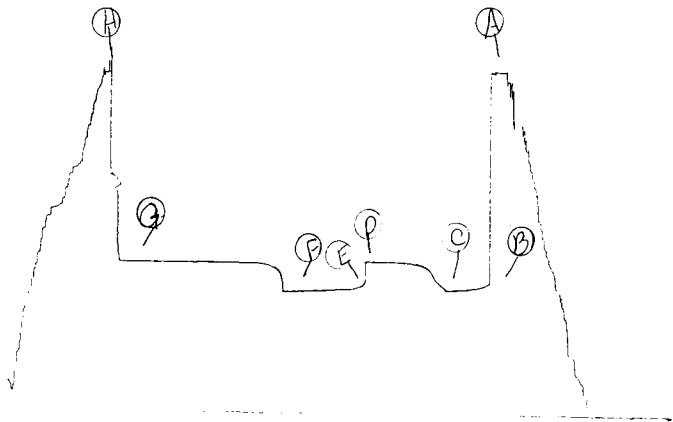


1051 DST#1

1051

6

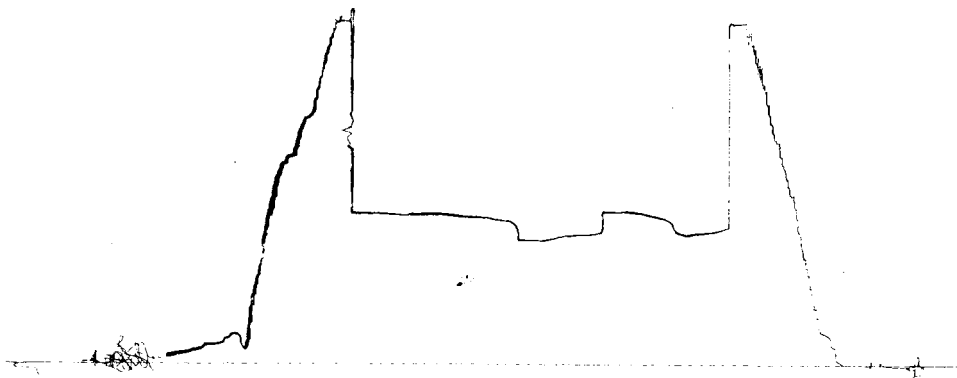
TKT# 20032
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4232 DST #1

6

TK#20032
0.





WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET No. 20032
Fax # 303-295-6168

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Elevation 3695 LB Formation Atoka Eff. Pay 10' Ft. 14%
District PRATT Date 11-13-93 Customer Order No. Gravity .73

COMPANY NAME Ensign Operating Co
ADDRESS 621 12th St Suite 1800 Denver, Colo 80293
LEASE AND WELL NO. Boarding 2-20 COUNTY Morton STATE Kansas Sec. 20 Twp. 25S Rge. 43W
Mail Invoice To Same Co. Name _____ Address _____ No. Copies Requested 6
Mail Charts To As per mailing list Address _____ No. Copies Requested 6

Formation Test No. 3903 Interval Tested From 3900 ft. to 4055 ft. Total Depth 4055 ft.
Packer Depth 3903 ft. Size 6 5/8 in. Packer Depth 2 ft. Size 2 in.
Packer Depth 3908 ft. Size 6 5/8 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 3920 ft. Recorder Number 1051 Cap. 4250
Bottom Recorder Depth (Outside) 3923 ft. Recorder Number 4332 Cap. 4200
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____
Drilling Contractor Robert Y. Jones Rig 8 Drill Collar Length 511 I. D. 2 3/4 in.
Mud Type Chem Viscosity 51 Weight Pipe Length _____ I. D. 6 in.
Weight 8.9 Water Loss 8.8 cc. Drill Pipe Length 3365 I. D. 3.8 in.
Chlorides 950 P.P.M. Test Tool Length 32 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 411 Anchor Length 147 (118-29) Size 6 + 5 1/2 in.
Did Well Flow? NO Reversed Out NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 1/8 in. Tool Joint Size 4 1/2 XH in.

Blow: Gas to surface 3 minutes on initial flow period - See flow chart

Recovered _____ ft. of _____
Recovered 175 ft. of gassy mud 20% gas - 80% mud
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 12:00 A.M. Time Pick Up Tool 4:00 P.M. Time Off Location 11:30 A.M.
Time Set Packer(s) 5:45 P.M. Time Started Off Bottom 10:15 P.M. Maximum Temperature 118 °F
Initial Hydrostatic Pressure _____ (A) 2027 P.S.I.
Initial Flow Period _____ Minutes 30 (B) 697 P.S.I. to (C) 676 P.S.I.
Initial Closed In Period _____ Minutes 60 (D) 835 P.S.I.
Final Flow Period _____ Minutes 60 (E) 697 P.S.I. to (F) 697 P.S.I.
Final Closed In Period _____ Minutes 120 (G) 825 P.S.I.
Final Hydrostatic Pressure _____ (H) 1920 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By JOHN D. FREEST
Signature of Customer or his authorized representative

Western Representative Ed Witt Thank you

FIELD INVOICE

Open Hole Test ☒
Misrun \$
Straddle Test \$
Jars ☒
Selective Zone \$
Safety Joint ☒
Standby \$
Evaluation \$
Extra Packer \$
Circ. Sub. \$
Mileage \$
Fluid Sampler ☒
Extra Charts \$
Insurance \$
Telecopier \$

TOTAL

Australia Postage 50



GAS FLOW REPORT

N^o 5325

Date 11-13-93 Ticket 20032 Company Ensign Operating Inc
 Well Name and No. Balding 2-20 Dst No. 1 Interval Tested
 County Morton State Kansas Sec. 20 Twp. 25S Rg. 43W

Time Gauge in Min.	P.S.I. on Merla Orifice Well Tester	Size of Orifice	P.S.I. on Pitot Tester	P.S.I. on Side Static Tester	Description of Flow
PRE FLOW					
03	—	1			Gas to surface
10	52 psi	{			1,379,000 MC (PD)
20	70 "				1,813,000
30	72 "				1,852,000

SECOND FLOW

10	20 psi	1 1/2			1,949,000	MC (PD)
20	20	{			1,949,000	{
30	20				1,949,000	
40	20				1,949,000	
50	20				1,949,000	
60	20				1,949,000	

GAS BOTTLE

Serial No. _____ Date Bottle Filled 11-13-93 Date to be Invoiced _____

Requisition and Provisions for high pressure stainless steel gas bottles. Western Testing Co., Inc. shall not be liable for damage of any kind to property or personnel of the one whom gas bottle is filled or for any loss suffered or sustained directly or indirectly through the use of these bottles. By signing of this ticket showing receipt of a gas testing bottle, the undersigned agrees for himself and as agent for operator, to return this bottle to Western Testing Co., Inc. within thirty (30) days free of charge, or be invoiced in the amount of \$75.00 (total charge). Should valve or seal plug be missing or damaged beyond repair, operator shall be invoiced for repairs at our invoiced price.

All charges subject to 1 1/2% per month, equal to 18% interest per annum after 30 days from date of invoice. Any expense incurred for collection will be added to the original amount.

COMPANY'S NAME Ensign Operating Inc
 Authorized by JOHN PRUIT



Fluid Sample Report

Date 11-13-93 Ticket No. 20032
 Company Ensign Operating Inc
 Well Name & No. Balding 2-20 DST No. 1
 County Morton State Kansas
 Sampler No. 1 Test Interval 3908 - 4055

Pressure in Sampler 820 PSIG BHT 118 OF

Total Volume of Sampler 3100 cc.
 Total Volume of Sample: 1000 cc.
 Oil: - 0 - cc.
 Water: - 0 - cc.
 Mud: 1000 cc.
 Gas: 9.83 cu. ft.
 Other: - 0 -

Resistivity

Water: @ of Chloride Content ppm.

Mud Pit Sample @ of Chloride Content 950 ppm.

Gas/Oil Ratio Gravity °API @ OF

Where was sample drained

Remarks:

WESTERN TESTING CO., INC.

Pressure Data

Date _____

Test Ticket No. 20032

Recorder No. _____ Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>1882</u> P.S.I.	M		
B First Initial Flow Pressure	<u>723</u> 800 P.S.I.	First Flow Pressure	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>682</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
D Initial Closed-in Pressure	<u>838</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure	<u>715</u> P.S.I.	Final Closed-in Pressure	<u>120</u> Mins.	<u>120</u> Mins.
F Second Final Flow Pressure	<u>670</u> P.S.I.			
G Final Closed-in Pressure	<u>829</u> P.S.I.			
H Final Hydrostatic Mud	<u>1861</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	800 <u>723</u>	0	<u>682</u>	0	<u>715</u>	0	<u>728</u>
P 2 <u>5</u>	723 <u>706</u>	3	<u>693</u>	5	<u>693</u>	3	<u>798</u>
P 3 <u>10</u>	<u>698</u>	6	<u>712</u>	10	<u>685</u>	6	<u>810</u>
P 4 <u>15</u>	<u>689</u>	9	<u>729</u>	15	<u>683</u>	9	<u>817</u>
P 5 <u>20</u>	<u>686</u>	12	<u>767</u>	20	<u>681</u>	12	<u>823</u>
P 6 <u>25</u>	<u>684</u>	15	<u>796</u>	25	<u>679</u>	15	<u>829</u>
P 7 <u>30</u>	<u>682</u>	18	<u>810</u>	30	<u>677</u>	18	
P 8 <u>35</u>		21	<u>819</u>	35	<u>675</u>	21	
P 9 <u>40</u>		24	<u>825</u>	40	<u>674</u>	24	
P10 <u>45</u>		27	<u>830</u>	45	<u>673</u>	27	
P11 <u>50</u>		30	<u>834</u>	50	<u>672</u>	30	
P12 <u>55</u>		33	<u>834</u>	55	<u>671</u>	33	
P13 <u>60</u>		36	<u>835</u>	60	<u>670</u>	36	
P14 <u>65</u>		39	<u>835</u>	65		39	
P15 <u>70</u>		42	<u>836</u>	70		42	
P16 <u>75</u>		45	<u>836</u>	75		45	
P17 <u>80</u>		48	<u>837</u>	80		48	
P18 <u>85</u>		51	<u>837</u>	85		51	
P19 <u>90</u>		54	<u>838</u>	90		54	
P20 <u>95</u>		57	<u>838</u>	95		57	
100		60	<u>838</u>	100		60	<u>829</u>

Cont'd

WESTERN TESTING CO., INC.

Pressure Data

Date _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____ M.		
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____ Mins. _____ Mins.		
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____ Mins. _____ Mins.		
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure _____ Mins. _____ Mins.		
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure _____ Mins. _____ Mins.		
F Second Final Flow Pressure _____ P.S.I.			
G Final Closed-in Pressure _____ P.S.I.			
H Final Hydrostatic Mud _____ P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63	829
P 2 110		66		110		66	
P 3 115		69		115		69	
P 4 120		72		120		72	
P 5 125		75		125		75	
P 6 130		78		130		78	
P 7 135		81		135		81	
P 8 140		84		140		84	
P 9 145		87		145		87	
P10 150		90		150		90	
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	
P16 180		108		180		108	
P17 185		111		185		111	
P18 190		114		190		114	
P19 195		117		195		117	
P20 200		120		200		120	829

WESTERN TESTING CO., INC.

Pressure Data

Date _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____ M _____		
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____ Mins. _____ Mins.		
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____ Mins. _____ Mins.		
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure _____ Mins. _____ Mins.		
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure _____ Mins. _____ Mins.		
F Second Final Flow Pressure _____ P.S.I.			
G Final Closed-in Pressure _____ P.S.I.			
H Final Hydrostatic Mud _____ P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Initial Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.		Second Flow Pressure Breakdown: _____ Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.		Final Shut-In Breakdown: _____ Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 _____	_____	_____	_____	_____	_____	<u>3</u>	<u>825</u>
P 2 _____	_____	_____	_____	_____	_____	<u>6</u>	<u>825</u>
P 3 _____	_____	_____	_____	_____	_____	<u>9</u>	<u>825</u>
P 4 _____	_____	_____	_____	_____	_____	<u>12</u>	<u>825</u>
P 5 _____	_____	_____	_____	_____	_____	<u>15</u>	<u>825</u>
P 6 _____	_____	_____	_____	_____	_____	<u>18</u>	<u>825</u>
P 7 _____	_____	_____	_____	_____	_____	<u>21</u>	<u>825</u>
P 8 _____	_____	_____	_____	_____	_____	<u>24</u>	<u>825</u>
P 9 _____	_____	_____	_____	_____	_____	<u>27</u>	<u>825</u>
P10 _____	_____	_____	_____	_____	_____	<u>30</u>	<u>825</u>
P11 _____	_____	_____	_____	_____	_____	<u>33</u>	<u>825</u>
P12 _____	_____	_____	_____	_____	_____	<u>36</u>	<u>825</u>
P13 _____	_____	_____	_____	_____	_____	<u>39</u>	<u>825</u>
P14 _____	_____	_____	_____	_____	_____	<u>42</u>	<u>825</u>
P15 _____	_____	_____	_____	_____	_____	<u>45</u>	<u>825</u>
P16 _____	_____	_____	_____	_____	_____	<u>48</u>	<u>825</u>
P17 _____	_____	_____	_____	_____	_____	<u>51</u>	<u>825</u>
P18 _____	_____	_____	_____	_____	_____	<u>54</u>	<u>825</u>
P19 _____	_____	_____	_____	_____	_____	<u>57</u>	<u>825</u>
P20 _____	_____	_____	_____	_____	_____	<u>60</u>	<u>825</u>

WESTERN TESTING CO., INC.

Pressure Data

Date 11-13-93 Test Ticket No. 20032
 Recorder No. 1051 Capacity 4250 Location 3908-4055 Ft.
 Clock No. _____ Elevation 3695 KB Well Temperature 118 °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud <u>2027</u> P.S.I.	Open Tool	<u>M</u>	
B First Initial Flow Pressure <u>697</u> P.S.I.	First Flow Pressure	<u>50</u> Mins.	<u>50</u> Mins.
C First Final Flow Pressure <u>676</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
D Initial Closed-in Pressure <u>835</u> P.S.I.	Second Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
E Second Initial Flow Pressure <u>697</u> P.S.I.	Final Closed-in Pressure	<u>120</u> Mins.	<u>120</u> Mins.
F Second Final Flow Pressure <u>697</u> P.S.I.			
G Final Closed-in Pressure <u>825</u> P.S.I.			
H Final Hydrostatic Mud <u>1920</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 <u>0</u>	<u>8708</u>	<u>0</u>	<u>697</u>	<u>0</u>	<u>724</u>	<u>0</u>	<u>676</u>
P 2 <u>5</u>	<u>718</u>	<u>3</u>	<u>708</u>	<u>5</u>	<u>724</u>	<u>3</u>	<u>786</u>
P 3 <u>10</u>	<u>697</u>	<u>6</u>	<u>724</u>	<u>10</u>	<u>686</u>	<u>6</u>	<u>804</u>
P 4 <u>15</u>	<u>697</u>	<u>9</u>	<u>750</u>	<u>15</u>	<u>686</u>	<u>9</u>	<u>814</u>
P 5 <u>20</u>	<u>697</u>	<u>12</u>	<u>799</u>	<u>20</u>	<u>676</u>	<u>12</u>	<u>825</u>
P 6 <u>25</u>	<u>697</u>	<u>15</u>	<u>814</u>	<u>25</u>	<u>676</u>	<u>15</u>	<u>825</u>
P 7 <u>30</u>	<u>697</u>	<u>18</u>	<u>819</u>	<u>30</u>	<u>676</u>	<u>18</u>	<u>825</u>
P 8 _____		<u>21</u>	<u>840</u>	<u>35</u>	<u>676</u>	<u>21</u>	<u>825</u>
P 9 _____		<u>24</u>	<u>840</u>	<u>40</u>	<u>676</u>	<u>24</u>	<u>825</u>
P10 _____		<u>27</u>	<u>840</u>	<u>45</u>	<u>676</u>	<u>27</u>	<u>825</u>
P11 _____		<u>30</u>	<u>840</u>	<u>50</u>	<u>676</u>	<u>30</u>	<u>825</u>
P12 _____		<u>33</u>	<u>840</u>	<u>55</u>	<u>676</u>	<u>33</u>	<u>825</u>
P13 _____		<u>36</u>	<u>840</u>	<u>60</u>	<u>676</u>	<u>36</u>	<u>825</u>
P14 _____		<u>39</u>	<u>840</u>			<u>39</u>	<u>825</u>
P15 _____		<u>42</u>	<u>840</u>			<u>42</u>	<u>825</u>
P16 _____		<u>45</u>	<u>840</u>			<u>45</u>	<u>825</u>
P17 _____		<u>48</u>	<u>840</u>			<u>48</u>	<u>825</u>
P18 _____		<u>51</u>	<u>840</u>			<u>51</u>	<u>825</u>
P19 _____		<u>54</u>	<u>840</u>			<u>54</u>	<u>825</u>
P20 _____		<u>57</u>	<u>840</u>			<u>57</u>	<u>825</u>
		<u>60</u>	<u>840</u>			<u>60</u>	<u>825</u>



Home Office: Wichita, Kansas 67201

P.O. Box 1599

(316) 262-5861

(FAX # 1-316-262-7096)

THIS IS A FAX FROM WESTERN TESTING CO., INC.

ATTENTION:

Chris DeMato - Ensign Operations

DRILL STEM TEST #

1

DATE SENT

11-15-92

LEASE & WELL NUMBER

Balding #2-20

COVER SHEET & _____ PAGES

IF YOU DO NOT RECEIVE THIS FAX OR DO NOT GET IT CLEARLY,
PLEASE CALL US AT 1-316-262-5861 AND WE WILL RESEND IT.

DST REPORT

GENERAL INFORMATION

DATE	: 11/13/93	TICKET	: 20032
CUSTOMER	: ENSIGN OPERATING COMPANY	LEASE	: BOALDING
WELL	: #2-20	TEST:	1
ELEVATION:	3695 KB	GEOLOGIST:	
SECTION	: 20	FORMATION:	ATOKA
RANGE	: 43W	TOWNSHIP	: 25S
GAUGE SN#:	1051	STATE	: KS
	COUNTY: MORTON	CLOCK	: 12
	RANGE : 4250		

WELL INFORMATION

PERFORATION INTERVAL FROM:	3908.00 ft	TO:	4055.00 ft	TVD:	4055.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	GAS
DEPTH OF RECORDERS:	3920.0 ft		3923.0 ft		
TEMPERATURE:	118.0				
DRILL COLLAR LENGTH:	511.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	3365.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	147.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	3903.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	3908.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	GABBERT&JONES RIG 8	VISCOSITY :	51.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	8.800 cc
WEIGHT :	8.900 ppg		
CHLORIDES :	950 ppm	SERIAL NUMBER:	411
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

GAS TO SURFACE IN 3 MINUTES ON INITIAL FLOW PERIOD. SEE GAS SHEET ATTACHED.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
195.0	0.0	20.0	0.0	80.0	GASSY MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	1.0769	SCF	TOTAL FLOW TIME:	90.0000 min.
MUD VOLUME:	0.7671	STB	AVERAGE OIL RATE:	0.0000 STB/D
WATER VOLUME:	0.0000	STB	AVERAGE WATER RATE:	0.0000 STB/D
TOTAL FLUID :	0.7671	STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2027.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	697.00	676.00
INITIAL SHUT-IN	60.00		835.00
FINAL FLOW	60.00	697.00	697.00
FINAL SHUT-IN	120.00		825.00

FINAL HYDROSTATIC PRESSURE: 1920.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2027.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	718.00	697.00
INITIAL SHUT-IN	60.00		840.00
FINAL FLOW	60.00	724.00	676.00
FINAL SHUT-IN	120.00		825.00

FINAL HYDROSTATIC PRESSURE: 1920.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 11/13/93	TICKET : 20032
CUSTOMER : ENSIGN OPERATING COMPANY	LEASE : BOALDING
WELL : #2-20 TEST: 1	GEOLOGIST:
ELEVATION: 3695 KB	FORMATION: ATOKA
SECTION : 20	TOWNSHIP : 25S
RANGE : 43W COUNTY: MORTON	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.000	50 PSIG	1379000 SCF/D
20 MIN	MERLA	1.000	70 PSIG	1813000 SCF/D
30 MIN	MERLA	1.000	72 PSIG	1856000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
20 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
30 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
40 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
50 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
60 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/13/93	TICKET : 20032
CUSTOMER : ENSIGN OPERATING COMPANY	LEASE : BOALDING
WELL : #2-20 TEST: 1	GEOLOGIST:
ELEVATION: 3695 KB	FORMATION: ATOKA
SECTION : 20	TOWNSHIP : 25S
RANGE : 43W COUNTY: MORTON	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	718.00	718.00
5.00	718.00	0.00
10.00	697.00	-21.00
15.00	697.00	0.00
20.00	697.00	0.00
25.00	697.00	0.00
30.00	697.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	708.00	708.00	0.00
6.00	724.00	16.00	0.00
9.00	750.00	26.00	0.00
12.00	799.00	49.00	0.00
15.00	814.00	15.00	0.00
18.00	819.00	5.00	0.00
21.00	840.00	21.00	0.00
24.00	840.00	0.00	0.00
27.00	840.00	0.00	0.00
30.00	840.00	0.00	0.00
33.00	840.00	0.00	0.00
36.00	840.00	0.00	0.00
39.00	840.00	0.00	0.00
42.00	840.00	0.00	0.00
45.00	840.00	0.00	0.00
48.00	840.00	0.00	0.00
51.00	840.00	0.00	0.00
54.00	840.00	0.00	0.00
57.00	840.00	0.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	840.00	0.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	724.00	724.00
5.00	724.00	0.00
10.00	686.00	-38.00
15.00	686.00	0.00
20.00	676.00	-10.00
25.00	676.00	0.00
30.00	676.00	0.00
35.00	676.00	0.00
40.00	676.00	0.00
45.00	676.00	0.00
50.00	676.00	0.00
55.00	676.00	0.00
60.00	676.00	0.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	786.00	786.00	0.00
6.00	804.00	18.00	0.00
9.00	814.00	10.00	0.00
12.00	825.00	11.00	0.00
15.00	825.00	0.00	0.00
18.00	825.00	0.00	0.00
21.00	825.00	0.00	0.00
24.00	825.00	0.00	0.00
27.00	825.00	0.00	0.00
30.00	825.00	0.00	0.00
33.00	825.00	0.00	0.00
36.00	825.00	0.00	0.00
39.00	825.00	0.00	0.00
42.00	825.00	0.00	0.00
45.00	825.00	0.00	0.00
48.00	825.00	0.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
51.00	825.00	0.00	0.00
54.00	825.00	0.00	0.00
57.00	825.00	0.00	0.00
60.00	825.00	0.00	0.00
63.00	825.00	0.00	0.00
66.00	825.00	0.00	0.00
69.00	825.00	0.00	0.00
72.00	825.00	0.00	0.00
75.00	825.00	0.00	0.00
78.00	825.00	0.00	0.00
81.00	825.00	0.00	0.00
84.00	825.00	0.00	0.00
87.00	825.00	0.00	0.00
90.00	825.00	0.00	0.00
93.00	825.00	0.00	0.00
96.00	825.00	0.00	0.00
99.00	825.00	0.00	0.00
102.00	825.00	0.00	0.00
105.00	825.00	0.00	0.00
108.00	825.00	0.00	0.00
111.00	825.00	0.00	0.00
114.00	825.00	0.00	0.00
117.00	825.00	0.00	0.00
120.00	825.00	0.00	0.00

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FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE : 11/13/93
CUSTOMER : ENSIGN OPERATING COMPANY
WELL : #2-20 TEST: 1
ELEVATION: 3695 KB
SECTION : 20
RANGE : 43W COUNTY: MORTON
GAUGE SN#: 1051 RANGE : 4250

TICKET : 20032
LEASE : BOALDING
GEOLOGIST:
FORMATION: ATOKA
TOWNSHIP : 25S
STATE : KS
CLOCK : 12

SAMPLE INFORMATION

PRESSURE IN SAMPLER: 820.00 PSIG BHT: 118.0 DEG F

TOTAL VOLUME OF SAMPLER: 3100.00 cc
TOTAL VOLUME OF SAMPLE: 1000.00 cc
OIL: 0.00 cc
WATER: 0.00 cc
MUD: 1000.00 cc
GAS: 9.83 cc
OTHER: 0.00 cc

RESISTIVITY

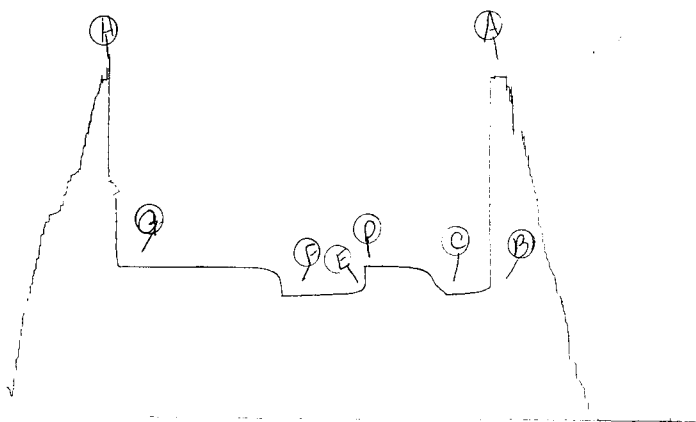
DRILLING MUD:
MUD PIT SAMPLE:
GAS/OIL RATIO:
WHERE WAS SAMPLE DRAINED:
REMARKS:

CHLORIDE CONTENT: 0.00 ppm
CHLORIDE CONTENT: 950.00 ppm
GRAVITY:

1051 DST#1

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TK#20032
I

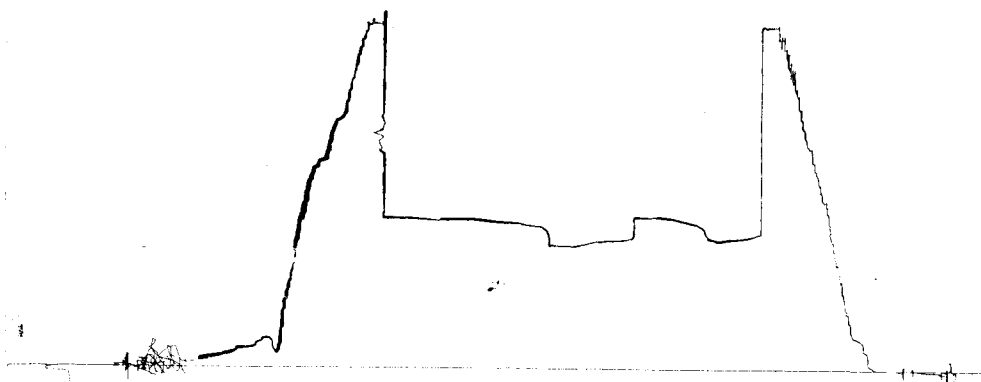


Inside Recorder

4332 DST#1

6

TK#20032
O.



Outside Recorder



Home Office: Wichita, Kansas 67201
P.O. Box 1599 (316) 262-5861
(FAX # 1-316-262-7096)

THIS IS A FAX FROM WESTERN TESTING CO., INC.

ATTENTION: Jeff

DRILL STEM TEST # DST #2

DATE SENT 11/16/93

LEASE & WELL NUMBER Balding 2-20

COVER SHEET & 11 PAGES

IF YOU DO NOT RECEIVE THIS FAX OR DO NOT GET IT CLEARLY,
PLEASE CALL US AT 1-316-262-5861 AND WE WILL RESEND IT.

DST REPORT

GENERAL INFORMATION

DATE : 11/13/93
CUSTOMER : ENSIGN OPERATING COMPANY
WELL : #2-20 TEST: 1
ELEVATION: 3695 KB
SECTION : 20
RANGE : 43W COUNTY: MORTON
GAUGE SN#: 1051 RANGE : 4250

TICKET : 20032
LEASE : BOALDING
GEOLOGIST:
FORMATION: ATOKA
TOWNSHIP : 25S
STATE : KS
CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 3908.00 ft TO: 4055.00 ft TVD: 4055.0 ft
DEPTH OF SELECTIVE ZONE: TEST TYPE: GAS
DEPTH OF RECORDERS: 3920.0 ft 3923.0 ft
TEMPERATURE: 118.0

DRILL COLLAR LENGTH:	511.0 ft	I.D.:	2.250 in
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH :	3365.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH :	32.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH :	147.0 ft	ANCHOR SIZE:	5.500 in
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH
PACKER DEPTH:	3903.0 ft	SIZE:	6.630 in
PACKER DEPTH:	3908.0 ft	SIZE:	6.630 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON. : GABBERT&JONES RIG 8
MUD TYPE : CHEMICAL
WEIGHT : 8.900 ppg
CHLORIDES : 950 ppm
JARS-MAKE : WTC
DID WELL FLOW?: NO

VISCOSITY : 51.00 cp
WATER LOSS: 8.800 cc
SERIAL NUMBER: 411
REVERSED OUT?: NO

COMMENTS

Comment

GAS TO SURFACE IN 3 MINUTES ON INITIAL FLOW
PERIOD. SEE GAS SHEET ATTACHED.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
195.0	0.0	20.0	0.0	80.0	GASSY MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	90.0000	min.
GAS VOLUME:	1.0769	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.7671	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.7671	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2027.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	697.00	676.00
INITIAL SHUT-IN	60.00		835.00
FINAL FLOW	60.00	697.00	697.00
FINAL SHUT-IN	120.00		825.00

FINAL HYDROSTATIC PRESSURE: 1920.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 1882.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	723.00	682.00
INITIAL SHUT-IN	60.00		838.00
FINAL FLOW	60.00	715.00	670.00
FINAL SHUT-IN	120.00		829.00

FINAL HYDROSTATIC PRESSURE: 1861.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 11/13/93	TICKET : 20032
CUSTOMER : ENSIGN OPERATING COMPANY	LEASE : BOALDING
WELL : #2-20 TEST: 1	GEOLOGIST:
ELEVATION: 3695 KB	FORMATION: ATOKA
SECTION : 20	TOWNSHIP : 25S
RANGE : 43W COUNTY: MORTON	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.000	50 PSIG	1379000 SCF/D
20 MIN	MERLA	1.000	70 PSIG	1813000 SCF/D
30 MIN	MERLA	1.000	72 PSIG	1856000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
20 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
30 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
40 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
50 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D
60 MIN	MERLA	1.500	20 PSIG	1949000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 11/13/93	TICKET : 20032
CUSTOMER : ENSIGN OPERATING COMPANY	LEASE : BOALDING
WELL : #2-20 TEST: 1	GEOLOGIST:
ELEVATION: 3695 KB	FORMATION: ATOKA
SECTION : 20	TOWNSHIP : 25S
RANGE : 43W COUNTY: MORTON	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	723.00	723.00
5.00	706.00	-17.00
10.00	698.00	-8.00
15.00	689.00	-9.00
20.00	686.00	-3.00
25.00	684.00	-2.00
30.00	682.00	-2.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	693.00	693.00	11.00
6.00	712.00	19.00	6.00
9.00	729.00	17.00	4.33
12.00	767.00	38.00	3.50
15.00	796.00	29.00	3.00
18.00	810.00	14.00	2.67
21.00	819.00	9.00	2.43
24.00	825.00	6.00	2.25
27.00	830.00	5.00	2.11
30.00	834.00	4.00	2.00
33.00	834.00	0.00	1.91
36.00	835.00	1.00	1.83
39.00	835.00	0.00	1.77
42.00	836.00	1.00	1.71
45.00	836.00	0.00	1.67
48.00	837.00	1.00	1.63
51.00	837.00	0.00	1.59
54.00	838.00	1.00	1.56
57.00	838.00	0.00	1.53

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	838.00	0.00	1.50

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	715.00	715.00
5.00	693.00	-22.00
10.00	685.00	-8.00
15.00	683.00	-2.00
20.00	681.00	-2.00
25.00	679.00	-2.00
30.00	677.00	-2.00
35.00	675.00	-2.00
40.00	674.00	-1.00
45.00	673.00	-1.00
50.00	672.00	-1.00
55.00	671.00	-1.00
60.00	670.00	-1.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	778.00	778.00	21.00
6.00	798.00	20.00	11.00
9.00	810.00	12.00	7.67
12.00	817.00	7.00	6.00
15.00	823.00	6.00	5.00
18.00	829.00	6.00	4.33
21.00	829.00	0.00	3.86
24.00	829.00	0.00	3.50
27.00	829.00	0.00	3.22
30.00	829.00	0.00	3.00
33.00	829.00	0.00	2.82
36.00	829.00	0.00	2.67
39.00	829.00	0.00	2.54
42.00	829.00	0.00	2.43
45.00	829.00	0.00	2.33
48.00	829.00	0.00	2.25

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
51.00	829.00	0.00	2.18
54.00	829.00	0.00	2.11
57.00	829.00	0.00	2.05
60.00	829.00	0.00	2.00
63.00	829.00	0.00	1.95
66.00	829.00	0.00	1.91
69.00	829.00	0.00	1.87
72.00	829.00	0.00	1.83
75.00	829.00	0.00	1.80
78.00	829.00	0.00	1.77
81.00	829.00	0.00	1.74
84.00	829.00	0.00	1.71
87.00	829.00	0.00	1.69
90.00	829.00	0.00	1.67
93.00	829.00	0.00	1.65
96.00	829.00	0.00	1.63
99.00	829.00	0.00	1.61
102.00	829.00	0.00	1.59
105.00	829.00	0.00	1.57
108.00	829.00	0.00	1.56
111.00	829.00	0.00	1.54
114.00	829.00	0.00	1.53
117.00	829.00	0.00	1.51
120.00	829.00	0.00	1.50

FLUID SAMPLE REPORT

GENERAL INFORMATION

DATE	: 11/13/93	TICKET	: 20032
CUSTOMER	: ENSIGN OPERATING COMPANY	LEASE	: BOALDING
WELL	: #2-20	TEST:	1
ELEVATION:	3695 KB	GEOLOGIST:	
SECTION	: 20	FORMATION:	ATOKA
RANGE	: 43W	TOWNSHIP	: 25S
GAUGE SN#:	1051	STATE	: KS
		CLOCK	: 12
	COUNTY: MORTON		
	RANGE : 4250		

SAMPLE INFORMATION

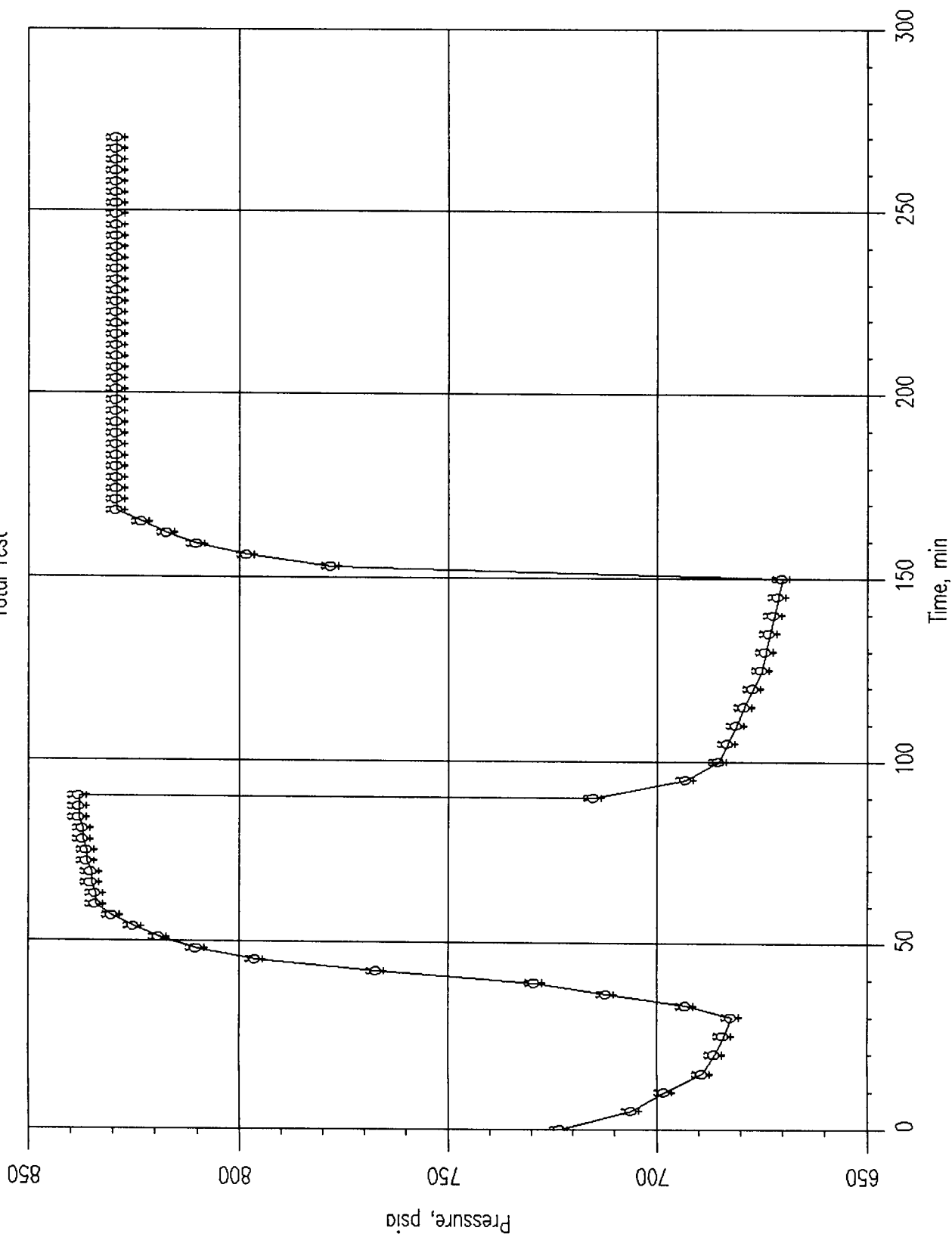
PRESSURE IN SAMPLER:	820.00 PSIG	BHT:	118.0 DEG F
TOTAL VOLUME OF SAMPLER:	3100.00 cc		
TOTAL VOLUME OF SAMPLE:	1000.00 cc		
OIL:	0.00 cc		
WATER:	0.00 cc		
MUD:	1000.00 cc		
GAS:	9.83 cc		
OTHER:	0.00 cc		

RESISTIVITY

DRILLING MUD:	CHLORIDE CONTENT:	0.00 ppm
MUD PIT SAMPLE:	CHLORIDE CONTENT:	950.00 ppm
GAS/OIL RATIO:	GRAVITY:	
WHERE WAS SAMPLE DRAINED:		
REMARKS:		

Profile Plot

Total Test

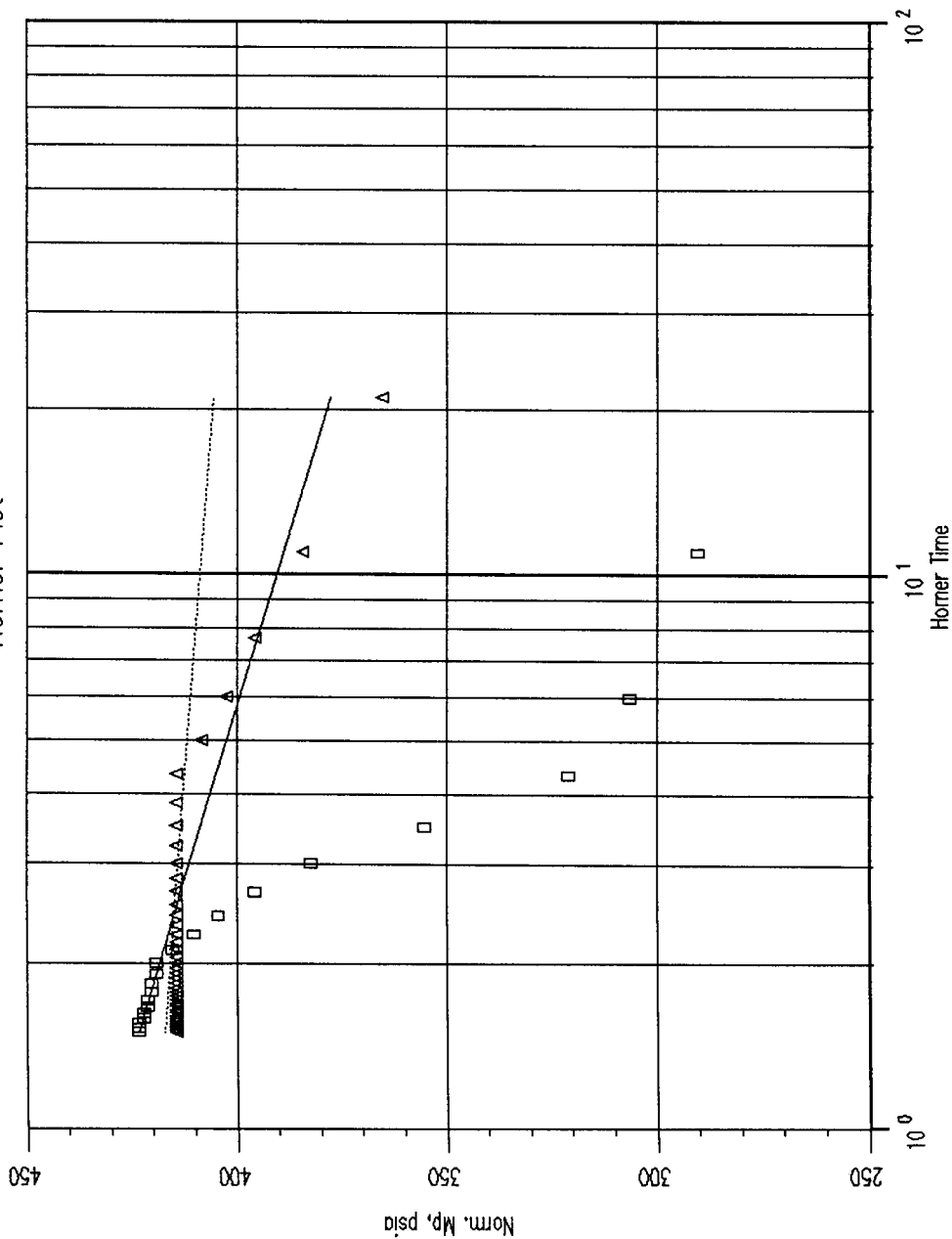


DATE 11/13/93
 CUSTOMER ENSIGN OPERATING COMPANY
 WELL #2-20
 ELEVATION 3695 KB
 SECTION 20
 RANGE 43W
 GAUGE SN# 1051

TEST 1
 COUNTY MORTON
 RANGE 4250

TICKET 20032
 LEASE BOALDING
 GEOLOGIST ATOKA
 FORMATION 25S
 TOWNSHIP KS
 STATE 12
 CLOCK

Horner Plot



Result

	#1	#2
tp, hrs	0.50	1.00
Slope	-40.05	-10.23
Pstar, psig	845.23	833.60
P1hr, psig	423.54	415.86
Skin	-0.96	10.31
k, md	32.20	126.12
kh/u, md-ft/cp	24706.83	96757.54
ri, ft	84.12	235.42
DR, %	0.73	2.59
Drawdown Factor, %	0.011	0.011
Drawdown P*	0.014	0.014

— BUILD 1
 BUILD 2

HORNER ANALYSIS REPORT

GENERAL INFORMATION

DATE : 11/13/93	TICKET : 20032
CUSTOMER : ENSIGN OPERATING COMPANY	LEASE : BOALDING
WELL : #2-20 TEST: 1	GEOLOGIST:
ELEVATION: 3695 KB	FORMATION: ATOKA
SECTION : 20	TOWNSHIP : 25S
RANGE : 43W	STATE : KS
GAUGE SN#: 1051	CLOCK : 12
COUNTY: MORTON	
RANGE : 4250	

Input Data

Porosity 0.140 Rw: 0.328 ft h: 10.000 ft

qg 1949000.0 STB

Pvt Data

Evalutation Pressure : 838.0
 Evalutation Temperature: 118.0

Gas Grav 1.20 API
 Bg 0.003 RBL/STB Vis 0.013 cp Ct 1.3154E-003 1/PSI

Horner Results

	Inital Shut-In	Final Shut-In
pseudo pressure time	0.50 hrs	1.00 hrs
slope	-40.05	-10.23
pstar	845.23 psig	833.60 psig
plhr	423.54 psig	415.86 psig
skin	-0.96	10.31
permeability	32.20 md	126.12 md
transmisability	24706.83 md-ft/cp	96757.54 md-ft/cp
radius of investigation	84.12 ft	235.42 ft
Damage-Ratio	0.73 percent	2.6 percent
Drawdown Factor		0.011 percent
Drawdown P*		0.014 percent