



## DRILL STEM TEST REPORT

Prepared For: **Samuel Gary Jr & Associates Inc**

1515 Wynkoop Ste 700  
Denver CO 80202

ATTN: Tom Fertal

### **Pfannenstiel #1-24**

#### **24 14s 18w Ellis,KS**

Start Date: 2012.02.24 @ 12:50:39

End Date: 2012.02.24 @ 18:52:09

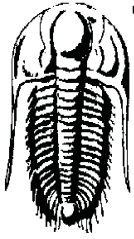
Job Ticket #: 46875                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2012.02.28 @ 15:39:46



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Samuel Gary Jr & Associates Inc

**24 14s 18w Ellis,KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Pfannenstiel #1-24**

ATTN: Tom Fertal

Job Ticket: 46875

**DST#: 3**

Test Start: 2012.02.24 @ 12:50:39

## GENERAL INFORMATION:

Formation: **Penn Sand**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 14:33:09

Time Test Ended: 18:52:09

Test Type: Conventional Straddle (Reset)

Tester: Brett/Jim

Unit No: 59

**Interval: 3508.00 ft (KB) To 3548.00 ft (KB) (TVD)**

Reference Elevations: 1959.00 ft (KB)

Total Depth: 3630.00 ft (KB) (TVD)

1951.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6753 Outside**

Press@RunDepth: 23.76 psig @ 3544.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2012.02.24

End Date:

2012.02.24

Last Calib.:

2012.02.24

Start Time: 12:50:44

End Time:

18:52:08

Time On Btm:

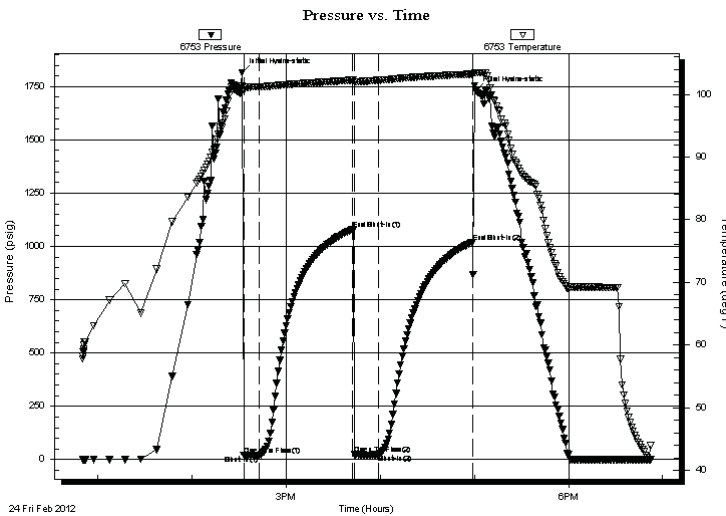
2012.02.24 @ 14:32:09

Time Off Btm:

2012.02.24 @ 17:01:09

**TEST COMMENT:** 10min IF-1/4" blow  
60min ISI-No blow  
15min FF-Very weak surface blow  
60min FSI-No blow

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1816.05	101.33	Initial Hydro-static
1	20.48	100.61	Open To Flow (1)
11	19.21	101.21	Shut-In(1)
71	1079.82	102.28	End Shut-In(1)
72	23.26	101.93	Open To Flow (2)
87	23.76	102.26	Shut-In(2)
147	1019.62	103.26	End Shut-In(2)
149	1730.38	103.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
5.00	OCM 30%O 70%M	0.02

\* Recovery from multiple tests

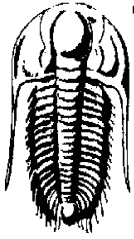
## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)









**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Samuel Gary Jr & Associates Inc

**24 14s 18w Ellis,KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Pfannenstiel #1-24**

Job Ticket: 46875

**DST#: 3**

ATTN: Tom Fertal

Test Start: 2012.02.24 @ 12:50:39

## Tool Information

Drill Pipe:	Length: 3469.00 ft	Diameter: 3.80 inches	Volume: 48.66 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			Total Volume: 48.81 bbl	Tool Chased 0.00 ft
Drill Pipe Above KB:	26.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3508.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	3548.00 ft			
Interval between Packers:	40.00 ft			
Tool Length:	166.00 ft			
Number of Packers:	3	Diameter: 6.75 inches		

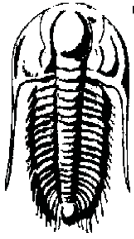
Tool Comments:

## Tool Description

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

Change Over Sub	6.00			3480.00	
Recorder	0.00	8788	Fluid	3480.00	
Shut In Tool	5.00			3485.00	
Sampler	2.00			3487.00	
Hydraulic tool	5.00			3492.00	
Jars	5.00			3497.00	
Safety Joint	2.00			3499.00	
Packer	4.00			3503.00	34.00 Bottom Of Top Packer
Packer	5.00			3508.00	
Stubb	1.00			3509.00	
Perforations	35.00			3544.00	
Recorder	0.00	8319	Inside	3544.00	
Recorder	0.00	6753	Outside	3544.00	
Blank Off Sub	4.00			3548.00	40.00 Tool Interval
Packer	4.00			3552.00	
Stubb	1.00			3553.00	
Recorder	0.00	8369	Below	3553.00	
perforations	19.00			3572.00	
Change Over Sub	1.00			3573.00	
Blank Spacing	63.00			3636.00	
Change Over Sub	1.00			3637.00	
Bullnose	3.00			3640.00	92.00 Bottom Packers & Anchor

**Total Tool Length: 166.00**



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# DRILL STEM TEST REPORT

## FLUID SUMMARY

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**24 14s 18w Ellis,KS**

1515 Wynkoop Ste 700  
Denver CO 80202

**Pfannenstiel #1-24**

Job Ticket: 46875

**DST#: 3**

ATTN: Tom Fertal

Test Start: 2012.02.24 @ 12:50:39

### 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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
5.00	OCM 30%O 70%M	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

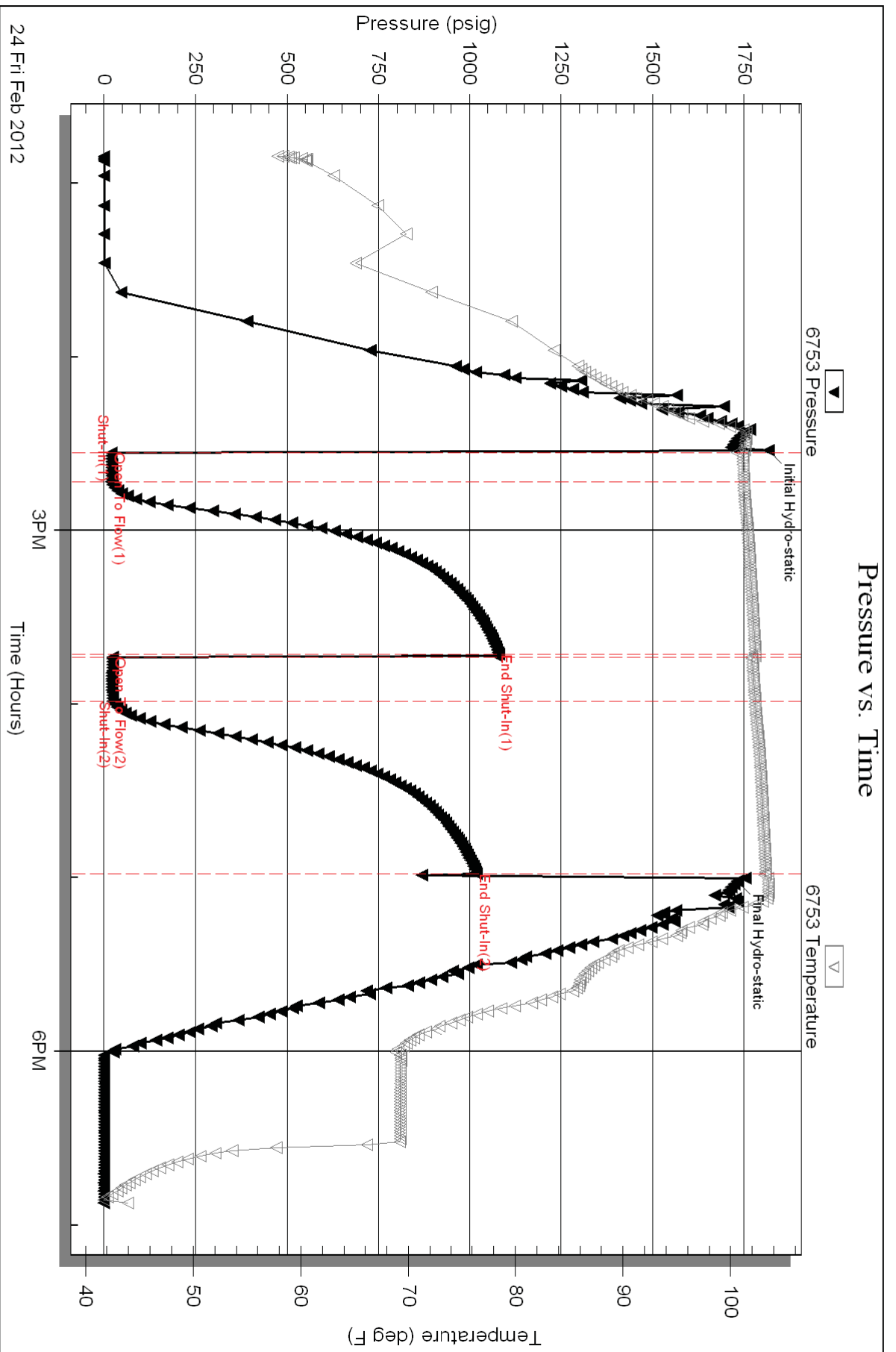
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Sampler Data 300mL mud 100mL Oil 2600mL Gas 150psi





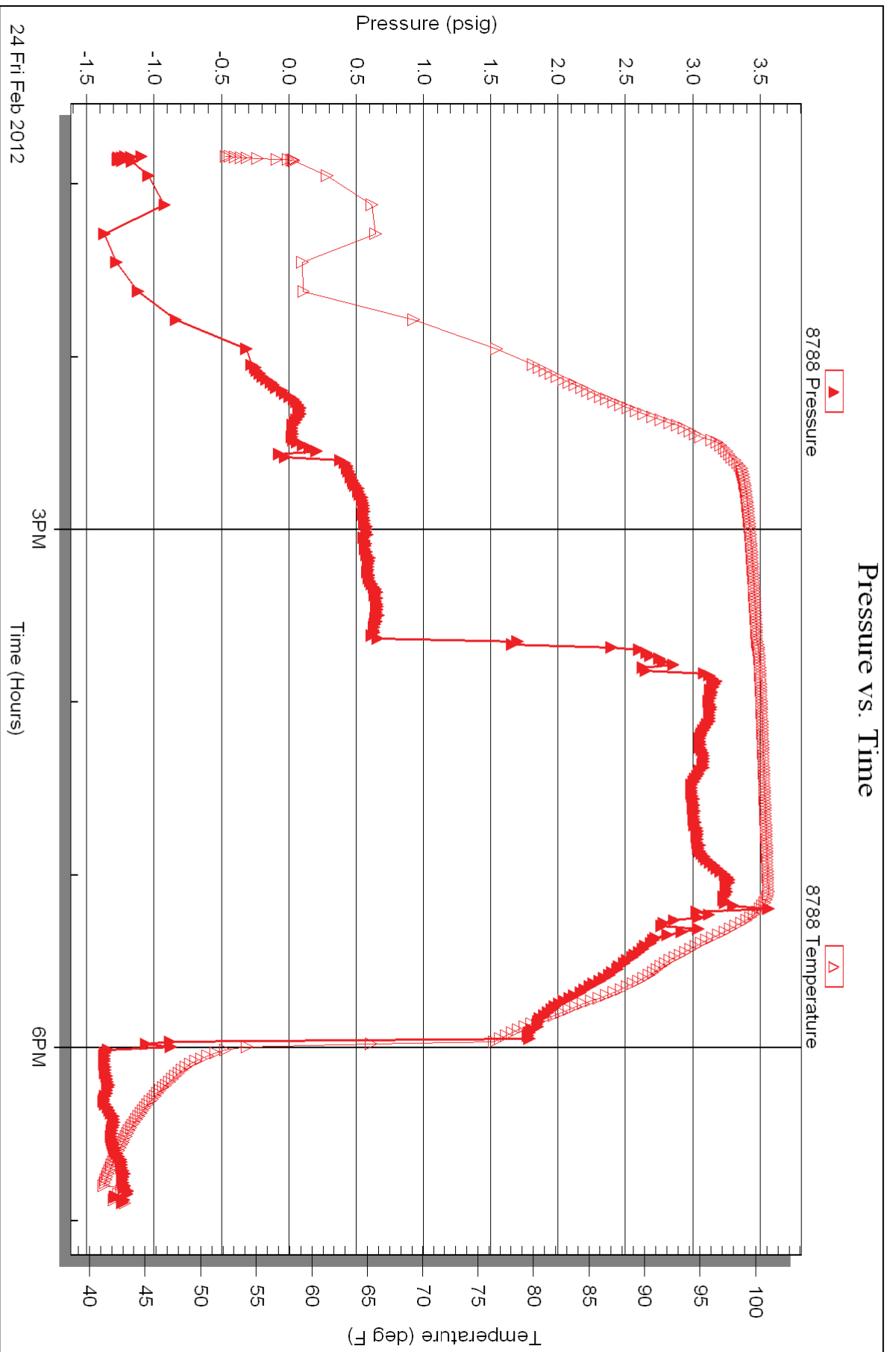
Serial #: 8788

Fluid

Samuel Gary Jr & Associates Inc

Pfannenstiel #1-24

DST Test Number: 3

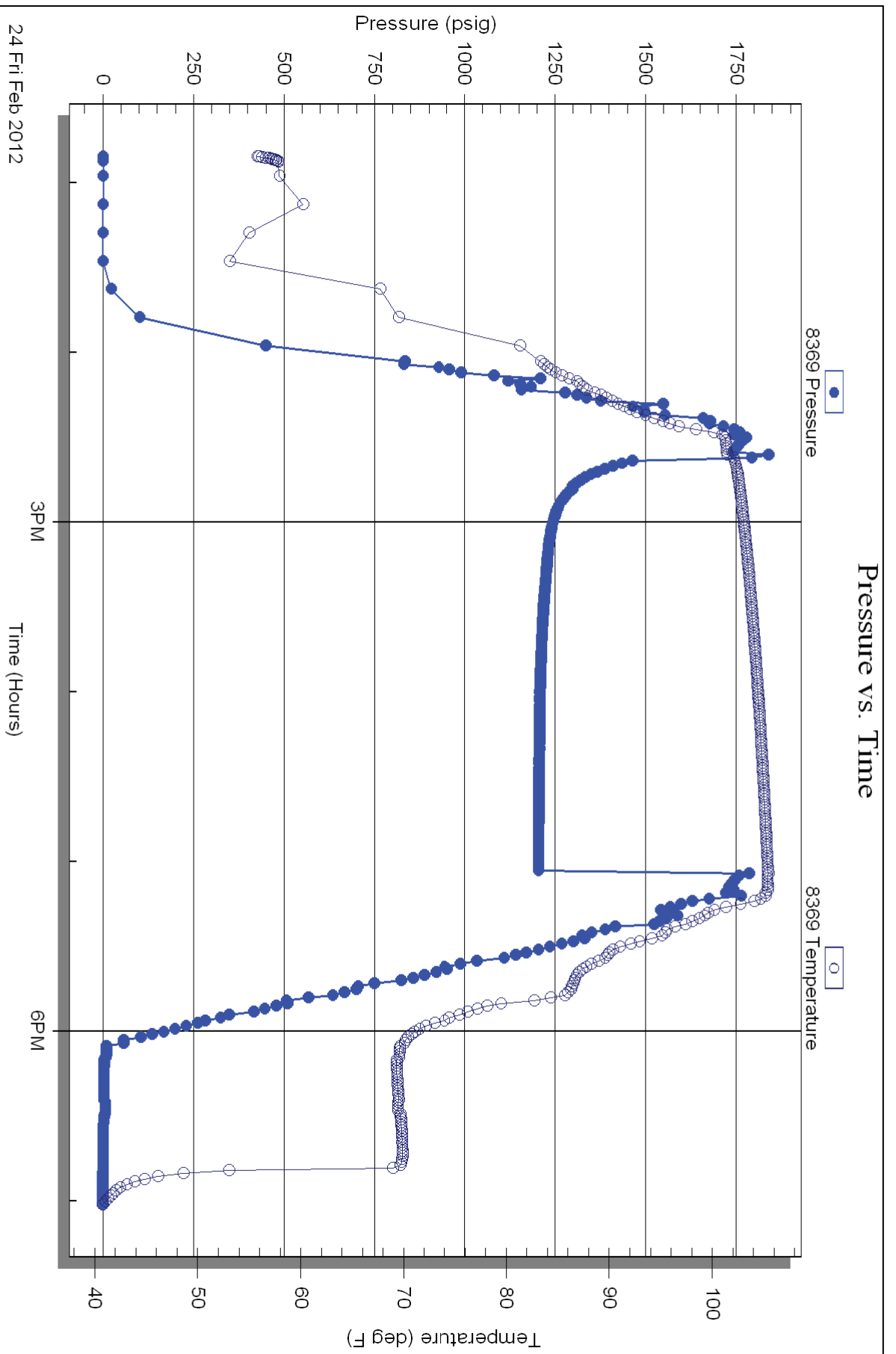


Serial #: 8369

Below (Stratton) Gary Jr & Associates Inc

Pfannenstiel #1-24

DST Test Number: 3



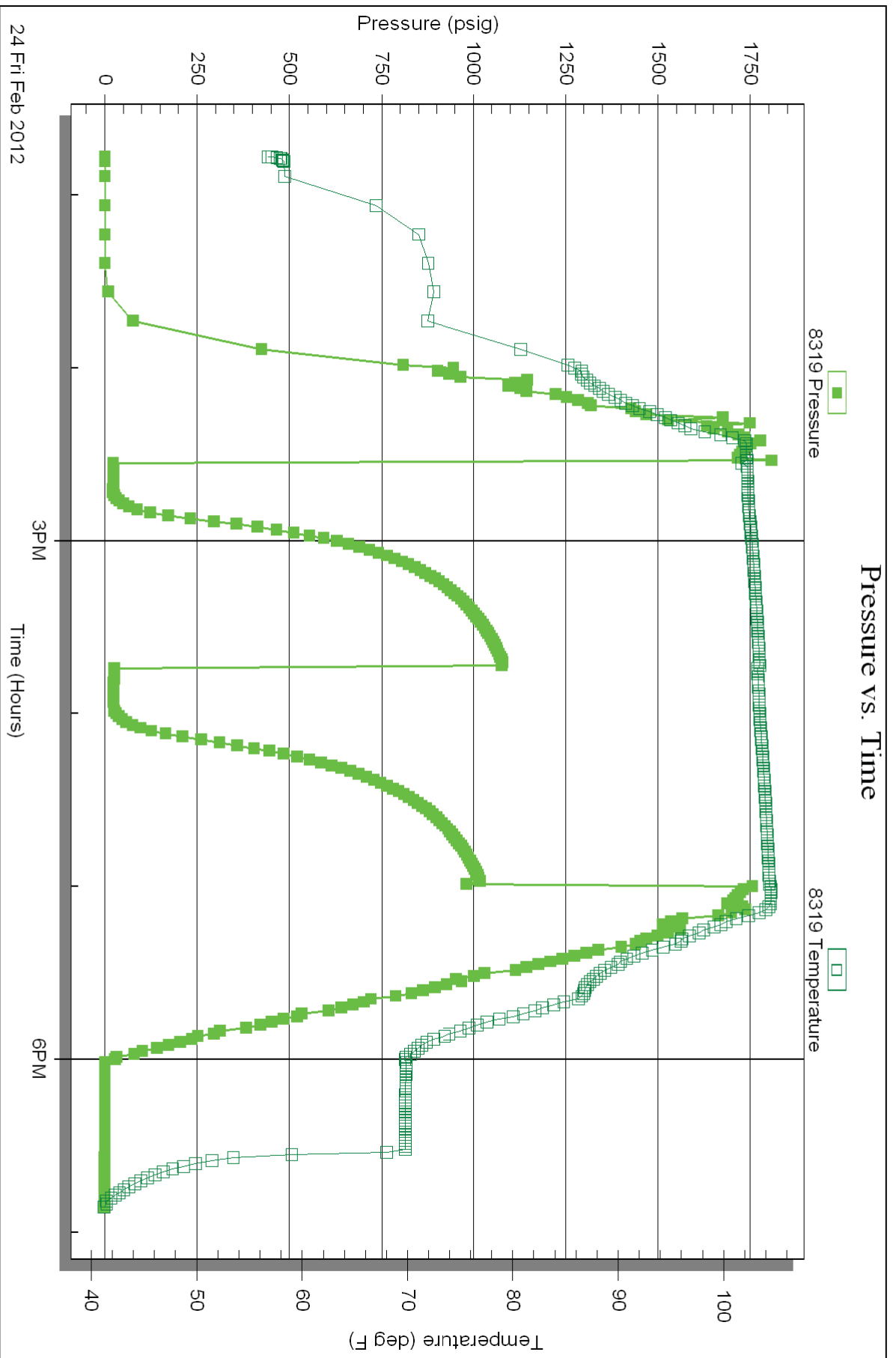
Serial #: 8319

Inside

Samuel Gary Jr & Associates Inc

Frannenstein #1-24

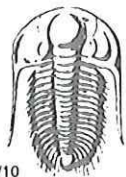
DST Test Number: 3



Triobite Testing, Inc

Ref. No: 46875

Printed: 2012.02.28 @ 15:39:50



# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
FEB 24 2012

## Test Ticket

NO. 46873

4/10

Well Name & No. PFANNENSTIEL et al 1-24 Test No. 1 Date 2-22-12  
 Company SAMUEL DANCY JR. & ASSOC. Elevation 1959 KB 1951 GL  
 Address 1515 WYNROOP STE 700 DENVER CO. 80202  
 Co. Rep / Geo. TOM FERTAL 3037486230 Rig Discovery #2  
 Location: Sec. 24 Twp. 14<sup>s</sup> Rge. 18<sup>w</sup> Co. Ellis State Ks

Interval Tested 3250-3276 Zone Tested KC LANSING "C"  
 Anchor Length 26 Drill Pipe Run 3218 Mud Wt. 8.6  
 Top Packer Depth 3245 Drill Collars Run 31 Vis 43  
 Bottom Packer Depth 3250 Wt. Pipe Run — WL 7.6  
 Total Depth 3276 Chlorides 2000 ppm System LCM —

Blow Description IF - BOB IN 4min  
FSI - ~~BOB~~ 1/2 in blow  
FF - BOB IN 4 1/2 min.  
FSI - BOB IN 24min died back to 3in

Rec	Feet of	%gas	%oil	%water	%mud
<u>175</u>	<u>water</u>				
<u>60</u>	<u>650CMW</u>	<u>10</u>	<u>5</u>	<u>55</u>	<u>30</u>
<u>45</u>	<u>6MOCW</u>	<u>10</u>	<u>40</u>	<u>40</u>	<u>10</u>
<u>Rec</u>	<u>Feet of 4050 GPP</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>
<u>Rec</u>	<u>Feet of</u>	<u>%gas</u>	<u>%oil</u>	<u>%water</u>	<u>%mud</u>

Rec Total 280 BHT 103 Gravity API RW 11 @ 60 °F Chlorides 85000 ppm

(A) Initial Hydrostatic <u>1,596</u>	<input checked="" type="checkbox"/> Test <u>1125</u>	T-On Location <u>00:50</u>
(B) First Initial Flow <u>36</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1:27</u>
(C) First Final Flow <u>55</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>3:25</u>
(D) Initial Shut-In <u>868</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>7:25</u>
(E) Second Initial Flow <u>66</u>	<input type="checkbox"/> Hourly Standby <u>1/2 hr - 50</u>	T-Out <u>10:12</u>
(F) Second Final Flow <u>146</u>	<input checked="" type="checkbox"/> Mileage <u>10x2 28</u>	Comments
(G) Final Shut-In <u>796</u>	<input checked="" type="checkbox"/> Sampler <u>250</u>	
(H) Final Hydrostatic <u>1,536</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open <u>5</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>35</u>	<input checked="" type="checkbox"/> Extra Recorder <u>200</u>	Sub Total <u>0</u>
Final Shut-In <u>140</u>	<input type="checkbox"/> Day Standby	Total <u>1978</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1978</u>	

Approved By \_\_\_\_\_ Our Representative [Signature] 989

Trilobite Testing Inc. shall not be liable for damaged 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.



# TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 46873 Date 2-22-12

Company Name Sam Gary Jr. & Assoc.

Lease P Fannestiel #1-24 Test No. 1

County Ellis Sec. 24 Twp. 14<sup>o</sup> Rng. 18<sup>W</sup>

### SAMPLER RECOVERY

Gas 900 ML

Oil 500 ML

Mud \_\_\_\_\_ ML

Water 1600 ML

Other \_\_\_\_\_ ML

Pressure 375 PSE ML

Total \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides 2000 ppm.

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Viscosity 43

Mud Weight 8.6

Filtrate 7.6

Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity .11 ohms @ 60 F

Chlorides 85,000 ppm.

Gravity \_\_\_\_\_ corrected @60F

### PIPE RECOVERY

#### TOP

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.

#### MIDDLE

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

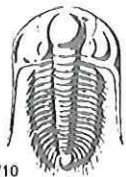
Chlorides \_\_\_\_\_ ppm.

#### BOTTOM

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
FEB 24 2012

## Test Ticket

NO. 46874

4/10

BY: \_\_\_\_\_

Well Name & No. Pfannenstiel et al 1-24 Test No. 2 Date 2-22-12  
 Company Samuel Gary Jr. & Assoc. Elevation 1959 KB 1951 GL  
 Address 1515 WYNKOOP Ste 700 DENVER CO. 80202  
 Co. Rep / Geo. Tom FERTAL Rig Discovery # 2  
 Location: Sec. 24 Twp. 14<sup>s</sup> Rge. 18<sup>w</sup> Co. Ellis State KS

Interval Tested 3282-3350 Zone Tested LANSING KC 12-0  
 Anchor Length 68 Drill Pipe Run 3318 Mud Wt. 9.2  
 Top Packer Depth 3277 Drill Collars Run 31 Vis 50  
 Bottom Packer Depth 3282 Wt. Pipe Run — WL 8.0  
 Total Depth 3350 Chlorides 2500 ppm System LCM —

Blow Description 10 FF- 1 in Blow  
60 FSI- NO Blow  
15 FF- NO Blow  
60 FSI- NO Blow

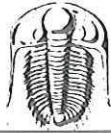
Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>MUD</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 97 Gravity API RW @ ° F Chlorides ppm

(A) Initial Hydrostatic 1616  Test 1125 T-On Location 22:00  
 (B) First Initial Flow 18  Jars 250 T-Started 22:05  
 (C) First Final Flow 23  Safety Joint 75 T-Open 0:17  
 (D) Initial Shut-In 937  Circ Sub \_\_\_\_\_ T-Pulled 2:42  
 (E) Second Initial Flow 25  Hourly Standby \_\_\_\_\_ T-Out 5:08  
 (F) Second Final Flow 31  Mileage 20 RT 28 Comments \_\_\_\_\_  
 (G) Final Shut-In 923  Sampler 250 \_\_\_\_\_  
 (H) Final Hydrostatic 1565  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder 205 Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1928  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1928

Approved By \_\_\_\_\_ Our Representative Brett Jim 964

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# TRILOBITE TESTING, INC.

P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 46874 Date 2-23-12  
 Company Name Samuel Gary Jr. & Assoc.  
 Lease Fannenstiel #1-24 Test No. 2  
 County Ellis Sec. 24 Twp. 14<sup>S</sup> Rng. 18<sup>W</sup>

### SAMPLER RECOVERY

Gas \_\_\_\_\_ ML  
 Oil \_\_\_\_\_ ML  
 Mud 3000 ML  
 Water \_\_\_\_\_ ML  
 Other \_\_\_\_\_ ML  
 Pressure 195 PSI ML  
 Total 3000 ML

### PIT MUD ANALYSIS

Chlorides 2500 ppm.  
 Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
 Viscosity 50  
 Mud Weight 9.2  
 Filtrate 8.0  
 Other \_\_\_\_\_

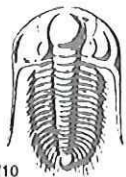
### SAMPLER ANALYSIS

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

### PIPE RECOVERY

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





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P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
FEB 24 2012

## Test Ticket

NO. 46875

4/10

BY: \_\_\_\_\_

Well Name & No. Pfannenstiel et al #1-24 Test No. 3 Date 2/24/12  
 Company Samuel Gary Jr. & Assoc. Elevation 1959 KB 1951 GL  
 Address 1515 Wynton St Ste 700 Denver CO. 80202  
 Co. Rep / Geo. Tom Ferial Rig Discovery #2  
 Location: Sec. 24 Twp. 14s Rge. 18w Co. Ellis State KS

Interval Tested 3508 - 3548 Zone Tested Penn Sand  
 Anchor Length 40 Drill Pipe Run 3469 Mud Wt. 9.4  
 Top Packer Depth 3503 3508 Drill Collars Run 31 Vis 52  
 Bottom Packer Depth 3548 Wt. Pipe Run — WL 7.8  
 Total Depth 3634 Chlorides 4,000 ppm System LCM —  
 Blow Description IF - 4 in blow  
JSI - No blow  
FF - Very weak surface blow  
FSI - No blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>5</u>	<u>0 CM</u>		<u>30</u>	<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 5 BHT 103 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

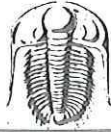
(A) Initial Hydrostatic 1,816  Test 1125' T-On Location 12:20  
 (B) First Initial Flow 20  Jars 250' T-Started 12:50  
 (C) First Final Flow 19  Safety Joint 75' T-Open 14:30  
 (D) Initial Shut-In 1,080  Circ Sub \_\_\_\_\_ T-Pulled 16:55  
 (E) Second Initial Flow 23  Hourly Standby \_\_\_\_\_ T-Out 18:55  
 (F) Second Final Flow 24  Mileage 10x2 25' Comments \_\_\_\_\_  
 (G) Final Shut-In 1,020  Sampler 250 \_\_\_\_\_  
 (H) Final Hydrostatic 1,730  Straddle 600'  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Open 10  Extra Recorder 200' Sub Total 233.38  
 Initial Shut-In 60  Day Standby 31 hrs Total 274.38  
 Final Flow 15  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Final Shut-In 60 Sub Total 2528' 1264/116.69

Approved By \_\_\_\_\_

Our Representative Butch [Signature] / SIM

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P.O. Box 362 • Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 46875 Date 2/24/12

Company Name Samuel Gary Jr. & Assoc.

Lease Pfannenstiel et al # 1-24 Test No. 3

County Ellis Sec. 24 Twp. 14 Rng. 18w

### SAMPLER RECOVERY

Gas 2600 ML

Oil 100 ML

Mud 300 ML

Water \_\_\_\_\_ ML

Other \_\_\_\_\_ ML

Pressure 150 PSI ML

Total \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides 4,000 ppm.

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Viscosity 52

Mud Weight 9.4

Filtrate 7.8

Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.

Gravity \_\_\_\_\_ corrected @60F

### PIPE RECOVERY

#### TOP

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.

#### MIDDLE

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.

#### BOTTOM

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F

Chlorides \_\_\_\_\_ ppm.