

WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 20046

1599 PHONE (316) 262-5861 WICHITA, KANSAS 67201

Elevation 1283 RL Formation Miss Eff. Pay Ft.

District PRAT Date 12-12-93 Customer Order No.

PANY NAME W. C. Payne Co

DRESS 800 United Founders Tower Oklahoma City, OK 73112

BASE AND WELL NO. Judy #1 COUNTY HARPER STATE Kansas Sec. 23 Twp. 34S Rge. 09W

Mail Invoice To SAME (#1 Judy) Co. Name Address No. Copies Requested Reg

Mail Charts To SAME Address No. Copies Requested Reg

Formation Test No. 1 Interval Tested From 4592 ft. to 4641 ft. Total Depth 4641 ft.

Packer Depth 4587 ft. Size 6 5/8 in. Packer Depth 2 ft. Size 2 in.

Packer Depth 4592 ft. Size 6 5/8 in. Packer Depth 2 ft. Size 2 in.

Depth of Selective Zone Set

Top Recorder Depth (Inside) 4596 ft. Recorder Number 1057 Cap. 4250

Bottom Recorder Depth (Outside) 4599 ft. Recorder Number 4332 Cap. 4200

Below Straddle Recorder Depth ft. Recorder Number Cap.

Drilling Contractor Eagle Drilling Drill Collar Length 506 I. D. 2 1/4 in.

Mud Type Chem Viscosity 46 Weight Pipe Length -0 I. D. in.

Weight 9.1 Water Loss 9.2 cc. Drill Pipe Length 4058 I. D. 3.8 in.

Chlorides 4,000 P.P.M. Test Tool Length 28 ft. Tool Size 5 7/8 OD in.

Jars: Make WTS Serial Number 411 Anchor Length 49 (30+19) ft. Size +5 7/8 OD in.

Did Well Flow? NO Reversed Out NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 XN in.

Blow: Strong blow on initial flow - gas to surface in 8 minutes see flow chart

Recovered ft. of

Recovered 60 ft. of Gas cut mud 10% gas 90% mud

Recovered ft. of

Recovered 60 ft. of Gas & Oil cut mud 10% gas - 5% oil 85% mud

Recovered ft. of

Chlorides P.P.M. Sample Jars used Remarks

Time On Location 12:30 AM P.M. Time Pick Up Tool 1:30 AM P.M. Time Off Location 9:00 AM P.M.

Time Set Packer(s) 3:10 AM P.M. Time Started Off Bottom 6:40 AM P.M. Maximum Temperature 124 9 F

Initial Hydrostatic Pressure (A) 2241 P.S.I.

Initial Flow Period Minutes 30 (B) 86 P.S.I. to (C) 86 P.S.I.

Initial Closed In Period Minutes 60 (D) 1835 P.S.I.

Final Flow Period Minutes 60 (E) 86 P.S.I. to (F) 107 P.S.I.

Final Closed In Period Minutes 60 (G) 1835 P.S.I.

Final Hydrostatic Pressure (H) 2187 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 Clyde S. Jowery Signature of Customer or his authorized representative

Western Representative Rod Drith Thank you

FIELD INVOICE

Table with 2 columns: Item (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) and Amount/Status (\$ or checked).



No 5732

GAS FLOW REPORT

Date 12-12-93 Ticket 20046 Company W.C. Payne Co
 Well Name and No. Judy #1 Dst No. 1 Interval Tested 4592-4841
 County HARPER State KANSAS Sec. 23 Twp. 34s Rg. 9W

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
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PRE FLOW

08	-	1/2			gas to surface
10	5 psi	}			78,100 CFDD
20	12 "				129,000
30	17 "				159,000

SECOND FLOW

10	21 psi	1/2			180,000	CFDD
20	25	}			205,000	}
30	28				222,000	
40	30				231,000	
50	32				243,000	
60	33				248,000	

GAS BOTTLE

Serial No. 45 Date Bottle Filled 12-12-93 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 W.C. Payne Co
 Authorized by Clyde S. Jowery

WESTERN TESTING CO., INC.

Pressure Data

DATE 12-12-93

Test Ticket No. 20046

Recorder No. 1051 Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2231</u> P.S.I.		M
B First Initial Flow Pressure	<u>82</u> P.S.I.	<u>30</u> Mins.	<u>30</u> Mins.
C First Final Flow Pressure	<u>82</u> P.S.I.	<u>60</u> Mins.	<u>69</u> Mins.
D Initial Closed-in Pressure	<u>1839</u> P.S.I.	<u>60</u> Mins.	<u>55</u> Mins.
E Second Initial Flow Pressure	<u>92</u> P.S.I.	<u>60</u> Mins.	<u>69</u> Mins.
F Second Final Flow Pressure	<u>105</u> P.S.I.		
G Final Closed-in Pressure	<u>1824</u> P.S.I.		
H Final Hydrostatic Mud	<u>2188</u> P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: _____ Inc. of _____ mins. and a final inc. of _____ Min.	Initial Shut-In Breakdown: _____ Inc. of _____ mins. and a final inc. of _____ Min.	Second Flow Pressure Breakdown: _____ Inc. of _____ mins. and a final inc. of _____ Min.	Final Shut-In Breakdown: _____ Inc. of _____ mins. and a final inc. of _____ Min.
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Point Min.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
B P 1 0		C 0	<u>82</u>	E 0	<u>92</u>	F 0	<u>105</u>
P 2 5		3	<u>688</u>	5	<u>93</u>	3	<u>830</u>
P 3 10	<u>82</u>	6	<u>1221</u>	10	<u>93</u>	6	<u>1316</u>
P 4 15		9	<u>1692</u>	15	<u>94</u>	9	<u>1637</u>
P 5 20	<u>82</u>	12	<u>1742</u>	20	<u>95</u>	12	<u>1705</u>
P 6 25		15	<u>1769</u>	25	<u>95</u>	15	<u>1737</u>
C P 7 30	<u>82</u>	18	<u>1789</u>	30	<u>97</u>	18	<u>1763</u>
P 8 35		21	<u>1802</u>	35	<u>99</u>	21	<u>1777</u>
P 9 40		24	<u>1812</u>	40	<u>101</u>	24	<u>1787</u>
P 10 45		27	<u>1818</u>	45	<u>103</u>	27	<u>1795</u>
P 11 50		30	<u>1825</u>	50	<u>105</u>	30	<u>1802</u>
P 12 55		33	<u>1829</u>	F 55	<u>105</u>	33	<u>1806</u>
P 13 60		36	<u>1831</u>	F 60		36	<u>1810</u>
P 14 65		39	<u>1835</u>	65		39	<u>1813</u>
P 15 70		42	<u>1836</u>	70		42	<u>1815</u>
P 16 75		45	<u>1837</u>	75		45	<u>1818</u>
P 17 80		48	<u>1838</u>	80		48	<u>1820</u>
P 18 85		51	<u>1839</u>	85		51	<u>1821</u>
P 19 90		54		90		54	<u>1822</u>
P 20 95		57		95		57	<u>1823</u>
100		D 60		100		G 60	<u>1824</u>

DST REPORT

GENERAL INFORMATION

DATE : 12/12/93	TICKET : 20046
CUSTOMER : W C PAYNE COMPANY	LEASE : JUDY
WELL : #1 TEST: 1	GEOLOGIST: TOWERY
ELEVATION: 1283 GL	FORMATION: MISSISSIPPI
SECTION : 23	TOWNSHIP : 34S
RANGE : 9W COUNTY: HARPER	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

WELL INFORMATION

PERFORATION INTERVAL FROM: 4592.00 ft TO: 4641.00 ft TVD: 4641.0 ft
 DEPTH OF SELECTIVE ZONE: TEST TYPE: GAS
 DEPTH OF RECORDERS: 4596.0 ft 4599.0 ft
 TEMPERATURE: 124.0

DRILL COLLAR LENGTH: 506.0 ft	I.D.:	2.250 in
WEIGHT PIPE LENGTH : 0.0 ft	I.D.:	0.000 in
DRILL PIPE LENGTH : 4058.0 ft	I.D.:	3.800 in
TEST TOOL LENGTH : 28.0 ft	TOOL SIZE :	5.500 in
ANCHOR LENGTH: 49.0 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: 4587.0 ft	SIZE:	6.750 in
PACKER DEPTH: 4592.0 ft	SIZE:	6.750 in
PACKER DEPTH: 0.0 ft	SIZE:	0.000 in
PACKER DEPTH: 0.0 ft	SIZE:	0.000 in

MUD INFORMATION

DRILLING CON. : EAGLE DRILLING	VISCOSITY :	46.00 cp
MUD TYPE : CHEMICAL	WATER LOSS:	9.200 cc
WEIGHT : 9.100 ppg	SERIAL NUMBER: 411	
CHLORIDES : 4000 ppm	REVERSED OUT?: NO	
JARS-MAKE : WTC		
DID WELL FLOW?: NO		

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW. GAS TO SURFACE IN 8 MINUTES. SEE GAS SHEET ATTACHED.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
60.0	0.0	10.0	0.0	90.0	GAS CUT MUD
60.0	5.0	10.0	0.0	85.0	GAS & OIL CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0148 STB	TOTAL FLOW TIME:	85.0000 min.
GAS VOLUME:	0.3313 SCF	AVERAGE OIL RATE:	4.4986 STB/D ✓
MUD VOLUME:	0.5163 STB	AVERAGE WATER RATE:	0.0000 STB/D
WATER VOLUME:	0.0000 STB		
TOTAL FLUID :	0.5311 STB		

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2241.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	86.00	86.00
INITIAL SHUT-IN	60.00		1835.00
FINAL FLOW	60.00	86.00	107.00
FINAL SHUT-IN	60.00		1835.00

FINAL HYDROSTATIC PRESSURE: 2187.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2231.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	82.00	82.00
INITIAL SHUT-IN	69.00		1839.00
FINAL FLOW	55.00	92.00	105.00
FINAL SHUT-IN	69.00		1824.00

FINAL HYDROSTATIC PRESSURE: 2188.00

GAS FLOW REPORT

GENERAL INFORMATION

DATE : 12/12/93 CUSTOMER : W C PAYNE COMPANY WELL : #1 ELEVATION: 1283 GL SECTION : 23 RANGE : 9W GAUGE SN#: 1051	TEST: 1	TICKET : 20046 LEASE : JUDY GEOLOGIST: TOWERY FORMATION: MISSISSIPPI TOWNSHIP : 34S STATE : KS CLOCK : 12
COUNTY: HARPER RANGE : 4250		

PRE FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.500	5 PSIG	78100 SCF/D
20 MIN	MERLA	0.500	12 PSIG	129000 SCF/D
30 MIN	MERLA	0.500	17 PSIG	159000 SCF/D

SECOND FLOW

Time Guage (min)	Tester Type	Orifice Size	Pressure	Flow Desc.
10 MIN	MERLA	0.500	21 PSIG	180000 SCF/D
20 MIN	MERLA	0.500	25 PSIG	205000 SCF/D
30 MIN	MERLA	0.500	28 PSIG	222000 SCF/D
40 MIN	MERLA	0.500	30 PSIG	231000 SCF/D
50 MIN	MERLA	0.500	32 PSIG	243000 SCF/D
60 MIN	MERLA	0.500	33 PSIG	248000 SCF/D

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 12/12/93	TICKET : 20046
CUSTOMER : W C PAYNE COMPANY	LEASE : JUDY
WELL : #1 TEST: 1	GEOLOGIST: TOWERY
ELEVATION: 1283 GL	FORMATION: MISSISSIPPI
SECTION : 23	TOWNSHIP : 34S
RANGE : 9W COUNTY: HARPER	STATE : KS
GAUGE SN#: 1051 RANGE : 4250	CLOCK : 12

INITIAL FLOW

<u>Time</u> <u>(min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	82.00	82.00
5.00	82.00	0.00
10.00	82.00	0.00
15.00	82.00	0.00
20.00	82.00	0.00
25.00	82.00	0.00
30.00	82.00	0.00

INITIAL SHUT IN

<u>Time</u> <u>(min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	688.00	688.00	11.00
6.00	1221.00	533.00	6.00
9.00	1692.00	471.00	4.33
12.00	1742.00	50.00	3.50
15.00	1769.00	27.00	3.00
18.00	1789.00	20.00	2.67
21.00	1802.00	13.00	2.43
24.00	1812.00	10.00	2.25
27.00	1818.00	6.00	2.11
30.00	1825.00	7.00	2.00
33.00	1829.00	4.00	1.91
36.00	1831.00	2.00	1.83
39.00	1835.00	4.00	1.77
42.00	1836.00	1.00	1.71
45.00	1837.00	1.00	1.67
48.00	1838.00	1.00	1.63
51.00	1839.00	1.00	1.59
54.00	1839.00	0.00	1.56
57.00	1839.00	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	1839.00	0.00	1.50
63.00	1839.00	0.00	1.48
66.00	1839.00	0.00	1.45
69.00	1839.00	0.00	1.43

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	92.00	92.00
5.00	93.00	1.00
10.00	93.00	0.00
15.00	94.00	1.00
20.00	95.00	1.00
25.00	96.00	1.00
30.00	97.00	1.00
35.00	98.00	1.00
40.00	99.00	1.00
45.00	101.00	2.00
50.00	103.00	2.00
55.00	105.00	2.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	830.00	830.00	19.33
6.00	1316.00	486.00	10.17
9.00	1637.00	321.00	7.11
12.00	1705.00	68.00	5.58
15.00	1737.00	32.00	4.67
18.00	1763.00	26.00	4.06
21.00	1777.00	14.00	3.62
24.00	1787.00	10.00	3.29
27.00	1795.00	8.00	3.04
30.00	1802.00	7.00	2.83
33.00	1806.00	4.00	2.67
36.00	1810.00	4.00	2.53
39.00	1813.00	3.00	2.41
42.00	1815.00	2.00	2.31

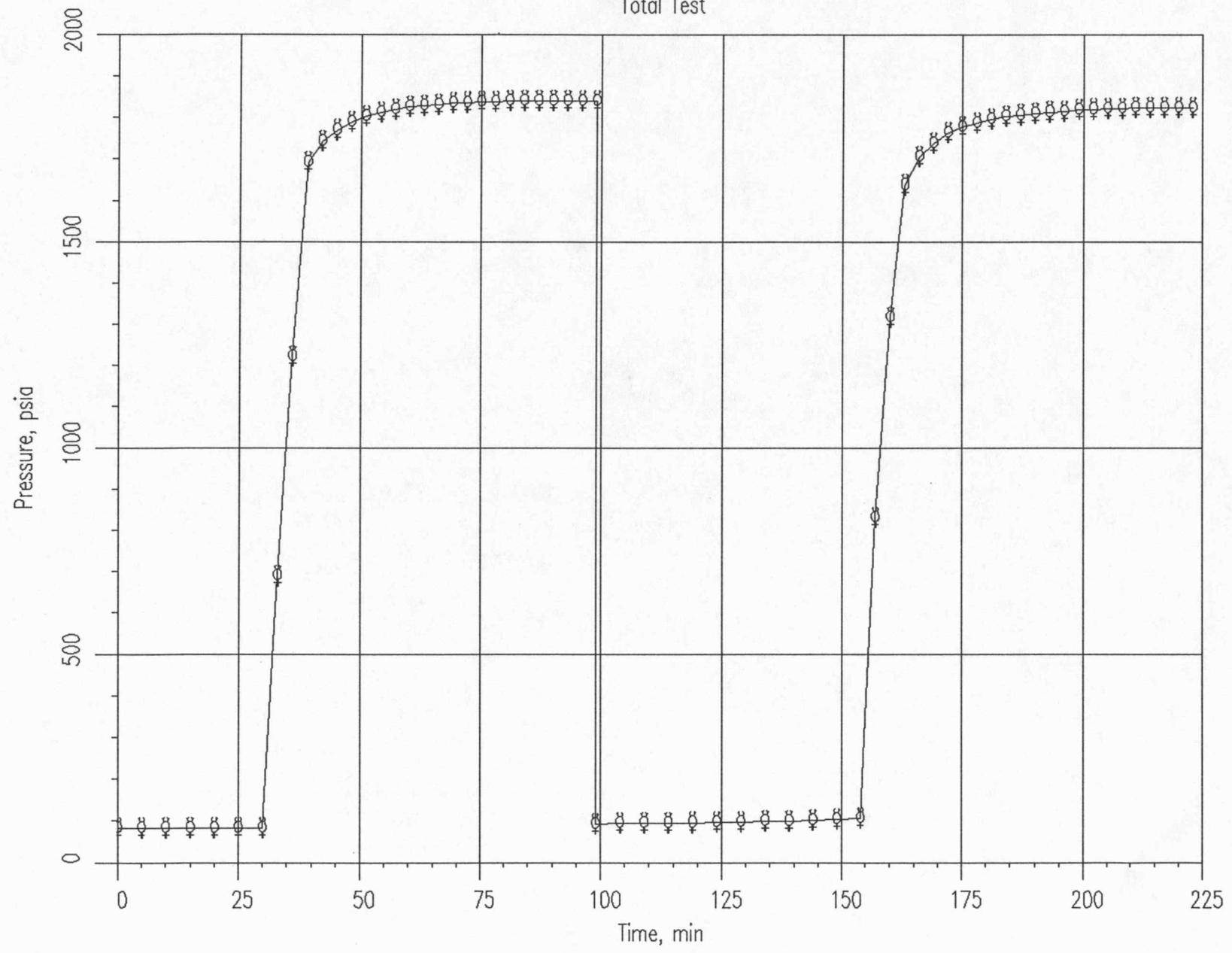
PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
45.00	1818.00	3.00	2.22
48.00	1820.00	2.00	2.15
51.00	1821.00	1.00	2.08
54.00	1822.00	1.00	2.02
57.00	1823.00	1.00	1.96
60.00	1824.00	1.00	1.92
63.00	1824.00	0.00	1.87
66.00	1824.00	0.00	1.83
69.00	1824.00	0.00	1.80

Profile Plot

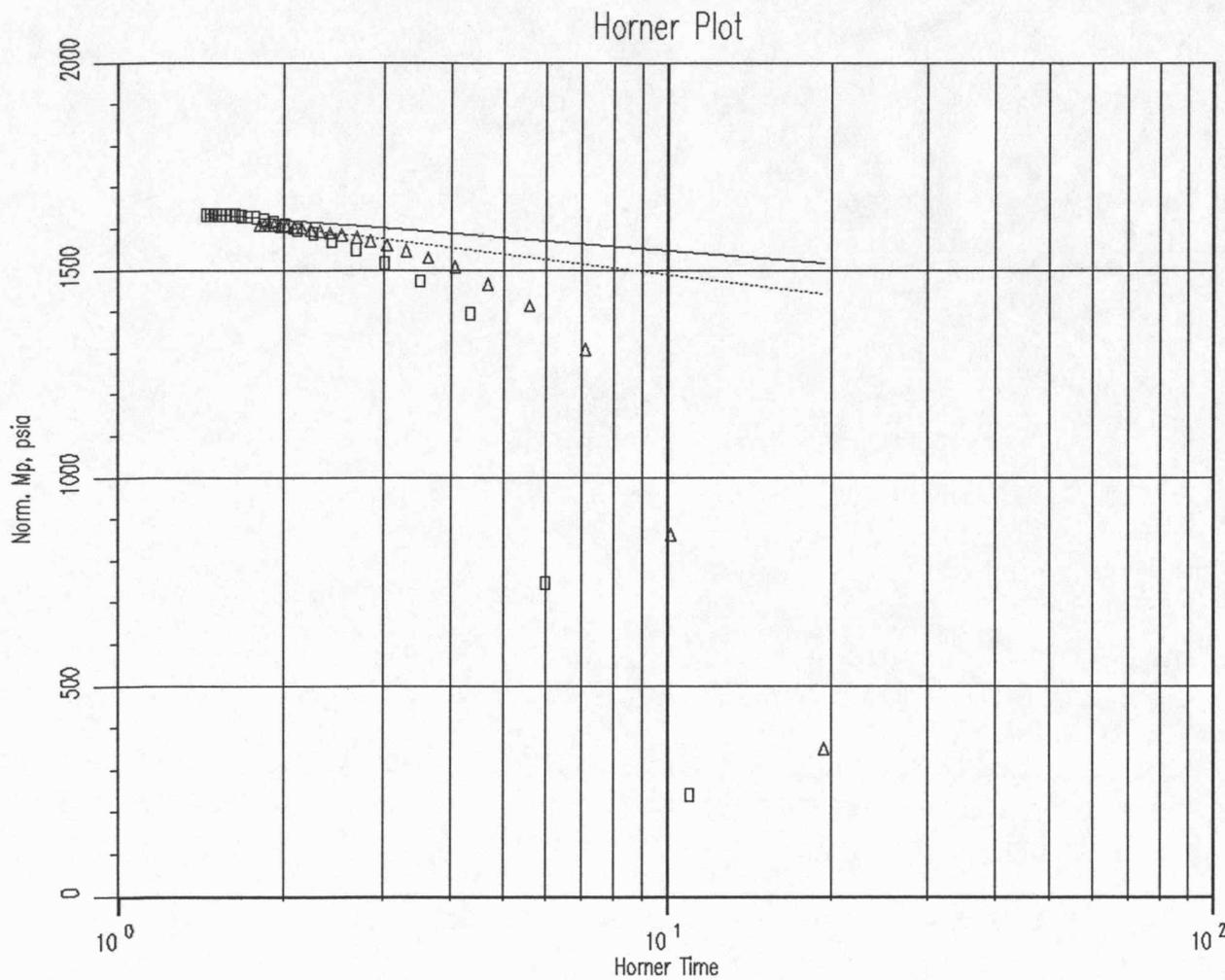
Total Test



DATE 12/12/93
 CUSTOMER W C PAYNE COMPANY
 WELL #1
 ELEVATION 1283 GL
 SECTION 23
 RANGE 9W
 GAUGE SN# 1051

TEST 1
 COUNTY HARPER
 RANGE 4250

TICKET 20046
 LEASE JUDY
 GEOLOGIST TOWERY
 FORMATION MISSISSIPPI
 TOWNSHIP 34S
 STATE KS
 CLOCK 12



Result

	#1	#2
tp, hrs	0.50	0.92
Slope	-106.14	-162.60
Pstar, psig	1850.13	1850.48
P1hr, psig	1633.70	1607.05
Skin	14.98	8.67
k, md	0.27	0.18
kh/u, md-ft/cp	982.14	641.11
ri, ft	8.00	8.75
DR, %	5.44	3.74
Drawdown Factor, %		0.008
Drawdown P*		-0.000

— BUILD 1
 BUILD 2

HORNER ANALYSIS REPORT

GENERAL INFORMATION

DATE : 12/12/93	TICKET : 20046	
CUSTOMER : W C PAYNE COMPANY	LEASE : JUDY	
WELL : #1	TEST: 1	GEOLOGIST: TOWERY
ELEVATION: 1283 GL		FORMATION: MISSISSIPPI
SECTION : 23		TOWNSHIP : 34S
RANGE : 9W	COUNTY: HARPER	STATE : KS
Gauge SN#: 1051	RANGE : 4250	CLOCK : 12

Input Data

Porosity 0.150 Rw: 0.328 ft h: 49.000 ft

qg 248000.0 STB

Pvt Data
 Evaluation Pressure : 1008.0
 Evaluation Temperature: 124.0

Gas Grav 0.65 API Vis 0.014 cp Ct 1.1021E-003 1/PSI
 Bg 0.003 RBL/STB

Horner Results

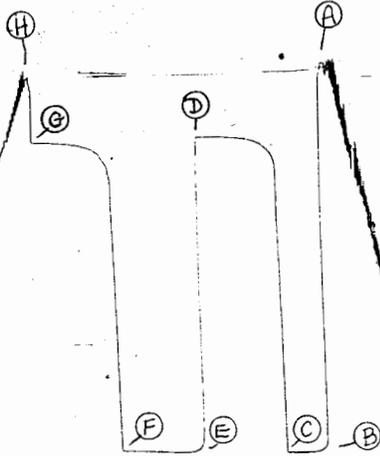
	Initial Shut-In	Final Shut-In
pseudo pressure time	0.50 hrs	0.92 hrs
slope	-106.14	-162.60
pstar	1850.13 psig	1850.48 psig
plhr	1633.70 psig	1607.05 psig
skin	14.98	8.67
permeability	0.27 md	0.18 md
transmissability	982.14 md-ft/cp	641.11 md-ft/cp
radius of investigation	8.00 ft	8.75 ft
Damage-Ratio	5.4 percent	3.7 percent
Drawdown Factor		0.008 percent
Drawdown P*		-0.000 percent

1057 DSY#1

☆

TK# 20046

I.



4332 DSY#1

TK# 20046

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