801	7/8		
1072	3/4		
1335	3/4		
1600	3/4		
1880	1		

(f) Abandonment Plugs

Plug No. 1	2324-1590	170 sacks Const. Down at 1:30 A.M. January 23, 1969.
Plug No. 2	1260-910	87 sacks Const. + 2% CaCl ₂ . Down at 2:45 A.M. January 23, 1969. Felt at 865'.
Plug No. 3	270-Surface	59 sacks Const. Plug down at 11:55 A.M. January 23, 1969.

5 sacks in Rat Hole, Cut casing off 3' below G.L. welded on plate and erected 4' riser and name plate.

(g) Lost Circulation Zones

None

(h) Blowouts

None

SECTION IV - LOGS

<u>Type</u>	<u>Interval</u>	<u>Date</u>
IEL	2320-217	January 18, 1969
C-AL-CR	2318-217	January 18, 1969
C-DLC	2322-217	January 18, 1969
ML	2323-216	January 18, 1969
<i>CHC-Accounting</i> <i>Accounting</i> SEISMIC REFERENCE SURVEY	2322-216	January 19, 1969
DIP	2322-600'	January 18, 1969

SECTION V - ANALYSIS

(a) Core Analysis

None

(b) Water Analysis

See Appendix 'C' - Lab Reports Nos. 14, 15 & 16.

(c) Gas Analysis

None

(d) Oil Analysis

None

SECTION VI(a) Tubing Record

None

(b) Perforation Record

None

(c) Cementation Record

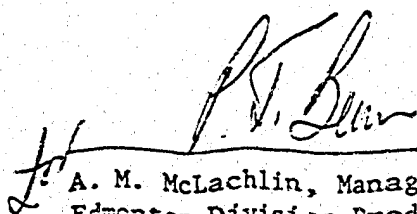
<u>Plug No.</u>	<u>Date</u>	<u>Interval</u>	<u>Formation</u>	<u>Cement</u>
1	1/23/69	2324-1590	Methy & PreCambrian	170 sacks
2	1/23/69	1260-910	Slave Point	87 sacks
3	1/23/69	270-Surface		59 sacks

(d) Acidization and Fracturing Record

None

(e) Back Pressure and Production Tests

None


A. M. McLachlin, Manager
Edmonton Division Production

APPENDIX A

SHELL HUDSON'S BAY CRIBBLER I-16

T.D. 2324'

K.B. 826.7'

LATITUDE: 60° 25' 37.66"

LONGITUDE: 115° 45' 55.57"

0' -230'

SAMPLES MISSING.

230' -240'

Shale

Calcareous shale with traces of dolomite.

240' -250'

Shale

Calcareous shale with traces of dolomite.

250' -260'

Shale

Calcareous shale with traces of dolomite.

260' -270'

Shale

Calcareous shale with traces of dolomite.

270' -280'

Shale

Calcareous shale with traces of dolomite.

280' -290'

Shale

Calcareous shale with minor amounts of quartz and chert; traces of siltstone.

290' -300'

Shale

Calcareous shale with minor amounts of quartz and chert; traces of siltstone.

300' -310'

Shale

Calcareous shale with minor amounts of quartz and chert; traces of siltstone.

310' -320'

Shale

Calcareous shale with minor amounts of quartz and chert; traces of siltstone.

320' -330'

Shale

Calcareous shale with minor amounts of quartz and chert; traces of siltstone.

330' -340'

Shale

Shale with traces of limestone, quartz, chert and siltstone.

340' -350'

Shale

Shale with traces of limestone, quartz, chert and siltstone.

350' -360'	Shale	Shale with traces of limestone, quartz, chert and siltstone.
360' -370'	Shale	Shale with traces of limestone.
370' -380'	Shale	Shale, slightly calcareous.
380' -390'	Shale	Shale with traces of chert.
390' -400'	Shale	Shale, slightly calcareous.
400' -410'	Shale	Shale, slightly calcareous.
410' -420'	Shale	Shale, slightly calcareous.
420' -430'	Shale	Shale, slightly calcareous.
430' -440'	Shale	Shale, slightly calcareous.
440' -450'	Shale	Shale, slightly calcareous.
450' -460'	Shale	Shale, slightly calcareous.
460' -470'	Shale	Shale, slightly calcareous.
470' -480'	Shale	Shale, slightly calcareous.
480' -490'	Shale	Shale, slightly calcareous.
490' -500'	Shale	Shale, slightly calcareous.
500' -510'	Shale	Shale, slightly calcareous with traces of limestone.
510' -520'	Shale	Shale, slightly calcareous, with traces of limestone.
520' -530'	Shale	Shale, slightly calcareous, with traces of limestone.
530' -540'	Shale	Shale, slightly calcareous, with traces of limestone.

540' -550'	Shale	Shale, slightly calcareous, with traces of limestone.
550' -560'	Shale	Shale, slightly calcareous, with traces of limestone.
560' -570'	Shale	Shale, slightly calcareous, with traces of limestone.
570' -580'	Shale	Shale, slightly calcareous, with traces of limestone.
580' -590'	Shale	Shale, slightly calcareous, with traces of limestone.
590' -600'	Shale	Shale, slightly calcareous, with traces of limestone.
600' -610'	Shale	Shale, slightly calcareous, with traces of limestone.
610' -620'	Shale	Shale, slightly calcareous, with traces of limestone.
620' -630'	Shale	Shale, slightly calcareous, with traces of limestone.
630' -640'	Shale	Shale, slightly calcareous, with traces of limestone.
640' -650'	Shale	Shale, slightly calcareous, with traces of limestone.
650' -660'	Shale	Shale, slightly calcareous, with traces of limestone.
660' -670'	Shale	Shale, slightly calcareous, with traces of limestone.
670' -680'	Shale	Shale, slightly calcareous, with traces of limestone.

680' -690'	Shale	Shale, slightly calcareous, with traces of limestone.
690' -700'	Shale	Shale, slightly calcareous, with traces of limestone.
700' -710'	Shale	Shale, slightly calcareous, with traces of limestone.
710' -720'	Shale	Shale, slightly calcareous, with traces of limestone.
720' -730'	Shale	Shale, slightly calcareous, with traces of limestone.
730' -740'	Shale	Shale, slightly calcareous, with traces of limestone.
740' -750'	Shale	Shale, slightly calcareous, with traces of limestone.
750' -760'	Shale	Shale, slightly calcareous, with traces of limestone.
760' -770'	Shale	Shale, slightly calcareous, with traces of limestone.
770' -780'	Shale	Shale, slightly calcareous, with traces of limestone.
780' -790'	Shale	Shale, slightly calcareous, with traces of limestone.
790' -800'	Shale	Shale, slightly calcareous, with traces of limestone.
800' -810'	Shale	Shale, slightly calcareous, with traces of limestone.
810' -820'	Shale	Shale, slightly calcareous, with traces of limestone.

820' -830'	Shale	Shale, slightly calcareous, traces of limestone.
830' -840'	Shale	Shale, slightly calcareous, with traces of limestone.
840' -850'	Shale	Shale, slightly calcareous, with traces of limestone.
850' -860'	Shale	Shale, slightly calcareous, with traces of limestone.
860' -870'	Shale	Shale, slightly calcareous, with traces of limestone.
870' -880'	Shale	Shale, slightly calcareous, with traces of limestone.
880' -890'	Shale	Shale, slightly calcareous, with traces of limestone.
890' -900'	Shale	Shale, slightly calcareous, with traces of limestone.
900' -910'	Shale	Shale, slightly calcareous, with traces of limestone.
910' -920'	Shale	Shale, slightly calcareous, with traces of limestone.
920' -930'	Shale	Shale, slightly calcareous, with traces of limestone.
930' -940'	Shale	Shale, slightly calcareous, with traces of limestone.
940' -950'	Shale	Shale, slightly calcareous, with traces of limestone.
950' -960'	Shale	Shale, slightly calcareous, with traces of limestone.

960' -970'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
970' -980'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
980' -990'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
990' -1000'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
1000' -1010'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
1010' -1020'	Limestone	Limestone, fossiliferous, with traces of sparry cement.
1020' -1030'	Limestone	Limestone, fossiliferous; some sparry cement.
1030' -1040'	Limestone	Limestone, fossiliferous; some sparry cement.
1040' -1050'	Limestone	Limestone, fossiliferous; some spar.
1050' -1060'	Limestone	Limestone, fossiliferous; some spar.
1060' -1070'	Limestone	Limestone, fossiliferous, some spar.
1070' -1080'	Limestone	Limestone, fossiliferous, some spar.
1080' -1090'	Limestone	Limestone, fossiliferous, some spar.
1090' -1100'	Limestone	Limestone, fossiliferous, some spar; streak of dolomitic limestone.
1100' -1110'	Limestone	Limestone with fossils in general; traces of spar.
1110' -1120'	Limestone	Limestone, with fossils in general; minor amounts of spar and anhydrite.

1120' -1130'	Limestone	Limestone with fossils in general; some spar. and anhydrite.
1130' -1140'	Limestone -Dolomite	Limestone with fossils, traces of spar; minor amounts of dolomite and anhydrite.
1140' -1145'	Dolomite	Dolomite with minor amounts of spar, limestone and anhydrite.
1145' -1150'	Anhydrite	Anhydrite.
1150' -1160'	Dolomite	Dolomite, sucrosic, with trace of fossils and spar.
1160' -1170'	Limestone -Dolomite	Limestone, fossiliferous, and dolomite sucrosic with replacement anhydrite and spar.
1170' -1175'	Limestone -Dolomite	Limestone, fossiliferous, and dolomite sucrosic with replacement anhydrite and spar.
1175' -1180'	Anhydrite	Anhydrite.
1180' -1190'	Dolomite	Dolomite with minor amounts of anhydrite; streaks of sucrosic dolomite and replacement anhydrite.
1190' -1200'	Limestone	Limestone, dolomitic with minor amounts of anhydrite; streaks of dolomitic and anhydritic limestone.
1200' -1210'	Limestone	Limestone with traces of dolomite, spar, and anhydrite with a streak of green shale.
1210' -1220'	Limestone	Limestone, dolomitic and sparry, with traces of anhydrite.
1220' -1230'	Limestone	Limestone with fossils and anhydrite, traces of spar.

1230' -1240'	Limestone	Limestone, with fossils and dolomitic, some anhydrite, streaks of dolomite and dolomitic spar.
1240' -1250'	Limestone	Limestone with fossils and dolomite, some anhydrite, streaks of dolomitic spar.
1250' -1260'	Dolomite	Dolomite, sucrosic with traces of anhydrite.
1260' -1270'	Dolomite	Dolomite, sucrosic and minor amounts of anhydrite.
1270' -1280'	Anhydrite	Anhydrite with traces of dolomite.
1280' -1290'	Anhydrite	Anhydrite with traces of dolomite.
1290' -1300'	Dolomite	Dolomite, fossiliferous with minor amounts of anhydrite.
1300' -1310'	Anhydrite	Anhydrite with traces of dolomite.
1310' -1320'	Dolomite	Dolomite, fossiliferous, with small amounts of anhydrite; streaks of anhydrite.
1320' -1330'	Dolomite	Dolomite, sucrosic, fossiliferous with small amounts of anhydrite.
1330' -1335'	Dolomite	Dolomite, sucrosic, fossiliferous with small amounts of anhydrite.
1335' -1340'	Anhydrite	Anhydrite with traces of dolomite.
1340' -1350'	Dolomite -Anhydrite	Dolomite, fossiliferous and slightly sucrosic and anhydrite.
1350' -1360'	Dolomite -Anhydrite	Dolomite, fossiliferous; slightly sucrosic and anhydrite.
1360' -1370'	Dolomite -Anhydrite	Dolomite, fossiliferous; slightly sucrosic and anhydrite.

1370' -1380'	Limestone	Limestone, fossiliferous with minor amounts of anhydrite and traces of spar.
1380' -1390'	Dolomite	Dolomite, fossiliferous with minor amounts of anhydrite; streaks of anhydrite.
1390' -1400'	Dolomite	Dolomite, fossiliferous with minor amounts of anhydrite; streaks of anhydrite.
1400' -1410'	Dolomite -Anhydrite	Dolomite, crystalline, and anhydrite.
1410' -1420'	Dolomite -Anhydrite	Dolomite, crystalline, and anhydrite.
1420' -1430'	Anhydrite	Anhydrite with traces of dolomite.
1430' -1440'	Dolomite	Dolomite, fossiliferous and crystalline; with minor amounts of spar and anhydrite.
1440' -1450'	Dolomite -Anhydrite	Dolomite, fossiliferous and crystalline; and replacement anhydrite.
1450' -1460'	Dolomite -Anhydrite	Dolomite, fossiliferous and crystalline; minor amounts of spar and anhydrite.
1460' -1470'	Anhydrite	Anhydrite with bands of crystalline dolomite.
1470' -1480'	Dolomite -Anhydrite	Interbeds of crystalline dolomite with fossils and bedded brown anhydrite.
1480' -1490'	Dolomite -Anhydrite	Interbeds of anhydrite with minor amounts of dolomite; and fossiliferous dolomite with minor amounts of anhydrite with traces of shale.
1490' -1500'	Anhydrite	Anhydrite with minor amounts of crystalline dolomite.
1500' -1510'	Anhydrite -Dolomite	Anhydrite with crystalline dolomite.

1510' -1520'	Anhydrite -Dolomite	Anhydrite with crystalline dolomite.
1520' -1530'	Dolomite -Anhydrite	Dolomite, crystalline and slightly sucrosic with minor amounts of anhydrite.
1530' -1540'	Anhydrite	Anhydrite with bands of fossiliferous, sparry, anhydritic dolomite.
1540' -1550'	Anhydrite	Anhydrite, with bands of fossiliferous, sparry, anhydritic dolomite.
1550' -1560'	Anhydrite	Anhydrite with minor amounts of crystalline dolomite.
1560' -1570'	Dolomite	Dolomite, slightly sucrosic, crystalline, with minor amounts of anhydrite.
1570' -1580'	Anhydrite	Anhydrite.
1580' -1590'	Dolomite	Dolomite, slightly sucrosic, crystalline, with minor amounts of anhydrite; bands of anhydrite.
1590' -1600'	Dolomite -Anhydrite	Dolomite, fossiliferous, some sparry cement and anhydrite.
1600' -1610'	Dolomite	Dolomite, fossiliferous, crystalline, with some spar and anhydrite.
1610' -1620'	Dolomite	Dolomite, fossiliferous, crystalline, with traces of spar; anhydrite.
1620' -1630'	Dolomite	Dolomite, fossiliferous and crystalline; minor amounts of anhydrite.
1630' -1640'	Dolomite	Dolomite, crystalline, with minor amounts of anhydrite; bands of anhydrite.
1640' -1650'	Dolomite	Dolomite, crystalline, with minor amounts of anhydrite; bands of anhydrite.
1650' -1660'	Dolomite	Dolomite, sucrosic and crystalline, traces of anhydrite.
1660' -1670'	Dolomite	Dolomite, sucrosic and crystalline, with minor amounts of anhydrite.

1670' -1680'	Dolomite -Anhydrite	Dolomite, fossiliferous, crystalline, with minor amounts of anhydrite.
1680' -1690'	Dolomite -Anhydrite	Dolomite, fossiliferous, crystalline, with minor amounts of anhydrite.
1690' -1700'	Dolomite -Anhydrite	Dolomite, fossiliferous, slightly sucrosic, with minor amounts of anhydrite.
1700' -1710'	Dolomite -Anhydrite	Dolomite, fossiliferous, slightly sucrosic, minor amounts of anhydrite; bands of dolomitic anhydrite.
1710' -1720'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite.
1720' -1730'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite.
1730' -1740'	Dolomite	Dolomite, slightly sucrosic, traces of Anhydrite.
1740' -1750'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite.
1750' -1760'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite.
1760' -1770'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite, minor amounts of spar.
1770' -1780'	Dolomite	Dolomite, slightly sucrosic, traces of anhydrite, minor amounts of spar.
1780' -1790'	Dolomite	Dolomite, slightly sucrosic, minor amounts of anhydrite and spar.
1790' -1800'	Dolomite	Dolomite, slightly sucrosic, minor amounts of spar, traces of anhydrite and shale.
1800' -1810'	Dolomite	Dolomite, slightly sucrosic, minor amounts of spar and anhydrite, traces of shale.
1810' -1820'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of anhydrite, traces of spar and shale.

1820' -1830'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of anhydrite, traces of spar and shale.
1830' -1840'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of anhydrite, traces of spar and shale.
1840' -1850'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of anhydrite, traces of spar and shale.
1850' -1860'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of anhydrite, traces of spar and shale.
1860' -1870'	Dolomite	Dolomite, very slightly sucrosic, traces of fossils and spar, minor amounts of anhydrite.
1870' -1880'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of spar, traces of anhydrite.
1880' -1890'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, minor amounts of spar, traces of anhydrite.
1890' -1900'	Dolomite	Dolomite, trace of fossils, slightly sucrosic, minor amounts of anhydrite and spar; streaks of shale.
1900' -1910'	Dolomite	Dolomite, very slightly sucrosic, minor amounts of spar, traces of anhydrite; streaks of shale.
1910' -1920'	Dolomite	Dolomite, very slightly sucrosic, minor amounts of spar and anhydrite, traces of shale, fossiliferous.
1920' -1930'	Dolomite	Dolomite, fossiliferous, crystalline, minor amounts of spar.
1930' -1940'	Dolomite	Dolomite, fossiliferous, crystalline, traces of spar and shale.

1940' -1950'	Dolomite	Dolomite, fossiliferous, crystalline, traces of shale streaks; very slightly sucrosic.
1950' -1960'	Dolomite	Dolomite, fossiliferous, crystalline, traces of shale streaks, very slightly sucrosic.
1960' -1970'	Dolomite	Dolomite, slightly sucrosic, fossiliferous, traces of sparry cement and shale.
1970' -1980'	Dolomite	Dolomite, slightly sucrosic, fossils, traces of sparry cement and anhydrite.
1980' -1990'	Dolomite	Dolomite, slightly sucrosic, fossils, traces of sparry cement and anhydrite.
1990' -2000'	Dolomite	Dolomite, very slightly sucrosic, some fossils, minor amounts of spar, traces of shale.
2000' -2010'	Dolomite -Anhydrite	Dolomite, crystalline and fossiliferous, with anhydrite.
2010' -2020'	Dolomite -Anhydrite	Dolomite, crystalline and fossiliferous, with anhydrite.
2020' -2030'	Dolomite -Anhydrite	Dolomite, crystalline and fossiliferous, with replacement anhydrite; bands of dolomitic anhydrite.
2030' -2040'	Anhydrite	Anhydrite with minor amounts of crystalline dolomite; streaks of anhydritic dolomite.
2040' -2050'	Anhydrite -Dolomite	Anhydrite with minor amounts of dolomite.
2050' -2060'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite.
2060' -2070'	Anhydrite -Dolomite	Anhydrite, with crystalline, fossiliferous dolomite.
2070' -2080'	Anhydrite -Dolomite	Anhydrite, with crystalline, fossiliferous Dolomite.

2080' -2090'	Anhydrite -Dolomite	Anhydrite with crystalline dolomite; bands of anhydritic dolomite.
2090' -2100'	Anhydrite -Dolomite	Anhydrite with crystalline dolomite; bands of anhydritic dolomite.
2100' -2110'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite; traces of shale.
2110' -2120'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite; traces of shale.
2120' -2130'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale.
2130' -2140'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale.
2140' -2150'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale.
2150' -2160'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale; bands of dolomitic anhydritic shale.
2160' -2170'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale; bands of dolomitic anhydritic shale.
2170' -2180'	Anhydrite -Dolomite	Anhydrite, with crystalline dolomite, some fossils; traces of shale; bands of dolomitic anhydritic shale.
2180' -2190'	Anhydrite -Shale	Interbeds of dolomitic anhydrite and dolomitic shale with traces of anhydrite.
2190' -2200'	Anhydrite -Shale	Interbeds of dolomitic anhydrite and dolomitic shale with traces of anhydrite.
2200' -2210'	Shale -Anhydrite	Interbeds of dolomitic shale and dolomitic anhydrite with traces of shale.
2210' -2220'	Anhydrite	Anhydrite with small amounts of dolomite and shale.

2220' -2230'	Anhydrite	Anhydrite with minor amounts of shale and dolomite.
2230' -2240'	Shale -Anhydrite	Shale and anhydrite with minor amounts of dolomite.
2240' -2250'	Shale -Anhydrite	Shale and anhydrite with minor amounts of dolomite.
2250' -2260'	Shale	Shale with minor amounts of dolomite and anhydrite.
2260' -2270'	Shale	Shale with minor amounts of dolomite and anhydrite.
2270' -2280'	Shale	Shale with minor amounts of dolomite and anhydrite.
2280' -2290'	Shale	Shale with minor amounts of dolomite and anhydrite.
2290' -2300'	Anhydrite	Anhydrite with shale and minor amounts of dolomite.
2300' -2308'	Dolomite	Dolomite, crystalline with minor amounts of anhydrite.
2308' -2324'	Granite	Fresh pink granite.

APPENDIX B

JOHNSTON ISLAND

[illegible]

D 02527

PRESSURE DATA

FLUID SAMPLE REPORT

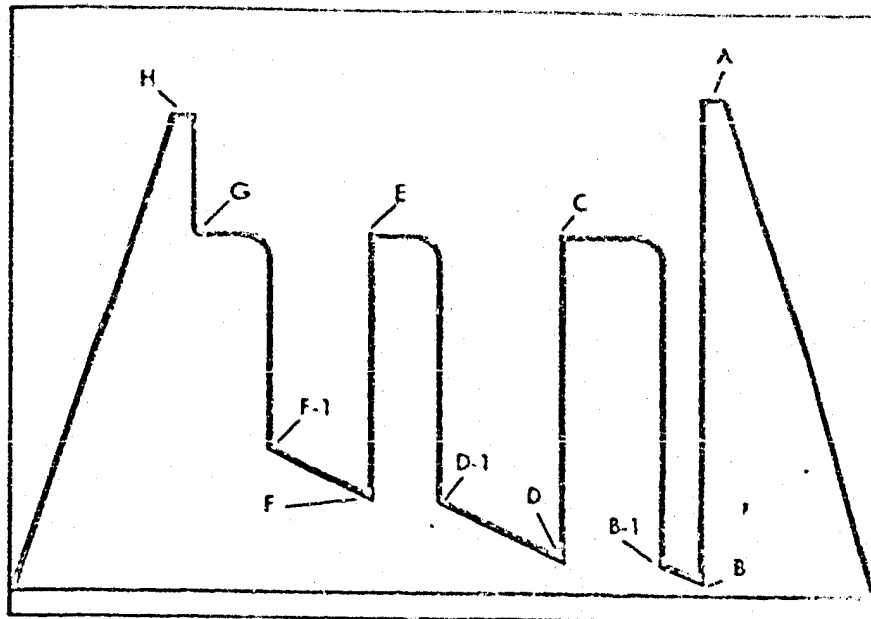
INSTRUMENT NO.		AKI-2000	AKI-2502	AKI-2105	Sample No.
CAPACITY (gms)		4400	4600	4650	Type _____
INSTRUMENT DEFINIT		970	1003	1020	Dens. _____ ft
INSTRUMENT OPENING		INSIDE	OUTSIDE	OUTSIDE	Volume _____
PRESSURE GRADIENT (psig)					
WELL TEMP. °F		85°	88°	88°	
INITIAL HYDROSTATIC	A	482%	494%	515%	Sample Pressure _____
FIRST FLOW	B	42%	65%		15' psig at Surface
B-1		57%	68%	A-1 530%	Gravity _____ API (G) _____ °F
INITIAL SHUT-IN	C	343%	356%		Gas Oil Ratio _____ Cu.Ft./Bbl
SECOND FLOW	D	60%	62%		
D-1		81%	81%	RAM BELOW	Recovery _____
SECOND SHUT-IN	E			STRADDLE	Cu. Ft. Gas _____
THIRD FLOW	F				cc. Oil _____
				A-2 407%	cc. Water _____
FINAL SHUT-IN	G	345%	356%		cc. Mud _____
FINAL HYDROSTATIC	H	471%	482%	506%	Total Liquid cc _____

REMARKS:

PRESSURE INCREMENTS ON RECORDER AKI-2562

[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z—Special pressure points such as pumping pressures recorded for formation breakdown.

JOHNSTON TESTERS

FIELD
REPORT NO.

D 02527

RECORDER NO.

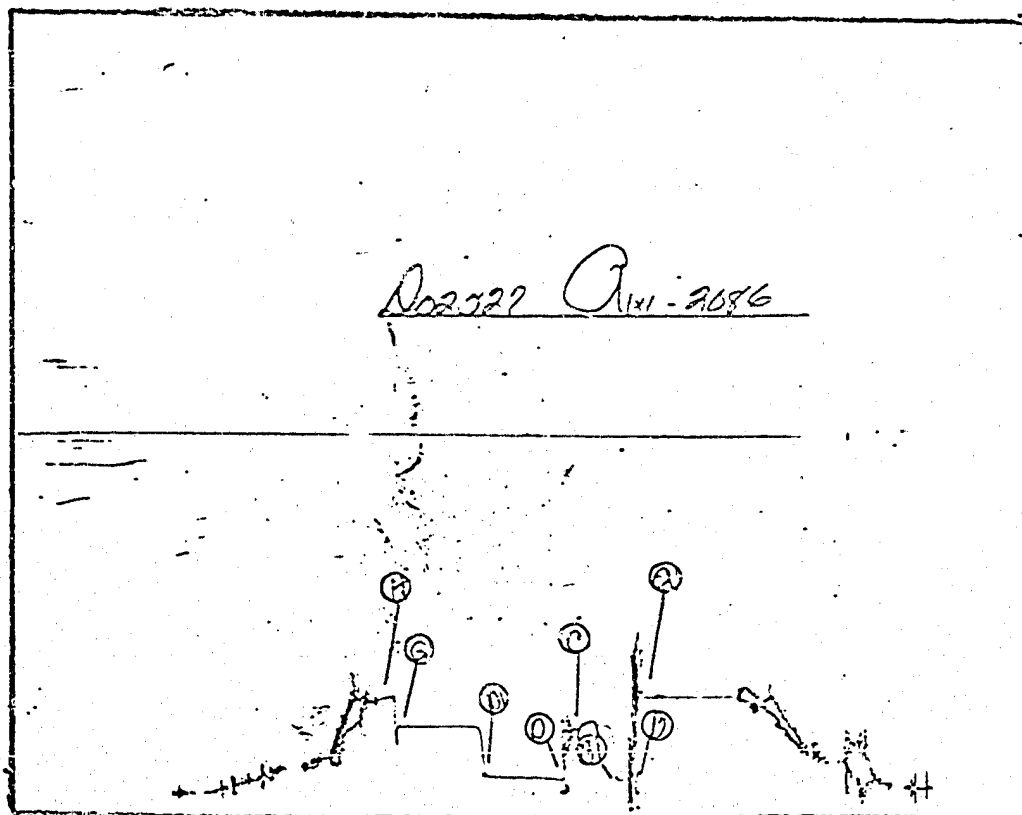
AK1-2086

CAPACITY

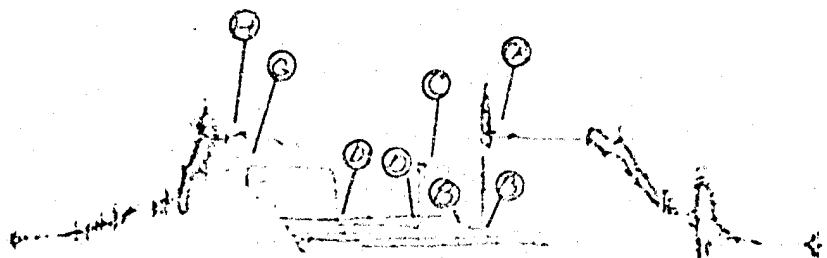
4400

REPORTS
REQUESTED

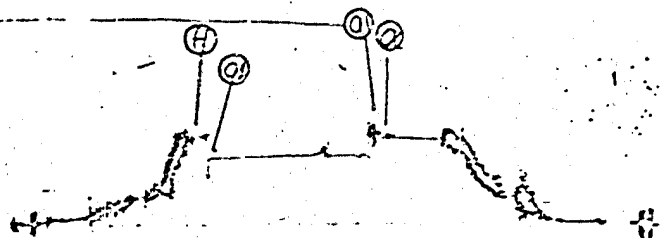
5



DC2527 A-2542



DC2527 A-2115
Ran Barro Straddle



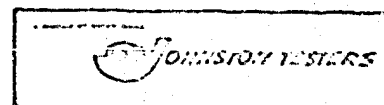
TEST DATA				TOOL SEQUENCE		
Formation	Zone Thickness		Fl	Tool	Length	O.D.
Interval	1690	To 1750	T.D. 2324	P. O. SUB.	.75	
Type of Test	OPEN HOLE, STRADDLE, BYPASS.			D. P. SUB.	.70	
Time Started in Hole	0100	Hrs	Test Opened 0550	HSE TOOL	9.10	
First Flow	5	Min	Initial Shut In 60	BYPASS TOOL	2.98	
Second Flow	12	Min	Second Shut In	JARS	6.75	
Third Flow		Min	Final Shut In 90	RECORDER	5.90	
Pulled Loose ft	0837	Hrs	Out of Hole 1200	RECORDER	4.40	
Wt. Section Packers	STRING	#	Pulled Loose Wt 20,000	H. SUB.	.85	
Description of Blow During Test				SAFETY JOINT	1.70	
				S. S. & PACKER	8.20	
				T. C. & PACKER	5.25	
				TOTAL	46.58	
STRONG AIR FLOW THROUGHOUT TEST						
FLUID RECOVERY				Was Test Reverse Circulated Yes ☐ No ☒		
Total Fluid Recovered 930'				Fl.		
Description of Fluid Recovered				STUB.		
				PERF.		
				R. SUB.		
				RECORDER		
				RECORDER		
				SUB.		
				DRILL COLLAR		
				SUB.		
				T. C. & SUB.		
				TOTAL INTERVAL		
				PACKER		
				T. C. & PACKER		
				PERF.		
				SUB.		
				DRILL PIPE		
				TOTAL LENGTH		
				Elevation 890 (APPROX) KB, 876.7 GL.		
				Bottom Hole Choke Size		
				Fluid Cushion Type		
				MUD AND HOLE DATA		
				Mud Type		
				Filter Cake		
				Time Taken		
				Contractor		
				Drill Pipe Size		
				Drill Collar Size		
				Main Hole Size		
				Rat Hole Size		
REMARKS: MISRUN, SEAT FAILURE.						
RESISTIVITY				CHLORIDE CONTENT		
Recovery Water @ °F. ppm.						
Mud Pit sample filtrate @ °F. ppm.						
District HIGH LEVEL Ticket No. D 01949				Date JAN. 19, 1969 Test No. 2 J.T. No. 2		
Company SPELL CANADA LIMITED				Address Box 186		
Well Name SHELL H.B. GRUMBLER #1-16				EDMONTON, ALBERTA		
Number LAT 60°25'37.66"N.L., LONG 115°46'55.57"W.L.				Province NORTH WEST TERRITORIES		
Formation				Co. Rep. R MILLER		
and Interval 1690 - 1750 DST#2				Technician G JACKSON		
Distribution of Reports						
5 - EDMONTON						

PRESSURE DATA

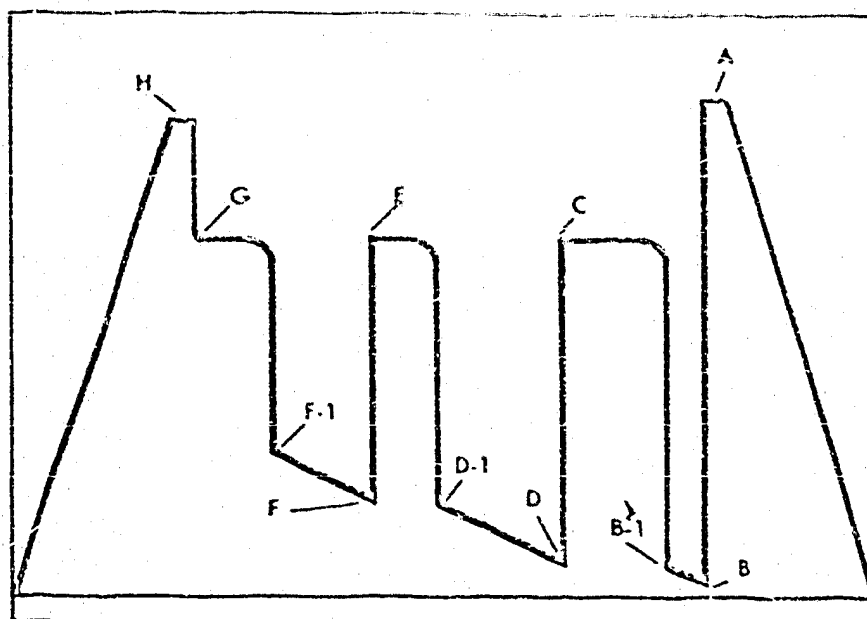
INSTRUMENT NO.		AKI-778	AKI-2524	AKI-2527	AKI-2083	FIELD REPORT No. D 01849	
CAPACITY (gals)		6500	4450	4000	4200		
INSTRUMENT DEPTH		1668	1673	1767	1772		
INSTRUMENT OPENING		INSIDE	INSIDE	OUTSIDE	OUTSIDE		
PRESSURE GRADIENT (psi/ft)							
WELL TEMP °F.		91°	91°	91°	91°	TIME DATA	
INITIAL HYDROSTATIC		A 765#	789#	800#	812#	TIME GIVEN	TIME COMPUTED
FIRST FLOW		B 50#	50#	150#	144#	MINS	MINS
B-1		250#	252#	323#	331#		
INITIAL SHUT-IN		C 790# FALSE	791# FALSE	813# FALSE	818# FALSE	MINS	MINS
SECOND FLOW		D 281#	282#	347#	341#	MINS	MINS
D-1		485#	493#	540#	545#		
SECOND SHUT-IN		E				MINS	MINS
THIRD FLOW		F				MINS	MINS
FINAL SHUT-IN		G 795# FALSE	800# FALSE	816# FALSE	819# FALSE	MINS	MINS
FINAL HYDROSTATIC		H 796#	801#	818#	821#	CLOCK TRAVEL	IN/MIN
REMARKS:							

PRESSURE INCREMENTS

[illegible]



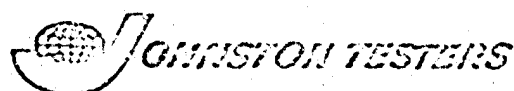
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

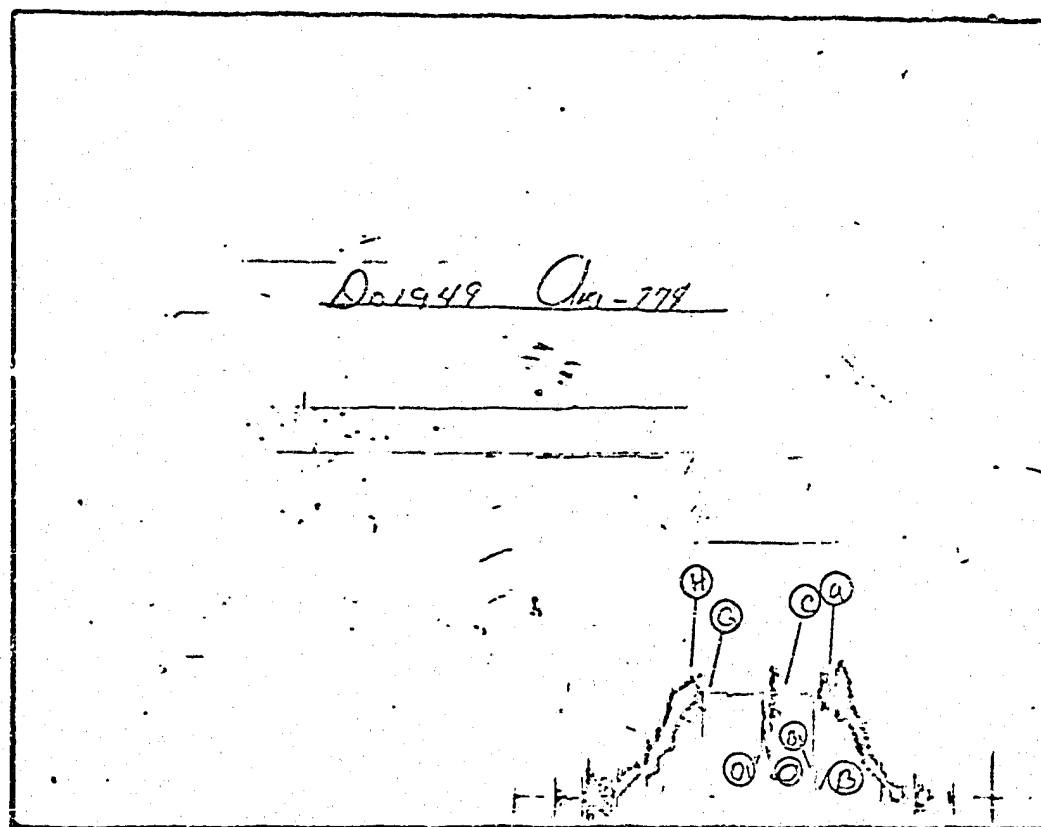


FIELD
REPORT NO.
D 01949

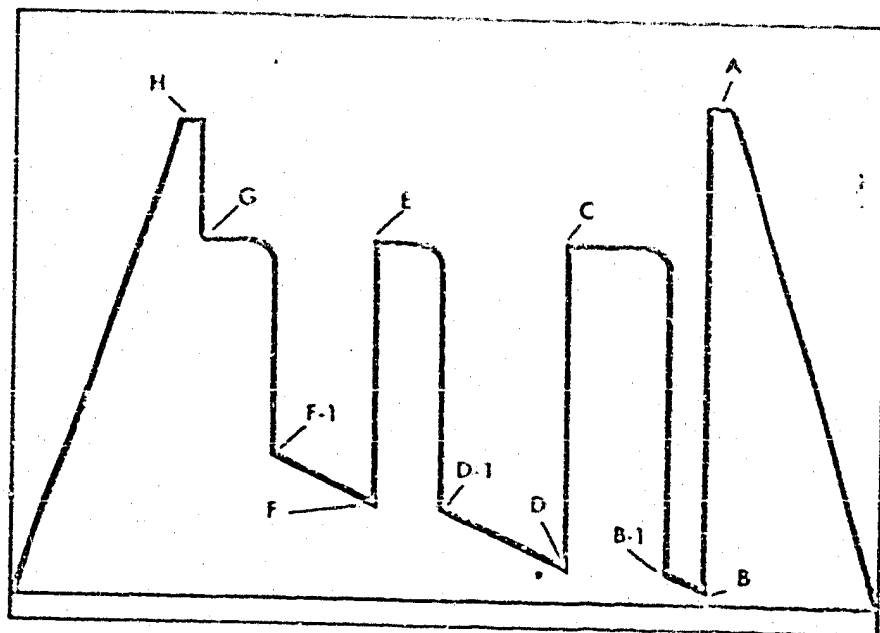
RECORDER NO.
AK1-778

CAPACITY
6500

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z - Special pressure points such as pumping pressures recorded for formation breakdown.

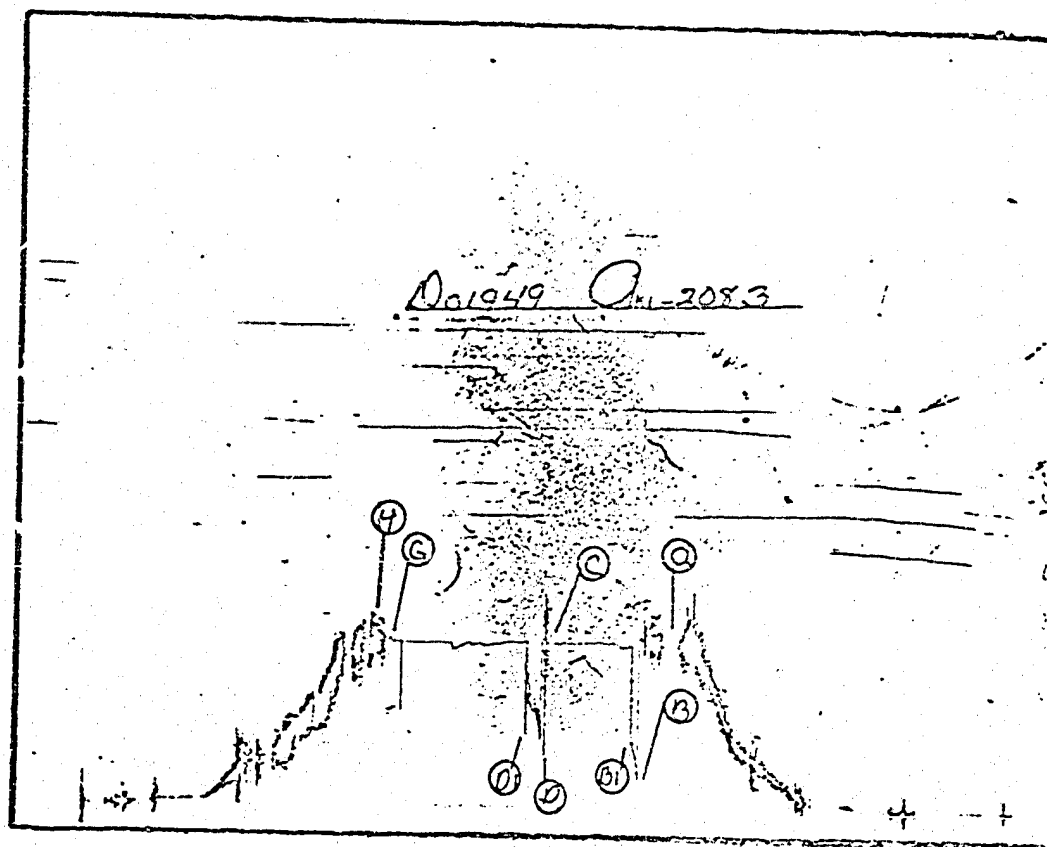
JOHNSTON TESTERS

FIELD
REPORT NO
D 01949

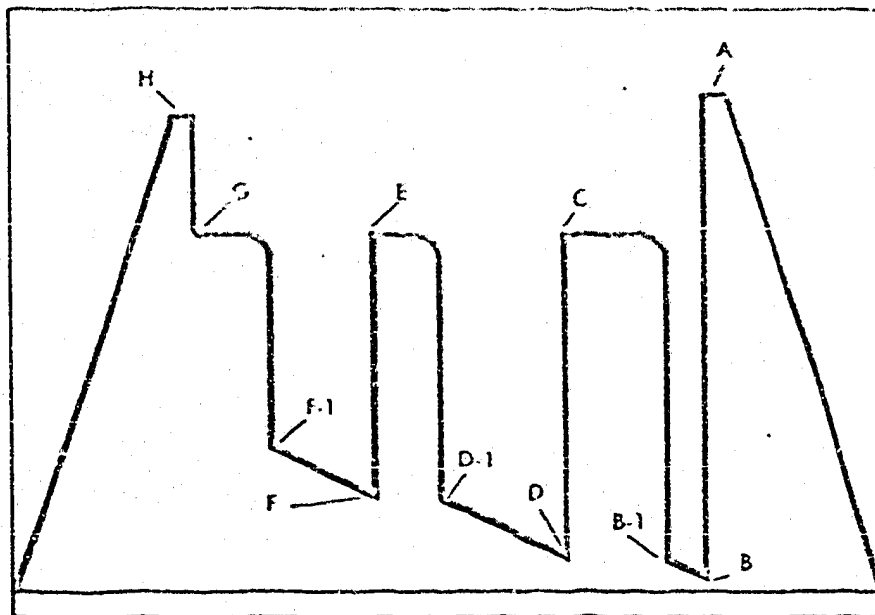
RECORDER NO
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

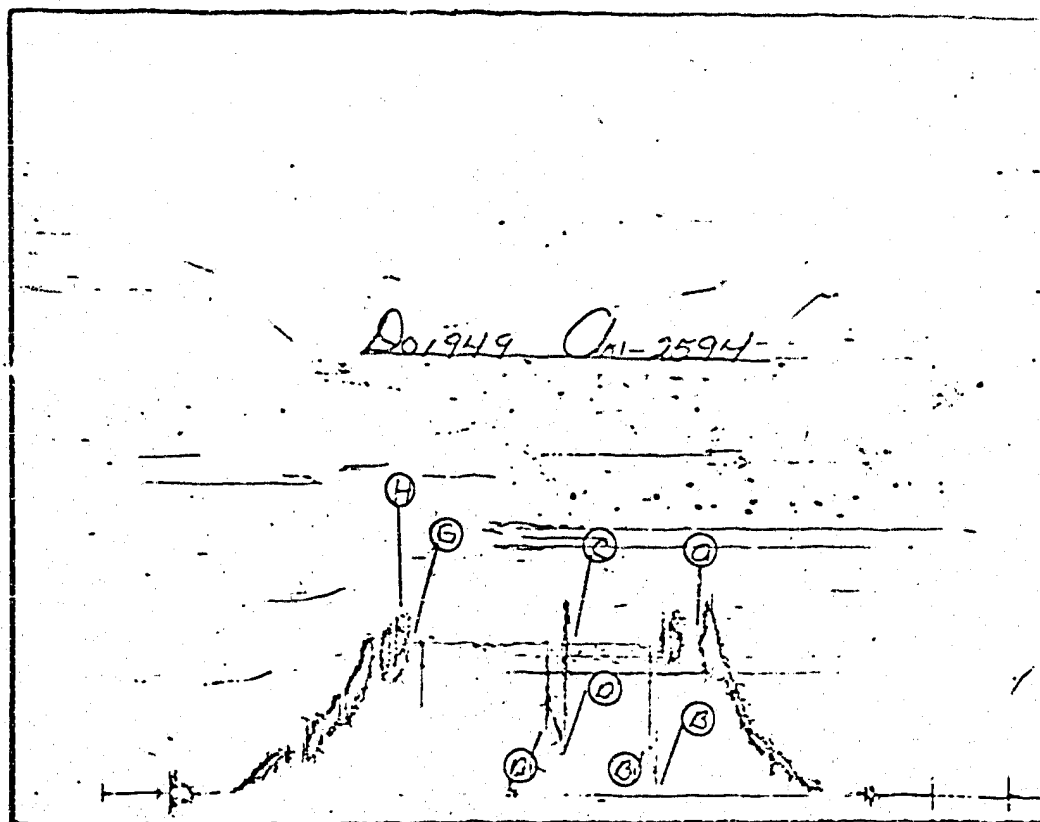
JOHNSON TESTERS

FIELD
REPORT NO.
D 01949

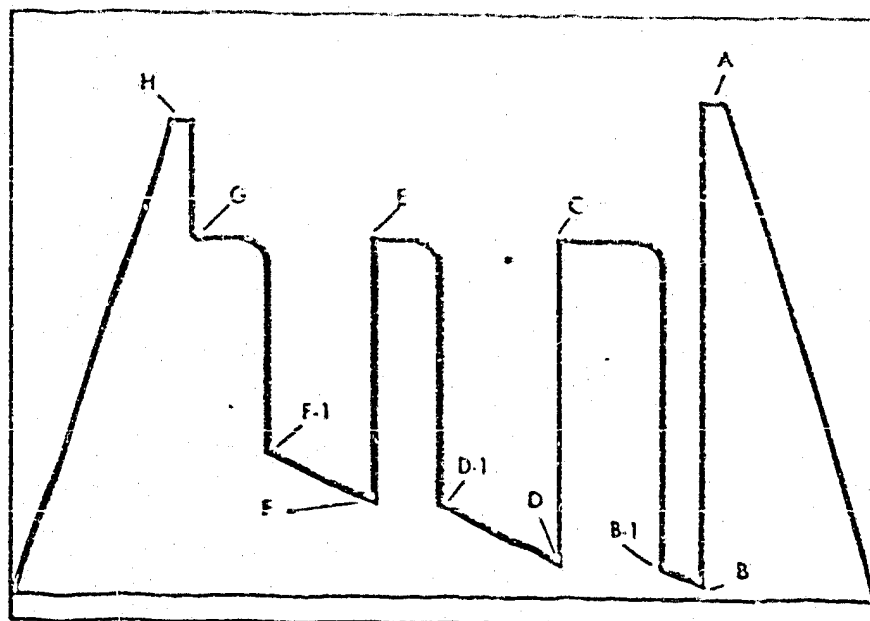
RECORDER NO.
AKI-2594

CAPACITY
4450

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z - Special pressure points such as pumping pressures recorded for formation breakdown.

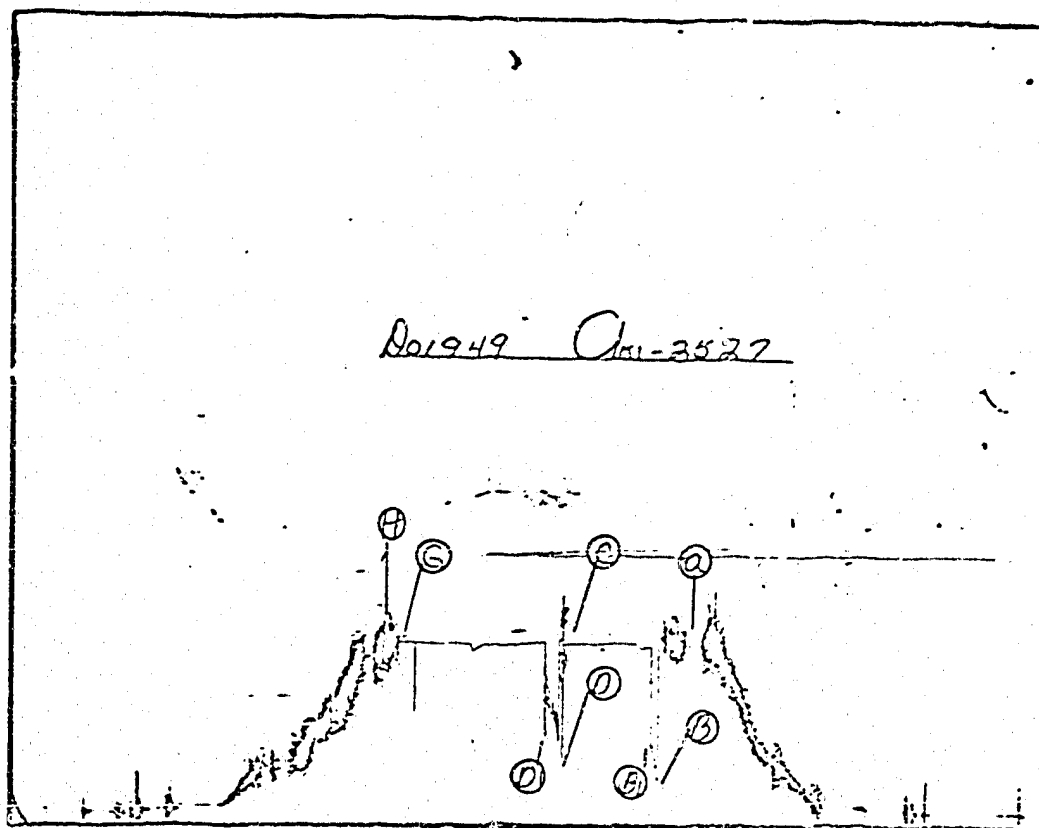
JOHNSTON TESTERS

FIELD
REPORT NO
D 01949

RECORDER NO
AKI-2527

CAPACITY
4000

REPORTS
REQUESTED
5



TEST DATA						TOOL SEQUENCE		
Formation	Keg River	Zone Thickness		Fl.		Tool	Length	O.D.
Interval	1680	To	1760	I.D.	2324	P.O. Sub	.75	
Type of Test	Open Hole, Straddle, Bypass					D.P. Sub	.70	
Time Started in Hole	0200 Hrs	Tool Opened	0955	Hrs		MPE Tool	9.10	
First Flow	5 Min	Initial Shut-In	60	Min		Bypass Tool	2.98	
Second Flow	90 Min	Second Shut-In		Min		Jars	6.75	
Third Flow		Final Shut-In	90	Min		Recorder	5.90	
Pulled Loose @	1400 Hrs	Out of Hole	1700	Hrs		Recorder	4.40	
Wt. Sit/on Packers	#	Pulled Loose Wt.	16,000	#		H. Sub	.85	
Description of Blow During Test						Safety Joint	1.70	
Weak air blow decreasing to steady 1/8" blow in pail throughout test. Tool was chased 25' during test period						SS & Packer	8.20	
FLUID RECOVERY Was Test Reverse Circulated Yes ☐ No ☒						TC & Packer	5.25	
Total Fluid Recovered	442'			Fl.		Total	46.58	
Description of Fluid Recovered						Stub	1.35	
442' water cushion and drilling fluid						Perf	8.00	
						R Sub	.85	
						Recorder	4.40	
						Recorder	4.40	
						Sub	.75	
						Drill Collar	56.54	
						Sub	.75	
						TC & Stub	3.10	
						Total Interval	80.14	
GAS BLOW MEASUREMENT								
Measured With I.D. Riser								
Type of Instrument						Packer	2.25	
Time	Size Choke	Reading Inches	M Cubic Feet/Day			TC & Packer	6.55	
						Perf	15.00	
						Sub	.75	
						Drill Pipe	539.31	
						Total Below Intv.	563.86	
						TOTAL LENGTH	690.58	
						Elevation Approx.	890 KB 876.7 GL	
						Bottom Hole Choke Size	1/2"	
REMARKS:						Fluid Cushion Type Inhibitor Amt.	250'	
Test Satisfactory						MUD AND HOLE DATA		
						Mud Type Gel	W.L. 10.0	
						Filter Cake 2/32 Visc.	52 Wt. 9.5	
						Time Taken		
						Contractor Sedco Drilling	Rig No. 94	
						Drill Pipe Size 3 1/2" IF		
						Drill Collar Size 7/8" ID Length	463.91	
						Main Hole Size 6 1/4"		
						Rat Hole Size		
REGISTIVITY CHLORIDE CONTENT								
Recovery Water	@	°F.		ppm.				
Mud Pit sample filtrate	@	°F.		ppm.				
District High Level Ticket No. D 01950					Date January 21, 1969 Test No. 3 J.T. No. 3			
Company Shell Canada Limited					Address Box 186			
Well Name Shell/B.E. Grumbler I-16					Edmonton			
Number Lat 60°25'37.66"N Long 115°46'55.57"W					Province N.W.T.			
Formation Keg River					Co. Rep. P. Miller			
and Interval 1680 - 1760 DST#2A					Technician G. Jackson			
Distribution of Reports					5 - Edmonton			

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JOHNSTON TESTING

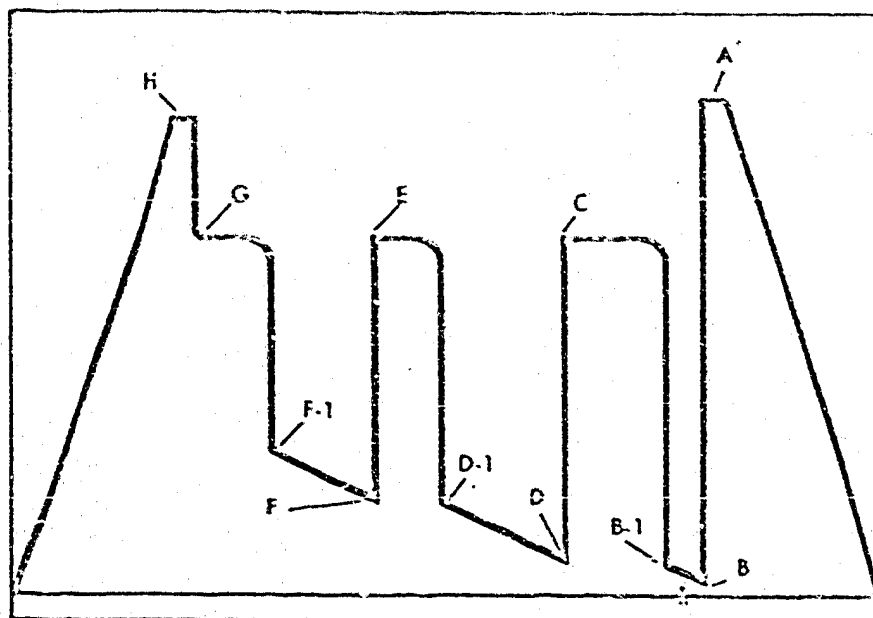
PRESSURE DATA

INSTRUMENT No.		AK1-772	AK1-2594	AK1-2527	AK1-2083	FIELD REPORT No. D 01950	
CAPACITY (cu-in)		6500	4450	4000	4200		
INSTRUMENT DEPTH		1658	1663	1691	1695		
INSTRUMENT OPENING		Inside	Inside	Outside	Outside		
PRESSURE GRADIENT lb/ft							
WELL TEMP °F.		91°	91°	91°	91°	TIME DATA	
INITIAL HYDROSTATIC	A	808#	809#	817#	823#	TIME GIVEN	TIME COMPUTED
FIRST FLOW	B	100#	107#	125#	128#	5 MINS	MINS
	E-1	116#	119#	132#	136#		
INITIAL SHUT-IN	C	696#	697#	712#	718#	60 MINS	MINS
SECOND FLOW	D	172#	167#	189#	180#	90 MINS	MINS
	D-1	223#	223#	236#	243#		
SECOND SHUT-IN	E					MINS	MINS
THIRD FLOW	F					MINS	MINS
FINAL SHUT-IN	G	687#	677#	End of	End of	90 MINS	MINS
FINAL HYDROSTATIC	H	815#	End of	Chart	Chart	CLOCK TRAVEL	IN/MIN

PRESSURE INCREMENTS ON RECORDER AK1-778

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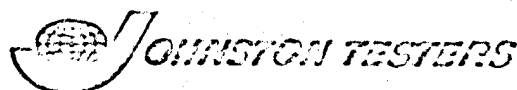
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z—Special pressure points such as pumping pressures recorded for formation breakdown.

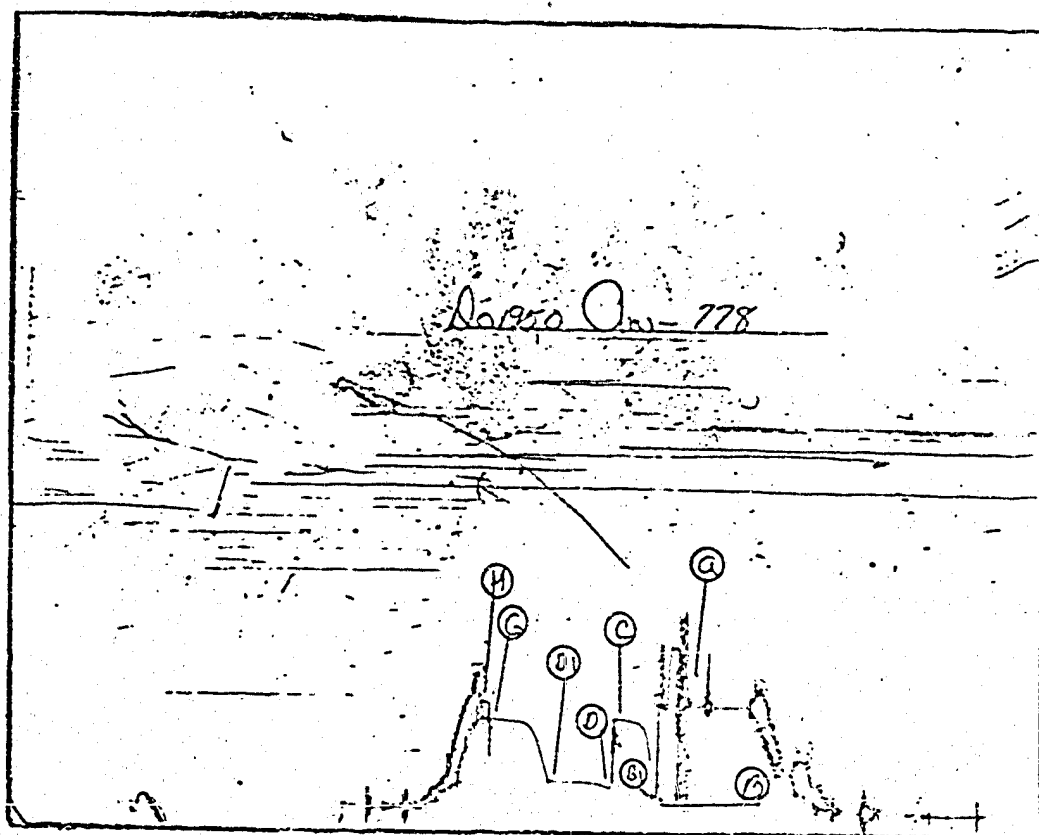


FIELD
REPORT NO.
D 01950

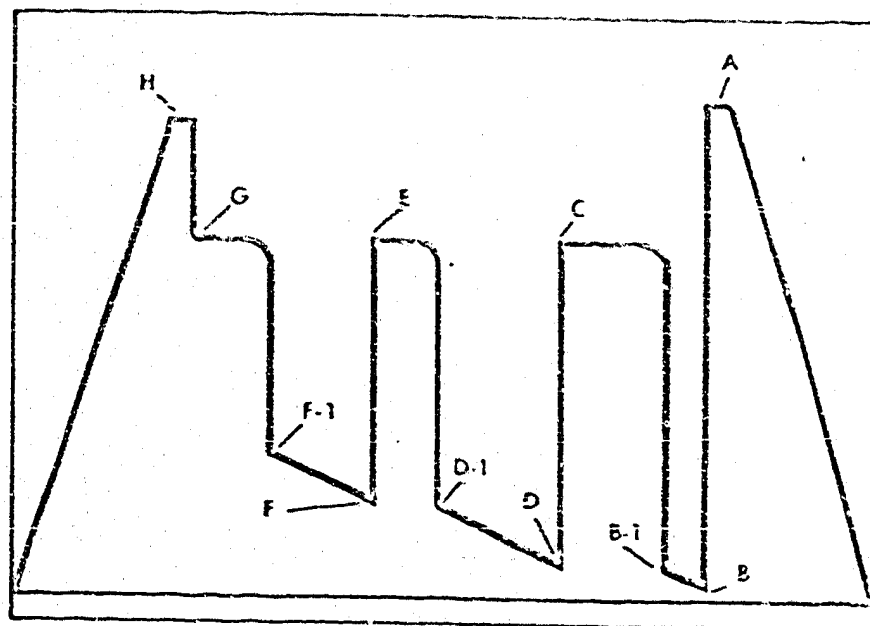
RECORDER NO.
AK1-778

CAPACITY
6500

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C. Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z— Special pressure points such as pumping pressures recorded for formation breakdown.

JOHNSTON TESTERS

FIELD
REPORT NO.

D 01950

RECORDER NO.

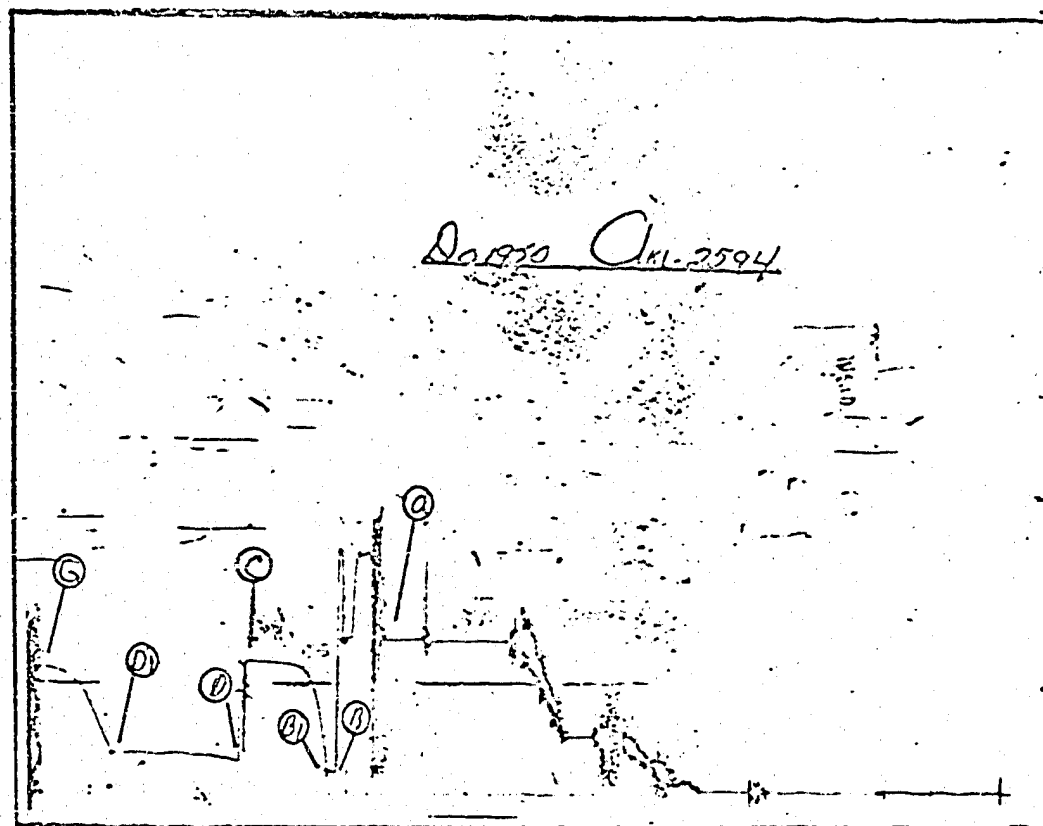
AK1-2594

CAPACITY

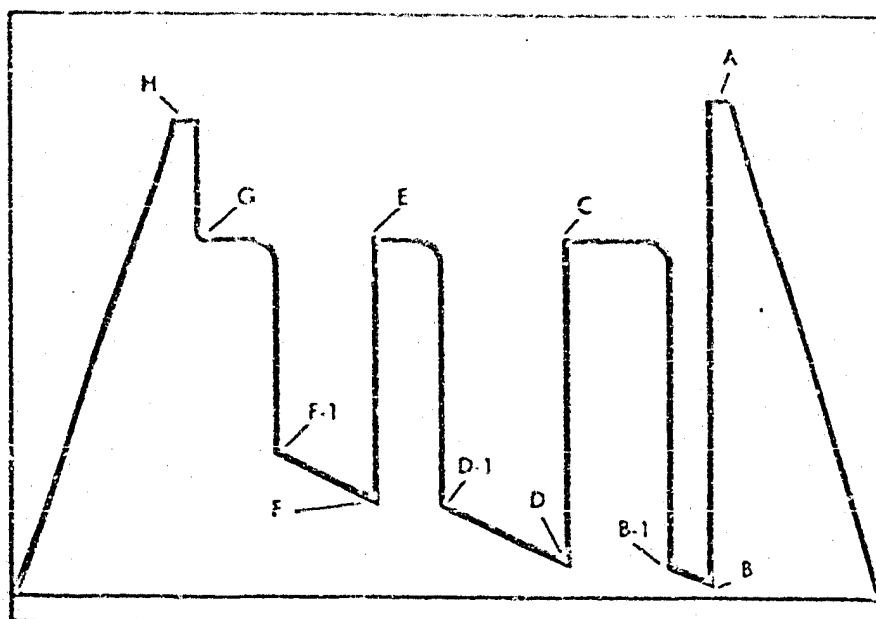
4450

REPORTS
REQUESTED

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GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

JOHNSON TESTERS

FIELD
REPORT NO.

D 01950

RECORDER NO.

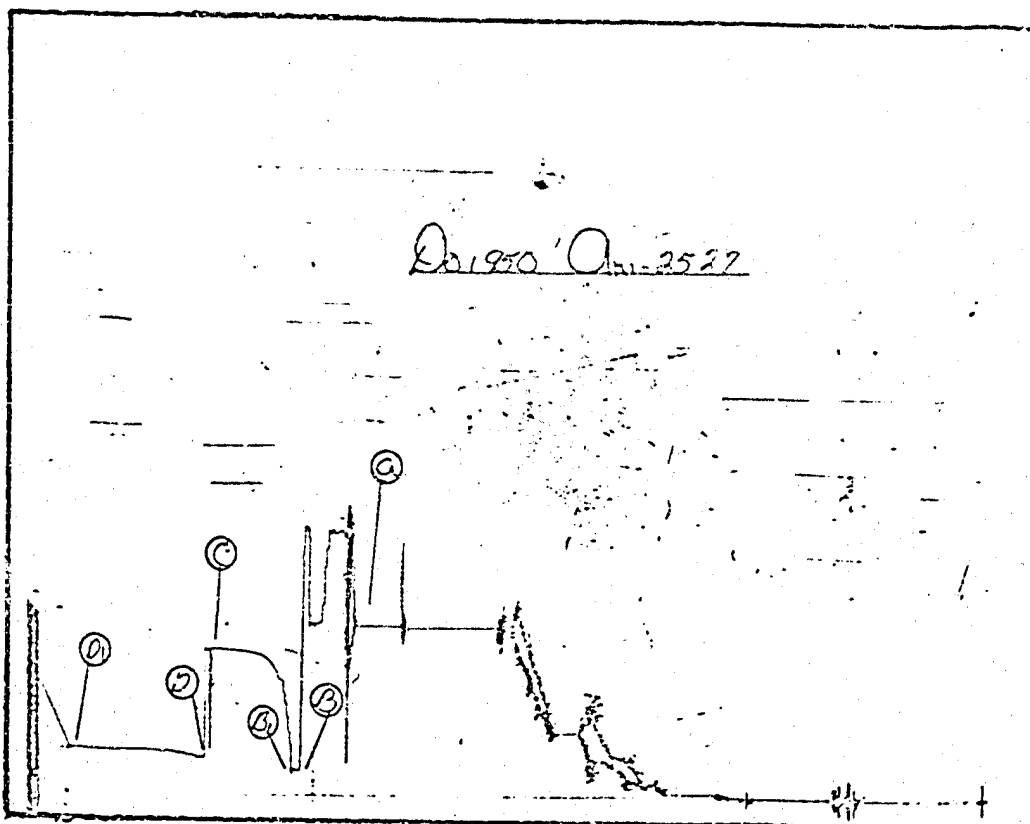
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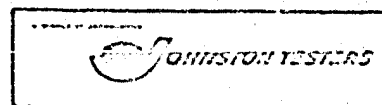
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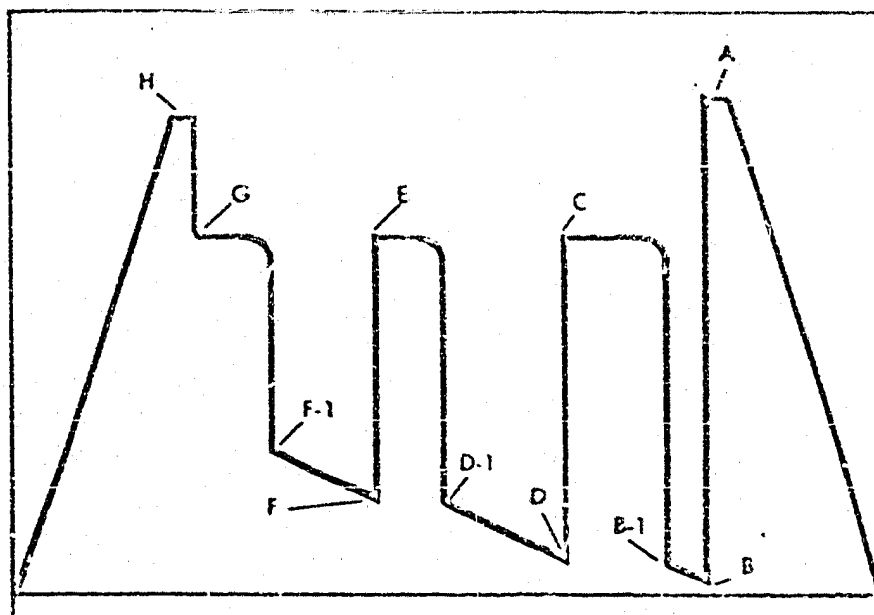
REPORTS
REQUESTED

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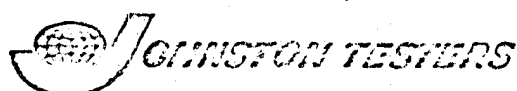
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

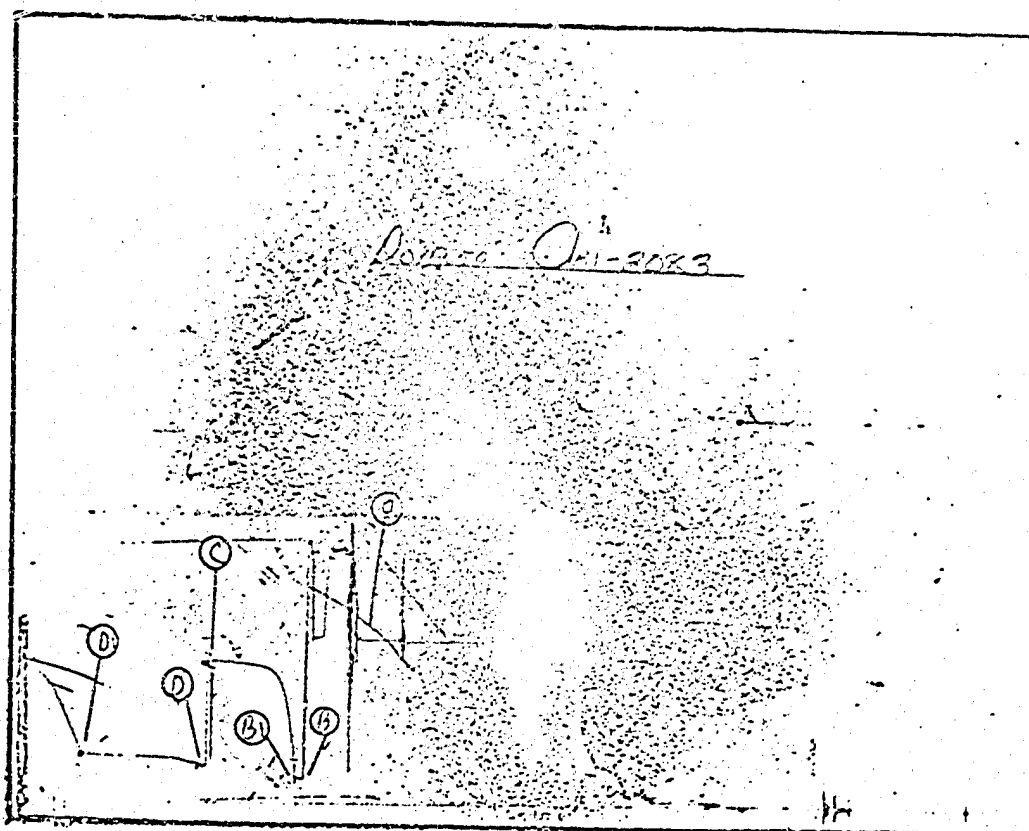


FIELD
REPORT NO.
D 01950

RECORDER NO.
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
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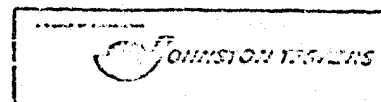


TEST DATA					TOOL SEQUENCE		
Formation	Steen River		Zone Thickness	Ft.	Tool	Length	O.D.
Interval	1200	To 1250	T.D.	2324	P.O. Sub	.75	
Type of Test	Open Hole, Straddle, Bypass				D.P. Sub	.70	
Time Started in Hole	0200 Hrs.	Tool Opened	0750	Hrs.	MFE Tool	9.10	
First Flow	5 Min.	Initial Shut-In	60	Min.	Bypass Tool	2.90	
Second Flow	90 Min.	Second Shut-In		Min.	Jars	6.75	
Third Flow	Min.	Final Shut-In	90	Min.	Recorder	5.90	
Pulled Loose @	1155 Hrs.	Out of Hole	1530	Hrs.	Recorder	4.40	
Wt. Set/On Packers	27,000 #	Pulled Loose Wt.	10,000 #		H. Sub	.85	
Description of Blow During Test					Safety Joint	1.70	
Tool was chased 3' during test period.					SS & Packer	8.20	
					TC & Packer	5.25	
					Total	46.58	
FLUID RECOVERY Was Test Reverse Circulated Yes ☐ No ☒					Stub	1.35	
Total Fluid Recovered	785			Fl.	Perf	8.00	
Description of Fluid Recovered					Sub	.85	
785' muddy water and corban (2900 ppm)					Recorder	4.40	
					Recorder	4.40	
					Sub	.75	
					Drill Collar	26.08	
					Sub	.75	
					TC & Stub	3.10	
					Total Interval	49.68	
GAS BLOW MEASUREMENT					Packer	2.25	
Measured With				I.D. Riser	TC & Packer	6.55	
Type of Instrument					Perf	11.00	
Time	Size Choke	Reading Inches	M. Cubic Feet/Day		Sub	.75	
					Drill Pipe	1050.87	
					Sub	.75	
					BN & Perf	2.05	
					Total Below Intv.	1074.22	
					TOTAL LENGTH	1170.48	
					Elevation Approx.	890 KB 876.7 GL	
					Bottom Hole Choke Size	1/2"	
REMARKS: Mis-Run, due to leak during test.					Fluid Cushion Type Corban	Amt. 236'	
					MUD AND HOLE DATA		
					Mud Type Gel & Chem	W.L. 9.4	
					Filter Cake 2/32	Visc. 60 Wt 9.4	
					Time Taken		
					Sedco Drilling	Rig No. 94	
RESISTIVITY					Drill Pipe Size 3 1/2" I.D.		
CHLORIDE CONTENT					Drill Collar Size 1 7/8" I.D.	Length 463.51'	
Recovery Water	@	°F.	ppm.		Main Hole Size 6 1/2"		
Mud Pit sample filtrate	@	°F.	ppm.		Rat Hole Size		
District	High Level	Ticket No.	D 02001	Date	January 22, 1969	Test No. 4	J.T. No. 4
Company	Shell Canada Limited			Address Box 186			
Well Name	Shell B.G. Grumbler I-16			Edmonton, Alberta			
Number	Lat 60°25'37.66" N Long 115°46'55.57" W			Province N.W.T.			
Formation	Steen River			Co. Rep.	R. Miller		
and Interval	1200 - 1250 DST#2			Technician	G. Jackson		
Distribution of Reports				5 - Edmonton			

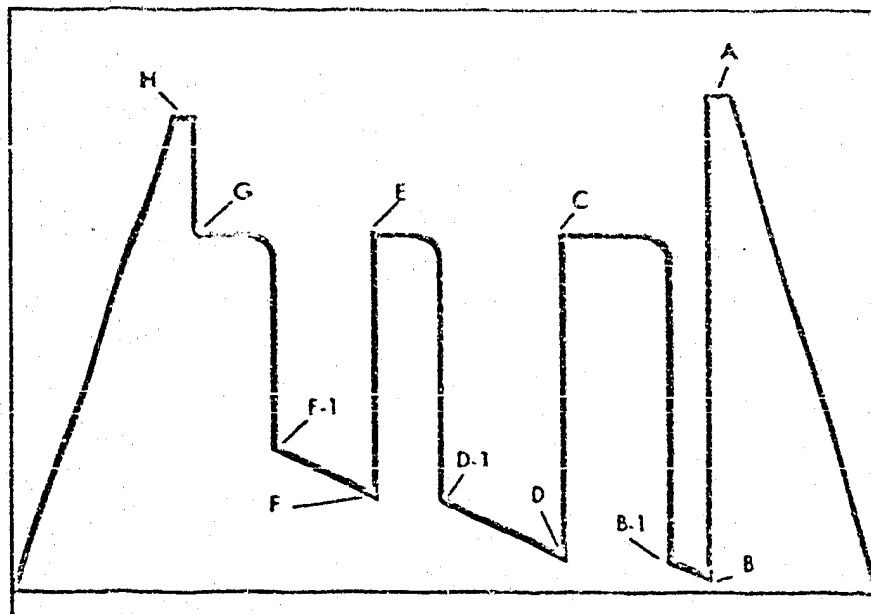
PUMP NO.		AK1-2594	AK1-776	AK1-2527	AK1-2083	FIELD REPORT NO. D 02001	
CAPACITY (GPM)		4450	6500	4000	4200		
INSTRUMENT DEPTH		1175	1180	1210	1215		
INSTRUMENT OPENING		Inside	Inside	Outside	Outside		
PRESSURE GRADIENT (PSI/FT)							
WELL TEMP. °F.		89°	89°	89°	89°	TIME DATA	
INITIAL HYDROSTATIC		A 576#	576#	595#	600#	TIME GIVEN	TIME COMPUTED
FIRST FLOW		B 121#	123#	429#	429#	MIN.	MIN.
B-1		384#	397#	575#	580#		
INITIAL SHUT-IN		C 580#	579#	600#	601#	MIN.	MIN.
SECOND FLOW		D 342#	230#	362#	346#	MIN.	MIN.
D-1		390#	386#	407#	408#		
SECOND SHUT-IN		E				MIN.	MIN.
THIRD FLOW		F				MIN.	MIN.
FINAL SHUT-IN		G 451#	450#	470#	471#	MIN.	MIN.
FINAL HYDROSTATIC		H 576#	574#	595#	597#	CLOCK TRAVEL	IN/MIN

PRESSURE INCREMENTS

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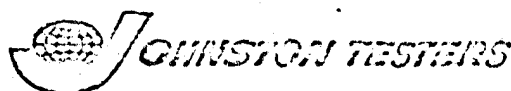
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

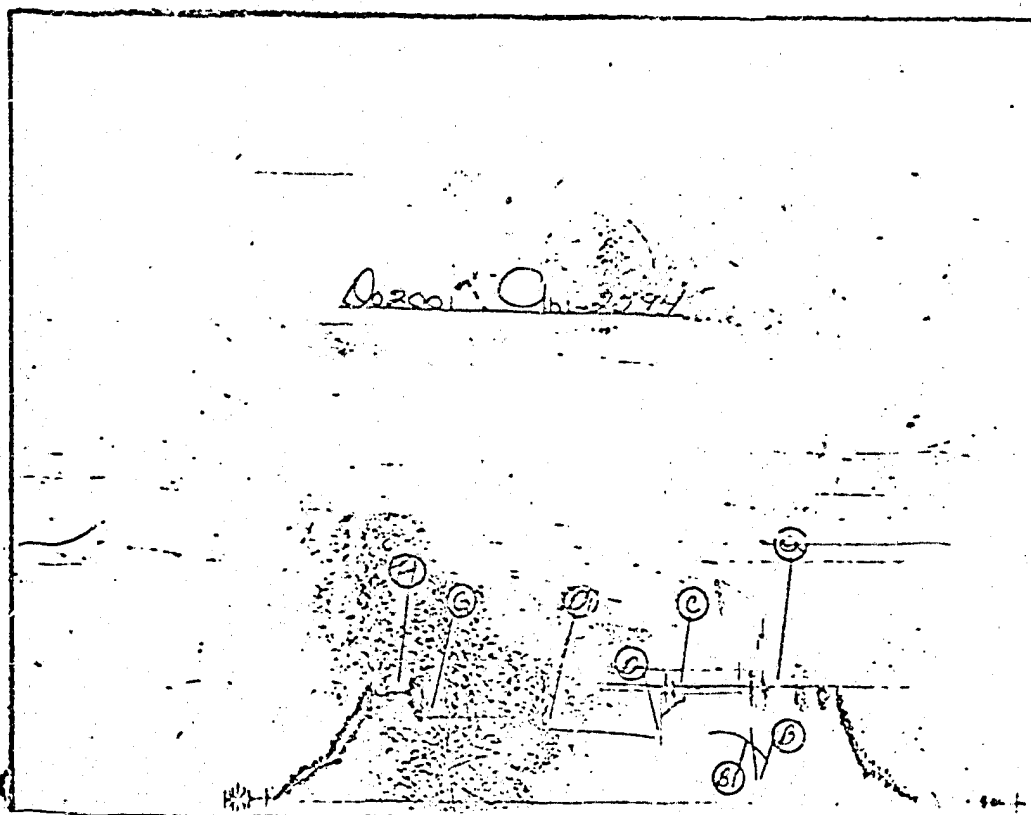


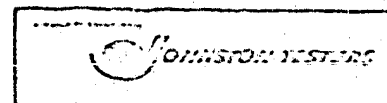
FIELD
REPORT NO.
D 02001

RECORDER NO. 3
AK1-2594

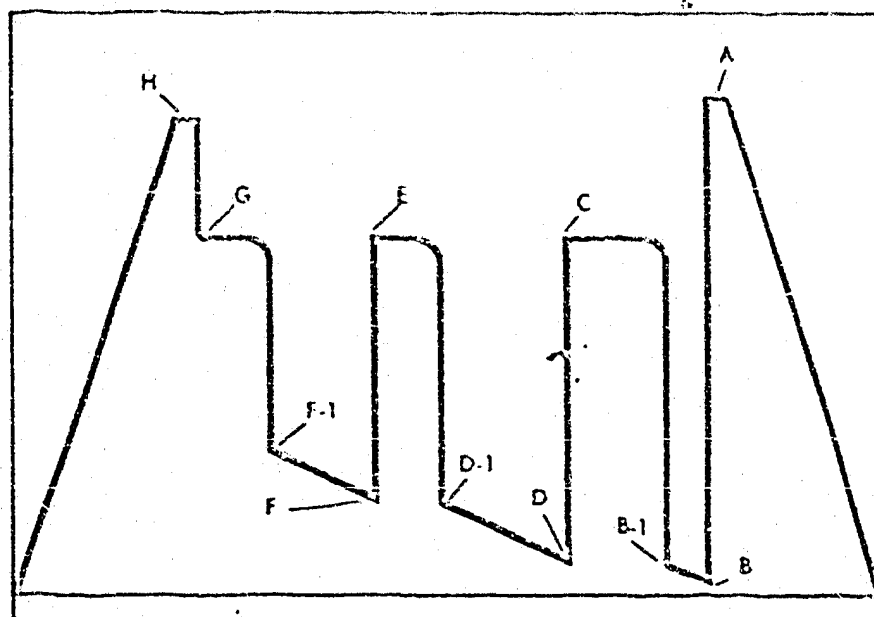
CAPACITY
4450

REPORTS
REQUESTED
5





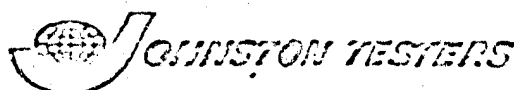
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.



FIELD
REPORT NO.

RECORDER NO.

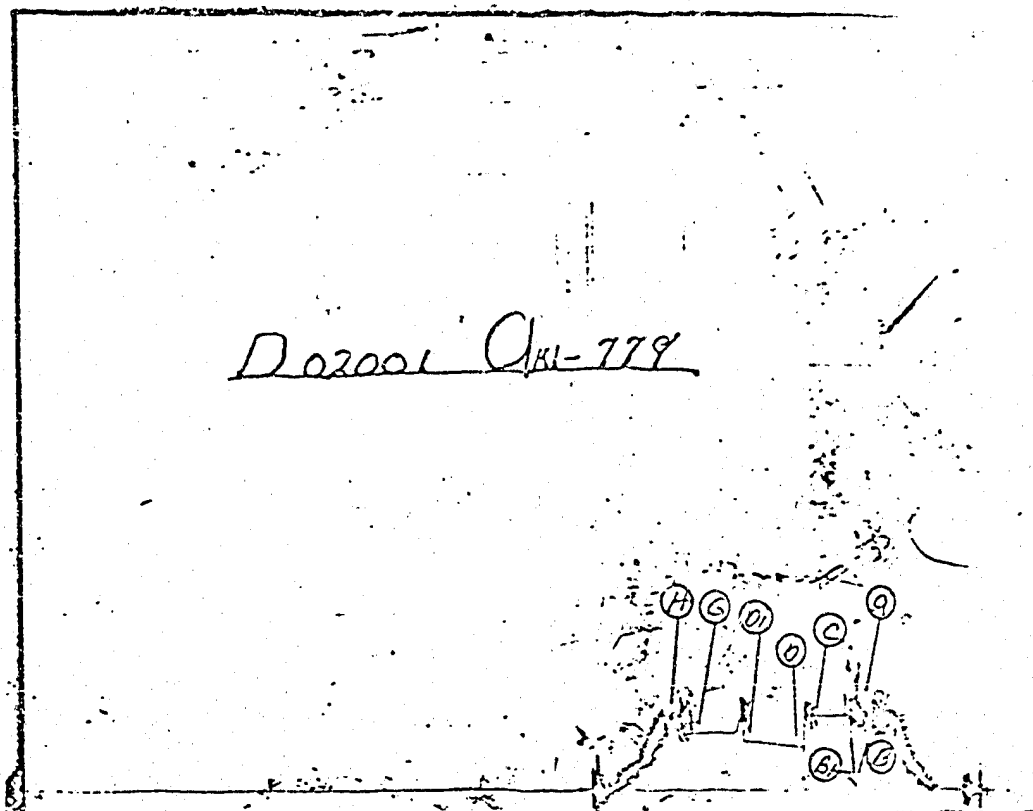
CAPACITY

REPORTS
REQUESTED

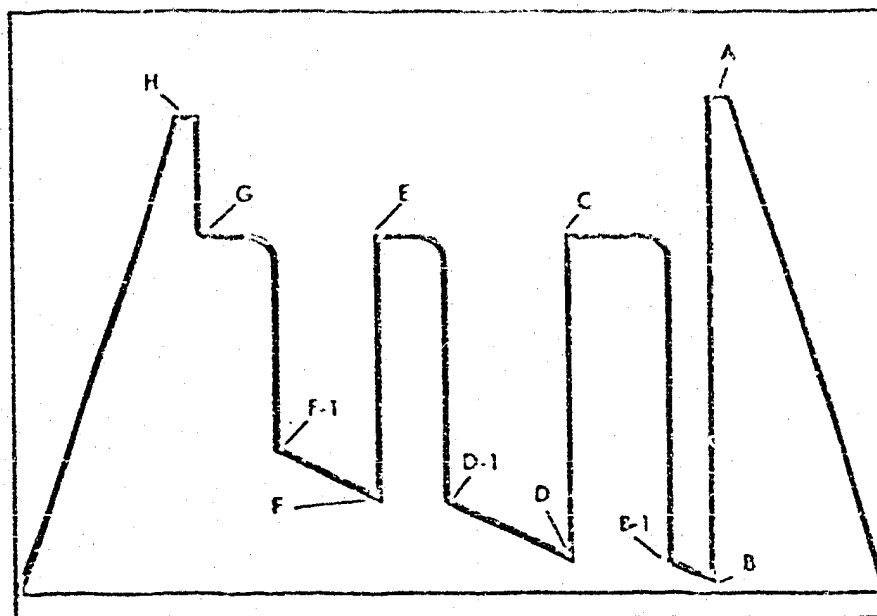
D 02001

AK1-778

6500



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

JOHNSTON TESTERS

FIELD
REPORT NO.

D 02001

RECORDER NO.

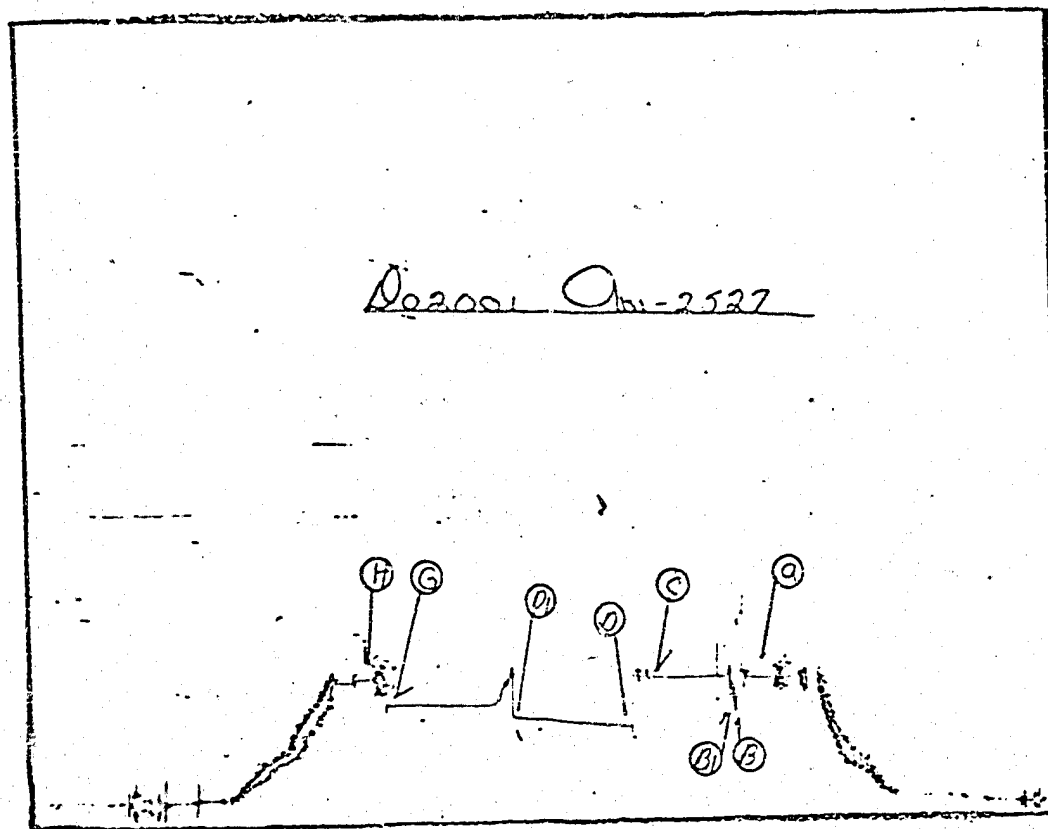
AK1-2527

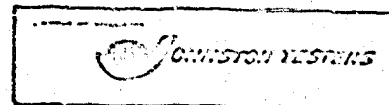
CAPACITY

4000

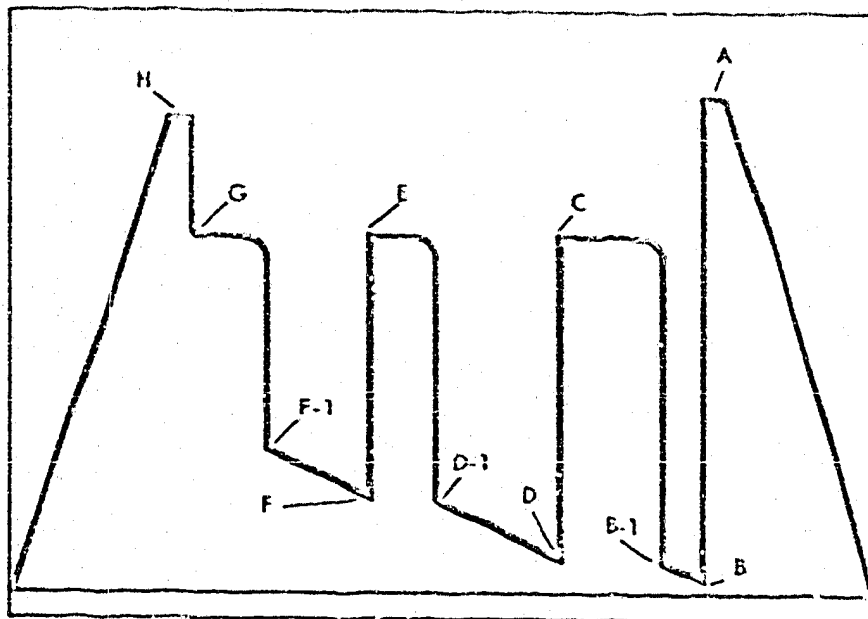
REPORTS
REQUESTED

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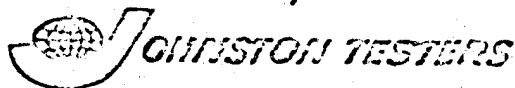
GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mod
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mod

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

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- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z - Special pressure points such as pumping pressures recorded for formation breakdown.

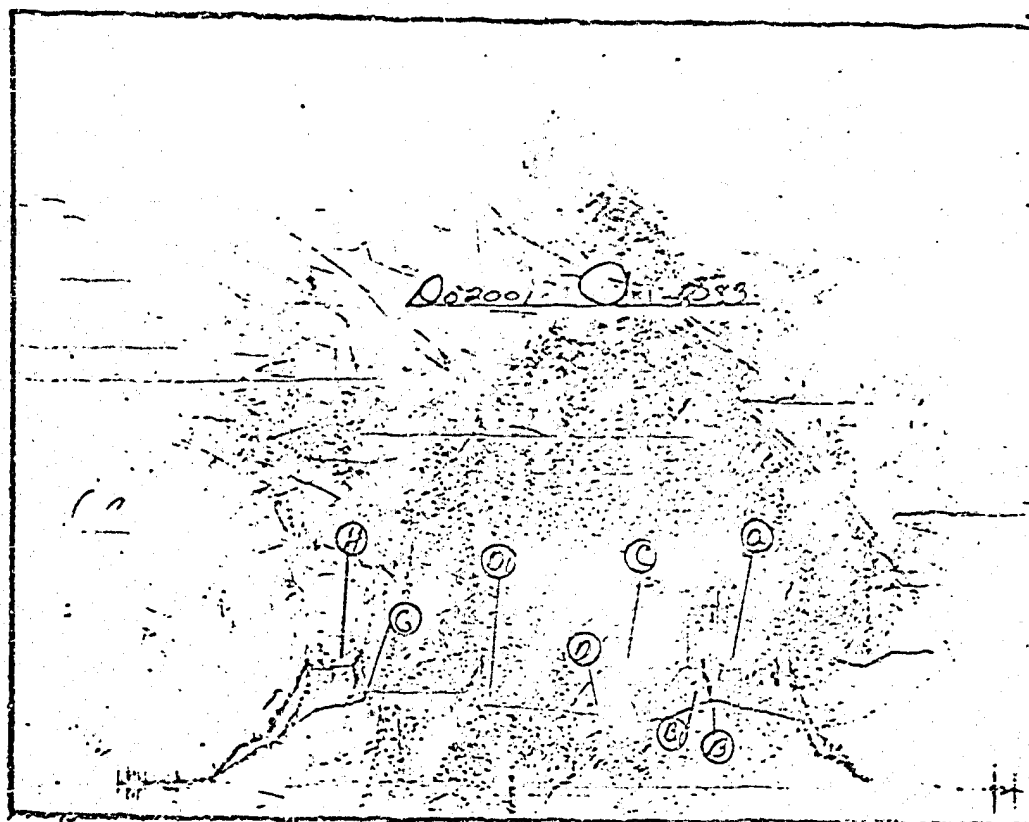


FIELD
REPORT NO.
D 02001

RECORDER NO.
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
5



APPENDIX C

PRODUCTION LABORATORY ANALYSIS REPORT

CALGARY, ALBERTA

Laboratory Number 14
WATERSample Received JANUARY 29, 1969
Sample Analyzed FEBRUARY 3, 1969
Results Reported FEBRUARY 4, 1969Well SHELL-H.B. GAMBLE I-16 NORTHWEST TERRITORIESLsd Sec 23 Twp 31 Rge 990-1010'Method of production HO' WATERDST Recovery HO' WATERSample obtained from BARVE TOOLFormation SHAVE POINTFIELD SAMPLE # 6CORE NUMBER 4666Well K.B. 886.7' G.L. 876.7'
T.D. 23.24' P.B.T.D.

Perfs. or O.H.

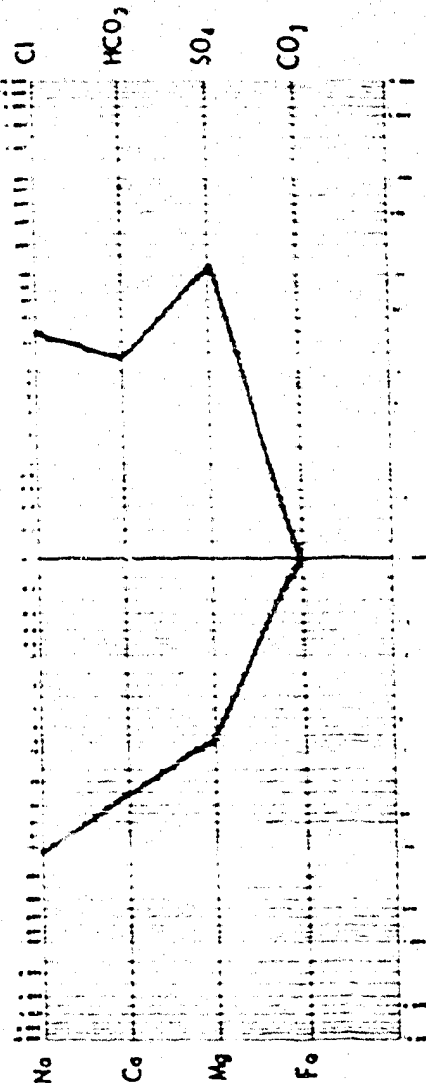
Sampled by RON MILLERDate JAN 11, 1969 TimeSpecific Gravity at 60°F 1.0150 pH 7.2 Resistivity 0.97 ohm-m at 60°F H₂S MUGH Calculated Total Solids 10,905 Mg/L

Mg./L	Calc. Na + K	Ca	Mg	Fe	CO ₂	HCO ₃	SO ₄	Cl
	2727	644	92	NONE	0	793	5727	922

MEQ/L	118.58	32.14	7.57		0	13.00	119.29	26.00
-------	--------	-------	------	--	---	-------	--------	-------

MEQ. %	37.46	10.15	2.39		0	4.11	37.68	8.21
--------	-------	-------	------	--	---	------	-------	------

Milliequivalents per Litre

Remarks: FILTATE CLEAR YELLOW RAPIDLY
BECOMING 'MURKY'.SO₄ POSSIBLY HIGH.File Code No. 15-1100
Production Department, Calgary Area 1
Division Office EXPLOIT. ERM. 5
Production Laboratory, Calgary Area 2Chemist N.L. Johnson

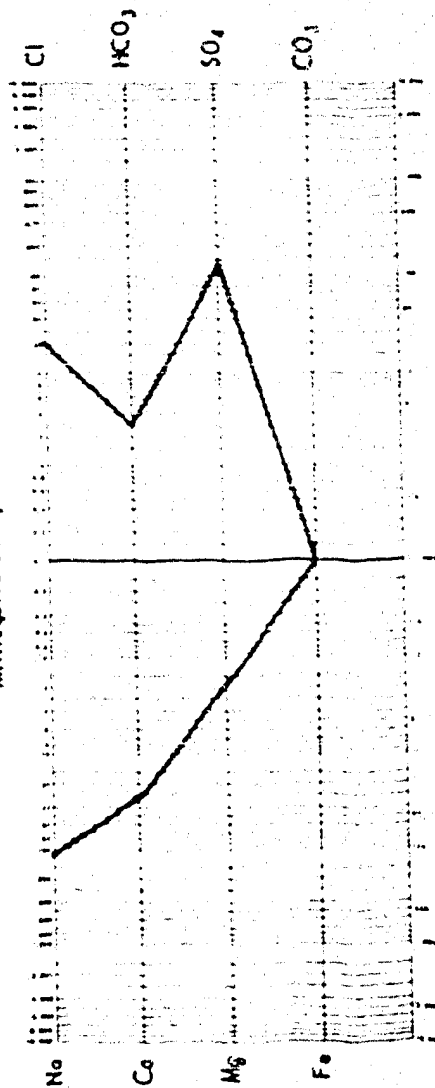
PRODUCTION LABORATORY ANALYSIS REPORT

CALGARY, ALBERTA

Laboratory Number 15
WATERSample Received JANUARY 22, 1969
Sample Analyzed FEBRUARY 3, 1969
Results Reported FEBRUARY 4, 1969Well SHELL-H.B. GRUBBLER I-16 NORTHWEST TERRITORIES
Lsd Sec Twp 28 Rge W 1680-1760 Formation METHY (KEG RIVER)
Method of production DST
DST Recovery 226 MUD, 216' WATER COLUMN
Sample obtained from SAMPLING CHAMBERWell K.B. 886.2' G.L. 876.7'
I.O. 2324' P.B.T.O.
Perfs. or O.H.
Sampled by RON MILLER
Date JAN 21, 1969 TimeCODE NUMBER 2415Specific Gravity at 60°F 1.0135 pH 7.9 Resistivity 1.09 ohm-m at 60°F H_2S None Calculated Total Solids 10,880 Mg/L

	Calc. Na + K	Ca	Mg	Fe		CO ₂	HCO ₃	SO ₄	Cl
Mg./L	2795	689	24	TRACE		0	189	6485	698
MEQ/L	121.51	34.38	1.97			0	3.10	135.08	19.68
MEQ. %	38.49	10.89	0.62			0	0.98	42.79	6.23

Milliequivalents per Litre

Remarks: FILTRATE VERY 'MILKY'.
SO₄ PROBABLY HIGH.File Code No. 15-1100
Production Department, Calgary Area 1
Division Office EXPLOR. ERM. 5
Production Laboratory, Calgary Area 2Chemist N.L. Johnson

SHELL CANADA LIMITED
PRODUCTION LABORATORY ANALYSIS REPORT
CALGARY, ALBERTA

Laboratory Number 16
WATER

Sample Received JANUARY 29, 1969
Sample Analyzed FEBRUARY 3, 1969
Results Reported FEBRUARY 4, 1969

Well SHELL-H.B. GRUMBLES I-16 NORTHWEST TERRITORIES
Lsd Sec Twp Rge W Formation
Method of production DST 83 1200-1250' STEEN RIVER
DST Recovery 685' MUDDY WATER 100' WATER CUSHION
Sample obtained from SAMPLING CHAMBER

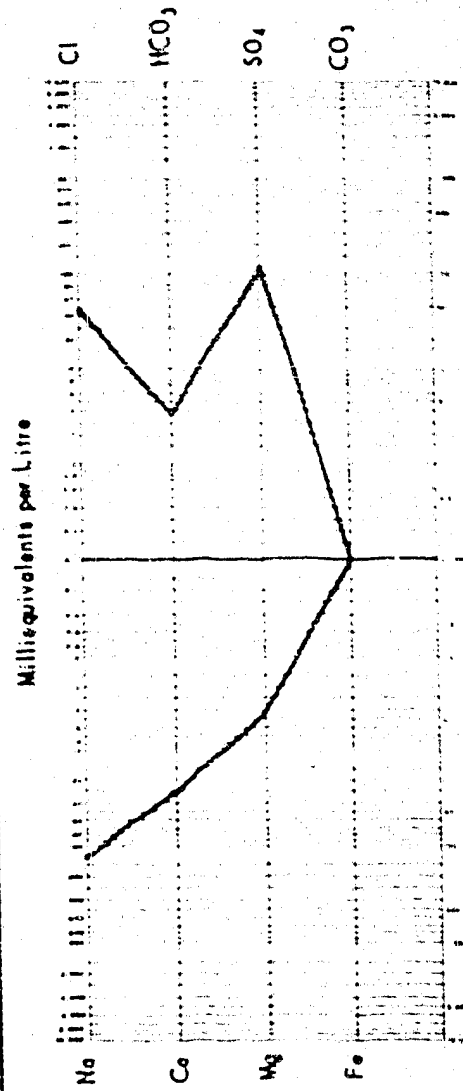
Well K.B. 886.7' G.L. 826.7
T.D. 8324' P.B.T.D.
Perfs. or O.H.
Sampled by RON MILLER
Date JAN 22 1969 Time

CORE NUMBER 6017

Specific Gravity at 60°F 1.0160 pH 7.8 Resistivity 0.89 ohm-m at 60°F H_2S NONE Calculated Total Solids 11,394 Mg/L

Mg./L	Calc. Na + K	Ca	Mg	Fe	CO ₂	HCO ₃	SO ₄	Cl
	3077	644	51	NONE	0	226	5720	1676
MEQ./L	133.78	32.14	4.19		0	3.70	119.15	47.26
MEQ. %	39.32	9.45	1.23		0	1.09	35.02	13.89

Remarks: FILTATE QUITE 'MILKY'
SO₄ PROBABLY HIGH



File Code No. 15-1100
Production Department, Calgary Area 1
Division Office EXPLOR. ERM. 5
Production Laboratory, Calgary Area 2

Chemist N.L. Johnson

00303

TEST DATA					TOOL SEQUENCE		
Formation	Zone Thickness		Ft		Tool	Length	CU
Interval	140	To 1010	To 1487	Ft	P. O. SUB.	.80	
Type of Test	OPEN HOLE, STRADDLE, BYPASS				D. P. SUB.	.85	
Time Started in Hole	0400	Mrs	Tool Opened	1035	Mrs	MFE TOOL	10.00
First Flow	2	Min	Initial Shut-In	37	Min	BYPASS TOOL	3.50
Second Flow	60	Min	Second Shut-In		Min	JAW	7.05
Third Flow		Min	Final Shut-In	60	Min	H. SUB.	.85
Pulled Loose Wt	1321	Mrs	Out of Hole	1700	Mrs	SAFETY JOINT	1.75
Wt. Section Packer	20,000	#	Pulled Loose Wt	22,000	#	RECORDER	4.40
Description of Blow During Test					S. S. & PACKER	3.70	
WEAK AIR BLOW THROUGHOUT TEST.					T. C. & PACKER	5.40	
					TOTAL	43.30	
FLUID RECOVERY					Was Test Reverse Circulated Yes ☐ No ☐		
Total Fluid Recovered					120' Ft		
Description of Fluid Recovered					STUB.		
140' COREBAN					PERF.		
40' WATER					R. SUB.		
					RECORDER		
					T. C. & SUB.		
					TOTAL INTERVAL		
					20.25		
					PACKER		
					T. C. & PACKER		
					RECORDER		
					PERF.		
					SUB.		
					DRILL PIPE		
					TOTAL BELOW INTV.		
					474.03		
					TOTAL LENGTH		
					542.58		
					Elevation 890 (APPROX) KB, 876.7 GL.		
					Bottom Hole Choke Size		
					1/2"		
					Fluid Cushion Type COREBAN Amt. 140'		
REMARKS:					MUD AND HOLE DATA		
TEST SATISFACTORY.					Mud Type W.L. 7.8		
MFE SAMPLE: DRAINED ON LOCATION.					Filter Cake 2/32 Visc. 56 Wt. 9.4		
					Time Taken		
					Contractor SEDCO DRLG. Rig No. 94		
					Drill Pipe Size 3 1/2 IF		
					Drill Collar Size 2 ID Length 344'		
					Main Hole Size 6 1/4"		
					Rat Hole Size		
RESISTIVITY					CHLORIDE CONTENT		
Recovery Water @ °F. 1650 ppm.							
Mud Pit sample filtrate @ °F. ppm.							
District HIGH LEVEL Ticket No. D 02527					Date JAN. 11/69		
Company SHELL CANADA LIMITED					Test No. 1 J.T. No. 1		
Well Name SHELL H.A. GRUMBLER 1-16					Address /Box 880		
Number LAT. 60°25'37.66"N. L.1					CALGARY 2, ALBERTA		
Formation					Province NORTH WEST TERRITORIES		
and Interval 990 - 1010 DST#1					Co. Rep. R. MILLER		
					Technician B. LAILEY		
Distribution of Reports							
5 - CALGARY							

D 02527

PRESSURE DATA

FLUID SAMPLE REPORT

INSTRUMENT NO.				Sample No.
CAPACITY (gals)				Type
INSTRUMENT DEPTH				Depth
INSTRUMENT OPENING				Volume
PRESSURE GRADIENT psi/ft				
WELL TEMP °F				
AK1-2086	AK1-2562	AK1-2103		
4400	4000	4650		
970	1003	1020		
INSIDE	OUTSIDE	OUTSIDE		
88°	88°	88°		
INITIAL HYDROSTATIC	A	482#	494#	515#
FIRST FLOW	B	43#	65#	
B-1		57#	68#	A-1 509#
INITIAL SHUT-IN	C	343#	355#	
SECOND FLOW	D	60#	62#	
D-1		81#	81#	RAN BELOW
SECOND SHUT-IN	E			STRADDLE
THIRD FLOW	F			
				A-2 407#
FINAL SHUT-IN	G	345#	356#	
FINAL HYDROSTATIC	H	471#	483#	509#

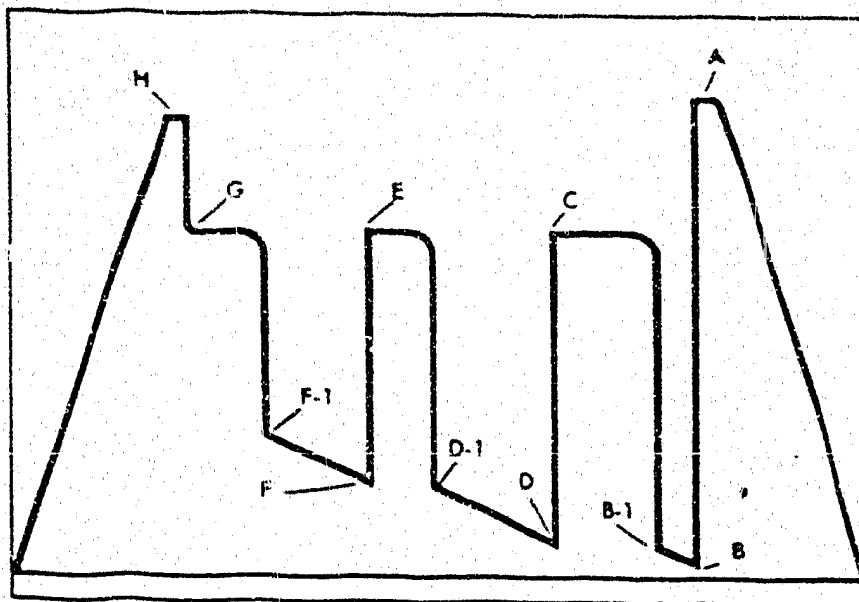
Sample Pressure	
15	psi at Surface
Gravity	API Gr
Gas Oil Ratio	Cu Ft. bbl
Recovery:	
Cu Ft. Gas	
cc. Oil	
cc. Water	100
cc. Mud	500
Total Liquid cc	600

REMARKS:

PRESSURE INCREMENTS ON RECORDER AK1-2562

[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

FIELD
REPORT NO.

D 02527

RECORDER NO.

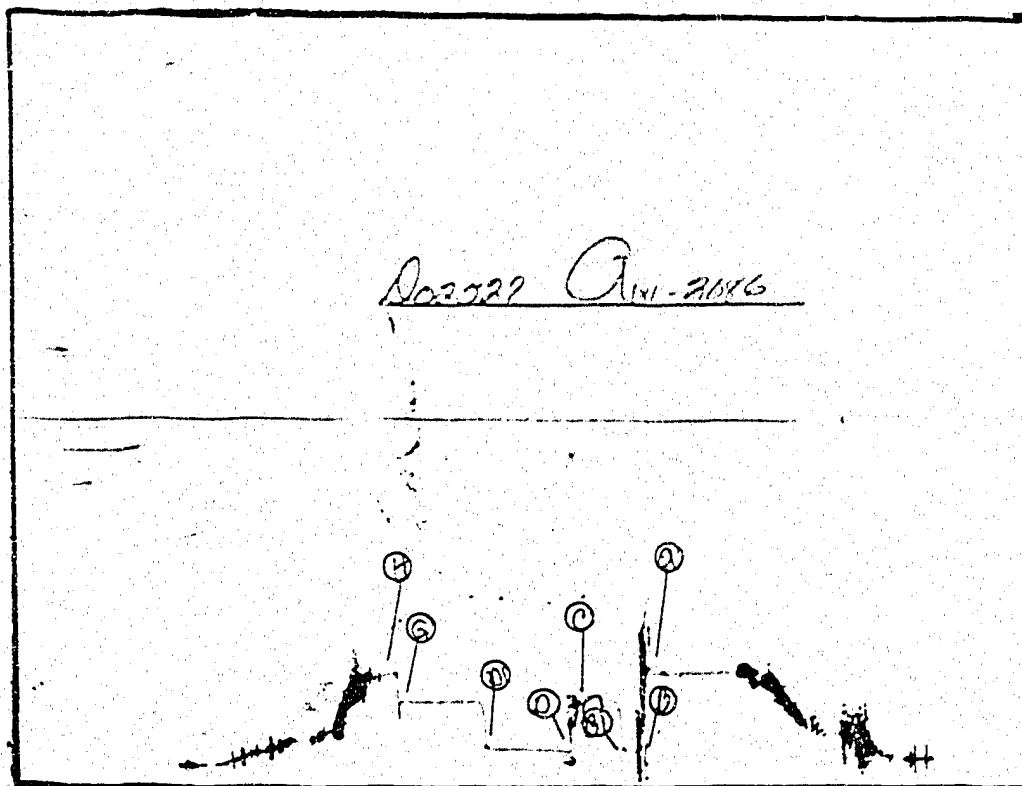
AK1-2086

CAPACITY

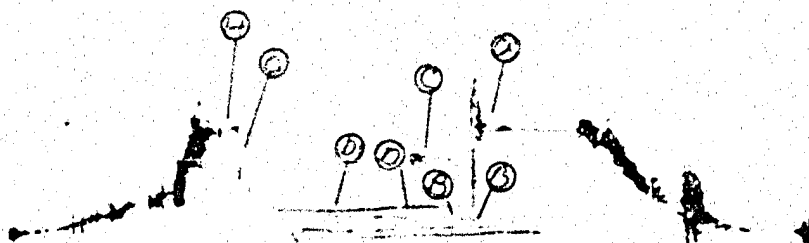
4400

REPORTS
REQUESTED

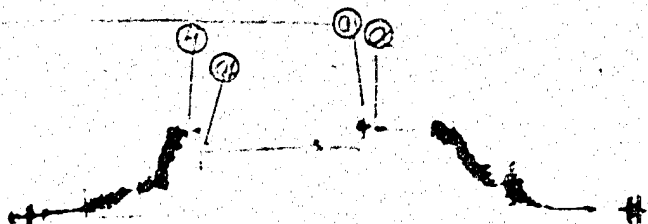
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Do 2537 Aug-25-2

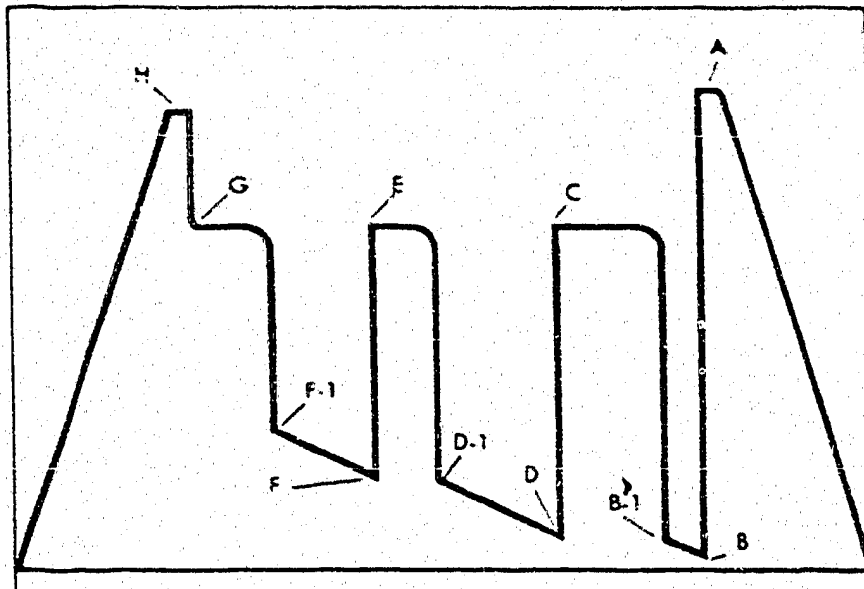


Do 2539 Aug-21-5
Raw River Straddle



[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

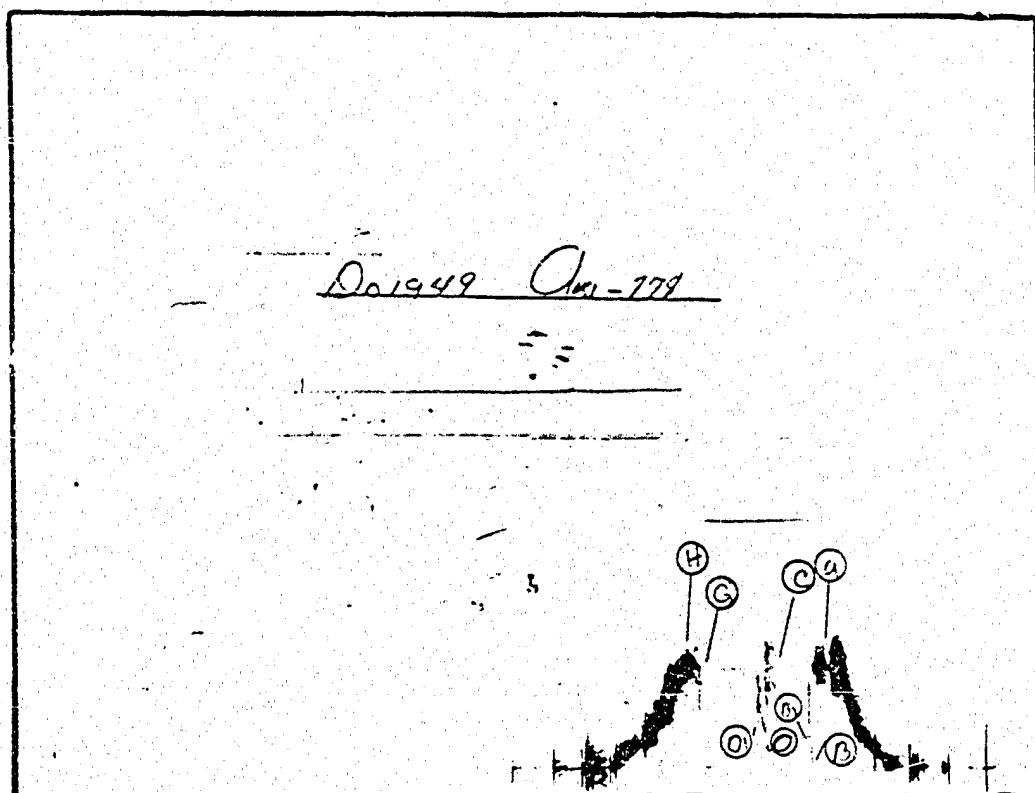


FIELD
REPORT NO.
D 01949

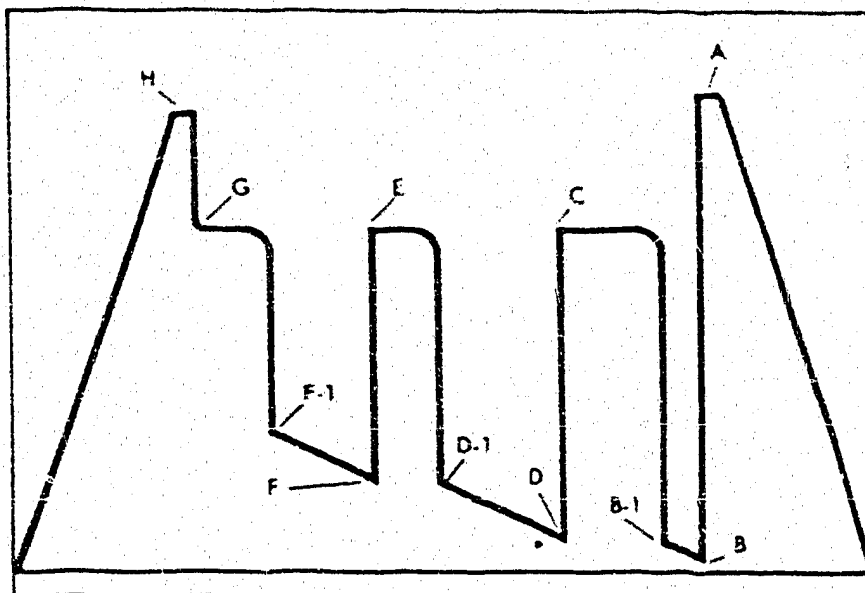
RECORDER NO.
AK1-77B

CAPACITY
6500

REPORTS
REQUISIED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

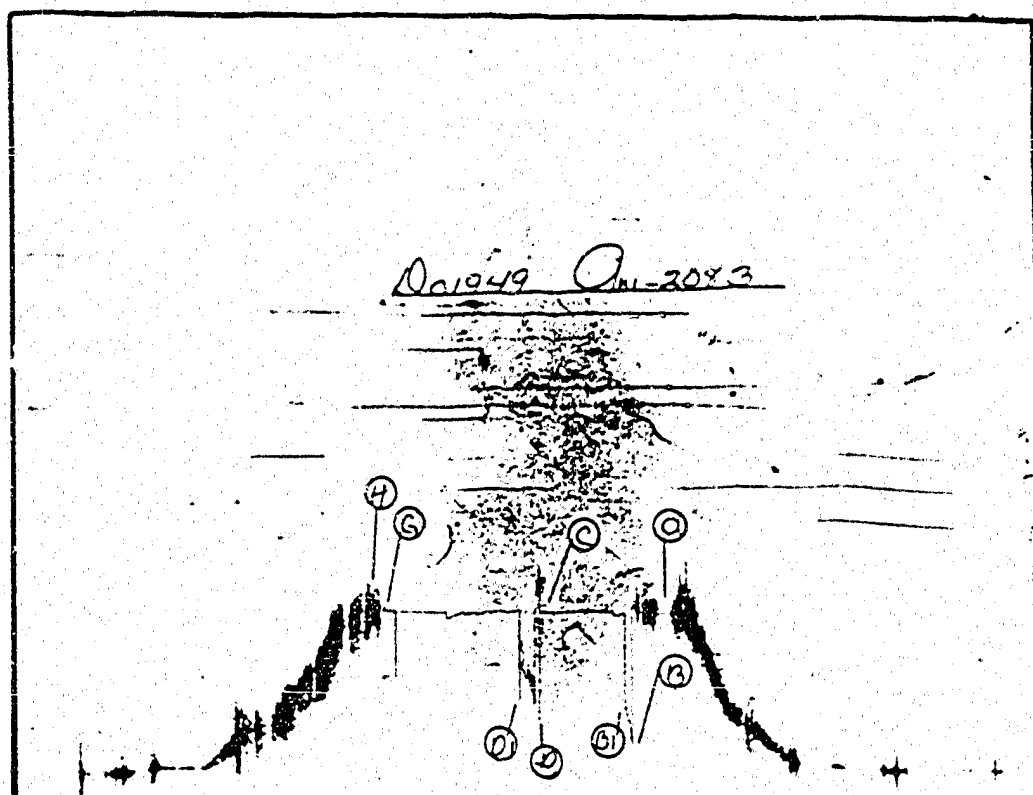


FIELD
REPORT NO.
D 01949

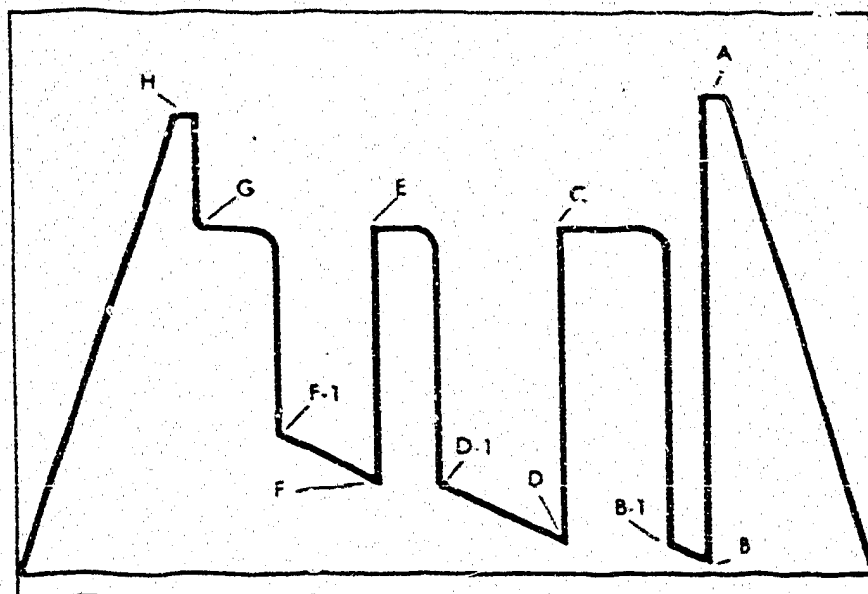
RECORDER NO.
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z - Special pressure points such as pumping pressures recorded for formation breakdown.

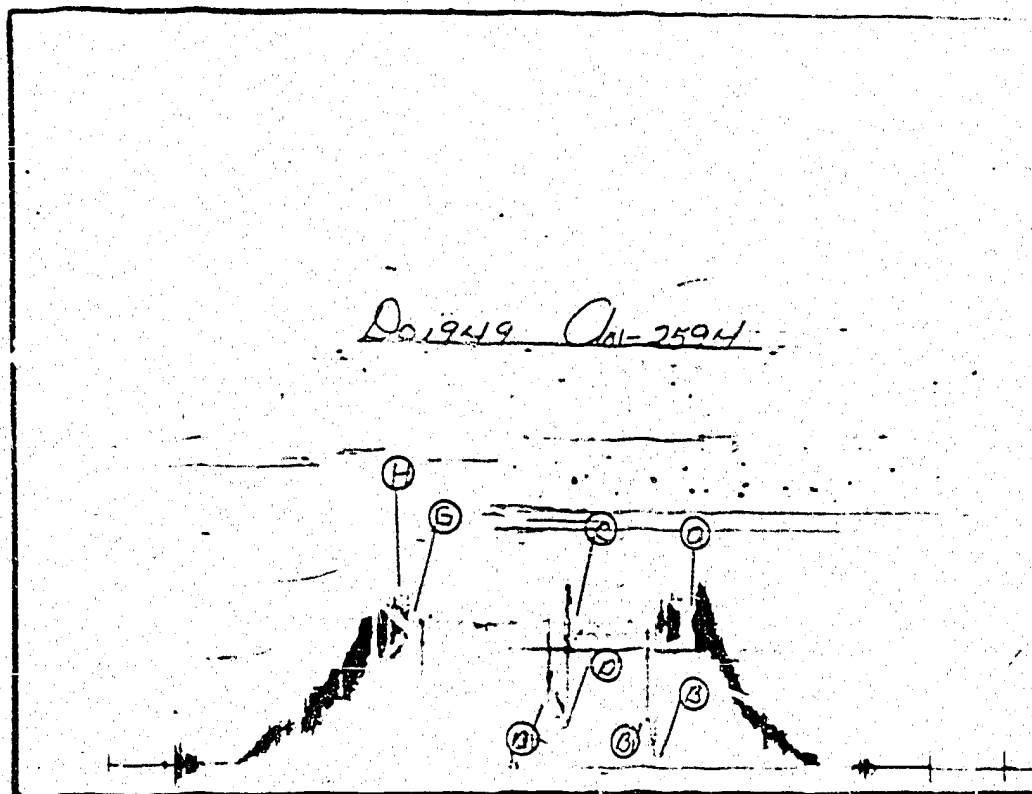


FIELD
REPORT NO.
D 01949

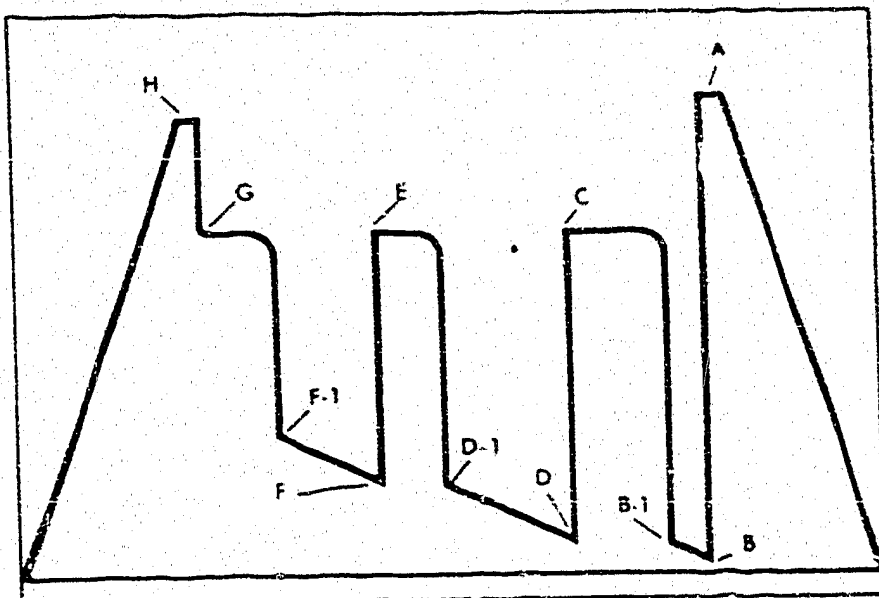
RECORDER NO.
AK1-2594

CAPACITY
4450

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

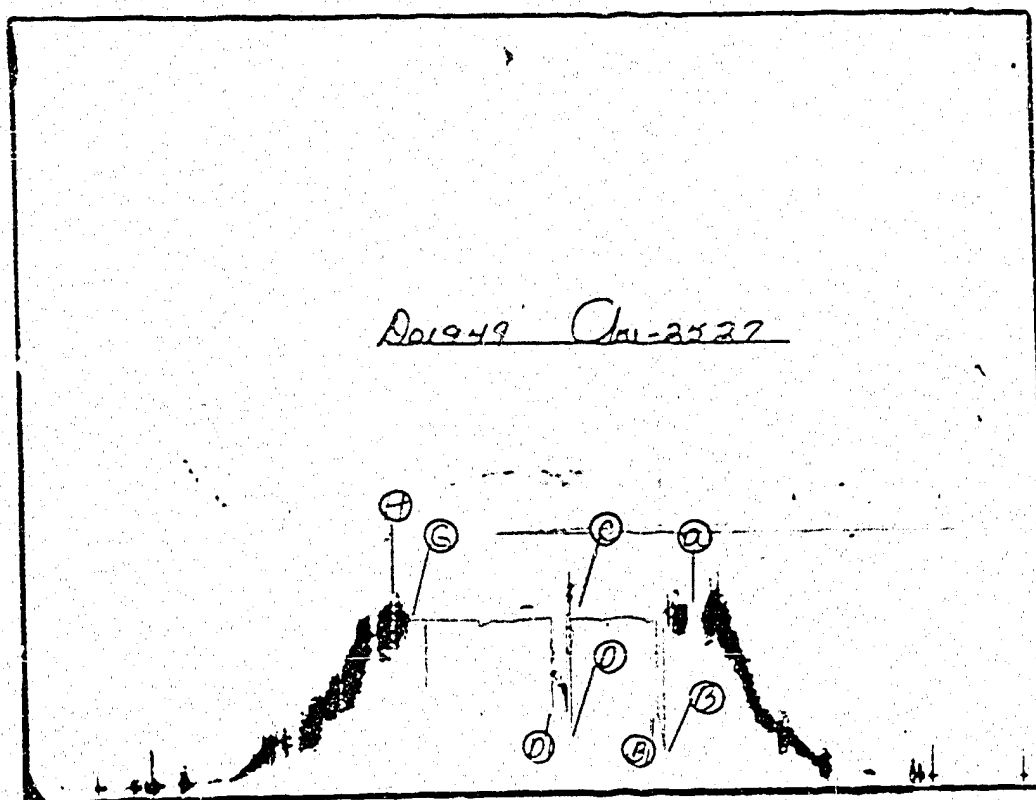


FIELD
REPORT NO.
D 01949

RECORDER NO.
AK1-2527

CAPACITY
4000

REPORTS
REQUESTED
5



TEST DATA					TOOL SEQUENCE		
Formation	Keg River		Zone Thickness	Ft.	Tool	Length	O.D.
Interval	1680	To	1760	T.D. 2324	P.O. Sub	.75	
Type of Test	Open Hole, Straddle, Bypass				D.P. Sub	.70	
Time Started in Hole	0200 Hrs	Tool Opened	0955 Hrs.		MFE Tool	9.10	
First Flow	5 Min	Initial Shut-In	60 Min.		Bypass Tool	2.98	
Second Flow	90 Min.	Second Shut In	Min.		Jars	6.75	
Third Flow	Min.	Final Shut In	90 Min		Recorder	5.90	
Pulled Loose @	1400 Hrs	Out of Hole	1700 Hrs.		Recorder	4.40	
Wt. Set on Packers	#	Pulled Loose Wt.	16,000 #		H. Sub	.85	
Description of Blow During Test					Safety Joint	1.70	
Weak air blow decreasing to steady 1/A" blow in					SS & Packer	8.20	
pail throughout test. Tool was chased 25'					TC & Packer	5.25	
during test period					Total	46.58	
FLUID RECOVERY Was Test Reverse Circulated Yes ☐ No ☒					Stub	1.35	
Total Fluid Recovered 442' Ft					Perf	8.00	
Description of Fluid Recovered					R Sub	.85	
442' water cushion and drilling fluid					Recorder	4.40	
					Recorder	4.40	
					Sub	.75	
					Drill Collar	56.54	
					Sub	.75	
					TC & Stub	3.10	
					Total Interval	80.14	
GAS BLOW MEASUREMENT							
Measured With I.D. Riser							
Type of Instrument					Packer	2.25	
Time	Sfcs. Choke	Reading Inches	M Cubic Feet/Day		TC & Packer	6.55	
					Perf	15.00	
					Sub	.75	
					Drill Pipe	539.31	
					Total Below Intv.	563.86	
					TOTAL LENGTH	690.58	
					Elevation	Approx. 890 KB 876.7 GL	
					Bottom Hole Choke Size	1/2"	
REMARKS:					Fluid Cushion Type	Inhibitor Amt. 250'	
Test Satisfactory					MUD AND HOLE DATA		
					Mud Type	Gel	W.L. 10.0
					Filter Cake	2/32	Visc. 52 Wt. 9.5
					Time Taken		
					Contractor	Sedco Drilling	R/O No. 94
					Drill Pipe Size	3 1/2" IF	
					Drill Collar Size	1 7/8" ID	Length 463.91
					Main Hole Size	6 1/4"	
					Rat Hole Size		
Recovery Water @ °F. ppm.					Date January 21, 1969 Test No. 2A J.T. No. 3		
Mud Pit sample filtrate @ °F. ppm.					Address Box 186		
District High Level Ticker No. D 01950					Edmonton		
Company Shell Canada Limited					Province N.W.T.		
Well Name Shell H.B. Grumbler I-16					Co. Rep. R. Miller		
Number Lat 60°25'37.66"NL Long 115°46'55.57"WL					Technician G. Jackson		
Formation Keg River					5 - Edmonton		
and Interval 1680 - 1760 DST#3							
Distribution of Reports							

696-2012



ONASTON TESTERS

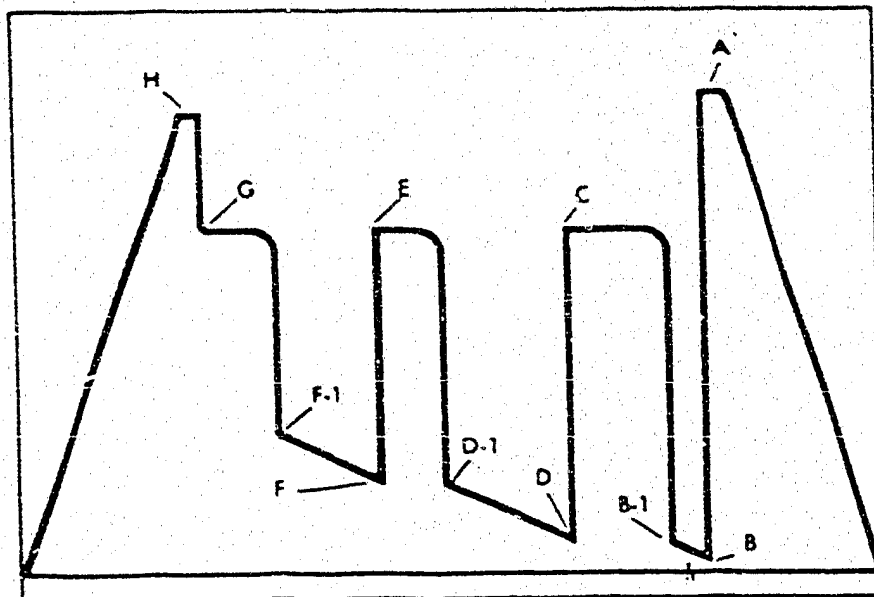
PRESSURE DATA

INSTRUMENT No		AK1-778	AK2-2594	AK1-2527	AK1-2083	FIELD REPORT No <u>D 01950</u>	
CAPACITY psi		6500	4450	4000	4200		
INSTRUMENT DEPTH		1658	1653	1691	1695		
INSTRUMENT OPENING		Inside	Inside	Outside	Outside		
PRESSURE GRADIENT psi/ft							
WELL TEMP °F		91°	91°	91°	91°	TIME DATA	
INITIAL HYDROSTATIC		A 808#	809#	817#	823#	TIME GIVEN	TIME COMPUTED
FIRST FLOW		B 100#	107#	124#	128#	5 MINS	MINS
B-1		116#	119#	132#	138#		
INITIAL SHUT-IN		C 696#	697#	712#	718#	60 MINS	MINS
SECOND FLOW		D 172#	167#	189#	189#	90 MINS	MINS
D-1		223#	223#	236#	243#		
SECOND SHUT-IN		E					
THIRD FLOW		F				MINS	MINS
						MINS	MINS
FINAL SHUT-IN		G 687#	677#	End of	End of	90 MINS	MINS
FINAL HYDROSTATIC		H 815#	End of	Chart	Chart	CLOCK TRAVEL	IN/MIN
REMARKS:		Chart					

PRESSURE INCREMENTS ON RECORDER AKI-778

[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

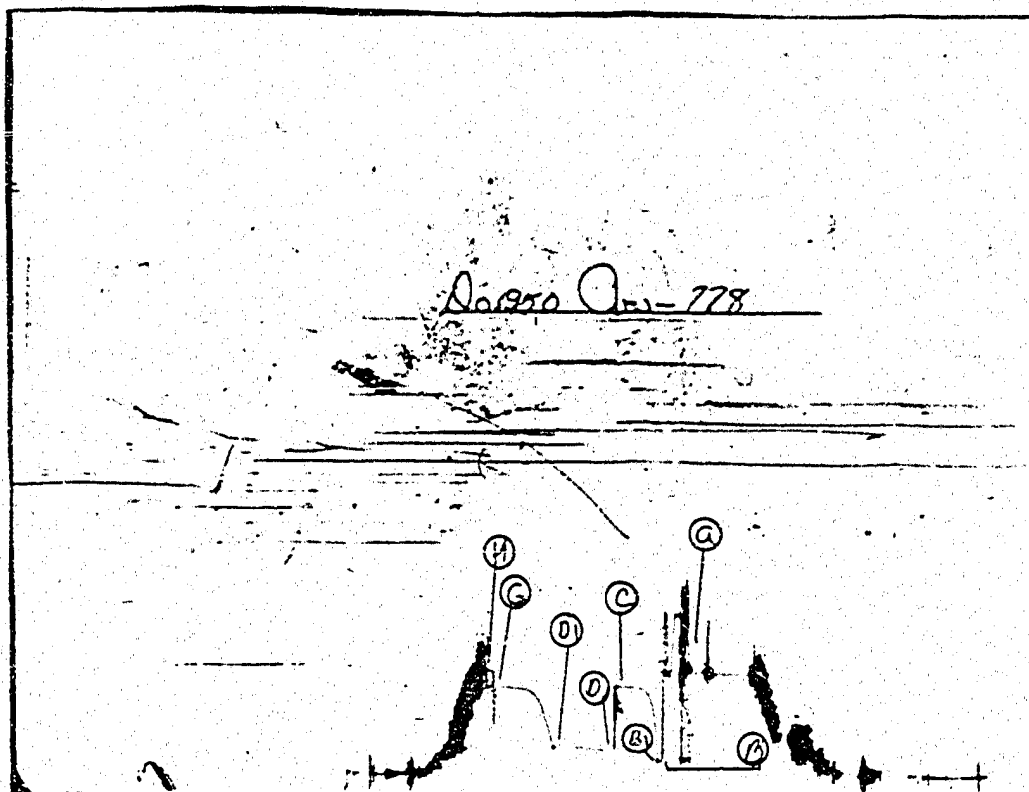


FIELD
REPORT NO.
D 01950

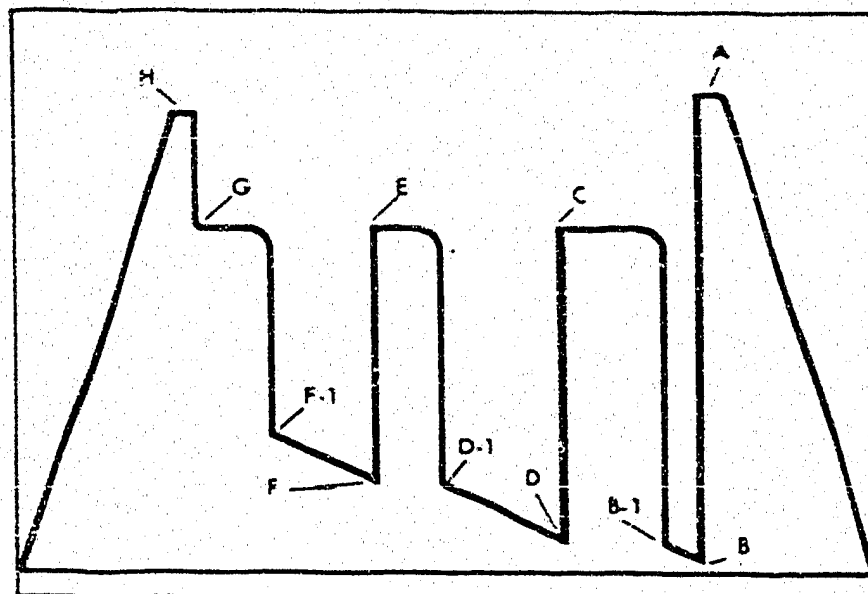
RECORDER NO.
AK1-778

CAPACITY
6500

REPORTS
REQUIRED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

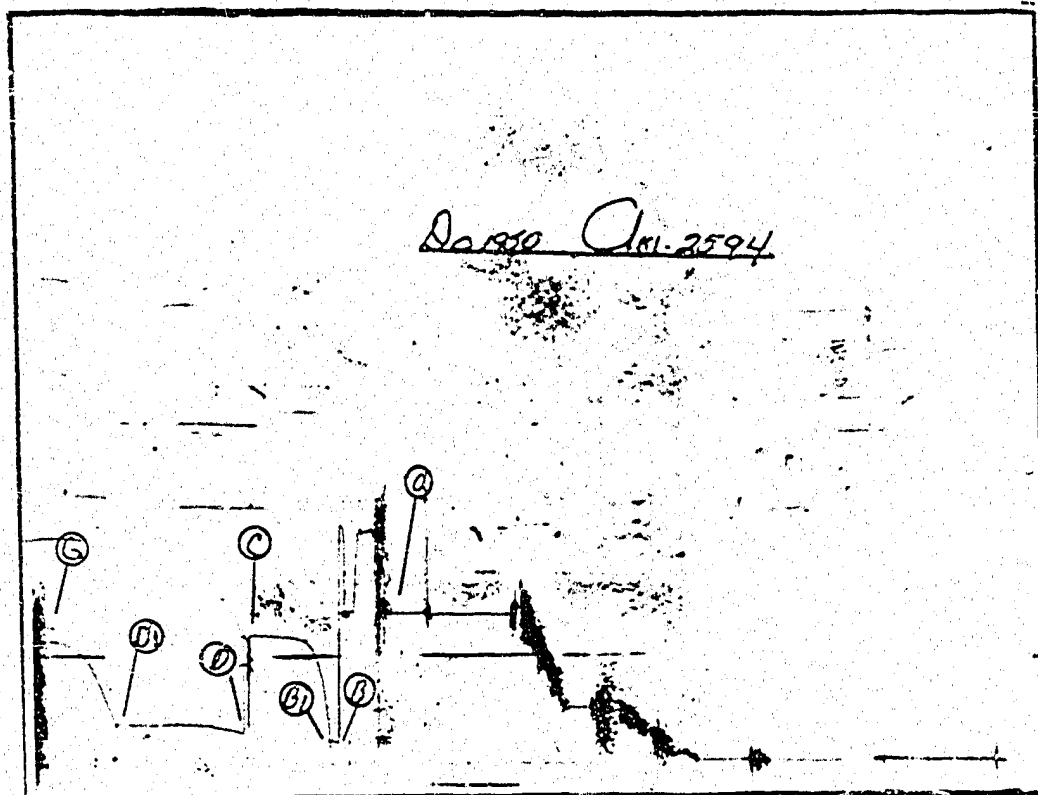


FIELD
REPORT NO.
D 01950

RECORDER NO.
AK1-2594

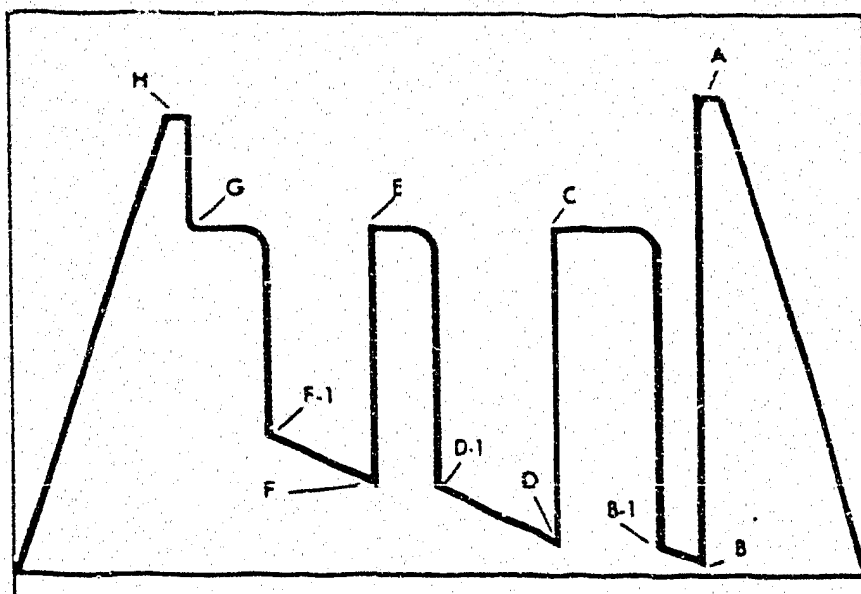
CAPACITY
4450

REPORTS
REQUESTED
5





GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.

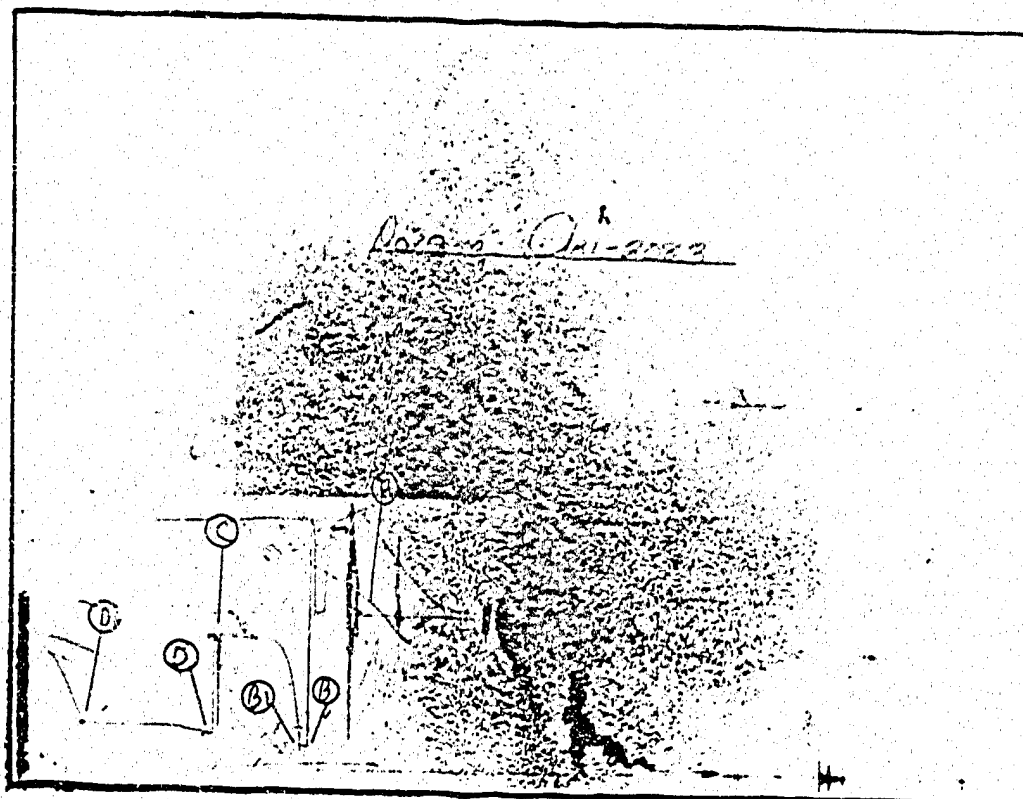


FIELD
REPORT NO.
D 01950

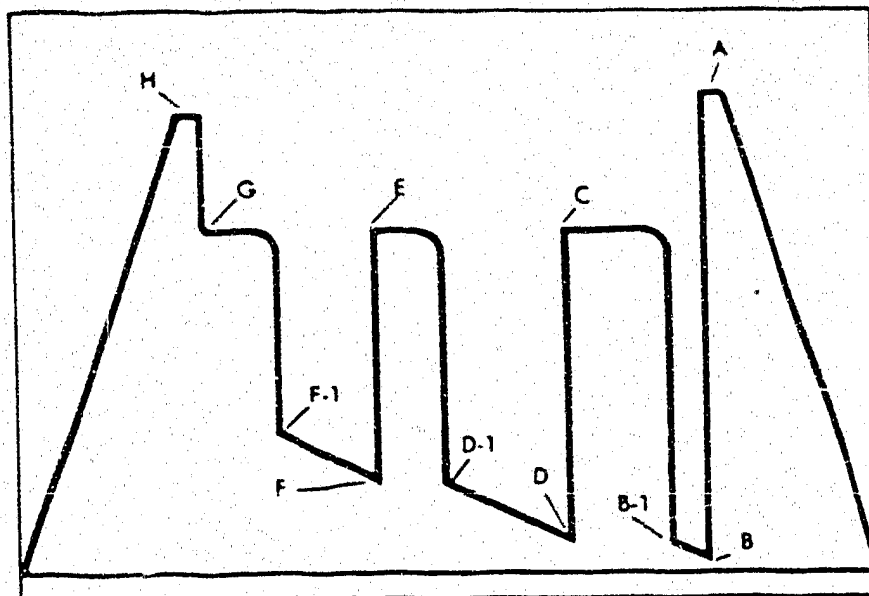
RECORDER NO.
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
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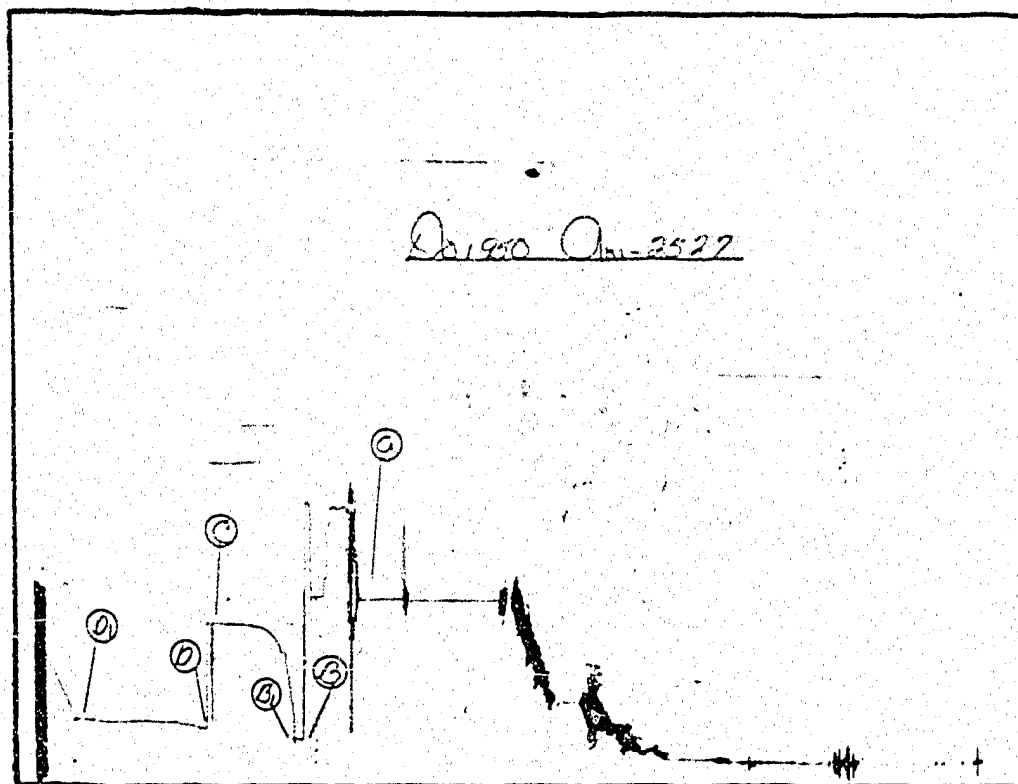


FIELD
REPORT NO.
D 01950

RECORDER NO.
AK1-2527

CAPACITY
4000

REPORTS
REQUESTED
5



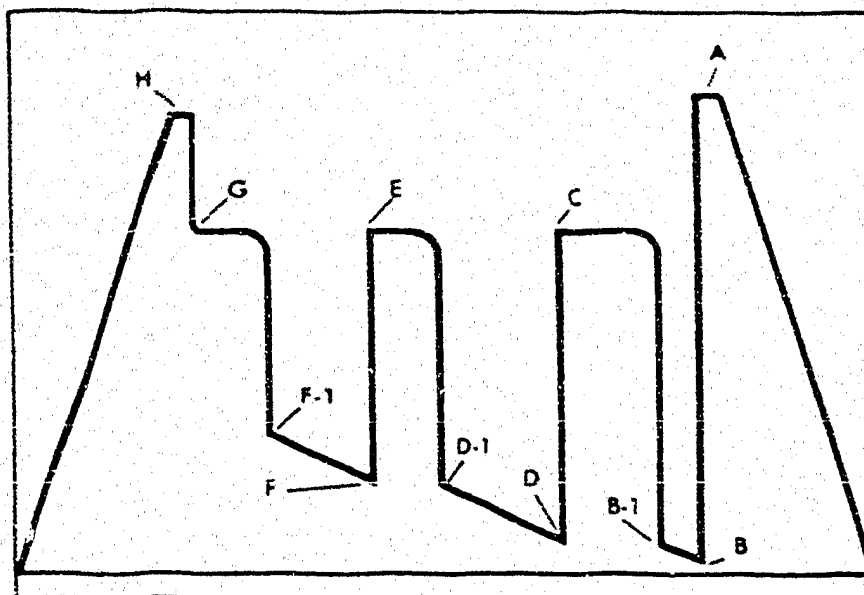
TEST DATA					TOOL SEQUENCE		
Formation	Steen River		Zone Thickness	Fr	Tool	Length	O.D.
Interval	1200	To 1250	T.D. 2324	Fr	P.O. Sub	.75	
Type of Test	Open Hole, Straddle, Bypass				D.F. Sub	.70	
Time Started in Hole	0700 Hrs	Tool Opened	0750 Hrs.		MFE Tool	9.10	
First Flow	5 Min	Initial Shut-In	60 Min.		Bypass Tool	2.98	
Second Flow	90 Min	Second Shut In	Min		Jars	6.75	
Third Flow	Min	Final Shut In	90 Min.		Recorder	5.90	
Pulled Loose %	1155 Hrs	Out of Hole	1530 Hrs.		Recorder	4.40	
Wt. Set/on Packers	22,000 #	Pulled Loose Wt	10,000 #		H. Sub	.85	
Description of Blow During Test					Safety Joint	1.70	
Tool was changed 3' during test period.					SS & Packer	8.20	
					TC & Packer	5.25	
					Total	46.58	
FLUID RECOVERY Was Test Reverse Circulated Yes ☐ No ☒					Stub	1.35	
Total Fluid Recovered 785 Fr.					Perf	8.00	
Description of Fluid Recovered					Sub	.85	
785' muddy water and corban (2900 ppm)					Recorder	4.40	
					Recorder	4.40	
					Sub	.75	
					Drill Collar	26.08	
					Sub	.75	
					TC & Stub	3.10	
					Total Interval	49.68	
GAS BLOW MEASUREMENT					Packer	2.25	
Measured With I.D. Riser					TC & Packer	6.55	
Type of Instrument					Perf	11.00	
Time	Stce. Choke	Reading Inches	M. Cubic Feet/Day		Sub	.75	
					Drill Pipe	1050.87	
					Sub	.75	
					BN & Perf	2.05	
					Total Below Intv.	1074.22	
					TOTAL LENGTH	1170.48	
					Elevation Approx. 890 KB	876.7 GL	
					Bottom Hole Choke Size	1/2"	
REMARKS: Mis-Run, due to leak during test.					Fluid Cushion Type Corban	Amt. 236'	
					MUD AND HOLE DATA		
					Mud Type Gel & Chem.	W.L. 9.4	
					Filter Cake 2/32	Visc. 60	Wt. 9.4
					Time Taken		
					Sedco Drilling Rig No. 94		
RESISTIVITY					Drill Pipe Size 3 1/2" IF		
CHLORIDE CONTENT					Drill Collar Size 1 7/8" ID	Length 463.51'	
Recovery Water	@	°F.	ppm.		Main Hole Size 6 1/2"		
Mud Pit sample filtrate	@	°F.	ppm.		Rat Hole Size		
District	High Level	Ticket No.	D 02001	Date	January 22, 1969	Test No. 3	J.T. No. 4
Company	Shell Canada Limited			Address Box 186			
Well Name	Shell B.4. Grumbler I-18			Edmonton, Alberta			
Number	Lat 60°25'37.66" NL Long 115°46'55.57" WL			Province N.W.T.			
Formation	Steen River			Co. Rep.	P. Miller		
and Interval	1200 - 1250 DST#4			Technician	G. Jackson		
Distribution of Reports				5 - Edmonton			



JOHNSTON TESTERS

[illegible]

GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

- A-1, A-2, A-3, etc. Initial Hyd. Pressures
- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2. Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z — Special pressure points such as pumping pressures recorded for formation breakdown.



FIELD
REPORT NO.

D 02001

RECORDER NO.

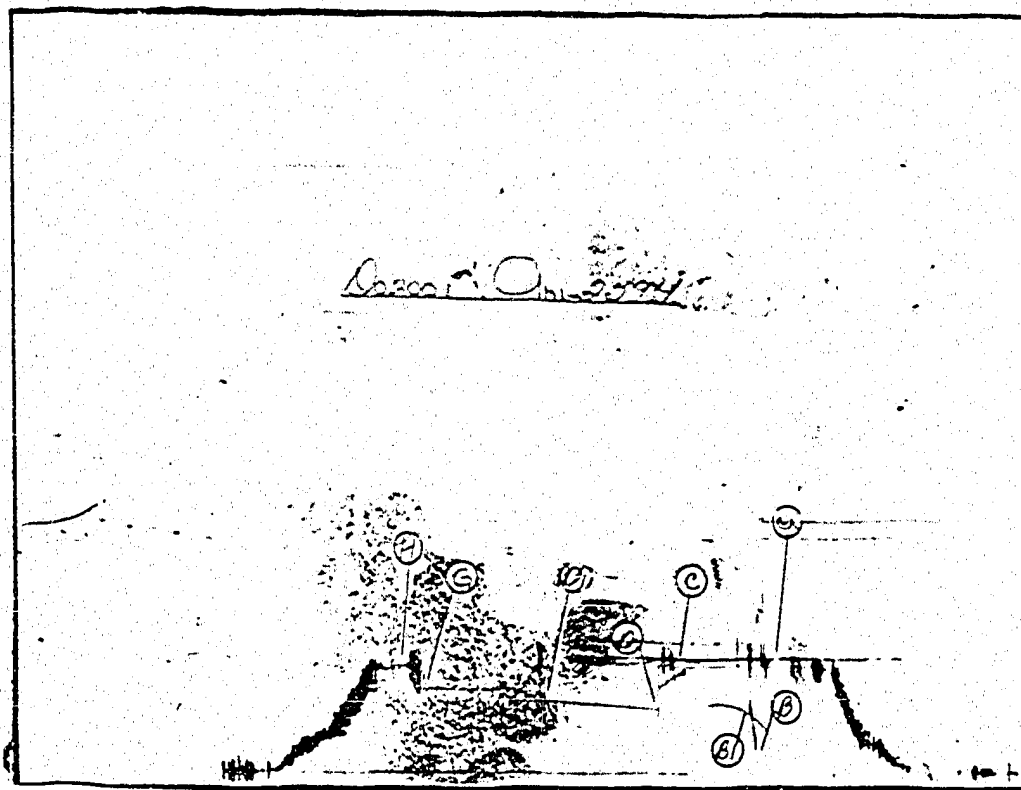
AK1-2594

CAPACITY

4450

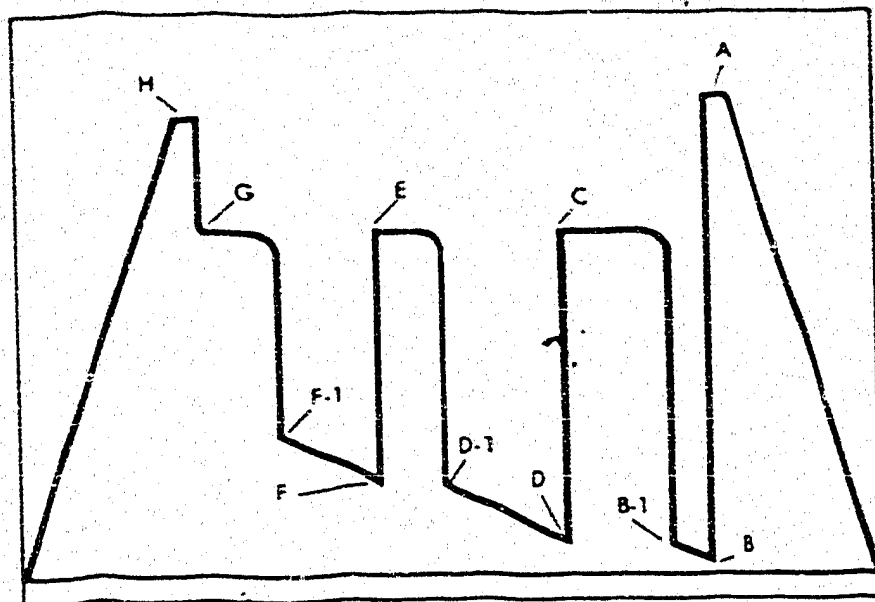
REPORTS
REQUESTED

5





GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

The following points are either fluctuating pressures or points indicating other packer settings (testing different zones).

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- B, B-1, Initial Flow Pressures
- C, Initial Shut-In
- D-1, D-2, D-3, etc. Second Flow Pressures
- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
- Z - Special pressure points such as pumping pressures recorded for formation breakdown.

FIELD
REPORT NO.

D 02001

RECORDER NO.

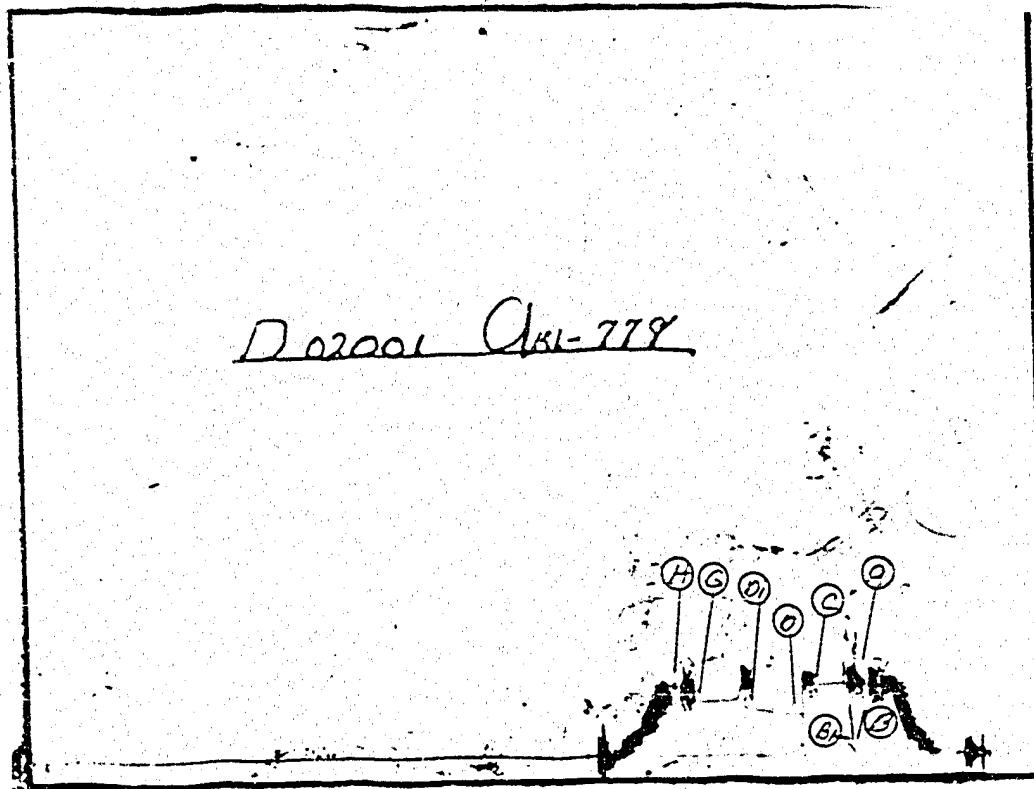
AK1-778

CAPACITY

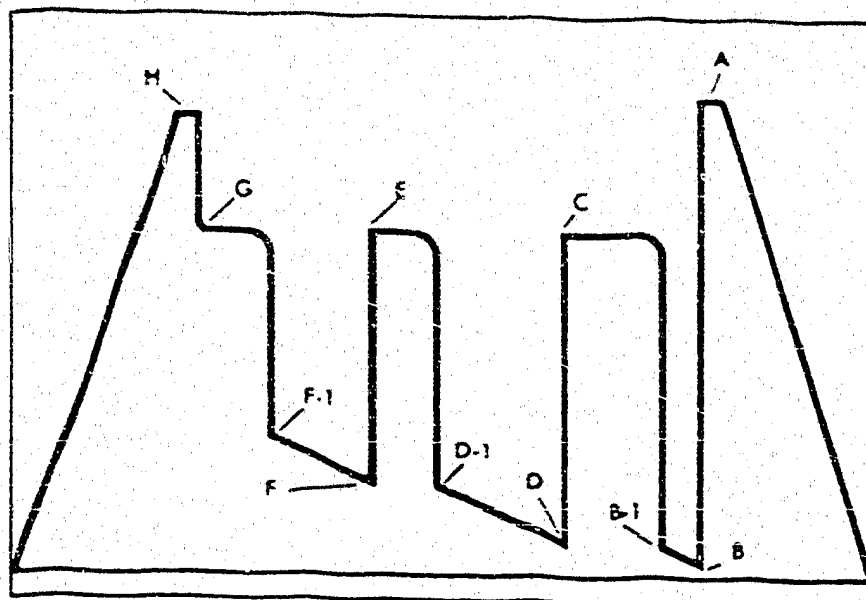
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REPORTS
REQUESTED

5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



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- C. Initial Shut-In
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- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

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- C, Initial Shut-In
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- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
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FIELD
REPORT NO.

D 02001

RECORDER NO.

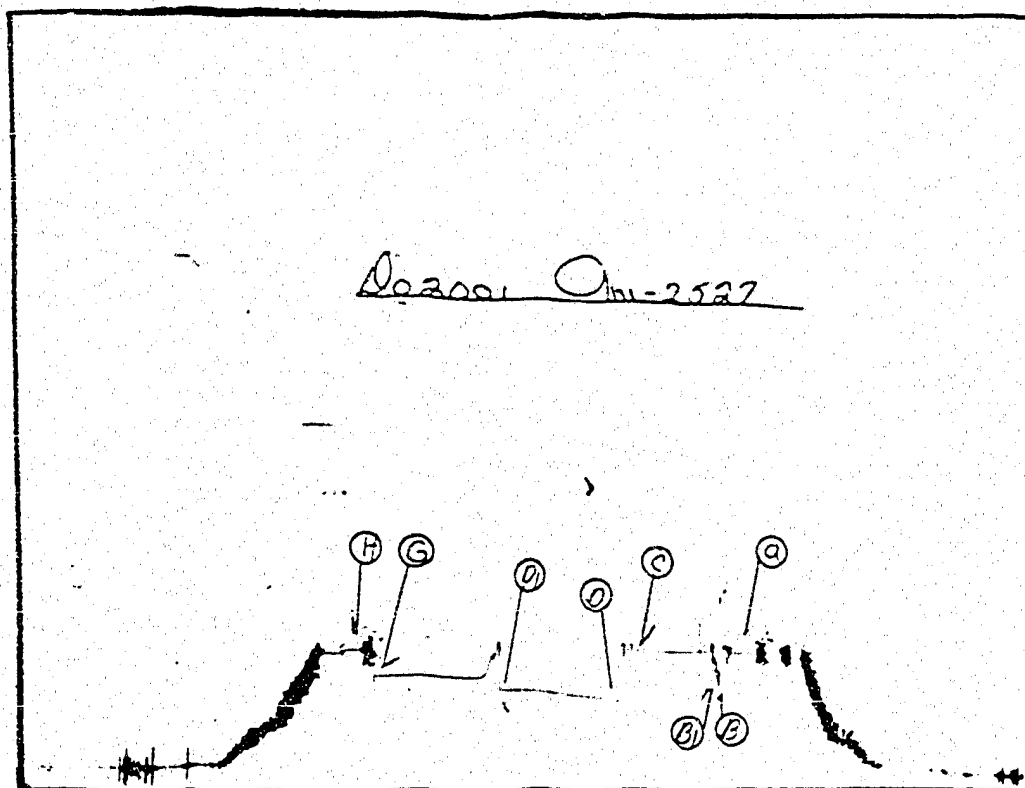
AK1-2527

CAPACITY

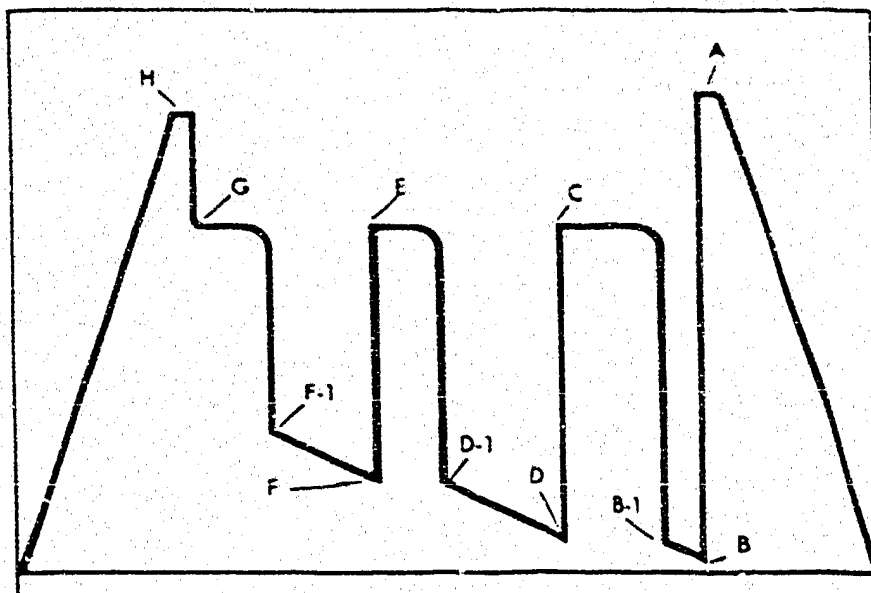
4000

REPORTS
REQUESTED

5



GUIDE TO IDENTIFICATION OF DRILL STEM TEST PRESSURE CHARTS



- A. Initial Hyd. Mud
- B. First Flow
- C. Initial Shut-In
- D. Second Flow
- E. Second Shut-In
- F. Third Flow
- G. Final Shut-In
- H. Final Hyd. Mud

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- C, Initial Shut-In
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- E, Second Shut-In
- F, F-1, F-2, Third Flow Pressures
- G, Final Shut-In
- H, Final Hyd. Pressures
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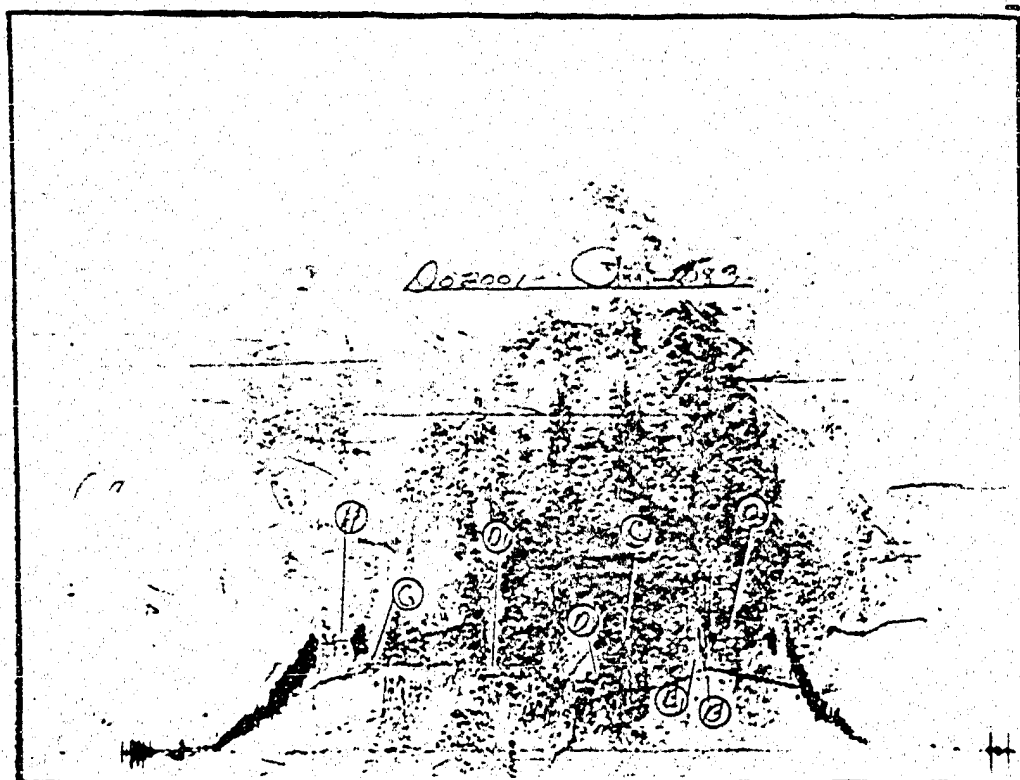


FIELD
REPORT NO.
D 02001

RECORDER NO.
AK1-2083

CAPACITY
4200

REPORTS
REQUESTED
5



DAILY DRILLING REPORT

REPORT NO. 17

DATE

Jan. 23/69

OPERATOR SHELL CANADA LIMITED	LOCATION Lat. 60° 25' 37.66" N Long. 115° 46' 55.57" W	SEC. 17	TWP. 11	RGE. 1	W. 1	WELL NAME SHELL H.B. GRUMBLER I-16	No.	PROVINCE N.W.T.		
CONTRACTOR SEDO	RIG No. 94	DRILL PIPE NO. SIZE	TOOL JOINT	OD	PUMPS	CASING & LINER RECORD	DEPTH SET FROM TO	PERFORATIONS FROM TO	CEMENT USED	OTHER
OPERATOR'S REPRESENTATIVE RWM	CONTRACTOR'S TOOL PUSHER R. Kelly	NO.	MANUFACTURER	TYPE	STROKE LENGTH	1.				
		2.								
		3.								

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT.	SIZE																
				D.C. ID	FT.	MFG.																
				OD	FT.	TYPE																
				RMR BODY OD	FT.	NOZ. NO.																
				STB BODY OD	FT.	SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER P. L. Pym																		
12:00 12:15 RIG SERVICE.																						
2:15 1:30 RIG UP TO RUN PLUG #1 + RUN PLUG #1 DOWN PIPE.																						
1:50 2:15 PULL OUT.																						
2:15 2:45 RIG UP TO RUN PLUG #2 + RUN PLUG #2																						
Run Plug #1 2324' - 1590' @ 170 sec cont. cement																						
Plug down @ 1:30 A.M. by Klined																						
Run Plug #2 1260' - 910' @ 87 sec + 29. Cal																						
Plug down @ 2:45 A.M.																						

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT. <td>SIZE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	SIZE																
				D.C. ID	FT.	MFG.																
				OD	FT.	TYPE																
				RMR BODY OD	FT.	NOZ. NO.																
				STB BODY OD	FT.	SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER																		
2:45 10:45 A.M. Plug #2 @ 865' @ 10:45 A.M.																						

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT. <td>SIZE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	SIZE																
				D.C. ID	FT.	MFG.																
				OD	FT.	TYPE																
				RMR BODY OD	FT.	NOZ. NO.																
				STB BODY OD	FT.	SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER																		
1:30 2:00 P.M. Plug #3 270' - Surface @ 59 sec																						
Plug down @ 1:55 A.M.																						

JAN 21/69

OPERATOR SHELL CANADA LIMITED		LOCATION LSD.		SEC.	TWP.	RGE.	W.	WELL NAME SHELL H-B-G GRUMBLER I-16		No.	PROVINCE NWT			
CONTRACTOR SEDCO		RIG NO. 94	DRILL PIPE STRING NO. SIZE	TOOL JOINT OD	PUMPS			CASING & LINER RECORD	SIZE	WT. & GR.	DEPTH SET FROM TO	PERFORATIONS FROM TO	CEMENT USED	OTHER
OPERATOR'S REPRESENTATIVE <i>[Signature]</i>		CONTRACTOR'S TOOL PUSHER <i>[Signature]</i>			NO.	MANUFACTURER	TYPE	STROKE LENGTH						
					1.									
					2.									
					3.									

TIME DISTRIBUTION—HOURS				NO.		DRILLING ASSEMBLY		BIT RECORD				HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.	WT.ON BIT 1000#	PUMP PRESS.	PUMP NO. 1		PUMP NO. 2		METHOD PUMPS RUN	MUD RECORD								
	MORN	DAY	EVE			STANDS DP	FT.	RUN NO.													LINER SIZE	S.P.M.	LINER SIZE	S.P.M.		TIME								
DRILLING ACTUAL						SNGLS. DP	FT.	SIZE																		WEIGHT								
REAMING						D.C. ID		MFG.																		VISC								
CIRCULATING			3½			OD	FT.	TYPE																		W.L.-C.C.								
TRIPS	7¼	2	¾			RMR BODY OD	FT.	NOZ. NO.				DEVIATION RECORD:	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	FLTR. CK.												
DEVIATION SURVEY						STB BODY OD	FT.	SIZE																		PH								
TEST B.O.P						SUBS OD	FT.	SER. NO				REMARKS																		SD. CONT.				
CUT OFF DRILL LINE						BIT OR C.B.	FT.	DEPTH OUT																										
REPAIR RIG							FT.	CUMULATIVE HOURS RUN																										
CORING						KELLY DOWN	FT.	COND. OF BIT																							MUD & CHEMICALS ADDED			
WIRE LINE LOGGING						TOTAL	FT.	REAMER CUTTER NO.																							TYPE	AMT.	TYPE	AMT.
OTHER SERV. P&G			¼			WT. OF STRING	LBS.	TYPE																										
FISHING						DRILLER																												
COMPLETING						O. L. P. Smith																												

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Form containing drilling logs and data tables. Includes sections for: OPERATOR, CONTRACTOR, LOCATION, PUMPS, CASING & LINER, TIME DISTRIBUTION, DRILLING ASSEMBLY, BIT RECORD, FORMATION, PUMP PRESS., PUMP NO. 1, PUMP NO. 2, MUD RECORD, and WIRE LINE RECORD. The form is filled with handwritten data and includes a signature 'C. L. Paquette'.

DATE

DATE 11/1/90

[illegible]

19/69

OPERATOR		LOCATION						LSD.	SEC.	TWP.	RGE.	W.	WELL NAME	No.	COUNTRY	
SHELL CANADA LTD.		60° 25' 37.6"									115°	46'	55.57"	SHELL H.B. GRUMBLER.	I-16	N.W.T.
CONTRACTOR		RIG No.	DRILL PIPE STRING NO. SIZE	TOOL JOINT OD	PUMPS	CASING & LINER RECORD	SIZE	WT. & GR.	DEPTH SET FROM TO	PERFORATIONS FROM TO	CEMENT USED	OTHER				
SEDCO		94			NO. MANUFACTURER TYPE STROKE LENGTH		7	20	0	21?						
					1. N.A.T. C-150-B 12											
					2.											
					3.											
OPERATOR'S REPRESENTATIVE		CONTRACTOR'S TOOL PUSHER														
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WIRE LINE RECORD		NO. DRILLING ASSEMBLY		BIT RECORD			MRS. DRLD.	CORE NO.	FROM	T.	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT.ON BIT 1000#	PUMP PRESS	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD				
REEL NO	NO OF LINES SIZE	STANDS DP	FT.	RUN NO	9.	10												TIME				
FEET SLIPPED		52	ENGLS. DP	FT.	SIZE	6 1/4	6 1/2	3 1/2		9003	9029		75	24	85'	5.	66		WEIGHT			
FEET CUT OFF		16	D.C. 12 ID 4 3/4 ID	463.9	FT.	MFG.	HW	AW										VISC				
PRESENT LENGTH					TYPE	OWC.	W7											W.L.-C.C.				
TON MI. OF TRIPS SINCE LAST CUT			RMR BODY OD	FT.	NO.	3	3	DEVIATION RECORD:	DEPTH	DEV.	DIRECTION	DEPTH	DEV	DIRECTION	DEPTH	DEV	DIRECTION	FLTR CK.				
CUMULATIVE TON MI. OF TRIPS			STB BODY OD	FT.	SIZE	12.	12.											PH				
			SUBS OD	100	FT.	SER NO	7142	2840	400.	REMARKS								SD. CONT				
			BIT OR C.B.	FT	DEPTH OUT	2029		6'5.	Sew Reg & Work on Air Line													
				FT.	CUMULATIVE HOURS RUN	12 3/4		800.	Drill													
			KELLY DOWN	2.	FT.	COND. OF BIT	641	845.	Blow Bit #9.													
			TOTAL	FT.	REAMER CUTTER NO.			1045	Work Air Line.													
			WT OF STRING	99 000	LBS.	TYPE		1115	Run in Bit #10.													
			DRILLER	F Ross																		
																			MUD & CHEMICALS ADDED			
																			TYPE	AMT.	TYPE	AM
																			Caustic	100.		
																			CMC.	100		
																			Soda Ash	100		

OPERATOR SHELL CANADA LIMITED		LOCATION 60° 25' 27.6" N 150° 46' 55.57" W	SEC. 150° 46' 55.57"	TWP. 150° 46' 55.57"	RGE. 150° 46' 55.57"	WELL NAME SHELL H-13 GRUMBLER	No. I-16	PROVINCE N.W.T.
CONTRACTOR SF DCO	RIG No. 94	DRILL PIPE STRING NO. SIZE 4 1/2 OD	TOOL JOINT TYPE THD.	PUMPS		CASING & LINER RECORD	SIZE 7 20	DEPTH SET FROM TO 0 219
OPERATOR'S REPRESENTATIVE R. Miller		CONTRACTOR'S TOOL PUSHER S. Kieley		PUMPS		CASING & LINER RECORD	SIZE 7 20	DEPTH SET FROM TO 0 219
PERFORATIONS FROM TO		CEMENT USED		OTHER				

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE	PUMP NO. 2 LINER SIZE	METHOD PUMPS RUN	MUD RECORD						
DRILLING ACTUAL	MORN	DAY	EVE	STANDS DP	1386 FT.	RUN NO.	7	8											TIME			6:00			
REAMING				SNGLS. DP		SIZE	6 1/4	6 1/4		1778	1800				70	20	750	5	66	WEIGHT			9.1		
CIRCULATING				D.C. 1 1/2 ID		MFG.	HW	HW											VISC			42			
TRIPS				4 1/2 OD	463.91 FT.	TYPE	OWC-J	OWC-J											W.L.C.C.						
DEVIATION SURVEY				RMR BODY OD		FT.	NO.	3	3	DEVIATION RECORD:	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	FLTR. CK.					
TEST B.O.P.				STB BODY OD		FT.	NOZ.	SIZE	12	12									PH						
CUT OFF DRILL LINE				SUBS OD		FT.	SER. NO.	7140	7144	12:00	12:30	RIG SER + V.B.O.P.										SD. CONT.			
REPAIR RIG	1 1/4	1/2	1/4	BIT OR C.B.		FT.	DEPTH OUT	1778		12:30	2:00	HOIST													
CORING						FT.	CUMULATIVE HOURS RUN	20 3/4		2:00	3:15	WON FUEL LINES													
WIRE LINE LOGGING				KELLY DOWN	80	FT.	COND. OF BIT	3-3-1	R.	3:15	5:15	PICK UP COLLARS + RUN IN													
OTHER RIG SER.	1/4	1/4		TOTAL		FT.	REAMER CUTTER NO.			5:15	8:00	DRILL													
FISHING				WT. OF STRING		LBS.	TYPE																		
COMPLETING (A) PERFORATING				DRILLER																					

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE	PUMP NO. 2 LINER SIZE	METHOD PUMPS RUN	MUD RECORD					
(B) RUNNING TUBING				STANDS DP	1377.84 FT.	RUN NO.	8												TIME	8:00	10:00	2:00		
(C) SWABBING				SNGLS. DP		SIZE	6 1/2			1800	1858				80	22	750	5	66	WEIGHT	9.4	9.4	9.2	
(D) TESTING				D.C. 1 1/2 ID		MFG.	HW	HW											VISC	42	40	46		
(E) ACIDIZING				4 1/2 OD	463.91 FT.	TYPE	OWC-J	OWC-J											W.L.C.C.					
(F) ADDITIONAL				RMR BODY OD		FT.	NO.	3		DEVIATION RECORD:	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	FLTR. CK.				
TOTALS				STB BODY OD		FT.	NOZ.	SIZE	12	1800									PH					
TIME SUMMARY (OFFICE USE ONLY)				SUBS OD	1.00	FT.	SER. NO.	7144		8:00	8:15	RIG SERVICE CHECK B.O.P. & MOTOR SHUT OFFS.										SD. CONT.		
CONTRACTOR'S TIME HRS.				BIT OR C.B.		FT.	DEPTH OUT			8:15	3:00	DRILL												
OPERATOR'S TIME						FT.	CUMULATIVE HOURS RUN	10 1/2		3:00	3:15	WON FROZEN AIR LINES												
HRS. W/D.P.				KELLY DOWN	16	FT.	COND. OF BIT	Run		3:15	4:00	DRILL												
HRS. WO/D.P.				TOTAL	1858	FT.	REAMER CUTTER NO.																	
HRS. STANDBY				WT. OF STRING		LBS.	TYPE																	
WIRE LINE RECORD				DRILLER																				

TIME DISTRIBUTION—HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE	PUMP NO. 2 LINER SIZE	METHOD PUMPS RUN	MUD RECORD					
REEL NO				STANDS DP	1409.84 FT.	RUN NO.	8												TIME	4 PM	6 PM	10 PM		
NO OF LINES	6	SIZE	2 1/2	SNGLS. DP		SIZE	6 1/4			17	1858	1909			80	24	850	5	66	WEIGHT	9.4	9.4	9.2	
FEET SLIPPED				D.C. 1 1/2 ID		MFG.	HW	HW											VISC	44	43	41		
FEET CUT OFF				4 1/2 OD	463.91 FT.	TYPE	OWC	OWC											W.L.C.C.	8.9	8.9	8.9		
PRESENT LENGTH				RMR BODY OD		FT.	NO.	3		DEVIATION RECORD:	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	DEPTH	DEV.	DIRECTION	FLTR. CK.				
TON MI. OF TRIPS SINCE LAST CUT				STB BODY OD		FT.	NOZ.	SIZE	12	1880	10								PH	10.0	10.0	10.0		
CUMULATIVE TON MI. OF TRIPS				SUBS OD	100	FT.	SER. NO.	7144		4:00		Drill										SD. CONT.		
NO. OF DAYS FROM SPUD				BIT OR C.B.		FT.	DEPTH OUT			7:00		Install Air Compressor & Serv Pump & Survey.												
CUMULATIVE ROTATING HRS.						FT.	CUMULATIVE HOURS RUN	17		8:15		Drill												
				KELLY DOWN	Down	FT.	COND. OF BIT	Run																
				TOTAL	1909	FT.	REAMER CUTTER NO.																	
				WT. OF STRING	35000	LBS.	TYPE																	
				DRILLER																				

OPERATOR SHELL CANADA LTD		LOCATION 60° 25' 37.6" N 115° 46' 55.5" W		WELL NAME SHELL HB GRUMBLER I-16		No. I-16		PROVINCE N.W.T.								
CONTRACTOR SFCO		RIG No. 94	DRILL PIPE STRING NO. SIZE 3 1/2	TOOL JOINT TYPE TMD.	PUMPS NO. MANUFACTURER TYPE STROKE LENGTH 1. C-150-B 12			CASING & LINER RECORD	SIZE WT. & GR. DEPTH SET FROM TO PERFORATIONS FROM TO CEMENT USED OTHER							
OPERATOR'S REPRESENTATIVE R. Miller		CONTRACTOR'S TOOL PUSHER L. Kelly														
TIME DISTRIBUTION—HOURS		NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.	WT. ON BIT 1000±	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD		
DRILLING ACTUAL 7 1/2 7 3/4 3		STANDS DP 1314.06 FT.		RUN NO. 7 SIZE 6 1/4		1652. 1697		70	20	800	5	66			TIME 12:00 1:00 6:00	
REAMING		D.C. 1 1/2 ID 4 3/4 OD 344.25 FT.		MFG. H.W. TYPE OWC										WEIGHT 9.3 9.2 9.2		
CIRCULATING		RMR BODY OD FT.		NOZ. NO. 3										VISC 36 44 42		
TRIPS		STB BODY OD FT.		SIZE 12										W.L.C.C. 9.1		
DEVIATION SURVEY		SUBS OD FT.		SER. NO. 7140		19:00 2:15 DRILL								FLTR. CK. 3/32		
TEST B.O.P		BIT OR C.B. FT.		DEPTH OUT		2:15 2:45 RIG SER. V.B.O.P								PH 6.8 6.8 6.8		
CUT OFF DRILL LINE		CUMULATIVE HOURS RUN 10		2:45 8:00 DRILL										SD. CONT.		
REPAIR RIG		KELLY DOWN 39.60 FT.		COND. OF BIT R												
CORING		TOTAL 1697.77 FT.		REAMER CUTTER NO.												
WIRE LINE LOGGING		WT. OF STRING 27 LBS.		TYPE												
OTHER RIG SER 1/2 1/4		DRILLER														
FISHING		Stine Street														
COMPLETING (A) PERFORATING (B) RUNNING TUBING (C) SWABBING (D) TESTING (E) ACIDIZING (F) ADDITIONAL		NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.	WT. ON BIT 1000±	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD		
TOTALS 8 8 8		STANDS DP 1404.81 FT.		RUN NO. 7 SIZE 6 1/4		1697 1762		70	19	800	5	66		TIME 8:AM 12:Mid 2:PM		
TIME SUMMARY (OFFICE USE ONLY)		D.C. 1 1/2 ID 4 3/4 OD 344.25 FT.		MFG. H.W. TYPE OWC										WEIGHT 9.3 9.2 9.2		
CONTRACTOR'S TIME HRS:		RMR BODY OD FT.		NOZ. NO. 3										VISC 41 38 36		
OPERATOR'S TIME:		STB BODY OD FT.		SIZE 3-12										W.L.C.C.		
HRS. W/D.P:		SUBS OD 1.00 FT.		SER. NO. 7140		8:00 8:15 RIG SERVICE - CHECK B.O.P. & MOTOR SHUT OFFS								FLTR. CK.		
HRS. WO/D.P:		BIT OR C.B. FT.		DEPTH OUT		8:15 4:00 DRILL								PH		
HRS. STANDBY		CUMULATIVE HOURS RUN 17 3/4		COND. OF BIT RUN										SD. CONT.		
WIRE LINE RECORD		KELLY DOWN 12.00 FT.		REAMER CUTTER NO.												
REEL NO		TOTAL 1788.66 FT.		TYPE												
NO. OF LINES SIZE		WT. OF STRING 2900 LBS.														
FEET SLIPPED		DRILLER														
FEET CUT OFF		C. L. Pagnier														
PRESENT LENGTH		NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.	WT. ON BIT 1000±	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD		
TON MI. OF TRIPS SINCE LAST CUT CUMULATIVE TON MI. OF TRIPS		STANDS DP 1404.81 FT.		RUN NO. 7 SIZE 6 1/4		1762. 1778		70	20	850	5	66		TIME 4:00 PM 6:00 PM		
NO. OF DAYS FROM SPUD CUMULATIVE ROTATING HRS.		D.C. 1 1/2 ID 4 3/4 OD 344.25 FT.		MFG. H.W. TYPE OWC										WEIGHT 9.0 8.9		
		RMR BODY OD FT.		NOZ. NO. 3										VISC 43 43		
		STB BODY OD FT.		SIZE 12										W.L.C.C. 9.0 9.0		
		SUBS OD 1.00 FT.		SER. NO. 7140		4:00 Drill								FLTR. CK. 3/32 3/32		
		BIT OR C.B. FT.		DEPTH OUT 1778		5:15 Serv Rig & Work on Pump.								PH 10.0 10.0		
		CUMULATIVE HOURS RUN 20 1/4		COND. OF BIT		5:30 Drill								SD. CONT.		
		KELLY DOWN 100 FT.		REAMER CUTTER NO.		5:45 Work on & Wait on Air Compressor.										
		TOTAL		TYPE		10:30 Drill										
		WT. OF STRING														
		DRILLER														

DATE *Jan 11, 1968*

OPERATOR		SHELL CANADA LIMITED		LOCATION		LS.D.	SEC.	TWP.	RGE.	W.	WELL NAME		SHELL H.B. GRUMBLER I-16		No.		BROOKING		N.W.T.																		
CONTRACTOR		SEDCO Drilling		RIG No.		94		DRILL PIPE STRING NO. SIZE		TOOL JOINT		OD		PUMPS		CASING & LINER RECORD		SIZE		WT. & GR.		DEPTH SET		PERFORATIONS		CEMENT USED		OTHER									
OPERATOR'S REPRESENTATIVE		R.M. Mc...		CONTRACTOR'S TOOL PUSHER		H. Kelly		NO.		MANUFACTURER		TYPE		STROKE LENGTH		NO.		1.		2.		3.		1.		2.		3.									
TIME DISTRIBUTION—HOURS		MORNING		DAY		EVE		NO.		DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.		CORE NO.		FROM		TO		FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.		WT. ON BIT 1000±		PUMP PRESS.		PUMP NO. 1		PUMP NO. 2		METHOD PUMPS RUN		MUD RECORD	
DRILLING ACTUAL		1/2		4 1/2				STANDS DP		FT.		RUN NO.		5				1483		1489				90		20		850		5		66				TIME 12 1 10	
REAMING								SNGLS. DP		FT.		SIZE		6 1/4																				WEIGHT 9.4 9.4			
CIRCULATING		1/2		3 1/4				D.C. ID		FT.		MFG.		H.W.																				VISC 42 56			
TRIPS		1 1/2		2 1/4		3/4		RMR BODY OD		FT.		NO.		3																				W.L.C.C. 7.8			
DEVIATION SURVEY								STB BODY OD		FT.		NO.		2 1/2																				FLTR. CK. 3 1/2			
TEST B.O.P								SUBS OD		FT.		SER. NO.		979																				PH 9.5			
CUT OFF DRILL LINE								BIT OR C.B.		FT.		DEPTH OUT		1489																				SD. CONT.			
REPAIR RIG								KELLY DOWN		FT.		CUMULATIVE HOURS RUN		6 1/4																							
CORING								TOTAL		FT.		COND. OF BIT		2-2-1																							
WIRE LINE LOGGING								WT. OF STRING		LBS.		TYPE																									
OTHER WOT		1 1/4		1		1/4		DRILLER																													
FISHING								NO.		DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.		CORE NO.		FROM		TO		FORMATION (SHOW CORE RECOVERY)		ROTA- RY R.P.M.		WT. ON BIT 1000±		PUMP PRESS.		PUMP NO. 1		PUMP NO. 2		METHOD PUMPS RUN		MUD RECORD	
COMPLETING (A) PERFORATING								STANDS DP		FT.		RUN NO.																						TITLE			
(B) RUNNING TUBING								SNGLS. DP		FT.		SIZE		7 1/2																				WEIGHT			
(C) SWABBING								D.C. ID		FT.		MFG.		H.W.																				VISC			
(D) TESTING		3 1/4		4 1/4				RMR BODY OD		FT.		NO.		3																				W.L.C.C. TESTING			
(E) ACIDIZING								STB BODY OD		FT.		NO.		2 1/2																				FLTR. CK.			
(F) ADDITIONAL								SUBS OD		FT.		SER. NO.		8:00		9:15		RUN IN																PH			
TOTALS		8		8		8		BIT OR C.B.		FT.		DEPTH OUT		9:15		1:30		TESTING																SD. CONT.			
TIME SUMMARY (OFFICE USE ONLY)								KELLY DOWN		FT.		CUMULATIVE HOURS RUN		1:30		3:00		H 615T																			
CONTRACTOR'S TIME HRS.								TOTAL		FT.		COND. OF BIT		3:00		4:00		BREAKDOWN TOOL																			

[illegible]

PROVINCE

[illegible]

OPERATOR SHELL CANADA LIMITED		LOCATION 60° 25' 37.6" N / 115° 46' 35.5" W		WELL NAME Shell Y.B. Gumbler 1-16		No. 1-16		PROVINCE N.H.T.	
CONTRACTOR SEDCO DRILLING		RIG No. 94	DRILL PIPE STRING NO. SIZE	TOOL JOINT	OD	PUMPS		CASING & LINER RECORD	SIZE WT. & GR. DEPTH SET FROM TO PERFORATIONS FROM TO CEMENT USED OTHER
OPERATOR'S REPRESENTATIVE R. Muffink		CONTRACTOR'S TOOL PUSHER R. Kielaly		TYPE THD.		1. 2. 3.		1. 2. 3.	

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT.	SIZE					225											
				D.C. ID	FT.	MFG.																
				RMR BODY OD	FT.	NO. NO.																
				STB BODY OD	FT.	NOZ. SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER																		

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT.	SIZE					225											
				D.C. ID	FT.	MFG.																
				RMR BODY OD	FT.	NO. NO.																
				STB BODY OD	FT.	NOZ. SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER																		

TIME DISTRIBUTION - HOURS				NO. DRILLING ASSEMBLY		BIT RECORD		HRS. DRLD.	CORE NO.	FROM	TO	FORMATION (SHOW CORE RECOVERY)	ROTA- RY R.P.M.	WT. ON BIT 1000#	PUMP PRESS.	PUMP NO. 1 LINER SIZE S.P.M.	PUMP NO. 2 LINER SIZE S.P.M.	METHOD PUMPS RUN	MUD RECORD			
MORN	DAY	EVE		STANDS DP	FT.	RUN NO.													TIME	WEIGHT	VISC	W.L.C.C.
				SNGLS. DP	FT.	SIZE					225											
				D.C. ID	FT.	MFG.																
				RMR BODY OD	FT.	NO. NO.																
				STB BODY OD	FT.	NOZ. SIZE																
				SUBS OD	FT.	SER. NO.																
				BIT OR C.B.	FT.	DEPTH OUT																
					FT.	CUMULATIVE HOURS RUN																
				KELLY DOWN	FT.	COND. OF BIT																
				TOTAL	FT.	REAMER CUTTER NO.																
				WT. OF STRING	LBS.	TYPE																
				DRILLER																		

OPERATOR		LOCATION		WELL NAME		No.		PROVINCE							
SHELL CANADA LIMITED		60° 25' 39.6" N / 115° 46' 55.57" W		SHELL H.2. GRUMBLER 1-16		7-16		N.H.T.							
CONTRACTOR		RIG No.	DRILL PIPE STRING NO. SIZE	TOOL JOINT	OD	PUMPS		CASING & LINER RECORD	SIZE	WT. & GR.	DEPTH SET FROM TO	PERFORATIONS FROM TO	CEMENT USED	OTHER	
OPERATOR'S REPRESENTATIVE		CONTRACTOR'S TOOL PUSHER		TYPE THD.		NO. MANUFACTURER TYPE STROKE LENGTH									
P. Muffink		R. Killaly				1. 2. 3.									
TIME DISTRIBUTION - HOURS															
MORN DAY EVE															
DRILLING ACTUAL 6 4 4 4															
REAMING 7 4															
CIRCULATING 1															
TRIPS															
DEVIATION SURVEY															
TEST E.O.P.															
CUT OFF DRILL LINE															
REPAIR RIG 1 4															
CORING															
WIRE LINE LOGGING															
OTHER 1 4 2 8															
FISHING 8 2 8															
COMPLETING (A) PERFORATING															
(B) RUNNING TUBING															
(C) SWABBING															
(D) TESTING															
(E) ACIDIZING															
(F) ADDITIONAL															
TOTALS 8 8 8															
TIME SUMMARY (OFFICE USE ONLY)															
CONTRACTOR'S TIME HRS: 24															
OPERATOR'S TIME:															
HRS. W/D.P.:															
HRS. WO/D.P.:															
HRS. STANDBY:															
WIRE LINE RECORD															
REEL NO.															
NO. OF LINES SIZE															
FEET SLIPPED															
FEET CUT OFF															
PRESENT LENGTH															
TON MI. OF TRIPS SINCE LAST CUT															
CUMULATIVE TON MI. OF TRIPS															
NO. OF DAYS FROM SPUD															
CUMULATIVE ROTATING HRS.															
EVENING TOUR															
NO. DRILLING ASSEMBLY BIT RECORD															
STANDS DP FT. RUN NO. 14 24															
SNGLS. DP FT. SIZE 9 7/8 9 7/8															
D.C. ID MFG. H.N. Q.R.															
OD FT. TYPE OS-18															
RMR BODY OD FT. NO. NO. 33 201															
STB BODY OD FT. NOZ. SIZE 6mm															
SUBS OD FT. SER. NO. 33 201															
BIT OR C.B. FT. DEPTH OUT 188 37															
CUMULATIVE HOURS RUN 14 2 3 7/4															
COND. OF BIT 5-1-1 3-1-1															
TOTAL 225.00 FT. REAMER CUTTER NO.															
WT. OF STRING LBS. TYPE															
DRILLER															
HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY) ROTA- RY R.P.M. WT.ON BIT 1000# PUMP PRESS. PUMP NO. 1 PUMP NO. 2 METHOD PUMPS RUN															
4 3/4 169 225 120 1000#															
REMARKS															
12 12 30 Service rig and survey															
12 24 5 Drill															
2 3 30 Work on pump and boiler															
3 30 4 30 Drill															
4 30 5 00 Work on pump															
5 00 5 30 Drill															
5 30 6 00 Work plugged collar.															
MUD & CHEMICALS ADDED															
TYPE AMT. TYPE AMT.															
TIME WEIGHT VISC. W.L.C.C. FLTR. CK. PH. SD. CONT.															
MUD RECORD															
NO. DRILLING ASSEMBLY BIT RECORD															
STANDS DP FT. RUN NO. 14 24															
SNGLS. DP FT. SIZE 9 7/8 9 7/8															
D.C. ID MFG. H.N. Q.R.															
OD FT. TYPE OS-18															
RMR BODY OD FT. NO. NO. 33 201															
STB BODY OD FT. NOZ. SIZE 6mm															
SUBS OD FT. SER. NO. 33 201															
BIT OR C.B. FT. DEPTH OUT 188 37															
CUMULATIVE HOURS RUN 14 2 3 7/4															
COND. OF BIT 5-1-1 3-1-1															
TOTAL 225.00 FT. REAMER CUTTER NO.															
WT. OF STRING LBS. TYPE															
DRILLER															
HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY) ROTA- RY R.P.M. WT.ON BIT 1000# PUMP PRESS. PUMP NO. 1 PUMP NO. 2 METHOD PUMPS RUN															
4 3/4 169 225 120 1000#															
REMARKS															
12 12 30 Service rig															
12 24 5 Drummy rig															
2 3 30 Clean to bottom and survey															
3 30 4 30 Drill															
4 30 5 00 Work on pump															
5 00 5 30 Circulate and hole															
MUD & CHEMICALS ADDED															
TYPE AMT. TYPE AMT.															
TIME WEIGHT VISC. W.L.C.C. FLTR. CK. PH. SD. CONT.															
MUD RECORD															
NO. DRILLING ASSEMBLY BIT RECORD															
STANDS DP FT. RUN NO. 14 24															
SNGLS. DP FT. SIZE 9 7/8 9 7/8															
D.C. ID MFG. H.N. Q.R.															
OD FT. TYPE OS-18															
RMR BODY OD FT. NO. NO. 33 201															
STB BODY OD FT. NOZ. SIZE 6mm															
SUBS OD FT. SER. NO. 33 201															
BIT OR C.B. FT. DEPTH OUT 188 37															
CUMULATIVE HOURS RUN 14 2 3 7/4															
COND. OF BIT 5-1-1 3-1-1															
TOTAL 225.00 FT. REAMER CUTTER NO.															
WT. OF STRING LBS. TYPE															
DRILLER															
HRS. DRLD. CORE NO. FROM TO FORMATION (SHOW CORE RECOVERY) ROTA- RY R.P.M. WT.ON BIT 1000# PUMP PRESS. PUMP NO. 1 PUMP NO. 2 METHOD PUMPS RUN															
4 3/4 169 225 120 1000#															
REMARKS															
12 12 30 Rig up to run casing															
12 24 5 Run casing															
2 3 30 Circulate casing and rig to cement															
3 30 4 30 Cement casing															
4 30 5 00 W.O.C.															
5 00 5 30 Run 1 1/2" 20# 55 ST & C rest casing total of 209.78' banded at 219.78' H.B.															
Cemented with 175 sack water cement + 3% CaCl2. Plug down 9" PM.															
MUD & CHEMICALS ADDED															
TYPE AMT. TYPE AMT.															
TIME WEIGHT VISC. W.L.C.C. FLTR. CK. PH. SD. CONT.															
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PROVINCE