

Phone
(806) 637-3678

Harvill's Drill Stem Testing

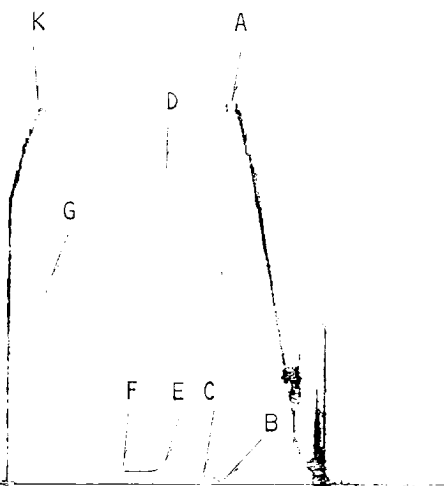
P.O. Box 725
Brownfield, Texas 79316

Contractor	Landis Drilling	Surface Choke	1/8"	Mud Type	FW/Gel Drispac
Pipe	1	Bottom Choke	5/8"	Weight	8.6
Shot	610' FSL & 760' FWL	Hole Size	7 7/8"	Viscosity	39
Size	23	Rat Hole Size	--	Water Loss	10.5
Tool	18 S	DP Size & Weight	4 1/2" XH 16.60	Filter Cake	2/32
End	32 E	Wt. Pipe	None	Resistivity	-- @ -- OF
Field	Wildcat	I.D. of DC	2 1/2"		9000 Ppm. NaCl
County	Lea	Length of DC	601'		
State	New Mexico	Total Depth	8530'	Bottom	
Elevation	3780' KB	Type of Test	Straddle	Hole Temp.	140

Opened Tool @ 16:23 hrs.
Flow No. 1 (30) 29* min.
Shut-in No. 1 (60) 54* min.
Flow No. 2 (60) 62* min.
Shut-in No. 2 (120) 118* min.
Flow No. 3 None Taken min.
Shut-in No. 3 " " min.
*Computed

Recorder Type Kuster AK-1
No. 13750 Cap. 7950 psi
Depth 8387 feet
Inside [x] Outside []

Initial Hydrostatic	A	3851.8
Final Hydrostatic	K	3831.0
Initial Flow	B	33.9
Final Initial Flow	C	90.3
Initial Shut-in	D	3205.5
Second Initial Flow	E	179.4
Second Final Flow	F	143.3
Second Shut-in	G	1983.5
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	



Pack Recovery:

925' Drilling fluid with
a trace of gas & oil = 8.27 bbl.

Co. Rep. Charlie Pappas
Tester Eugene Harvill

1st Flow: Tool opened with a weak blow, decreased at end of flow period.

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

Remarks: The chart from the gauge run below the straddle indicates the possibility of slight pressure communications around the bottom packer seats.

Operator
MARSHALL & WINSTON, INC.

Address
See Distribution

Well Name & No.
Formation
Test Interval
Bone Spring
8398' - 8413'

DST No.
Ticket No.
Date
5
235
1/21/86

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

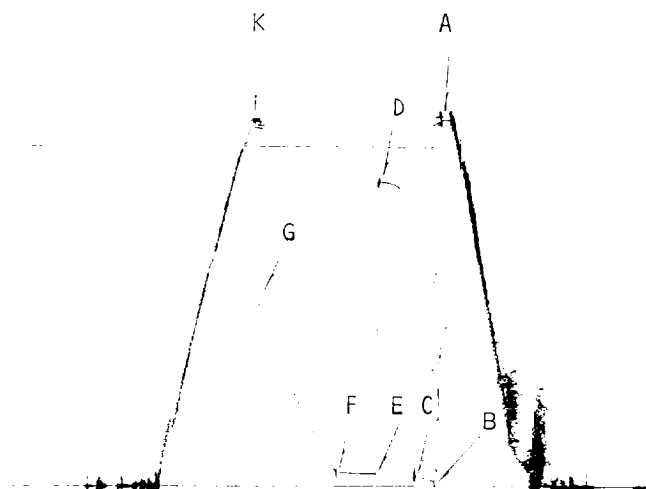
Querecho Federal #1
Well Name and No.

5
DST No.

Inside Recorder

PRD Make Kuster AK-1
No. 13751 Cap. 7875 @ 8407'

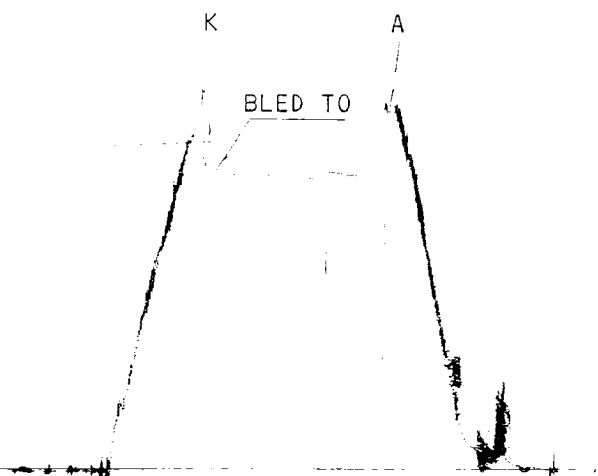
Press		Corrected
Initial Hydrostatic	A	3776.6
Final Hydrostatic	K	3747.9
Initial Flow	B	37.2
Final Initial Flow	C	93.8
Initial Shut-in	D	3130.3
Second Initial Flow	E	125.1
Second Final Flow	F	120.1
Second Shut-in	G	1945.3
Third Initial Flow	H	
Third Final Flow	I	
Third Shut-in	J	



Outside Recorder

PRD Make Kuster AK-1
No. 13545 Cap. 8100 @ 8524'

Press		Corrected
Initial Hydrostatic	A	3861.0
Final Hydrostatic	K	3831.8
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	



Pressure Below Bottom
Packer Bled To 3196.5

Harvill's Drill Stem Testing

Sampler Report

Company Marshall & Winston, Inc. Date 1/21/86
Well Name & No. Querecho Federal #1 Ticket No. 235
County Lea State New Mexico
Test Interval 8398' - 8413' DST No. 5

Total Volume of Sampler: 275 cc.

Total Volume of Sample: 2250 cc.

Pressure in Sampler: 1700 psig

Oil: 300 cc.

Water: None cc.

Mud: 1400 cc.

Gas: 0.3 cu. ft.

Other: None

Sample: 9000 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.

5
DST No.

RECORDER NO. 13750 DEPTH 8387 FT.

INITIAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	33.9
5	63.2
10	78.6
15	84.9
20	86.9
25	89.0
29	90.3

RECORDER NO. 13750 DEPTH 8387 FT.

FINAL FLOW

<u>DT(MIN)</u>	<u>PRESSURE(P SIG)</u>
0	179.4
5	164.5
10	154.2
15	145.8
20	142.8
25	142.5
30	142.6
35	142.7
40	142.8
45	142.9
50	143.0
55	143.2
60	143.3
62	143.3

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

5
DST No.

RECORDER NO. 13750 DEPTH 8387 FT.

INITIAL SHUT-IN

INITIAL FLOW TIME: T = 29 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		90.3	0.0
1	1.477	195.5	105.3
2	1.190	307.5	217.2
3	1.028	701.4	611.1
4	.916	1188.8	1098.5
5	.833	1290.0	1199.7
6	.766	1406.2	1315.9
7	.711	1491.3	1401.0
8	.665	1530.2	1440.0
9	.626	1585.6	1495.3
10	.591	1643.6	1553.3
12	.534	1757.2	1666.9
14	.487	2032.3	1942.0
16	.449	2124.8	2034.5
18	.417	2212.1	2121.8
20	.389	2333.0	2242.7
22	.365	3140.0	3049.7
24	.344	3154.7	3064.4
26	.325	3168.1	3077.8
28	.309	3175.9	3085.6
30	.294	3181.1	3090.8
35	.262	3190.4	3100.1
40	.237	3198.2	3107.9
45	.216	3201.3	3111.0
50	.199	3204.2	3113.9
54	.187	3205.5	3115.2

EXTRAPOLATED PRESSURE: INDETERMINATE

Harvill's Drill Stem Testing

Marshall & Winston, Inc.
Operator

Querecho Federal #1
Well Name and No.

5
DST No.

RECORDER NO. 13750 DEPTH 8387 FT.

FINAL SHUT-IN

TOTAL FLOW TIME: T = 91 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)	DP(P SIG)
0		143.3	0.0
1	1.964	151.0	7.7
2	1.667	155.4	12.1
3	1.496	162.7	19.4
4	1.376	169.2	25.9
5	1.283	179.3	36.0
6	1.209	188.0	44.7
7	1.146	201.6	58.3
8	1.093	219.7	76.5
9	1.046	234.0	90.7
10	1.004	248.4	105.1
12	.934	277.2	133.9
14	.875	307.4	164.1
16	.825	333.1	189.8
18	.782	351.9	208.6
20	.744	376.9	233.7
22	.711	399.5	256.2
24	.680	419.2	275.9
26	.653	442.2	298.9
28	.628	464.3	321.0
30	.606	487.0	343.7
40	.515	601.9	458.6
50	.450	732.7	589.4
60	.401	867.9	724.6
70	.362	1010.3	867.0
80	.330	1175.0	1031.7
90	.303	1355.2	1211.9
100	.281	1532.3	1389.0
110	.262	1751.3	1608.0
118	.248	1983.5	1840.2

EXTRAPOLATED PRESSURE: INDETERMINATE

3500

HORNER PLOT

3000

Marshall & Winston, Inc.
Querecho Federal #1, DST #5
Interval: 8398' - 8413'

Recorder No. 13750 @ 8387'

P^*_i = Indeterminate

P^*_f = Indeterminate

2500

2000

1500

1000

500

0
100.0

PRESSURE (PSI)

INITIAL SHUT-IN
.....

FINAL SHUT-IN

$(CT + DTD) / DTD$

10.0

1.0

1000.0

100.0

10.0

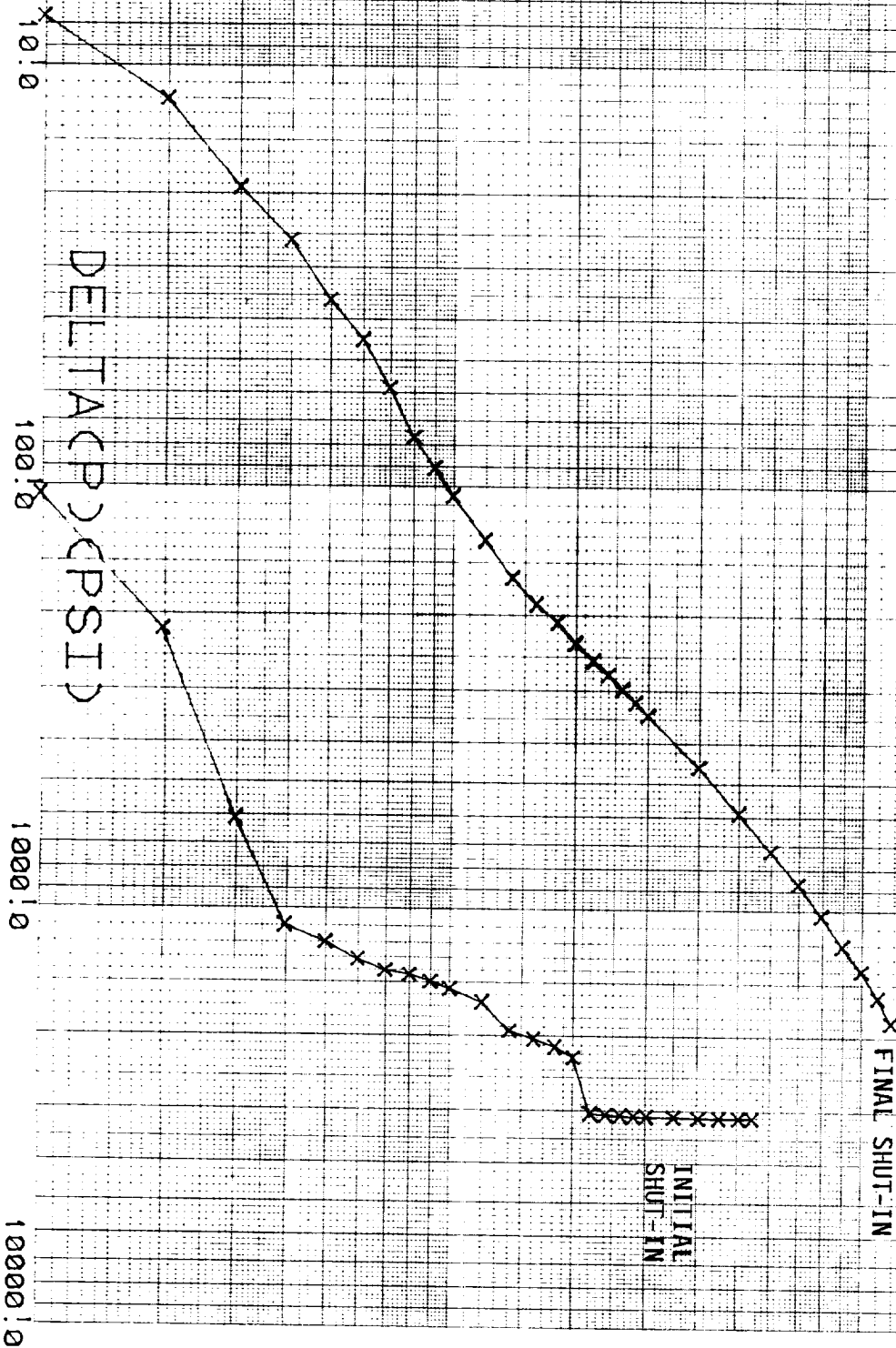
1.0

DELTA(T)(MIN)

DELTA(P)(PSI)

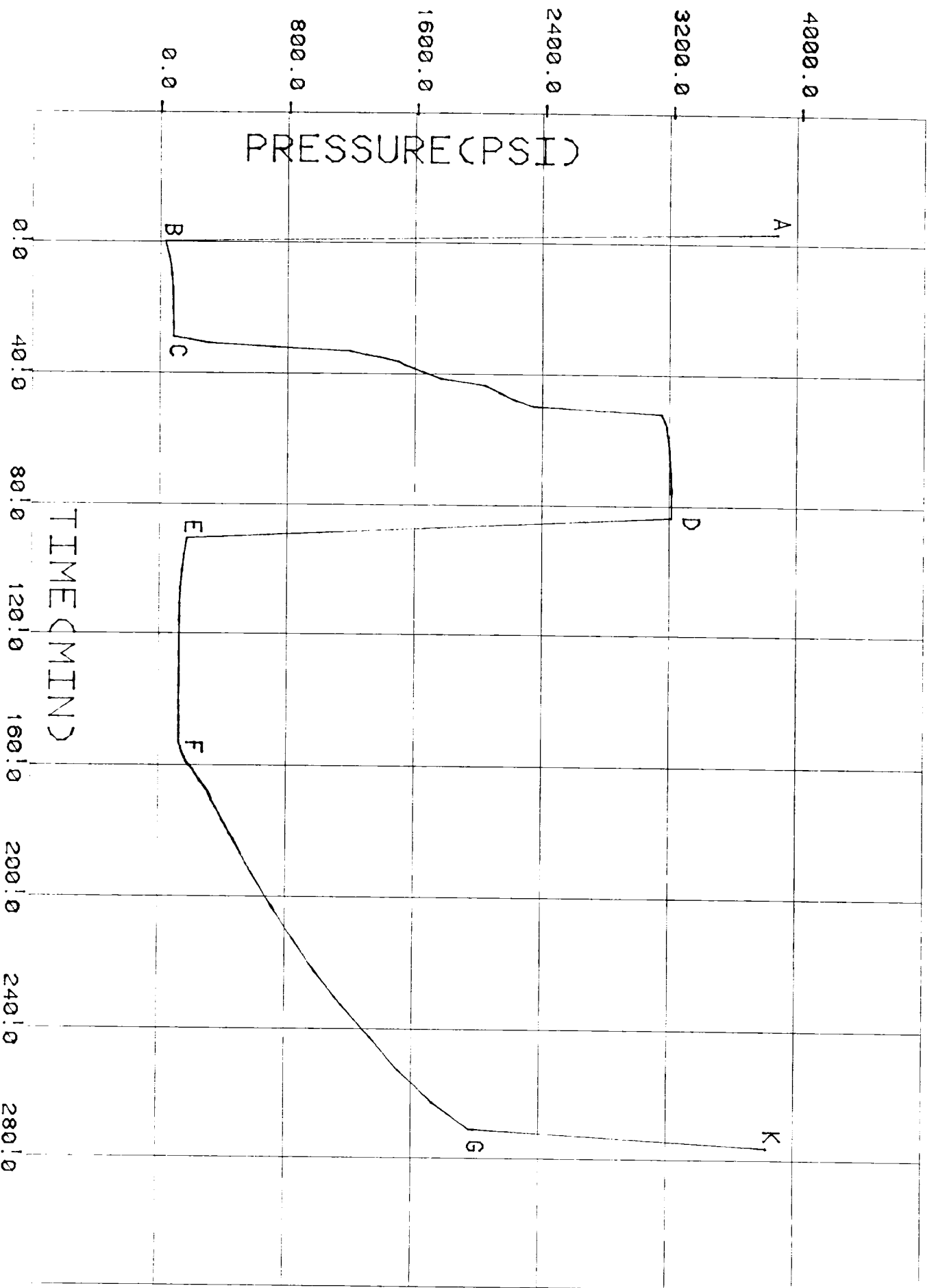
FINAL SHUT-IN

INITIAL
SHUT-IN



10000.0

GAUGE NO. 13750 @ 8387 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