

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name REIN 'G' #17 Test No. 1 Date 6/11/94  
Company OXY USA, INC. Zone ARBUCKLE  
Address 110 S. MAIN WICHITA KS 67202 Elevation 1739  
Co. Rep./Geo. GARY WAGNER Cont. DUKE #4 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 8 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3150-3185 Drill Pipe Size 4.5" XH  
Anchor Length 35 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 3145 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 3150 Mud Wt. 9.7 lb/Gal.  
Total Depth 3185 Viscosity 42 Filtrate 12.8

Tool Open @ 3:39 PM Initial Blow WEAK - DIED IN 20 MINUTES

Final Blow NO BLOW

Recovery - Total Feet 5 Flush Tool? NO

Rec. 5 Feet of DRILLING MUD WITH SHOW OF OIL IN TOOL  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 109 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1502.3 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 36.1 PSI @ (depth) 3154 w / Clock No. 27567

(C) First Final Flow Pressure 36.1 PSI AK1 Recorder No. 13849 Range 4375

(D) Initial Shut-in Pressure 57.2 PSI @ (depth) 3181 w / Clock No. 27501

(E) Second Initial Flow Pressure 36.1 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

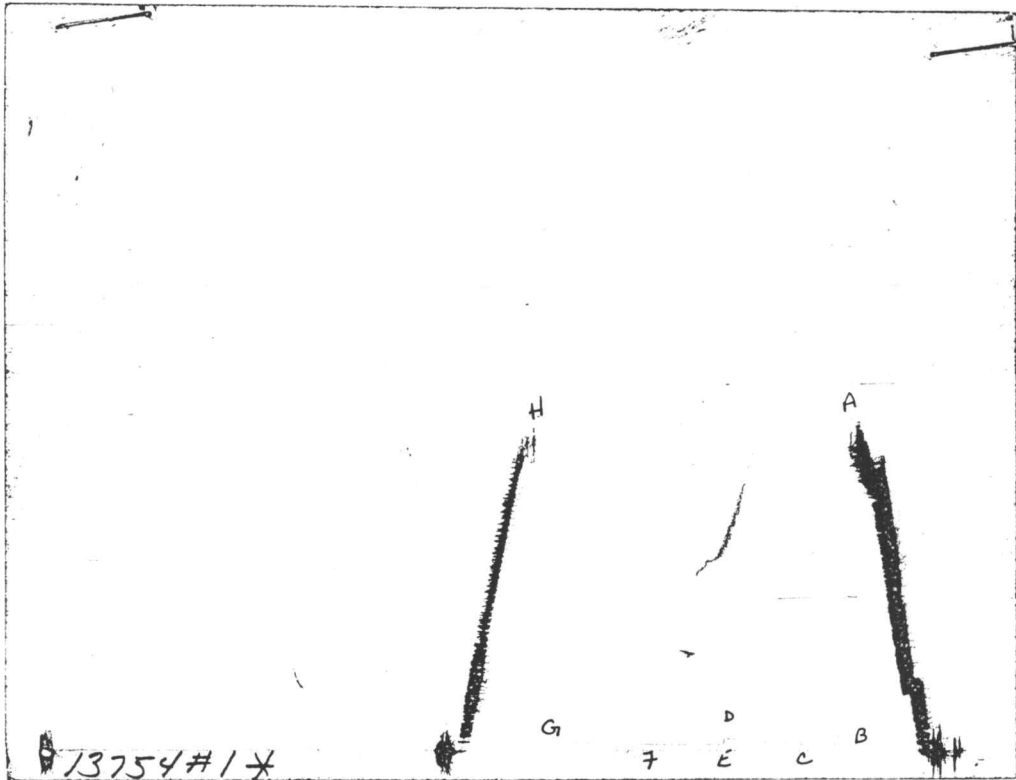
(F) Second Final Flow Pressure 36.1 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 45.9 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1469.3 PSI Initial Shut-in 60 Final Shut-in 90

Our Representative DAN BANGLE

# CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1496	1502.3
(B) FIRST INITIAL FLOW PRESSURE	39	36.1
(C) FIRST FINAL FLOW PRESSURE	39	36.1
(D) INITIAL CLOSED-IN PRESSURE	59	57.2
(E) SECOND INITIAL FLOW PRESSURE	39	36.1
(F) SECOND FINAL FLOW PRESSURE	39	36.1
(G) FINAL CLOSED-IN PRESSURE	49	45.9
(H) FINAL HYDROSTATIC MUD	1466	1469.3

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## Drill-Stem Test Data

Well Name REIN 'G' #17 Test No. 2 Date 6/12/94  
Company OXY USA, INC. Zone ARBUCKLE  
Address 110 S. MAIN WICHITA KS 67202 Elevation 1739  
Co. Rep./Geo. GARY WAGNER Cont. DUKE #4 Est. Ft. of Pay 12  
Location: Sec. 8 Twp. 15S Rge. 13W Co. RUSSELL State KS

Interval Tested 3150-3192 Drill Pipe Size 4.5" XH  
Anchor Length 42 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 3145 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 3150 Mud Wt. 9.7 lb/Gal.  
Total Depth 3192 Viscosity 42 Filtrate 12.8

Tool Open @ 3:35AM Initial Blow WEAK - BUILDING TO 5 1/2"

Final Blow WEAK - BUILDING TO 6"

Recovery - Total Feet 90 Flush Tool? NO

Rec. 60 Feet of GAS IN PIPE  
Rec. 60 Feet of CLEAN GASSY OIL 10%GAS/90%OIL  
Rec. 30 Feet of OIL CUT GASSY MUD 10%GAS/30%OIL/60%MUD  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 105 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity 34 °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7000 ppm System

(A) Initial Hydrostatic Mud 1540.6 PSI AK1 Recorder No. 13754 Range 4000

(B) First Initial Flow Pressure 46.2 PSI @ (depth) 3154 w / Clock No. 27567

(C) First Final Flow Pressure 43.3 PSI AK1 Recorder No. 13849 Range 4375

(D) Initial Shut-in Pressure 911.1 PSI @ (depth) 3189 w / Clock No. 27501

(E) Second Initial Flow Pressure 63.9 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

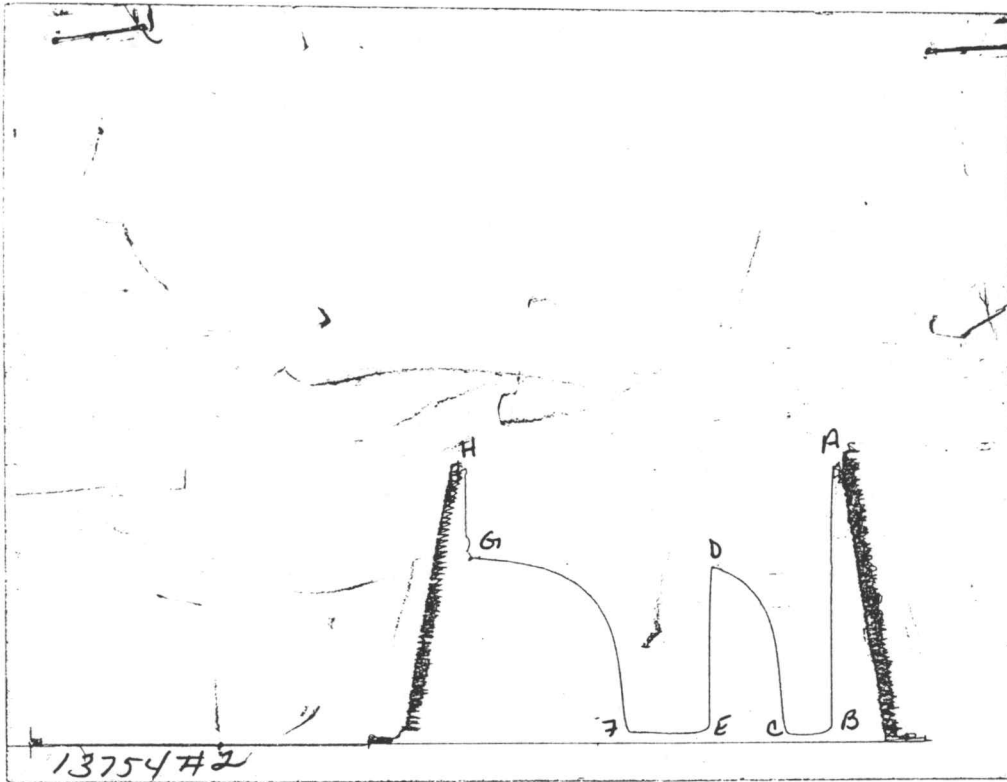
(F) Second Final Flow Pressure 57.1 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 958.4 PSI Initial Opening 30 Final Flow 60

(H) Final Hydrostatic Mud 1471.2 PSI Initial Shut-in 60 Final Shut-in 120

Our Representative DAN BANGLE

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	1536	1540.6
(B) FIRST INITIAL FLOW PRESSURE	49	46.2
(C) FIRST FINAL FLOW PRESSURE	49	43.3
(D) INITIAL CLOSED-IN PRESSURE	907	911.1
(E) SECOND INITIAL FLOW PRESSURE	59	63.9
(F) SECOND FINAL FLOW PRESSURE	59	57.1
(G) FINAL CLOSED-IN PRESSURE	966	958.4
(H) FINAL HYDROSTATIC MUD	1466	1471.2

COMPUTER OIL EVALUATION BY TRILOBITE TESTING, L.L.C.  
 OXY USA, INC.

REIN 'G' #17 DST 2  
 8 15S 13W RUSSELL KS

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 ELEVATION: 1739 KB EST. PAY 12 FT  
 DATUM: -1416 ZONE TESTED: ARBUCKLE  
 TEST INTERVAL: 3150-3192 TIME INTERVALS: 30-60-60-120  
 RECORDER DEPTH: 3154 VISCOSITY: 11.32 CP  
 BOTTOM HOLE TEMP: 105 HOLE SIZE: 7.875 IN  
 \*\*\*\*\*

CUBIC FEET OF GAS IN PIPE: 5  
 TOTAL FEET OF RECOVERY: 90.00 CORRECTED PIPE FILLUP: 154.324  
 TOTAL BARRELS OF RECOVERY: 1.28 CORR. BARRELS OF RECOVERY: 2.194 BBL  
 BARRELS IN DRILL PIPE: 1.28 API GRAVITY: 34  
 BARRELS IN WEIGHT PIPE: 0.00 FLUID GRADIENT: 0.370  
 BARRELS IN DRILL COLLARS: 0.00  
 GAS OIL RATIO: 3.74 CU.FT/BBL  
 BUBBLE POINT PRESSURE: 39  
 UNCORRECTED INITIAL PRODUCTION: 20.48 BBL  
 INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 35.11 BBL/DAY  
 INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE: 10.690  
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INITIAL SLOPE 804.84315 PSI/CYCL FINAL SLOPE 375.112809 PSI/CYCLE  
 INITIAL P\* 1058.90 PSI FINAL P\* 1051.34713 PSI  
 \*\*\*\*\*

TRANSMISSIBILITY 15.22 (MD.-FT./CP.)  
 PERMEABILITY 14.36 (MD.)  
 INDICATED FLOW CAPACITY 172.29 (MD.FT)  
 PRODUCTIVITY INDEX 0.02 (BARREL/DAY/PSI)  
 DAMAGE RATIO 0.49  
 RADIUS OF INVESTIGATION 35.95 (FT,)  
 POTENTIOMETRIC SURFACE 1023.07 (FT.)  
 DRAWDOWN FACTOR 0.714 (%)

INITIAL FLOW

RECORDER 13754

DST # 2

TIME(MIN)	PRESSURE	<>PRESSURE
0	46.2	46.2
3	46.2	0.0
6	46.2	0.0
9	46.2	0.0
12	46.2	0.0
15	43.3	-2.9
18	43.3	0.0
21	43.3	0.0
24	43.3	0.0
27	43.3	0.0
30	43.3	0.0

FINAL FLOW

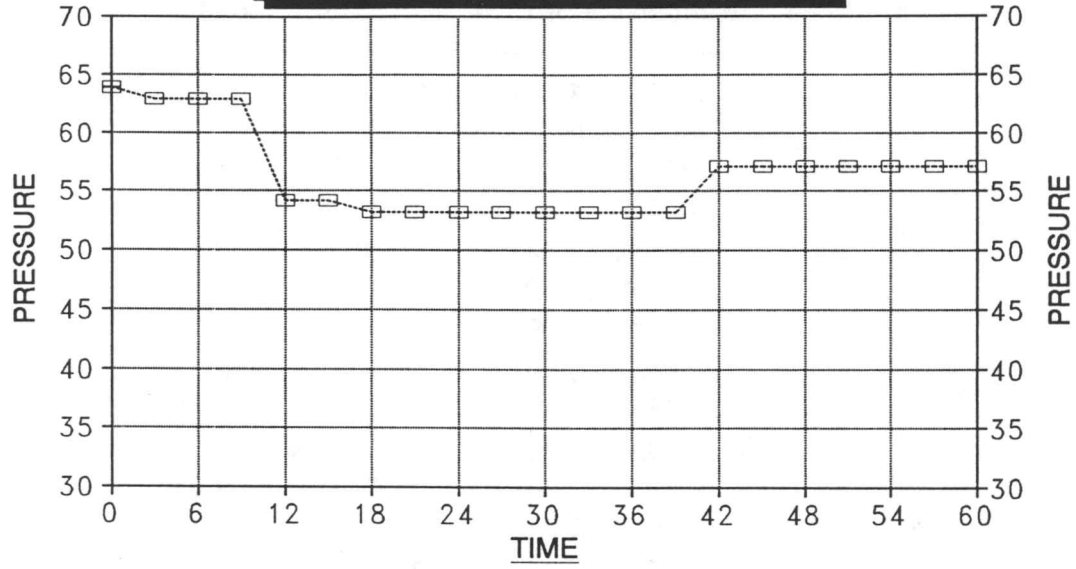
RECORDER 13754

DST # 2

TIME(MIN)	PRESSURE	<> PRESSURE
0	63.9	63.9
3	62.9	-1.0
6	62.9	0.0
9	62.9	0.0
12	54.1	-8.8
15	54.1	0.0
18	53.1	-1.0
21	53.1	0.0
24	53.1	0.0
27	53.1	0.0
30	53.1	0.0
33	53.1	0.0
36	53.1	0.0
39	53.1	0.0
42	57.1	4.0
45	57.1	0.0
48	57.1	0.0
51	57.1	0.0
54	57.1	0.0
57	57.1	0.0
60	57.1	0.0

# DELTA T DELTA P

FINAL FLOW / DST #2



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE:

10.690

REIN 'G' #17  
INITIAL

DST #2  
SHUTIN  
30 INITIAL FLOW TIME SLOPE 804.8 PSI/CYCLE  
P\* 1058.90 PSI

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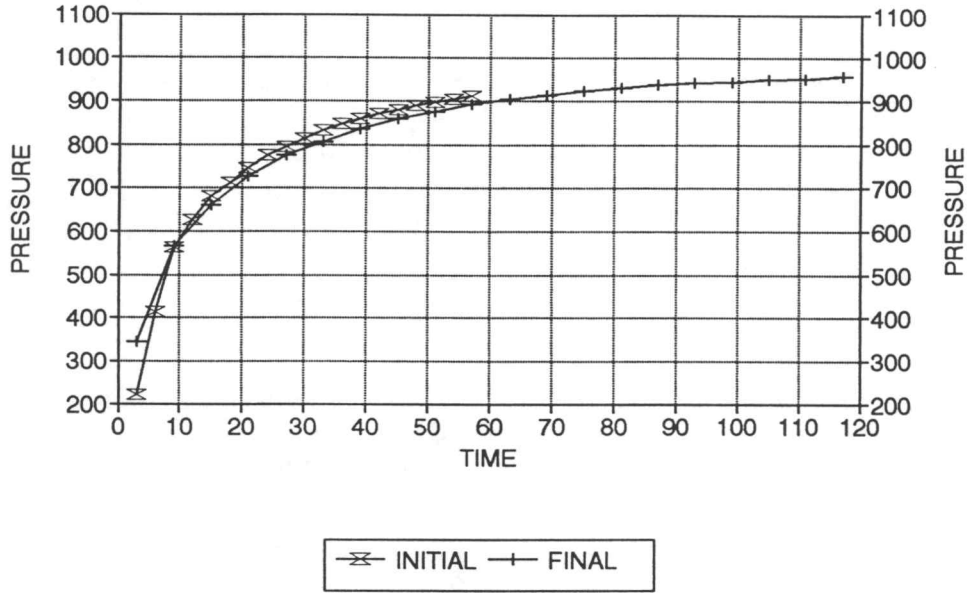
Log <>

TIME(MIN)	Pws (psi)	Horn T	PRESSURE	Horn T
3	221.4	1.041	221.4	11
6	253.9	0.778	32.5	6
9	564.2	0.637	310.3	4
12	625.4	0.544	61.2	4
15	680.8	0.477	55.4	3
18	712.4	0.426	31.6	3
21	745.1	0.385	32.7	2
24	773.7	0.352	28.6	2
27	793.4	0.325	19.7	2
30	813.2	0.301	19.8	2
33	832.1	0.281	18.9	2
36	845.8	0.263	13.7	2
39	857.7	0.248	11.9	2
42	870.5	0.234	12.8	2
45	880.4	0.222	9.9	2
48	889.3	0.211	8.9	2
X 51	897.2	0.201	7.9	2
54	904.1	0.192	6.9	2
X 57	911.1	0.184	7.0	2

REIN 'G' #17  
FINAL

		DST #2		-----	
		SHUTIN			
90	TOTAL FLOW TIME	SLOPE	375.1	PSI/CYCLE	
		P*	1051.3	PSI	
		-----			
		Log	<>		
		Horn T	PRESSURE	Horn T	
		-----	-----	-----	
	3	346.4	1.491	346.4	31
	9	566.2	1.041	219.8	11
	15	660.1	0.845	93.9	7
	21	727.2	0.723	67.1	5
	27	773.7	0.637	46.5	4
	33	805.3	0.571	31.6	4
	39	835.9	0.520	30.6	3
	45	857.7	0.477	21.8	3
	51	876.4	0.442	18.7	3
	57	891.3	0.411	14.9	3
	63	904.1	0.385	12.8	2
	69	914.1	0.363	10.0	2
X	75	922.9	0.342	8.8	2
	81	931.8	0.325	8.9	2
	87	938.7	0.308	6.9	2
	93	943.6	0.294	4.9	2
	99	945.6	0.281	2.0	2
	105	949.6	0.269	4.0	2
	111	953.5	0.258	3.9	2
X	117	958.4	0.248	4.9	2

# REIN 'G' #17 / DST #2 DELTA T DELTA P



# HORNER PLOT

