



Confidentiality Requested:

Yes  No

KANSAS CORPORATION COMMISSION 1224378  
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<br>Recompletion Date | Date Reached TD | Completion Date or<br>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

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: \_\_\_\_\_

1224378

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<br><i>(Attach Additional Sheets)</i><br><br>Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No<br>Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No<br><br>List All E. Logs Run: _____ | <input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample<br><br>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<br><input type="checkbox"/> Protect Casing<br><input type="checkbox"/> Plug Back TD<br><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<br>Specify Footage of Each Interval Perforated | Acid, Fracture, Shot, Cement Squeeze Record<br><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 |
|----------------|-------|---------|------------|---|

|   |  |
|---|--|
| Date of First, Resumed Production, SWD or ENHR. | Producing Method:<br><input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____ |
|---|--|

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

|  |   |   |
|--|---|---|
| <b>DISPOSITION OF GAS:</b><br><input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease<br><i>(If vented, Submit ACO-18.)</i> | <b>METHOD OF COMPLETION:</b><br><input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled<br><i>(Submit ACO-5)</i><br><input type="checkbox"/> Other <i>(Specify)</i> _____ | <b>PRODUCTION INTERVAL:</b><br>_____<br>_____ |
|--|---|---|

|           |   |
|-----------|---|
| Form      | ACO1 - Well Completion                                |
| Operator  | Larson Engineering, Inc. dba Larson Operating Company |
| Well Name | Fagerquist-Steele Unit 1-22                           |
| Doc ID    | 1224378   |

Tops

| Name           | Top  | Datum |
|----------------|------|-------|
| Anhydrite      | 2174 | +709  |
| Base Anhydrite | 2232 | +651  |
| Heebner Sh     | 3908 | -1025 |
| Lansing        | 3945 | -1062 |
| Stark Sh       | 4231 | -1348 |
| Marmaton       | 4357 | -1474 |
| Pawnee         | 4430 | -1547 |
| Ft Scott       | 4476 | -1593 |
| Cherokee Sh    | 4502 | -1619 |
| Mississippi    | 4570 | -1687 |



# ALLIED OIL & GAS SERVICES, LLC 062943

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Bartband

|                          |                |                   |                                       |            |                          |                        |                            |
|--------------------------|----------------|-------------------|---------------------------------------|------------|--------------------------|------------------------|----------------------------|
| DATE <u>6-1-14</u>       | SEC. <u>22</u> | TWP. <u>18</u>    | RANGE <u>30</u>                       | CALLED OUT | ON LOCATION <u>11 AM</u> | JOB START <u>12 PM</u> | JOB FINISH <u>12:30 PM</u> |
| LEASE <u>Energy Unit</u> |                | WELL # <u>122</u> | LOCATION <u>Highway SW 1/2 S Vito</u> |            | COUNTY <u>Lamar</u>      | STATE <u>KS</u>        |                            |
| OLD OR NEW (Circle one)  |                |                   |                                       |            |                          |                        |                            |

|  |                     |
|--|---------------------|
| CONTRACTOR <u>HO</u>                     |                     |
| TYPE OF JOB <u>Surface</u>               |                     |
| HOLE SIZE <u>12 1/4</u>                  | T.D.                |
| CASING SIZE <u>9 5/8</u>                 | DEPTH <u>265.99</u> |
| TUBING SIZE                              | DEPTH               |
| DRILL PIPE                               | DEPTH               |
| TOOL                                     | DEPTH               |
| PRES. MAX                                | MINIMUM             |
| MEAS. LINE                               | SHOE JOINT          |
| CEMENT LEFT IN CSG. <u>15 Ft</u>         |                     |
| PERFS.                                   |                     |
| DISPLACEMENT <u>15.99 bbl Freshwater</u> |                     |
| EQUIPMENT                                |                     |

|                  |                           |
|------------------|---------------------------|
| PUMP TRUCK       | CEMENTER <u>Bob 15014</u> |
| # <u>366</u>     | HELPER <u>Ben Murrell</u> |
| BULK TRUCK       |                           |
| # <u>871-112</u> | DRIVER <u>Don Cooper</u>  |
| BULK TRUCK       |                           |
| #                | DRIVER                    |

**REMARKS:**

On location - rig up - had set rig running for 8 1/2 hrs casing - Breuckelmann - Vito and pump sub fresh water mix 175 SKS class A 3 1/4 2 1/2 gal Displace 15.99 bbl Freshwater slot in cement did concrete rig down

|   |                    |                |                |
|---|--------------------|----------------|----------------|
| OWNER   |                    |                |                |
| CEMENT  |                    |                |                |
| AMOUNT ORDERED <u>175 SKS Class A 3 1/4 2 1/2 gal</u> |                    |                |                |
| COMMON  | <u>175</u>         | @ <u>17.90</u> | <u>3132.50</u> |
| POZMIX  |                    | @              |                |
| GEL   | <u>3</u>           | @ <u>23.40</u> | <u>70.20</u>   |
| CHLORIDE  | <u>493</u>         | @ <u>.80</u>   | <u>394.40</u>  |
| ASC   |                    | @              |                |
| <u>Materials Total</u>                                |                    |                | <u>3597.10</u> |
| <u>Disc @ 20%</u>                                     |                    |                | <u>719.42</u>  |
| Service   |                    |                |                |
| HANDLING  | <u>189.22</u>      | @ <u>2.48</u>  | <u>469.26</u>  |
| MILEAGE   | <u>8.63 X 25 X</u> | <u>2.60</u>    | <u>560.25</u>  |

CHARGE TO: Larson Engineering  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

|                   |               |               |                |
|-------------------|---------------|---------------|----------------|
| DEPTH OF JOB      |               |               |                |
| PUMP TRUCK CHARGE |               |               | <u>1512.25</u> |
| EXTRA FOOTAGE     | @             |               |                |
| MILEAGE           | <u>HUM 25</u> | @ <u>7.70</u> | <u>192.50</u>  |
| MANIFOLD          | @             |               |                |
|                   | <u>Hum 25</u> | @ <u>4.40</u> | <u>110.00</u>  |
|                   | @             |               |                |

TOTAL 2844.96  
(20%) 568.99

**PLUG & FLOAT EQUIPMENT**

|       |   |  |  |
|-------|---|--|--|
| _____ | @ |  |  |
| _____ | @ |  |  |
| _____ | @ |  |  |
| _____ | @ |  |  |
| _____ | @ |  |  |

(0%) TOTAL Ø

To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

|                    |                |  |  |
|--------------------|----------------|--|--|
| SALES TAX (If Any) |                |  |  |
| TOTAL CHARGES      | <u>6442.96</u> |  |  |
| DISCOUNT           | <u>1288.91</u> |  |  |
| IF PAID IN 30 DAYS |                |  |  |
| <u>\$ 5153.05</u>  |                |  |  |

PRINTED NAME X LEWYNE TRESNER  
SIGNATURE X Lewayne Tresner  
Thank you!!

# ALLIED OIL & GAS SERVICES, LLC 062947

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999  
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Grand

|                                    |                   |                                     |                 |                  |                     |                          |                        |
|------------------------------------|-------------------|-------------------------------------|-----------------|------------------|---------------------|--------------------------|------------------------|
| DATE <u>6-11-14</u>                | SEC <u>22</u>     | TWP <u>18</u>                       | RANGE <u>30</u> | CALLED OUT       | ON LOCATION         | JOB START <u>8:30 am</u> | JOB FINISH <u>9 AM</u> |
| LEASE <u>Fagerquist Steel</u>      | WELL# <u>1-22</u> | LOCATION <u>Dighton SW to Dodge</u> |                 |                  | COUNTY <u>Leone</u> | STATE <u>KY</u>          |                        |
| OLD OR NEW (Circle one) <u>NEW</u> |                   |                                     |                 | <u>K/S WINDS</u> |                     |                          |                        |

CONTRACTOR HB  
TYPE OF JOB Rotary plug

|                                 |                   |
|---------------------------------|-------------------|
| HOLE SIZE <u>7 1/2</u>          | T.D.              |
| CASING SIZE                     | DEPTH             |
| TUBING SIZE                     | DEPTH             |
| DRILL PIPE <u>4k</u>            | DEPTH <u>7220</u> |
| TOOL                            | DEPTH             |
| PRES. MAX                       | MINIMUM           |
| MEAS. LINE                      | SHOE JOINT        |
| CEMENT LEFT IN CSG. <u>Nil</u>  |                   |
| PERFS.                          |                   |
| DISPLACEMENT <u>Fresh water</u> |                   |

EQUIPMENT

|   |        |
|---|--------|
| PUMP TRUCK CEMENTER <u>Jack Logan</u>       |        |
| # <u>399</u> HELPER <u>Jack Ellis</u>       |        |
| BULK TRUCK                                  |        |
| # <u>871-112</u> DRIVER <u>Kevin Wickes</u> |        |
| BULK TRUCK                                  |        |
| #   | DRIVER |

OWNER

CEMENT  
AMOUNT ORDERED 270 60/40 4/64  
1/4 flo

|                             |                |                 |
|-----------------------------|----------------|-----------------|
| COMMON                      | @              |                 |
| POZMIX                      | @              |                 |
| GEL                         | @              |                 |
| CHLORIDE                    | @              |                 |
| ASC                         | @              |                 |
| <u>2700X 60/40 + 4%</u>     | @ <u>18.92</u> | <u>5.108.40</u> |
| <u>fl float 68</u>          | @ <u>2.97</u>  | <u>201.96</u>   |
| <u>Materials Total</u>      | @              | <u>5.310.36</u> |
| <u>Disc</u>                 | @ <u>30%</u>   | <u>1.593.14</u> |
| <u>Service</u>              | @              |                 |
| HANDLING <u>289.98</u>      | @ <u>2.48</u>  | <u>719.15</u>   |
| MILEAGE <u>12.10 x 25 X</u> | @ <u>2.75</u>  | <u>831.87</u>   |

REMARKS:

on location - rig up - had softy morning  
run 4 1/2" drill pipe - fill hole  
#1 - 2220 ft - 502K  
#2 - 1860 - 80 PH - 30  
#3 - 750 - 50  
#4 - 300 - 40  
#5 - 60 - 20  
Rig down 8:45 AM Rig down

CHARGE TO: Lerson Engineering  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

|                       |                             |
|-----------------------|-----------------------------|
| DEPTH OF JOB          |                             |
| PUMP TRUCK CHARGE     | <u>2249.89</u>              |
| EXTRA FOOTAGE         | @                           |
| MILEAGE <u>Hum 25</u> | @ <u>7.70</u> <u>192.50</u> |
| MANIFOLD              | @                           |
| <u>Hum 25</u>         | @ <u>4.40</u> <u>110.00</u> |

TOTAL 4.103.86  
Disc 30% 1.231.02

PLUG & FLOAT EQUIPMENT

|       |   |  |
|-------|---|--|
| _____ | @ |  |
| _____ | @ |  |
| _____ | @ |  |
| _____ | @ |  |
| _____ | @ |  |

0% TOTAL 0

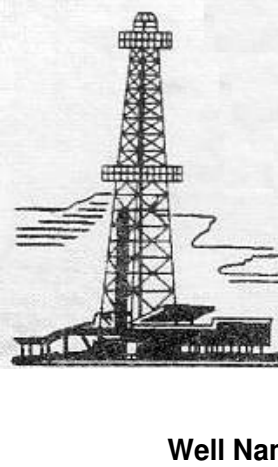
To: Allied Oil & Gas Services, LLC.  
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME X LEWIS TRESNER  
SIGNATURE X Lewis Tresner  
Thank you!

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES 9.413.72  
DISCOUNT 30% 2.824.12 (30/30/0) IF PAID IN 30 DAYS  
\$ 6.589.60

# WELLSITE GEOLOGIST'S REPORT

VERNON C. SCHRAG  
CONSULTANT GEOLOGIST



Scale 1:240 (5"=100') Imperial

Well Name: **FAGERQUIST STEELE UNIT #1-22**  
 Location: **NW SW NW SW SEC. 22-18S-30W**  
 Licence Number: **API: 15-101-22512**  
 Spud Date: **June 01, 2014**  
 Surface Coordinates: **1693' FSL & 140' FWL**

Region: **Lane Co., KS**  
 Drilling Completed: **June 11, 2014**

Bottom Hole Coordinates:  
 Ground Elevation (ft): **2876'** K.B. Elevation (ft): **2883'**  
 Logged Interval (ft): **3800'** To: **RTD** Total Depth (ft): **4613'**  
 Formation: **D&A Mississippi**  
 Type of Drilling Fluid: **Chemical Premix (Displaced)**

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

### OPERATOR:

Company: **Larson Engineering Inc.**  
 Address: **562 West State Road 4**  
**Olmitz, KS 67564-8561**

### DRILLING CONTRACTOR:

**H. D. Drilling, LLC, Rig #3 (Co. Tools)**

**DP 4.5" XH (16.6#); DC 6.25" x 2.25" x 556', Kelly 40.30', Tool Joint 5.5"; Bit: JZ-HA20-Q, 7-7/8", standard jets 15-15-15; rpm 80, WOB 35k; Kelly Bushing 7' above ground level; LeWayne "Lew" Tresner (tool pusher).**

### CASING:

**Set 8-5/8" casing at 263'**

### CIRCULATION SYSTEM:

**Continental EMSCO D-300, duplex, 6 x 14, 60-62 spm, Chemical, premix, earth pits, Morgan Mud, Inc., Cade Lines.**

### OPEN HOLE LOGS:

**DN, DI (SP) (Run-1); ML (Run-2); No Sonic; 5" detail LTD-3600; 2" DI to surface casing; LogTech-Pioneer Wireline, Hays, KS, Jerrod Long, Log total depth (4612') was one foot short to rotary total depth (4613').**

### DRILL STEM TEST #1:

**LKC (K-zone): Interval: 4230-4242 (12'); Blow: lost about 20' mud when setting packers, 8" IFP, no RB, no blow FFP, no RB; Times: 5-15-30-60; Recovery: 200' mud (no show); Pressures: HP: 2109-2002, SIP: 770-778, FP: 134-120, 127-128; BHT: 120 F; Trilobite Testing, Inc., Scott City, KS, Bradley "Walt" Walter.**

### DRILL STEM TEST #2:

**LKC (L-zone): Interval: 4267-4286 (19'); Blow: weak 1/2" IFP, no RB, no blow FFP, no RB; Times: 5-15-30; Recovery: 10' mud (100%M); Pressures: HP: 2135-2134, SIP: 42-40, FP: 39-39, 38-40; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.**

### DRILL STEM TEST #3:

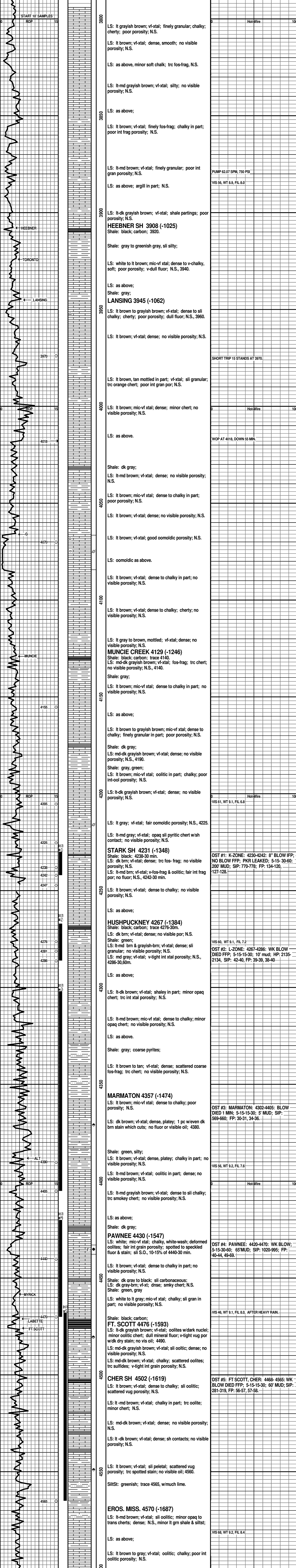
**Pleasanton, Marmaton: Interval: 4302-4405 (103'); Blow: 1/2" died 1 min IFP, no RB, no blow FFP, no RB; Times: 5-15-30; Recovery: 5' mud (100%M); Pressures: HP: 2199-2183, SIP: 569-660, FP: 30-31, 34-36; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.**

### DRILL STEM TEST #4:

**Pawnee, Myrick Station: Interval: 4420-4470 (50'); Blow: weak inc 1.25" IFP, no RB, weak incr 1/2" FFP, no RB; Times: 5-15-30; Recovery: 65' mud (100%M); Pressures: HP: 2231-2227, SIP: 1020-995, FP: 40-44, 49-69; BHT: 119 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.**

### DRILL STEM TEST #5:

**Ft. Scott, Cherokee: Interval: 4468-4565 (97'); Blow: weak inc 2" IFP, no RB, weak surf blow died 3 min FFP; Times: 5-15-30; Recovery: 60' mud (100%M); Pressures: HP: 2293-2229, SIP: 281-319, FP: 56-57, 57-58; BHT: 116 F; Trilobite Testing, Inc., Scott City, KS, Cornelio "Corndog" Landa III.**



RTD 4:15 pm 06/10/2014



## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**22-18s-30w Lane,KS**

**Fagerquist-Steele Unit #1-22**

Start Date: 2014.06.06 @ 21:48:00

End Date: 2014.06.07 @ 04:09:45

Job Ticket #: 54916                      DST #: 1

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

Printed: 2014.06.11 @ 13:38:29

Larson Engineering, Inc

Fagerquist-Steele Unit #1-22

22-18s-30w Lane,KS

DST # 1

LKC - K

2014.06.06





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
 562 W St Rd 4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**  
**22-18s-30w Lane, KS**  
 Job Ticket: 54916 **DST#: 1**  
 Test Start: 2014.06.06 @ 21:48:00

## GENERAL INFORMATION:

Formation: **LKC - K**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 00:12:30  
 Time Test Ended: 04:09:45  
 Interval: **4230.00 ft (KB) To 4242.00 ft (KB) (TVD)**  
 Total Depth: 4242.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Bradley Walter  
 Unit No: 69  
 Reference Elevations: 2883.00 ft (KB)  
 2875.00 ft (CF)  
 KB to GR/CF: 8.00 ft

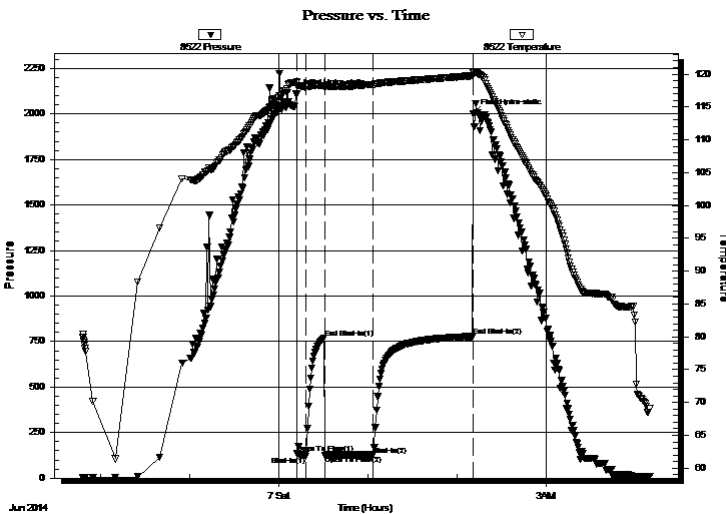
## Serial #: 8522

Outside

Press@RunDepth: 127.75 psig @ 4231.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.06 End Date: 2014.06.07 Last Calib.: 2014.06.07  
 Start Time: 21:48:05 End Time: 04:09:44 Time On Btm: 2014.06.07 @ 00:12:15  
 Time Off Btm: 2014.06.07 @ 02:11:00

TEST COMMENT: 05: 8" blow . took on mud before establishing quality Packer seat.  
 15: No return.  
 30: No blow .  
 60: No return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2109.25         | 118.79       | Initial Hydro-static |
| 1           | 134.36          | 118.16       | Open To Flow (1)     |
| 6           | 120.44          | 118.04       | Shut-In(1)           |
| 19          | 770.21          | 118.27       | End Shut-In(1)       |
| 19          | 127.17          | 117.96       | Open To Flow (2)     |
| 52          | 127.75          | 118.43       | Shut-In(2)           |
| 119         | 778.41          | 119.76       | End Shut-In(2)       |
| 119         | 2002.24         | 120.14       | Final Hydro-static   |

## Recovery

| Length (ft) | Description                     | Volume (bbl) |
|-------------|---------------------------------|--------------|
| 200.00      | Mud 100m (very thick at bottom) | 1.68         |
|             |                                 |              |
|             |                                 |              |
|             |                                 |              |
|             |                                 |              |

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 54916

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.06.06 @ 21:48:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4082.00 ft | Diameter: 3.80 inches | Volume: 57.26 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: 35000.00 lb  |
| Drill Collar:             | Length: 124.00 ft  | Diameter: 2.25 inches | Volume: 0.61 bbl               | Weight to Pull Loose: 75000.00 lb  |
|                           |                    |                       | <u>Total Volume: 57.87 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 3.00 ft            |                       |                                | String Weight: Initial 58000.00 lb |
| Depth to Top Packer:      | 4230.00 ft         |                       |                                | Final 58000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 12.00 ft           |                       |                                |                                    |
| Tool Length:              | 39.00 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        |            |          | 4204.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4209.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4214.00    |                               |
| Jars             | 5.00        |            |          | 4219.00    |                               |
| Safety Joint     | 2.00        |            |          | 4221.00    |                               |
| Packer           | 5.00        |            |          | 4226.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4230.00    |                               |
| Stubb            | 1.00        |            |          | 4231.00    |                               |
| Recorder         | 0.00        | 8678       | Inside   | 4231.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 4231.00    |                               |
| Perforations     | 8.00        |            |          | 4239.00    |                               |
| Bullnose         | 3.00        |            |          | 4242.00    | 12.00 Bottom Packers & Anchor |

**Total Tool Length: 39.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 54916

**DST#: 1**

ATTN: Vern Schrag

Test Start: 2014.06.06 @ 21:48:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.75 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description                     | Volume<br>bbl |
|--------------|---------------------------------|---------------|
| 200.00       | Mud 100m (very thick at bottom) | 1.676         |

Total Length: 200.00 ft      Total Volume: 1.676 bbl

Num Fluid Samples: 0

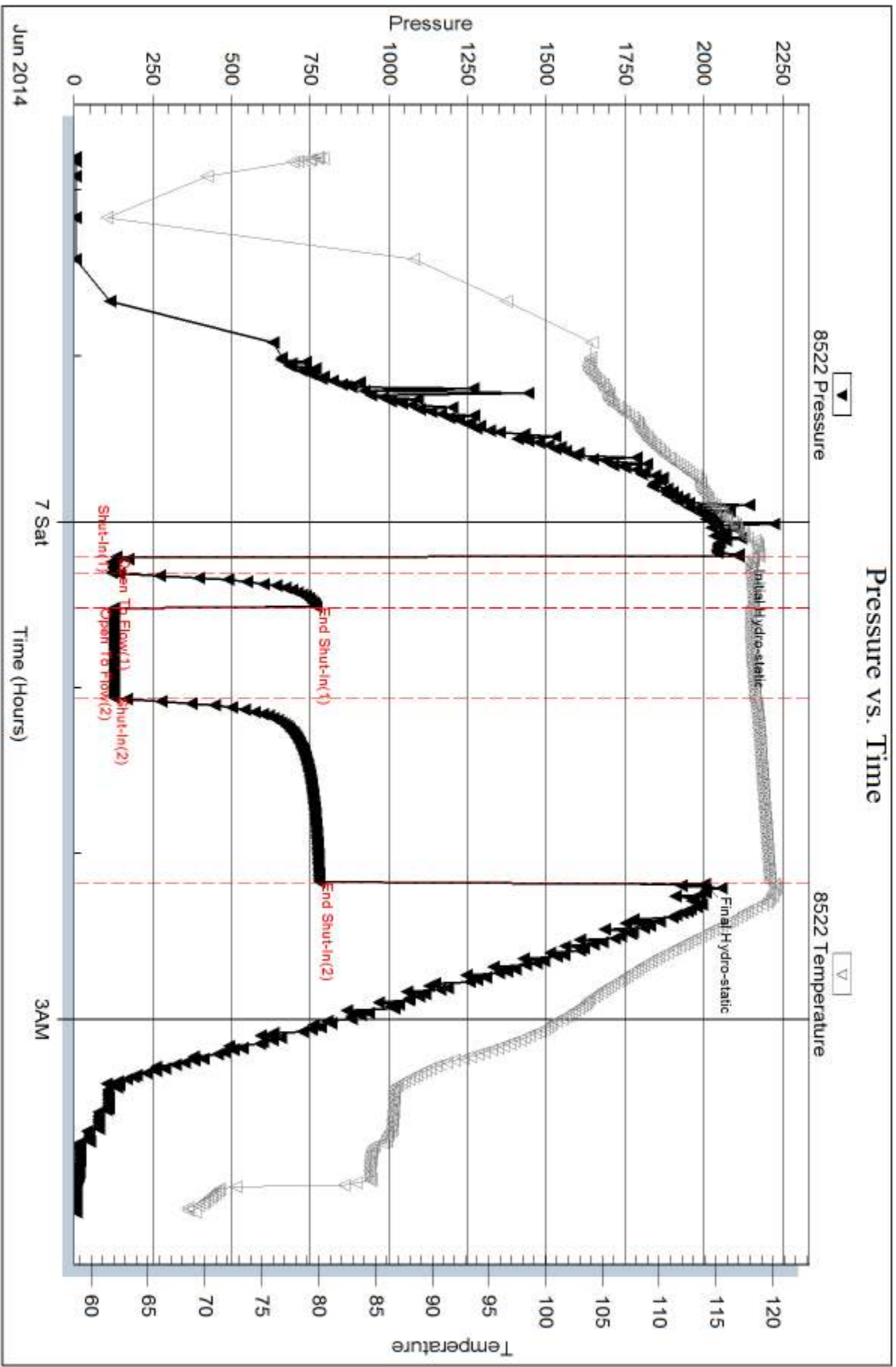
Num Gas Bombs: 0

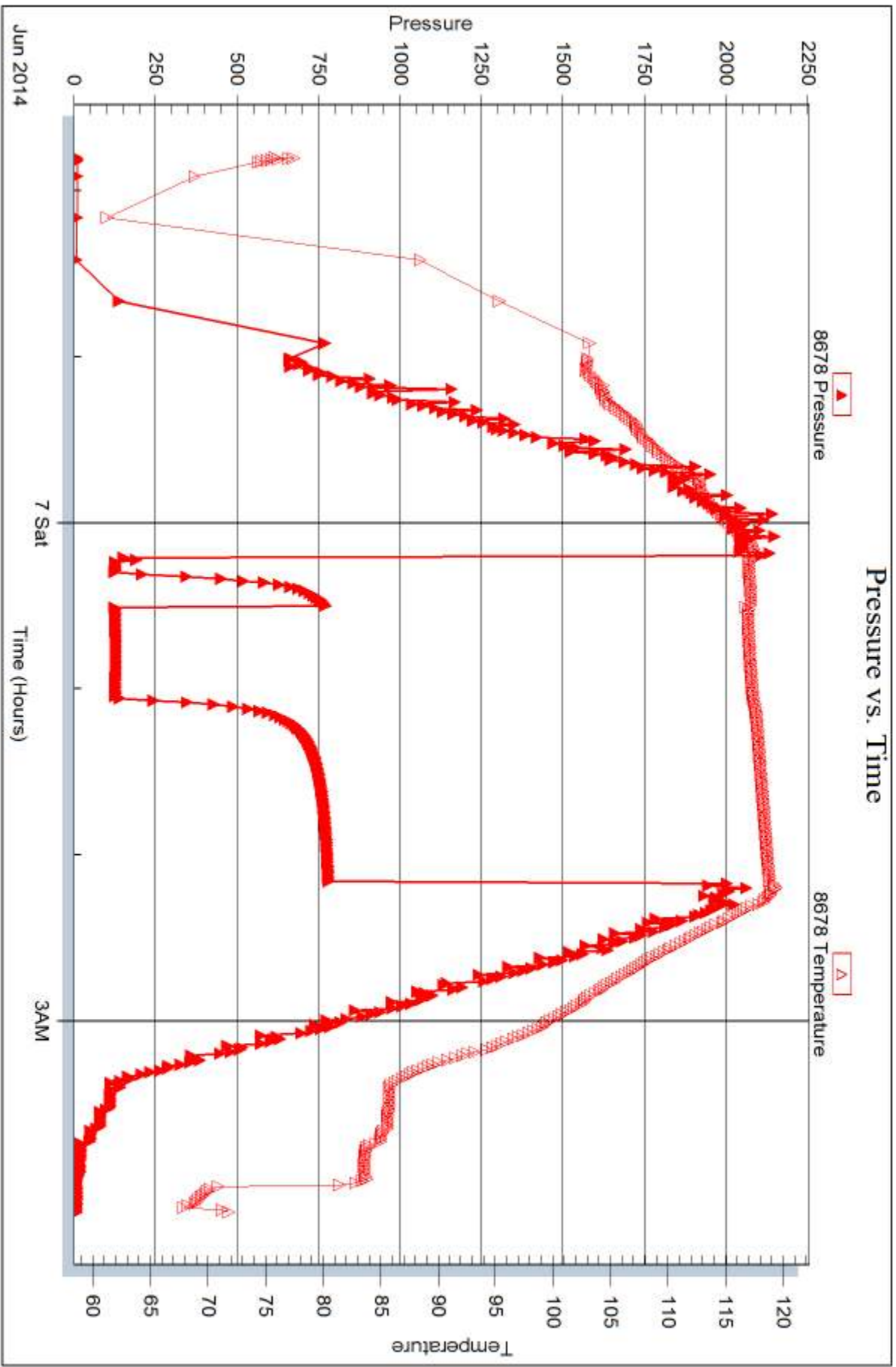
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**22-18s-30w Lane,KS**

**Fagerquist-Steele Unit #1-22**

Start Date: 2014.06.07 @ 17:44:00

End Date: 2014.06.07 @ 22:43:45

Job Ticket #: 56542                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.11 @ 13:38:05

Larson Engineering, Inc

Fagerquist-Steele Unit #1-22

22-18s-30w Lane,KS

DST # 2

LKC 'L'

2014.06.07



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**

**22-18s-30w Lane, KS**

Job Ticket: 56542

**DST#: 2**

Test Start: 2014.06.07 @ 17:44:00

## GENERAL INFORMATION:

Formation: **LKC 'L'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:47:15

Time Test Ended: 22:43:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 69

**Interval: 4267.00 ft (KB) To 4286.00 ft (KB) (TVD)**

Reference Elevations: 2883.00 ft (KB)

Total Depth: 4286.00 ft (KB) (TVD)

2875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: 38.45 psig @ 4269.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.07

End Date:

2014.06.07

Last Calib.:

2014.06.07

Start Time: 17:44:05

End Time:

22:43:44

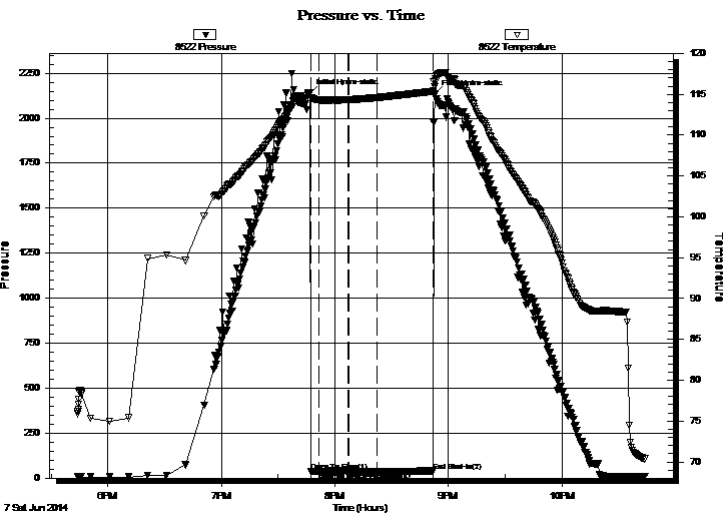
Time On Btm:

2014.06.07 @ 19:46:45

Time Off Btm:

2014.06.07 @ 20:52:45

TEST COMMENT: IF: 1/2" Blow  
IS: No Return  
FF: No Blow  
FS: No Return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2135.16         | 115.17       | Initial Hydro-static |
| 1           | 38.59           | 114.58       | Open To Flow (1)     |
| 5           | 38.87           | 114.31       | Shut-In(1)           |
| 21          | 42.39           | 114.34       | End Shut-In(1)       |
| 21          | 37.80           | 114.34       | Open To Flow (2)     |
| 36          | 38.45           | 114.61       | Shut-In(2)           |
| 66          | 40.22           | 115.37       | End Shut-In(2)       |
| 66          | 2133.90         | 115.94       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 10.00       | Mud 100m    | 0.05         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**

**22-18s-30w Lane, KS**

Job Ticket: 56542

**DST#: 2**

Test Start: 2014.06.07 @ 17:44:00

## GENERAL INFORMATION:

Formation: **LKC 'L'**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:47:15

Time Test Ended: 22:43:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 69

**Interval: 4267.00 ft (KB) To 4286.00 ft (KB) (TVD)**

Reference Elevations: 2883.00 ft (KB)

Total Depth: 4286.00 ft (KB) (TVD)

2875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8678** **Inside**

Press@RunDepth: psig @ 4269.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.07 End Date: 2014.06.07

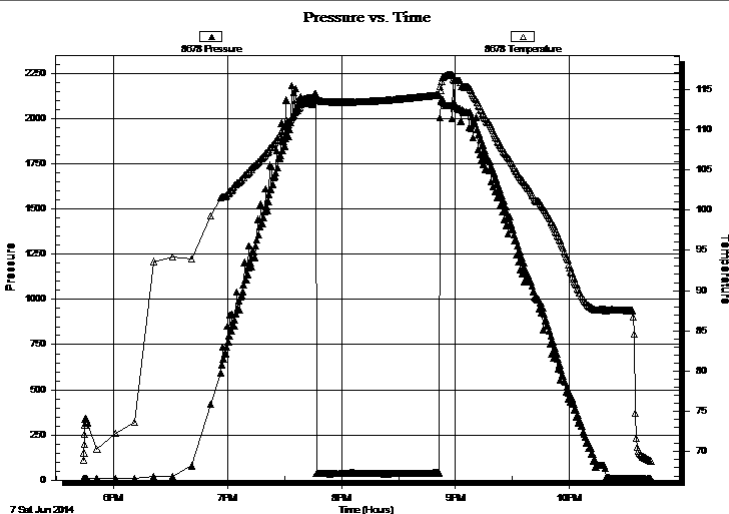
Last Calib.: 2014.06.07

Start Time: 17:44:05 End Time: 22:42:44

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF: 1/2" Blow  
IS: No Return  
FF: No Blow  
FS: No Return



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 10.00       | Mud 100m    | 0.05         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

## Gas Rates

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

\* Recovery from multiple tests



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56542

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.06.07 @ 17:44:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4144.00 ft | Diameter: 3.80 inches | Volume: 58.13 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:  | 32000.00 lb |
| Drill Collar:             | Length: 124.00 ft  | Diameter: 2.25 inches | Volume: 0.61 bbl               | Weight to Pull Loose:  | 14000.00 lb |
|                           |                    |                       | <u>Total Volume: 58.74 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 28.00 ft           |                       |                                | String Weight: Initial | 62000.00 lb |
| Depth to Top Packer:      | 4267.00 ft         |                       |                                | Final                  | 62000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 19.00 ft           |                       |                                |                        |             |
| Tool Length:              | 46.00 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        |            |          | 4241.00    |                               |
| Shut In Tool     | 5.00        |            |          | 4246.00    |                               |
| Hydraulic tool   | 5.00        |            |          | 4251.00    |                               |
| Jars             | 5.00        |            |          | 4256.00    |                               |
| Safety Joint     | 2.00        |            |          | 4258.00    |                               |
| Packer           | 5.00        |            |          | 4263.00    | 27.00 Bottom Of Top Packer    |
| Packer           | 4.00        |            |          | 4267.00    |                               |
| Perforations     | 1.00        |            |          | 4268.00    |                               |
| Stubb            | 1.00        |            |          | 4269.00    |                               |
| Recorder         | 0.00        | 8678       | Inside   | 4269.00    |                               |
| Recorder         | 0.00        | 8522       | Outside  | 4269.00    |                               |
| Perforations     | 14.00       |            |          | 4283.00    |                               |
| Bullnose         | 3.00        |            |          | 4286.00    | 19.00 Bottom Packers & Anchor |

**Total Tool Length: 46.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56542

**DST#: 2**

ATTN: Vern Schrag

Test Start: 2014.06.07 @ 17:44:00

## 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: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.15 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 10.00        | Mud 100m    | 0.049         |

Total Length: 10.00 ft      Total Volume: 0.049 bbl

Num Fluid Samples: 0

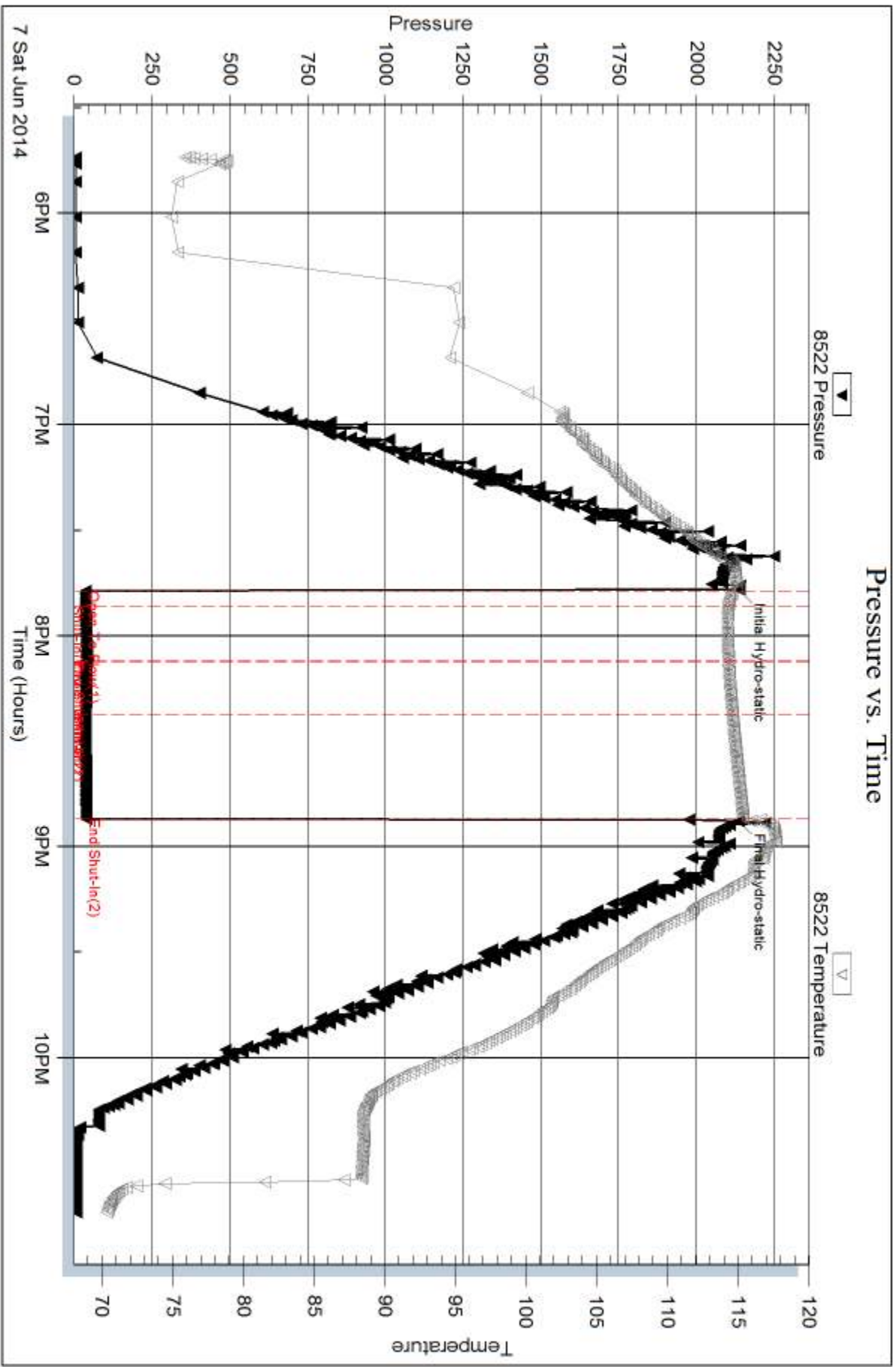
Num Gas Bombs: 0

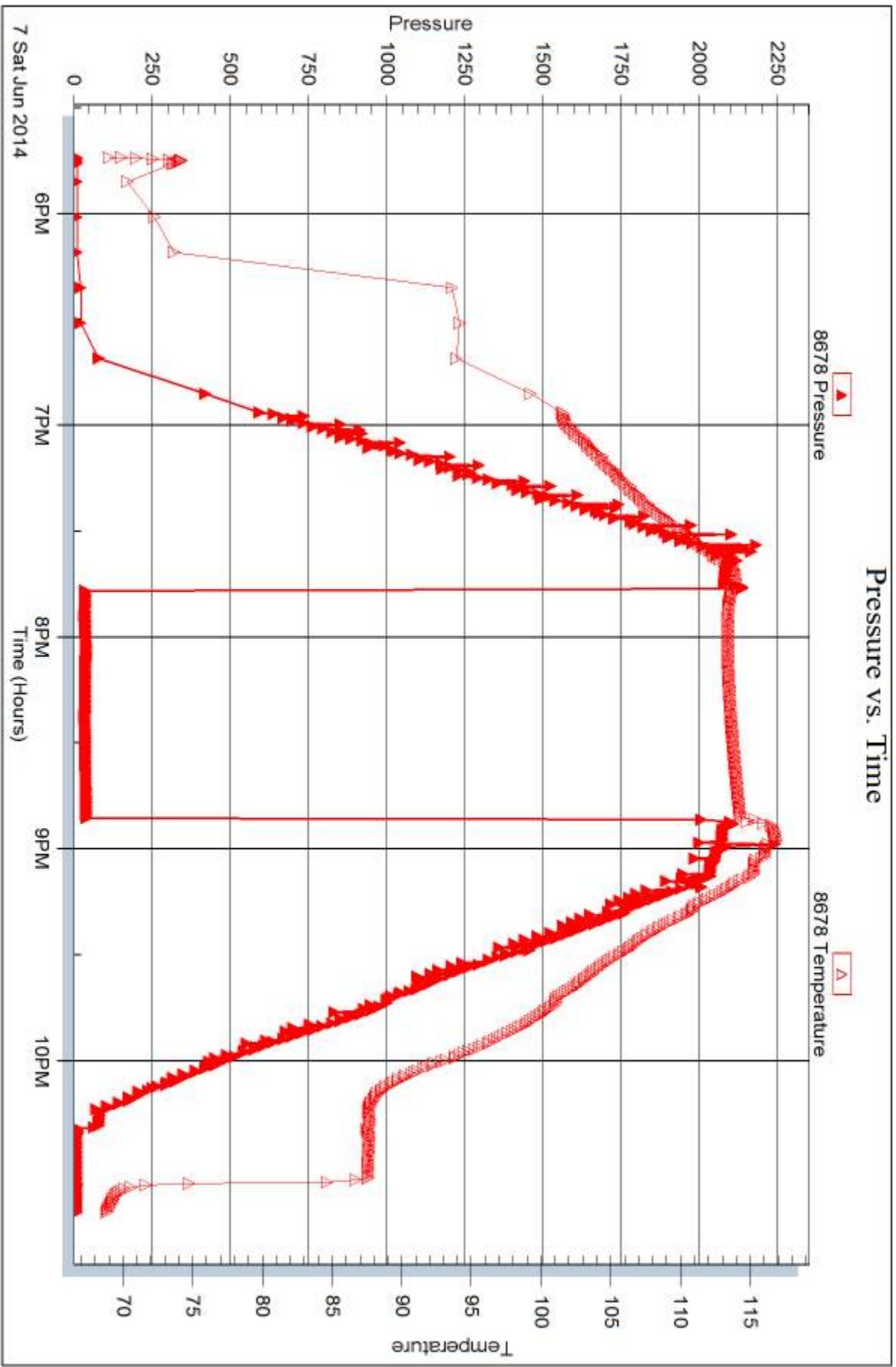
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**22-18s-30w Lane,KS**

**Fagerquist-Steele Unit #1-22**

Start Date: 2014.06.08 @ 16:05:00

End Date: 2014.06.08 @ 21:19:45

Job Ticket #: 56543                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.11 @ 13:37:41



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
 562 W St Rd 4  
 Olmitz, KS 67564  
 ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**  
**22-18s-30w Lane, KS**  
 Job Ticket: 56543 **DST#: 3**  
 Test Start: 2014.06.08 @ 16:05:00

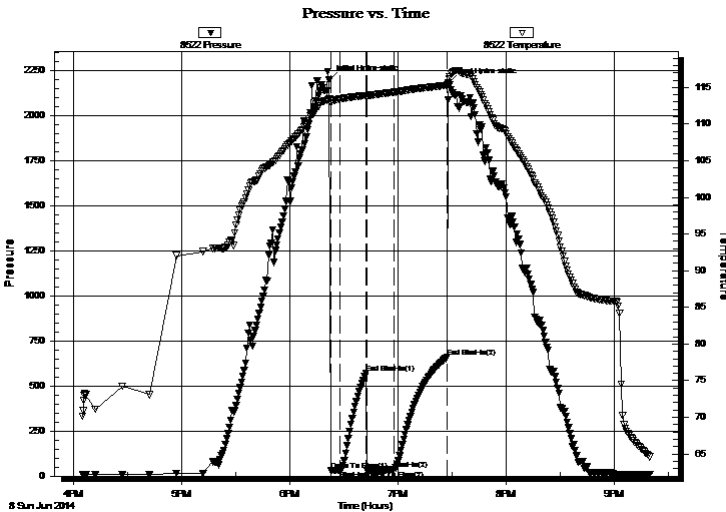
## GENERAL INFORMATION:

Formation: **Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 18:22:45  
 Time Test Ended: 21:19:45  
 Interval: **4302.00 ft (KB) To 4405.00 ft (KB) (TVD)**  
 Total Depth: 4405.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Reset)  
 Tester: Cornelio Landa III  
 Unit No: 69  
 Reference Elevations: 2883.00 ft (KB)  
 2875.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 8522 Outside**  
 Press@RunDepth: 35.70 psig @ 4304.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2014.06.08 End Date: 2014.06.08 Last Calib.: 2014.06.08  
 Start Time: 16:05:05 End Time: 21:19:44 Time On Btm: 2014.06.08 @ 18:22:15  
 Time Off Btm: 2014.06.08 @ 19:28:30

TEST COMMENT: IF: 1/2" Blow - Died in 1 min.  
 IS: No Return  
 FF: No Blow  
 FS: No Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2198.60         | 113.45       | Initial Hydro-static |
| 1           | 29.68           | 112.90       | Open To Flow (1)     |
| 6           | 30.58           | 113.42       | Shut-In(1)           |
| 20          | 569.48          | 113.91       | End Shut-In(1)       |
| 21          | 33.96           | 113.72       | Open To Flow (2)     |
| 36          | 35.70           | 114.35       | Shut-In(2)           |
| 66          | 659.88          | 115.32       | End Shut-In(2)       |
| 67          | 2183.07         | 116.21       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 5.00        | Mud 100m    | 0.02         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



# TRILOBITE TESTING, INC.

## DRILL STEM TEST REPORT

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

ATTN: Vern Schrag

Job Ticket: 56543

**DST#: 3**

Test Start: 2014.06.08 @ 16:05:00

### GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:22:45

Time Test Ended: 21:19:45

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 69

**Interval: 4302.00 ft (KB) To 4405.00 ft (KB) (TVD)**

Reference Elevations: 2883.00 ft (KB)

Total Depth: 4405.00 ft (KB) (TVD)

2875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8678 Inside**

Press@RunDepth: psig @ 4304.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.08 End Date: 2014.06.08

Last Calib.: 2014.06.08

Start Time: 16:05:05 End Time: 21:18:44

Time On Btm:

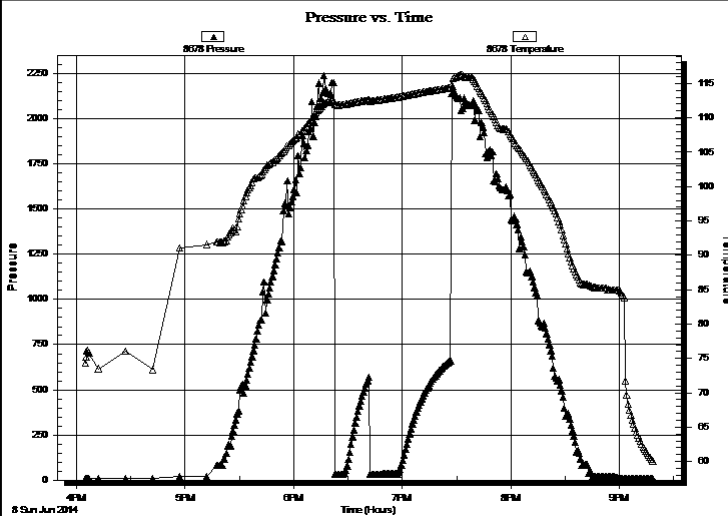
Time Off Btm:

TEST COMMENT: IF: 1/2" Blow - Died in 1 min.

IS: No Return

FF: No Blow

FS: No Return



### PRESSURE SUMMARY

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

### Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 5.00        | Mud 100m    | 0.02         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

### Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56543

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.06.08 @ 16:05:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4173.00 ft | Diameter: 3.80 inches | Volume: 58.54 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:  | 26000.00 lb |
| Drill Collar:             | Length: 124.00 ft  | Diameter: 2.25 inches | Volume: 0.61 bbl               | Weight to Pull Loose:  | 10000.00 lb |
|                           |                    |                       | <u>Total Volume: 59.15 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 22.00 ft           |                       |                                | String Weight: Initial | 58000.00 lb |
| Depth to Top Packer:      | 4302.00 ft         |                       |                                | Final                  | 58000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 103.00 ft          |                       |                                |                        |             |
| Tool Length:              | 130.00 ft          |                       |                                |                        |             |
| Number of Packers:        | 2                  | Diameter:             | 6.75 inches                    |                        |             |
| Tool Comments:            |                    |                       |                                |                        |             |

## Tool Description

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

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths                 |
|------------------|-------------|------------|----------|------------|--------------------------------|
| Change Over Sub  | 1.00        |            |          | 4276.00    |                                |
| Shut In Tool     | 5.00        |            |          | 4281.00    |                                |
| Hydraulic tool   | 5.00        |            |          | 4286.00    |                                |
| Jars             | 5.00        |            |          | 4291.00    |                                |
| Safety Joint     | 2.00        |            |          | 4293.00    |                                |
| Packer           | 5.00        |            |          | 4298.00    | 27.00 Bottom Of Top Packer     |
| Packer           | 4.00        |            |          | 4302.00    |                                |
| Stubb            | 1.00        |            |          | 4303.00    |                                |
| Change Over Sub  | 1.00        |            |          | 4304.00    |                                |
| Recorder         | 0.00        | 8678       | Inside   | 4304.00    |                                |
| Recorder         | 0.00        | 8522       | Outside  | 4304.00    |                                |
| Drill Pipe       | 94.00       |            |          | 4398.00    |                                |
| Change Over Sub  | 1.00        |            |          | 4399.00    |                                |
| Perforations     | 3.00        |            |          | 4402.00    |                                |
| Bullnose         | 3.00        |            |          | 4405.00    | 103.00 Bottom Packers & Anchor |

**Total Tool Length: 130.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56543

**DST#: 3**

ATTN: Vern Schrag

Test Start: 2014.06.08 @ 16:05:00

## 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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.57 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 5.00         | Mud 100m    | 0.025         |

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

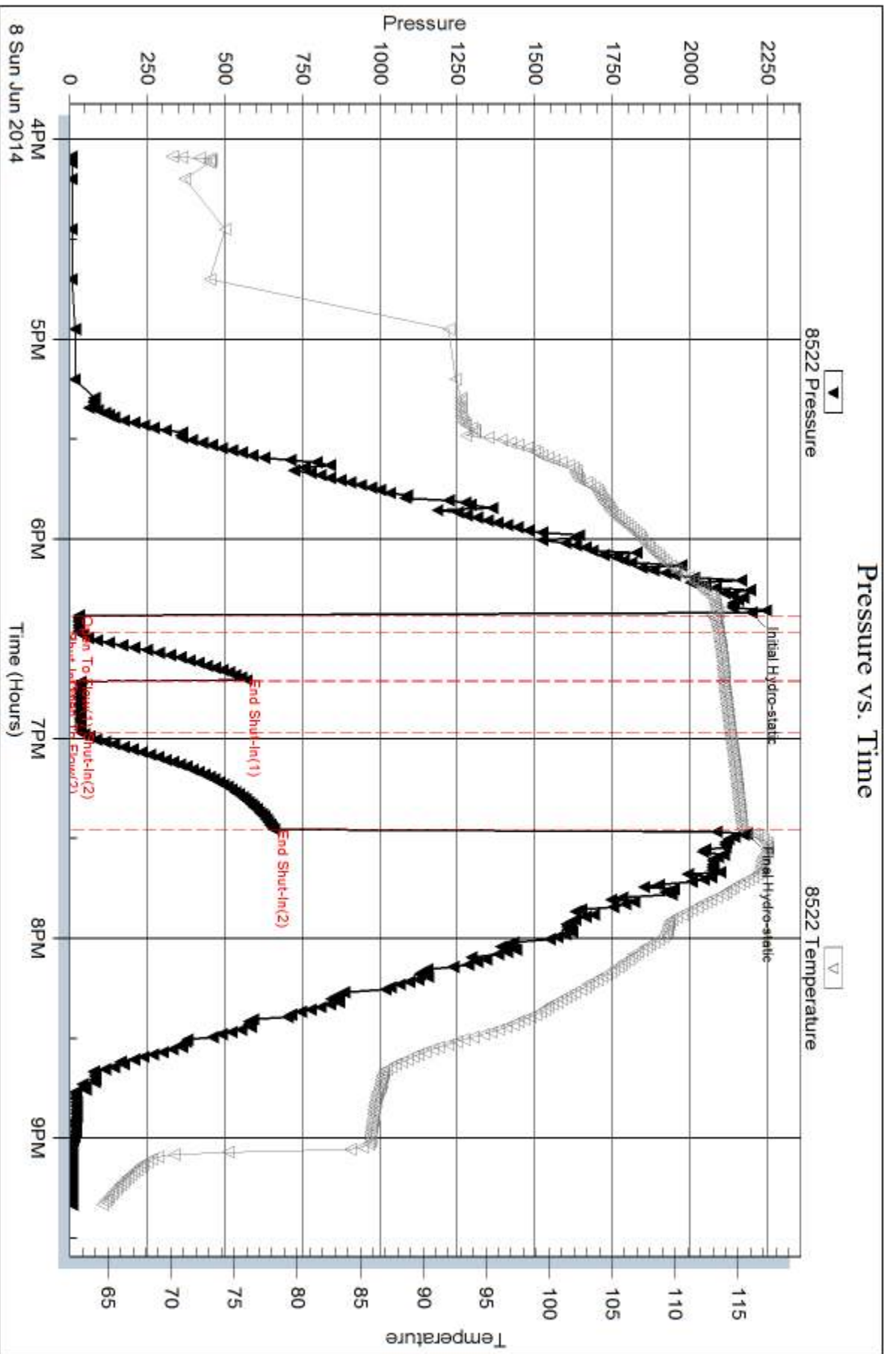
Num Gas Bombs: 0

Serial #:

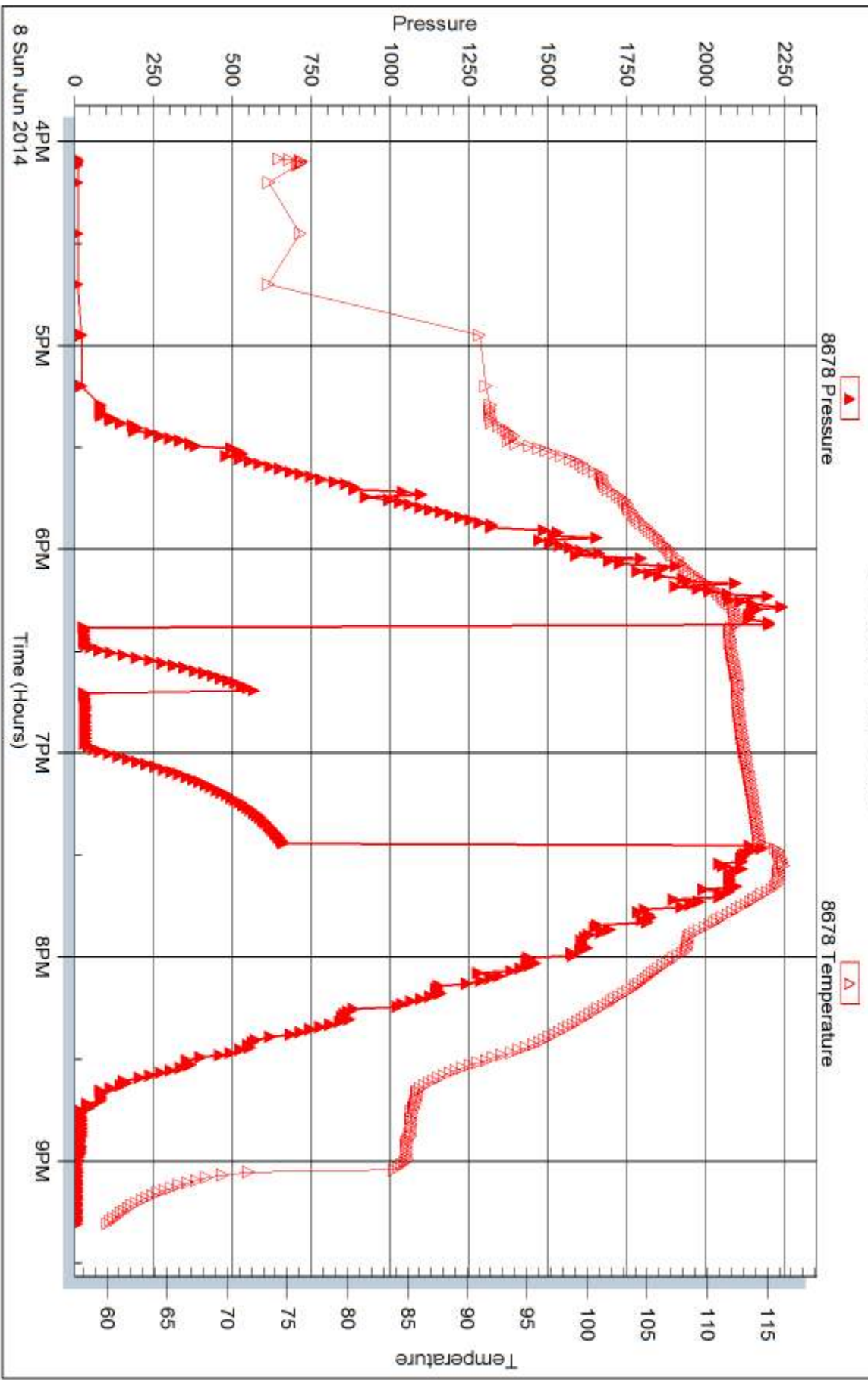
Laboratory Name:

Laboratory Location:

Recovery Comments:



### Pressure vs. Time





## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**22-18s-30w Lane,KS**

**Fagerquist-Steele Unit #1-22**

Start Date: 2014.06.09 @ 09:26:00

End Date: 2014.06.09 @ 14:48:30

Job Ticket #: 56544                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.11 @ 13:37:17



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**

**22-18s-30w Lane, KS**

Job Ticket: 56544

**DST#: 4**

Test Start: 2014.06.09 @ 09:26:00

## GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:14:30

Time Test Ended: 14:48:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 69

**Interval: 4420.00 ft (KB) To 4470.00 ft (KB) (TVD)**

Reference Elevations: 2883.00 ft (KB)

Total Depth: 4470.00 ft (KB) (TVD)

2875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: 68.84 psig @ 4423.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.09

End Date:

2014.06.09

Last Calib.:

2014.06.09

Start Time: 09:26:05

End Time:

14:48:29

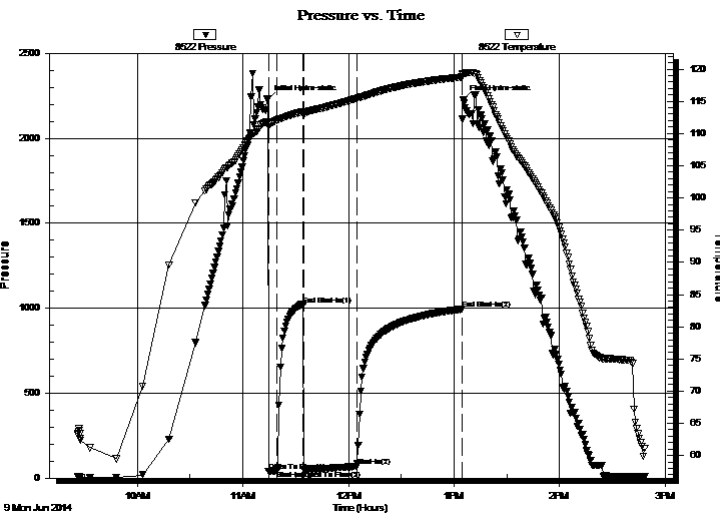
Time On Btm:

2014.06.09 @ 11:14:15

Time Off Btm:

2014.06.09 @ 13:05:15

**TEST COMMENT:** IF: 1 1/4". Blow  
IS: No Return  
FF: Surface Blow -Built to 1/2". Blow  
FS: No Return



## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2230.64         | 111.82       | Initial Hydro-static |
| 1           | 39.61           | 111.10       | Open To Flow (1)     |
| 6           | 44.39           | 112.06       | Shut-In(1)           |
| 20          | 1019.60         | 113.39       | End Shut-In(1)       |
| 21          | 48.53           | 112.86       | Open To Flow (2)     |
| 51          | 68.84           | 115.43       | Shut-In(2)           |
| 111         | 994.99          | 118.77       | End Shut-In(2)       |
| 111         | 2226.95         | 119.20       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 65.00       | Mud 100m    | 0.32         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc  
562 W St Rd 4  
Olmitz, KS 67564  
ATTN: Vern Schrag

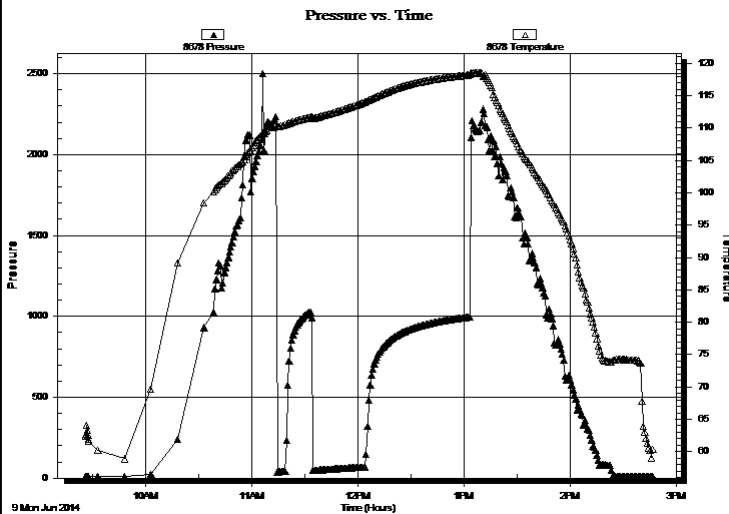
**Fagerquist-Steele Unit #1-22**  
**22-18s-30w Lane, KS**  
Job Ticket: 56544 **DST#: 4**  
Test Start: 2014.06.09 @ 09:26:00

## GENERAL INFORMATION:

Formation: **Pawnee**  
Deviated: No Whipstock: ft (KB)  
Time Tool Opened: 11:14:30  
Time Test Ended: 14:48:30  
**Interval: 4420.00 ft (KB) To 4470.00 ft (KB) (TVD)**  
Total Depth: 4470.00 ft (KB) (TVD)  
Hole Diameter: 7.88 inches  
Hole Condition: Good  
Test Type: Conventional Bottom Hole (Reset)  
Tester: Cornelio Landa III  
Unit No: 69  
Reference Elevations: 2883.00 ft (KB)  
2875.00 ft (CF)  
KB to GR/CF: 8.00 ft

**Serial #: 8678 Inside**  
Press@RunDepth: psig @ 4423.00 ft (KB) Capacity: 8000.00 psig  
Start Date: 2014.06.09 End Date: 2014.06.09 Last Calib.: 2014.06.09  
Start Time: 09:26:05 End Time: 14:47:14 Time On Btm:  
Time Off Btm:

TEST COMMENT: IF: 1 1/4". Blow  
IS: No Return  
FF: Surface Blow -Built to 1/2". Blow  
FS: No Return



## PRESSURE SUMMARY

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

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 65.00       | Mud 100m    | 0.32         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56544

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.06.09 @ 09:26:00

## Tool Information

|                           |                    |                       |                                |                                    |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe:               | Length: 4299.00 ft | Diameter: 3.80 inches | Volume: 60.30 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: 26000.00 lb  |
| Drill Collar:             | Length: 124.00 ft  | Diameter: 2.25 inches | Volume: 0.61 bbl               | Weight to Pull Loose: 13000.00 lb  |
|                           |                    |                       | <u>Total Volume: 60.91 bbl</u> | Tool Chased 0.00 ft                |
| Drill Pipe Above KB:      | 30.00 ft           |                       |                                | String Weight: Initial 60000.00 lb |
| Depth to Top Packer:      | 4420.00 ft         |                       |                                | Final 60000.00 lb                  |
| Depth to Bottom Packer:   | ft                 |                       |                                |                                    |
| Interval between Packers: | 50.00 ft           |                       |                                |                                    |
| Tool Length:              | 77.00 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         |            |          | 4394.00    |                               |
| Shut In Tool              | 5.00         |            |          | 4399.00    |                               |
| Hydraulic tool            | 5.00         |            |          | 4404.00    |                               |
| Jars                      | 5.00         |            |          | 4409.00    |                               |
| Safety Joint              | 2.00         |            |          | 4411.00    |                               |
| Packer                    | 5.00         |            |          | 4416.00    | 27.00 Bottom Of Top Packer    |
| Packer                    | 4.00         |            |          | 4420.00    |                               |
| Stubb                     | 1.00         |            |          | 4421.00    |                               |
| Perforations              | 1.00         |            |          | 4422.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4423.00    |                               |
| Recorder                  | 0.00         | 8678       | Inside   | 4423.00    |                               |
| Recorder                  | 0.00         | 8522       | Outside  | 4423.00    |                               |
| Drill Pipe                | 31.00        |            |          | 4454.00    |                               |
| Change Over Sub           | 1.00         |            |          | 4455.00    |                               |
| Perforations              | 12.00        |            |          | 4467.00    |                               |
| Bullnose                  | 3.00         |            |          | 4470.00    | 50.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>77.00</b> |            |          |            |                               |





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56544

**DST#: 4**

ATTN: Vern Schrag

Test Start: 2014.06.09 @ 09:26:00

### 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: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 2400.00 ppm

Filter Cake: 2.00 inches

### Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 65.00        | Mud 100m    | 0.320         |

Total Length: 65.00 ft      Total Volume: 0.320 bbl

Num Fluid Samples: 0

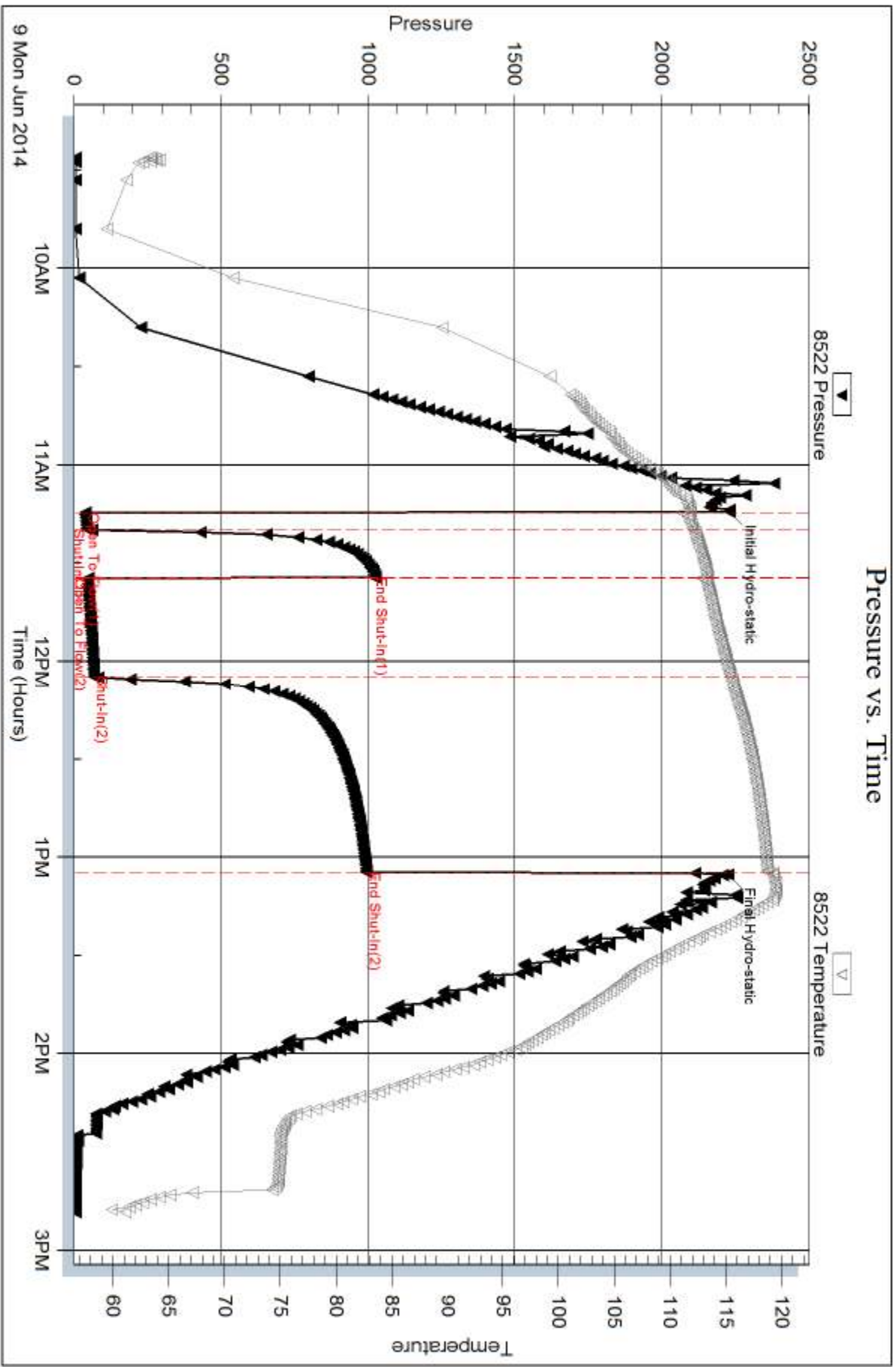
Num Gas Bombs: 0

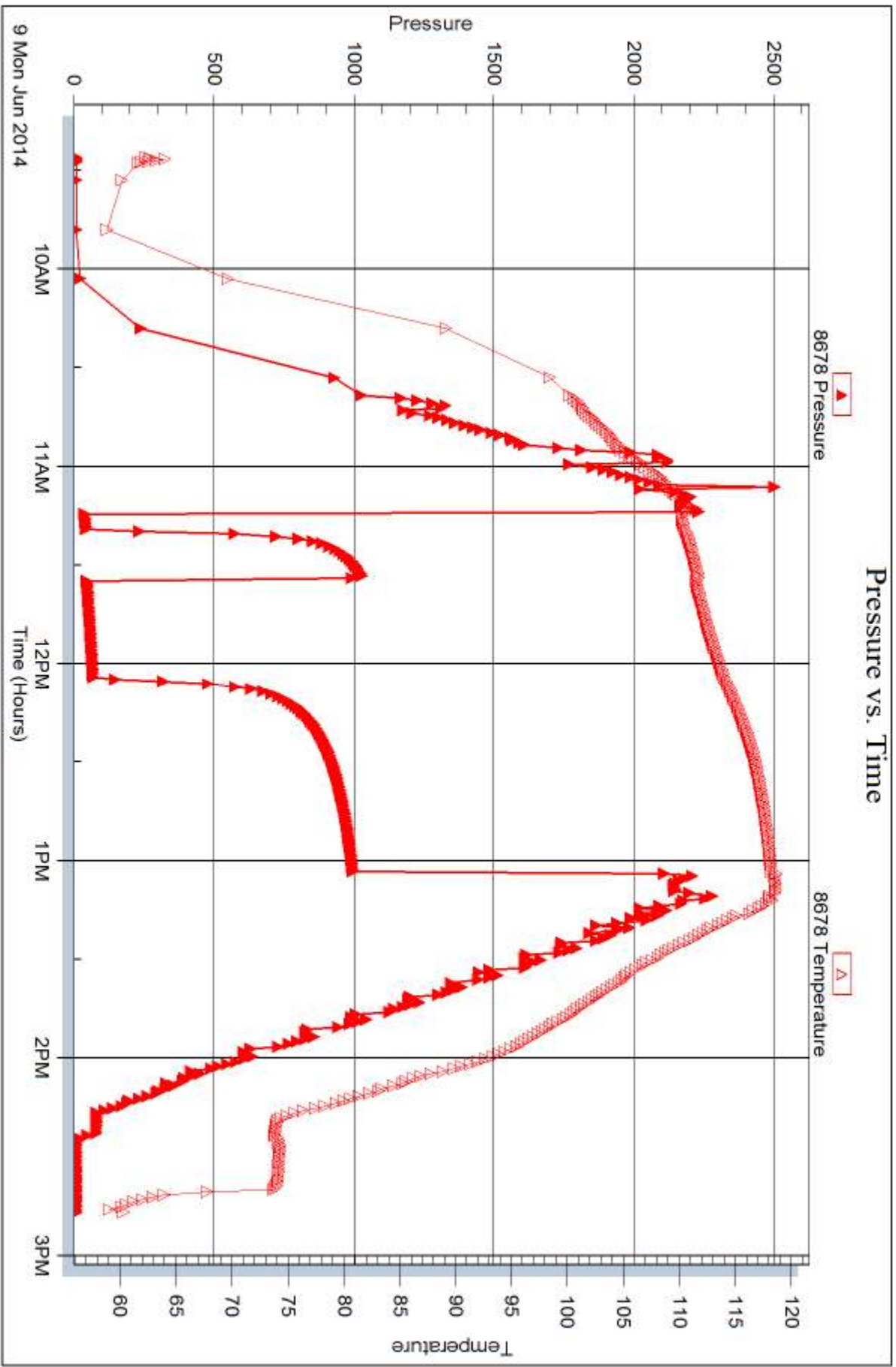
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







## DRILL STEM TEST REPORT

Prepared For: **Larson Engineering, Inc**

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**22-18s-30w Lane,KS**

**Fagerquist-Steele Unit #1-22**

Start Date: 2014.06.10 @ 04:47:00

End Date: 2014.06.10 @ 09:58:30

Job Ticket #: 56545                      DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.11 @ 13:36:34



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Larson Engineering, Inc

562 W St Rd 4  
Olmitz, KS 67564

ATTN: Vern Schrag

**Fagerquist-Steele Unit #1-22**

**22-18s-30w Lane, KS**

Job Ticket: 56545

**DST#: 5**

Test Start: 2014.06.10 @ 04:47:00

## GENERAL INFORMATION:

Formation: **Cherokee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:51:00

Time Test Ended: 09:58:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cornelio Landa III

Unit No: 69

**Interval: 4468.00 ft (KB) To 4565.00 ft (KB) (TVD)**

Reference Elevations: 2883.00 ft (KB)

Total Depth: 4565.00 ft (KB) (TVD)

2875.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

**Serial #: 8522 Outside**

Press@RunDepth: 58.22 psig @ 4471.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.10

End Date:

2014.06.10

Last Calib.: 2014.06.10

Start Time: 04:47:05

End Time:

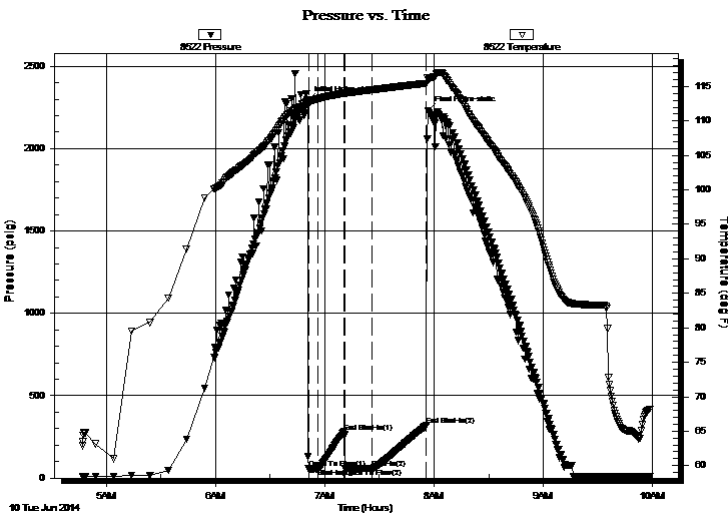
09:58:29

Time On Btm: 2014.06.10 @ 06:50:30

Time Off Btm: 2014.06.10 @ 07:56:45

**TEST COMMENT:** IF: 2" Blow  
IS: No Return  
FF: Weak surface blow - Died in 3 min.  
FS: No Return

## PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation           |
|-------------|-----------------|--------------|----------------------|
| 0           | 2293.17         | 113.13       | Initial Hydro-static |
| 1           | 56.48           | 112.64       | Open To Flow (1)     |
| 6           | 57.30           | 113.20       | Shut-In(1)           |
| 20          | 281.11          | 114.01       | End Shut-In(1)       |
| 21          | 57.28           | 113.98       | Open To Flow (2)     |
| 36          | 58.22           | 114.52       | Shut-In(2)           |
| 66          | 319.49          | 115.46       | End Shut-In(2)       |
| 67          | 2228.70         | 115.93       | Final Hydro-static   |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 60.00       | Mud 100m    | 0.30         |
|             |             |              |
|             |             |              |
|             |             |              |
|             |             |              |

\* Recovery from multiple tests

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56545

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.06.10 @ 04:47:00

## Tool Information

|                           |                    |                       |                                |                        |             |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe:               | Length: 4330.00 ft | Diameter: 3.80 inches | Volume: 60.74 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:  | 26000.00 lb |
| Drill Collar:             | Length: 124.00 ft  | Diameter: 2.25 inches | Volume: 0.61 bbl               | Weight to Pull Loose:  | 10000.00 lb |
|                           |                    |                       | <u>Total Volume: 61.35 bbl</u> | Tool Chased            | 0.00 ft     |
| Drill Pipe Above KB:      | 13.00 ft           |                       |                                | String Weight: Initial | 60000.00 lb |
| Depth to Top Packer:      | 4468.00 ft         |                       |                                | Final                  | 60000.00 lb |
| Depth to Bottom Packer:   | ft                 |                       |                                |                        |             |
| Interval between Packers: | 97.00 ft           |                       |                                |                        |             |
| Tool Length:              | 124.00 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          |            |          | 4442.00    |                               |
| Shut In Tool              | 5.00          |            |          | 4447.00    |                               |
| Hydraulic tool            | 5.00          |            |          | 4452.00    |                               |
| Jars                      | 5.00          |            |          | 4457.00    |                               |
| Safety Joint              | 2.00          |            |          | 4459.00    |                               |
| Packer                    | 5.00          |            |          | 4464.00    | 27.00 Bottom Of Top Packer    |
| Packer                    | 4.00          |            |          | 4468.00    |                               |
| Stubb                     | 1.00          |            |          | 4469.00    |                               |
| Perforations              | 1.00          |            |          | 4470.00    |                               |
| Change Over Sub           | 1.00          |            |          | 4471.00    |                               |
| Recorder                  | 0.00          | 8678       | Inside   | 4471.00    |                               |
| Recorder                  | 0.00          | 8522       | Outside  | 4471.00    |                               |
| Drill Pipe                | 63.00         |            |          | 4534.00    |                               |
| Change Over Sub           | 1.00          |            |          | 4535.00    |                               |
| Perforations              | 27.00         |            |          | 4562.00    |                               |
| Bullnose                  | 3.00          |            |          | 4565.00    | 97.00 Bottom Packers & Anchor |
| <b>Total Tool Length:</b> | <b>124.00</b> |            |          |            |                               |



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Larson Engineering, Inc

**Fagerquist-Steele Unit #1-22**

562 W St Rd 4  
Olmitz, KS 67564

**22-18s-30w Lane, KS**

Job Ticket: 56545

**DST#: 5**

ATTN: Vern Schrag

Test Start: 2014.06.10 @ 04:47:00

## 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: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3500.00 ppm

Filter Cake: 2.00 inches

## Recovery Information

Recovery Table

| Length<br>ft | Description | Volume<br>bbl |
|--------------|-------------|---------------|
| 60.00        | Mud 100m    | 0.295         |

Total Length: 60.00 ft      Total Volume: 0.295 bbl

Num Fluid Samples: 0

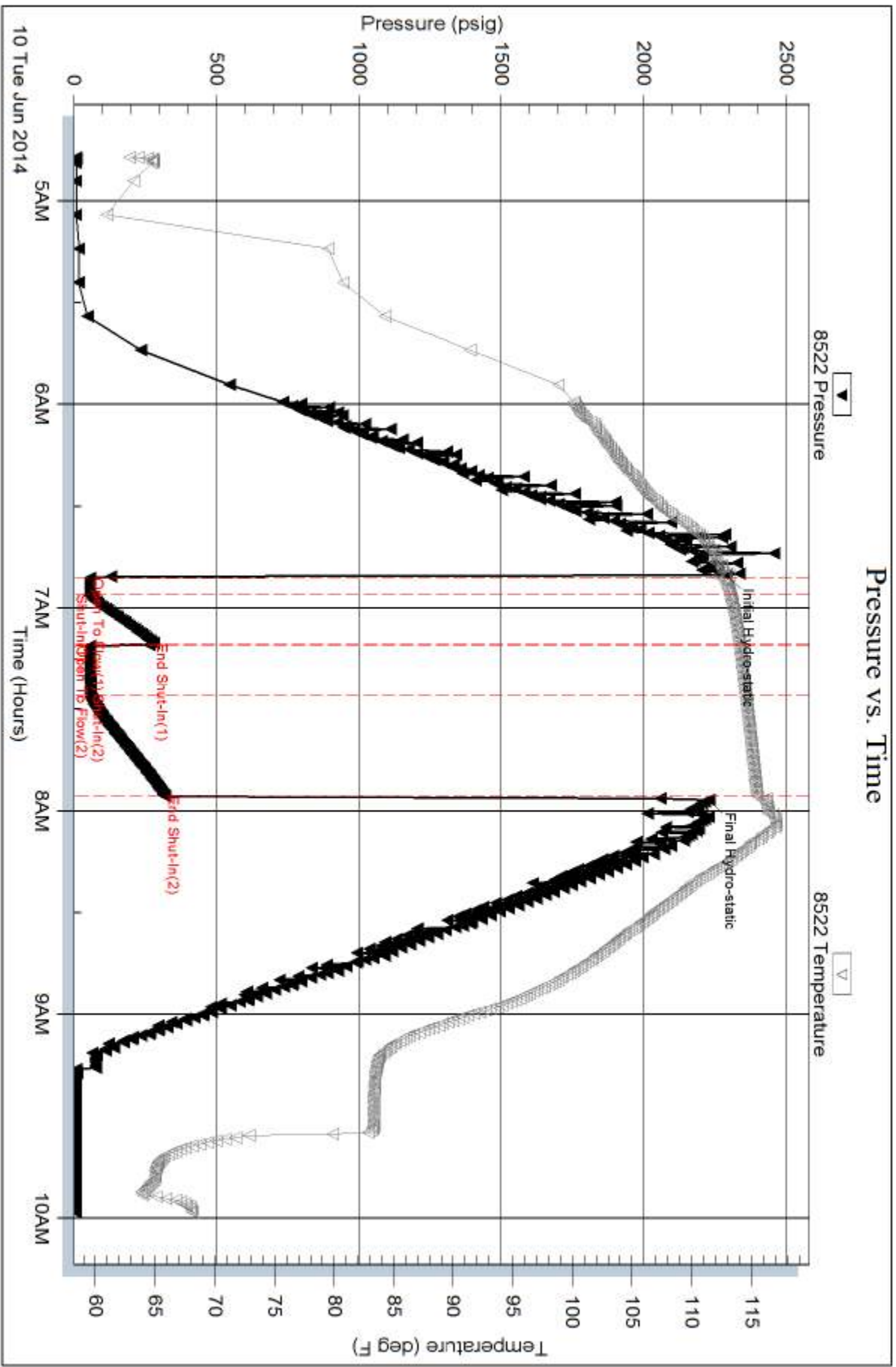
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **54916**

Well Name & No. Fagerquist-Steele Unit 1-22 Test No. 1 Date 6/07/14  
 Company Larsen Engineering, Inc. Elevation 2883 KB 2875 GL  
 Address 562 W St Rd 4 Olmitz, KS 67564  
 Co. Rep / Geo. Vera Schrag Rig 110 3  
 Location: Sec. 22 Twp. 18S Rge. 30W Co. Lane State KS

Interval Tested 4230 4242 Zone Tested LKC "K"  
 Anchor Length 12 Drill Pipe Run 4082 Mud Wt. 9.0  
 Top Packer Depth 4225 Drill Collars Run 124 Vis 60  
 Bottom Packer Depth 4230 Wt. Pipe Run 0 WL 6.8  
 Total Depth 4242 Chlorides 2,000 ppm System LCM 1#  
 Blow Description IF: 8" blow Took on some mod before packer set  
ISI: No return  
FF: No blow  
FSI: No return

| Rec        | Feet of                     | %gas | %oil | %water     | %mud |
|------------|-----------------------------|------|------|------------|------|
| <u>200</u> | <u>Mod</u>                  |      |      | <u>100</u> |      |
|            | <u>very thick at bottom</u> |      |      |            |      |
|            |                             |      |      |            |      |
|            |                             |      |      |            |      |
|            |                             |      |      |            |      |

Rec Total 200 BHT 120 Gravity ~ API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic 2109  Test 1250 T-On Location 0 2150  
 (B) First Initial Flow 134  Jars 250 T-Started 2145  
 (C) First Final Flow 120  Safety Joint 75 T-Open 0008 6/7  
 (D) Initial Shut-In 720  Circ Sub N/C T-Pulled 0158  
 (E) Second Initial Flow 127  Hourly Standby \_\_\_\_\_ T-Out 0410  
 (F) Second Final Flow 188  Mileage 37 AT 57.35 Comments \_\_\_\_\_  
 (G) Final Shut-In 778  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 2002  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 30  
 Final Shut-In 60

Sub Total 1632.35

Sub Total 1632.35

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. 56542

Well Name & No. Fagerquist-Steel Unit #1-22 Test No. 2 Date 6-7-14  
 Company Larsen Engineering Inc. Elevation 2853 KB 2875 GL  
 Address 562 W. St. Rd #4 - Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 22 Twp. 18-s Rge. 30-w Co. Lane State KS

Interval Tested 4267 - 4286 Zone Tested LKC "L"  
 Anchor Length 19' Drill Pipe Run 4144' Mud Wt. 9.1  
 Top Packer Depth 4263 Drill Collars Run 124 Vis 60  
 Bottom Packer Depth 4267 Wt. Pipe Run 0 WL 7.2  
 Total Depth 4286 Chlorides 3,000 ppm System LCM #1.5

Blow Description IF 1/2 in Blow

ISI: No Return

FF: No Blow

FJI: No Return

| Rec       | Feet of    | %gas | %oil | %water | %mud       |
|-----------|------------|------|------|--------|------------|
|           |            |      |      |        |            |
|           |            |      |      |        |            |
| <u>10</u> | <u>mud</u> |      |      |        | <u>100</u> |
|           |            |      |      |        |            |
|           |            |      |      |        |            |

Rec Total 10 BHT 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ ° F Chlorides \_\_\_\_\_ ppm

- (A) Initial Hydrostatic 2135
- (B) First Initial Flow 39
- (C) First Final Flow 39
- (D) Initial Shut-In 42
- (E) Second Initial Flow 38
- (F) Second Final Flow 38
- (G) Final Shut-In 40
- (H) Final Hydrostatic 2134

- Test 1250
- Jars 250
- Safety Joint 75
- Circ Sub n/c
- Hourly Standby
- Mileage 00 R-T 37 57.35
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1632.35

- T-On Location 17:30
- T-Started 17:44
- T-Open 19:47
- T-Pulled 20:52
- T-Out 22:43

- Comments \_\_\_\_\_
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 0
- Total 1632.35
- MP/DST Disc't \_\_\_\_\_

Initial Open 5  
 Initial Shut-In 15  
 Final Flow 15  
 Final Shut-In 30

Approved By [Signature]

Our Representative [Signature]

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56543

Well Name & No. Fagerquist #1-22 Test No. 3 Date 6-8-14  
 Company Larson Engineering Inc. Elevation 2853 KB 2875 GL  
 Address 562 W St. Rd #44 - Olinia, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 22 Twp. K8-S Rge. 30-W Co. Lane State KS

Interval Tested 4302 - 4405 Zone Tested Marmaton  
 Anchor Length 103' Drill Pipe Run 4173' Mud Wt. 9.1  
 Top Packer Depth 4298 Drill Collars Run 124 Vis 54  
 Bottom Packer Depth 4302 Wt. Pipe Run Ø WL 7.6  
 Total Depth 4405 Chlorides 2400 ppm System LCM #1

Blow Description IF: 1/2 m Blow-Died in 1 min.  
ISI: No Return  
FF: No Blow  
FSI: No Return

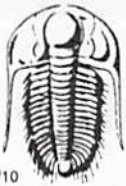
| Rec          | Feet of            | %gas | %oil | %water            | %mud |
|--------------|--------------------|------|------|-------------------|------|
| Rec          | Feet of            | %gas | %oil | %water            | %mud |
| Rec <u>5</u> | Feet of <u>Mud</u> | %gas | %oil | %water <u>100</u> | %mud |
| Rec          | Feet of            | %gas | %oil | %water            | %mud |
| Rec          | Feet of            | %gas | %oil | %water            | %mud |

Rec Total 5 BHT 11p Gravity — API RW — @ — F Chlorides — ppm

|                                     |  |  |
|-------------------------------------|--|--|
| (A) Initial Hydrostatic <u>2199</u> | <input checked="" type="checkbox"/> Test <u>1250</u>           | T-On Location <u>15:45</u>                   |
| (B) First Initial Flow <u>30</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>            | T-Started <u>16:05</u>                       |
| (C) First Final Flow <u>31</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>     | T-Open <u>18:22</u>                          |
| (D) Initial Shut-In <u>569</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>        | T-Pulled <u>19:27</u>                        |
| (E) Second Initial Flow <u>34</u>   | <input type="checkbox"/> Hourly Standby                        | T-Out <u>21:20</u>                           |
| (F) Second Final Flow <u>36</u>     | <input checked="" type="checkbox"/> Mileage <u>37 RT 57.35</u> | Comments                                     |
| (G) Final Shut-In <u>660</u>        | <input type="checkbox"/> Sampler                               |  |
| (H) Final Hydrostatic <u>2183</u>   | <input type="checkbox"/> Straddle                              | <input type="checkbox"/> Ruined Shale Packer |
| Initial Open <u>5</u>               | <input checked="" type="checkbox"/> Shale Packer <u>250</u>    | <input type="checkbox"/> Ruined Packer       |
| Initial Shut-In <u>15</u>           | <input type="checkbox"/> Extra Packer                          | <input type="checkbox"/> Extra Copies        |
| Final Flow <u>15</u>                | <input type="checkbox"/> Extra Recorder                        | Sub Total <u>0</u>                           |
| Final Shut-In <u>30</u>             | <input type="checkbox"/> Day Standby                           | Total <u>1882.35</u>                         |
|                                     | <input type="checkbox"/> Accessibility                         | MP/DST Disc't                                |
|                                     | Sub Total <u>1882.35</u>                                       |  |

Approved By Vern Schrag Our Representative Callahan CLC

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. **56544**

4/10

Well Name & No. Fagerquist-Steels Unit #1-22 Test No. 4 Date 6-9-14  
 Company Larson Engineering Elevation 2883 KB 2875 GL  
 Address 562 W. State Rd #4 - Olmitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD#3  
 Location: Sec. 22 Twp. 18-S Rge. 30-W Co. Lane State KS

Interval Tested 4420-4470 Zone Tested ~~Olmitz~~ Pawnee  
 Anchor Length 50' Drill Pipe Run 4299 Mud Wt. 8.9  
 Top Packer Depth 4416 Drill Collars Run 124 Vis 55  
 Bottom Packer Depth 4420 Wt. Pipe Run 8 WL 7.6  
 Total Depth 4470 Chlorides 2400 ppm System LCM #1

Blow Description IF: 1/4 in Blow  
IST: No Return  
FF: surface Blow - Built to 1/2 in. Blow  
FST: No Return

| Rec           | Feet of            | %gas | %oil | %water            | %mud |
|---------------|--------------------|------|------|-------------------|------|
| Rec           | Feet of            | %gas | %oil | %water            | %mud |
| Rec <u>65</u> | Feet of <u>mud</u> | %gas | %oil | %water <u>100</u> | %mud |
| Rec           | Feet of            | %gas | %oil | %water            | %mud |
| Rec           | Feet of            | %gas | %oil | %water            | %mud |

Rec Total 65 BHT 119 Gravity — API RW — @ — ° F Chlorides — ppm

(A) Initial Hydrostatic 2231  Test 1250 T-On Location 07:40  
 (B) First Initial Flow 40  Jars 250 T-Started 09:26  
 (C) First Final Flow 44  Safety Joint 75 T-Open 11:14  
 (D) Initial Shut-In 1020  Circ Sub N/C T-Pulled 13:04  
 (E) Second Initial Flow 49  Hourly Standby — T-Out 14:48  
 (F) Second Final Flow 69  Mileage 37 R-T 57.35 Comments 740 on loc waiting on  
 (G) Final Shut-In 995  Sampler — Cat!! Cat was here @ 9:20  
 (H) Final Hydrostatic 2227  Straddle —

Initial Open 5  Shale Packer 250  Ruined Shale Packer —  
 Initial Shut-In 15  Extra Packer —  Ruined Packer —  
 Final Flow 30  Extra Recorder —  Extra Copies —  
 Final Shut-In 60  Day Standby — Sub Total 0  
 Sub Total 1882.35 Total 1882.35 MP/DST Disc't —

Approved By Vern Schrag Our Representative —

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 56545

4/10

Well Name & No. Fagerquist-Steel Unit #1-22 Test No. 5 Date 6-10-14  
 Company Lario Engineering Elevation 2883 KB 2875 GL  
 Address 562 W. State Rd #4 - Omitz, KS 67564  
 Co. Rep / Geo. Vern Schrag Rig HD #3  
 Location: Sec. 22 Twp. 18-5 Rge. 30-W Co. Lane State KS

Interval Tested 4468-4565 Zone Tested Chero Kee  
 Anchor Length 97' Drill Pipe Run 4330' Mud Wt. 9.1  
 Top Packer Depth 4464 Drill Collars Run 124 Vis 57  
 Bottom Packer Depth 4468 Wt. Pipe Run 16 WL 8.0  
 Total Depth 4565 Chlorides 3500 ppm System LCM # 1

Blow Description IF: 2 in. Blow  
ISF: No Return  
FF: Weak surface Blow - Died in 3 min.  
FSI: No Return

| Rec           | Feet of            | %gas | %oil | %water            | %mud |
|---------------|--------------------|------|------|-------------------|------|
| Rec           | Feet of            | %gas | %oil | %water            | %mud |
| Rec <u>00</u> | Feet of <u>mud</u> | %gas | %oil | %water <u>100</u> | %mud |
| Rec           | Feet of            | %gas | %oil | %water            | %mud |
| Rec           | Feet of            | %gas | %oil | %water            | %mud |

Rec Total 60 BHT 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

|                                     |  |                                  |
|-------------------------------------|--|----------------------------------|
| (A) Initial Hydrostatic <u>2293</u> | <input checked="" type="checkbox"/> Test <u>1250</u>           | T-On Location <u>04:37</u>       |
| (B) First Initial Flow <u>56</u>    | <input checked="" type="checkbox"/> Jars <u>250</u>            | T-Started <u>04:47</u>           |
| (C) First Final Flow <u>57</u>      | <input checked="" type="checkbox"/> Safety Joint <u>75</u>     | T-Open <u>06:51</u>              |
| (D) Initial Shut-In <u>281</u>      | <input checked="" type="checkbox"/> Circ Sub <u>N/C</u>        | T-Pulled <u>07:56</u>            |
| (E) Second Initial Flow <u>57</u>   | <input type="checkbox"/> Hourly Standby _____                  | T-Out <u>09:58</u>               |
| (F) Second Final Flow <u>58</u>     | <input checked="" type="checkbox"/> Mileage <u>37 x 2 - RT</u> | Comments <u>loaded 6-10-14 @</u> |
| (G) Final Shut-In <u>319</u>        | <input type="checkbox"/> Sampler _____                         | <u>18:00 on loc. 2</u>           |
| (H) Final Hydrostatic <u>2229</u>   | <input type="checkbox"/> Straddle _____                        | <u>17:50</u>                     |

|                           |   |  |
|---------------------------|---|--|
| Initial Open <u>5</u>     | <input checked="" type="checkbox"/> Shale Packer <u>250</u> | <input type="checkbox"/> Ruined Shale Packer _____ |
| Initial Shut-In <u>15</u> | <input type="checkbox"/> Extra Packer _____                 | <input type="checkbox"/> Ruined Packer _____       |
| Final Flow <u>15</u>      | <input type="checkbox"/> Extra Recorder _____               | Sub Total <u>0</u>                                 |
| Final Shut-In <u>30</u>   | <input type="checkbox"/> Day Standby _____                  | Total <u>1939.70</u>                               |
|                           | <input type="checkbox"/> Accessibility _____                | MP/DST Disc't _____                                |
|                           | Sub Total <u>1939.70</u>                                    |  |

Approved By Vern Schrag Our Representative C. Alan

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