

Company Wells Energy Lease & Well No. Graves #1
 Elevation 2277 Ground Level Formation -- Effective Pay -- Ft. Ticket No. 3353
 Date 8/2/79 Sec. 9 Twp. 29S Range 18W County Kiowa State Kansas
 Test Approved by James F. Dirks Western Representative Dave Sloan

Formation Test No. 1 Interval Tested from 4952 ft. to 4995 ft. Total Depth 4995 ft.
 Packer Depth 4947 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 4952 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set --

Top Recorder Depth (Inside) 4987 ft. Recorder Number 6246 Cap. 5200
 Bottom Recorder Depth (Outside) 4990 ft. Recorder Number 5673 Cap. 5400
 Below Straddle Recorder Depth - ft. Recorder Number - Cap. -

Drilling Contractor H-30 Rig #3 Drill Collar Length 247 I. D. 2.2 in.
 Mud Type Mon-Pac Viscosity 58 Weight Pipe Length - I. D. - in.
 Weight 9.3 Water Loss 10.4 cc. Drill Pipe Length 4677 I. D. 3.8 in.
 Chlorides 21,000 P.P.M. Test Tool Length 28 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 410 Anchor Length 43 ft. Size 5 1/2 OD in.
 Did Well Flow? No Reversed Out - 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 XH in.

Blow: Weak blow; dying at end of initial flow period.

Recovered 65 ft. of drilling mud
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____
 Recovered _____ ft. of _____

Remarks: _____

Time Set Packer(s) 12:00 ~~P.M.~~ ^{A.M.} Time Started Off Bottom 3:00 ~~P.M.~~ ^{A.M.} Maximum Temperature 125
 Initial Hydrostatic Pressure (A) 2540 P.S.I.
 Initial Flow Period Minutes 30 (B) 52 P.S.I. to (C) 52 P.S.I.
 Initial Closed In Period Minutes 60 (D) 92 P.S.I.
 Final Flow Period Minutes 30 (E) 65 P.S.I. to (F) 60 P.S.I.
 Final Closed In Period Minutes 60 (G) 79 P.S.I.
 Final Hydrostatic Pressure (H) 2491 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 8/2/79 Test Ticket No. 3353
 Recorder No. 6246 Capacity 5200 Location 4987 Ft.
 Clock No. -- Elevation 2277 Ground Level Well Temperature 125 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2540	P.S.I.	12:00A	M
B First Initial Flow Pressure	52	P.S.I.	30	30 Mins.
C First Final Flow Pressure	52	P.S.I.	60	60 Mins.
D Initial Closed-in Pressure	92	P.S.I.	30	30 Mins.
E Second Initial Flow Pressure	65	P.S.I.	60	60 Mins.
F Second Final Flow Pressure	60	P.S.I.		
G Final Closed-in Pressure	79	P.S.I.		
H Final Hydrostatic Mud	2491	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 6 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 20 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure
 Breakdown: 6 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Final Shut-In
 Breakdown: 20 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	0	0	52	0	52	0	60
P 2	5	3	52	3	55	3	63
P 3	10	6	52	6	58	6	68
P 4	15	9	52	9	59	9	69
P 5	20	12	52	12	65	12	71
P 6	25	15	52	15	68	15	71
P 7	30	18	52	18	70	18	73
P 8		21		21	72	21	73
P 9		24		24	74	24	73
P10		27		27	75	27	73
P11		30		30	76	30	73
P12		33		33	77	33	73
P13		36		36	78	36	73
P14		39		39	79	39	73
P15		42		42	80	42	73
P16		45		45	81	45	73
P17		48		48	83	48	73
P18		51		51	85	51	73
P19		54		54	87	54	75
P20		57		57	90	57	77
		60		60	92	60	79

6246

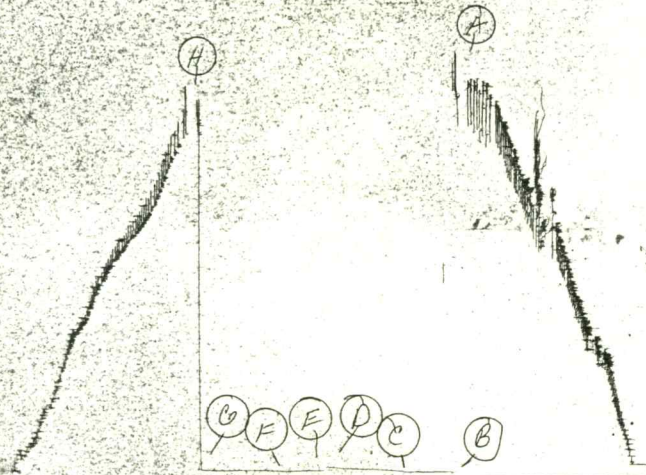
TRK # 2353

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Wells Energies

Graves #1

DST #1



Company Wells Energy Company Lease & Well No. Graves #1
 Elevation 2277 Ground Level Formation Marmington Effective Pay -- Ft. Ticket No. 3354
 Date 8/4/79 Sec. 9 Twp. 29S Range 18W County Kiowa State Kansas
 Test Approved by R. J. Flaker Western Representative Dave Sloan

Formation Test No. 2 Interval Tested from 4759 ft. to 4844 ft. Total Depth 5033 ft.
 Packer Depth 4759 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Packer Depth 4844 ft. Size 6 3/4 in. Packer Depth - ft. Size - in.
 Depth of Selective Zone Set --

Top Recorder Depth (Inside) 4833 ft. Recorder Number 6246 Cap. 5200
 Bottom Recorder Depth (Outside) 4836 ft. Recorder Number 5673 Cap. 5400
 Below Straddle Recorder Depth 5030 ft. Recorder Number 3660 Cap. 4000

Drilling Contractor H-30 Rig #3 Drill Collar Length 310 I. D. 2.2 in.
 Mud Type Mon-Pac Viscosity 57 Weight Pipe Length - I. D. - in.
 Weight 9.4 Water Loss 13.6 cc. Drill Pipe Length 4425 I. D. 3.8 in.
 Chlorides 25,000 P.P.M. Test Tool Length 24 ft. Tool Size 5 1/2 OD in.
 Jars: Make WTC Serial Number 410 Anchor Length 85 ft. Size 5 1/2 OD in.
 Did Well Flow? No Reversed Out Yes 189' tail pipe
 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 XH in.

Blow: Strong blow during initial flow period. Blow decreasing last fifteen minutes of final flow period.

Recovered 3123 ft. of slightly mud cut water Chlorides Top sample: 60,000 ppm
 Recovered - ft. of - Middle sample: 130,000 ppm
 Recovered - ft. of - Bottom sample: 130,000 ppm
 Recovered - ft. of -
 Recovered - ft. of -

Remarks: TOP RECORDER CLOCK STOPPED : PRESSURES OFF OF BOTTOM RECORDER.
Resistivity reading - temperature 86⁰, Reading 20,000 chlorides ppm; .06 OHM Meters

Time Set Packer(s) 6:45 A.M. Time Started Off Bottom 10:30 A.M. Maximum Temperature 120
=P.M. =P.M.
 Initial Hydrostatic Pressure (A) 2392 P.S.I.
 Initial Flow Period Minutes 30 (B) 490 P.S.I. to (C) 1303 P.S.I.
 Initial Closed In Period Minutes 60 (D) 1600 P.S.I.
 Final Flow Period Minutes 45 (E) 1373 P.S.I. to (F) 1586 P.S.I.
 Final Closed In Period Minutes 90 (G) 1610 P.S.I.
 Final Hydrostatic Pressure (H) 2381 P.S.I.

WESTERN TESTING CO., INC.

Pressure Data

Date 8/4/79 Test Ticket No. 3354
 Recorder No. 5673 Capacity 5400 Location 4836 Ft.
 Clock No. -- Elevation 2277 Ground Level Well Temperature 120 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	2392	P.S.I.	6:45A	M
B First Initial Flow Pressure	490	P.S.I.	30	30 Mins.
C First Final Flow Pressure	1303	P.S.I.	60	60 Mins.
D Initial Closed-in Pressure	1600	P.S.I.	45	45 Mins.
E Second Initial Flow Pressure	1373	P.S.I.	90	90 Mins.
F Second Final Flow Pressure	1586	P.S.I.		
G Final Closed-in Pressure	1610	P.S.I.		
H Final Hydrostatic Mud	2381	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure
 Breakdown: 6 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Initial Shut-In
 Breakdown: 20 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Second Flow Pressure
 Breakdown: 9 Inc.
 of 5 mins. and a
 final inc. of 0 Min.

Final Shut-In
 Breakdown: 30 Inc.
 of 3 mins. and a
 final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1	0	490	0	1303	0	1586	
P 2	5	596	3	1516	5	1389	
P 3	10	838	6	1546	10	1430	
P 4	15	1008	9	1557	15	1478	
P 5	20	1119	12	1568	20	1508	
P 6	25	1219	15	1578	25	1535	
P 7	30	1303	18	1583	30	1551	
P 8			21	1588	35	1563	
P 9			24	1592	40	1574	
P10			27	1596	45	1586	
P11			30	1600			
P12			33	1600			
P13			36	1600			
P14			39	1600			
P15			42	1600			
P16			45	1600			
P17			48	1600			
P18			51	1600			
P19			54	1600			
P20			57	1600			
			60	1600			

WESTERN TESTING CO., INC.

Pressure Data

Date 8/4/79 Test Ticket No. 3354
 Recorder No. 5673 Capacity 5400 Location 4836 Ft.
 Clock No. -- Elevation 2277 Ground Level Well Temperature 120 °F

Point	Pressure		Time Given	Time Computed
A. Initial Hydrostatic Mud	2392	P.S.I.	6:45A	M
B. First Initial Flow Pressure	490	P.S.I.	30	30
C. First Final Flow Pressure	1303	P.S.I.	60	60
D. Initial Closed-in Pressure	1600	P.S.I.	45	45
E. Second Initial Flow Pressure	1373	P.S.I.	90	90
F. Second Final Flow Pressure	1586	P.S.I.		
G. Final Closed-in Pressure	1610	P.S.I.		
H. Final Hydrostatic Mud	2381	P.S.I.		

PRESSURE BREAKDOWN

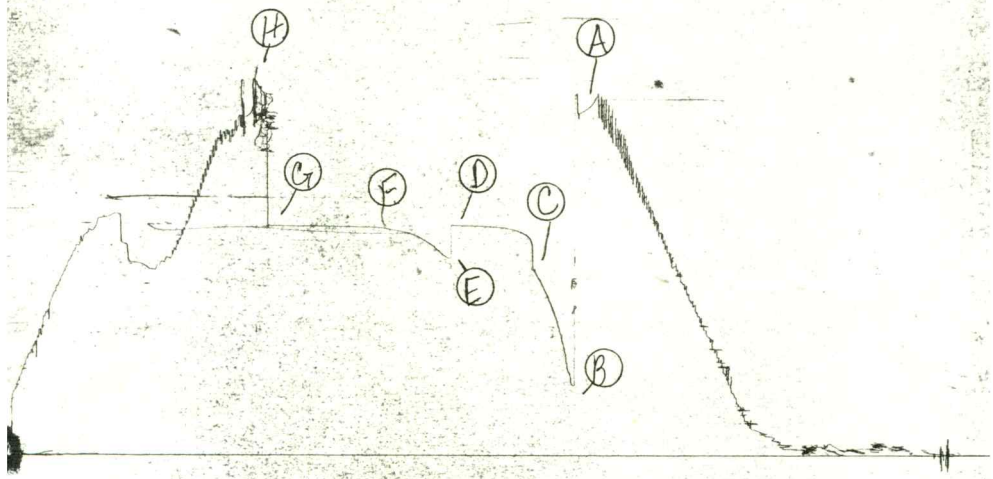
<p>First Flow Pressure Breakdown: <u>6</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Initial Shut-In Breakdown: <u>20</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Second Flow Pressure Breakdown: <u>9</u> Inc. of <u>5</u> mins. and a final inc. of <u>0</u> Min.</p>	<p>Final Shut-In Breakdown: <u>30</u> Inc. of <u>3</u> mins. and a final inc. of <u>0</u> Min.</p>
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Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1						63	1610
P 2						66	1610
P 3						69	1610
P 4						72	1610
P 5						75	1610
P 6						78	1610
P 7						81	1610
P 8						84	1610
P 9						87	1610
P10						90	1610
P11							
P12							
P13							
P14							
P15							
P16							
P17							
P18							
P19							
P20							

5613

Wells Energetic
Graves #1
DST #2

TRT # 3354
0₁



3660

Wells Energy

TR# 3334 Graves #1

Below straddle DST #2

