

ASL/GJ
SB-062-72

Stavanger, October 23, 1972

Mr. R.S. Logan
Research Center
BARTESVILLE OFFICE

Re: DATA SHEETS FOR EKOFISK OIL
AND GAS SAMPLES, NORTH SEA,
NORWAY

Duplicate copies of F-kit data sheets for the four Ekofisk samples airfreighted to you are enclosed. One copy of these data sheets was also packed in each kit before shipment.

We are also sending a copy of the test data sheet for Well 2/4-4AX corresponding to the day this well stream was sampled.

P.W. REYNOLDS

cc: J.T. Clark
J. Gordon Erdman w/attach.

PHILLIPS PETROLEUM COMPANY
RESEARCH AND DEVELOPMENT DEPARTMENT

Revised December 17, 1970

DATA SHEET

Enclose one copy in box with
samples and ship to:
~~J. F. Dowd~~
Phillips Petroleum Co., 262 RB#1
Bartlesville, Oklahoma 74003, USA

Send one copy separately to:
J. G. Erdman
Geochemistry Branch
Phillips Research Center
Bartlesville, Oklahoma 74003

Retain one copy
for your records
if desired.

Computer Key
Card Column

-	-	Kit Number
-	-	Container Number
A1	3-9	Sample Code Letters (by Geochem. Br.)
A1	11-13	Sample Type (by Geochem. Br.)
A1	14-36	Well Name
A1	42-46	County or Area Name
A4	11-78	Geographic Description
A1	47-51	State or County
A1	52-78	Operator
A2	30	Depth Reference Point (RKB, Sea Level, etc.)
A2	37-47	Depth of Interval Sampled, Feet
A2	49-52	Time Sampled, 24 Hour Clock
A2	53-60	Month, Day and Year Sampled
-	-	By Whom Sampled
A2	61-63	Geological Age of Formation Sampled
A2	64-67	Lithology of Formation Tested
A2	68-78	Name of Formation Sampled
B1	11-51	Well Status, Test No., etc.
B1	11-51	Name of Separator Point(s) (Which Separator?)
B1	52-55	Pressure of Sample Point(s), psig
B1	56-59	Temperature of Sample Point(s), °F
B1	60-65	Pressure Put in Sample Containers, psig
B1	52-55	Pressure of Separator(s), psig
B1	56-59	Temperature of Separator(s), °F
B1	70-74	Separator Gas Flow Rate(s), Mcf/D
B1	74-78	Separator Oil Flow Rate(s), Bbl/D
B1	64-69	Gas-Oil Ratio, Mcf/Bbl
		Pressure Base Used for Gas Measurements
		F _g Factor Used in Field GOR Measurements
		F _{pv} Factor Used in Field GOR Measurements
		Average Temperature of Stock Tank Oil During Gauging
		API Gravity of Stock Tank Oil, °API at 60°F
		If No Stock Tank, Where was Oil Obtained for Gravity Measurement
		Total Water Production
		Atmospheric Pressure

Gas	Liquid		
F 10			
A57	8B		
6123	657		
2/4 - 4AX			
NORWAY			
Sec.	Twp.	Rge.	
EKOFISK			
PHILLIPS PET. CO. NORWAY			
Upper		Lower	
22.00			
10 th OCTOBER 1972			
T. W. PREECE			
TEST SEPARATOR			
515			
98			
515			
1st	515	2nd	3rd
1st	98	2nd	3rd
1st	14.3	2nd	3rd
1st	12922	2nd	3rd
1st	1110	2nd	3rd
14.73		P.S.I.A	
1.21447			
1.0323.			
37.9			
NEGLECTIBLE			
30.0 "w.g.			

Comments

PHILLIPS PETROLEUM COMPANY
RESEARCH AND DEVELOPMENT DEPARTMENT

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B1	60-65	Pressure Put in Sample Containers, psig
B1	52-55	Pressure of Separator(s), psig 1st
B1	56-59	Temperature of Separator(s), °F 1st
B1	70-74	Separator Gas Flow Rate(s), Mcf/D 1st
B1	74-78	Separator Oil Flow Rate(s), Bbl/D TEST 1st
B1	64-69	Gas-Oil Ratio, Mcf/Bbl 1st

Gas	Liquid
F61	F61
AG7	8B
G153	L153
2/4 - 4AX	
EKOFISK.	
Sec.	Twp. Rge.
NORWAY.	
PHILLIPS PETR. CO.	
2300h 2300h	
OCTOBER 10 th 1972	
P.A. GOODWIN.	
Flowing #2	
TEST SEPARATOR.	
515 psig.	
98°F.	
515 psig 515 psig	
1st 515 2nd 5.5 3rd -	
1st 98°F 2nd 112°F 3rd -	
1st 14.3 2nd 3rd	
1st 21922 2nd 12922 3rd	
1st 1110 2nd 3rd	
14.73 P.S.I.A.	
1.021447	
1.0323	
N/A	
37.9 °API @ 60°F.	
TEST Sep Sample Point (5/9/72)	
Trace.	
14.7 psig.	

Pressure Base Used for Gas Measurements
F_g Factor Used in Field GOR Measurements
F_{pv} Factor Used in Field GOR Measurements
Average Temperature of Stock Tank Oil
During Gauging
API Gravity of Stock Tank Oil, °API at 60°F
If No Stock Tank, Where was Oil Obtained for
Gravity Measurement
Total Water Production
Atmospheric Pressure

Comments

Difficulty in obtaining oil sample due
to very gaseous mixture at high press

W. F. BUCE
PHILLIPS PETROLEUM COMPANY
262 RB #1, PRC
BARTLESVILLE, OKLAHOMA 74004

PHILLIPS PETROLEUM COMPANY
RESEARCH AND DEVELOPMENT DEPARTMENT

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B1	64-69	Gas-Oil Ratio, Mcf/Bbl

Pressure Base Used for Gas Measurements

F_g Factor Used in Field GOR Measurements

F_{pv} Factor Used in Field GOR Measurements

Average Temperature of Stock Tank Oil
During Gauging

API Gravity of Stock Tank Oil, °API at 60°F

If No Stock Tank, Where was Oil Obtained for
Gravity Measurement

Total Water Production

Atmospheric Pressure

Comments DAILY GROSS PROD: 42473.0 bbl

DAILY NET PROD: 42388.1 bbl

DAILY GAS PROD: 65.071017 MMCFD

GOR : 1535

BS+W : 0.2%

Gas	Liquid
<u>F 71</u>	
<u>A 39</u>	
<u>G 78</u>	<u>L 170</u>
<u>SEP. COMPOSITE</u>	
<u>2/4 - 1AX, 2X, 3X, 4AX</u>	
<u>EKOFISK</u>	
Sec. <u> </u>	Twp. <u> </u> Rge. <u> </u>
<u>NORWAY</u>	
<u>PHILLIPS PET. CO. NORWAY</u>	
Upper <u> </u>	Lower <u> </u>
<u>20.00</u>	
<u>8th OCTOBER 72</u>	
<u>T.W. PREECE</u>	
<u>1ST STAGE</u>	
<u>500</u>	
<u>134</u>	
<u>500</u>	
1st <u>500</u>	2nd <u>5.5</u> 3rd <u> </u>
1st <u>134</u>	2nd <u>114</u> 3rd <u> </u>
1st <u>56.47</u>	2nd <u>8.60</u> 3rd <u> </u>
1st <u> </u>	2nd <u> </u> 3rd <u> </u>
1st <u>1535</u>	2nd <u> </u> 3rd <u> </u>
<u>14.73 P.S.I.A.</u>	
<u>1.19437</u>	
<u>1.0246</u>	
<u>35.8</u>	
<u>NEGLIGIBLE</u>	
<u>30.04 in Hg.</u>	

W. F. BUCE
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Pressure Base Used for Gas Measurements

F_g Factor Used in Field GOR Measurements

F_{pv} Factor Used in Field GOR Measurements

Average Temperature of Stock Tank Oil
During Gauging

API Gravity of Stock Tank Oil, °API at 60°F

If No Stock Tank, Where was Oil Obtained for
Gravity Measurement

Total Water Production

Atmospheric Pressure

Comments NONE.

Gas	Liquid
F-64	F-64
A51	33B
G-127	L-171
2/4, 1A, 2A, 3A, 4A	
FKOFISK.	
Sec.	Twp.
NORWAY	
PHILLIPS P.L.O. NORWAY.	
Upper	Lower
1900 hr	1900 hr
OCTOBER 8 th 1972	
P.A. GOODWIN.	
FLOWING N°1	
FIRST STAGE.	
500 psig	
134 °F.	
500 psig 500 psig	
1st 500 psig	2nd 5.5 psig
1st 134 °F	2nd 114 °F
1st 56.47	2nd 8.60
1st	2nd
1st 1535	2nd
14.73 psia	
1.14437	
1.0246	
N/A.	
35.8 °API @ 60°F.	
Pump Discharge.	
Negligible.	
14.7 psia	

Choke Size 2.0 in
 Gas Sp. Gravity 0.701
 Meter Orifice 4.0 in
 Meter Run I. D. 6.065 in

Oil Gravity 9.8 psi
 R.V.P. 2.0 %
 BS & W 10.9 lbs/1000 bbl

DIFF hw	METER		$\sqrt{h_w P}$ ①	F_{tf} ②	F_b ③	F_g ④	F_{pv} ⑤	C ⑥ 2x3x4x5	GAS 1x6 SCF/HR	OIL METER READING	WATER
	PRESS psia	TEMP. °F									
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	72131	536
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	71595	545
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	71050	540
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	70510	530
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	69970	547
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	69423	530
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	68892	541
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	68352	535
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	67817	540
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	67277	536
35	529.7	98	136.160	0.9645	3628.2	1.21447	1.0323	4385 912261	597186	66741	531
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	66200	535
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	65665	540
35	529.7	97	136.160	0.9662	3628.2	1.21447	1.0325	4395 771447	598528	65125	544
35	529.7	97	136.160	0.9662	3628.2	1.21447	1.0325	4395 771447	598528	64581	530
35	529.7	97	136.160	0.9662	3628.2	1.21447	1.0325	4395 771447	598528	64041	545
35	529.7	97	136.160	0.9662	3628.2	1.21447	1.0325	4390 826168	597855	63501	536
35	529.7	98	136.160	0.9653	3628.2	1.21447	1.0323	4390 826168	597855	62977	537
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	62453	531
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	61912	527
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	61365	540
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	60825	535
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	60290	520
35	529.7	99	136.160	0.9645	3628.2	1.21447	1.0320	4385 912261	597186	59760	551
Initial Oil Meter Reading										59209	
Gross Daily Total										1434585	12922
Net Daily Total										12663.6	12922
Gas/Oil Ratio <u>1110</u>											



Phillips Petroleum Company Norway

EKOFISK FIELD

Well 2/4 — 4AX Daily Test Data

Test Date October 10th 1972

Choke size 10 1/2

Gas Sp. Gravity 0.7

Meter Orifice 1.0

Meter Run I. D. 1.0

TIME	SERVICE LINE PRESS psig	HEADER			TEST SEPARATOR		2ND STAGE SEPARATOR		DIFF hw	METER		Vh
		PRESS psig	UPSTREAM TEMP. °F	DOWN-STREAM TEMP. °F	PRESS psig	TEMP. °F	PRESS psig	TEMP. °F		PRESS psia	TEMP. °F	
2400	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
2300	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
2200	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
2100	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
2000	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
1900	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
1800	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
1700	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
1600	3550	810	102	98	515	98	5.5	112	35	529.7	98	136.
1500	3550	810	104	100	515	98	5.5	113	35	529.7	98	136.
1400	3550	810	104	100	515	98	5.5	113	35	529.7	98	136.
1300	3550	810	104	100	515	98	5.5	113	35	529.7	98	136.
1200	3550	810	104	100	515	97	5.5	112	35	529.7	98	136.
1100	3550	810	103	99	515	96	5.5	112	35	529.7	97	136.
1000	3550	810	103	99	515	96	5.5	112	35	529.7	97	136.
0900	3550	810	102	98	515	96	5.5	113	35	529.7	97	136.
0800	3550	810	103	97	515	97	5.5	113	35	529.7	97	136.
0700	3550	810	103	97	515	97	5.5	113	35	529.7	97	136.
0600	3550	810	103	99	515	95	5.5	113	35	529.7	99	136.
0500	3550	810	103	99	515	95	5.5	113	35	529.7	99	136.
0400	3550	810	103	99	515	95	5.5	113	35	529.7	99	136.
0300	3550	810	104	100	515	95	5.5	113	35	529.7	99	136.
0200	3550	810	104	100	515	95	5.5	113	35	529.7	99	136.
0100	3550	810	104	100	515	95	5.5	113	35	529.7	99	136.

Daily Avg.

3550 810 103 99 515 97 5.5 112

Gas/Oil Ratio 1110

File: Samples & Analysis

23 Oct 72

To: RP (r) Gullfide Supervisors

From: Drew

Re: More damned samples

Please collect one gallon samples of the following:

Well 2/4-1AX

Well 2/4-2X

Well 2/4-3X

Well 2/4-4AX

Combined Ekofisk

The samples should be labelled with well numbers and dates of sampling. They should also be marked "Phillips Petroleum Company Norway Ekofisk Crude."

Samples should be shipped to:

Mr. J. Pearson, Chief Chemist
Moore Barrett and Redwood
Rosscliffe Road, Ellsmere Port.
Wirral, Cheshire L653AS U.K.



PHILLIPS PETROLEUM COMPANY EUROPE—AFRICA

Inter-office Correspondence/Subject

FINGERPRINT MARKING OF CRUDE OILS

Office: London

Date: 13th October 1972

To : Mr. J. Daniels
London Office

Further to our conversation yesterday on the above subject, Moore Barrett and Redwood are ~~now awaiting~~ the necessary samples, i.e. 1 X 1 gallon sample of each crude which you require identifying. Please ensure that all samples are clearly marked on crude type, date of sampling etc., I have informed Moore Barrett and Redwood that you will visit their laboratory prior to this work commencing.

A. J. Hughes

D.J. HUGHES

DJH/rsd

Fred can you have collected and shipped 5 samples, one combined Ekofisk, one 1A, one 2x, one 3x, one 4A. Please send them to

cc : K. D. James / London

T. J. Jobin / London ✓

File Ref : 1/C/22

Thanks *Jim*

J. PEARSON
CHIEF CHEMIST.
Moore Barrett & Redwood Ltd.

ROSS CLIFFE Rd,
ELLSMERE PORT

WIRRAL, CHESHIRE

L65 3AS

U.K.

DST No. 1

2/4-4AX

PERFS:

10,380 to 10,510

No.	O.D.	I.D.	Description	Length	Depth
1			Baker Test Head		
			Hydril Valve		
			Tubing Above RKB (Less)	10.00	
2 subs					
8 jts	3.500	2.992	Tubing, 9.3 N-80 8 Rd EUE	267.01	257.01
EA.			Otis SST Tree, Slick Jt. HGR	20.00	277.01
325	3.500	2.992	Tubing, 9.3 N-80 8 Rd EUE	10.04	10.318.01
1	"	2.441	Cross-over 3 $\frac{1}{2}$ x 2-7/8 EUE w/3 $\frac{1}{2}$		
			Collar	.70	10.318.71
1			BJ UNLOADER	1.70	10.320.41
1	5.884	2.441	BJ FFC Packer	5.80	10.326.21
1	3.500	2.441	Cross-over 2-7/8 x 3 $\frac{1}{2}$ EUE w/2-7/8		
			Collar	.70	10.326.91
3	3.500	2.992	3 $\frac{1}{2}$ " Tbg, 9.3 N-80 8Rd EUE	93.09	10.420.00
1	3.500	2.992	" " Perf. Jt. " "	30.60	10.450.60
1	3.500	2.441	Cross-over 3 $\frac{1}{2}$ x 2-7/8 w/collar	.70	10.451.30
1	3.500	2.500	Recorder Hanger No. 3854	1.00	10.452.30
1	"	"	" Case	4.00	10.456.30
1	"	"	Recorder Hanger No. 2760	1.00	10.457.30
1	"	"	" Case	4.00	10.461.30
1	"	"	Recorder Hanger No. 4180	1.00	10.462.30
1	"	"	" Case	4.00	10.466.30
Bottom of tubing string					10.466.33
Overall length of tubing				10.476	

PHILLIPS PETROLEUM COMPANY

WELL 2/4-4AX

Perfs. 10380 - 10510

TEST STARTED: 1600 hrs August 9, 1976 

TEST COMPLETED: 0600 hrs August 11, 1970

DST NO. 1 SUMMARY

~~DEPTH OF PRESSURE RECORDER: No. 3854 at 10456', No. 2760 at 10461' & No. 4180 at 10466, Packer set at 10326'~~

[illegible]



DATE: August 9, 1970

PHILLIPS PETROLEUM CO.

LEASE: 2/4

SURFACE PRESSURE

INTERVAL: 10380 - 10510

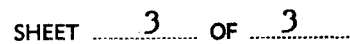
WELL NO.: 2/4-4X

TEST NO.: DST No. 1

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
			SET PACKER
1600			Opened Well to Dowell Tank
1601		50	
1602		140	
1603		165	
1604		165	
1605		168	
1606		177	
1607		242	
1608		264	
1609		284	
1610		265	
1610		-	Shut Well in for ISI
1611		2750	
1612		2980	
1613		3000	
1614		2995	
1615		2995	
1630		3020	
1645		3020	
1700		3030	
1715	69°	3030	
1730	69°	3030	
1745	66°	3040	
1800	64°	3041	
1815	63°	3042	



TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
18.30	63°	3047	
18.40			Open Well for Flow No.1
18.42		420	
18.43		412	
18.44		431	
18.45	90°	497	
18.47			Gas Surface
18.48			Making gas oil water fluid
18.49			Shut Well in to repair leaks
18.54	101°	4050	
18.59	94°	4097	
19.00	93°	4097	
19.05	90°	4097	
19.15	81°	4109	
19.30	74°	4112	
19.48	68°	4112	
19.52			Flowed Well thru Separator
19.53	76°	1750	
19.54	82°	1350	
19.55	86°	1370	
19.56	88°	1345	
19.57	90°	1300	
19.58	92°	1280	
19.59	94°	1265	
20.00	96°	1265	
20.05	106°	1600	
20.10	112°	3000	
20.15	114°	3190	



500-8-68. Gardum

DATE: August 9&10, 1970

WELL: 2/4-4X

METER RUN SIZE: 5.671" I.D.



PHILLIPS PETROLEUM CO.

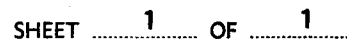
WELL PRODUCTION TEST

Sheet 1 of 1

TEST NO.: DST 1

PERF.ZONE: 10380 - 10510 GOR
GAS OIL XXXX

WELLHEAD.			METER ORIFICE	DIFF hw	METER PRESS	METER TEMP		1		2	3	4	C	mmcf/d	bpd	bpd
TIME	PRESS	TEMP			psia	°F	$\sqrt{hw P}$	Ftf	Fb	Fb x 24	Fg	Fpv	FtfxFbxFgxFpv	$C\sqrt{hw P}$		
2045	Flowed well	thru separator	at 12/64"	choke to	2145 hrs,	then reduced	choke to	10/64"	to obtain	desired						
	low rate.	Stabilized flow	to 2230 hrs	on 10/64"	choke.											
2300	4120	91	1.000	37	585	72	147.1	0.9887	200.46	4823	1.2263	1.0433	61008	0.897	744	1205
2330	4120	91	"	37	585	"	"	"	"	"	"	"	"	"	749	1197
2440	4120	91	"	37	585	"	"	"	"	"	"	"	"	"	749	1197
0030	4120	92	"	"	"	"	"	"	"	"	"	"	"	"	725	1237
0100	4120	92	"	"	"	74	"	0.9868	"	"	"	1.0427	60852	0.895	734	1219
1030	4120	92	"	"	"	74	"	"	"	"	"	"	"	0.895	725	1234
0200	4120	91	"	"	"	74	"	"	"	"	"	"	"	0.895	725	1234
Running bottom hole sample - Unable to maintain stabilized rates from 0200 to 0600 hrs.																
0600	4120	89	1.000	37	595	69	148.39	0.9915	200.46	4823	1.2263	1.0451	61285	0.909	821	1107
0630	4120	89	"	36	585	69	145.05	0.9915	"	"	"	1.0443	61239	0.889	749	1187
0700	4100	89	"	36	565	63	142.54	0.9971	"	"	"	1.0443	61585	0.878	686	1278
0730	4050	89	"	39	615	66	154.8	0.9943	"	"	"	1.0477	61612	0.954	686	1390
0800	4052	89	"	36	585	60	145.05	1.000	"	"	"	1.0473	61942	0.898	835	1075
			Oil gravity = 36° API at 60° F													
			Water Cut = 0 %													
												Average 2230 to 0200 hrs		0.896	734	1221
												Average 0600 to 0805 hrs		0.905	755	1198
0805	Shut Well in.															



PHILLIPS PETROLEUM CO.

INTERVAL:

TEST NO.: DST 1

500-B-68. Gardum

DATE: August 10, 1970



PHILLIPS PETROLEUM CO.

Sheet of

WELL: 2/4-4 A X

TEST NO.:DST 1.....

METER RUN SIZE: 5.761 I.D.

WELL PRODUCTION TEST

PERF.ZONE: , GOR
GAS OIL ~~WATER~~

[illegible]



Well 2/4- X

SHEET OF

August 10 & 11, 1970

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
			Shut well in at 2209 hrs. for SI No. 2
			Having trouble w/dead weight tester plugging.
2300		4255	Uplugged liner and started readings at 2300 hrs.
2315		4256	
2330		4252	
2345		4259	
2400		4250	
0015		4244	
0030		4240	
0045		4235	
0100		4228	
0115		4210	
0130		4210	
0145		4210	
0200		4210	
0215		4220	
0230		4220	
0245		4210	
0300		4210	
0315		4210	
0330		4220	
0345		4210	
0400		4210	
0400		4210	
0420			Acidizing well.



DRILL-STEM TEST DATA

Well Name	Ekofisk	Test No	ONE
Well Number	2 - 4 - 4AX	Zone Tested	
Company	Phillips Petroleum Co. Norway	Interval	Perforated from: 10380 - 10510
Comp. Rep	Mr. O.C. Rolls	Tester	BJ Flahr
		Date	August 9, 1970

Type of Test Casing Hook Wall RFS Tool No. _____

Pretlow _____ mins. ISI _____ mins. Flow _____ mins. FSI _____ mins

Specify Inside or Outside	INS REC No. 3854 15500 RANGE 72 HR. CLOCK	OUT REC No. 2760 10650 RANGE 72 HR. CLOCK	OUT REC No. 4180 15500 RANGE 72 HR. CLOCK
DEPTH	10452	10457	10462
Initial Hydro Mud Press			
Initial Shut-In Press			
Initial Flow Press			
Final Flow Press			
Final Shut-In Press			
Final Hydro Mud Press			

Mud Drop _____ Fluid Loss 5.5 Mud Weight 14.3
Viscosity 47 Temperature °F 265 Net Pay Tested _____
Top Packer Depth 10326 Bottom Packer Depth _____ Total Depth 10848
Drill Pipe Size 3 1/2 Eve Wt. 9.3 Drill Collar I.D. _____ Ft. Run _____
Surface Choke Size Adjustable Bottom Choke Size 12 Main Hole Size 7" 29# Casing
Anchor Size 3 1/2 Rat Hole Size _____ Feet of Rat Hole _____
Cushion Amount 10326 Type Sea Water Rubber Size 5.812

Fluid Recovery Total Feet

Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____

Gas Recovery _____ How Measured _____ Riser size: _____

_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____ MCF/Day

Bleed Off Time for Drill Pipe _____

REMARKS _____

Core Lab Gas Cont. No. _____

Lab Gas Cont. No. _____

DRILL STEM TEST NUMBER ONE

Baker Test Head

Hydril Valve

8 Jtts & 2 Pup Jts. Tubing	261.01
----------------------------	--------

Otis Test Tree	20.00
----------------	-------

325 Jts. Tubing	10,041.00
-----------------	-----------

X.O. Sub	.70
----------	-----

B.J. Unloader	1.70
---------------	------

B.J. F.F.C. Tool	5.80
------------------	------

X Over Sub	.70
------------	-----

3 Jts. Tubing	93.09
---------------	-------

Perf Jt.	30.60
----------	-------

X Over Sub	.70
------------	-----

Rec. Hanger # 3854	1.00
--------------------	------

Recorder Case	4.00
---------------	------

Recorder Hanger # 2760	1.00
------------------------	------

Recorder Case	4.00
---------------	------

Recorder Hanger # 4180	1.00
------------------------	------

Recorder Case	4.00
---------------	------

DRILL STEM TEST NUMBER ONE

TIME DEFLECTIONS COMPARISON (MIN)

Point	Surface	Recorder # 3854	Recorder # 2760	Recorder # 4180
B-C	10	10	10	10
C-D	150	135	133	130
D-E	805	780	763	755
E-F	480	482	460	455
F-G	115	120	125	110
G-H	240	242	220	232
H-I	360	360	350	345

TIME PERIOD DURING ACID JOB NOT SHOWN DUE TO PACKER SEAT
FAILURE.

DRILL STEM TEST NUMBER ONE

PRESSURE COMPARISON

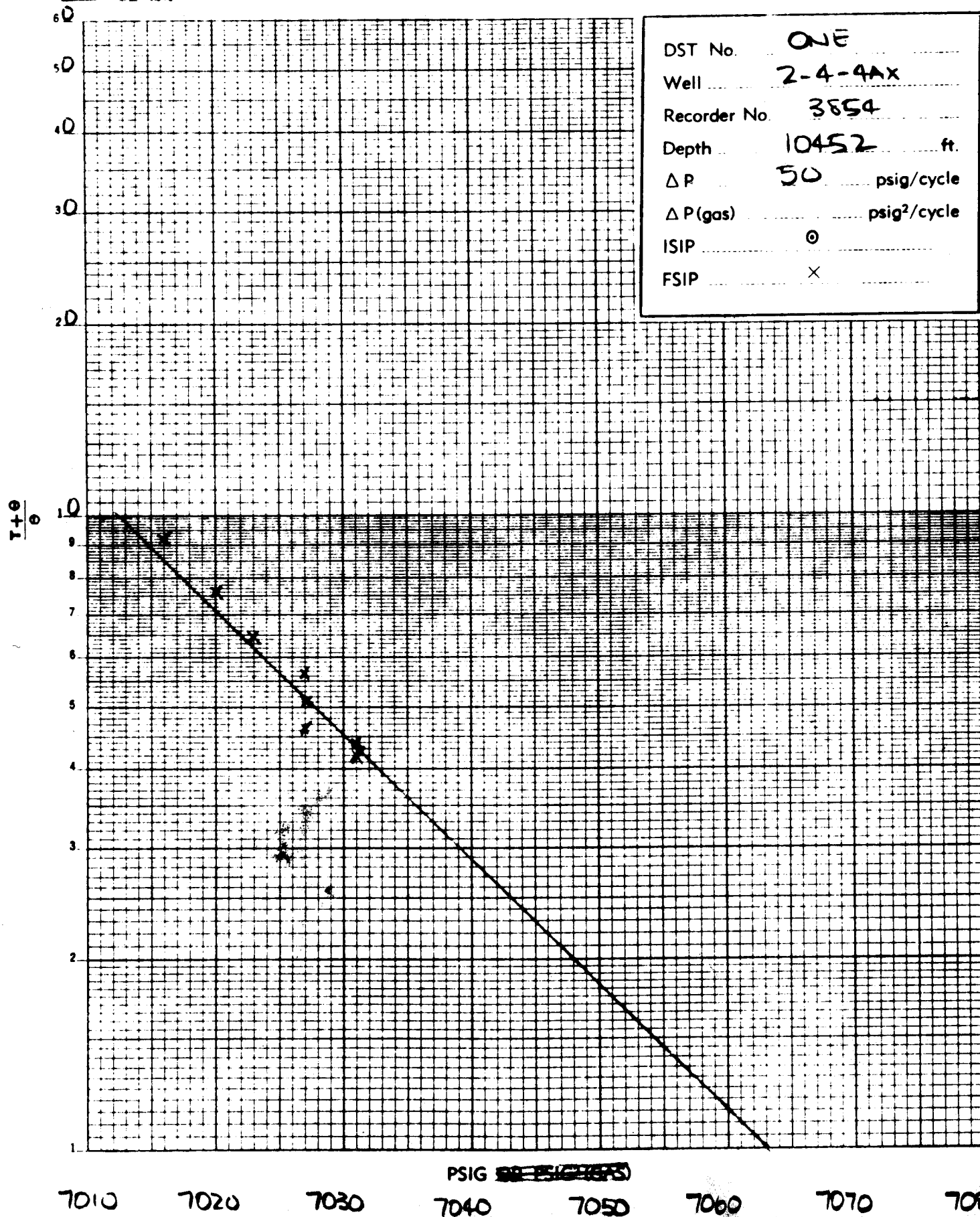
Point	Recorder # 3854	Recorder # 2760	Recorder # 4180
A	7868	7947	7914
B	8242	8374	8297
C	4915	5327	5227
D	7035	7175	7070
E	6923	7054	6961
F	7035	7159	7055
G	5773	5968	5906
H	5885	6086	6024
I	7031	7149	7043

DRILL STEM TEST NUMBER ONE

[illegible]



EXTRAPOLATION OF SHUT-IN #2





5 min DST PRESSURE INCREMENTS On preflow period Point B to C

Recorder No. 2760

Depth 10457

Page 1 of 1

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	-	Point A		7947				
2	0	Point B		8374				
3	5			5294				
4	10	Point C		5327				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On I.S.I.P. Points C to D

Recorder No. 2760

Depth 10457

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG
1	0	Point C		5327	120			7175
2	5			7167	125			7175
3	10			7172	130			7175
4	15			7172	133	Point D		7175
5	20			7172				
6	25			7172				
7	30			7172				
8	35			7172				
9	40			7172				
10	45			7172				
11	50			7172				
12	55			7172				
13	60			7172				
14	65			7172				
15	70			7172				
16	75			7172				
17	80			7175				
18	85			7175				
19	90			7175				
20	95			7175				
21	100			7175				
22	105			7175				
23	110			7175				
24	115			7175				

5 min DST PRESSURE INCREMENTS On flow series & Sampler run
Point D to E

Recorder No. 2760

Depth 10457

Page 1 of 4

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + O	$\frac{T+O}{O}$	PSIG	Time Defl. "	T + O	$\frac{T+O}{O}$	PSIG
1	0	Point D		7175	120			6968
2	5			6332	125			6979
3	10			5578	130			6987
4	15			5161	135			6987
5	20			5032	140			6989
6	25			4905	145			6989
7	30			7157	150			6992
8	35			7159	155			6992
9	40			7162	160			6995
10	45			7162	165			6995
11	50			7164	170			6997
12	55			7164	175			6997
13	60			7164	180			6997
14	65			7164	185			7038
15	70			6583	190			7043
16	75			5925	195			7046
17	80			5311	200			7049
18	85			5043	205			7049
19	90			4929	210			7049
20	95			4761	215			7049
21	100			5906	220			7051
22	105			5749	225			7051
23	110			5610	230			7051
24	115			5610	235			7054



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On flow series and sampler run
Point D to E

Recorder No. 2760

Depth 10457

Page 2 of 4

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	240			7054	360			7054
2	245			7054	365			7057
3	250			7054	370			7057
4	255			7054	375			7057
5	260			7054	380			7057
6	265			7054	385			7057
7	270			7054	390			7057
8	275			7054	395			7057
9	280			7054	400			7057
10	285			7054	405			7057
11	290			7054	410			7057
12	295			7054	415			7057
13	300			7054	420			7057
14	305			7054	425			7057
15	310			7054	430			7057
16	315			7054	435			7057
17	320			7054	440			7057
18	325			7054	445			7081
19	330			7054	450			7092
20	335			7054	455			7092
21	340			7054	460			7065
22	345			7054	465			7065
23	350			7054	470			7065
24	355			7054	475			7065



TESTING REPORT

5 min DST PRESSURE INCREMENTS On flow series and amplier run
Point D to E

Recorder No. 2760

Depth 10457

Page 3 of 4

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG
1	480			7065	600			7103
2	485			7054	605			7062
3	490			7054	610			7065
4	495			7054	615			7068
5	500			7059	620			7043
6	505			7065	625			7043
7	510			7081	630			7043
8	515			7065	635			7043
9	520			7065	640			7043
10	525			7065	645			7046
11	530			7065	650			7049
12	535			7103	655			7051
13	540			7089	660			7054
14	545			7092	665			7054
15	550			6995	670			7054
16	555			7081	675			7057
17	560			7081	680			7057
18	565			7081	685			7057
19	570			7078	690			7057
20	575			7078	695			7068
21	580			7078	700			7073
22	585			7111	705			7076
23	590			7119	710			7076
24	595			7097	715			7076



5 min **DST PRESSURE INCREMENTS** On flow series and sampler run
Point D to E

Recorder No. 2760

Depth 10457

Page 4 of 4

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	720			7078				
2	725			7049				
3	730			7046				
4	735			7046				
5	740			7046				
6	745			7046				
7	750			7043				
8	755			7043				
9	760			7054				
10	763	Point E		7054				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On shut-in # 1 Point E to F

Recorder No. 2760

Depth 10457

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG
1	0	Point	E	7054	120			7157
2	5			7140	125			7157
3	10			7146	130			7157
4	15			7149	135			7157
5	20			7149	140			7157
6	25			7149	145			7157
7	30			7149	150			7157
8	35			7151	155			7157
9	40			7151	160			7157
10	45			7151	165			7157
11	50			7151	170			7157
12	55			7151	175			7157
13	60			7151	180			7157
14	65			7151	185			7157
15	70			7151	190			7157
16	75			7154	195			7157
17	80			7154	200			7157
18	85			7154	205			7157
19	90			7154	210			7157
20	95			7154	215			7157
21	100			7154	220			7157
22	105			7154	225			7157
23	110			7154	230			7157
24	115			7157	235			7157



5 min DST PRESSURE INCREMENTS On shut-in # 1 Points E to F

Recorder No. 2760

Depth 10457

Page 2 of 2

Points	INITIAL CIP					FINAL CIP			
	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG		Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG
1	240			7159					
2		Pressure remaining constant to end of shut-in							
3									
4	460	Point	F	7159					
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									



TESTING REPORT

5 mi DST PRESSURE INCREMENTS On clean up flow Points E to F

Recorder No. 2760

Depth 10457

Page 1 of 1

Points	INITIAL CIP					FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point	F	7159	120				5976
2	5			6642	125	Point	G		5968
3	10			6321					
4	15			6257					
5	20			6236					
6	25			6228					
7	30			6209					
8	35			6262					
9	40			6305					
10	45			6311					
11	50			6305					
12	55			6305					
13	60			6308					
14	65			6308					
15	70			6311					
16	75			6311					
17	80			6313					
18	85			6316					
19	90			6341					
20	95			6155					
21	100			6096					
22	105			6016					
23	110			5995					
24	115			5989					



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On flow # 2 Points G to H

Recorder No. 2760

Depth 10457

Page 1 of 1

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T+0}{0}$	PSIG		T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point	G	5968	120			6078
2	5			5979	125			6075
3	10			5989	130			6075
4	15			5989	135			6075
5	20			6000	140			6075
6	25			6070	145			6075
7	30			6080	150			6075
8	35			6075	155			6075
9	40			6080	160			6075
10	45			6083	165			6078
11	50			6083	170			6080
12	55			6083	175			6080
13	60			6075	180			6078
14	65			6075	185			6078
15	70			6075	190			6078
16	75			6075	195			6080
17	80			6080	200			6080
18	85			6083	205			6086
19	90			6083	210			6086
20	95			6078	215			6086
21	100			6078	220	Point	H	6086
22	105			6080				
23	110			6080				
24	115			6080				



5 min DST PRESSURE INCREMENTS On shut-in #2 Points H to I

Recorder No. 2760

Depth 10457

Page 1 of 2

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + G	$\frac{T+G}{G}$	PSIG		T + G	$\frac{T+G}{G}$	PSIG
1	0	Point H		6086	120			7138
2	5			7081	125			7138
3	10			7092	130			7138
4	15			7095	135			7138
5	20			7103	140			7140
6	25			7108	145			7140
7	30			7111	150			7140
8	35			7113	155			7140
9	40			7119	160			7140
10	45			7119	165			7140
11	50			7122	170			7143
12	55			7124	175			7143
13	60			7124	180			7143
14	65			7127	185			7143
15	70			7127	190			7143
16	75			7130	195			7146
17	80			7130	200			7146
18	85			7132	205			7146
19	90			7132	210			7146
20	95			7132	215			7146
21	100			7132	220			7146
22	105			7135	225			7146
23	110			7135	230			7146
24	115			7135	235			7146



5 min DST PRESSURE INCREMENTS On shut-in # 2 Points H to I

Recorder No. 2760

Depth 10457

Page 2 of 2

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG		T + 0	$\frac{T+0}{0}$	PSIG
1	240			7146				
2	245			7146				
3	250			7146				
4	255			7146				
5	260			7146				
6	265			7146				
7	270			7146				
8	275			7149				
9	280			7149				
10	285			7149				
11	290			7149				
12	295			7149				
13	300			7149				
14	305			7149				
15	310			7149				
16	315			7149				
17	320			7149				
18	325			7149				
19	330			7149				
20	335			7149				
21	340			7149				
22	345			7149				
23	350	Point	I	7149				
24								



TESTING REPORT

5 min DST PRESSURE INCREMENTS On Preflow Period Point B to C

Recorder No. 3854

Depth 10452

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Def. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Def. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	-	Point	A	7868				
2	0	Point	B	8242				
3	5			5077				
4	10	Point	C	4915				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



TESTING REPORT

5 min DST PRESSURE INCREMENTS On I.S.I.P. Point C to D

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point C		4915	120			7035
2	5			7031	125			7035
3	10			7031	130			7035
4	15			7031	135	Point D		7035
5	20			7031				
6	25			7031				
7	30			7031				
8	35			7035				
9	40			7031				
10	45			7031				
11	50			7031				
12	55			7031				
13	60			7035				
14	65			7035				
15	70			7035				
16	75			7035				
17	80			7035				
18	85			7035				
19	90			7035				
20	95			7035				
21	100			7035				
22	105			7035				
23	110			7035				
24	115			7035				



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On flow series and sampler run
Point D to E

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point	D	7035	120			5431
2	5			6202	125			6822
3	10			5362	130			6837
4	15			4939	135			6845
5	20			4992	140			6845
6	25			4646	145			6845
7	30			7008	150			6845
8	35			7020	155			6849
9	40			7020	160			6849
10	45			7020	165			6849
11	50			7020	170			6849
12	55			7020	175			6849
13	60			7023	180			6849
14	65			7023	185			6849
15	70			7083	190			6896
16	75			6101	195			6903
17	80			5262	200			6903
18	85			4762	205			6903
19	90			4523	210			6903
20	95			4415	215			6907
21	100			4373	220			6911
22	105			5535	225			6911
23	110			5385	230			6911
24	115			5331	235			6911



TESTING REPORT

5 mi DST PRESSURE INCREMENTS On flow series and sampler run
Point D to E

Recorder No. 3854

Depth 10452

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	240			6915	360			6919
2	245			6919	365			6919
3	250			6919	370			6919
4	255			6919	375			6919
5	260			6919	380			6919
6	265			6915	385			6919
7	270			6915	390			6919
8	275			6919	395			6919
9	280			6919	400			6919
10	285			6919	405			6919
11	290			6919	410			6923
12	295			6919	415			6923
13	300			6919	420			6923
14	305			6919	425			6923
15	310			6919	430			6923
16	315			6915	435			6923
17	320			6919	440			6923
18	325			6915	445			6923
19	330			6919	450			6923
20	335			6915	455			6923
21	340			6919	460			6954
22	345			6919	465			6958
23	350			6919	470			6958
24	355			6919	475			6930



5 min **DST PRESSURE INCREMENTS** On flow series and sampler run
Point D to E

Recorder No. 3854

Depth 10452

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Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	480			6930	600			6946
2	485			6930	605			6977
3	490			6930	610			6930
4	495			6919	615			6969
5	500			6919	620			6915
6	505			6919	625			6927
7	510			6919	630			6930
8	515			6919	635			6930
9	520			6923	640			6915
10	525			6938	645			6915
11	530			6930	650			6915
12	535			6930	655			6915
13	540			6930	660			6915
14	545			6930	665			6919
15	550			6961	670			6923
16	555			6961	675			6923
17	560			6961	680			6927
18	565			6958	685			6930
19	570			6930	690			6930
20	575			6946	695			6930
21	580			6946	700			6930
22	585			6946	705			6930
23	590			4946	710			6930
24	595			6946	715			6938



TESTING REPORT

5 min DST PRESSURE INCREMENTS On flow series and sampler run
Point D to E

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	720			6946				
2	725			6950				
3	730			6950				
4	735			6950				
5	740			6950				
6	745			6923				
7	750			6923				
8	755			6923				
9	760			6923				
10	765			6923				
11	770			6923				
12	775			6923				
13	780	Point	E	6923				
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On shut-in #1 Point E to F

Recorder No. 3854

Depth 10452

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Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point E		6923	120			7027
2	5			6930	125			7027
3	10			7008	130			7027
4	15			7016	135			7027
5	20			7020	140			7027
6	25			7020	145			7027
7	30			7020	150			7027
8	35			7020	155			7027
9	40			7020	160			7027
10	45			7023	165			7027
11	50			7023	170			7027
12	55			7023	175			7027
13	60			7023	180			7027
14	65			7023	185			7027
15	70			7023	190			7027
16	75			7023	195			7027
17	80			7023	200			7027
18	85			7027	205			7027
19	90			7027	210			7027
20	95			7027	215			7027
21	100			7027	220			7027
22	105			7027	225			7027
23	110			7027	230			7027
24	115			7027	235			7027



5 min DST PRESSURE INCREMENTS On shut-in # 1 Point E to F

Recorder No. 3854

Depth 10452

Page 2 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	240			7027	360			7031
2	245			7027	365			7031
3	250			7027	370			7031
4	255			7027	375			7031
5	260			7027	380			7031
6	265			7027	385			7031
7	270			7027	390			7035
8	275			7027		Pressure remaining		
9	280			7027		constant to end of		
10	285			7027		shut-in		
11	290			7027	482	Point F		7035
12	295			7027				
13	300			7027				
14	305			7031				
15	310			7031				
16	315			7031				
17	320			7031				
18	325			7031				
19	330			7031				
20	335			7031				
21	340			7031				
22	345			7031				
23	350			7031				
24	355			7031				



5 min DST PRESSURE INCREMENTS On clean up flow Points F to G

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				Time Diff. "	FINAL CIP		
	Time Diff. "	T + $\odot$	$\frac{T + \odot}{\odot}$	PSIG		T + $\odot$	$\frac{T + \odot}{\odot}$	PSIG
1	0	Point F		7035	120	Point G		5773
2	5			6767				
3	10			6171				
4	15			6136				
5	20			6070				
6	25			6054				
7	30			6047				
8	35			6043				
9	40			6093				
10	45			6132				
11	50			6128				
12	55			6128				
13	60			6128				
14	65			6128				
15	70			6128				
16	75			6132				
17	80			6132				
18	85			6136				
19	90			6136				
20	95			6047				
21	100			5962				
22	105			5904				
23	110			5831				
24	115			5808				



5 min DST PRESSURE INCREMENTS On flow # 2 Point G to H

Recorder No. 3854

Depth 10452

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Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T+0}{0}$	PSIG		T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point G		5773	120			5877
2	5			5773	125			5877
3	10			5777	130			5877
4	15			5769	135			5877
5	20			5777	140			5877
6	25			5785	145			5877
7	30			5789	150			5877
8	35			5792	155			5877
9	40			5854	160			5873
10	45			5877	165			5873
11	50			5877	170			5873
12	55			5877	175			5869
13	60			5877	180			5869
14	65			5877	185			5873
15	70			5877	190			5873
16	75			5873	195			5877
17	80			5873	200			5877
18	85			5873	205			5877
19	90			5873	210			5877
20	95			5873	215			5877
21	100			5885	220			5881
22	105			5881	225			5885
23	110			5881	230			5885
24	115			5877	235			5885



5 minDST PRESSURE INCREMENTS On flow # 2 Points G to H

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	240			5885				
2	242	Point	H	5885				
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On shut-in #2 Points H to I

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG		T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0	1152 Point H	0	5885	120			7016
2	5			6958	125			7016
3	10			6969	130			7016
4	15			6977	135			7016
5	20			6985	140	1292	9.20	7016
6	25			6989	145			7016
7	30			6992	150			7016
8	35	1187	34.0	6992	155			7016
9	40			6996	160			7016
10	45			7000	165			7020
11	50			7000	170			7020
12	55			7005	175	1327	7.60	7020
13	60			7008	180			7020
14	65			7008	185			7020
15	70	1222	17.4	7008	190			7020
16	75			7008	195			7023
17	80			7008	200			7023
18	85			7008	205			7023
19	90			7012	210	1362	6.47	7023
20	95			7012	215			7023
21	100			7012	220			7023
22	105	1257	12.0	7016	225			7027
23	110			7016	230			7027
24	115			7016	235			7027



TESTING REPORT

5 min DST PRESSURE INCREMENTS On shut-in # 2 Points H to I

Recorder No. 3854

Depth 10452

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	240			7027	360	1512 Point I 4.20		7031
2	245	1397	5.67	7027				
3	250			7027				
4	255			7027				
5	260			7027				
6	265			7027				
7	270			7027				
8	275			7027				
9	280	1432	5.10	7027				
10	285			7027				
11	290			7027				
12	295			7027				
13	300			7027				
14	305			7027				
15	310			7027				
16	315	1462	4.64	7027				
17	320			7027				
18	325			7027				
19	330			7027				
20	335			7027				
21	340	1492	4.40	7031				
22	345			7031				
23	350			7031				
24	355			7031				

5 min **BST PRESSURE INCREMENTS** On preflow Points B to C

Recorder No. 4180

Depth 10462

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	--	Point A		7914				
2	0	Point B		8297				
3	5			5273				
4	10	Point C		5227				
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On I.S.I.P. Points C to D

Recorder No. 4180

Depth 10462

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + Θ	$\frac{T + \Theta}{\Theta}$	PSIG	Time Defl. "	T + Θ	$\frac{T + \Theta}{\Theta}$	PSIG
1	0	Point C		5227	120			7070
2	5			7067	125			7070
3	10			7067	130	Point D		7070
4	15			7067				
5	20			7067				
6	25			7067				
7	30			7067				
8	35			7067				
9	40			7067				
10	45			7067				
11	50			7067				
12	55			7067				
13	60			7067				
14	65			7067				
15	70			7067				
16	75			7067				
17	80			7067				
18	85			7070				
19	90			7070				
20	95			7070				
21	100			7070				
22	105			7070				
23	110			7070				
24	115			7070				



TESTING REPORT

5 min DST PRESSURE INCREMENTS On flow series and sampler runs
Points D to E

Recorder No. 4180

Depth 10462

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0	Point D		7070	120			6871
2	5			6745	125			6882
3	10			5719	130			6886
4	15			5086	135			6890
5	20			4922	140			6890
6	25			7043	145			6890
7	30			7047	150			6894
8	35			7051	155			6894
9	40			7051	160			6894
10	45			7055	165			6894
11	50			7055	170			6894
12	55			7055	175			6898
13	60			7055	180			6898
14	65			7055	185			6941
15	70			6659	190			6941
16	75			5703	195			6945
17	80			5172	200			6949
18	85			4977	205			6949
19	90			4883	210			6949
20	95			6196	215			6949
21	100			5797	220			6949
22	105			5656	225			6949
23	110			5648	230			6949
24	115			6808	235			6953



TESTING REPORT

5 min DST PRESSURE INCREMENTS On flow series and sampler run
Point D to E

Recorder No. 4180

Depth 10462

Page 2 of 4

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	240			6953	360			6953
2	245			6953	365			6953
3	250			6953	370			6953
4	255			6953	375			6953
5	260			6953	380			6953
6	265			6953	385			6953
7	270			6953	390			6953
8	275			6953	395			6953
9	280			6953	400			6953
10	285			6953	405			6953
11	290			6953	410			6953
12	295			6953	415			6953
13	300			6953	420			6953
14	305			6953	425			6953
15	310			6953	430			6953
16	315			6953	435			6957
17	320			6953	440			6980
18	325			6953	445			6988
19	330			6953	450			6988
20	335			6953	455			6969
21	340			6953	460			6969
22	345			6953	465			6969
23	350			6953	470			6969
24	355			6953	475			6961



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On flow series and sampler runs
Point D to E

Recorder No. 4180

Depth 10462

Page 3 of 4

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	480			6961	600			6957
2	485			6961	605			6965
3	490			6961	610			6965
4	495			6961	615			6957
5	500			6973	620			6957
6	505			6969	625			6957
7	510			6965	630			6957
8	515			6965	635			6957
9	520			6965	640			6957
10	525			6988	645			6957
11	530			6996	650			6957
12	535			6996	655			6957
13	540			6996	660			6961
14	545			6926	665			6961
15	550			6977	670			6961
16	555			6980	675			6965
17	560 565			6980 6980	680			6965
18	570			6980	685			6965
19	575			6977	690			6973
20	580			7004	695			6980
21	585			6984	700			6980
22	590			6992	705			6980
23	595			6953	710			6980
24					715			6965



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On flow series and sampler runs
Points D to E

Recorder No. 4180

Depth 104.62

Page 4 of 4

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG
1	720			6957				
2	725			6957				
3	730			6957				
4	735			6957				
5	740			6957				
6	745			6957				
7	750			6961				
8	755	Point	E	6961				
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On shut in #1 Points E to F

Recorder No. 4180

Depth 10462

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Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0	Point E		6961	120			7051
2	5			6957	125			7055
3	10			7039		Pressure remaining constant to end of shut-in		
4	15			7043				
5	20			7047	455	Point F		7055
6	25			7047				
7	30			7047				
8	35			7047				
9	40			7047				
10	45			7047				
11	50			7047				
12	55			7051				
13	60			7051				
14	65			7051				
15	70			7051				
16	75			7051				
17	80			7051				
18	85			7051				
19	90			7051				
20	95			7051				
21	100			7051				
22	105			7051				
23	110			7051				
24	115			7051				



TESTING REPORT

5 minDST PRESSURE INCREMENTS On clean up flow Point F to G

Recorder No. 4180

Depth 10462

Page 1 of 1

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG		T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0	Point F		7055				
2	5			6918				
3	10			6337				
4	15			6188				
5	20			6165				
6	25			6153				
7	30			6133				
8	35			6173				
9	40			6212				
10	45			6220				
11	50			6216				
12	55			6212				
13	60			6212				
14	65			6212				
15	70			6212				
16	75			6212				
17	80			6212				
18	85			6204				
19	90			6133				
20	95			6055				
21	100			5977				
22	105			5930				
23	110	point G		5906				
24	115							



5 min DST PRESSURE INCREMENTS On flow # 2 Point G to H

Recorder No. 4180

Depth 10462

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG
1	0	Point G		5906	120			6012
2	5			5914	125			6012
3	10			5918	130			6012
4	15			5914	135			6012
5	20			5930	140			6012
6	25			5934	145			6012
7	30			5934	150			6012
8	35			5953	155			6012
9	40			6008	160			6012
10	45			6016	165			6012
11	50			6016	170			6012
12	55			6016	175			6012
13	60			6016	180			6016
14	65			6016	185			6016
15	70			6016	190			6016
16	75			6016	195			6016
17	80			6016	200			6016
18	85			6016	205			6016
19	90			6016	210			6020
20	95			6016	215			6024
21	100			6016	220			6028
22	105			6016	225			6024
23	110			6016	230			6024
24	115			6016	235	Point H		6024



5 min DST PRESSURE INCREMENTS On shut-in #2 Point H to I

Recorder No. 4180

Depth 10462

Page 1 of 2

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + G	$\frac{T+G}{G}$	PSIG		T + G	$\frac{T+G}{G}$	PSIG
1	0	Point H		6024	120			7032
2	5			6965	125			7032
3	10			6980	130			7032
4	15			6988	135			7032
5	20			6996	140			7035
6	25			7000	145			7035
7	30			7004	150			7035
8	35			7004	155			7035
9	40			7008	160			7035
10	45			7012	165			7035
11	50			7016	170			7035
12	55			7016	175			7035
13	60			7020	180			7035
14	65			7020	185			7035
15	70			7020	190			7039
16	75			7024	195			7039
17	80			7024	200			7039
18	85			7024	205			7039
19	90			7028	210			7039
20	95			7028	215			7039
21	100			7028	220			7039
22	105			7028	225			7039
23	110			7032	230			7039
24	115			7032	235			7039



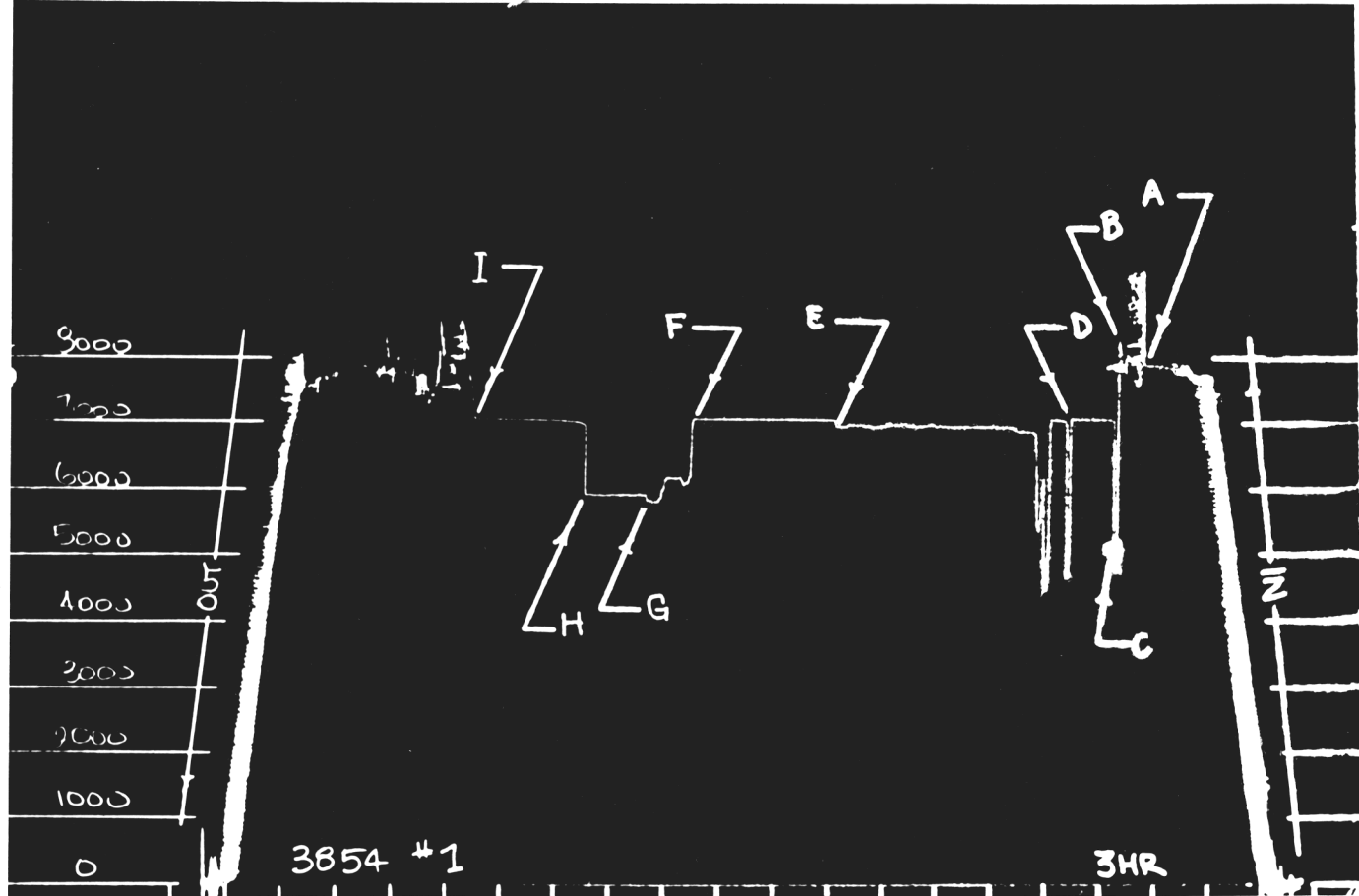
5 min DST PRESSURE INCREMENTS On shut-in # 2 Point H to I

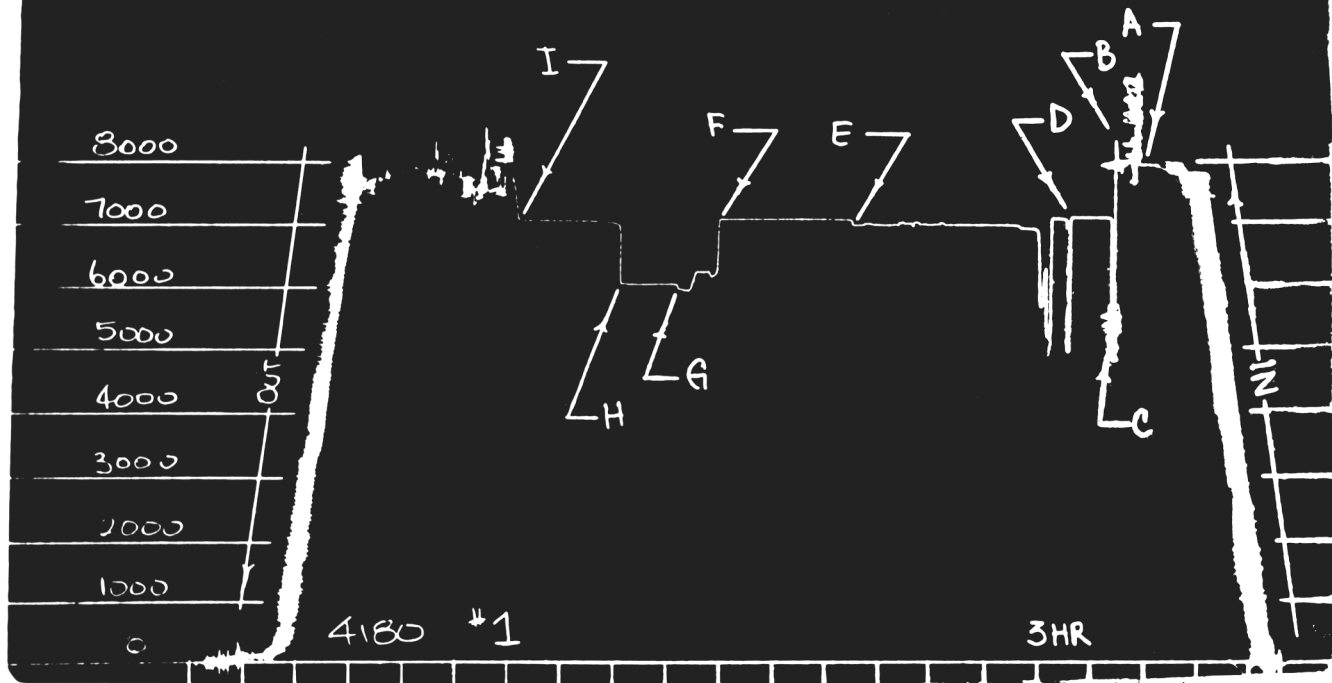
Recorder No. 4180

Depth 10462

Page 2 of 2

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T + θ	$\frac{T + \theta}{\theta}$	PSIG		T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	240			7039				
2	245			7039				
3	250			7039				
4	255			7039				
5	260			7039				
6	265			7039				
7	270			7039				
8	275			7039				
9	280			7043				
10	285			7043				
11	290			7043				
12	295			7043				
13	300			7043				
14	305			7043				
15	310			7043				
16	315			7043				
17	320			7043				
18	325			7043				
19	330			7043				
20	335			7043				
21	340			7043				
22	345	Point	I	7043				
23								
24								





No.	O.D.	I.D.	Description	Length	RKB Depth
			Baker Test Head		
			Hydril Valve		
			Tubing above RKB (Less)	-10.00	
2 Sub					
&8 jts	3.550	2.992	3 $\frac{1}{2}$ Tubing 9.3 N-80 8R EUE	267.01	257.0
1			Otis SST Tree Slick Jt & Hanger	20.00	277.0
313	3.500	2.991	3 $\frac{1}{2}$ Tubing 9.3 N-80 8R EUE	9669.51	9946.5
1			Cross-over UER 3 $\frac{1}{2}$ I.F. to 3 $\frac{1}{2}$ EUE	1.00	9947.5
1	4.750		Bass Ross Bumper Sub 20.05		
			5' travel	15.05	9962.5
12	4.750	2-5/16"	Drill Collars	356.25	10318.8
1	4.750	1-3/4"	Cross-over 3 $\frac{1}{2}$ IF x 3 $\frac{1}{2}$ EUE x		
			2-7/8 EUE	2.70	10321.5
1	4.50	2-5/16	B.J. Unloader	1.70	10323.2
1	5.884	2.441	B.J. FFC Packer	5.80	10329.0
1	3.500	2.441	Cross-over 2-7/8" x 3 $\frac{1}{2}$ EUE x		
			2-7/8" EUE	0.70	10329.7
3	3.500	2.992	3 $\frac{1}{2}$ " Tbg. 9.3 N-80 8Rd EUE	93.90	10423.6
1	3.500	2.992	3 $\frac{1}{2}$ Tbg. Perf. Jt.	30.60	10454.2
1	3.500	2.441	Cross-over 3 $\frac{1}{2}$ x 2-7/8" w/collar	0.70	10454.9
1	3.500	2.500	Recorder Hanger No. 3854	1.00	10455.9
1	"	"	" Case	4.00	10459.9
1	"	"	Recorder Hanger No. 2760	1.00	10460.9
1	"	"	" Case	4.00	10464.9
1	"	"	Recorder Hanger No. 4180	1.00	10465.9
1	"	"	" Case	1.00	10469.9
			Bottom of String		
			Overall Length	10479.92	10469.92



TEST STARTED: 1347 hrs Aug. 12, 1970

TEST COMPLETED: 0145 hrs Aug. 14, 70

DST NO. 1A SUMMARY

DEPTH OF PRESSURE RECORDER: No. 3854 at 10456', No. 2760 at 10461 & No. 4180 at 10466.

Parker at 10329'

[illegible]

DATE: Aug. 12, 1970**PHILLIPS PETROLEUM CO.**LEASE: 2/4-

SURFACE PRESSURE

INTERVAL: 10380-10510WELL NO.: 4AXTEST NO.: DST 1A

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
13-47		500	Open Well for clean up
13-48		550	
13-49		630	
13-50		690	
13-51		790	
13-52		830	
13-53	77°	700	
13-58			Changed to ½" choke.
14-00	81°	680	
14-05	84°	1300	
14-10	94°	1650	
14-15	103°	1500	
14-20	110°	1900	
14-25	110°	2300	
14-30	112°	2340	
14-35	111°	2285	
14-40	110°	2729	
14-45	111°	2890	
14-50	112°	2930	
14-55	112°	2900	
15-00	111°	2895	
15-05	111°	2780	
15-10	112°	2735	Flowed well thru separator



TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
21-30	131°	3464	Shut in Well for SI No. 1.
21-31	131°	4200	
21-32	"	4235	
21-33		4246	
21-34	"	4247	
21-35	"	4247	
21-40	124°	4252	
21-45		4252	
21-50	107°	4250	
21-55		4247	
22-00		4245	
22-15		4240	
22-30		4235	
22-45		4232	
23-00		4230	
23-15		4227	
23-30	65°	4227	
23-45		4225	
24-00		4222	
00-15		4219	
00-30		4216	
00-45		4214	
01-00		4214	
01-15		4212	
01-30		4211	
01-45		4211	
02-00		4211	
02-15		4211	

DATE: Aug. 12, 1970

WELL: 2/4-4AX

METER RUN SIZE: 5.761 I.D.



PHILLIPS PETROLEUM CO.

WELL PRODUCTION TEST

Sheet 1 of 1

TEST NO.: DST No. 1-A

PERF. ZONE: 10380-10510
GAS OIL

WELLHEAD.			METER ORIFICE	DIFF hw	METER PRESS	METER TEMP		1		2	3	4	C	mmcf/d	bpd	bp
TIME	PRESS	TEMP			psia	°F	$\sqrt{hw P}$	Ftf	Fb	Fb x 24	Fg	Fpv	FtfxFbxFgxFpv	$C\sqrt{hw P}$		
1510	Flowed well thru separator on 24/64" choke.															
1545	3400	112	2.000"	28"	600	89°	131.2	0.9732	816.13	19,587	1,2263	1.0402	24314	3.190	N.R.	N
1600	3380	112	"	28"	610	93°	132.3	0.9697	"	"	"	1.0396	24213	3.205	2621	122
1615	3384	113	"	28"	610	95°	132.3	0.9680	"	"	"	1.0390	24157	3.196	2563	124
1630	3397	114	"	28"	620	96°	133.4	0.9671	"	"	"	1.0394	24143	3.221	2602	123
1645	3397	116	"	28"	625	98°	133.9	0.9653	"	"	"	1.0393	24096	3.256	2640	123
1700	3400	118	"	28"	630	99°	134.4	0.9645	"	"	"	1.0391	24072	3.271	2669	122
1730	3447	122	"	29"	635	102°	137.3	0.9619	"	"	"	1.0382	23986	3.329	2659	125
1800	3435	123	"	31"	630	104°	141.4	0.9632	"	"	"	1.0376	24005	3.394	2707	125
1830	3434	125	"	31"	635	107°	142.0	0.9577	"	"	"	1.0368	23849	3.384	2726	124
1900	3443	127	"	"	"	108°	142.0	0.9568	"	"	"	"	23827	3.384	2842	119
1930	3443	128	"	"	"	109°	142.0	0.9559	"	"	"	"	23804	3.384	2726	124
2000	3455	130	"	"	"	109°	142.0	0.9551	"	"	"	1.0368	23784	3.384	2659	127
2030	3458	130	"	"	"	109°	142.0	0.9559	"	"	"	1.0368	23804	3.384	2717	124
2100	3475	131	"	"	"	109°	142.0	"	"	"	"	"	"	3.384	2726	124
2130	3464	131	"	"	"	109°	142.0	"	"	"	"	"	"	3.384	2722	124
	Oil Gravity = 37.6° API at 60°															
	Water Cut = 0.1%															
2130	Shut well in for SI No. 1															



TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
02-30		4210	
02-45		4210	
03-00		4210	
03-15		4210	
03-30		4210	Acidizing Well
05-55		2400	
06-00		2400	Shut Well in for Contact time
06-15		2410	
06-30		2410	
06-45		2410	
07-00		2410	
07-15		2410	
07-30		2410	
07-45		2410	
08-00		2410	
08-15		2410	
08-30		2410	
08-45		2410	
09-00		2410	
09-00		2500	Open Well for clean up flow
09-07	63°	2500	
09-08	63°	2375	
09-09	63°	2400	
09-10	66°	2450	
09-15	76°	2675	
09-17	76°	2950	
09-20	81°	2890	
09-25	88°	3100	

Flowperiod No. 2-A

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
09-30	94 ^o	3375	
09-35	102 ^o	3650	
09-40	106 ^o	3950	
09-45	103 ^o	3925	
09-50	100 ^o	3925	
09-55	100 ^o	3925	
10-00	100 ^o	3925	
10-05	100 ^o	DWT 4001	
10-10	102 ^o	4005	
10-15	102	4007	
10-30	105	4014	
10-45	107	4014	
11-00	109	4010	
11-15	113	3970	
11-30	116	3949	
11-45	122	3907	
12-00	126	3909	
12-15	128	3912	
12-30	131	3917	
12-45	132	3919	
13-00	134	3923	
13-15	137	3926	
13-30	135	3927	Flowed well thru Separator

DATE: Aug. 13, 1970

WELL: 2/4-4AX

METER RUN SIZE: 5.761 I.D.



PHILLIPS PETROLEUM CO.

WELL PRODUCTION TEST

Sheet 1 of 1

TEST NO.: DST No. 1-A

PERF.ZONE: GAS OIL

WELLHEAD.			METER ORIFICE	DIFF hw	METER PRESS	METER TEMP		1		2	3	4	C	mmcf/d	bpd	
TIME	PRESS	TEMP			psia	°F	$\sqrt{hw P}$	Ftf	Fb	Fb x 24	Fg	Fpv	FtfxFhxFgxFpv	$C\sqrt{hw P}$		
1330	Turned through test separator for flow No. 2 after acidizing zone. Adjusting choke 21/64" at 1345 hrs.															
1345	4148	130	2.000"	28"	600	86°	131.2	0.9759	816.13	19.587	1.2263	1.0411	24403	3.202	N.R.	N.R.
1400	4148	130	"	28"	600	99°	131.2	0.9645	"	"	"	1.0373	24030	3.153	2285	13
1415	4122	129	"	36"	600	102°	148.7	0.9619	"	"	"	1.0365	23947	3.561	2592	13
1430	4121	128	"	36"	600	102°	148.7	0.9619	"	"	"	1.0365	23947	3.562	2688	13
1445	4121	127	"	36"	600	101°	148.7	0.9628	"	"	"	1.0367	23974	3.565	2688	13
1500	4123	126	"	36"	600	100°	148.7	0.9636	"	"	"	1.0370	24001	3.569	2717	13
1530	4127	130	"	36"	600	99°	148.7	0.9645	"	"	"	1.0373	24030	3.573	2702	13
1600	4127	130	"	35"	590	96°	143.7	0.9671	"	"	"	1.0378	24106	3.475	2731	12
1630	4130	130	"	35"	590	93°	143.7	0.9697	"	"	"	1.0387	24192	3.475	2683	12
1700	4130	129	"	32"	620	93°	141.0	0.9697	"	"	"	1.0406	24237	3.417	2702	12
1730	4132	130	"	32"	620	93°	141.0	0.9697	"	"	"	1.0406	24237	3.417	2722	125
1800	4135	130	"	33"	620	97°	143.1	0.9662	"	"	"	1.0401	24137	3.454	2722	12
1830	4135	131	"	33"	620	102°	143.1	0.9648	"	"	"	1.0365	24019	3.437	2712	12
1900	4137	131	"	33"	620	102°	143.1	0.9648	"	"	"	1.0365	24019	3.437	2717	12
1930	4137	131	"	33"	620	105°	143.1	0.9681	"	"	"	1.0369	24111	3.450	2717	12
1945	4137	131	"	33"	620	105°	143.1	0.9681	"	"	"	1.0369	24111	3.450	2707	12
Oil Gravity = 36.8° API at 60°													Average	3.437	2714	126
Water Cut = 0%																
1945	Sut well in for SI No. 2															

TIME	WELLHEAD		REMARKS
	TEMP °F	PRESS PSIG	
19-45			Shut in well for SI no. 2
19-46		4270	
19-47		4270	
19-48		4270	
19-49		4272	
19-50		4272	
19-55		4264	
20-00		4262	
20-05		4260	
20-10		4257	
20-15		4252	
20-30		4247	
20-45		4240	
21-00		4237	
21-15		4232	
21-30		4230	
21-45		4229	
22-00		4227	
22-15		4225	
22-30		4222	
22-45		4222	
23-15		4220	
23-45		4220	
00-15		4215	
00-45		4211	
01-15		4210	
01-45		4210	
			Kill Well



DRILL-STEM TEST DATA

Well Name <u>Eko Fisk</u>		Test No <u>ONE A</u>	
Well Number <u>2 - 4 - 4AX</u>		Zone Tested	
Company <u>Phillips Petroleum Company, Norway</u>		Interval <u>10380 - 10510</u>	
Comp Rep <u>Mr. J. Winget</u>	Tester <u>B.J. Flahr</u>	Date <u>12/8/70</u>	

Type of Test Casing Hook Wall RFS Tool No. _____

Prelow _____ mins. ISI _____ mins. Flow _____ mins. FSI _____ mins.

Specify Inside or Outside	INS REC No. <u>3854</u> <u>15000</u> RANGE <u>72</u> HR. CLOCK	INS REC No. <u>2760</u> <u>10600</u> RANGE <u>72</u> HR. CLOCK	OUT REC No. <u>4180</u> <u>15000</u> RANGE <u>72</u> HR. CLOCK
DEPTH	<u>10456</u>	<u>10461</u>	<u>10466</u>
Initial Hydro Mud Press			
Initial Shut-In Press			
Initial Flow Press			
Final Flow Press			
Final Shut-In Press			
Final Hydro Mud Press			

Mud Drop _____ Fluid Loss 5.5 Mud Weight 14.3
Viscosity 47 Temperature °F 263 Net Pay Tested _____
Top Packer Depth 10330 Bottom Packer Depth _____ Total Depth 10848
Drill Pipe Size 3 1/2 Fuc Tubing Wt. 9.3 Drill Collar I.D. 2 5/16 Ft. Run 356.25
Surface Choke Size Adjustable Bottom Choke Size 1 3/4" Main Hole Size 7" 29# Casing
Anchor Size 3 1/2" O.D. Rat Hole Size _____ Feet of Rat Hole _____
Cushion Amount 10200 Type Sea Water Rubber Size 5.812

Fluid Recovery Total Feet _____ ADDITIONAL INFORMATION AS PER PHILLIPS PETROLEUM

Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____
Recovered _____ Feet of _____

Gas Recovery _____ How Measured _____ Riser size: _____

_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day
_____ mins.	Temp. °F	Press Rdg. _____ psi	Orifice Size _____	= _____	MCF/Day

Bleed Off Time for Drill Pipe _____

REMARKS: Open tool & clean up. Flow through separator. Shut-in. Did acid job.
Shut-in. Flowed to clean up acid job. Flowed through separator, shut-in
killed well, pulled out of hole.

DRILL STEM TEST NUMBER ONE A

Baker Test Head

Hydril Valve

8 Jts. 2 pup Jts.	267.01
-------------------	--------

Otis Test Tree	20.20
----------------	-------

313 Jts. Tubing	9669.51
-----------------	---------

X Over Sub	1.00
------------	------

Bumper Sub	15.05
------------	-------

12 Drill Collars	356.25
------------------	--------

BJ Unloader	1.70
-------------	------

BJ F.F.C. Tool 10330	5.80
----------------------	------

Swage and Collar	.70
------------------	-----

3 Jts. Tubing	93.90
---------------	-------

3½ Eue Perf Jt. Tubing	30.60
------------------------	-------

Swage and Collar	.70
------------------	-----

Recorder Hanger # 3854	1.00
------------------------	------

Recorder Case	4.00
---------------	------

Recorder Hanger # 2760	1.00
------------------------	------

Recorder Case	4.00
---------------	------

Recorder Hanger # 4180	1.00
------------------------	------

Recorder Case	4.00
---------------	------

DRILL STEM TEST NUMBER ONE A

TIME DEFLECTION COMPARISON

POINT	SURFACE	RECORDER # 3854	RECORDER # 2760	RECORDER # 4180
B-C	83	80	80	70
C-D	380	380	370	378
D-E	360	368	355	357
E-F	150	120	110	115
F-G	180	180	184	188
G-H	270	252	250	253
H-I	360	368	352	354
I-J	360	388	370	375

DRILL STEM TEST NUMBER ONE A

PRESSURE COMPARISON

POINT	RECORDER # 3854	RECORDER # 2760	RECORDER # 4180
A	7923	7963	7953
B	8461	8517	8484
C	5939	6118	6377
D	⁶²⁷⁹ 6729	6415	6553
E	7054	7138	7067
G	7135	7180	7149
F	7310	7337	7298
H	6989	7095	7024
I	7004	7108	7035
J	<u>7047</u>	<u>7154</u>	7086
K	7729	7801	7780

DRILL STEM TEST NUMBER ONE A

Operation	Time		Length of Test		Choke Size	Wellhead	
	From	To	Hrs.	Mins		Press PSIA	Temp °F
Clean up	1347	1510	1	23	1/2"	2750	112
Flow # 1	1510	2130	6	20	24/64	3479	131
S.I. L	2130	0330	6	00	0	4225	65
Acidized	0330	0600	2	30			
S.I. after acid	0600	0900	3	00	0	2515	N.R.
Clean up	0900	1330	4	30	28/64"	3942	135
Flow # 2	1330	1930	6	00	21/64"	4152	131
S.I. # 2	1930	0130	6	00	0	4225	N.R.



5 min DST PRESSURE INCREMENTS On clean up flow
Point B to C

Recorder No. 3854

Depth 10456

Page 1 of 1

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + G	$\frac{T+G}{G}$	PSIG		T + G	$\frac{T+G}{G}$	PSIG
1	---	Point	A	7923				
2	0	Point	B	8461				
3	5			7109				
4	10			6186				
5	15			5339				
6	20			5623				
7	25			5384				
8	30			5085				
9	35			5739				
10	40			5469				
11	45			5123				
12	50			5377				
13	55			5000				
14	60			5431				
15	65			5277				
16	70			5839				
17	75			5885				
18	80	Point	C	5239				
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On flow # 1 Point C to D

Recorder No. 3854

Depth 10456

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point C		5939	120			6248
2	5			5839	125			6248
3	10			5754	130			6248
4	15			5708	135			6248
5	20			5454	140			6248
6	25			6093	145			6275
7	30			6132	150			6279
8	35			6163	155			6275
9	40			6209	160			6271
10	45			6240	165			6268
11	50			6248	170			6268
12	55			6256	175			6268
13	60			6240	180			6264
14	65			6233	185			6264
15	70			6237	190			6264
16	75			6237	195			6264
17	80			6233	200			6264
18	85			6233	205			6264
19	90			6240	210			6264
20	95			6244	215			6264
21	100			6248	220			6264
22	105			6248	225			6264
23	110			6248	230			6264
24	115			6248	235			6264



5 min DST PRESSURE INCREMENTS On flow # 1 Points C to D

Recorder No. 3854

Depth 10456

Page 2 of 2

Points	INITIAL CIP					FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG		Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	240			6264	360				6291
2	245			6264	365				6291
3	250			6264	370				6291
4	255			6264	375				6291
5	260			6264	380	Point D			6279 6729
6	265			6264					
7	270			6268					
8	275			6268					
9	280			6268					
10	285			6268					
11	290			6271					
12	295			6271					
13	300			6271					
14	305			6271					
15	310			6271					
16	315			6271					
17	320			6271					
18	325			6271					
19	330			6271					
20	335			6271					
21	340			6271					
22	345			6291					
23	350			6291					
24	355			6291					



5 min DST PRESSURE INCREMENTS On shut-in # 1 Point D to E

Recorder No. 3854

Depth 10456

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point D		6279	120			7043
2	5			6996	125			7043
3	10			7008	130			7043
4	15			7016	135			7043
5	20			7016	140			7043
6	25			7020	145			7043
7	30			7023	150			7043
8	35			7023	155			7047
9	40			7027	160			7047
10	45			7027	165			7047
11	50			7031	170			7047
12	55			7031	175			7047
13	60			7035	180			7047
14	65			7035	185			7047
15	70			7035	190			7047
16	75			7035	195			7047
17	80			7035	200			7047
18	85			7039	205			7047
19	90			7039	210			7047
20	95			7039	215			7047
21	100			7039	220			7047
22	105			7039	225			7047
23	110			7043	230			7047
24	115			7043	235			7051



5 min DST PRESSURE INCREMENTS On Shut-in # 1 Point D to E

Recorder No. 3854

Depth 10456

Page 2 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	240			7051	360			7054
2	245			7051	365			7054
3	250			7051	368	Point	E	7054
4	255			7051				
5	260			7051				
6	265			7051				
7	270			7051				
8	275			7051				
9	280			7051				
10	285			7051				
11	290			7051				
12	295			7051				
13	300			7051				
14	305			7054				
15	310			7054				
16	315			7054				
17	320			7054				
18	325			7054				
19	330			7054				
20	335			7054				
21	340			7054				
22	345			7054				
23	350			7054				
24	355			7054				



5 min DST PRESSURE INCREMENTS On Acid Job Point E to F

Recorder No. 3854

Depth 10456

Page 1 of 1

Points	INITIAL CIP					FINAL CIP		
	Time Defl. "	T + ●	$\frac{T + ●}{●}$	PSIG		T + ●	$\frac{T + ●}{●}$	PSIG
1	0			7054	120	Point	F	7310
2	5			7419				
3	10			7581				
4	15			7573				
5	20			7620				
6	25			8031				
7	30			7163				
8	35			8227				
9	40			8266				
10	45			8281				
11	50			8297				
12	55			8313				
13	60			7419				
14	65			7411				
15	70			7411				
16	75			7419				
17	80			7302				
18	85			7264				
19	90			7256				
20	95			7271				
21	100			7287				
22	105			7310				
23	110			7326				
24	115			7326				



5 min DST PRESSURE INCREMENTS On shut-in Point F to G

Recorder No. 3854

Depth 10456

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point F		7310	120			7147
2	5			7256	125			7144
3	10			7233	130			7144
4	15			7225	135			7144
5	20			7209	140			7144
6	25			7202	145			7144
7	30			7194	150			7140
8	35			7186	155			7140
9	40			7178	160			7135
10	45			7178	165			7135
11	50			7171	170			7135
12	55			7171	175			7135
13	60			7171	180	Point G		7135
14	65			7167				
15	70			7163				
16	75			7163				
17	80			7163				
18	85			7163				
19	90			7159				
20	95			7155				
21	100			7155				
22	105			7151				
23	110			7151				
24	115			7147				



5 min DST PRESSURE INCREMENTS On clean up Point G to H

Recorder No. 3854

Depth 10456

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + G	$\frac{T+G}{\bullet}$	PSIG	Time Defl. "	T + G	$\frac{T+G}{\bullet}$	PSIG
1	0	Point G		7135	120			7039
2	5			7132	125			7035
3	10			7120	130			7035
4	15			7113	135			7031
5	20			7105	140			7031
6	25			7097	145			7031
7	30			7089	150			7027
8	35			7085	155			7023
9	40			7078	160			7023
10	45			7074	165			7020
11	50			7070	170			7020
12	55			7066	175			7020
13	60			7062	180			7016
14	65			7058	185			7016
15	70			7054	190			7016
16	75			7054	195			7016
17	80			7054	200			7016
18	85			7054	205			7016
19	90			7051	210			7016
20	95			7047	215			7015
21	100			7043	220			7012
22	105			7039	225			7012
23	110			7039	230			7008
24	115			7039	235			7008



5 min DST PRESSURE INCREMENTS On flow # 2 Point H to I

Recorder No. 3854

Depth 10456

Page 1 of 1

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{\bullet}$	PSIG		T + 0	$\frac{T + 0}{\bullet}$	PSIG
1	0	Point H		6989				
2	5			6992				
3	10			7000				
4	15			7000				
5	20			7004				
6	25			7004				
7		Pressure Remaining Steady						
8		to end of flow.						
9	368	Point I		7004				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On shut-in # 2 Point I to J

Recorder No. 3854

Depth 10456

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point I		7004	120			7039
2	5			7008	125			7039
3	10			7016	130			7039
4	15			7020	135			7039
5	20			7020	140			7039
6	25			7023	145			7039
7	30			7023	150			7043
8	35			7027	155			7043
9	40			7027	160			7043
10	45			7031	165			7043
11	50			7031	170			7043
12	55			7031	175			7043
13	60			7031	180			7043
14	65			7035	185			7043
15	70			7035	190			7043
16	75			7035	195			7043
17	80			7035	200			7043
18	85			7035	205			7043
19	90			7035	210			7043
20	95			7039	215			7043
21	100			7039	220			7043
22	105			7039	225			7043
23	110			7039	230			7043
24	115			7039	235			7043



5 min DST PRESSURE INCREMENTS On shut-in # 2 Point I to J

Recorder No. 3854

Depth 10456

Page 2 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG
1	240			704.7				
2		Pressure remaining constant to end of shut-in period						
3								
4	388	Point J		704.7				
5		Point K		7729				
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5MIN. DST PRESSURE INCREMENTS

ON CLEAN UP FLOW

POINTS B TO C

Recorder No. 2760

Depth 10461

PAGE 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG
1	-	POINT A		7963				
2	0	POINT B		8517				
3	5			7699				
4	10			6685				
5	15			6000				
6	20			5792				
7	25			5690				
8	30			5449				
9	35			5209				
10	40			5781				
11	45			5497				
12	50			5455				
13	55			5177				
14	60			5594				
15	65			6027				
16	70			6038				
17	75			6070				
18	80	POINT C		6118				
19								
20								
21								
22								
23								
24								



5 MIN.

DST PRESSURE INCREMENTS

ON CLEAN UP FLOW
POINT C TO D

Recorder No. 2760

Depth PAGE 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T+0	$\frac{T+0}{0}$	PSIG
1	0	POINT C		6118	120			6374
2	5			6005	125			6374
3	10			5958	130			6374
4	15			5872	135			6412
5	20			5658	140			6423
6	25			6193	145			6423
7	30			6273	150			6417
8	35			6303	155			6407
9	40			6342	160			6407
10	45			6374	165			6407
11	50			6391	170			6409
12	55			6380	175			6409
13	60			6364	180			6407
14	65			6358	185			6407
15	70			6364	190			6407
16	75			6364	195			6407
17	80			6357	200			6407
18	85			6368	205			6407
19	90			6369	210			6407
20	95			6373	215			6407
21	100			6374	220			6407
22	105			6374	225			6407
23	110			6374	230			6407
24	115			6374	235			6407



5MIN. DST PRESSURE INCREMENTS ON CLEAN UP FLOW

Recorder No. 2760

Depth 10461

POINT C TO D
PAGE 2 of 2

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T+0	$\frac{T+0}{0}$	PSIG		T+0	$\frac{T+0}{0}$	PSIG
1	240			6399	360			6425
2	245			6401	365			6415
3	250			6401	370	POINT D		6415
4	255			6401				
5	260			6401				
6	265			6404				
7	270			6407				
8	275			6412				
9	280			6412				
10	285			6412				
11	290			6412				
12	295			6412				
13	300			6412				
14	305			6415				
15	310			6415				
16	315			6415				
17	320			6415				
18	325			6415				
19	330			6415				
20	335			6425				
21	340			6425				
22	345			6425				
23	350			6425				
24	355			6425				



5MIN

DST PRESSURE INCREMENTS

ON SHUTIN # 1

POINT D TO E

Recorder No.

2760

Depth 10461

PAGE 1 of

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T+0	$\frac{T+0}{\bullet}$	PSIG		T+0	$\frac{T+0}{\bullet}$	PSIG
1	0	POINT D		6415	120			7130
2	5			7084	125			7130
3	10			7092	130			7130
4	15			7100	135			7130
5	20			7103	140			7130
6	25			7105	145			7130
7	30			7108	150			7132
8	35			7111	155			7132
9	40			7113	160			7132
10	45			7113	165			7132
11	50			7116	170			7132
12	55			7119	175			7132
13	60			7119	180			7132
14	65			7119	185			7132
15	70			7122	190			7132
16	75			7122	195			7132
17	80			7122	200			7135
18	85			7124	205			7135
19	90			7124	210			7135
20	95			7124	215			7135
21	100			7127	220			7135
22	105			7127	225			7135
23	110			7127	230			7135
24	115			7127	235			7135



5 MIN DST PRESSURE INCREMENTS ON SHUT IN #1

POINT D TO E

Recorder No. 2760

Depth 10461

PAGE 2 of

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T+0	$\frac{T+0}{\bullet}$	PSIG		T+0	$\frac{T+0}{\bullet}$	PSIG
1	240			7135				
2	245			7135				
3	250			7135				
4	255			7135				
5	260			7135				
6	265			7135				
7	270			7135				
8	275			7135				
9	280			7135				
10	285			7135				
11	290			7135				
12	295			7135				
13	300			7138				
14	305			7138				
15	310			7138				
16	315			7138				
17	320			7138				
18	325			7138				
19	330			7138				
20	335			7138				
21	340			7138				
22	345			7138				
23	350			7138				
24	355	point E		7138				

5 MIN. **DST PRESSURE INCREMENTS** ON ACID JOB

POINT E TO F

Recorder No.

2760

Depth 10461

PAGE 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	POINT	E	7138				
2	5			7549				
3	10			7656				
4	15			7651				
5	20			7710				
6	25			7678				
7	30			5556				
8	35			8253				
9	40			8258				
10	45			8282				
11	50			8048				
12	55			7436				
13	60			7409				
14	65			7398				
15	70			7414				
16	75			7307				
17	80			7280				
18	85			7290				
19	90			7307				
20	95			7323				
21	100			7328				
22	105			7334				
23	110	POINT	F	7337				
24								



5 MIN.

DST PRESSURE INCREMENTS ON SHUT IN
POINT F TO G

Recorder No. 2760

Depth 10461

PAGE 1 of

Points	INITIAL CIP				FINAL CIP			
	Time Diff. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Diff. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	POINT F		7334	120			7186
2	5			7269	125			7186
3	10			7258	130			7183
4	15			7242	135			7183
5	20			7237	140			7180
6	25			7226	145			7183
7	30			7218	150			7183
8	35			7213	155			7183
9	40			7210	160			7183
10	45			7204	165			7183
11	50			7204	170			7180
12	55			7202	175			7180
13	60			7199	180			7180
14	65			7199	184	POINT G		7180
15	70			7194				
16	75			7194				
17	80			7191				
18	85			7191				
19	90			7188				
20	95			7186				
21	100			7186				
22	105			7186				
23	110			7186				
24	115			7186				



5 MIN. DST PRESSURE INCREMENTS ON CLEAN UP

POINT G TO H

Recorder No. 2760

Depth 10461

page 1 of

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T+0	$\frac{T+0}{0}$	PSIG		T+0	$\frac{T+0}{0}$	PSIG
1	0	POINT G		7180	120			7119
2	5			7172	125			7119
3	10			7167	130			7116
4	15			7162	135			7113
5	20			7157	140			7111
6	25			7157	145			7108
7	30			7151	150			7106
8	35			7146	155			7103
9	40			7146	160			7103
10	45			7140	165			7103
11	50			7138	170			7103
12	55			7138	175			7103
13	60			7135	180			7103
14	65			7132	185			7103
15	70			7132	190			7100
16	75			7130	195			7100
17	80			7130	200			7100
18	85			7130	205			7095
19	90			7127	210			7095
20	95			7124	215			7095
21	100			7124	220			7095
22	105			7122	225			7095
23	110			7122	230			7095
24	115			7122	235			7095



5 MIN. DST PRESSURE INCREMENTS ON CLEAN UP

POINT G TO H

Recorder No. 2760

Depth 10461

PAGE 2 of

Points	INITIAL CIP				FINAL CIP			
	Time Def. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Def. "	T + 0	$\frac{T+0}{0}$	PSIG
1	240			7095				
2	245			7095				
3	250	POINT H		7095				
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 MIN. DST PRESSURE INCREMENTS ON FLOW # 2

POINT H TO I

Recorder No. 2760

Depth 10461

PAGE 1 of

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T+0	$\frac{T+0}{\bullet}$	PSIG	Time Defl. "	T+0	$\frac{T+0}{\bullet}$	PSIG
1	0	POINT H		7095				
2	5			7097				
3	10			7103				
4	15			7105				
5	20			7105				
6	25			7108				
7	30			7108				
8	35			7108				
9		PRESSURE REMAINING						
10		CONSTANT TO END OF						
11		FLOW PERIOD.						
12	352	POINT I		7108				
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								



5 MIN. DST PRESSURE INCREMENTS ON SHUT IN # 2

POINT I TO J

Recorder No. 2760

Depth 10461

page 1 of

Points	Time Defl. "	INITIAL CIP			Time Defl. "	FINAL CIP		
		T+0	$\frac{T+0}{0}$	PSIG		T+0	$\frac{T+0}{0}$	PSIG
1	0	POINT I		7108	120			7146
2	5			7111	125			7146
3	10			7119	130			7146
4	15			7124	135			7146
5	20			7124	140			7146
6	25			7127	145			7146
7	30			7130	150			7146
8	35			7132	155			7146
9	40			7132	160			7146
10	45			7132	165			7146
11	50			7135	170			7146
12	55			7135	175			7146
13	60			7135	180			7149
14	65			7138	185			7151
15	70			7140	190			7151
16	75			7140	195			7151
17	80			7143	200			7151
18	85			7143	205			7151
19	90			7143	210			7151
20	95			7143	215			7151
21	100			7143	220			7151
22	105			7146	225			7151
23	110			7146	230			7151
24	115			7146	235			7151

5 IN. DST PRESSURE INCREMENTS ON SHUT-IN #2
POINT I T J

Recorder No. 2750

Depth 10461

PAGE "2" of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	240			7151				
2	245			7151				
3	250			7151				
4	255			7154				
5		PRESSURE REMAINING						
6		CONSTANT TO END OF						
7		SHUT-IN						
8	370	POINT J		7154				
9		POINT K		7801				
10								
11								
12								
13								
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24								



5 min DST PRESSURE INCREMENTS On clean up flow Point B to C

Recorder No. 4180

Depth 10466

Page 1 of 1

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	—	Point A		7953				
2	0	Point B		8484				
3	5			7639				
4	10			7639				
5	15			5711				
6	20			6251				
7	25			5836				
8	30			6377				
9	35			6424				
10	40			6149				
11	45			6094				
12	50			6345				
13	55			6086				
14	60			6110				
15	65			6228				
16	70	Point C		6377				
17								
18								
19								
20								
21								
22								
23								
24								



5 min DST PRESSURE INCREMENTS On flow # 1 Point C to D

Recorder No. 4180

Depth 10466

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point	C	6377	120			6557
2	5			6282	125			6557
3	10			6212	130			6557
4	15			6118	135			6557
5	20			6455	140			6553
6	25			6212	145			6549
7	30			6455	150			6549
8	35			6510	155			6549
9	40			6518	160			6545
10	45			6537	165			6545
11	50			6557	170			6545
12	55			6569	175			6545
13	60			6573	180			6545
14	65			6565	185			6545
15	70			6565	190			6545
16	75			6565	195			6545
17	80			6565	200			6545
18	85			6565	205			6545
19	90			6557	210			6545
20	95			6557	215			6545
21	100			6557	220			6545
22	105			6557	225			6545
23	110			6557	230			6545
24	115			6557	235			6545



5 min DST PRESSURE INCREMENTS On flow # 1 Point C to D

Recorder No. 4180

Depth 10466

Page 2 of 2

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG		T + 0	$\frac{T+0}{0}$	PSIG
1	240			6545	360			6553
2	245			6545	365			6553
3	250			6545	370			6553
4	255			6545	375			6553
5	260			6545	378	Point D		6553
6	265			6545				
7	270			6545				
8	275			6549				
9	280			6549				
10	285			6549				
11	290			6549				
12	295			6549				
13	300			6549				
14	305			6549				
15	310			6549				
16	315			6549				
17	320			6549				
18	325			6549				
19	330			6549				
20	335			6549				
21	340			6549				
22	345			6553				
23	350			6553				
24	355			6553				



TESTING REPORT

5 min **DST PRESSURE INCREMENTS** On shut-in # 1 Point D to E

Recorder No. 4180

Depth 10466

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point D		6553	120			7055
2	5			6988	125			7055
3	10			7012	130			7055
4	15			7020	135			7055
5	20			7028	140			7055
6	25			7028	145			7055
7	30			7035	150			7055
8	35			7035	155			7055
9	40			7039	160			7055
10	45			7039	165			7055
11	50			7043	170			7059
12	55			7043	175			7059
13	60			7043	180			7059
14	65			7047	185			7059
15	70			7047	190			7059
16	75			7047	195			7059
17	80			7051	200			7059
18	85			7051	205			7059
19	90			7051	210			7059
20	95			7051	215			7063
21	100			7051	220			7063
22	105			7051	225			7063
23	110			7055	230			7063
24	115			7055	235			7063



5 min DST PRESSURE INCREMENTS On shut-in # 1 Point D to E

Recorder No. 4180

Depth 10466

Page 2 of 2

Points	INITIAL CIP				Time Diff. "	FINAL CIP		
	Time Diff. "	T + $\odot$	$\frac{T + \odot}{\odot}$	PSIG		T + $\odot$	$\frac{T + \odot}{\odot}$	PSIG
1	240			7063	357	Point E		7067
2	245			7063				
3	250			7063				
4	255			7063				
5	260			7063				
6	265			7063				
7	270			7063				
8	275			7063				
9	280			7063				
10	285			7063				
11	290			7063				
12	295			7063				
13	300			7067				
14	305			7067				
15	310			7067				
16	315			7067				
17	320			7067				
18	325			7067				
19	330			7067				
20	335			7067				
21	340			7067				
22	345			7067				
23	350			7067				
24	355			7067				

5 min **DST PRESSURE INCREMENTS** On Acid Job Point E to F

Recorder No. 4180

Depth 10466

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point E		7067				
2	5			7380				
3	10			7529				
4	15			7529				
5	20			7631				
6	25			8055				
7	30			7184				
8	35			8250				
9	40			8273				
10	45			8289				
11	50			7953				
12	55			7875				
13	60			7404				
14	65			7388				
15	70			7388				
16	75			7392				
17	80			7278				
18	85			7271				
19	90			7271				
20	95			7278				
21	100			7286				
22	105			7298				
23	110			7298				
24	115	Point F		7298				



5 min DST PRESSURE INCREMENTS On shut-in Point F to G

Recorder No. 4180

Depth 10466

Page 1 of 1

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point F		7298	120			7161
2	5			7275	125			7161
3	10			7243	130			7157
4	15			7231	135			7157
5	20			7220	140			7157
6	25			7208	145			7157
7	30			7200	150			7157
8	35			7192	155			7157
9	40			7188	160			7153
10	45			7184	165			7153
11	50			7181	170			7153
12	55			7177	175			7153
13	60			7177	180			7149
14	65			7172	185			7149
15	70			7172	188	Point G		7149
16	75			7169				
17	80			7169				
18	85			7165				
19	90			7165				
20	95			7165				
21	100			7165				
22	105			7165				
23	110			7165				
24	115			7161				



5 min DST PRESSURE INCREMENTS On clean up Point G to H

Recorder No. 4180

Depth 104.66

Page 1 of 2

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point G		7149	120			7067
2	5			7145	125			7059
3	10			7137	130			7059
4	15			7133	135			7055
5	20			7129	140			7051
6	25			7126	145			7051
7	30			7118	150			7043
8	35			7118	155			7043
9	40			7110	160			7039
10	45			7106	165			7039
11	50			7102	170			7039
12	55			7098	175			7035
13	60			7090	180			7035
14	65			7086	185			7035
15	70			7082	190			7035
16	75			7082	195			7035
17	80			7082	200			7031
18	85			7075	205			7028
19	90			7075	210			7028
20	95			7075	215			7028
21	100			7071	220			7028
22	105			7067	225			7028
23	110			7067	230			7024
24	115			7067	235			7024



5 min DST PRESSURE INCREMENTS On flow # 2 Point H to I

Recorder No. 4180

Depth 10466

Page 1 of 1

Points	INITIAL CIP					FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	0	Point H		7024				
2	5			7028				
3	10			7032				
4	15			7032				
5	20			7035				
6		Pressure remained constant to end of flow period						
7								
8	354	Point I		7035				
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

5 min **DST PRESSURE INCREMENTS** On shut-in # 2 Point ^I ~~H~~ to ~~2~~

Recorder No. 4180

Depth 10466

Page 1 of 8

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0	Point	H I	7035	120			7075
2	5			7043	125			7075
3	10			7047	130			7075
4	15			7051	135			7075
5	20			7055	140			7075
6	25			7059	145			7075
7	30			7059	150			7079
8	35			7059	155			7079
9	40			7063	160			7079
10	45			7063	165			7079
11	50			7063	170			7079
12	55			7067	175			7079
13	60			7067	180			7079
14	65			7067	185			7079
15	70			7067	190			7079
16	75			7071	195			7079
17	80			7071	200			7079
18	85			7071	205			7079
19	90			7071	210			7079
20	95			7071	215			7082
21	100			7071	220			7082
22	105			7075	225			7082
23	110			7075	230			7082
24	115			7075	235			7082



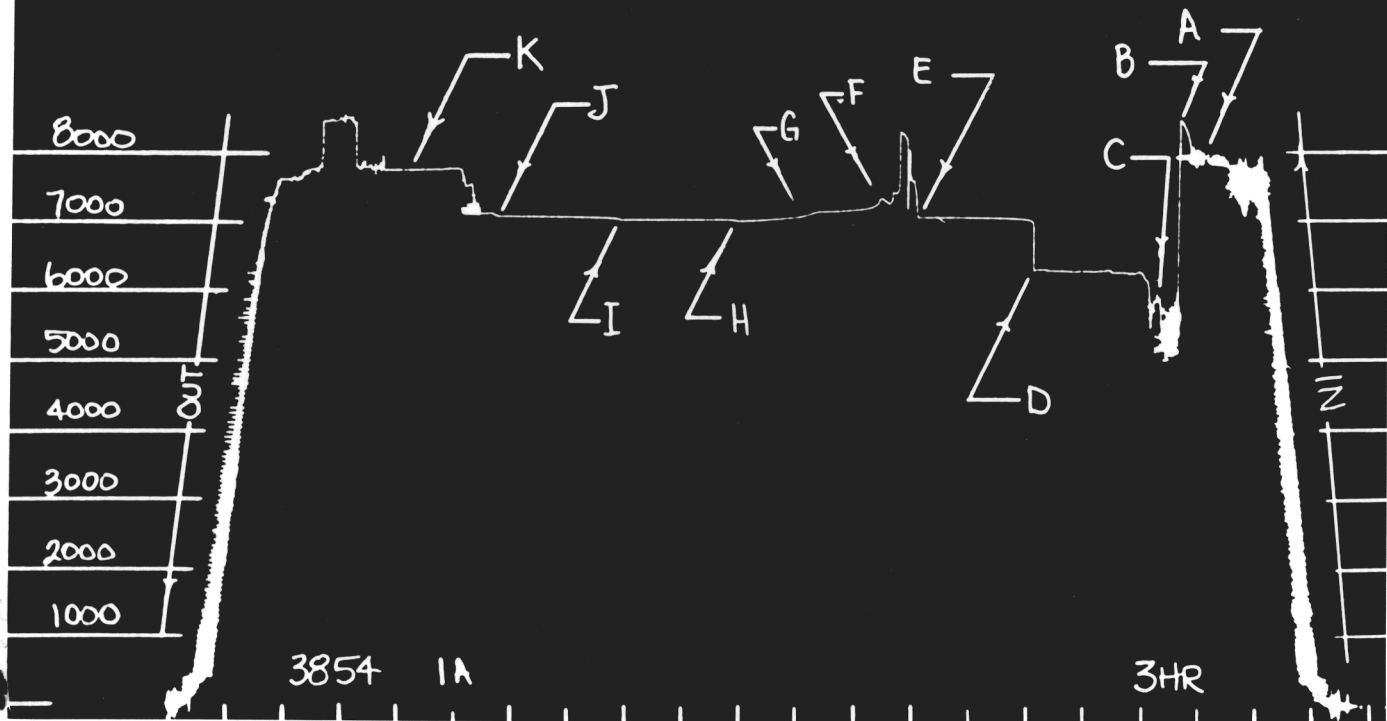
5 min DST PRESSURE INCREMENTS On shut-in # 2 Point H to I

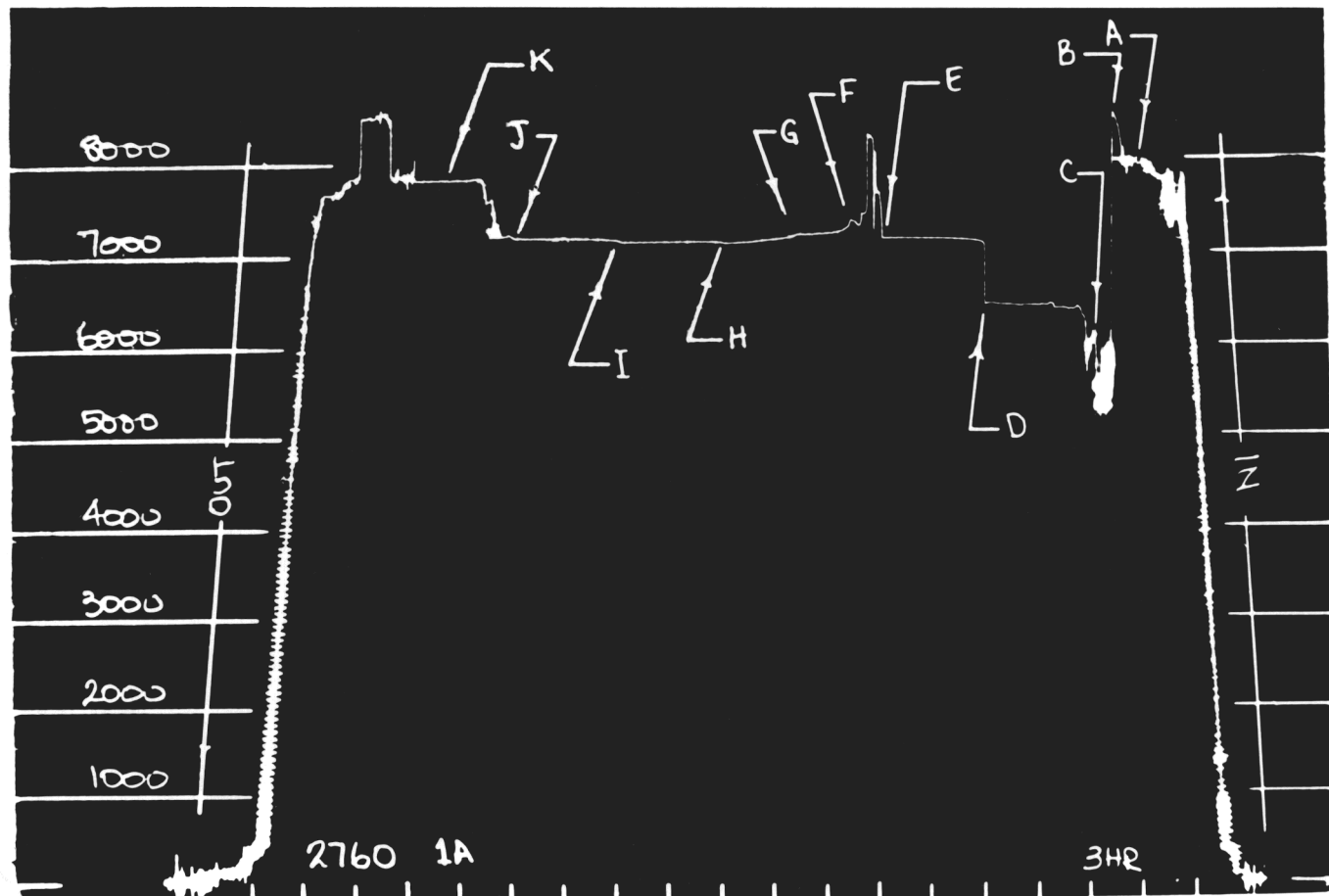
Recorder No. 4180

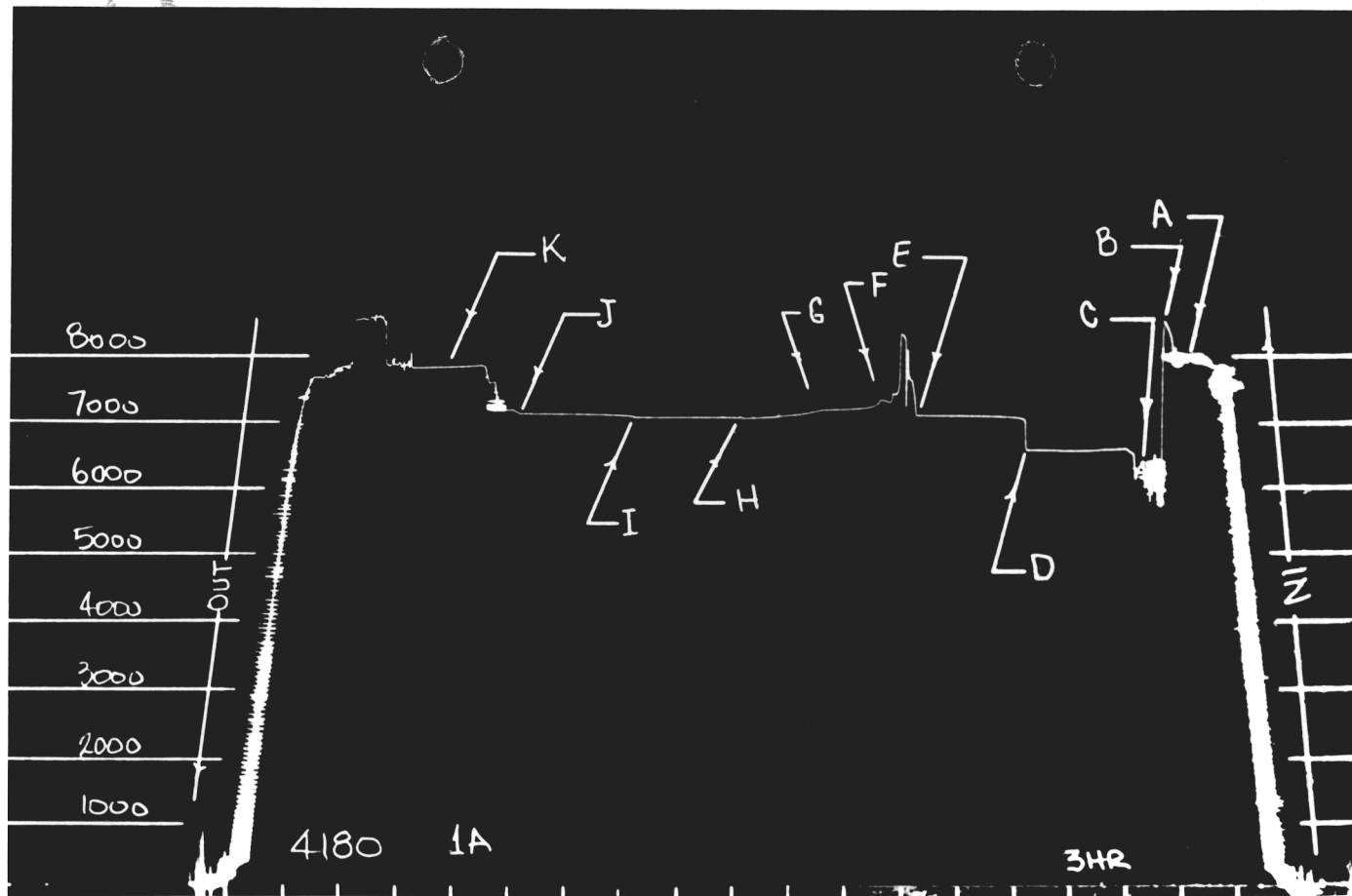
Depth 10466

Page 2 of 2

Points	INITIAL CIP				Time Defl. "	FINAL CIP		
	Time Defl. "	T + 0	$\frac{T + 0}{0}$	PSIG		T + 0	$\frac{T + 0}{0}$	PSIG
1	240			7082				
2	245			7082				
3	250			7082				
4	255			7082				
5	260			7086				
6		Pressure Remaining constant to end of shut-in						
7								
8	375	Point	X J	7086				
9		Point	X K	7780				
10								
11								
12								
13								
14								
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August 5, 1970

Well 2/4-4AX

TESTING PROCEDURE

DST No. 1

1. Perforate the interval 10380' to 10510' with 4 shots per foot. Make Schlumberger junk basket run after perforating operation has been completed.
2. GIH with test string and a full water cushion. Test tubing to 5000 psi. Set the test string so that the pressure recorders are located near the mid-point of the perforations ($\pm$ 10455').
3. Open well for 10 minutes Initial Flow Period.
4. Shut in well for 2½ hours.
5. Open well and clean up at high flow rate. Once flow is clean enough, put through separator. Flow well for 8 hours at a rate of 700 BOPD.
6. Shut in well for 8 hours.
7. Open well for 8 hours at maximum rate possible through test equipment.
8. Shut in well for 8 hours.
9. Pressure test lines to 5000 psi.
10. Pump 4000 gallons of treated sea water.
11. Pump 5000 gallons of B.J. S.A.C.
12. Pump 5000 gallons of Acid mixed as follows:
 - 92% - 15% HCl Acid.
 - 8% - Formic Acid.
13. Pump 1300 gallons of Divert II
14. Pump 4000 gals. of B.J. S.A.C. Follow with 4000 gals of acid and then followed with 1300 gals of divert II.
15. Repeat step 14.
16. Pump 4000 gals of B.J. S.A.C., followed with 4000 gals. of acid.
17. Displace acid mixture with 4000 gals. of treated sea water.
Note: Do not exceed 5000 psi surface pressure while acidizing. Pressure above this amount will exceed the working pressure limit of both the OTIS TEST TREE and B.J. RECORDERS.
18. Once tubing has been displaced, shut in well for 3 hours.
19. Open well for 8 hours at rate equal to that of step 7.

20. Shut well in for 8 hours shut in period.
21. Kill well and COOH.
22. Lay a cement plug across the perforations 10380 - 10510'. Set a bridge plug on top of cement plug $\pm$ 10340.

DST No. 2

1. Perforate the interval 10190 to 10310 with 4 shots per foot. Make Schlumberger junk basket run after perforating operation has been completed.
2. GIH with test string and full water cushion. Test tubing to 5000 psi. Set the test string so that pressure recorders are located at ($\pm$ 10250').
3. Follow same steps 3 thru 21 of DST with the exception of steps 11 & 12. Use 4000 gallons of B.J. S.A.C. and 4000 gals. of acid.
4. Lay a cement plug across perms. 10190 - 10310 and set a bridge plug on top of cement plug $\pm$ 10170.

DST No. 3

1. Perforate the interval 10130 to 10150 with 4 shots per foot. Make Schlumberger junk basket run after perforating operation has been completed.
2. GIH with test string and a full water cushion. Test tubing to 5000 psi. Set the test string so that the pressure recorders are located near the mid-point of the perforations ($\pm$ 10140).
3. Open well for 10 minutes Initial Flow Period.
4. Shut in well for 2½ hours.
5. Open well and clean up at high flow rate. If well does not flow, discuss with office. If well flows, put through separator and flow for 8 hours at a rate of 700 BOPD.
6. Shut in well for 8 hours.
7. Open well for 8 hours at maximum rate possible through test equipment.
8. Shut in well for 8 hours.
9. Pressure test lines to 5000 psi.
10. Pump 3000 gallons of treated sea water.
11. Pump 3000 gallons of B.J. S.A.C.
12. Pump 3000 gallons of Acid mixed as follows:
 - 92% - 15% HCl Acid.
 - 8% - Formic Acid.
13. Displace acid mixture with 4000 gals. of treated sea water. (Do not exceed 5000 psi surface pressure while acidizing.)

14. Once tubing has been displaced, shut in well for 3 hours.
15. Open well for 8 hours at rate equal to that of step 7.
16. Shut well in for 8 hours shut in period.
17. Kill well and COOH.
18. Lay a cement plug across the perfs. 10130 - 10150. Set a bridge plug on top of cement plug $\pm$ 10110'.

DST No. 4

1. Perforate the interval 9980 to 10090 with 4 shots per foot. Make Schlumberger junk basket run after perforating operation has been completed.
2. GIH with test string and a full water cushion. Test tubing to 5000 psi. Set the test string so that the pressure recorders are located near the mid-point of the perforations ($\pm$ 10055').
3. Follow same steps 3 thru 21 of DST 1 with the exception of steps 11 and 12. Use 3000 gals. of B.J. S.A.C. and 3000 gals. of acid.
4. Lay a cement plug across the perfs. 9980' - 10090'. Set a bridge plug on top of cement plug $\pm$ 9970'.

OIL, WATER AND GAS SAMPLES

TO BE OBTAINED DURING TESTING OPERATIONS

No.	Description	DST 1 Step No.	DST 2 Step No.	DST 3 Step No.	DST 4 Step No.
1	55 gallon Oil Sample	7			7
1	Gas- 25 psi - PPCo. Companion Separator Sample	5,7& 19	5, 7 & 19	5,7&15	5,7 &19
1	Liquid - High pressure Companion Separator Sample (Mercury displac)	5,7& 19	5, 7 & 19	5,7&15	5,7 &19
1	PPCo - Geochemical Gas Sample	"	"	"	"
1	PPCO - Geochemical Liquid Sample	"	"	"	"
1	Core Lab - Hi pressure Gas Bottle	5			5
1	Core Lab - Hi press. Liquid Bottle	5			5

NOTE: Be sure wellhead pressure, temperature and flow rates are stabilized before samples are taken.

TEMPORARY SUSPENSION OF

WELL 2/4-4AX

1. Set a 9 5/8" bridge plug at $\pm$ 5000'. Lay a cement plug from 5000' to 4800' (65 sacks).
2. Lay a cement plug from 1500' to 1000' (175 sacks).
3. Install a Corrosion Cap on the wellhead.