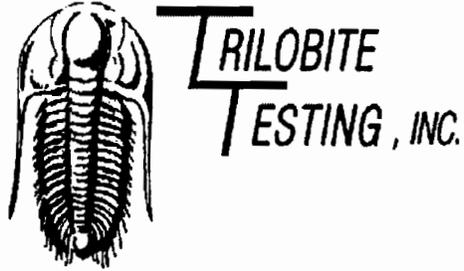


15-189-22407

20-34s-35w



## DRILL STEM TEST REPORT

Prepared For: **OXY USA INC**

P.O Box 2528  
Liberal Ks 67905

ATTN: Tom Heflin

**20 34S 35W**

**Illinois A-1**

Start Date: 2002.01.22 @ 22:52:00

End Date: 2002.01.23 @ 10:05:00

Job Ticket #: 14176                      DST #: 1

Trilobite Testing, Inc  
PO Box 362 Hays, KS 67601  
ph: 785-625-4778 fax: 785-625-5620



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

OXY USA INC

P.O Box 2528  
Liberal Ks 67905

ATTN: Tom Heflin

**Illinois A-1**

**20 34S 35W**

Job Ticket: 14176

**DST#: 1**

Test Start: 2002.01.22 @ 22:52:00

## GENERAL INFORMATION:

Formation: **Morrow**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 01:53:00

Time Test Ended: 10:05:00

Test Type: Conventional Bottom Hole

Tester: Jakki Kreklau

Unit No: 17

Interval: **6175.00 ft (KB) To 6255.00 ft (KB) (TVD)**

Reference Elevations: 3022.00 ft (KB)

Total Depth: 6255.00 ft (KB) (TVD)

3009.00 ft (CF)

Hole Diameter: 7.78 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

**Serial #: 2341**

**Inside**

Press@RunDepth: 61.81 psig @ 6176.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2002.01.22

End Date: 2002.01.23

Last Calib.: 1899.12.30

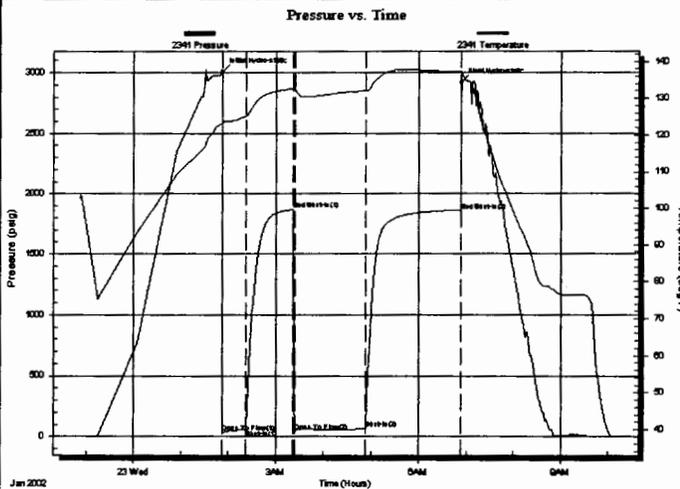
Start Time: 22:52:01

End Time: 10:05:00

Time On Btm: 2002.01.23 @ 01:52:00

Time Off Btm: 2002.01.23 @ 06:53:00

**TEST COMMENT:** F- strong blow BOB 1 min thru opening  
IS- no blow back  
FF- GTS as soon as opened "gas w ill burn" 30min guage froze off  
FSI no blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	3010.18	123.24	Initial Hydro-static
1	30.17	123.47	Open To Flow (1)
31	57.61	125.37	Shut-In(1)
90	1868.17	132.67	End Shut-In(1)
92	43.47	132.37	Open To Flow (2)
182	61.81	132.15	Shut-In(2)
301	1857.70	137.29	End Shut-In(2)
301	2919.06	137.30	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
184.00	drilg mud 100% mud	0.90

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	4.00	6.89
Last Gas Rate	0.13	6.00	7.63
Max. Gas Rate	0.13	6.00	7.63



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**TOOL DIAGRAM**

OXY USA INC

**Illinois A-1**

P.O Box 2528  
Liberal Ks 67905

**20 34S 35W**

Job Ticket: 14176

**DST#: 1**

ATTN: Tom Heflin

Test Start: 2002.01.22 @ 22:52:00

**Tool Information**

Drill Pipe:	Length: 5812.00 ft	Diameter: 3.80 inches	Volume: 81.53 bbl	Tool Weight: 1800.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 30000.00 lb
Drill Collar:	Length: 359.00 ft	Diameter: 2.25 inches	Volume: 1.77 bbl	Weight to Pull Loose: 100000.0 lb
			<u>Total Volume: 83.30 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 76000.00 lb
Depth to Top Packer:	6175.00 ft			Final 80000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 ft			
Tool Length:	113.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

**Tool Comments:**

slid tool to bottom 10 feet  
sampler data 16 cubic ft of gas 75 psi

**Tool Description**

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
C.O. Sub	1.00			6146.00	
S.I. Tool	5.00			6151.00	
Sampler	3.00			6154.00	
HMV	5.00			6159.00	
Jars	5.00			6164.00	
Safety Joint	2.00			6166.00	
Packer	5.00			6171.00	30.00 Bottom Of Top Packer
Packer	4.00			6175.00	
Stubb	1.00			6176.00	
Recorder	0.00	2341	Inside	6176.00	
Perforations	6.00			6182.00	
C.O. Sub	1.00			6183.00	
Blank Spacing	62.00			6245.00	
C.O. Sub	1.00			6246.00	
Perforations	9.00			6255.00	
Recorder	0.00	13423	Inside	6255.00	
Bullnose	3.00			6258.00	83.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>113.00</b>				



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

OXY USA INC

Illinois A-1

P.O Box 2528  
Liberal Ks 67905

**20 34S 35W**

Job Ticket: 14176

**DST#: 1**

ATTN: Tom Hefflin

Test Start: 2002.01.22 @ 22:52:00

### Mud and Cushion Information

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 47.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.59 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
184.00	drilg mud 100% mud	0.905

Total Length: 184.00 ft      Total Volume: 0.905 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

Laboratory Name:      Laboratory Location:

Recovery Comments:



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**GAS RATES**

OXY USA INC

**Illinois A-1**

P.O Box 2528  
Liberal Ks 67905

**20 34S 35W**

Job Ticket: 14176

**DST#: 1**

ATTN: Tom Heflin

Test Start: 2002.01.22 @ 22:52:00

### Gas Rates Information

Temperature: 59 deg C  
Relative Density: 0.65  
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (mm)	Pressure (kPaa)	Gas Rate (m <sup>3</sup> /d)
2	10	0.13	4.00	6.89
2	10	0.13	4.00	6.89
2	10	0.13	4.00	6.89
2	20	0.13	3.00	6.51
2	50	0.13	3.00	6.51
2	60	0.13	5.00	7.26
2	70	0.13	6.00	7.63

Serial #: 2341

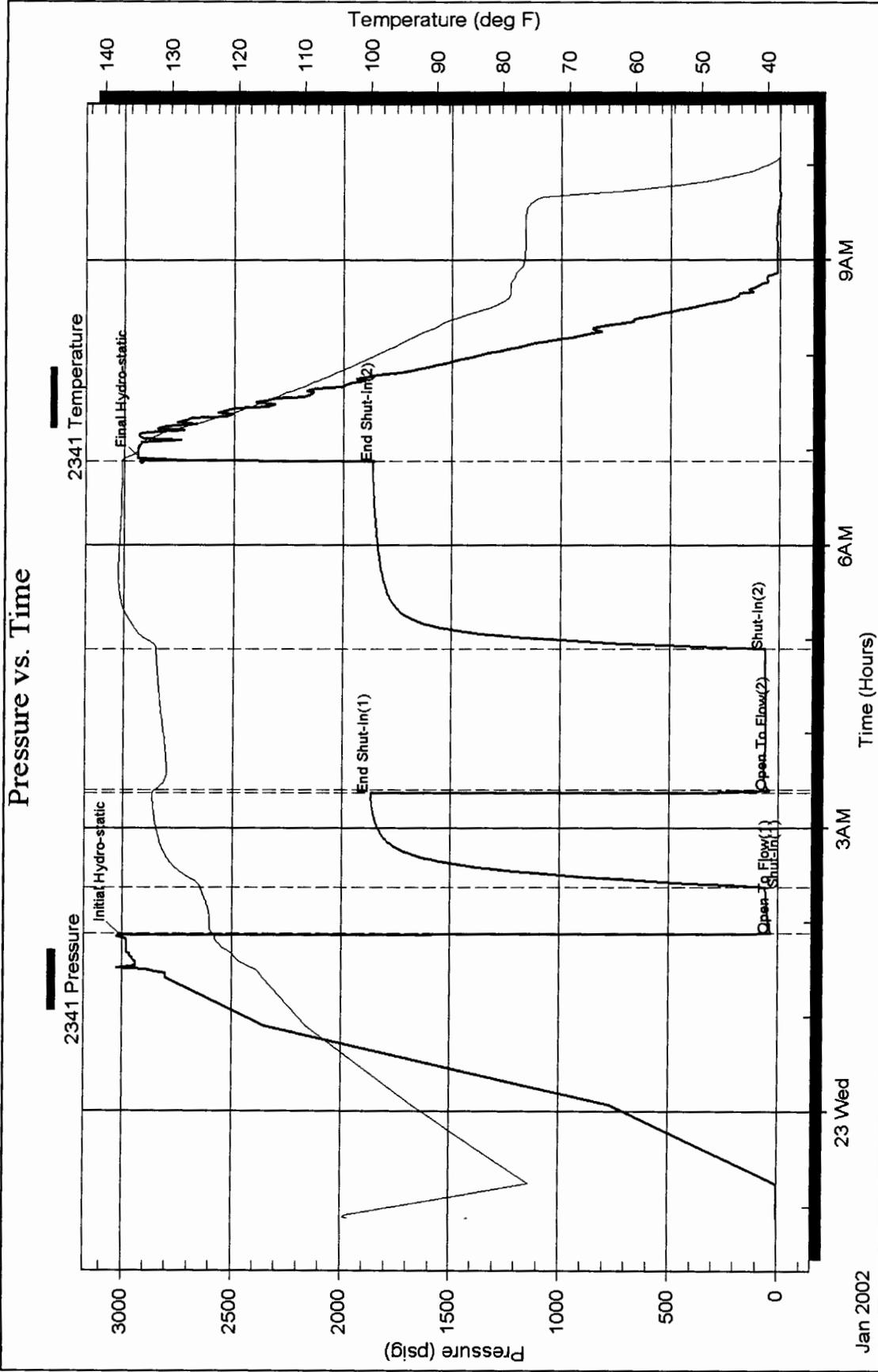
Inside

OXY USA INC

20 34S 35W

DST Test Number: 1

### Pressure vs. Time



# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

N<sup>o</sup> 14176

## Test Ticket

Well Name & No. <u>ILLINOIS A-1</u>	Test No. <u>1</u>	Date <u>01-22-02</u>
Company <u>OKY USA Inc</u>	Zone Tested <u>MORROW</u>	
Address <u>P.O. BOX 2528 Liberal Ks 67905</u>	Elevation <u>3009</u>	KB <u>3000GL</u>
Co. Rep / Geo. <u>Tom McFlin</u>	Cont. <u>Ambacumbe Rig 4</u>	Est. Ft. of Pay _____ Por. _____ %
Location: Sec. <u>20</u>	Twp. <u>34S</u>	Rge. <u>35W</u> Co. <u>STEVENS</u> State <u>KS</u>
No. of Copies _____	Distribution Sheet (Y, N) _____	Turnkey (Y, N) _____ Evaluation (Y, N) _____

Interval Tested <u>6175 - 6255</u>	Initial Str Wt./Lbs. <u>76000</u>	Unseated Str Wt./Lbs. <u>80000</u>
Anchor Length <u>80</u>	Wt. Set Lbs. <u>30000</u>	Wt. Pulled Loose/Lbs. <u>100000</u>
Top Packer Depth <u>6171</u>	Tool Weight <u>1800</u>	
Bottom Packer Depth <u>6175</u>	Hole Size — 7 7/8" <input checked="" type="checkbox"/>	Rubber Size — 6 3/4" <input checked="" type="checkbox"/>
Total Depth <u>6255</u>	Wt. Pipe Run _____	Drill Collar Run <u>359</u>
Mud Wt. <u>9.2</u> LCM <u>4</u> Vis. <u>47</u> WL <u>7.6</u>	Drill Pipe Size <u>4 1/2 X H</u>	Ft. Run <u>5812</u>
Blow Description <u>IF - strong blow BOB 1 min thru opening</u>		
<u>ISI - NO Blow Back</u>		
<u>FF - Gas to Surface as soon as 30 min into opening Gauge Froze off</u>		
<u>FBI - NO Blow Back</u>		

Recovery — Total Feet <u>184</u>	GIP _____	Ft. in DC <u>184</u>	Ft. in DP _____
Rec. <u>184</u> Feet Of <u>Drill Mud</u>	%gas _____ %oil _____ %water <u>100</u> %mud _____		
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____		
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____		
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____		
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____		
BHT <u>137</u> °F Gravity _____ °API D@ _____ °F Corrected Gravity _____ °API _____			
RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides <u>1000</u> ppm System _____			

	AK-1	Alpine	PSI Recorder No.	T-On Location
(A) Initial Hydrostatic Mud	<u>3126</u>		<u>2341</u>	<u>2100</u>
(B) First Initial Flow Pressure	<u>30</u>		(depth) <u>6177</u>	T-Started <u>2252</u>
(C) First Final Flow Pressure	<u>65</u>		PSI Recorder No. <u>13423</u>	T-Open <u>0152</u>
(D) Initial Shut-In Pressure	<u>1869</u>		(depth) <u>6255</u>	T-Pulled <u>0652</u>
(E) Second Initial Flow Pressure	<u>43</u>		PSI Recorder No. _____	T-Out <u>10 05</u>
(F) Second Final Flow Pressure	<u>61</u>		(depth) _____	T-Off Location _____
(G) Final Shut-in Pressure	<u>1865</u>		PSI Initial Opening <u>30</u>	Test <input checked="" type="checkbox"/> <u>1000</u>
(Q) Final Hydrostatic Mud	<u>2930</u>		PSI Initial Shut-in <u>60</u>	Jars <input checked="" type="checkbox"/> <u>200</u>
			Final Flow <u>90</u>	Safety Joint <input checked="" type="checkbox"/> <u>50</u>
			Final Shut-in <u>120</u>	Straddle _____
				Circ. Sub _____
				Sampler <input checked="" type="checkbox"/> <u>200</u>
				Extra Packer _____
				Elec. Rec. <input checked="" type="checkbox"/> <u>150</u>
				Mileage <u>30</u>
				Other <u>2 hrs ST by 10</u>
				TOTAL PRICE \$ <u>11690</u>

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Lucy A. [Signature]  
 Our Representative Jakki Kiekla

13.05

# TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 14176 Date 01-23-02  
Company Name OXY USA  
Lease ILLINOIS A-1 Test No. DST #1  
County STEVENS Sec. 20 Twp. 349 Rng. 35W

### SAMPLER RECOVERY

Gas 16 cubic FT ML  
Oil \_\_\_\_\_ ML  
Mud \_\_\_\_\_ ML  
Water \_\_\_\_\_ ML  
Other \_\_\_\_\_ ML  
Pressure 75 PSI  
Total 16 cubic of GAS ML

### PIT MUD ANALYSIS

Chlorides \_\_\_\_\_ ppm.  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Viscosity \_\_\_\_\_  
Mud Weight \_\_\_\_\_  
Filtrate \_\_\_\_\_  
Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
Gravity \_\_\_\_\_ corrected @ 60 F

### PIPE RECOVERY

TOP  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
MIDDLE  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
BOTTOM  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.



# NATURAL GAS ANALYSIS REPORT

Sampled by:  
 Trilobite Testing, Inc.  
 Hays, Kansas  
 Scott City, Kansas  
 Phone: 800-728-5369  
 Fax: 785-625-5620

Analyzed by:  
 Caraway Analytical, Inc  
 P. O. Box 2137  
 Liberal, Kansas 67905  
 Phone: 620-624-5389  
 Fax: 620-626-7108

Lab Number: 20020272      Analyzed: 01/23/02

Sample From: Illinois A-1 DST 1      Pressure:  
 Producer: Oxy USA, Inc.      Temperature:

Date Location: 20-34S-35W

Time:      County: Stevens  
 Sampler:      State: Kansas  
 Source:      Formation: Morrow

	Mole %	GPM
Helium	He: 0.179	0.000
Hydrogen	H2: 0.001	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 3.970	0.000
Carbon Dioxide	CO2: 0.020	0.000
Methane	C1: 86.381	0.000
Ethane	C2: 4.635	1.240
Propane	C3: 2.460	0.678
Iso Butane	iC4: 0.344	0.113
Normal Butane	nC4: 0.803	0.253
Iso Pentane	iC5: 0.219	0.080
Normal Pentane	nC5: 0.271	0.098
Hexanes Plus	C6+: 0.717	0.313

TOTAL: 100.000    2.774

Z Fact: 0.9974

SP.GR.: 0.6633

BTU (SAT): 1096.2 @ 14.73 psia

BTU (DRY): 1115.6 @ 14.73 psia

**OCTANE RATING: 121.0**

COMMENTS:

0.000

# CHART PAGE

This is a photocopy of the actual AK-1 recorder chart

