

Phone
(806) 637-3678

Harvill's Drill Stem Testing

P.O. Box 725
Brownfield, Texas 79316

Contractor Landis Drilling
Rig No. 1
Spot 610' FSL & 760' FWL
Sec. 23
Twp. 18 S
Rng. 32 E
Field Wildcat
County Lea
State New Mexico
Elevation 3780' KB

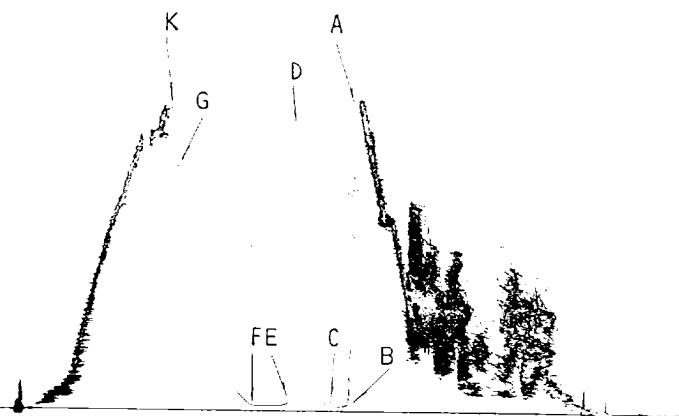
Surface Choke 1/8"
Bottom Choke 5/8"
Hole Size 7 7/8"
Rat Hole Size --
DP Size & Weight 4 1/2" XH 16.60
Wt. Pipe None
I.D. of DC 2 1/2"
Length of DC 700'
Total Depth 7157'
Type of Test Conventional

Mud Type Fresh Water
Weight 8.4
Viscosity 28
Water Loss --
Filter Cake --
Resistivity -- @ -- OF
5000 Ppm. NaCl
Bottom
Hole Temp. 130°F

Opened Tool @ 19:37 hrs.
Flow No. 1 (30) 28* min.
Shut-in No. 1 (60) 54* min.
Flow No. 2 (60) 62* min.
Shut-in No. 2 (120) 117* min.
Flow No. 3 None Taken min.
Shut-in No. 3 " " min.

Recorder Type Kuster AK-1
No. 13750 Cap. 7950 psi
Depth 7151 feet
Inside [] Outside [x]

Initial Hydrostatic	A	3126.2
Final Hydrostatic	<	3109.3
Initial Flow	B	69.2
Final Initial Flow	C	35.8
Initial Shut-in	D	2919.6
Second Initial Flow	E	102.8
Second Final Flow	F	50.3
Second Shut-in	G	2526.2
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	



Pipe Recovery:

80' Gas above fluid
80' Total fluid = 0.49 bbl.
20' Free oil = 0.12 bbl.
60' Drilling fluid = 0.37 bbl.

Top Sample: 5,000 ppm Cl.
Middle Sample: 37.0° API @ 60° F
Bottom Sample: 5,000 ppm Cl.

1st Flow: Tool opened with a few bubbles, died and remained through flow period.

2nd Flow: Tool opened with a weak blow, increased to 8" and remained through flow period.

Co. Rep. Charlie Pappas
Tester Eugene Harvill

Operator

Address
See Distribution
MARSHALL & WINSTON, INC.

Well Name & No.
Formation
Test Interval

Querecho Federal #1
Bone Spring
7132' - 7157'

DST No.
Ticket No.
Date

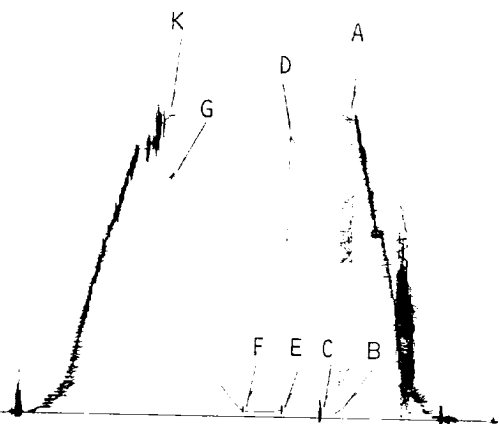
4
234
1/16/86

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

4
DST No.



Inside Recorder

PRD Make Kuster AK-1
No. 13751 Cap. 7875 @ 7112

Press		Corrected
Initial Hydrostatic	A	3094.3
Final Hydrostatic	K	3080.6
Initial Flow	B	48.4
Final Initial Flow	C	26.9
Initial Shut-in	D	2897.5
Second Initial Flow	E	91.2
Second Final Flow	F	41.3
Second Shut-in	G	2510.3
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	

PRD Make _____
No. _____ Cap. _____ @ _____

Press		Corrected
Initial Hydrostatic	A	
Final Hydrostatic	K	
Initial Flow	B	
Final Initial Flow	C	
Initial Shut-in	D	
Second Initial Flow	E	
Second Final Flow	F	
Second Shut-in	G	
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	

Harvill's Drill Stem Testing

Sampler Report

Company Marshall & Winston, Inc. Date 1/16/86
Well Name & No. Querecho Federal #1 Ticket No. 234
County Lea State New Mexico
Test Interval 7132' - 7157' DST No. 4

Total Volume of Sampler: 175 cc.

Total Volume of Sample: 1400 cc.

Pressure in Sampler: 2250 psig

Oil: 900 cc.

Water: None cc.

Mud: 500 cc.

Gas: 0.3 cu. ft.

Other: None

Sample: 5000 ppm Cl.

Resistivity

Make Up Water _____ @ _____ of Chloride Content _____ ppm.

Mud Pit Sample _____ @ _____ of Chloride Content 5000 ppm.

Gas/Oil Ratio 53/1 cu.ft./bbl. Gravity 37.0 °API @ 60 °F

Where was sample drained On Location

Remarks: _____

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

4
DST No.

RECORDER NO. 13750 DEPTH 7151 FT.

INITIAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	69.2
5	51.4
10	42.5
15	36.4
20	35.6
25	35.8
28	35.8

RECORDER NO. 13750 DEPTH 7151 FT.

FINAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	102.8
5	79.7
10	63.1
15	54.8
20	51.7
25	51.8
30	52.0
35	51.2
40	49.6
45	49.8
50	49.9
55	50.1
60	50.3
62	50.3

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

4
DST No.

RECORDER NO. 13750 DEPTH 7151 FT.

INITIAL SHUT-IN

INITIAL FLOW TIME: T = 28 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		35.8	0.0
1	1.462	38.8	3.0
2	1.176	40.5	4.6
3	1.014	43.6	7.8
4	.903	47.0	11.2
5	.820	53.2	17.3
6	.753	59.5	23.7
7	.699	65.5	29.6
8	.653	71.8	35.9
9	.614	80.9	45.0
10	.580	88.0	52.2
12	.523	131.4	95.6
14	.477	191.0	155.2
16	.439	277.0	241.2
18	.407	418.1	382.2
20	.380	634.0	598.2
22	.357	931.5	895.7
24	.336	1255.2	1219.4
26	.317	1641.5	1605.6
28	.301	1886.2	1850.4
30	.286	2111.7	2075.8
35	.255	2527.1	2491.2
40	.230	2716.2	2680.4
45	.210	2830.6	2794.7
50	.193	2899.5	2863.7
54	.181	2919.6	2883.7

EXTRAPOLATED PRESSURE: INDETERMINATE

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

4
DST No.

RECORDER NO. 13750 DEPTH 7151 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 90 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		50.3	0.0
1	1.959	55.5	5.2
2	1.663	58.5	8.2
3	1.491	63.4	13.1
4	1.371	67.6	17.3
5	1.279	73.2	22.8
6	1.204	77.3	27.0
7	1.142	84.3	33.9
8	1.088	90.4	40.1
9	1.041	96.2	45.8
10	1.000	102.7	52.4
12	.929	115.2	64.8
14	.871	126.5	76.1
16	.821	138.6	88.2
18	.778	154.2	103.9
20	.740	168.5	118.1
22	.707	183.9	133.6
24	.677	203.9	153.6
26	.649	226.4	176.1
28	.625	244.0	193.7
30	.602	259.7	209.3
40	.512	359.0	308.7
50	.447	482.8	432.5
60	.398	625.0	574.7
70	.359	866.8	816.5
80	.327	1236.1	1185.7
90	.301	1726.2	1675.8
100	.279	2156.9	2106.6
110	.260	2420.4	2370.0
117	.248	2526.2	2475.9

EXTRAPOLATED PRESSURE: INDETERMINATE

4800

HORNER PLOT

Marshall & Winston, Inc.
Querecho Federal #1, DST #4
Interval: 7132' - 7157'

Recorder No. 13750 @ 7151'

P_{*1} = Indeterminate

3200

2400

1600

800

PRESSURE (PSI)

-800

100.0

$C(T+DT)/DT$

10.0

INITIAL SHUT-IN

1.4

4800

HORNER PLOT

Marshall & Winston, Inc.
Querecho Federal #1
Interval: 7132' - 7157'

Recorder No. 13750 @ 7151'

P^*_f = Indeterminate

3200

2400

1600

800

PRESSURE (PSI)

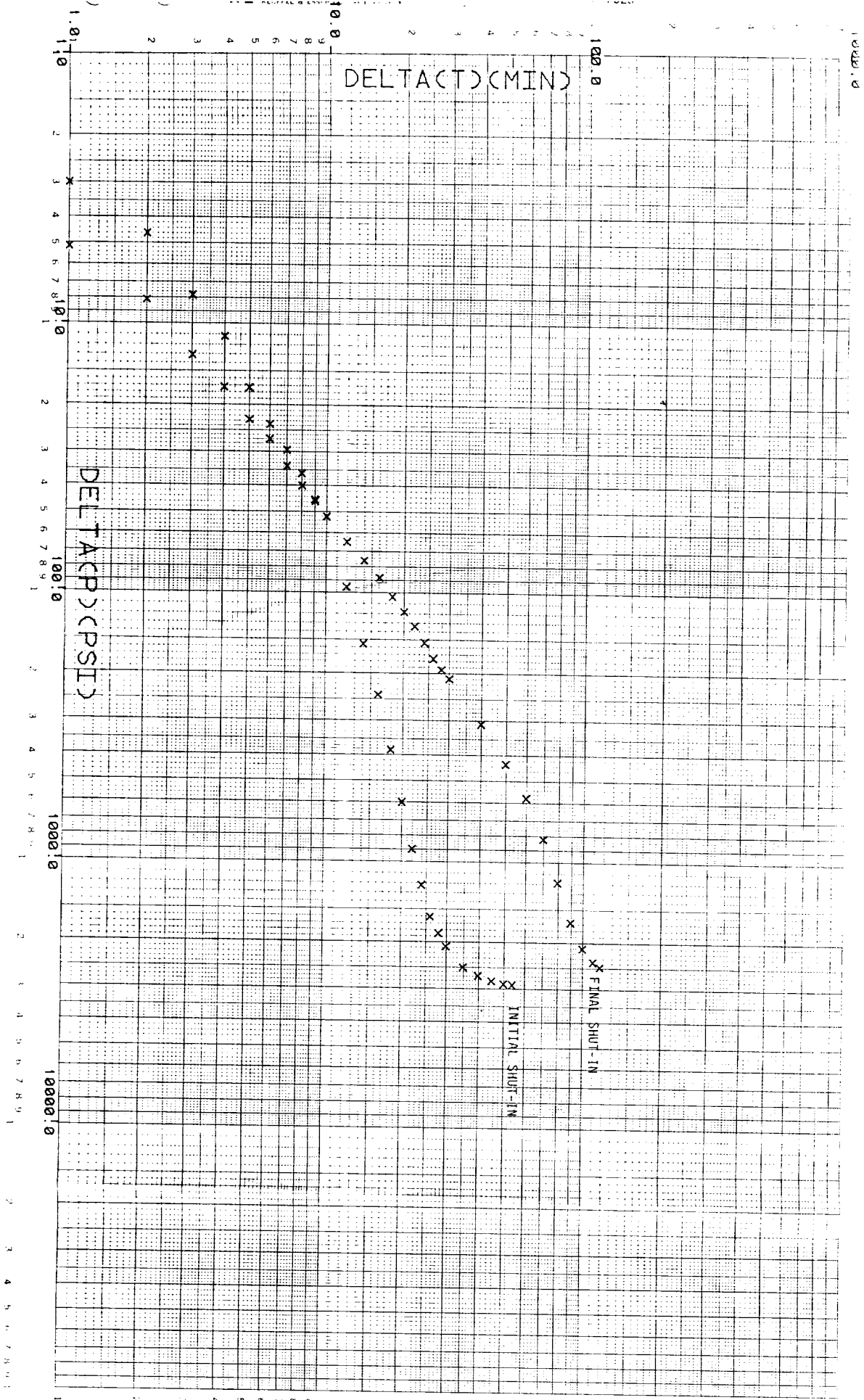
100.0

$(C(T+DT)/DT)$

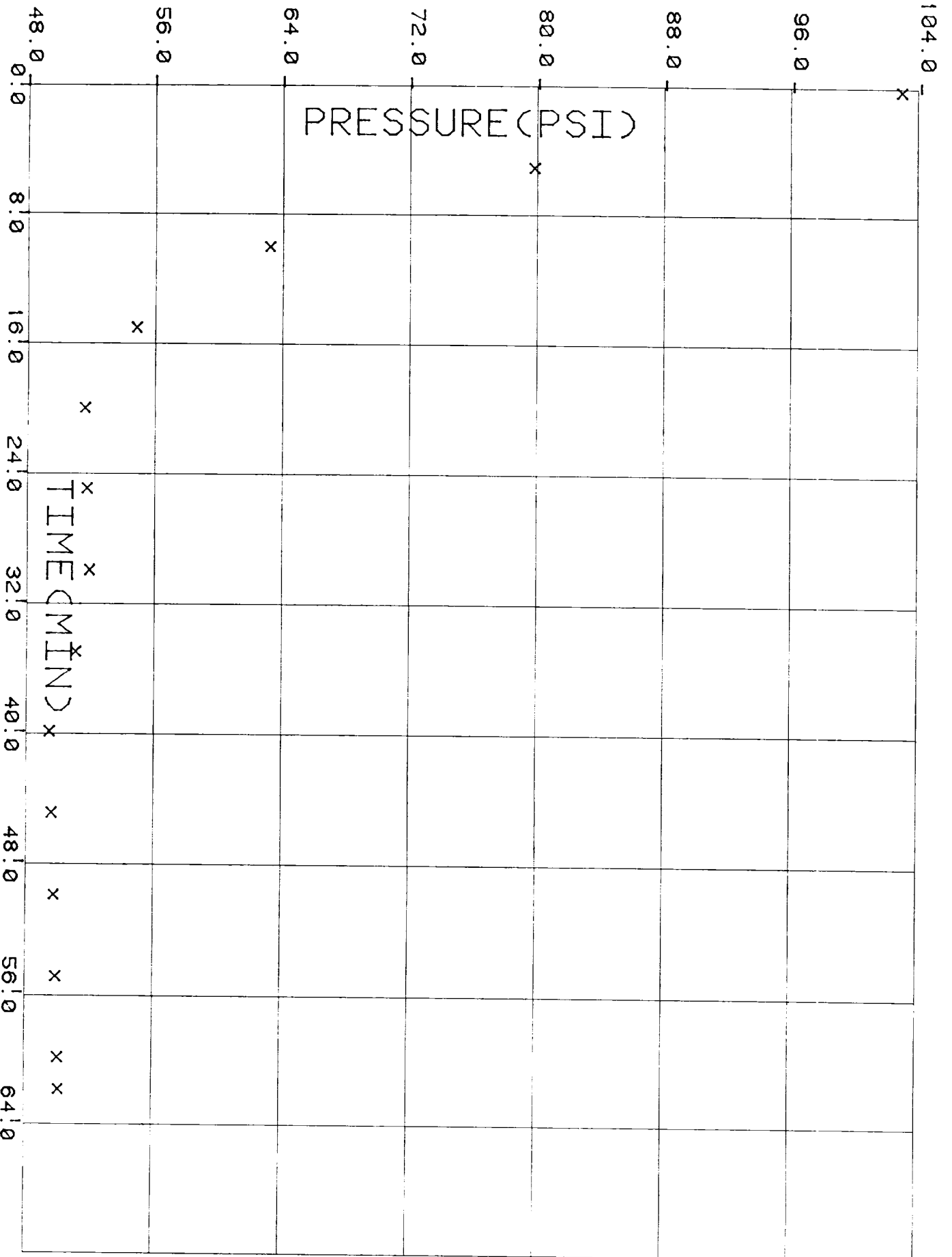
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FINAL SHUT-IN

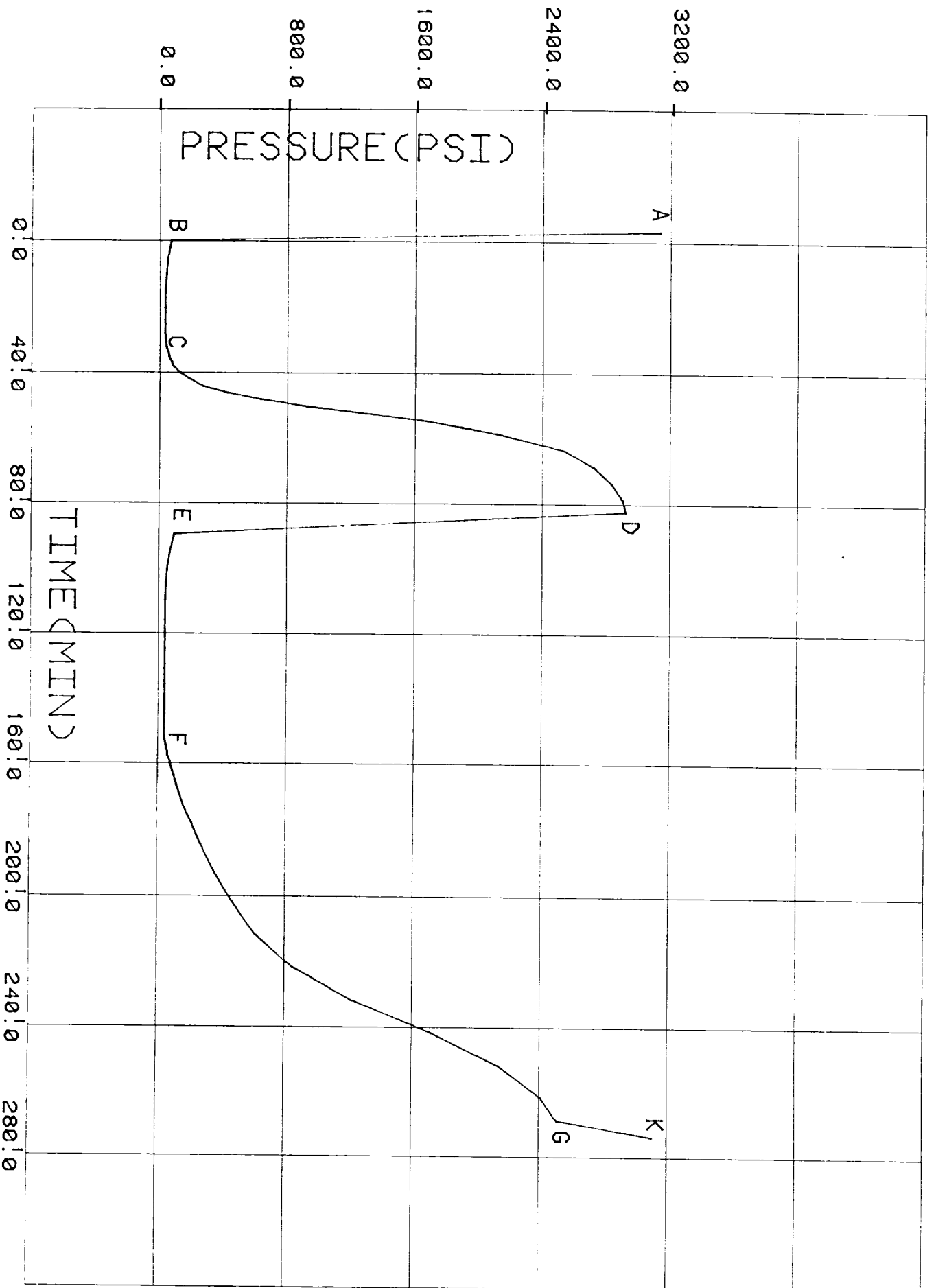
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SECOND FLOW



GAUGE NO. 13750 @ 7151 FT.



Harvill's Drill Stem Testing

Marshall & Winston, Inc.

Operator

Querecho Federal #1

Well Name and No.

MARSHALL & WINSTON INC. 3
310 W. - #10 DESTA DR.
MIDLAND TX 79705

MAR-WIN DEVELOPMENT 1
P.O. BOX 4482
TOPEKA KS 66604

MEWBORNE OIL CO. 1
ATTN MR. PAUL HADEN
400 W. ILLINOIS SUITE 1270
MIDLAND TX 79701

TXO PRODUCTION CO. 1
ATTN MR. ANDY OHARE
900 WILCO BLDG.
MIDLAND TX 79701

NEW MEXICO OIL CONSERVATION COMM. 1
P.O. BOX 1980
HOBBS NM 88240

BUREAU OF LAND MANAGEMENT 1
P.O. BOX 1778
CARLSBAD NM 88220