

Harvill's Drill Stem Testing

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

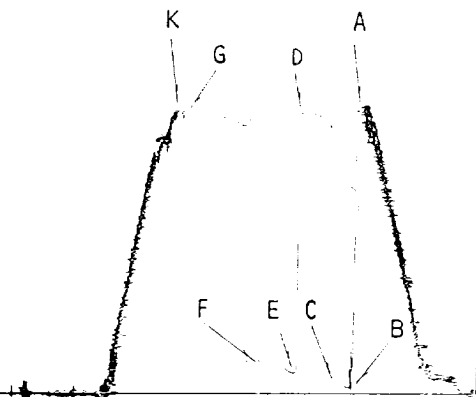
Surface Choke 1/8"
Bottom Choke 5/8"
Hole Size 7 7/8"
Rat Hole Size --
DP Size & Weight 4 1/2" XH 16.60
Wt. Pipe None
I.D. of DC 2 1/2"
Length of DC 700'
Total Depth 6648'
Type of Test Conventional

Mud Type Fresh Water
Weight 8.4
Viscosity 28
Water Loss --
Filter Cake --
Resistivity -- @ -- OF
9000 Ppm. NaCl
Bottom Hole Temp. 120°F

Opened Tool @ 04:57 hrs.
Flow No. 1 (25) 24* min.
Shut-in No. 1 (60) 55* min.
Flow No. 2 (60) 60* min.
Shut-in No. 2 (120) 119* min.
Flow No. 3 None Taken min.
Shut-in No. 3 " " min.
*Computed

Recorder Type Kuster AK-1
No. 13750 Cap. 7950 psi
Depth 6642 feet
Inside [] Outside [X]

Initial Hydrostatic	A	2893.6
Final Hydrostatic	K	2896.1
Initial Flow	B	69.9
Final Initial Flow	C	137.9
Initial Shut-in	D	2880.3
Second Initial Flow	E	219.4
Second Final Flow	F	332.6
Second Shut-in	G	2875.0
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in		



Pipe Recovery: 730' Drilling mud = 4.70 bbl.

Co. Rep. Charlie Pappas
Tester Eugene Harvill

Top Sample: 9000 ppm Cl.
Bottom Sample: 9000 ppm Cl.

1st Flow: Tool opened with a 3" blow and remained through flow period.
2nd Flow: Tool opened with a weak blow, increased to 4" and remained through flow period.

Remarks: The character of pressure charts indicates communications occurring during the test. This condition places a question on the reliability of the recorded reservoir pressures.

Operator **MARSHALL & WINSTON, INC.**
Address **See Distribution**
Well Name & No. **Querecho Federal #1**
Formation **Lower Delaware**
Test Interval **6608' - 6648'**
DST No. **3**
Ticket No. **230**
Date **1/14/86**

Harvill's Drill Stem Testing

Marshall & Winston, Inc.

Operator

Querecho Federal #1

Well Name and No.

3

DST No.

Inside Recorder

Kuster AK-1

PRD Make

No. 13751

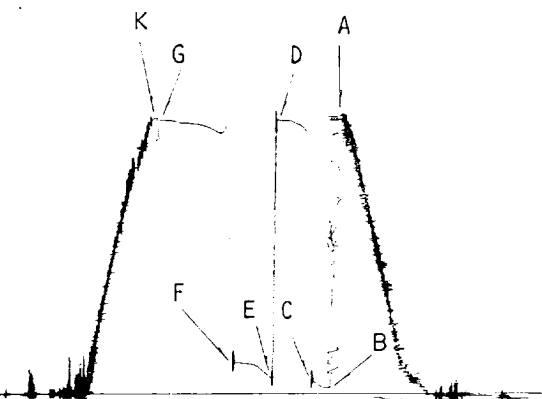
Cap. 7875

@ 6588'

Press

Corrected

Initial Hydrostatic	A	2823.3
Final Hydrostatic	K	2826.9
Initial Flow	B	79.3
Final Initial Flow	C	139.6
Initial Shut-in	D	2813.9
Second Initial Flow	E	171.7
Second Final Flow	F	330.2
Second Shut-in	G	2807.6
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 1/14/86
Well Name & No. Querecho Federal #1 Ticket No. 230
County Lea State New Mexico
Test Interval 6608' - 6648' DST No. 3

Total Volume of Sampler: 300 cc.
Total Volume of Sample: 2250 cc.
Pressure in Sampler: 1500 psig
Oil: 100 cc.
Water: None cc.
Mud: 1400 cc.
Gas: 0.2 cu. ft.
Other: None

Sample: 9,000 ppm Cl.

Resistivity

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

Mud Pit Sample _____ @ _____ of Chloride Content 9000 ppm.

Gas/Oil Ratio _____ Gravity _____ °API @ _____ °F

Where was sample drained On Location

Remarks: _____

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

3
DST No.

RECORDER NO. 13750 DEPTH 6642 FT.

INITIAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	69.9
5	70.1
10	80.0
15	100.6
20	122.5
24	137.9

RECORDER NO. 13750 DEPTH 6642 FT.

FINAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	219.4
5	212.5
10	222.8
15	244.0
20	269.7
25	299.3
30	313.3
35	319.9
40	325.1
45	327.7
50	330.9
55	331.2
60	332.6

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

3
DST No.

RECORDER NO. 13750 DEPTH 6642 FT.

INITIAL SHUT-IN

INITIAL FLOW TIME: T = 24 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		137.9	0.0
1	1.398	2627.8	2489.9
2	1.114	2670.6	2532.7
3	.954	2705.7	2567.8
4	.845	2729.6	2591.7
5	.763	2748.3	2610.4
6	.699	2764.1	2626.2
7	.646	2778.3	2640.4
8	.602	2787.3	2649.4
9	.564	2796.5	2658.6
10	.531	2804.9	2667.0
12	.477	2816.7	2678.8
14	.434	2825.4	2687.5
16	.398	2833.2	2695.3
18	.368	2841.5	2703.6
20	.342	2848.3	2710.5
22	.320	2851.4	2713.5
24	.301	2854.5	2716.6
26	.284	2859.8	2721.9
28	.269	2866.1	2728.2
30	.255	2871.3	2733.4
35	.227	2876.4	2738.5
40	.204	2879.4	2741.5
45	.186	2879.9	2742.0
50	.170	2880.1	2742.2
55	.157	2880.3	2742.5

EXTRAPOLATED PRESSURE: INDETERMINATE

Harvill's Drill Stem Testing

Marshall & Winston, Inc.

Operator

Querecho Federal #1

Well Name and No.

3

DST No.

RECORDER NO. 13750 DEPTH 6642 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 84 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		332.6	0.0
1	1.929	394.6	62.0
2	1.633	472.1	139.6
3	1.462	552.9	220.3
4	1.342	725.3	392.7
5	1.250	927.6	595.0
6	1.176	1201.0	868.4
7	1.114	1472.2	1139.6
8	1.061	1717.4	1384.8
9	1.014	1922.2	1589.6
10	.973	2119.0	1786.5
12	.903	2287.4	1954.8
14	.845	2778.4	2445.8
16	.796	2755.2	2422.6
18	.753	2747.3	2414.8
20	.716	2743.1	2410.5
22	.683	2742.4	2409.8
24	.653	2748.0	2415.5
26	.626	2755.9	2423.3
28	.602	2765.0	2432.4
30	.580	2772.8	2440.2
40	.491	2807.9	2475.4
50	.428	2827.7	2495.2
60	.380	2836.8	2504.2
70	.342	2844.5	2511.9
80	.312	2846.4	2513.8
90	.286	2854.8	2522.3
100	.265	2868.3	2535.7
110	.246	2872.8	2540.2
119	.232	2875.0	2542.4

EXTRAPOLATED PRESSURE: INDETERMINATE

2950

HORNER PLOT

Marshall & Winston, Inc.
Querecho Federal #1, DST #3
Interval: 6608' - 6648'

Recorder No. 13750 @ 6642'

P^*_i = Indeterminate

INITIAL SHUT-IN

PRESSURE (PSI)

$(CT + DT) / DT$

2850

2800

2750

2700

2650

2600

100.0

10.0

1.0

3200

HORNER PLOT

Marshall & Winston, Inc.
Querecho Federal #1, DST #3
Interval: 6608' - 6648'
Recorder No. 13750 @ 6642'
 P^*_f = Indeterminate

FINAL SHUT-IN

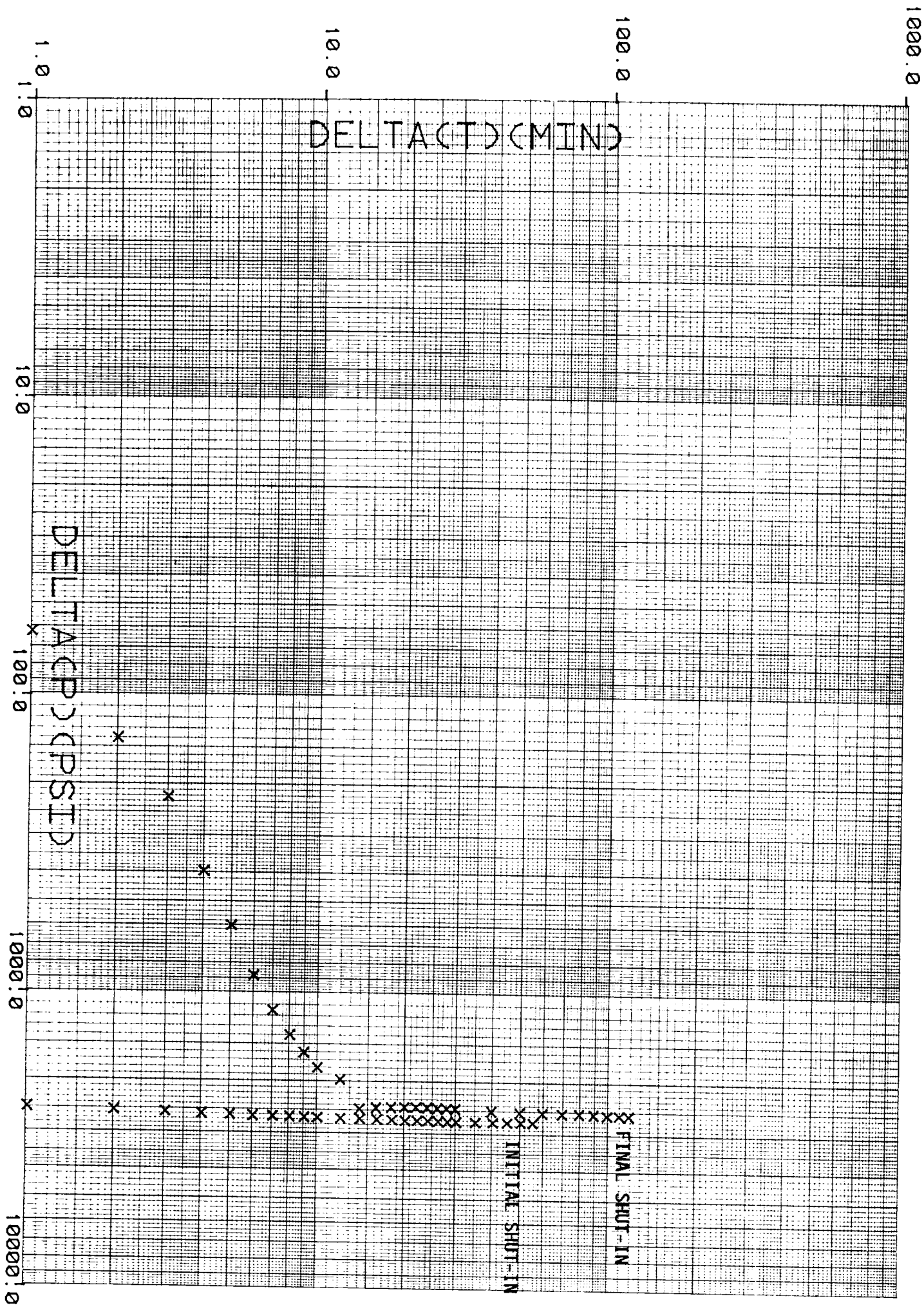
PRESSURE (PSI)

$(CT + DTD) / DTD$

2400
2000
1600
1200
800
400
100.0

10.0

1.0



3000.0

GAUGE NO. 13750 @ 6642 FT.

2500.0

2000.0

1500.0

1000.0

500.0

.0

PRESSURE (PSI)

A

D

X

G K

B

C

E

F

TIME (MIN)

X - POSSIBLE COMMUNICATIONS

0:0

40:0

80:0

120:0

160:0

200:0

240:0

280:0

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