



KANSAS CORPORATION COMMISSION 1161124
OIL & GAS CONSERVATION DIVISION

Form ACO-1

June 2009

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
- Conv. to GSW
- Plug Back: _____ Plug Back Total Depth _____
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

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

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total 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

- Letter of Confidentiality Received
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____



Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

INSTRUCTIONS: Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

| | |
|---|---|
| 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 Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i> 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 |
| _____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone | | | | |
| | | | | |

| 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: Yes No

Date of First, Resumed Production, SWD or ENHR. _____ Producing Method: Flowing Pumping Gas Lift Other *(Explain)* _____

| | | | | | |
|-----------------------------------|-----------|---------|-------------|---------------|---------|
| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|-----------------------------------|-----------|---------|-------------|---------------|---------|

| | | |
|---|--|--|
| DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i> | METHOD OF COMPLETION: <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> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____ | PRODUCTION INTERVAL: _____ _____ |
|---|--|--|

| | |
|-----------|------------------------|
| Form | ACO1 - Well Completion |
| Operator | Empire Energy E&P, LLC |
| Well Name | Barnhart 24-1 |
| Doc ID | 1161124 |

All Electric Logs Run

| |
|------------------------------------|
| |
| Micro |
| Sonic |
| Array Compensated True Resistivity |
| Dual Spaced Neutron |

| | |
|-----------|------------------------|
| Form | ACO1 - Well Completion |
| Operator | Empire Energy E&P, LLC |
| Well Name | Barnhart 24-1 |
| Doc ID | 1161124 |

Tops

| Name | Top | Datum |
|-------------|------|-------|
| Tarkio | 3079 | -1151 |
| Topeka | 3343 | -1415 |
| Heebner | 3729 | -1801 |
| Lansing | 3926 | -1998 |
| B/KC | 4313 | -2385 |
| Mississippi | 4400 | -2472 |
| Viola | 4497 | -2569 |
| Arbuckle | 4718 | -2790 |

| | | |
|---|-----------------------|------------------------------|
| Customer: E.M. Pipe Energy Field P.L.L.C. | Lease No.: | Date: 4-26-13 |
| Lease: Barnhart | Well # 24-1 | |
| Field Order # 0-290 | Station Pratt, Kansas | Casing 8 3/8 23Lb |
| Type Job C.N.W. - Surface | Depth 815 Feet | County Pratt |
| | Formation | State Kansas |
| | | Legal Description 24-295-13W |

| PIPE DATA | | PERFORATING DATA | | FLUID USED | TREATMENT RESUME | | |
|---------------------------|-------------------------|------------------|-------|-----------------------------|------------------|------------------|------------------------|
| Casing Size 8 3/8 23 | Tubing Size 1 1/2 11.75 | Shots/Ft 200 | sacks | A. con with | 39 | RATE | PRESS |
| Depth 815 Feet | Depth | From | To | 12 Lb./Gal. | 14.49 | Gal./Stk. | 2.47 |
| Volume 52.2 Bbl. | Volume | From | To | | Min | | 10 Min. |
| Max Press 300 P.S.I. | Max Press | From | To | 200 sacks | Avg | Calcium Chloride | 25 Lb./Stk. Cell Plate |
| Well Connection 1 1/2 Con | Annulus Vol. 9.1 | From | To | 15.6 Lb./Gal. | 5.2 | HHP Used | 1.20 CU.F. |
| Plug Depth 775 Feet | Packer Depth | From | To | Flush 49.6 Bbl. Fresh Water | Gas Volume | | Total Load |

| | | |
|-------------------------------|------------------------------|------------------------------|
| Customer Representative: Rick | Station Manager: David Scott | Treater: Clarence R. Messick |
|-------------------------------|------------------------------|------------------------------|

| | | | | | | | | | |
|---------------|---------|--------|--------|--------|--------|--|--|--|--|
| Service Units | 37,216 | 19,903 | 19,905 | 70,959 | 19,918 | | | | |
| Driver Names | Messick | Mattal | Phye | | | | | | |

| Time | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log |
|-------|-----------------|-----------------|--------------|------|--|
| 11:00 | | | | | Truck on location and hold safety meeting. |
| 2:05 | | | | | Minnescah Drilling start to run shoe joint with Baffle Plate screwed into collar and a total of 18 joints limited service 8 5/8" 23Lb./Ft. casing. |
| 4:00 | | | | | Casing in well. Circulate for 5 minutes. |
| 4:20 | 225 | | | 5 | Start Fresh water Pre-Flush. |
| | 250 | | 10 | 6 | Start mixing 200 sacks A. con Blend Cement. |
| | 175 | | 98 | 5 | Start mixing 200 sacks Common cement. |
| | - 0 - | | 140 | | Stop pumping. Shut in well. Release Top Rubber Plug. Open Well. |
| 4:44 | 150 | | | 5 | Start Fresh water Displacement. |
| 5:00 | 300 | | 49.6 | | Plug down. Shut in well. |
| | | | | | Circulated 20 Bbl. cement to the pit. |
| | | | | | Wash up pump truck. |
| 5:30 | | | | | Job Complete. |
| | | | | | Thank You |
| | | | | | Clarence, Mike, Dale |

| | | |
|------------------------------------|-----------------------|------------------------------------|
| Customer: Empire Energy ETP | Lease No. | Date: 5-4-13 |
| Lease: Bainhart | Well #: 24-1 | |
| Field Order # | Station: Pratt | Casing: 5 7/8" 14" |
| | | Depth: 11803 |
| Type Job: CNW-5 1/2 L.S. | Formation | County: Pratt |
| | | State: KS |
| | | Legal Description: 24-29-13 |

| PIPE DATA | | PERFORATING DATA | | FLUID USED | | TREATMENT RESUME | | |
|-----------------|--------------|------------------|-----|------------|--|------------------|-------|------------------|
| Casing Size | Tubing Size | Shots/Ft | 215 | Acid | | RATE | PRESS | ISIP |
| Depth | Depth | From | To | Pre Pad | | Max | | 5 Min. |
| Volume | Volume | From | To | Pad | | Min | | 10 Min. |
| Max Press | Max Press | From | To | Frac | | Avg | | 15 Min. |
| Well Connection | Annulus Vol. | From | To | | | HHP Used | | Annulus Pressure |
| Plug Depth | Packer Depth | From | To | Flush | | Gas Volume | | Total Load |

Customer Representative: **Jim Sartin** Station Manager: **David Scott** Treater: **Steve Orlando**

| | | | | |
|---------------|---------|--------|--------|-------|
| Service Units | 27285 | 27463 | 19860 | 21010 |
| Driver Names | Orlando | McBraw | Gibson | |

| Time | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log |
|----------|-----------------|-----------------|--------------|------|------------------------------------|
| 3:00 PM | | | | | On location - Safety Meeting |
| | | | | | Run 114 ft. 5 7/8" 14" casing |
| | | | | | Cap. Int. 1-3-5-7-9-11-13-15-17-19 |
| | | | | | Bainhart #10 |
| 9:30 AM | 1760 | | | | Con. on bottom break crew/truck |
| 10:30 AM | 400 | | 30 | 5 | KCL H2O |
| | 400 | | 10 | 5 | Mud flush |
| | 400 | | 5 | 5 | H2O spacer |
| | 400 | | 52 | 5 | M. F. 0.15% AAJ @ 15.3#/gal |
| | | | | | Clear pump line Release plug |
| | 0 | | 0 | 6 | Start H2O w/2% KCL |
| | 600 | | 90 | 5 | Loss Pressure |
| | 700 | | 105 | 4 | Slow Rate |
| 11:15 AM | 1500 | | 116 | 4 | Plug Down - Hold |
| 11:30 | | | 6/4 | | Plug R.H./M.H. w/5.0% AAJ |
| | | | | | Job Complete |
| | | | | | Thanks, Steve |



DRILL STEM TEST REPORT

Prepared For: **Empire Energy E P LLC**

1900 N Amidon STE 210
Wichita KS 67203

ATTN: Rob Kramer/ Mac Arms

Barnhart #24-1

24-29s-13w Pratt,KS

Start Date: 2013.05.01 @ 05:07:07

End Date: 2013.05.01 @ 14:31:52

Job Ticket #: 52307 DST #: 1

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

Printed: 2013.05.13 @ 13:45:07



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Empire Energy E PLLC

24-29s-13w Pratt, KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52307

DST#: 1

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.01 @ 05:07:07

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:12:37

Time Test Ended: 14:31:52

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Staats

Unit No: 47

Interval: 4204.00 ft (KB) To 4224.00 ft (KB) (TVD)

Reference Elevations: 1928.00 ft (KB)

Total Depth: 4224.00 ft (KB) (TVD)

1915.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

Serial #: 6773 Outside

Press @ Run Depth: 60.74 psig @ 4205.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.01 End Date: 2013.05.01

Last Calib.: 2013.05.01

Start Time: 05:07:12 End Time: 14:31:52

Time On Btm: 2013.05.01 @ 09:07:07

Time Off Btm: 2013.05.01 @ 12:12:07

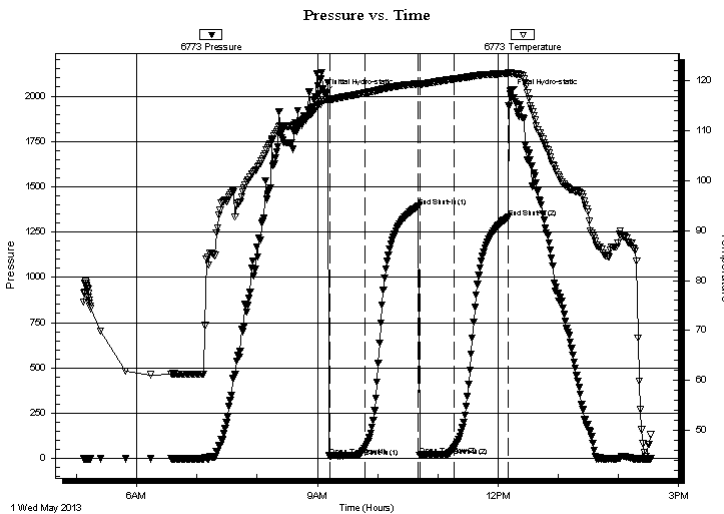
TEST COMMENT: IF: Weak blow 2 3/4"

ISI No blow back

FF: Weak blow 1"

FSI: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2015.58 | 116.13 | Initial Hydro-static |
| 6 | 13.29 | 116.25 | Open To Flow (1) |
| 40 | 56.79 | 117.52 | Shut-In(1) |
| 93 | 1390.29 | 119.36 | End Shut-In(1) |
| 96 | 16.96 | 119.30 | Open To Flow (2) |
| 130 | 60.74 | 120.33 | Shut-In(2) |
| 183 | 1330.86 | 121.44 | End Shut-In(2) |
| 185 | 2013.46 | 121.56 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|----------------------------------|--------------|
| 0.00 | 60 GIP | 0.00 |
| 25.00 | G,M w ith oil spots 1%gas 99%mud | 0.35 |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Empire Energy E PLLC

24-29s-13w Pratt, KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52307

DST#: 1

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.01 @ 05:07:07

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4180.00 ft | Diameter: 3.80 inches | Volume: 58.63 bbl | Tool Weight: 2200.00 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: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight to Pull Loose: 60000.00 lb |
| | | | <u>Total Volume: 58.63 bbl</u> | Tool Chased 1.00 ft |
| Drill Pipe Above KB: | 5.00 ft | | | String Weight: Initial 55000.00 lb |
| Depth to Top Packer: | 4204.00 ft | | | Final 56000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 20.00 ft | | | |
| Tool Length: | 49.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00 | | | 4176.00 | |
| Shut In Tool | 5.00 | | | 4181.00 | |
| Hydraulic tool | 5.00 | | | 4186.00 | |
| Jars | 5.00 | | | 4191.00 | |
| Safety Joint | 3.00 | | | 4194.00 | |
| Packer | 5.00 | | | 4199.00 | 29.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4204.00 | |
| Stubb | 1.00 | | | 4205.00 | |
| Recorder | 0.00 | 6773 | Outside | 4205.00 | |
| Recorder | 0.00 | 6755 | Inside | 4205.00 | |
| Perforations | 16.00 | | | 4221.00 | |
| Bullnose | 3.00 | | | 4224.00 | 20.00 Bottom Packers & Anchor |

Total Tool Length: 49.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Empire Energy E PLLC

24-29s-13w Pratt,KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52307

DST#: 1

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.01 @ 05:07:07

Mud and Cushion Information

| | | | |
|----------------------------------|----------------------------|-----------------|---------|
| Mud Type: Invert | Cushion Type: | Oil API: | deg API |
| Mud Weight: 10.00 lb/gal | Cushion Length: ft | Water Salinity: | ppm |
| Viscosity: 46.00 sec/qt | Cushion Volume: bbl | | |
| Water Loss: 8.98 in ³ | Gas Cushion Type: | | |
| Resistivity: 0.00 ohm.m | Gas Cushion Pressure: psig | | |
| Salinity: 5000.00 ppm | | | |
| Filter Cake: 0.02 inches | | | |

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|----------------------------------|---------------|
| 0.00 | 60 GIP | 0.000 |
| 25.00 | G,M w ith oil spots 1%gas 99%mud | 0.351 |

Total Length: 25.00 ft Total Volume: 0.351 bbl

Num Fluid Samples: 0

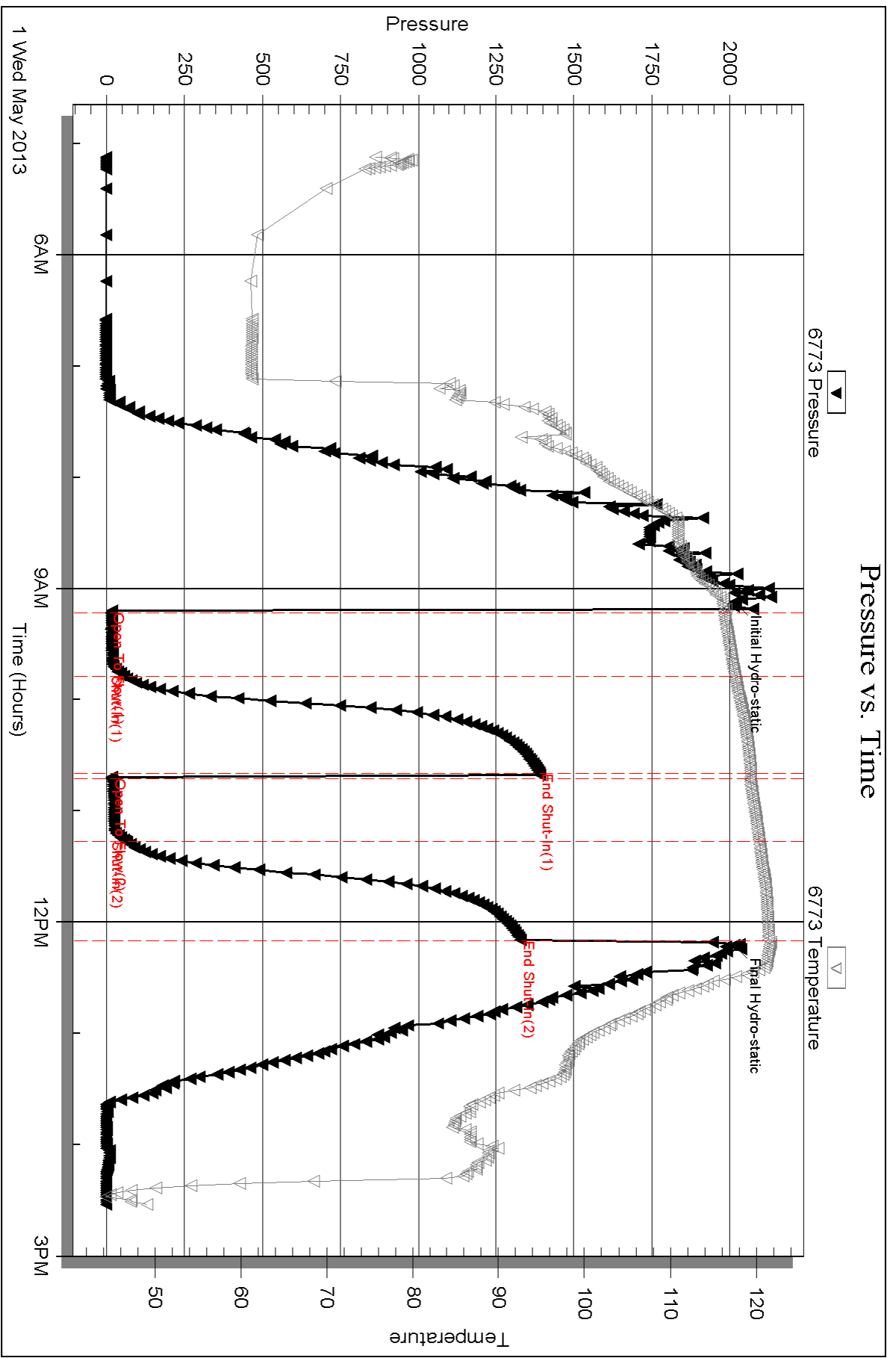
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: r kramer@ empireenergyusa.com
 aboyer@ empireenergyusa.com
 bm@empiregp.net
 jfarthing@empireenergyusa.com





DRILL STEM TEST REPORT

Prepared For: **Empire Energy E P LLC**

1900 N Amidon STE 210
Wichita KS 67203

ATTN: Rob Kramer/ Mac Arms

Barnhart #24-1

24-29s-13w Pratt,KS

Start Date: 2013.05.02 @ 12:28:36

End Date: 2013.05.02 @ 22:06:51

Job Ticket #: 52308 DST #: 2

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

Printed: 2013.05.13 @ 13:44:21



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Empire Energy E PLLC

24-29s-13w Pratt, KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52308

DST#: 2

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.02 @ 12:28:36

GENERAL INFORMATION:

Formation: **Viola**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:10:21

Time Test Ended: 22:06:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Chris Staats

Unit No: 47

Interval: 4502.00 ft (KB) To 4522.00 ft (KB) (TVD)

Reference Elevations: 1928.00 ft (KB)

Total Depth: 4522.00 ft (KB) (TVD)

1915.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 13.00 ft

Serial #: 6773 Outside

Press @ Run Depth: 20.10 psig @ 4503.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.05.02 End Date: 2013.05.02

Last Calib.: 2013.05.02

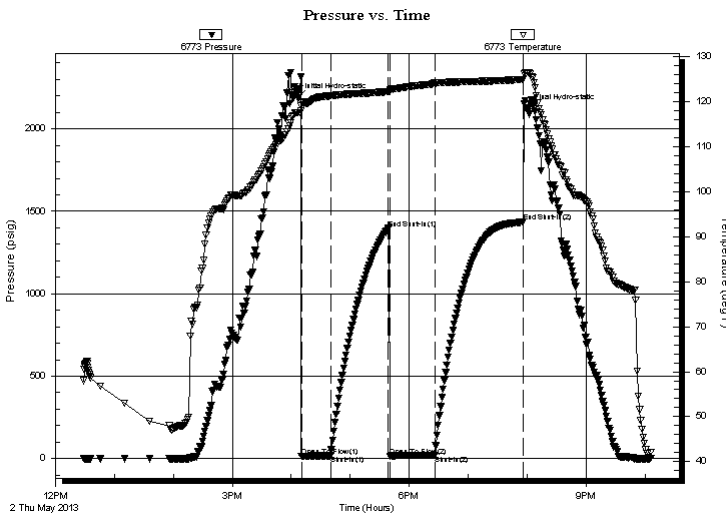
Start Time: 12:28:41 End Time: 22:06:51

Time On Btm: 2013.05.02 @ 16:06:51

Time Off Btm: 2013.05.02 @ 19:59:51

TEST COMMENT: IF: Strong blow BOB 4 min
IS: No blow back
FF: Strong blow BOB 1 min
FS: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2190.75 | 117.58 | Initial Hydro-static |
| 4 | 15.31 | 119.22 | Open To Flow (1) |
| 34 | 18.08 | 121.32 | Shut-In(1) |
| 92 | 1395.71 | 122.27 | End Shut-In(1) |
| 94 | 15.66 | 122.67 | Open To Flow (2) |
| 139 | 20.10 | 124.16 | Shut-In(2) |
| 229 | 1435.04 | 124.97 | End Shut-In(2) |
| 233 | 2125.74 | 126.55 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 0.00 | 620' GIP | 0.00 |
| 25.00 | G,M 1%gas 99%mud | 0.35 |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Empire Energy E PLLC

24-29s-13w Pratt, KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52308

DST#: 2

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.02 @ 12:28:36

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4494.00 ft | Diameter: 3.80 inches | Volume: 63.04 bbl | Tool Weight: 2200.00 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: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight to Pull Loose: 64000.00 lb |
| | | | <u>Total Volume: 63.04 bbl</u> | Tool Chased 2.00 ft |
| Drill Pipe Above KB: | 21.00 ft | | | String Weight: Initial 60000.00 lb |
| Depth to Top Packer: | 4502.00 ft | | | Final 60000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 20.00 ft | | | |
| Tool Length: | 49.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|----------------|
|------------------|-------------|------------|----------|------------|----------------|

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00 | | | 4474.00 | |
| Shut In Tool | 5.00 | | | 4479.00 | |
| Hydraulic tool | 5.00 | | | 4484.00 | |
| Jars | 5.00 | | | 4489.00 | |
| Safety Joint | 3.00 | | | 4492.00 | |
| Packer | 5.00 | | | 4497.00 | 29.00 Bottom Of Top Packer |
| Packer | 5.00 | | | 4502.00 | |
| Stubb | 1.00 | | | 4503.00 | |
| Recorder | 0.00 | 6773 | Outside | 4503.00 | |
| Recorder | 0.00 | 6755 | Inside | 4503.00 | |
| Perforations | 16.00 | | | 4519.00 | |
| Bullnose | 3.00 | | | 4522.00 | 20.00 Bottom Packers & Anchor |

Total Tool Length: 49.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Empire Energy E PLLC

24-29s-13w Pratt,KS

1900 N Amidon STE 210
Wichita KS 67203

Barnhart #24-1

Job Ticket: 52308

DST#: 2

ATTN: Rob Kramer/ Mac Arms

Test Start: 2013.05.02 @ 12:28:36

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|------------------|---------------|
| 0.00 | 620' GIP | 0.000 |
| 25.00 | G,M 1%gas 99%mud | 0.351 |

Total Length: 25.00 ft Total Volume: 0.351 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

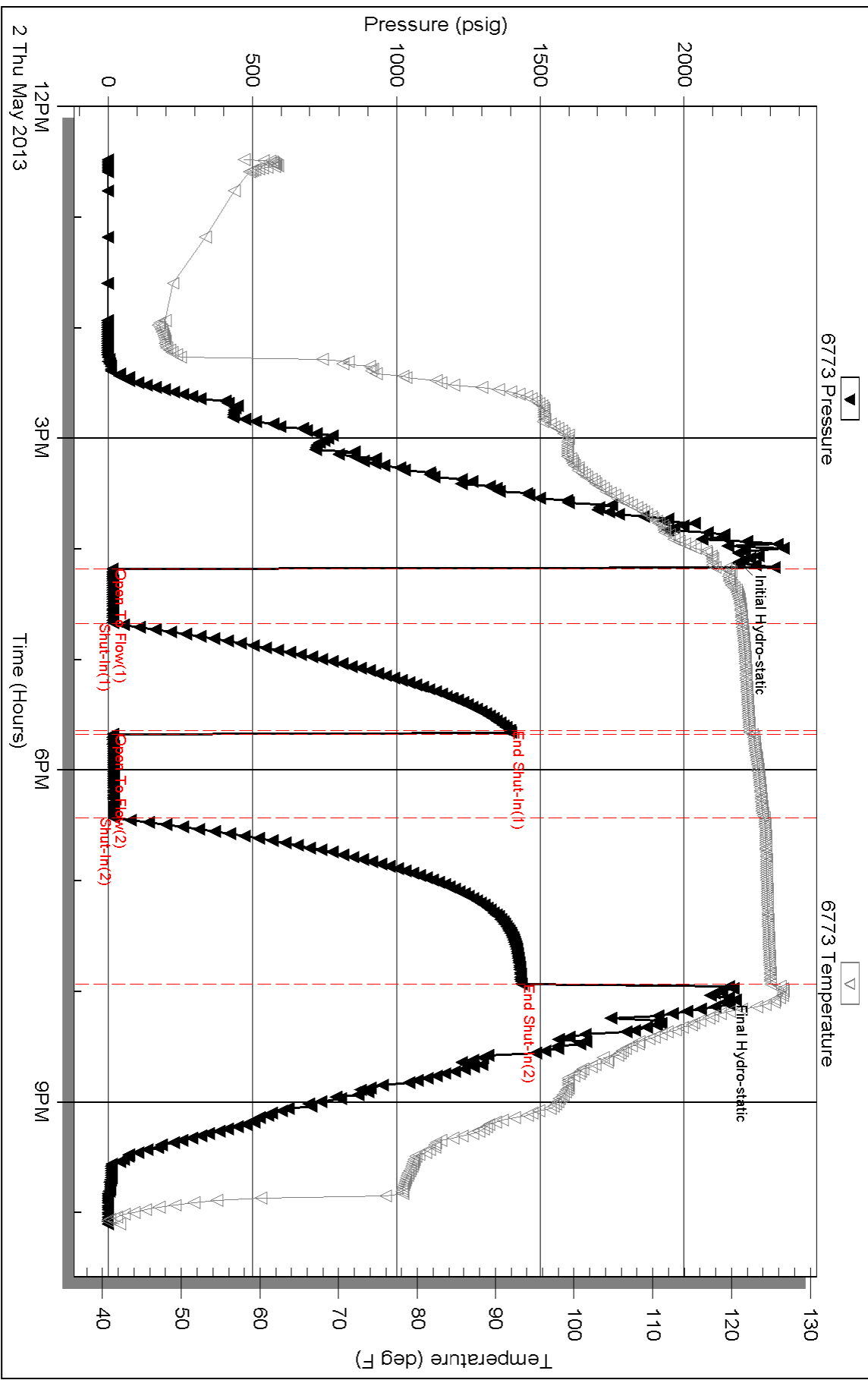
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52307

Well Name & No. Barnhart # 24-1 Test No. 1 Date 5-1-13
 Company Empire Energy E P LLC Elevation 1928 KB 1915 GL
 Address 1900 N Amidon STE 210 Wichita KS 67203
 Co. Rep / Geo. Rob Kramer / Mac Armstrong Rig MINNESOTA 101
 Location: Sec. 24 Twp. 29 S Rge. 13 W Co. Pratt State KS

Interval Tested 4204 - 4224 Zone Tested Lansing
 Anchor Length 20' Drill Pipe Run 4180 Mud Wt. 9.5
 Top Packer Depth 4199 Drill Collars Run 0 Vis 46
 Bottom Packer Depth 4204 Wt. Pipe Run 0 WL 9.0
 Total Depth 4224 Chlorides 5000 ppm System LCM 0

Blow Description IF: weak blow 2 3/4"
ISI: NO blow back
FF: weak blow 1"
FST: NO blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|----------------|-----------------------|----------|------|--------|-----------|
| | <u>60' GIP</u> | | | | |
| Rec <u>25'</u> | <u>6, m oil spots</u> | <u>1</u> | | | <u>99</u> |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 25' BHT 120 Gravity - API RW - @ - °F Chlorides - ppm

| | | |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2015</u> | <input checked="" type="checkbox"/> Test <u>1250</u> | T-On Location <u>4:40</u> |
| (B) First Initial Flow <u>13</u> | <input checked="" type="checkbox"/> Jars <u>250</u> | T-Started <u>5:07</u> |
| (C) First Final Flow <u>56</u> | <input checked="" type="checkbox"/> Safety Joint <u>75</u> | T-Open <u>9:12</u> |
| (D) Initial Shut-In <u>1390</u> | <input type="checkbox"/> Circ Sub | T-Pulled <u>12:10</u> |
| (E) Second Initial Flow <u>16</u> | <input type="checkbox"/> Hourly Standby | T-Out <u>14:30</u> |
| (F) Second Final Flow <u>60</u> | <input checked="" type="checkbox"/> Mileage <u>40 miles</u> 62 | Comments |
| (G) Final Shut-In <u>1330</u> | <input type="checkbox"/> Sampler | |
| (H) Final Hydrostatic <u>2013</u> | <input type="checkbox"/> Straddle | <input type="checkbox"/> Ruined Shale Packer |

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1637

Sub Total 1637

Approved By _____ Our Representative Chris Stov

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. 52308

Well Name & No. Barnhart #24-1 Test No. 2 Date 5-2-13
 Company Empire Energy EP LLC Elevation 1928 KB 1915 GL
 Address 1900 N Amidon STE 210 Wichita KS 67203
 Co. Rep / Geo. Rob Kramer / Mac Armstrong Rig Ninnescah #101
 Location: Sec. 24 Twp. 29 Rge. 13 Co. Pratt State KS

Interval Tested 4502 - 4522 Zone Tested Viola
 Anchor Length 20' Drill Pipe Run 4494 Mud Wt. 9.4
 Top Packer Depth 4497 Drill Collars Run 0 Vis 52
 Bottom Packer Depth 4502 Wt. Pipe Run 0 WL 14.2
 Total Depth 4522 Chlorides 14,500 ppm System LCM 2#

Blow Description IF: Strong blow BOB 4min
ISI: NO blow back
FF: Strong blow BOB 1min
FSI: NO blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|----------------|---------------------|---------------|------|------------------|------|
| | <u>620' GIP</u> | | | | |
| Rec <u>25'</u> | Feet of <u>6, M</u> | <u>1</u> %gas | %oil | %water <u>99</u> | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 25 BHT 125 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

| | | |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2190</u> | <input checked="" type="checkbox"/> Test <u>1250</u> | T-On Location <u>12:20</u> |
| (B) First Initial Flow <u>15</u> | <input checked="" type="checkbox"/> Jars <u>250</u> | T-Started <u>12:28</u> |
| (C) First Final Flow <u>18</u> | <input checked="" type="checkbox"/> Safety Joint <u>75</u> | T-Open <u>16:10</u> |
| (D) Initial Shut-In <u>1395</u> | <input type="checkbox"/> Circ Sub _____ | T-Pulled <u>19:55</u> |
| (E) Second Initial Flow <u>15</u> | <input type="checkbox"/> Hourly Standby _____ | T-Out <u>22:05</u> |
| (F) Second Final Flow <u>20</u> | <input checked="" type="checkbox"/> Mileage <u>40 miles</u> <u>124</u> | Comments _____ |
| (G) Final Shut-In <u>1435</u> | <input type="checkbox"/> Sampler _____ | <u>loaded tools 5/3 18:00</u> |
| (H) Final Hydrostatic <u>2125</u> | <input type="checkbox"/> Straddle _____ | <input type="checkbox"/> Ruined Shale Packer _____ |
| Initial Open <u>30</u> | <input checked="" type="checkbox"/> Shale Packer <u>250</u> | <input type="checkbox"/> Ruined Packer _____ |
| Initial Shut-In <u>60</u> | <input type="checkbox"/> Extra Packer _____ | <input type="checkbox"/> Extra Copies _____ |
| Final Flow <u>45</u> | <input type="checkbox"/> Extra Recorder _____ | Sub Total <u>0</u> |
| Final Shut-In <u>90</u> | <input type="checkbox"/> Day Standby _____ | Total <u>1949</u> |
| | <input type="checkbox"/> Accessibility _____ | MP/DST Disc't _____ |
| | Sub Total <u>1949</u> | |

Approved By Macdon Armstrong Our Representative Chris Stone

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