



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1107059  
OIL & GAS CONSERVATION DIVISION

Form ACO-1

August 2013

Form must be Typed  
Form must be Signed  
All blanks must be Filled

WELL COMPLETION FORM  
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Address 1: \_\_\_\_\_

Address 2: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ + \_\_\_\_\_

Contact Person: \_\_\_\_\_

Phone: ( \_\_\_\_\_ ) \_\_\_\_\_

CONTRACTOR: License # \_\_\_\_\_

Name: \_\_\_\_\_

Wellsite Geologist: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Designate Type of Completion:

- New Well       Re-Entry       Workover
- Oil       WSW       SWD       SIOW
- Gas       D&A       ENHR       SIGW
- OG       GSW       Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_

- Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD
- Plug Back       Conv. to GSW       Conv. to Producer
- Commingled      Permit #: \_\_\_\_\_
- Dual Completion      Permit #: \_\_\_\_\_
- SWD      Permit #: \_\_\_\_\_
- ENHR      Permit #: \_\_\_\_\_
- GSW      Permit #: \_\_\_\_\_

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - \_\_\_\_\_

Spot Description: \_\_\_\_\_

\_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

\_\_\_\_\_ Feet from  North /  South Line of Section

\_\_\_\_\_ Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE       NW       SE       SW

GPS Location: Lat: \_\_\_\_\_, Long: \_\_\_\_\_  
(e.g. xx.xxxxx)      (e.g. -xxx.xxxxx)

Datum:  NAD27       NAD83       WGS84

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total Vertical Depth: \_\_\_\_\_ Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: \_\_\_\_\_ Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set: \_\_\_\_\_ Feet

If Alternate II completion, cement circulated from: \_\_\_\_\_

feet depth to: \_\_\_\_\_ w/ \_\_\_\_\_ sx cmt.

Drilling Fluid Management Plan

*(Data must be collected from the Reserve Pit)*

Chloride content: \_\_\_\_\_ ppm Fluid volume: \_\_\_\_\_ bbls

Dewatering method used: \_\_\_\_\_

Location of fluid disposal if hauled offsite:

Operator Name: \_\_\_\_\_

Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West

County: \_\_\_\_\_ Permit #: \_\_\_\_\_

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1107059

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No  List All E. Logs Run: _____	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
--	---

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry?  Yes  No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD:	Size:	Set At:	Packer At:	Liner Run: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____
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Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Norstar Petroleum, Inc.
Well Name	Epard-Seele Unit 1-33
Doc ID	1107059

Tops

Name	Top	Datum
Anhydrite	2729	+508
Topeka	3957	-720
Heebner	4114	-877
Toronto	4135	-898
Lansing	4154	-917
Stark Shale	4382	-1145
Pawnee	4572	-1335
Ft Scott	4601	-1364
Cherokee Shale	4619	-1382
Johnson	4699	-1462
Mississippi	4782	-1545

Conservation Division  
Finney State Office Building  
130 S. Market, Rm. 2078  
Wichita, KS 67202-3802



Phone: 316-337-6200  
Fax: 316-337-6211  
<http://kcc.ks.gov/>

Mark Sievers, Chairman  
Thomas E. Wright, Commissioner  
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

January 07, 2013

Brady Pfeiffer  
Norstar Petroleum, Inc.  
88 INVERNESS CIR E. Unit F104  
ENGLEWOOD, CO 80112

Re: ACO1  
API 15-193-20871-00-00  
Epard-Seele Unit 1-33  
NE/4 Sec.33-10S-34W  
Thomas County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Brady Pfeiffer



## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inerness CIR E unit F104  
Englewood CO 80112

ATTN: Brad Rine

### **Epard-Seele #1-33**

### **33-10s-34w Thomas,KS**

Start Date: 2012.12.12 @ 21:39:00

End Date: 2012.12.13 @ 05:15:30

Job Ticket #: 51386                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.18 @ 10:15:41



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
88 Inerness CIR E unit F104  
Englewood CO 80112  
ATTN: Brad Rine

**33-10s-34w Thomas,KS**  
**Epard-Seele #1-33**  
Job Ticket: 51386 **DST#: 1**  
Test Start: 2012.12.12 @ 21:39:00

## GENERAL INFORMATION:

Formation: **LKC "H - J"**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 00:34:00  
Time Test Ended: 05:15:30  
Interval: **4295.00 ft (KB) To 4375.00 ft (KB) (TVD)**  
Total Depth: 4375.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches Hole Condition: Good  
Test Type: Conventional Bottom Hole (Initial)  
Tester: Ryan Nichols  
Unit No: 64  
Reference Elevations: 3237.00 ft (KB)  
3232.00 ft (CF)  
KB to GR/CF: 5.00 ft

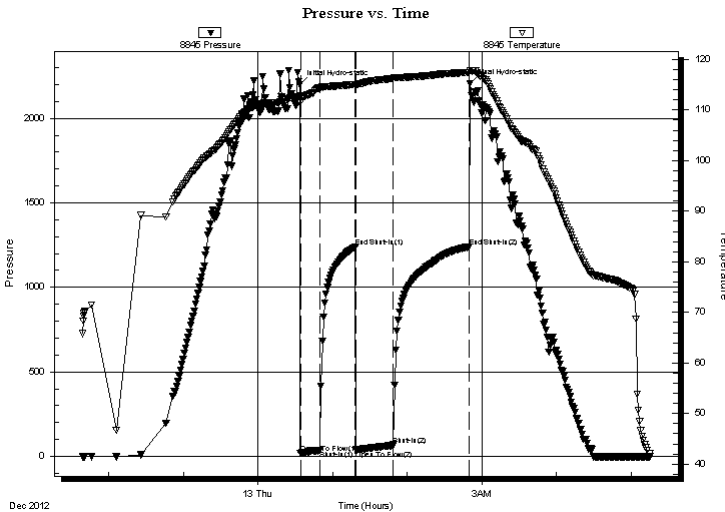
## Serial #: 8845

**Outside**

Press @ Run Depth: 64.93 psig @ 4296.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2012.12.12 End Date: 2012.12.13 Last Calib.: 2012.12.13  
Start Time: 21:39:05 End Time: 05:15:29 Time On Btm: 2012.12.13 @ 00:33:45  
Time Off Btm: 2012.12.13 @ 02:50:30

TEST COMMENT: 15 IF - Surface blow bluit to 1"  
30 ISI - No return  
30 FF - Surface blow started @ 5 mins  
60 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2199.50	112.75	Initial Hydro-static
1	17.45	111.40	Open To Flow (1)
16	35.83	114.35	Shut-In(1)
45	1239.11	115.03	End Shut-In(1)
45	38.68	114.62	Open To Flow (2)
75	64.93	116.25	Shut-In(2)
137	1240.63	117.45	End Shut-In(2)
137	2207.01	117.82	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
70.00	Mud - 100%	0.34

## Gas Rates

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





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51386

**DST#: 1**

ATTN: Brad Rine

Test Start: 2012.12.12 @ 21:39:00

## Tool Information

Drill Pipe:	Length: 4168.00 ft	Diameter: 3.80 inches	Volume: 58.47 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 66000.00 lb
			<u>Total Volume: 59.08 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 66000.00 lb
Depth to Top Packer:	4295.00 ft			Final 66000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	80.00 ft			
Tool Length:	108.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			4268.00	
Shut In Tool	5.00			4273.00	
Hydraulic tool	5.00			4278.00	
Jars	5.00			4283.00	
Safety Joint	3.00			4286.00	
Packer	5.00			4291.00	28.00 Bottom Of Top Packer
Packer	4.00			4295.00	
Stubb	1.00			4296.00	
Recorder	0.00	8017	Outside	4296.00	
Recorder	0.00	8845	Outside	4296.00	
Perforations	10.00			4306.00	
Blank Spacing	64.00			4370.00	
Bullnose	5.00			4375.00	80.00 Bottom Packers & Anchor

**Total Tool Length: 108.00**





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51386

**DST#: 1**

ATTN: Brad Rine

Test Start: 2012.12.12 @ 21:39:00

## 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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6800.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	Mud - 100%	0.344

Total Length: 70.00 ft      Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

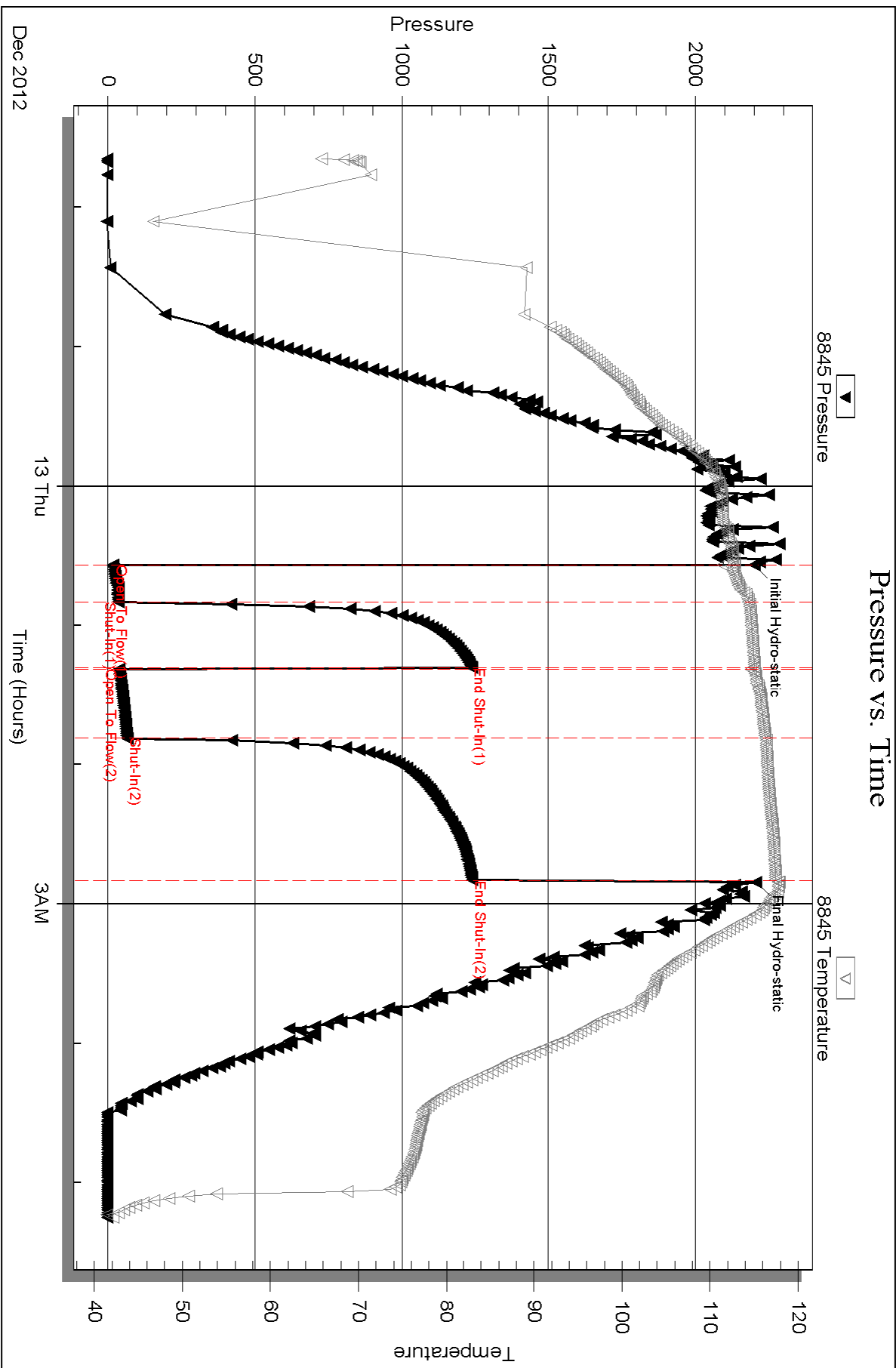
Recovery Comments:

Serial #: 8845

Outside Norstar Petroleum, Inc.

Epard-Seele #1-33

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 51386

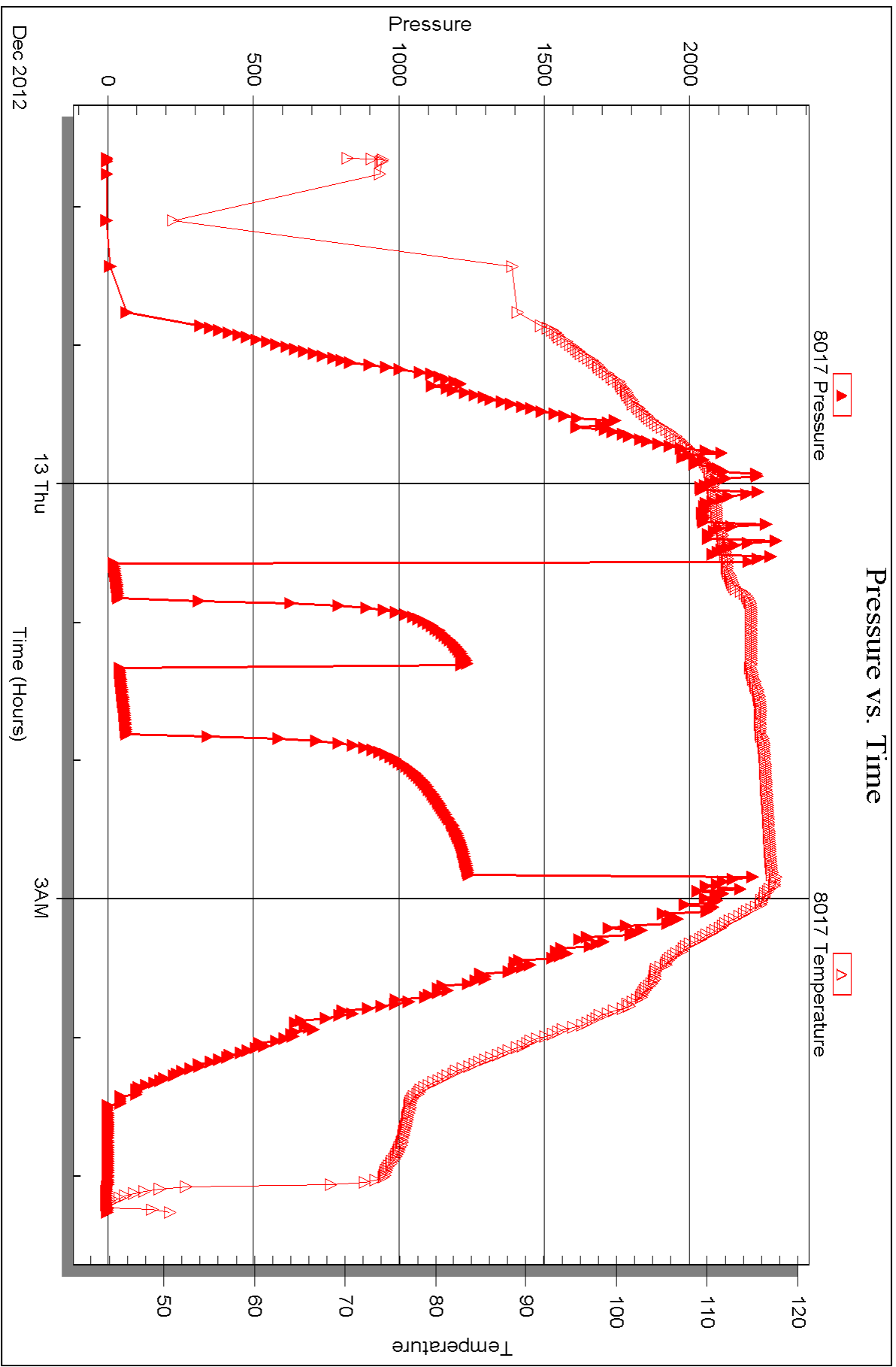
Printed: 2012.12.18 @ 10:15:45

Serial #: 8017

Outside Norstar Petroleum, Inc.

Epard-Seele #1-33

DST Test Number: 1





## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inerness CIR E unit F104  
Englewood CO 80112

ATTN: Brad Rine

### **Epard-Seele #1-33**

#### **33-10s-34w Thomas,KS**

Start Date: 2012.12.13 @ 13:29:00

End Date: 2012.12.13 @ 21:02:30

Job Ticket #: 51387                      DST #: 2

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

Printed: 2012.12.18 @ 10:14:53

Norstar Petroleum, Inc.

33-10s-34w Thomas,KS

Epard-Seele #1-33

DST # 2

LKC " K "

2012.12.13



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
 88 Inerness CIR E unit F104  
 Englewood CO 80112  
 ATTN: Brad Rine

**33-10s-34w Thomas, KS**  
**Epard-Seele #1-33**  
 Job Ticket: 51387 **DST#: 2**  
 Test Start: 2012.12.13 @ 13:29:00

## GENERAL INFORMATION:

Formation: **LKC " K "**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Reset)  
 Time Tool Opened: 15:44:15 Tester: Ryan Nichols  
 Time Test Ended: 21:02:30 Unit No: 64  
 Interval: **4376.00 ft (KB) To 4410.00 ft (KB) (TVD)** Reference Elevations: 3237.00 ft (KB)  
 Total Depth: 4410.00 ft (KB) (TVD) 3232.00 ft (CF)  
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 5.00 ft

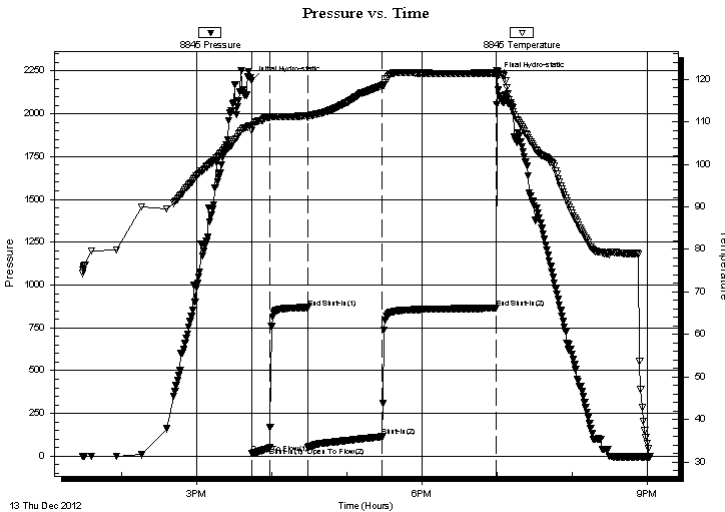
## Serial #: 8845

Outside

Press @ Run Depth: 113.79 psig @ 4377.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.13 End Date: 2012.12.13 Last Calib.: 2012.12.13  
 Start Time: 13:29:05 End Time: 21:02:29 Time On Btm: 2012.12.13 @ 15:44:00  
 Time Off Btm: 2012.12.13 @ 19:00:15

TEST COMMENT: 15 IF - Surface blow bluit to 2 1/4"  
 30 ISI - No return  
 60 FF - Surface blow started @ 3 mins built to 7 1/4"  
 90 FSI - No return

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2195.02	109.03	Initial Hydro-static
1	16.10	107.90	Open To Flow (1)
15	49.94	110.94	Shut-In(1)
45	868.17	111.48	End Shut-In(1)
45	53.72	111.01	Open To Flow (2)
105	113.79	118.51	Shut-In(2)
196	864.55	121.50	End Shut-In(2)
197	2216.28	121.84	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	GMCW - 5%G - 40%M - 55%W	0.30
62.00	GMCW - 5%G - 45%M - 50%W	0.30
62.00	GWCM - 5%G - 30%W - 65%M	0.87
50.00	Mud - 5%G - 95%M	0.70

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51387

**DST#: 2**

ATTN: Brad Rine

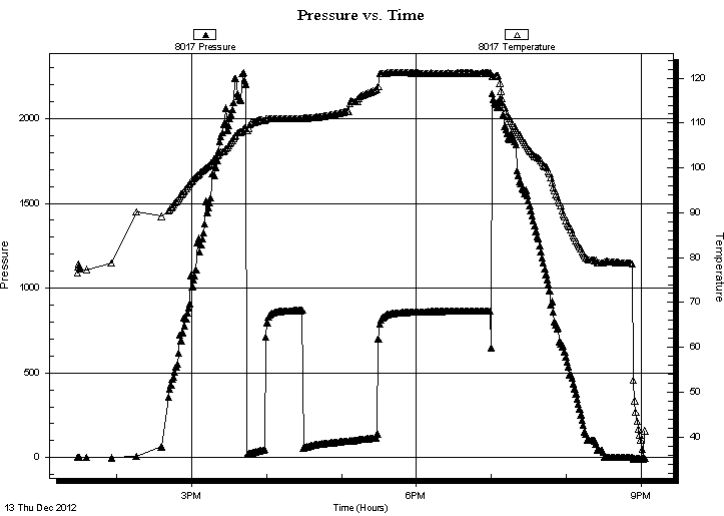
Test Start: 2012.12.13 @ 13:29:00

## GENERAL INFORMATION:

Formation: **LKC " K "**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 15:44:15  
 Time Test Ended: 21:02:30  
 Interval: **4376.00 ft (KB) To 4410.00 ft (KB) (TVD)**  
 Total Depth: 4410.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 64  
 Reference Elevations: 3237.00 ft (KB)  
 3232.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8017** Outside  
 Press @ Run Depth: psig @ 4377.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.13 End Date: 2012.12.13 Last Calib.: 2012.12.13  
 Start Time: 13:28:50 End Time: 21:02:29 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** 15 IF - Surface blow built to 2 1/4"  
 30 ISI - No return  
 60 FF - Surface blow started @ 3 mins built to 7 1/4"  
 90 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	GMCW - 5%G - 40%M - 55%W	0.30
62.00	GMCW - 5%G - 45%M - 50%W	0.30
62.00	GWCM - 5%G - 30%W - 65%M	0.87
50.00	Mud - 5%G - 95%M	0.70

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51387

**DST#: 2**

ATTN: Brad Rine

Test Start: 2012.12.13 @ 13:29:00

## Tool Information

Drill Pipe:	Length: 4232.00 ft	Diameter: 3.80 inches	Volume: 59.36 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 59.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4376.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	62.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4349.00	
Shut In Tool	5.00			4354.00	
Hydraulic tool	5.00			4359.00	
Jars	5.00			4364.00	
Safety Joint	3.00			4367.00	
Packer	5.00			4372.00	28.00 Bottom Of Top Packer
Packer	4.00			4376.00	
Stubb	1.00			4377.00	
Recorder	0.00	8017	Outside	4377.00	
Recorder	0.00	8845	Outside	4377.00	
Perforations	28.00			4405.00	
Bullnose	5.00			4410.00	34.00 Bottom Packers & Anchor

**Total Tool Length: 62.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51387

**DST#: 2**

ATTN: Brad Rine

Test Start: 2012.12.13 @ 13:29:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 47.00 sec/qt  
Water Loss: 8.38 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 6400.00 ppm  
Filter Cake: 2.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: 70000 ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GMCW - 5%G - 40%M - 55%W	0.305
62.00	GMCW - 5%G - 45%M - 50%W	0.305
62.00	GWCM - 5%G - 30%W - 65%M	0.870
50.00	Mud - 5%G - 95%M	0.701

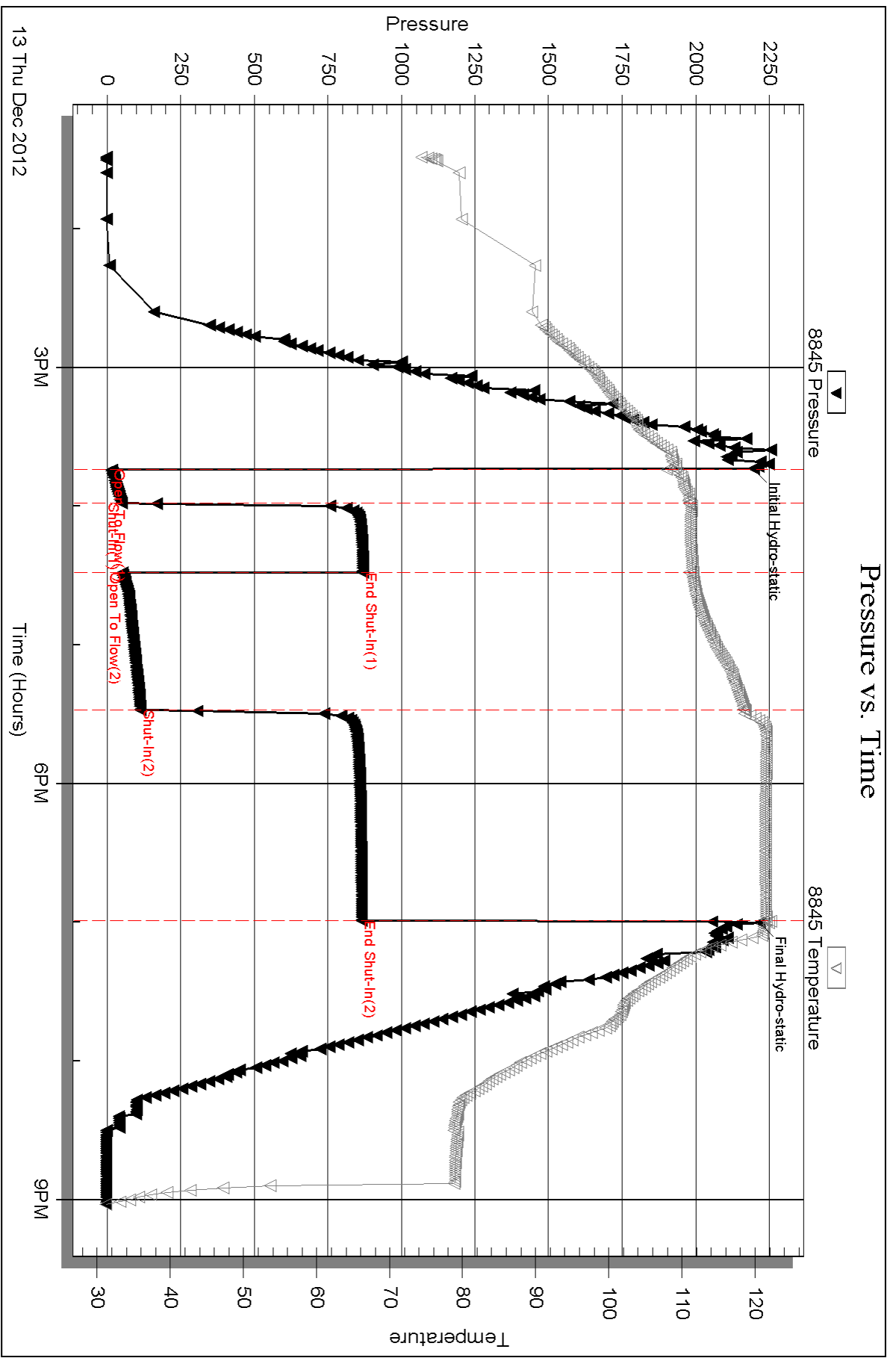
Total Length: 236.00 ft      Total Volume: 2.181 bbl

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

Laboratory Name:      Laboratory Location:

Recovery Comments: 33 Deg F @ .233 70,000 ppm



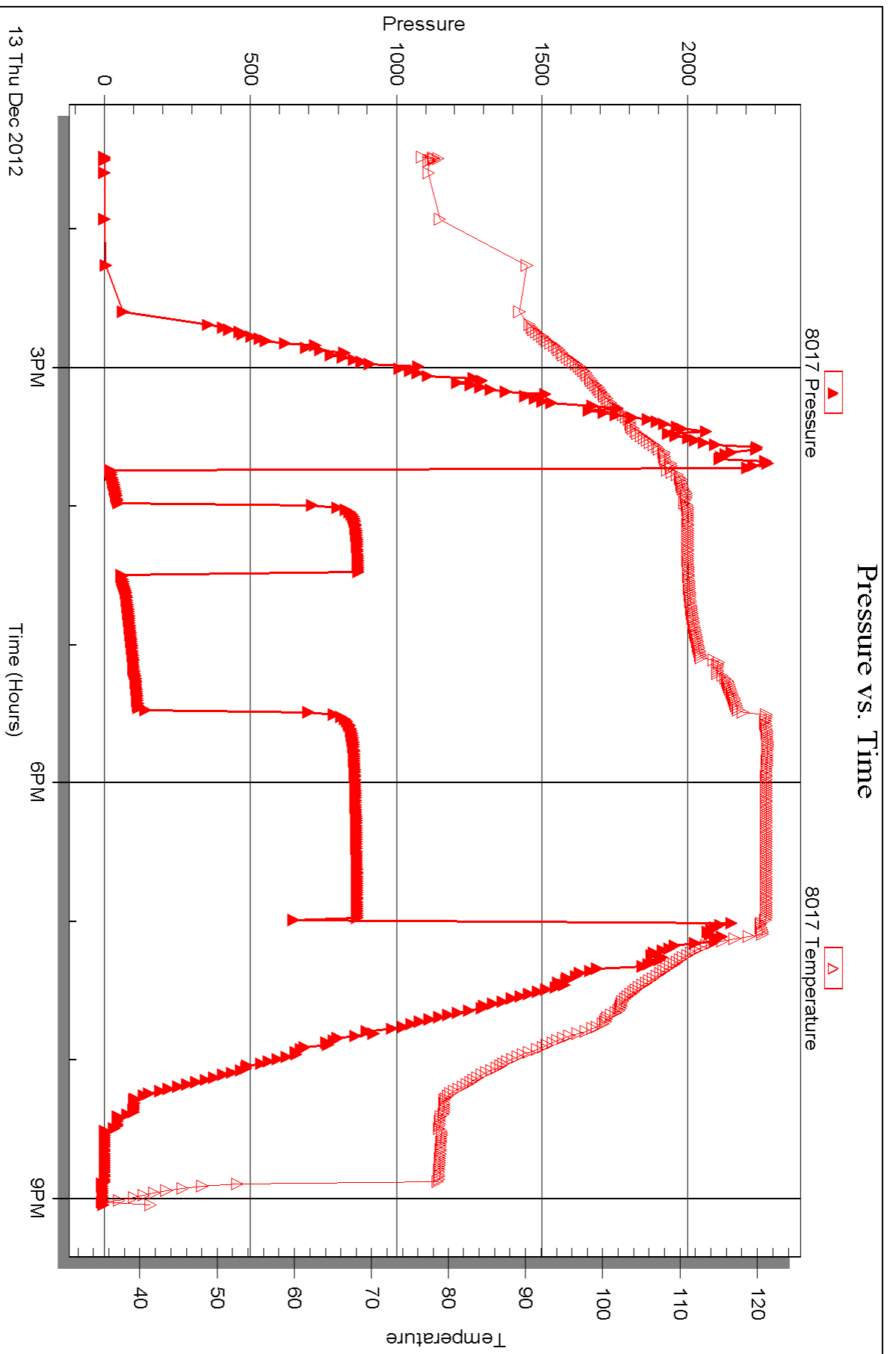


Serial #: 8017

Outside Norstar Petroleum, Inc.

Epard-Seele #1-33

DST Test Number: 2





## DRILL STEM TEST REPORT

Prepared For: **Norstar Petroleum, Inc.**

88 Inerness CIR E unit F104  
Englewood CO 80112

ATTN: Brad Rine

### **Epard-Seele #1-33**

#### **33-10s-34w Thomas,KS**

Start Date: 2012.12.15 @ 07:15:00

End Date: 2012.12.15 @ 15:56:00

Job Ticket #: 51388                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2012.12.18 @ 10:14:06

Norstar Petroleum, Inc.

33-10s-34w Thomas,KS

Epard-Seele #1-33

DST # 3

Johnson

2012.12.15



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
 88 Inerness CIR E unit F104  
 Englewood CO 80112  
 ATTN: Brad Rine

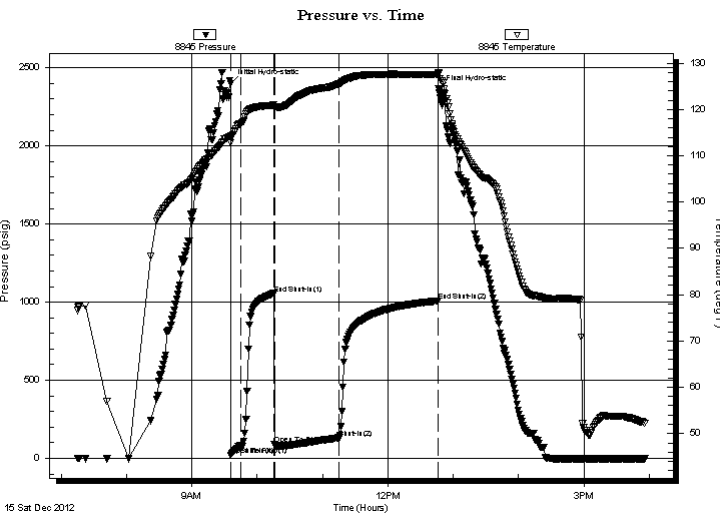
**33-10s-34w Thomas,KS**  
**Epard-Seele #1-33**  
 Job Ticket: 51388 **DST#: 3**  
 Test Start: 2012.12.15 @ 07:15:00

## GENERAL INFORMATION:

Formation: **Johnson**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 09:35:45  
 Time Test Ended: 15:56:00  
 Interval: **4673.00 ft (KB) To 4730.00 ft (KB) (TVD)**  
 Total Depth: 4730.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Ryan Nichols  
 Unit No: 64  
 Reference Elevations: 3237.00 ft (KB)  
 3232.00 ft (CF)  
 KB to GR/CF: 5.00 ft

**Serial #: 8845 Outside**  
 Press @ Run Depth: 131.24 psig @ 4674.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2012.12.15 End Date: 2012.12.15 Last Calib.: 2012.12.15  
 Start Time: 07:15:05 End Time: 15:56:00 Time On Btm: 2012.12.15 @ 09:35:30  
 Time Off Btm: 2012.12.15 @ 12:46:30

**TEST COMMENT:** 10 IF - Surface blow built to 6 1/4"  
 30 ISI - No return  
 60 FF - Surface blow built to BoB in 10 mins.  
 90 FSI - No return



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2401.93	114.20	Initial Hydro-static
1	19.71	112.79	Open To Flow (1)
10	74.56	116.76	Shut-In(1)
40	1055.64	120.96	End Shut-In(1)
41	92.43	120.58	Open To Flow (2)
100	131.24	125.52	Shut-In(2)
191	1008.08	127.46	End Shut-In(2)
191	2363.67	128.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	GMCO - 15%G - 30%M - 55%o	0.30
62.00	GMCO - 25%G - 25%M - 50%o	0.30
62.00	GMCO - 20%G - 30%M - 50%o	0.87
62.00	GMCO - 20%G - 25%M - 55%o	0.87
62.00	GMCO - 20%G - 20%M - 60%o	0.87

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

Norstar Petroleum, Inc.  
88 Inerness CIR E unit F104  
Englewood CO 80112  
ATTN: Brad Rine

33-10s-34w Thomas,KS

**Epard-Seele #1-33**

Job Ticket: 51388

**DST#: 3**

Test Start: 2012.12.15 @ 07:15:00

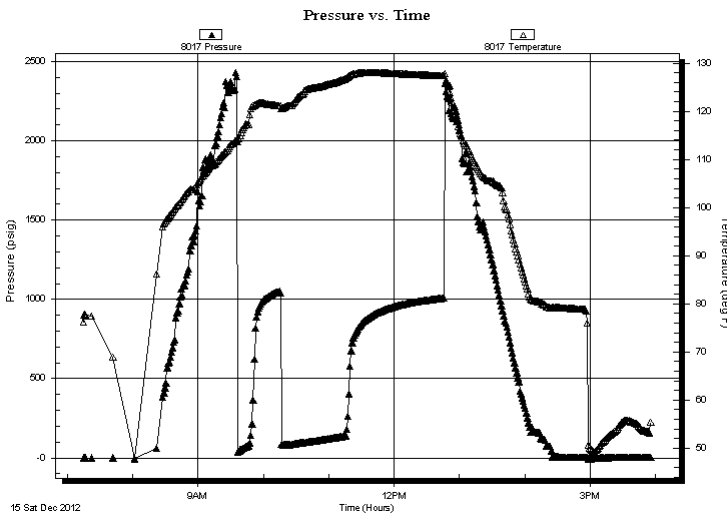
### GENERAL INFORMATION:

Formation: <b>Johnson</b>	Test Type: Conventional Bottom Hole (Reset)
Deviated: No Whipstock: ft (KB)	Tester: Ryan Nichols
Time Tool Opened: 09:35:45	Unit No: 64
Time Test Ended: 15:56:00	Reference Elevations: 3237.00 ft (KB)
<b>Interval: 4673.00 ft (KB) To 4730.00 ft (KB) (TVD)</b>	3232.00 ft (CF)
Total Depth: 4730.00 ft (KB) (TVD)	KB to GR/CF: 5.00 ft
Hole Diameter: 7.88 inches	Hole Condition: Good

**Serial #: 8017 Outside**

Press @ Run Depth: psig @ 4674.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2012.12.15	End Date: 2012.12.15
Start Time: 07:14:50	End Time: 15:56:00
	Last Calib.: 2012.12.15
	Time On Btm:
	Time Off Btm:

**TEST COMMENT:** 10 IF - Surface blow built to 6 1/4"  
30 ISI - No return  
60 FF - Surface blow built to BoB in 10 mins.  
90 FSI - No return



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

### Recovery

Length (ft)	Description	Volume (bbl)
62.00	GMCO - 15%G - 30%M - 55%o	0.30
62.00	GMCO - 25%G - 25%M - 50%o	0.30
62.00	GMCO - 20%G - 30%M - 50%o	0.87
62.00	GMCO - 20%G - 25%M - 55%o	0.87
62.00	GMCO - 20%G - 20%M - 60%o	0.87

### Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51388

**DST#: 3**

ATTN: Brad Rine

Test Start: 2012.12.15 @ 07:15:00

## Tool Information

Drill Pipe:	Length: 4546.00 ft	Diameter: 3.80 inches	Volume: 63.77 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 124.00 ft	Diameter: 2.25 inches	Volume: 0.61 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 64.38 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	4673.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	85.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			4646.00	
Shut In Tool	5.00			4651.00	
Hydraulic tool	5.00			4656.00	
Jars	5.00			4661.00	
Safety Joint	3.00			4664.00	
Packer	5.00			4669.00	28.00 Bottom Of Top Packer
Packer	4.00			4673.00	
Stubb	1.00			4674.00	
Recorder	0.00	8017	Outside	4674.00	
Recorder	0.00	8845	Outside	4674.00	
Perforations	18.00			4692.00	
Blank Spacing	33.00			4725.00	
Bullnose	5.00			4730.00	57.00 Bottom Packers & Anchor

**Total Tool Length: 85.00**



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Norstar Petroleum, Inc.

**33-10s-34w Thomas,KS**

88 Inerness CIR E unit F104  
Englewood CO 80112

**Epard-Seele #1-33**

Job Ticket: 51388

**DST#: 3**

ATTN: Brad Rine

Test Start: 2012.12.15 @ 07:15:00

## Mud and Cushion Information

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 51.00 sec/qt  
Water Loss: 8.79 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 8000.00 ppm  
Filter Cake: 2.00 inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
62.00	GMCO - 15%G - 30%M - 55%o	0.305
62.00	GMCO - 25%G - 25%M - 50%o	0.305
62.00	GMCO - 20%G - 30%M - 50%o	0.870
62.00	GMCO - 20%G - 25%M - 55%o	0.870
62.00	GMCO - 20%G - 20%M - 60%o	0.870

Total Length: 310.00 ft      Total Volume: 3.220 bbl

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

Laboratory Name:      Laboratory Location:

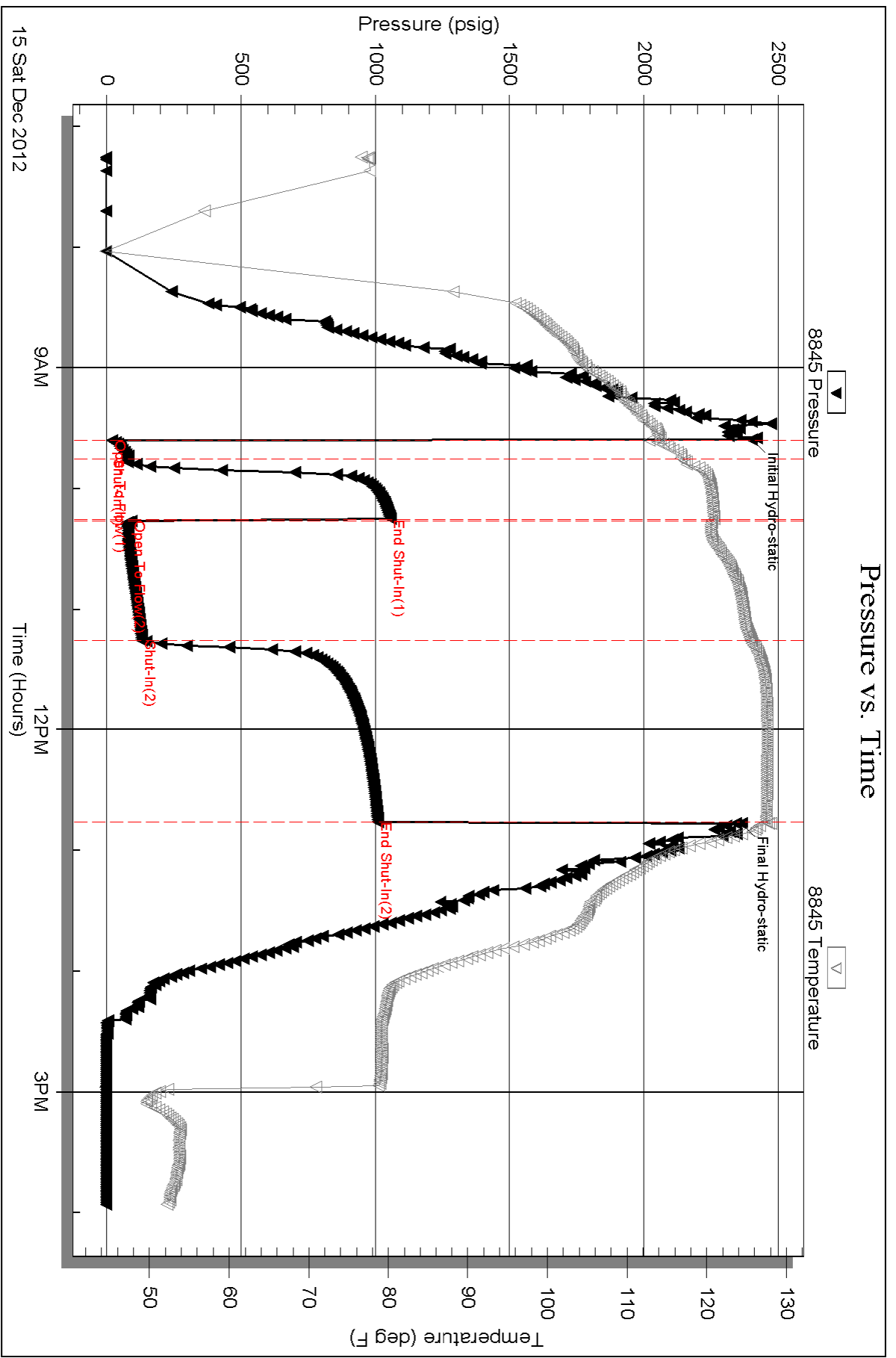
Recovery Comments:

Serial #: 8845

Outside Norstar Petroleum, Inc.

Epard-Seele #1-33

DST Test Number: 3



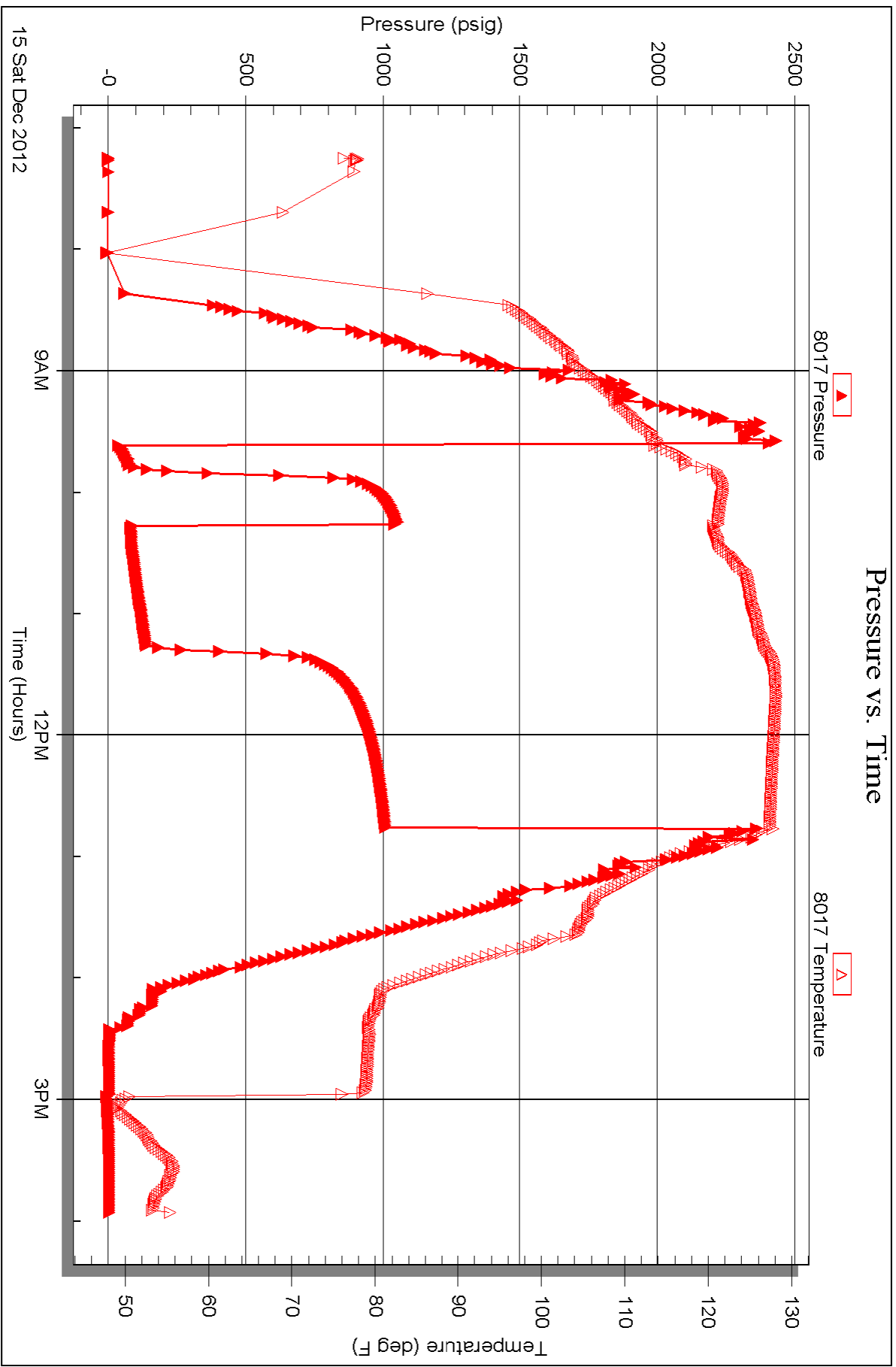


Serial #: 8017

Outside Norstar Petroleum, Inc.

Epard-Seele #1-33

DST Test Number: 3





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51386

Well Name & No. Eyard - Steele #1-33 Test No. 1 Date 12/12/12  
 Company Northstar Petroleum, Inc. Elevation 3237 KB 3232 GL  
 Address Northstar Petroleum, Inc. 88 Inerness CIR E Unit F104 Englewood CO 80112  
 Co. Rep / Geo. Brad Rine Rig WW #4  
 Location: Sec. 33 Twp. 10S Rge. 34W Co. Thomas State KS

Interval Tested 4295 - 4375 Zone Tested LKC "H-J"  
 Anchor Length 80' Drill Pipe Run 4168 Mud Wt. 9.3  
 Top Packer Depth 4290 Drill Collars Run 124 Vis 56  
 Bottom Packer Depth 4295 Wt. Pipe Run 0 WL 9.6  
 Total Depth 4375 Chlorides 6800 ppm System LCM .5

Blow Description IF - Surface blow built to 1"  
ISI - No return  
FF - Surface blow started @ 5 mins  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>70'</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

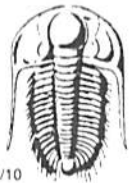
Rec Total 70' BHT 117° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>2200</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>18:30</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>21:39</u>
(C) First Final Flow <u>36</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>00:34</u>
(D) Initial Shut-In <u>1239</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>2:49</u>
(E) Second Initial Flow <u>39</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>05:15</u>
(F) Second Final Flow <u>65</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50	Comments
(G) Final Shut-In <u>1241</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2207</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer

Initial Open 15  Shale Packer  
 Initial Shut-In 30  Extra Packer  
 Final Flow 30  Extra Recorder  
 Final Shut-In 60  Day Standby  
 Accessibility  
 Sub Total 1776.50 MP/DST Disc't

Approved By \_\_\_\_\_ Our Representative Brad Rine

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.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **51387**

Well Name & No. Epard - Steele #1-33 Test No. 2 Date 12/13/12  
 Company Norstar Petroleum, Inc. Elevation 3237 KB 3232 GL  
 Address 88 Inerness CIR E Unit F104 Englewood CO 80112  
 Co. Rep / Geo. Brad Rine Rig WW #4  
 Location: Sec. 33 Twp. 10S Rge. 34W Co. Thomas State KS

Interval Tested 4376 - 4410 Zone Tested LKC "K"  
 Anchor Length 34' Drill Pipe Run 4232 Mud Wt. 9.2  
 Top Packer Depth 4371 Drill Collars Run 124 Vis 47  
 Bottom Packer Depth 4376 Wt. Pipe Run 0 WL 8.4  
 Total Depth 4410 Chlorides 6400 ppm System LCM 1  
 Blow Description IF - Surface blow built to 2 1/4"  
ISI - No return  
FF - Surface blow started @ 1 min built to 7 1/4"  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
50'	Mud	5		95	
62'	GWCM	5	30	65	
62'	GMCW	5	50	45	
62'	GMCW	5	55	40	

Rec Total 236' BHT 122° Gravity \_\_\_\_\_ API RW 33 @ 233° F Chlorides 70,000 ppm

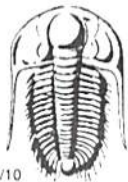
(A) Initial Hydrostatic <u>2195</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u><del>12:35</del> 12:35</u>
(B) First Initial Flow <u>16</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u><del>13:29</del> 13:29</u>
(C) First Final Flow <u>50</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>15:50</u>
(D) Initial Shut-In <u>868</u>	<input checked="" type="checkbox"/> Circ Sub <u>NC</u>	T-Pulled <u>19:05</u>
(E) Second Initial Flow <u>54</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>21:09</u>
(F) Second Final Flow <u>114</u>	<input checked="" type="checkbox"/> Mileage <u>130 RT</u> 201.50	Comments _____
(G) Final Shut-In <u>865</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2216</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Shale Packer _____
	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>15</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Sub Total <u>0</u>
Final Flow <u>60</u>	<input type="checkbox"/> Day Standby _____	Total <u>1776.50</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Accessibility _____	MP/DST Disc't _____
	Sub Total <u>1776.50</u>	

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

Our Representative [Signature]

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.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 51388

Well Name & No. Exard - Seele # 1-33 Test No. 3 Date 12/15/12  
 Company Norstar Petroleum, Inc Elevation 3237 KB 3232 GL  
 Address 88 Inerness CIR E Unit F104 Englewood CO 80112  
 Co. Rep / Geo. Brad Rine Rig WW #4  
 Location: Sec. 33 Twp. 10S Rge. 34W Co. Thomas State KS

Interval Tested 4673-4730 Zone Tested Johnson  
 Anchor Length 57' Drill Pipe Run 4546 Mud Wt. 9.2  
 Top Packer Depth 4668 Drill Collars Run 124 Vis 51  
 Bottom Packer Depth 4673 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4730 Chlorides 8000 ppm System LCM .5  
 Blow Description IF - Surface blow built to 64"  
ISI - No return  
FF - Surface blow built to Bob in 10 mins  
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
62'	GMCO	20	60	20	
62'	GMCO	20	55	25	
62'	GMCO	20	50	30	
62'	GMCO	25	50	25	
62'	GMCO	15		30	

Rec Total 310' BHT 128° Gravity — API RW 55 °F Chlorides — ppm

(A) Initial Hydrostatic 2402  Test 1250 T-On Location 05:05  
 (B) First Initial Flow 20  Jars 250 T-Started 07:15  
 (C) First Final Flow 75  Safety Joint 75 T-Open 09:35  
 (D) Initial Shut-In 1056  Circ Sub NC T-Pulled 12:45  
 (E) Second Initial Flow 92  Hourly Standby T-Out 15:55  
 (F) Second Final Flow 131  Mileage 130 RT 201.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1008  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2364  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 10  Ruined Shale Packer \_\_\_\_\_  
 Initial Shut-In 30  Ruined Packer \_\_\_\_\_  
 Final Flow 60  Extra Copies \_\_\_\_\_  
 Final Shut-In 90 Sub Total 0  
 Total 1776.50  
 Sub Total 1776.50 MP/DST Disc't \_\_\_\_\_

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

Our Representative Brad Rine

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PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

TICKET NUMBER 39286  
LOCATION Oaklay, Ks  
FOREMAN Miles Shanley  
Walt Dunkel

**FIELD TICKET & TREATMENT REPORT  
CEMENT**

DATE <u>1-2-13</u>	CUSTOMER # <u>5734</u>	WELL NAME & NUMBER <u>Seala 1-33</u>	SECTION <u>32</u>	TOWNSHIP <u>10 S</u>	RANGE <u>34 W</u>	COUNTY <u>Thomas</u>
CUSTOMER <u>Nacstar Petroleum, Inc</u>			Monument			
MAILING ADDRESS <u></u>			TRUCK # <u>405</u>	DRIVER <u>Jerry Yates</u>	TRUCK # <u>530-T129</u>	DRIVER <u>Tordlan Lowland</u>
CITY <u></u>	STATE <u></u>	ZIP CODE <u></u>				

JOB TYPE Part collar HOLE SIZE 7 7/8 HOLE DEPTH  CASING SIZE & WEIGHT 5 1/2  
 CASING DEPTH  DRILL PIPE  TUBING 2 3/8" OTHER P.C - 2718'  
 SLURRY WEIGHT 12.5 SLURRY VOL  WATER gal/sk  CEMENT LEFT in CASING   
 DISPLACEMENT 10 BBL DISPLACEMENT PSI  MIX PSI  RATE

REMARKS: Safety Meeting, rig up equipment, Test casing to 1000#, held  
open tool, Pump into to 3 BPM to 800#, mixed 400 sks 69/40 per, 8% sol  
14# Flo-Seal, Circ Cement to Surface, Displace 10 BBL H2O, Shut Tool  
Test to 1300#, held, ran 5 JTs, circ casing clean,

Cement Dial Circ

Thank You  
Miles, Walt & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401C	1	PUMP CHARGE	1,695 <sup>00</sup>	1,695 <sup>00</sup>
5406	20	MILEAGE	5 <sup>00</sup>	100 <sup>00</sup>
1131	400 sks	69/40 per	15 <sup>10</sup>	6,040 <sup>00</sup>
1118B	2752 #	Gal	1 <sup>25</sup>	688 <sup>00</sup>
1107	100 #	Flo-Seal	2 <sup>82</sup>	282 <sup>00</sup>
5407	17.2	Ton Whlase Delivery	167	574 <sup>60</sup>
				9,379 <sup>60</sup>
				- 937 <sup>96</sup>
				8,441 <sup>64</sup>
				460 <sup>56</sup>
				8902 <sup>20</sup>

**Completed**

Ravin 3737

AUTHORIZATION [Signature]

TITLE Agmt

SALES TAX  
ESTIMATED TOTAL  
DATE

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

255691





**CONSOLIDATED**  
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

TICKET NUMBER 39191  
LOCATION Oakley, KS  
FOREMAN Kelly Gabel

**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
12-16-12	5734	Epard seale unit	33	10 <sup>s</sup>	34 <sup>w</sup>	Thomas
CUSTOMER <u>Norsiar Petro</u>		Non memo				
MAILING ADDRESS		TRUCK #	DRIVER	TRUCK #	DRIVER	
CITY		2 W to 250 highway	399	Jerry Y		
STATE		N to online	460	Phil K		
ZIP CODE		3 W				
		1/2 N				
		W into				

JOB TYPE PROD HOLE SIZE 7 1/4 HOLE DEPTH 41850 CASING SIZE & WEIGHT 5 1/2 17#  
CASING DEPTH 4582 DRILL PIPE \_\_\_\_\_ TUBING PC TOP # 52 OTHER PC @ 2730'  
SLURRY WEIGHT 14<sup>2</sup> SLURRY VOL \_\_\_\_\_ WATER gal/sk \_\_\_\_\_ CEMENT LEFT in CASING 41' (shoe)  
DISPLACEMENT 114 1/2 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting, ran float equip on JT #5 cent, 1, 3, 5, 7, 9, 11, 13, 15, 50, 52 baskets # 6, 52, p top # 52, hooked up & circulated for 45 min. ran 117 STS total, pumped 5 bbl water mud flush 5 bbl water, mixed 30 SKS RH, mixed 175 SKS OWC # 5 per/sk. Kol-seal, released Plug & displaced with 109 bbl water, with lift pressure of 850 # & plug landed @ 1500 #, released pressure float held, washed out pumps & lines, rigged down

*Thank you Kelly Gabel*

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5401P	1	PUMP CHARGE	2950 <sup>00</sup>	2950 <sup>00</sup>
5406	20	MILEAGE	5 <sup>00</sup>	100 <sup>00</sup>
1126	205 SKS	OWC	2255	4622 <sup>75</sup>
110A	1025 #	Kol-seal	.56	574 <sup>00</sup>
5407	9.63	Tan mileage delivery (min)	167	410 <sup>00</sup>
4285	1	5 1/2 Part collar (F)	2075 <sup>00</sup>	2075 <sup>00</sup>
4130	10	centralizer (w) 5 1/2	58 <sup>00</sup>	580 <sup>00</sup>
4104	2	5 1/2 basket (F)	276 <sup>00</sup>	552 <sup>00</sup>
41159	1	5 1/2 AFU float shoe (F)	413 <sup>00</sup>	413 <sup>00</sup>
411521	1	5 1/2 latchdown w Plug	303 <sup>00</sup>	303 <sup>00</sup>
11446	500 gal	mud flush	1 <sup>00</sup>	500 <sup>00</sup>
1111	100 #	391+		NC
				13079 <sup>75</sup>
		Lead 10% disc		1307 <sup>98</sup>
				11,771 <sup>27</sup>
		SALES TAX		632.03
		ESTIMATED TOTAL		12403.80

Ravin 3737  
11:15 PM AUTHORIZATION [Signature] TITLE / DATE 12-16-12

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.

255397