

Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018

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

Gas DH EOR

OG GSW

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 EOR Conv. to SWD

Plug Back Liner Conv. to GSW Conv. to Producer

Commingled Permit #: _____

Dual Completion Permit #: _____

SWD Permit #: _____

EOR Permit #: _____

GSW Permit #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

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 Drill Stem Tests Received

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

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

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

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
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)*

| | | | | | |
|---|--|---------|-------------|---------------|---------|
| Date of first Production/Injection or Resumed Production/Injection: | Producing Method: <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 |

| | | |
|---|---|------------------------------------|
| 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> <i>(Submit ACO-4)</i> | PRODUCTION INTERVAL: Top Bottom |
|---|---|------------------------------------|

| Shots Per Foot | Perforation Top | Perforation Bottom | Bridge Plug Type | Bridge Plug Set At | Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i> |
|----------------|-----------------|--------------------|------------------|--------------------|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | | | | |
|----------------|-------|---------|------------|--|
| TUBING RECORD: | Size: | Set At: | Packer At: | |
|----------------|-------|---------|------------|--|

| | |
|-----------|-------------------------|
| Form | ACO1 - Well Completion |
| Operator | Outlaw Well Service LLC |
| Well Name | SHAW IKE |
| Doc ID | 1381051 |

Tops

| Name | Top | Datum |
|----------------|------|-------|
| ANHYDRITE TOP | 2546 | +265 |
| ANHYDRITE BASE | 2579 | +232 |
| TOPEKA | 3673 | -862 |
| HEEBNER SHALE | 3844 | -1033 |
| TORONTO | 3874 | -1063 |
| LKC | 3889 | -1078 |
| BKC | 4096 | -1285 |
| RTD | 4150 | -1339 |

OPERATOR

Company: OUTLAW WELL SERVICE LLC
 Address: 1408 WEST 42ND STREET
 HAYS, KANSAS 67601

Contact Geologist: PRESTON WOLF
 Contact Phone Nbr: 785-650-2399
 Well Name: SHAW # IKE
 Location: SW SE NW SE, SEC 20-T5S-R29W
 API: 15-039-21,244-00-00
 Pool: WILDCAT
 State: KANSAS
 Field: UNNAMED
 Country: USA

Scale 1:240 Imperial

Well Name: SHAW # IKE
 Surface Location: SW SE NW SE, SEC 20-T5S-R29W
 Bottom Location:
 API: 15-039-21,244-00-00
 License Number: 34272
 Spud Date: 12/16/2017 Time: 7:00 AM
 Region: DECATUR COUNTY
 Drilling Completed: 1/13/2018 Time: 1:21 PM
 Surface Coordinates: 1645' FSL & 1910' FEL
 Bottom Hole Coordinates:
 Ground Elevation: 2803.00ft
 K.B. Elevation: 2811.00ft
 Logged Interval: 3600.00ft To: 4150.00ft
 Total Depth: 4150.00ft
 Formation: TORONTO, LANSING-KANSAS CITY
 Drilling Fluid Type: CHEMICAL/FRESH WATER GEL

SURFACE CO-ORDINATES

Well Type: Vertical
 Longitude: -100.597803
 Latitude: 39.6013463
 N/S Co-ord: 1645' FSL
 E/W Co-ord: 1910' FEL

LOGGED BY

Company: SOLUTIONS CONSULTING, INC.
 Address: 108 W 35TH
 HAYS, KS 67601

Phone Nbr: (785) 639-1337
 Logged By: GEOLOGIST Name: HERB DEINES

CONTRACTOR

Contractor: DISCOVERY DRILLING INC.
 Rig #: 1
 Rig Type: MUD ROTARY
 Spud Date: 12/16/2017 Time: 7:00 AM
 TD Date: 1/13/2018 Time: 1:21 PM
 Rig Release: 1/14/2018 Time: 12:15 PM

ELEVATIONS

K.B. Elevation: 2811.00ft Ground Elevation: 2803.00ft
 K.B. to Ground: 8.00ft

NOTES

RECOMMENDATION TO RUN PRODUCTION CASING BASED ON POSITIVE RESULTS OF DST # 2.

| | SHAW # IKE | SHULER #1-20 | RITTER # 1-20 |
|-----------------------|---------------------|---------------------|----------------------|
| | SW SE NW SE | NE SE SW | W2 E2 NE NE |
| | SEC.20-5-29W | SEC.20-5-29W | SEC.20-5-29W |
| | 2811'KB | KB 2822' | KB 2804' |
| Anhydrite top | 2546 +265 | + 272 | + 259 |
| Anhydrite base | 2579 +232 | + 238 | + 224 |
| Topeka | 3673 - 862 | - 855 | - 876 |
| Heebner Sh. | 3844-1033 | -1028 | -1052 |
| Toronto | 3874-1063 | -1058 | -1082 |
| LKC | 3889-1078 | -1072 | -1097 |
| BKC | 4096-1285 | -1280 | -1304 |
| RTD | 4150-1339 | -1358 | -1396 |

SUMMARY OF DAILY ACTIVITY

- 12-16-17** RU, spud 7:30 AM, set 8 5/8" surface casing to 221' w/ 190 sxs
Common 2%gel 3%CC, slope 1/2 degree
- 12-17-17** 222', shut down for holidays.
- 01-08-18** 222', drill plug
- 01-09-18** 1839', drilling, lost returns 1783', 1839', 1946'
- 01-10-18** 3030', drilling
- 01-11-18** 3760', drilling, snow and bitter cold overnight, short trip @3820'
pulled 26 stands, CFS 3900', DST # 1 3836'-3900'
- 01-12-18** 3900, TIWB, drilling, CFS 3990', DST # 2 3900' to 3990'
- 01-13-18** 4015' drilling, RTD 4150' @ 1:21PM, CCH, TOWB, logs, TIWB, LDDP
- 01-14-18** 4150', finish LDDP, run casing and cement bottom and top stages.



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63415

DST#: 1

ATTN: Herb Deines

Test Start: 2018.01.11 @ 20:35:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:51:20

Time Test Ended: 05:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 3836.00 ft (KB) To 3900.00 ft (KB) (TVD)

Total Depth: 3900.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2811.00 ft (KB)

2802.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8959

Inside

Press@RunDepth: 54.63 psig @ 3837.00 ft (KB)

Start Date: 2018.01.11 End Date: 2018.01.12

Start Time: 20:35:01 End Time: 05:19:00

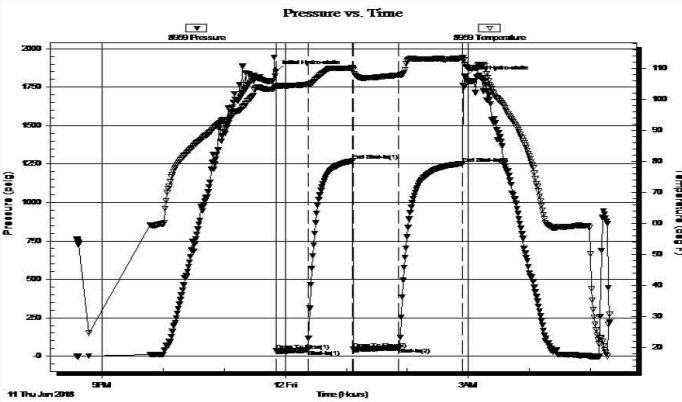
Capacity: 8000.00 psig

Last Calib.: 2018.01.12

Time On Btm: 2018.01.11 @ 23:51:00

Time Off Btm: 2018.01.12 @ 02:56:40

TEST COMMENT: 30-IF-S.blow built to 4 1/2"
45-ISI-Blow back built to 1/8"
45-FF-S.blow @ 4 1/2 mins built to 2 1/4"
60-FSH-blow back built to 1/4"



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1852.12 | 104.19 | Initial Hydro-static |
| 1 | 35.95 | 103.93 | Open To Flow (1) |
| 32 | 40.19 | 104.83 | Shut-In(1) |
| 76 | 1269.96 | 110.12 | End Shut-In(1) |
| 76 | 47.96 | 109.44 | Open To Flow (2) |
| 121 | 54.63 | 107.80 | Shut-In(2) |
| 183 | 1252.57 | 113.20 | End Shut-In(2) |
| 186 | 1819.36 | 111.26 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------------|--------------|
| 83.00 | SOS/SWCM 2%O, 5%W, 93%M | 0.61 |
| | | |
| | | |
| | | |
| | | |

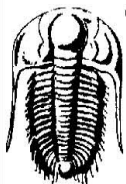
Gas Rates

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

Trilobite Testing, Inc

Ref. No: 63415

Printed: 2018.01.12 @ 06:28:34



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63416

DST#: 2

ATTN: Herb Deines

Test Start: 2018.01.12 @ 17:46:00

GENERAL INFORMATION:

Formation: **LKC E & F**

Formation: LRC E & F
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:33:30
 Time Test Ended: 02:23:49

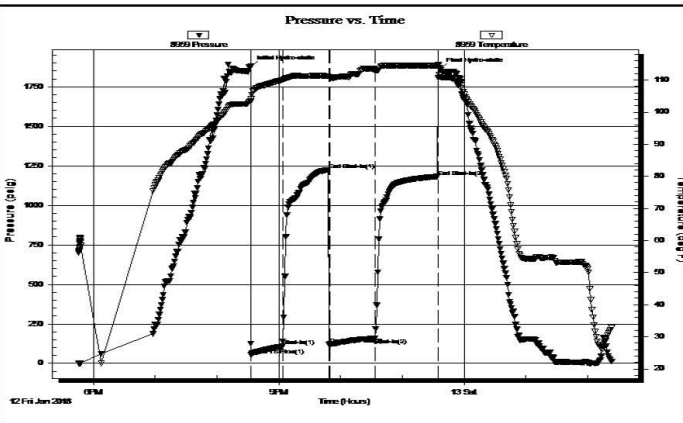
Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82

Interval: 3900.00 ft (KB) To 3990.00 ft (KB) (TVD)
 Total Depth: 3990.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2811.00 ft (KB)
 2802.00 ft (CF)
 KB to GR/CF: 9.00 ft

Serial #: 8959 Inside
 Press@RunDepth: 157.69 psig @ 3901.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.01.12 End Date: 2018.01.13 Last Calib.: 2018.01.13
 Start Time: 17:46:01 End Time: 02:23:49 Time On Btm: 2018.01.12 @ 20:32:50
 Time Off Btm: 2018.01.12 @ 23:36:39

TEST COMMENT: 30-IF-S.blow built to 10 1/2"
 45-ISI-S.blow back @ 6 mins built to 1" and died back to 3/4"
 45-FF-S.blow built to B.O.B (11 inches) @ 32 mins
 60-FSI-S.blow back @ 1 min built to 1 1/4"



| PRESSURE SUMMARY | | | |
|------------------|-----------------|--------------|----------------------|
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
| 0 | 1878.53 | 103.52 | Initial Hydro-static |
| 1 | 53.65 | 104.13 | Open To Flow (1) |
| 31 | 109.34 | 110.10 | Shut-In(1) |
| 76 | 1225.21 | 111.29 | End Shut-In(1) |
| 77 | 120.25 | 110.87 | Open To Flow (2) |
| 121 | 157.69 | 112.93 | Shut-In(2) |
| 182 | 1181.99 | 114.50 | End Shut-In(2) |
| 184 | 1859.96 | 110.95 | Final Hydro-static |

| Recovery | | |
|-------------|------------------------|--------------|
| Length (ft) | Description | Volume (bbl) |
| 343.00 | GHOEM 11%G, 44%O, 45%M | 2.73 |
| 0.00 | 159' GIP | 0.00 |
| | | |
| | | |
| | | |

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

* Recovery from multiple tests

Trilobite Testing, Inc

Ref. No: 63416

Printed: 2018.01.13 @ 03:19:20

ROCK TYPES

| | | | | |
|-----------|-----------|------------|------------|----|
| Cht vari | Lmst fw>7 | shale, grn | Carbon Sh | Ss |
| Lmst fw<7 | Lscongl | shale, gry | shale, red | |

ACCESSORIES

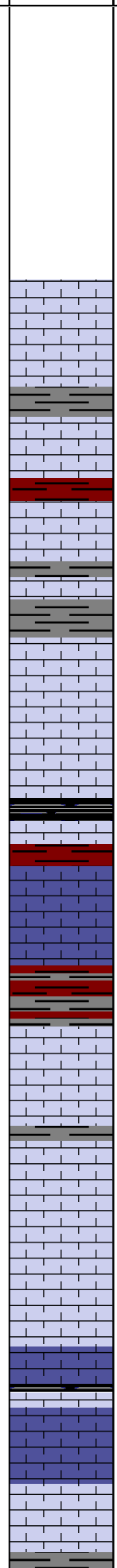
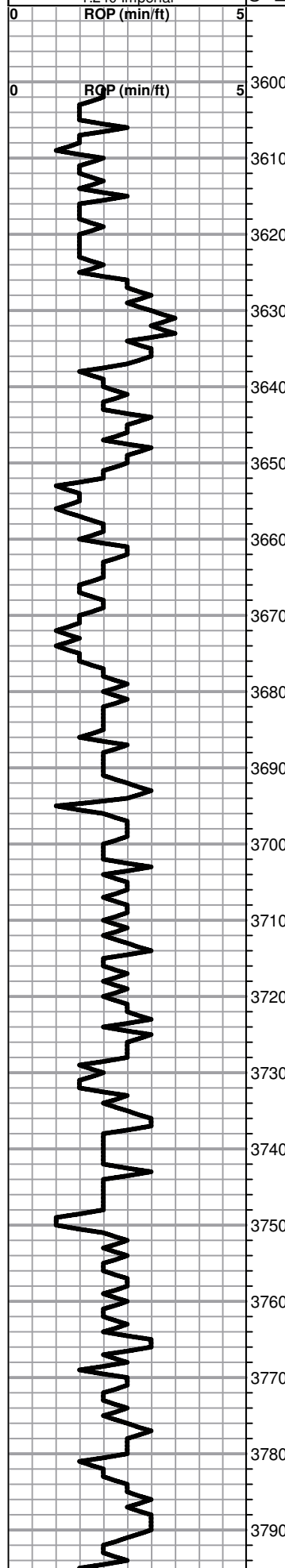
MINERAL
 ▲ Chert, dark

| | | | | | | |
|--------------------------------|-------------------|-----|-----------|----------|-------------------------|----------------|
| Curve Track #1 ROP (min/ft) | Depth Intervals | DST | Lithology | Oil Show | Geological Descriptions | Curve Track #3 |
|--------------------------------|-------------------|-----|-----------|----------|-------------------------|----------------|

Cored Interval
DST Interval

1:240 Imperial
ROP (min/ft)

1:240 Imperial



BEGIN 1' DRILL TIME FROM 3600' TO RTD
 BEGIN 10' WET AND DRY SAMPLES FROM 3650' TO RTD

ANHYDRITE TOP 2546+265
ANHYDRITE BASE 2579+232

Lime, offwhite-lt gray, fn-vfxln, slightly fossiliferous-fusulinids

Lime lt gray-lt brn, fnxln, slightly fossiliferous
 Shale, lt-med gray, firm blocky

Lime, white-lt brn, fnxln-slightly granular, NS

Shale, red, soft with lt red wash

Lime, offwhite-lt brn, fnxln, slight bed chalk

Lime, crm, fnxln

TOPEKA 3673-862

Lime, crm-lt brn, fnxln, bedded chalk in part

Lime, offwhite-crm, fnxln with some white granular, NS

Lime, offwhite-lt gray, fnxln

Shale, red, lt red wash

Lime, white-lt brn, fnxln

Lime, white-crm, fnxln-granular in part, very clean in appearance

Lime, lt brn-lt gray, fnxln

Lime, offwhite-lt brn, fn-vfxln

Lime, offwhite-lt brn, fn-vfxln

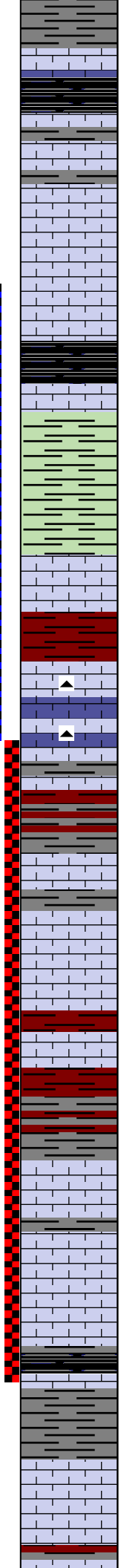
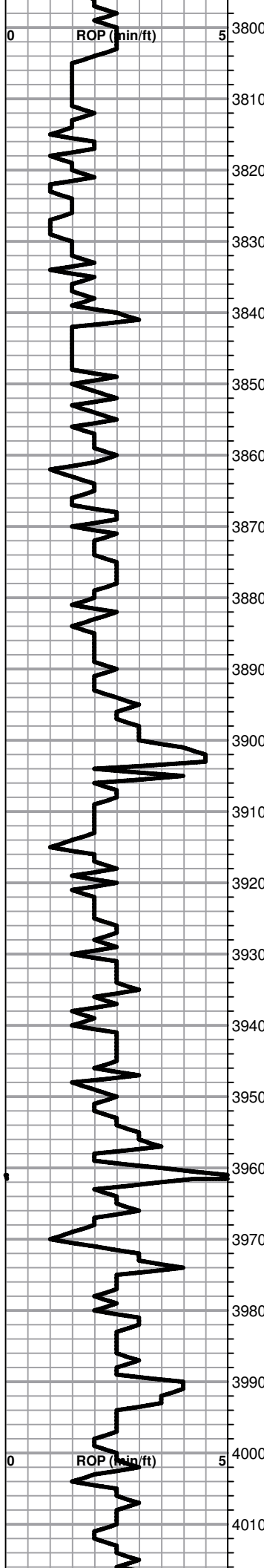
Lime, offwhite-lt brn, fn-vfxln

Lime, offwhite-crm-lt brn, fn-vfxln

Shale, lt-med gray, moderate to firm blocky

SET 8 5/8" SURFACE CASING TO 221' W/190 SXS COMMON 2%GEL 3%CC, PLUG DOWN 1:45PM 12-16-2017

RIG SHUT DOWN FOR HOLIDAYS AND RESUMED DRILLING ON 1-8-2018



Lime, offwhite-lt gray, fnxln
 Shale, black carbonaceous, firm blocky

Lime, crm-lt brn, fnxln

SHORT TRIP-26 STANDS

Lime, crm-lt brn, fnxln-slightly granular in part, white chalk wash with bedded chalk

Lime, crm, fnxln

HEEBNER SHALE 3844-1033

Shale, black carbonaceous, fissile, blocky

Shale, lime green to dove gray, soft mud

DST # 1 3836' TO 3900' SEE HEADER FOR TEST SUMMARY

TORONTO 3874-1063

Lime, crm, fnxln with abundant fossil fragments with scattered vugs, lt odor and MSFO, spotted to sat staining

Shale, lime green-red soft mud

LKC 3889-1078

Lime, crm-tan, fnxln, few chips spotty stain, no odor, NFO
 Chert, orange, fresh, sharp

SLOPE 3/4 DEGREE @ 3900'

Shale, red, dark brn, dark gray, firm blocky

Lime, crm-lt brn, fossiliferous with fine vugs, SFO and good odor, dark spotty to sat. stain, oil droplets in tray

Lime, white-crm, fnxln, fossiliferous in part with pinpoint vuggy porosity, lt odor, spotty to sat stain

Lime, crm-lt gray, fnxln

Lime, crm-lt gray, fnxln

DST # 2 3900' TO 3990' SEE HEADER FOR TEST SUMMARY

Lime, crm, fnxln, slightly fossiliferous, scattered stain, VMSFO in few chips, very lt odor

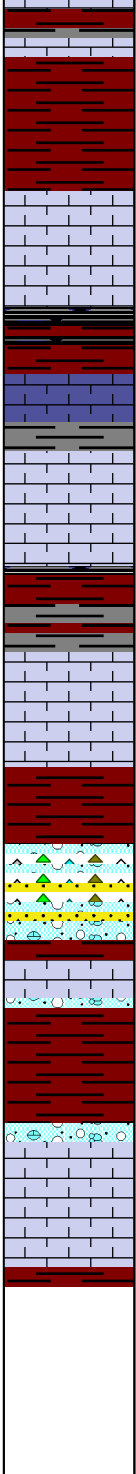
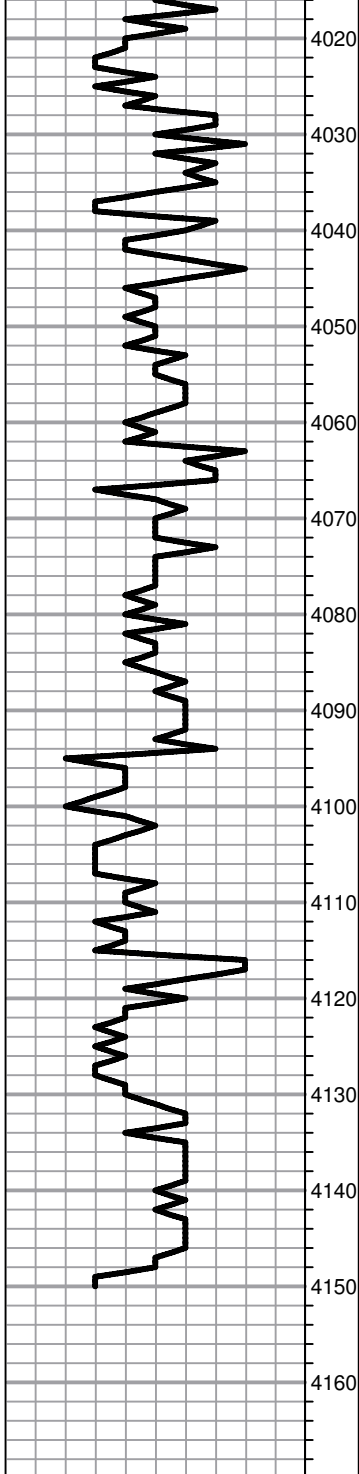
Lime, white-crm, fn-micro xln

Lime, crm-lt brn, fn-micro xln

Shale, med gray, moderate blocky

Lime, offwhite-crm, fnxln

Shale, red wash



Shale, red wash

①

Lime crm, soft granular with fine inter xln porosity, organic content mixed in fine grainstone, very lt odor, scattered to sat lt staining, NFO

Shale, reddish brn, soft-firm blocky

Lime, offwhite, fnxn

①

Lime, lt-med brn, fnxn with trace of spotty staining, NFO, no odor, appears poorly developed

Shale, lt red wash, reddish brn, soft-firm blocky

Lime, crm-lt brn, fn-vfxln

BKC 4096-1285

Shale, lt brn, soft mud

Lime, clastic mix, NS

Lime, lt gray, fn-vfxln

Shale, reddish brn, firm blocky

Lime, offwhite-lt brn, fn-vfxln

RTD 4150-1339 LTD 4150-1339

5 1/2" production casing set to 4145.77'. Bottom stage cemented with 150 sxs AA2. DV at 2525' cemented with 355 sxs A-Con, Circulated 50 sxs to pits. Rathole with 30 sxs, mousehole with 15 sxs

SLOPE 0 DEGREE@ 4150'



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63415

DST#: 1

ATTN: Herb Deines

Test Start: 2018.01.11 @ 20:35:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:51:20

Time Test Ended: 05:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: 3836.00 ft (KB) To 3900.00 ft (KB) (TVD)

Total Depth: 3900.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 2811.00 ft (KB)

2802.00 ft (CF)

KB to GR/CF: 9.00 ft

Serial #: 8959 Inside

Press@RunDepth: 54.63 psig @ 3837.00 ft (KB)

Start Date: 2018.01.11

End Date:

2018.01.12

Start Time: 20:35:01

End Time:

05:19:00

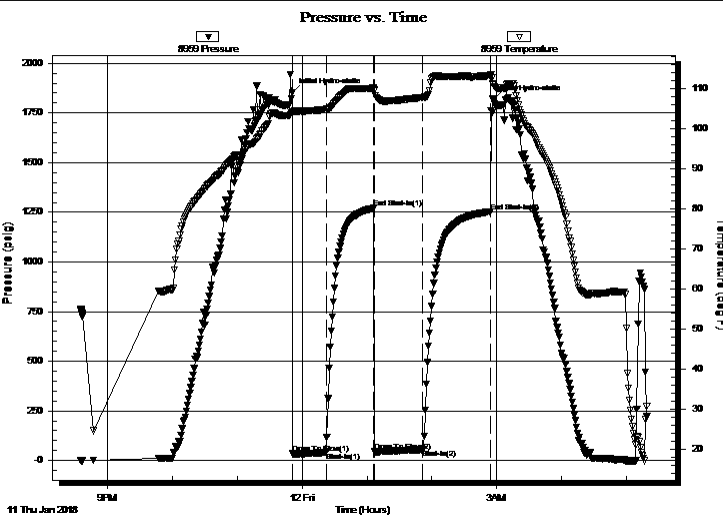
Capacity: 8000.00 psig

Last Calib.: 2018.01.12

Time On Btm: 2018.01.11 @ 23:51:00

Time Off Btm: 2018.01.12 @ 02:56:40

TEST COMMENT: 30-IF-S.blow built to 4 1/2"
45-ISI-Blow back built to 1/8"
45-FF-S.blow @ 4 1/2 mins built to 2 1/4"
60-FSI-blow back built to 1/4"



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1852.12 | 104.19 | Initial Hydro-static |
| 1 | 35.95 | 103.93 | Open To Flow (1) |
| 32 | 40.19 | 104.83 | Shut-In(1) |
| 76 | 1269.96 | 110.12 | End Shut-In(1) |
| 76 | 47.96 | 109.44 | Open To Flow (2) |
| 121 | 54.63 | 107.80 | Shut-In(2) |
| 183 | 1252.57 | 113.20 | End Shut-In(2) |
| 186 | 1819.36 | 111.26 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------------|--------------|
| 83.00 | SOS/SWCM 2%O, 5%W, 93%M | 0.61 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63415

DST#: 1

ATTN: Herb Deines

Test Start: 2018.01.11 @ 20:35:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:51:20

Time Test Ended: 05:19:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Martine Salinas

Unit No: 82

Interval: **3836.00 ft (KB) To 3900.00 ft (KB) (TVD)**

Reference Elevations: 2811.00 ft (KB)

Total Depth: 3900.00 ft (KB) (TVD)

2802.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 9.00 ft

Serial #: 8734 Outside

Press@RunDepth: psig @ 3837.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.01.11

End Date:

2018.01.12

Last Calib.:

2018.01.12

Start Time: 20:35:01

End Time:

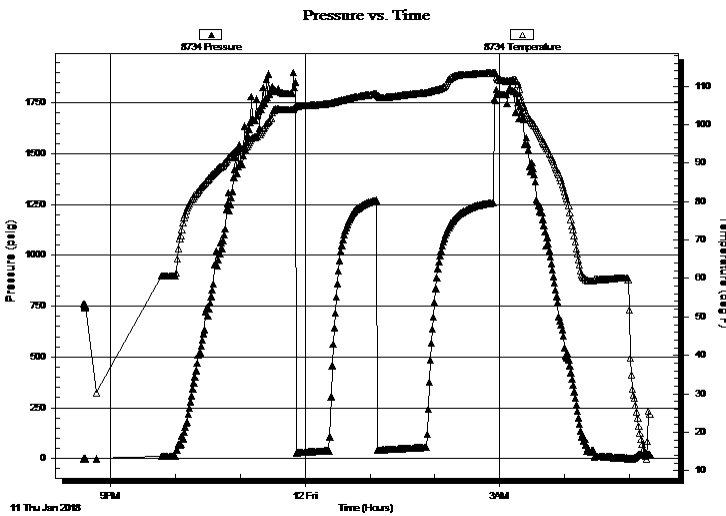
05:19:10

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-S.blow built to 4 1/2"
45-ISI-Blow back built to 1/8"
45-FF-S.blow @ 4 1/2 mins built to 2 1/4"
60-FSI-blow back built to 1/4"

PRESSURE SUMMARY



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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------------------|--------------|
| 83.00 | SOS/SWCM 2%O, 5%W, 93%M | 0.61 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63415

DST#: 1

ATTN: Herb Deines

Test Start: 2018.01.11 @ 20:35:00

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: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.60 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------------------|---------------|
| 83.00 | SOS/SWCM 2%O, 5%W, 93%M | 0.610 |

Total Length: 83.00 ft Total Volume: 0.610 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

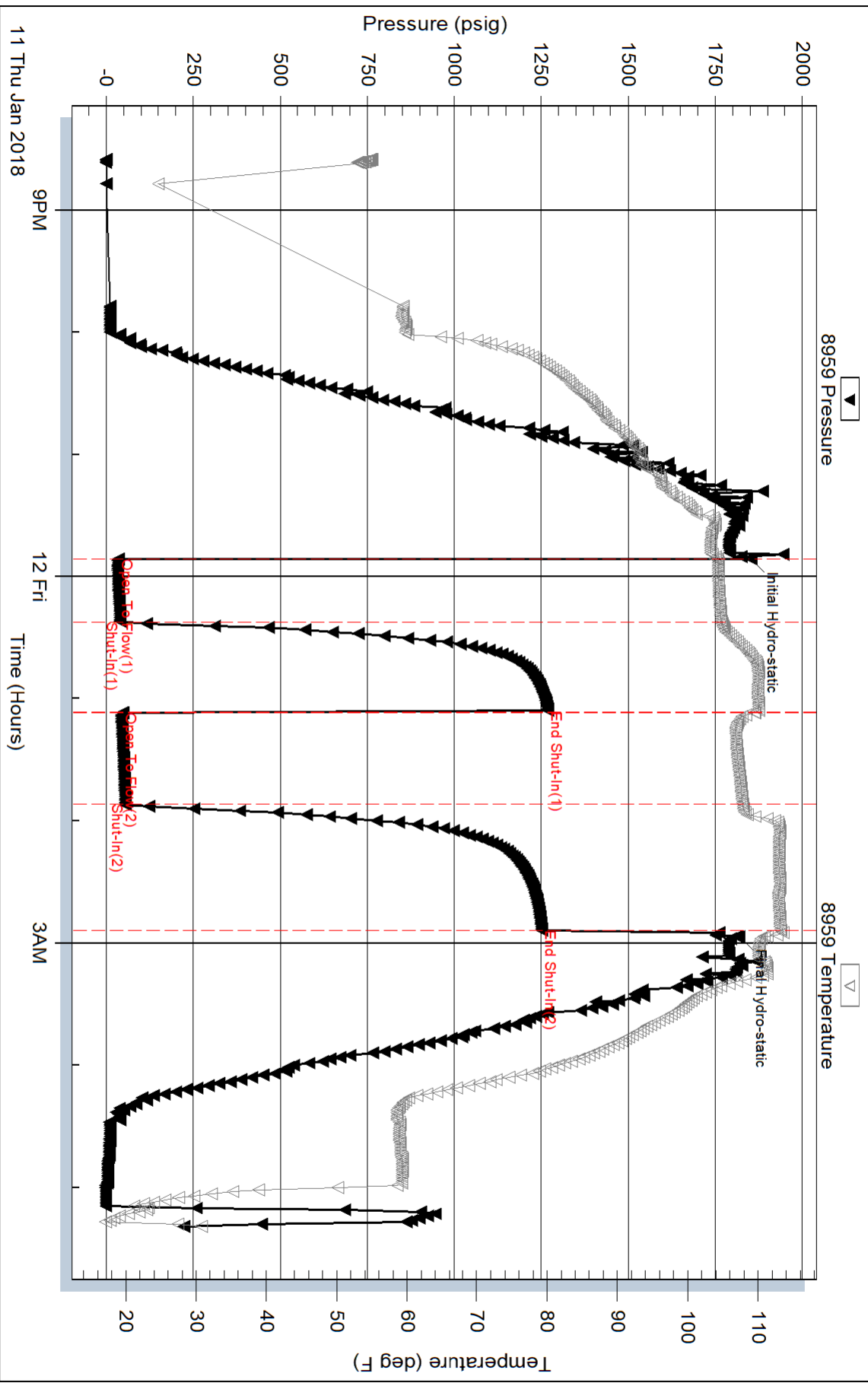
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

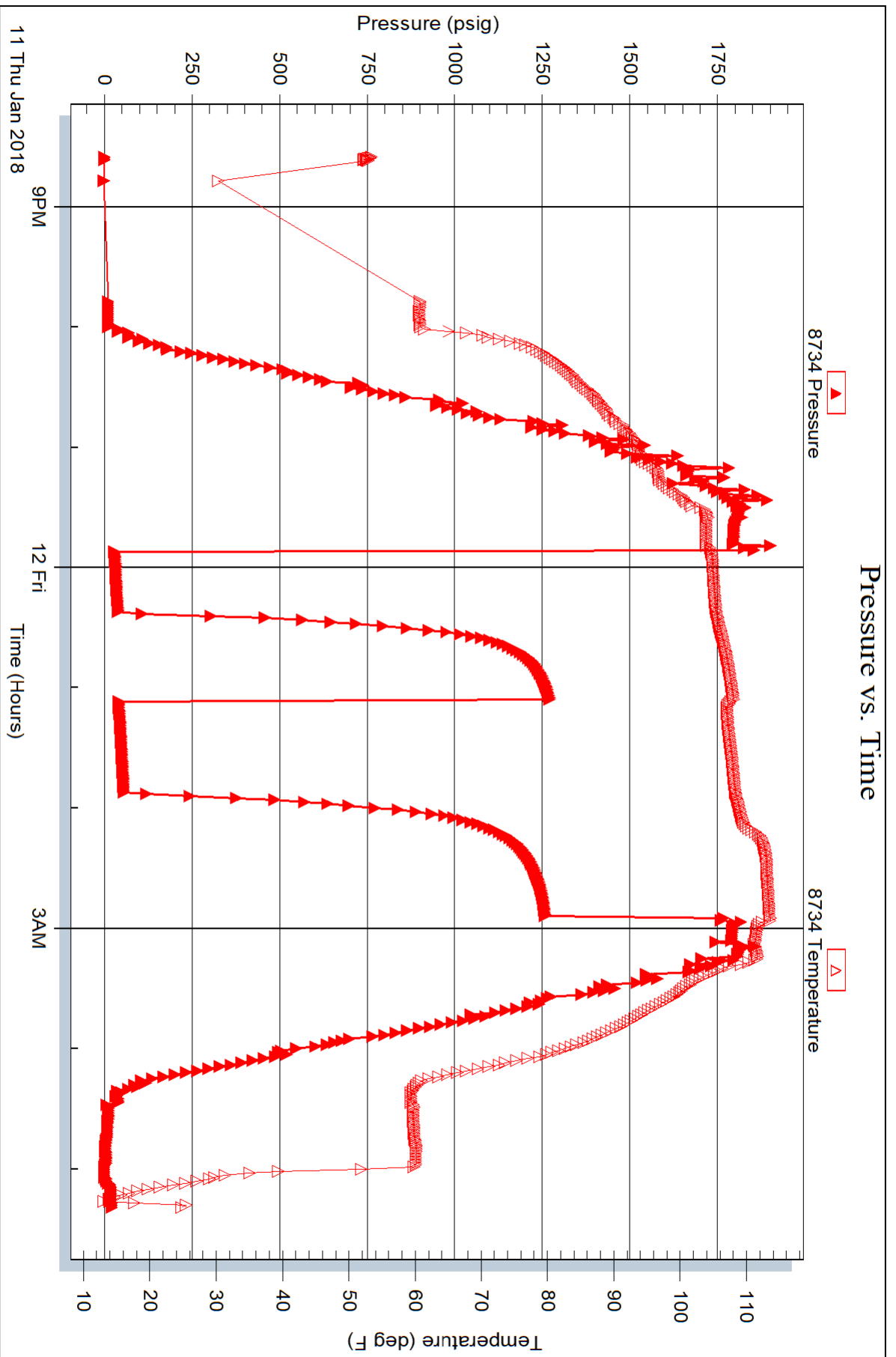


Serial #: 8734

Outside Outlaw Well Service LLC

Shaw IKE

DST Test Number: 1





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Outlaw Well Service LLC
 1408 West 42nd Street
 Hays, Ks 67601
 ATTN: Herb Deines

20-5-29W **Decatur, Co.**
Shaw IKE
 Job Ticket: 63416 **DST#: 2**
 Test Start: 2018.01.12 @ 17:46:00

GENERAL INFORMATION:

Formation: **LKC E & F**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 20:33:30
 Time Test Ended: 02:23:49
 Interval: **3900.00 ft (KB) To 3990.00 ft (KB) (TVD)**
 Total Depth: 3990.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Martine Salinas
 Unit No: 82
 Reference Elevations: 2811.00 ft (KB)
 2802.00 ft (CF)
 KB to GR/CF: 9.00 ft

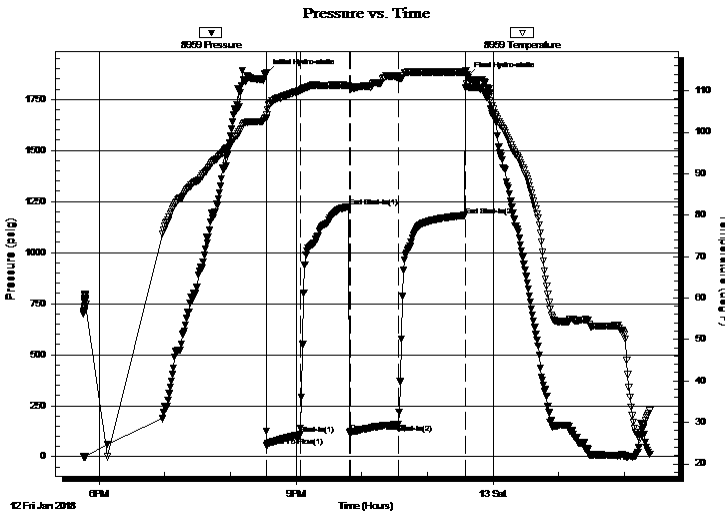
Serial #: 8959

Inside

Press@RunDepth: 157.69 psig @ 3901.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.01.12 End Date: 2018.01.13 Last Calib.: 2018.01.13
 Start Time: 17:46:01 End Time: 02:23:49 Time On Btm: 2018.01.12 @ 20:32:50
 Time Off Btm: 2018.01.12 @ 23:36:39

TEST COMMENT: 30-IF-S.blow built to 10 1/2"
 45-ISI-S.blow back @ 6 mins built to 1" and died back to 3/4"
 45-FF-S.blow built to B.O.B (11 inches) @ 32 mins
 60-FSI-S.blow back @ 1 min built to 1 1/4"

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1878.53 | 103.52 | Initial Hydro-static |
| 1 | 53.65 | 104.13 | Open To Flow (1) |
| 31 | 109.34 | 110.10 | Shut-In(1) |
| 76 | 1225.21 | 111.29 | End Shut-In(1) |
| 77 | 120.25 | 110.87 | Open To Flow (2) |
| 121 | 157.69 | 112.93 | Shut-In(2) |
| 182 | 1181.99 | 114.50 | End Shut-In(2) |
| 184 | 1859.96 | 110.95 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------------|--------------|
| 343.00 | GHOCM 11%G, 44%O, 45%M | 2.73 |
| 0.00 | 159' GIP | 0.00 |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Outlaw Well Service LLC

20-5-29W

Decatur, Co.

1408 West 42nd Street
Hays, Ks 67601

Shaw IKE

Job Ticket: 63416

DST#: 2

ATTN: Herb Deines

Test Start: 2018.01.12 @ 17:46:00

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: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|------------------------|---------------|
| 343.00 | GHOCM 11%G, 44%O, 45%M | 2.734 |
| 0.00 | 159' GIP | 0.000 |

Total Length: 343.00 ft Total Volume: 2.734 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

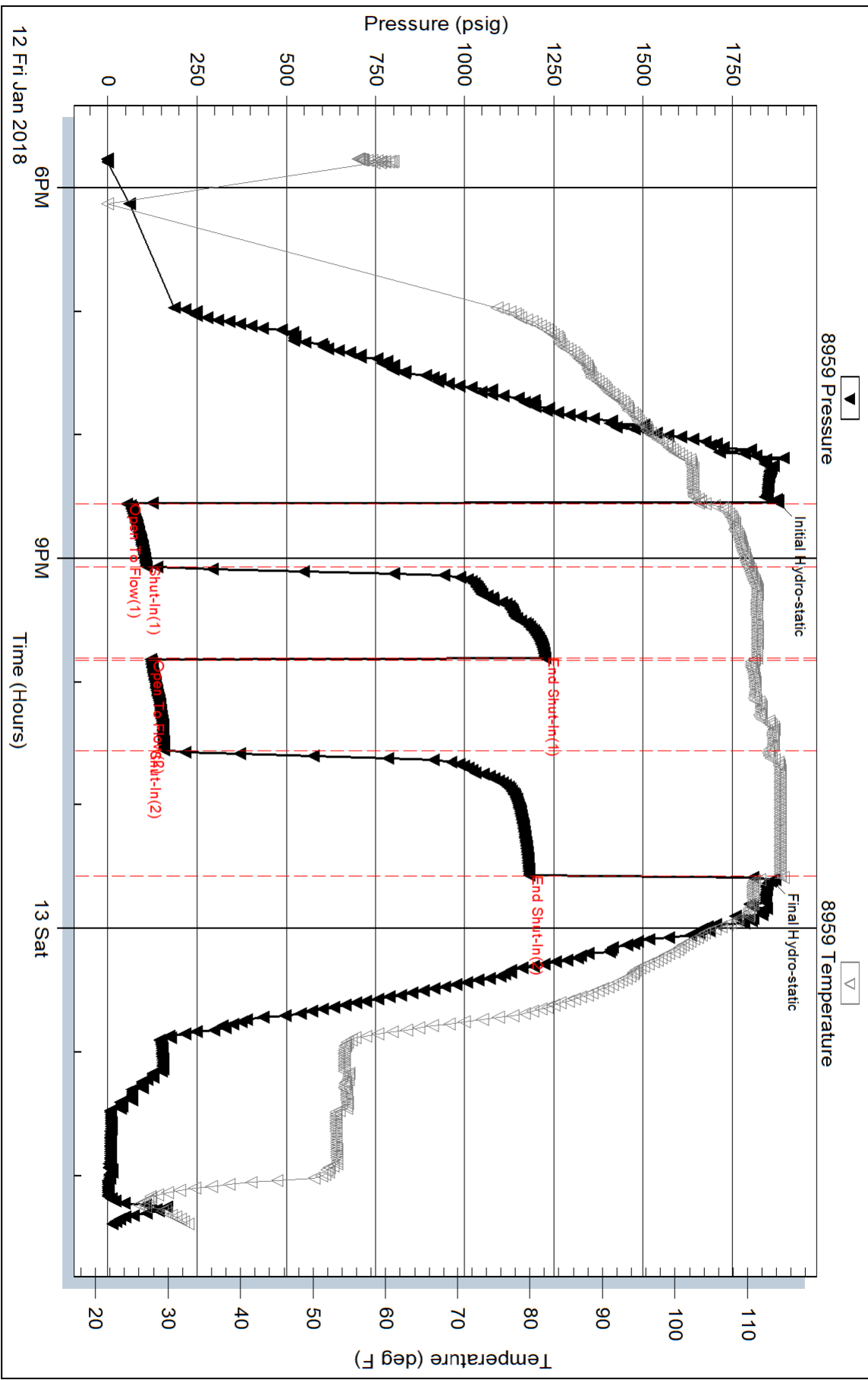
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Not enough oil to catch gravity

Pressure vs. Time

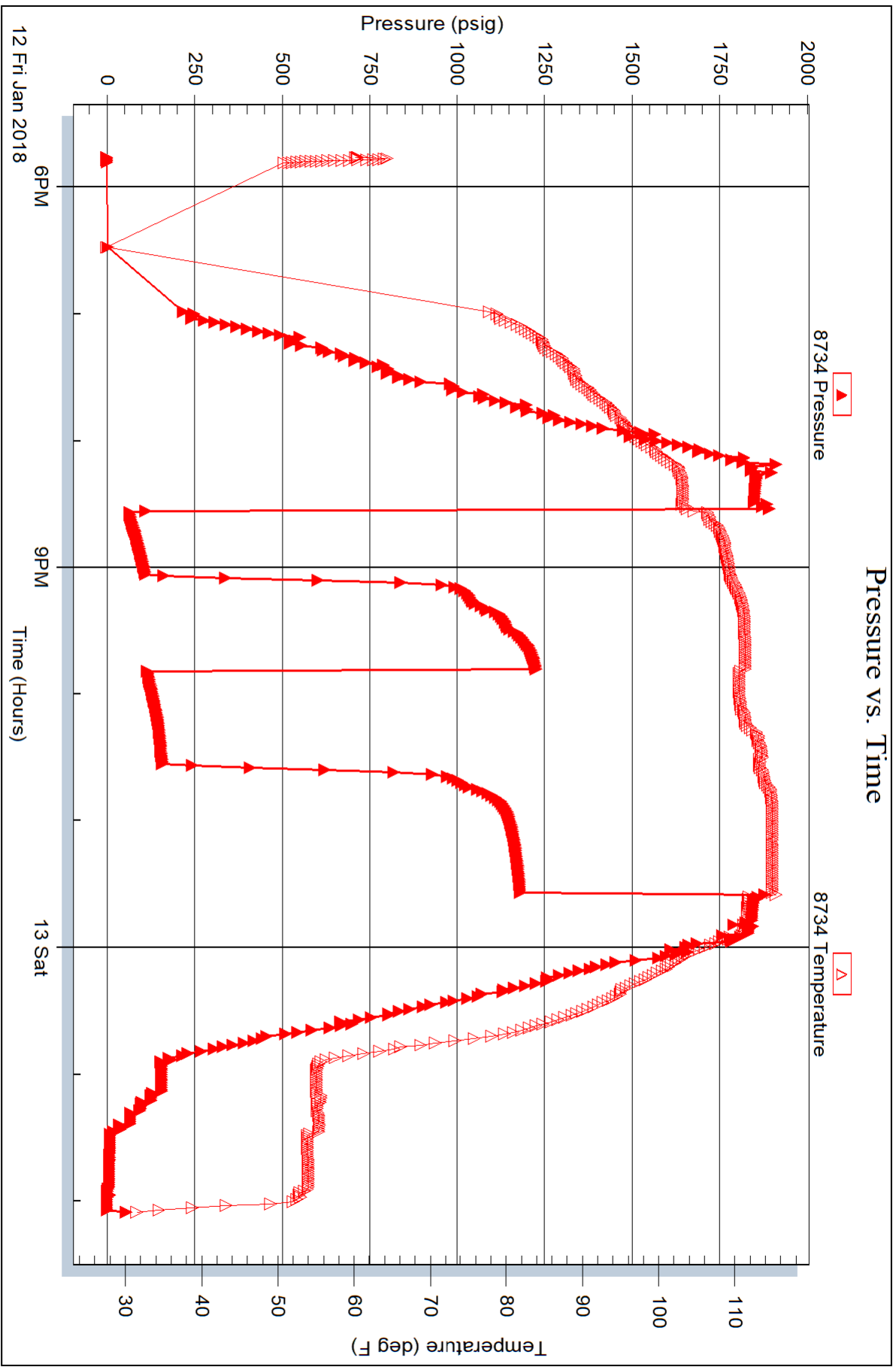


Serial #: 8734

Outside Outlaw Well Service LLC

Shaw IKE

DST Test Number: 2





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

9772
 9662 2240

TICKET NUMBER 54989
 LOCATION Oakley KS
 FOREMAN Jerry Y

FIELD TICKET & TREATMENT REPORT
 CEMENT

Invoice # 812098 KS

| | | | | | | |
|---|------------|--------------------|----------------------------------|----------|---------|-----------|
| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY |
| 12-16-17 | 9999 | Shaw IKE #1 | 20 | 5S | 29W | Deerfield |
| CUSTOMER Outlaw Well Service Mailing Address 1408 West 42nd St City Hays | | | STATE KS ZIP CODE 67601 | | | |
| TRUCK # | | | DRIVER | | TRUCK # | |
| 566 | | | PDW | | | |
| TRUCK # | | | DRIVER | | TRUCK # | |
| 753 | | | Troy W | | | |

JOB TYPE Surface HOLE SIZE 12 1/4 HOLE DEPTH 222 CASING SIZE & WEIGHT 8 3/8
 CASING DEPTH _____ DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8 SLURRY VOL 1.24 WATER gal/sk _____ CEMENT LEFT in CASING 20'
 DISPLACEMENT 12 1/2 bbl DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting & rig upon Discovery 1 circulate casing mix 190SKS com 30% CC & 10% gel wash up & displace with 12 1/2 bbl fresh water & shut in circulated approx 3661 to p/s

cement did
circulate

Thank you
Jerry + crew

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|-----------------|---------|
| CE0471 | 1 | PUMP CHARGE | 1150.00 | 1150.00 |
| CE0002 | 35 | MILEAGE | 7.15 | 250.25 |
| CE0711 | 8.93 | ton mileage delivery (min) | 660.00 | 660.00 |
| CC5871 | 190SKS | surface blend II | 24.00 | 4560.00 |
| CC5326 | 100 # | salt | NC | NC |
| | | | subtotal | 6620.25 |
| | | | -30% disc. | 1986.08 |
| | | | subtotal | 4634.17 |
| | | | SALES TAX | 239.40 |
| | | | ESTIMATED TOTAL | 4873.58 |

Revin 3797
 AUTHORIZATION [Signature] TITLE _____ DATE _____

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

BASIC

energy services, L.P.

TREATMENT REPORT

Customer: OUTLAW Well Service LLC Lease No. _____ Date: 1-14-18
 Lease: Shaw Well #: IKE
 Field Order #: 1622 Station: Pratt Casing: 5 1/2 Depth: 41150 County: Decatur State: KS
 Type Job: 2-42 5 1/2 2 STAGE long string Formation: 4151 LTO Legal Description: 20-055-29W

| PIPE DATA | | PERFORATING DATA | | FLUID USED | | TREATMENT RESUME | | |
|-------------------------------|--------------------|------------------|-----------|--------------------------------|-----------------------|-----------------------------|------------------------|-----------------|
| Casing Size: <u>5 1/2</u> | Tubing Size: _____ | Shots/Ft: _____ | | Acid: <u>150 SAs AA-2</u> | RATE: <u>1025 PPS</u> | PRESS: <u>1025 PPS</u> | ISIP: <u>1025 PPS</u> | |
| Depth: <u>41150</u> | Depth: _____ | From: _____ | To: _____ | Pre Pad: <u>25 PPS Decatur</u> | Max: <u>.25 PPS</u> | cellulose: <u>cellulose</u> | 5 Min. <u>5 PPS</u> | <u>silicate</u> |
| Volume: <u>48</u> | Volume: _____ | From: _____ | To: _____ | Pad: <u>400 SAs AA-2</u> | Min: _____ | | 10 Min. _____ | |
| Max Press: <u>2200</u> | Max Press: _____ | From: _____ | To: _____ | Frac: <u>3% CC</u> | Avg: <u>.33 PPS</u> | cellulose: <u>cellulose</u> | 15 Min. _____ | |
| Well Connection: <u>60/40</u> | Annulus Vol. _____ | From: _____ | To: _____ | HHP Used: _____ | | | Annulus Pressure _____ | |
| Plug Depth: <u>4114.4</u> | Packer Depth _____ | From: _____ | To: _____ | Flush _____ | Gas Volume _____ | | Total Load _____ | |

Customer Representative: Preston Wolf Station Manager: Westerman Treater: MATTAL
 Service Units: 83353 38119 19570 19689 21010 30464 37725
 Driver Names: MATTAL Hinz OSBORN WILLY

| Time | Casing Pressure | Tubing Pressure | Bbbs. Pumped | Rate | Service Log |
|-------|-----------------|-----------------|--------------|------|--|
| 5:30 | | | | | ON LOCATION / SAFETY Meeting |
| 7:00 | | | | | Run 5 1/2 CSNG / DV TOOL #40 |
| | | | | | TUBUS ON 1, 3, 5, 7, 9, 11, 13, 39, 67 |
| | | | | | BASWITS ON 1, 39, 67 |
| 8:20 | | | | | CSNG ON BOTTOM |
| 8:45 | | | | | HOOK TO CSNG / BREAK CIRC W. RIG |
| 9:20 | 300 | | 12 | 5 | PUMP 500 GAL. MUD FLUSH |
| 9:23 | 300 | | 3 | 5 | PUMP 3 bbl WATER |
| 9:25 | 200 | | 40 | | MIX 150 SAs AA-2 |
| 9:42 | | | 8 | 3 | WASH PUMP + LINES / DROP PLUG |
| 9:47 | 200 | | 8 | 6 | START WATER DISPLACEMENT |
| 9:53 | 200 | | 38 | 6 | START MUD DISPLACEMENT |
| 9:59 | 500 | | 70 | | LIFT PRESSURE |
| 10:01 | 400 | | | 3 | SLOW RATE |
| 10:04 | 1200 | | 98 | | PLUG DOWN, RELEASED + HOLD |
| 10:12 | | | | | DROP OPENING TOOL |
| 10:37 | 800 | | | | OPEN D.V. TOOL |
| 10:44 | 7.3 | | | | PLUG RAT + MOUSE HOLES |

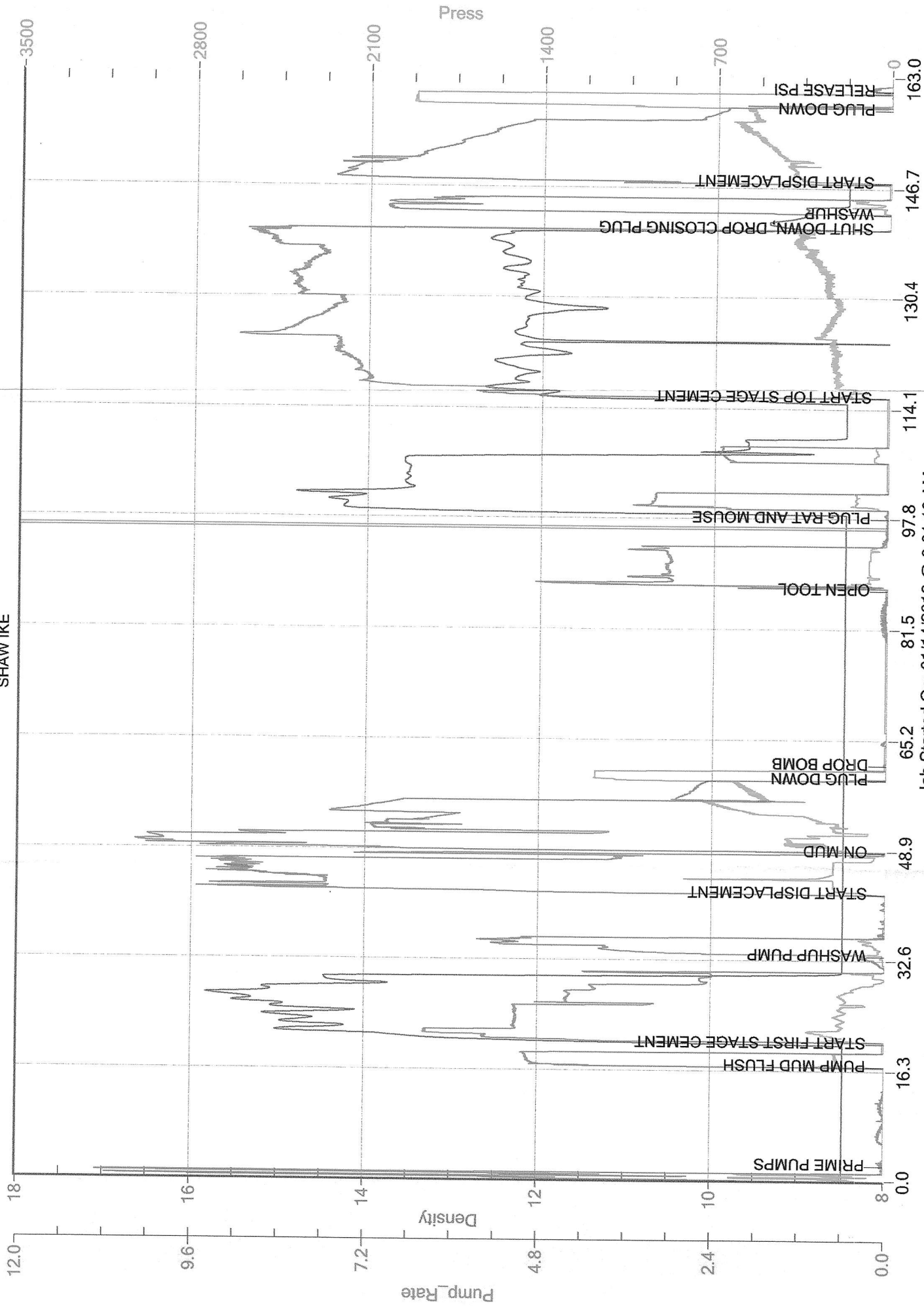
| | | |
|---|----------------------|-------------------------------------|
| Customer <u>OUTLAW Well Service Inc</u> | Lease No. | Date <u>1-14-18</u> |
| Lease <u>Shaw</u> | Well # <u>IKR</u> | |
| Field Order # <u>16222</u> | Station <u>Pratt</u> | Casing |
| | | Depth |
| Type Job | Formation | County <u>DeCATUR</u> |
| | | State <u>KY</u> |
| | | Legal Description <u>20-055-29W</u> |

| PIPE DATA | | PERFORATING DATA | | FLUID USED | TREATMENT RESUME | | |
|-----------------|--------------|------------------|----|------------|------------------|-------|------------------|
| Casing Size | Tubing Size | Shots/Ft | | 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 | Station Manager | Treater |
| Service Units | | |
| Driver Names | | |

| Time | Casing Pressure | Tubing Pressure | Bbls. Pumped | Rate | Service Log |
|-------|-----------------|-----------------|--------------|------|------------------------------|
| 11:00 | 200 | | 185 | 6 | Mix 400 SW A-con |
| 11:30 | | | 8 | 3 | WASH PUMP + LINE / DROP PLUG |
| 11:32 | 500 | | | 6 | START DISPLACEMENT |
| | 450 | | 50 | | SLOW RATE |
| 11:44 | 1900 | | 60 | | PLUG DOWN, TOOL CLOSED |
| | | | | | CMT TO SURFACE |
| | | | | | circ. THRU JOB |
| | | | | | JOB COMPLETE |
| | | | | | THANK YOU! |
| | | | | | MIKE MATTU |
| | | | | | CHAD RILEY WILLIE |

OUTLAW WELL SERVICE, LLC.
SHAW IKE



Job Started On: 01/14/2018 @ 9:01:10 AM