KOLAR Document ID: 1463880

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 # | API No.: | | | | | |
|--|--|--|--|--|--|--|
| Name: | Spot Description: | | | | | |
| Address 1: | | | | | | |
| Address 2: | Feet from North / South Line of Section | | | | | |
| City: State: Zip: + | Feet from East / West Line of Section | | | | | |
| Contact Person: | Footages Calculated from Nearest Outside Section Corner: | | | | | |
| Phone: () | □NE □NW □SE □SW | | | | | |
| CONTRACTOR: License # | GPS Location: Lat:, Long: | | | | | |
| Name: | (e.g. xx.xxxxx) (e.gxxx.xxxxx) | | | | | |
| Wellsite Geologist: | Datum: NAD27 NAD83 WGS84 | | | | | |
| Purchaser: | County: | | | | | |
| Designate Type of Completion: | Lease Name: Well #: | | | | | |
| New Well Re-Entry Workover | Field Name: | | | | | |
| | Producing Formation: | | | | | |
| ☐ Oil ☐ WSW ☐ SWD | Elevation: Ground: Kelly Bushing: | | | | | |
| ☐ Gas ☐ DH ☐ EOR | Total Vertical Depth: Plug Back Total Depth: | | | | | |
| ☐ OG ☐ GSW | Amount of Surface Pipe Set and Cemented at: Feet | | | | | |
| CM (Coal Bed Methane) | | | | | | |
| Cathodic Other (Core, Expl., etc.): | Multiple Stage Cementing Collar Used? | | | | | |
| If Workover/Re-entry: Old Well Info as follows: | If yes, show depth set: Feet | | | | | |
| Operator: | If Alternate II completion, cement circulated from: | | | | | |
| Well Name: | feet depth to:w/sx cmt. | | | | | |
| Original Comp. Date: Original Total Depth: | | | | | | |
| ☐ Deepening ☐ Re-perf. ☐ Conv. to EOR ☐ Conv. to SWD | Drilling Fluid Management Plan | | | | | |
| ☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer | (Data must be collected from the Reserve Pit) | | | | | |
| Described | Chloride content: ppm Fluid volume: bbls | | | | | |
| ☐ Commingled Permit #: | Dewatering method used: | | | | | |
| SWD Permit #: | Location of fluid disposal if hauled offsite: | | | | | |
| EOR Permit #: | Location of fluid disposal if flauled offsite. | | | | | |
| GSW Permit #: | Operator Name: | | | | | |
| | Lease Name: License #: | | | | | |
| Spud Date or Date Reached TD Completion Date or | Quarter Sec TwpS. R | | | | | |
| Recompletion Date Recompletion Date | 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 Approved by: Date: |

KOLAR Document ID: 1463880

Page Two

| Operator Name: _ | | | | Lease Name: | | | Well #: | |
|--|---------------------|-----------------------|--------------------------------|--|----------------------|---|---|--|
| Sec Twp. | S. R. | E | ast West | County: | | | | |
| | flowing and shu | ut-in pressures, v | vhether shut-in pre | ssure reached st | atic level, hydrosta | tic pressures, bot | | val tested, time tool erature, fluid recovery, |
| Final Radioactivity files must be subm | | | | | | iled to kcc-well-lo | gs@kcc.ks.gov | v. Digital electronic log |
| Drill Stem Tests Ta | | | Yes No | | | on (Top), Depth ar | | Sample |
| Samples Sent to 0 | Geological Surv | /ey | Yes No | Na | me | | Тор | Datum |
| Cores Taken Electric Log Run Geologist Report / List All E. Logs Ru | _ | | Yes No Yes No Yes No | | | | | |
| | | B | CASING eport all strings set-c | | New Used | ion, etc. | | |
| Purpose of Strir | | Hole illed | Size Casing Set (In O.D.) | Weight Lbs. / Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
| | | | | | | | | |
| | | | | | | | | |
| | | | ADDITIONAL | CEMENTING / SO | UEEZE RECORD | | | |
| Purpose: | | epth T Bottom | ype of Cement | ment # Sacks Used Type and Percent Additives | | | | |
| Perforate Protect Casi Plug Back T | | | | | | | | |
| Plug Off Zor | | | | | | | | |
| Did you perform a Does the volume Was the hydraulic | of the total base f | fluid of the hydrauli | | _ | = | No (If No, sk | ip questions 2 an ip question 3) out Page Three | , |
| Date of first Product Injection: | tion/Injection or R | esumed Production | Producing Meth | nod: | Gas Lift 0 | Other (Explain) | | |
| Estimated Production Per 24 Hours | on | Oil Bbls. | | | | | Gas-Oil Ratio | Gravity |
| DISPOS | SITION OF GAS: | | N | METHOD OF COMP | LETION: | | | DN INTERVAL: Bottom |
| | Sold Used | I on Lease | Open Hole | | | mmingled mit ACO-4) | Тор | BOROTT |
| , | , | | | B.11 B1 | | | | |
| Shots Per Foot | Perforation Top | Perforation Bottom | Bridge Plug Type | Bridge Plug Set At | Acid, | Fracture, Shot, Cer (Amount and Kind | menting Squeeze I of Material Used) | Record |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| TUBING RECORD: | : Size: | Set | Δ+- | Packer At: | | | | |
| TODING RECORD: | . 3126. | Set | n. | i donei Al. | | | | |

| Form | ACO1 - Well Completion |
|-----------|------------------------|
| Operator | Pioneer Resources Inc. |
| Well Name | KNOPP 8 |
| Doc ID | 1463880 |

Casing

| Purpose Of String | Size Hole Drilled | Size Casing Set | Weight | Setting Depth | Type Of Cement | Type and Percent Additives |
|----------------------|----------------------|-----------------------|--------|------------------|-------------------|----------------------------|
| Surface | 12.25 | 8.625 | 23 | 221 | common | 3%cc, 2% gel |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Geological Report

Knopp #8
1460' FSL & 2170' FWL
Sec. 13 T14s R32w
Logan County, Kansas



Pioneer Resources, Inc.

General Data

| Well Data: | Pioneer Resources, Inc. Knopp #8 1460' FSL & 2170' FWL Sec. 13 T14s R32w Logan County, Kansas API # 15-109-21593-0000 |
|----------------------|--|
| Drilling Contractor: | STP Drilling, LLC. |
| Geologist: | Jason T Alm |
| Spud Date: | May 10, 2019 |
| Completion Date: | May 19, 2019 |
| Elevation: | 2785' Ground Level 2792' Kelly Bushing |
| Directions: | Oakley KS, South on Hwy 83 21 mi to Jayhawk Rd. East 1 ½ mi, North into location. |
| Casing: | 220' 8 5/8" surface casing |
| Samples: | 10' wet and dry, 3650' to RTD |
| Drilling Time: | 3550' to RTD |
| Electric Logs: | ELI "Jeff Luebbers" CNL/CDL, DIL, MEL |
| Drillstem Tests: | Three, Trilobite Testing, Inc. "Bradley Walters" |
| Problems: | None |
| Remarks: | Deviation @ 4321' 3/4 degrees. Background gas level in drilling mud was high after DST #2. Gas kick for Morrow Sand may not be valid due to high levels. |

Formation Tops

| | Pioneer Resources, Inc. |
|----------------|-------------------------|
| | Knopp #8 |
| | Sec. 13 T14s R32w |
| Formation | 1460' FSL & 2170' FWL |
| Anhydrite | 2250' +543 |
| Base | 2272' +520 |
| Heebner | 3782' -990 |
| Toronto | 3800' -1007 |
| Lansing | 3818' -1026 |
| Muncie Creek | 3975' -1183 |
| BKC | 4139' -1347 |
| Altamont | 4201' -1409 |
| Myrick Station | 4300' -1508 |
| Fort Scott | 4324' -1532 |
| Johnson | 4392' -1600 |
| Morrow | 4419' -1627 |
| Morrow Sand | 4442' -1650 |
| Mississippian | 4458' -1666 |
| RTD | 4530' -1738 |
| LTD | 4531' -1739 |

Sample Zone Descriptions

Myrick Station (4300' -1508): Covered in DST #1

Ls – Fine crystalline, oolitic in part with fair oomoldic and scattered pinpoint vuggy porosity, light to fair oil stain with light spotted saturation, fair show of free oil, good odor, fair yellow fluorescents, heavily mottled with grey chert, 115 units hotwire.

Johnson (4392' -1600): Covered in DST #2

Ls – Fine to sub-crystalline with poor to scattered fair intercrystalline and vuggy porosity, light to fair oil stain in porosity, slight scattered saturation, fair show of free oil, good to strong odor, fair to good yellow fluorescents, 135 units hotwire.

Morrow Sand (4442' -1650): Covered in DST #3

Ss – Quartz, frosted, fine to medium grained, sub-rounded, fairly sorted, poorly cemented with good inter-granular porosity, few pieces with light brown oil stain, slight show of free oil on sample cup, very light-yellow fluorescents, fair cut fluorescents, heavily glauconitic, mottled with green to gray shale in part.

Drill Stem Tests

Trilobite Testing, Inc. "Bradley Walter"

DST #1 Myrick Station

Interval (4290' – 4321') Anchor Length 31'

IHP -2144 #

-30" – Built to 2 in. IFP 22-27 #

- 30" - Dead ISI 122 #

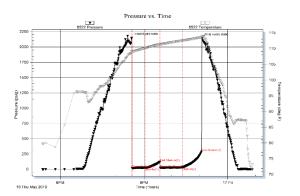
FFP -45" – Built to 5 ½ in. 22-33 # 287 #

-45" - Dead FSI

FHP -2137 #BHT $-113^{\circ}F$

Recovery: 30' GIP

> 30' GOCM 30% Oil



DST #2 Johnson

Interval (4342' – 4420') Anchor Length 78'

IHP -2190 #

-30" – Built to 4 in. IFP 22-38 #

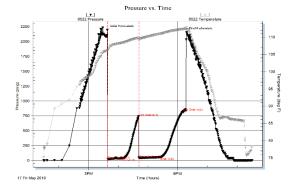
ISI - 30" - Dead 741#

-45" - Built to 6 in. FFP 41-56# FSI -45" - Dead 827 #

FHP - 2153 # BHT -112°F

45' GIP Recovery:

> 75' GOCM 25% Oil



Morrow Sand

Interval (4411' – 4450') Anchor Length 39'

-2248 #**IHP**

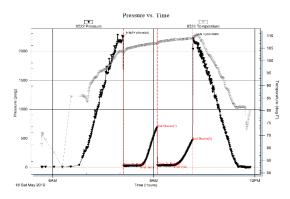
- 30" - Built to 1 in. IFP 25-30 # ISI - 30" - Dead 683 #

-30" – Built to ½ in. 32-36# FFP

- 30" - Dead FSI 466#

FHP **- 2223 #** BHT $-109^{\circ}F$

25' Oil Spotted Mud Recovery:



Structural Comparison

| | Pioneer Resources, Inc. | Pioneer Resources, Inc. | | | |
|----------------|-------------------------|-------------------------|--------------|----------------------|--------------|
| | Knopp #8 | Knopp #7 | | | |
| | Sec. 13 T14s R32w | Sec. 13 T14s R32w | | Sec. 13 T14s R32w | |
| Formation | 1460' FSL & 2170' FWL | 2283' FNL & 1650' FEL | | 1645' FNL & 330' FWL | |
| Anhydrite | 2250' +543 | 2316' +533 | (+10) | NA | NA |
| Base | 2272' +520 | 2338' +507 | (+13) | NA | NA |
| | | | | | |
| Heebner | 3782' -990 | 3839' -994 | (+4) | 3787' -980 | (-10) |
| Toronto | 3800' -1007 | 3858' -1013 | (+6) | 3805' -998 | (-9) |
| Lansing | 3818' -1026 | 3877' -1032 | (+6) | 3822' -1015 | (-11) |
| Muncie Creek | 3975' -1183 | NA | NA | 3980' -1173 | (-10) |
| BKC | 4139' -1347 | 4191' -1346 | (-1) | 4141' -1334 | (-13) |
| Altamont | 4201' -1409 | 4253' -1408 | (-1) | 4207' -1400 | (-9) |
| Myrick Station | 4300' -1508 | 4358' -1513 | (+5) | 4308' -1502 | (-6) |
| Fort Scott | 4324' -1532 | 4382' -1537 | (+5) | 4335' -1528 | (-4) |
| Johnson | 4392' -1600 | 4451' -1606 | (+6) | 4402' -1595 | (-5) |
| Morrow | 4419' -1627 | 4479' -1634 | (+7) | 4432' -1625 | (-2) |
| Morrow Sand | 4442' -1650 | NA | NA | 4453' -1646 | (-4) |
| Mississippian | 4458' -1666 | 4502' -1657 | (-9) | 4463' -1656 | (-10) |

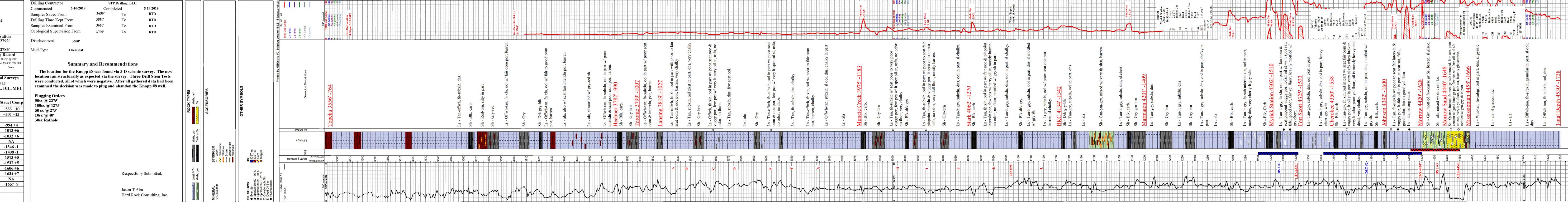
Summary

The location for the Knopp #8 well was found via 3-D seismic survey. The new well ran structurally as expected via the survey. Three Drill Stem Tests were conducted, all of which were negative. After all gathered data had been examined the decision was made to plug and abandon the Knopp #8 well.

Respectfully Submitted,

Jason T Alm Hard Rock Consulting, Inc.

| KB DF GL Casir Surface 150sx Comn Production | evation 2792' 2785' 1g Record 8 5/8" @ 221' non 3% CC, 2% Gel None cal Surveys ELI L, DIL, MEL Struct Comp |
|---|---|
| DF GL Casir Surface 150sx Comn Production Electri CNL/CD | 2785' ng Record 8 5/8" @ 221' non 3% CC, 2% Gel None cal Surveys ELI L, DIL, MEL |
| Casir Surface 150sx Comn Production Electri CNL/CD | ng Record 8 5/8" @ 221' non 3% CC, 2% Gel None cal Surveys ELI L, DIL, MEL |
| 150sx Comn Production Electri CNL/CD | non 3% CC, 2% Gel None cal Surveys ELI L, DIL, MEL |
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| -1007 | -1013 +6 |
| -1026 | -1032 +6 |
| -1183 | NA |
| -1347 | -1346 -1 |
| -1409 | -1408 -1 |
| -1508 | -1513 +5 |
| -1532 | -1537 +5 |
| -1600 | -1606 +6 |
| -1627 | -1634 +7 |
| -1650 | NA |
| -1666 | -1657 -9 |
| -1739 | |
| | -1007 -1026 -1183 -1347 -1409 -1508 -1532 -1600 -1627 -1650 -1666 |



GLOBAL OIL FIELD SERVICES, LLC₀₀₁₃₄₂₂ SERVICE POINT: Russe 11 1/5

REMIT TO

24 S. Lincoln Russell, KS 67665

| DATE 5-19-19 | SEC. | TWP. US | RANGE 32W | CALLED OUT | ON LOCATION | JOB START | JOB FINISH San |
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| Global Oil Field Se | ervices, L | LC | | | | 0 | |
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GLOBAL OIL FIELD SERVICES, LLC0013418

REMIT TO

24 S. Lincoln Russell, KS 67665

| SERVICE POINT: | Russell | 15 |
|----------------|---------|-----|
| | | 4 1 |

| DATE 5-10-19 | SEC, 3 TWP. | RANGE 37 IN | CALI | LED OUT | ON LOCATION | JOB START | JOB FINISH |
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| Global Oil Field Se | ervices, LLC | | | | | | |
| | | menting equipment an | d | | | | |
| furnish cementer and h | nelper(s) to assist | t owner or contractor t | 0 | | | 7 | |
| do work as is listed. T | The above work | was done to satisfactio | n | | | | |
| and supervision of own | ner agent or con | tractor. I have read an | d | | | 0 | |
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| usion on the reverse sic | ic. | | | | | TOTA | L |
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| | 1 | | | DISCOUNT | | | IF PAID IN 30 DAYS |



Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

Job Ticket: 65222 **DST#:1**

Bradley Walter

78

ATTN: Jason Alm Test Start: 2019.05.16 @ 17:22:00

GENERAL INFORMATION:

Formation: Myric Station.

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 20:34:00 Tester:
Time Test Ended: 00:53:15 Unit No:

Interval: 4290.00 ft (KB) To 4321.00 ft (KB) (TVD) Reference ⊟evations: 2792.00 ft (KB)

Total Depth: 4321.00 ft (KB) (TVD) 2785.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8522 Inside

Press@RunDepth: 32.57 psig @ 4291.00 ft (KB) Capacity: 8000.00 psig

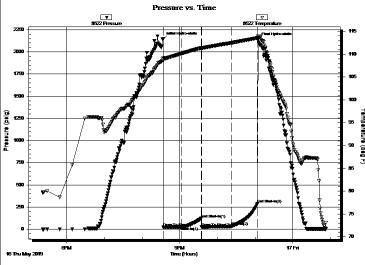
 Start Date:
 2019.05.16
 End Date:
 2019.05.17
 Last Calib.:
 2019.05.17

 Start Time:
 17:22:05
 End Time:
 00:53:14
 Time On Btm:
 2019.05.16 @ 20:33:45

 Time Off Btm:
 2019.05.16 @ 23:04:45

TEST COMMENT: 30- IF: 2" blow.

30- ISI: No return. 45- FF: 5 1/2" blow . 45- FSI: No return.



| | PRESSURE SUMMARY | | | | |
|---------------------|------------------|----------|---------|----------------------|--|
| | Time | Pressure | Temp | Annotation | |
| | (Min.) | (psig) | (deg F) | | |
| | 0 | 2144.33 | 109.16 | Initial Hydro-static | |
| | 1 | 22.02 | 108.56 | Open To Flow (1) | |
| | 29 | 26.91 | 110.13 | Shut-In(1) | |
| _ | 61 | 122.08 | 111.38 | End Shut-In(1) | |
| Temperature (deg F) | 61 | 22.54 | 111.26 | Open To Flow (2) | |
| Tafura | 109 | 32.57 | 112.49 | Shut-In(2) | |
| (d | 150 | 286.76 | 113.59 | End Shut-In(2) | |
| P) | 151 | 2136.63 | 113.89 | Final Hydro-static | |
| | | | | | |
| | | | | | |
| | | | | | |
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| | | | | | |

DDECCLIDE CLIMMADY

Recovery

| Length (ft) | Description | Volume (bbl) |
|----------------------|------------------|--------------|
| 30.00 | gocm 10g 30o 60m | 0.15 |
| 0.00 | 30' GIP | 0.00 |
| | | |
| | | |
| | | |
| | | |
| * Recovery from mult | tiple tests | |

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

Gas Rates

Trilobite Testing, Inc Ref. No: 65222 Printed: 2019.05.17 @ 07:55:16



Pioneer Resources, Inc.

Phillipsburg, Ks 67661

13 14s 32w

Knopp #8

Tester:

80 Windmill Dr.

Job Ticket: 65222

Reference Elevations:

DST#: 1

2792.00 ft (KB)

2785.00 ft (CF)

ATTN: Jason Alm

Test Start: 2019.05.16 @ 17:22:00

Bradley Walter

GENERAL INFORMATION:

Formation: Myric Station.

Deviated: Whipstock: Test Type: Conventional Bottom Hole (Reset) No ft (KB)

Time Tool Opened: 20:34:00 Time Test Ended: 00:53:15

Unit No: 78

Total Depth: 4321.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8319 Press@RunDepth:

Interval:

Outside

4290.00 ft (KB) To 4321.00 ft (KB) (TVD)

4291.00 ft (KB) Capacity: 8000.00 psig psig @

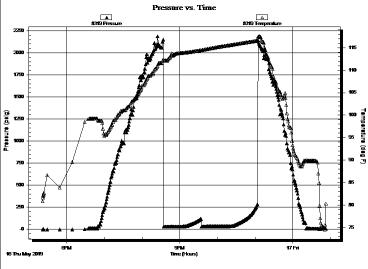
00:53:14

Start Date: 2019.05.16 End Date: 2019.05.17 Last Calib.: 1899.12.30 Start Time: 17:22:05 End Time:

Time On Btm: Time Off Btm:

TEST COMMENT: 30- IF: 2" blow.

30- ISI: No return. 45- FF: 5 1/2" blow. 45- FSI: No return.



| | PRESSURE SUMMAR | | |
|------|-----------------|------|------------|
| Time | Pressure | Temp | Annotation |

| (Min.) | (psig) | (deg F) | |
|--------|--------|---------------|-----------------------|
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| | | | |
| | | | |
| | (Min.) | (Min.) (psig) | (Min.) (psig) (deg F) |

Recovery

| Length (ft) Description | | Volume (bbl) | | |
|--------------------------------|------------------|--------------|--|--|
| 30.00 | gocm 10g 30o 60m | 0.15 | | |
| 0.00 | 30' GIP | 0.00 | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| * Recovery from multiple tests | | | | |

Gas Rates

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

Ref. No: 65222 Trilobite Testing, Inc. Printed: 2019.05.17 @ 07:55:16



FLUID SUMMARY

0 ppm

DST#: 1

Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

ATTN: Jason Alm

Job Ticket: 65222

Test Start: 2019.05.16 @ 17:22:00

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:

 Viscosity:
 60.00 sec/at
 Cushion Volume:
 bbl

Viscosity:60.00 sec/qtCushion Volume:Water Loss:9.59 in³Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psig

Salinity: 3500.00 ppm Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|------------------|---------------|
| 30.00 | gocm 10g 30o 60m | 0.148 |
| 0.00 | 30' GIP | 0.000 |

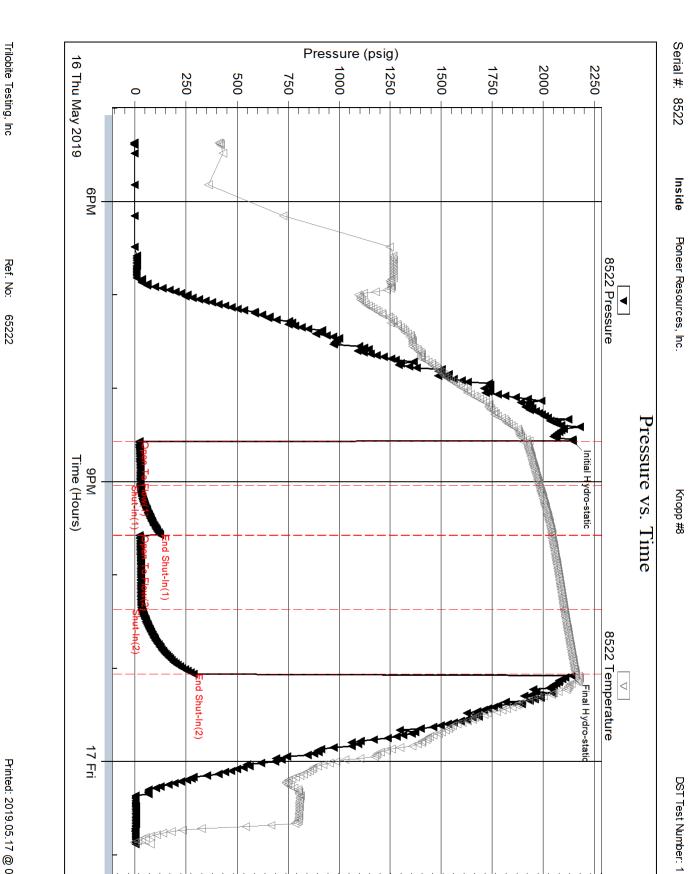
Total Length: 30.00 ft Total Volume: 0.148 bbl

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

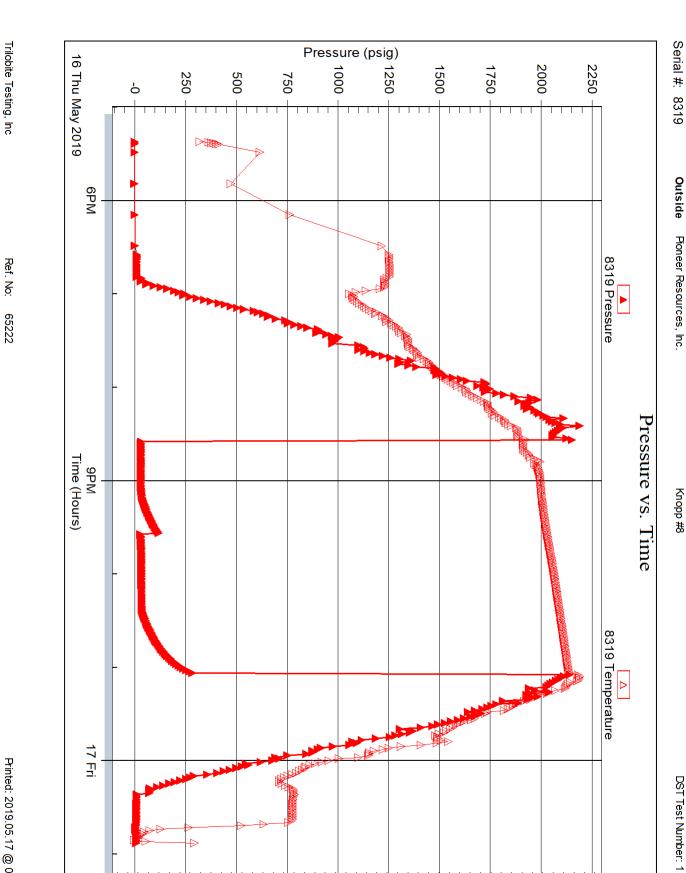
Laboratory Name: Laboratory Location:

Recovery Comments:

Trilobite Testing, Inc Ref. No: 65222 Printed: 2019.05.17 @ 07:55:16



Temperature (deg F)



Temperature (deg F)



Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

ATTN: Jason Alm

Job Ticket: 65225 **DST#: 2**

Test Start: 2019.05.17 @ 13:29:00

GENERAL INFORMATION:

Formation: Johnson

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 15:38:30 Time Test Ended: 20:30:30

4342.00 ft (KB) To 4420.00 ft (KB) (TVD)

Total Depth: 4420.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Good

Tester: Bradley Walter

Reference Elevations:

78

2792.00 ft (KB) 2785.00 ft (CF)

KB to GR/CF: 7.00 ft

Serial #: 8522
Press@RunDepth:

Interval:

Inside

56.52 psig @

4343.00 ft (KB)

2019.05.17

Capacity:

Unit No:

8000.00 psig

Start Date: 2019.05.17 Start Time: 13:29:05 End Date: End Time:

20:30:29

Last Calib.: Time On Btm:

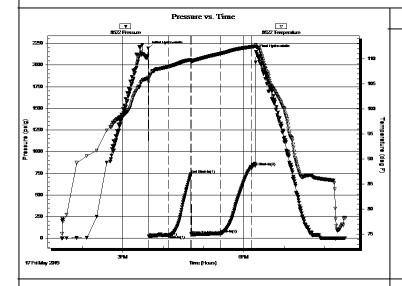
2019.05.17 2019.05.17 @ 15:38:00

Time Off Btm:

2019.05.17 @ 18:18:00

TEST COMMENT: 30- IF: 4" blow.

30- ISI: No return.45- FF: 6" blow .45- FSI: No return.



PRESSURE SUMMARY ssure Temp Annotation

| Time | Pressure | Temp | Annotation |
|--------|----------|---------|----------------------|
| (Min.) | (psig) | (deg F) | |
| 0 | 2190.12 | 106.26 | Initial Hydro-static |
| 1 | 22.66 | 105.27 | Open To Flow (1) |
| 30 | 38.68 | 108.36 | Shut-In(1) |
| 63 | 741.09 | 109.77 | End Shut-In(1) |
| 64 | 41.68 | 109.38 | Open To Flow (2) |
| 107 | 56.52 | 110.98 | Shut-In(2) |
| 153 | 827.42 | 112.35 | End Shut-In(2) |
| 160 | 2152.99 | 112.38 | Final Hydro-static |
| | | | |

Recovery

| Length (ft) | n (ft) Description | |
|---------------------|--------------------|------|
| 75.00 | gocm 10g 25o 65m | 0.37 |
| 0.00 | 45' gip | 0.00 |
| | | |
| | | |
| | | |
| | | |
| * Recovery from mul | tiple tests | • |

Gas Rates

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

Trilobite Testing, Inc Ref. No: 65225 Printed: 2019.05.18 @ 07:19:11



Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

ATTN: Jason Alm

Job Ticket: 65225 DST#: 2

Test Start: 2019.05.17 @ 13:29:00

GENERAL INFORMATION:

Formation: Johnson

Deviated: No Whipstock: Test Type: Conventional Bottom Hole (Reset) ft (KB)

Time Tool Opened: 15:38:30 Time Test Ended: 20:30:30 Tester:

Unit No: 78

Bradley Walter

4342.00 ft (KB) To 4420.00 ft (KB) (TVD)

Reference Elevations:

2792.00 ft (KB)

Total Depth: 4420.00 ft (KB) (TVD)

2785.00 ft (CF) 7.00 ft

Hole Diameter:

KB to GR/CF:

7.88 inches Hole Condition: Good

Serial #: 8319 Outside

Press@RunDepth:

psig @

4343.00 ft (KB)

2019.05.17

Capacity: Last Calib.: 8000.00 psig

1899.12.30

Start Date: Start Time:

Interval:

2019.05.17 13:29:05

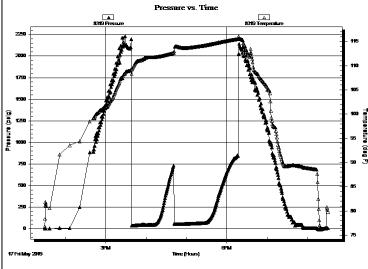
End Date: End Time:

20:30:29

Time On Btm: Time Off Btm:

TEST COMMENT: 30- IF: 4" blow.

30- ISI: No return. 45- FF: 6" blow. 45- FSI: No return.



| PRESSURE SUM | MARY |
|--------------|------|
|--------------|------|

| | Time | Pressure | Temp | Annotation |
|---------------------|--------|----------|---------|------------|
| | (Min.) | (psig) | (deg F) | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| = | | | | |
| 3 | | | | |
| Temperature (deg F) | | | | |
| 3 | | | | |
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| | | | | |
| | | | | |
| | | | | |
| | | | | |

Recovery

| Length (ft) | Description | Volume (bbl) |
|----------------------|------------------|--------------|
| 75.00 | gocm 10g 25o 65m | 0.37 |
| 0.00 | 45' gip | 0.00 |
| | | |
| | | |
| | | |
| | | |
| * Recovery from mult | tiple tests | |

Gas Rates

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

Printed: 2019.05.18 @ 07:19:11 Trilobite Testing, Inc. Ref. No: 65225



FLUID SUMMARY

Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

Job Ticket: 65225

DST#: 2

ATTN: Jason Alm

Test Start: 2019.05.17 @ 13:29:00

Mud and Cushion Information

Mud Type:Gel ChemCushion Type:Oil API:0 deg APIMud Weight:9.00 lb/galCushion Length:ftWater Salinity:0 ppm

Mud Weight:9.00 lb/galCushion Length:ftViscosity:56.00 sec/qtCushion Volume:bbl

Water Loss: 9.19 in³ Gas Cushion Type:

Resistivity: ohm.m Gas Cushion Pressure: psig

Salinity: 4000.00 ppm Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|------------------|---------------|
| 75.00 | gocm 10g 25o 65m | 0.369 |
| 0.00 | 45' gip | 0.000 |

Total Length: 75.00 ft Total Volume: 0.369 bbl

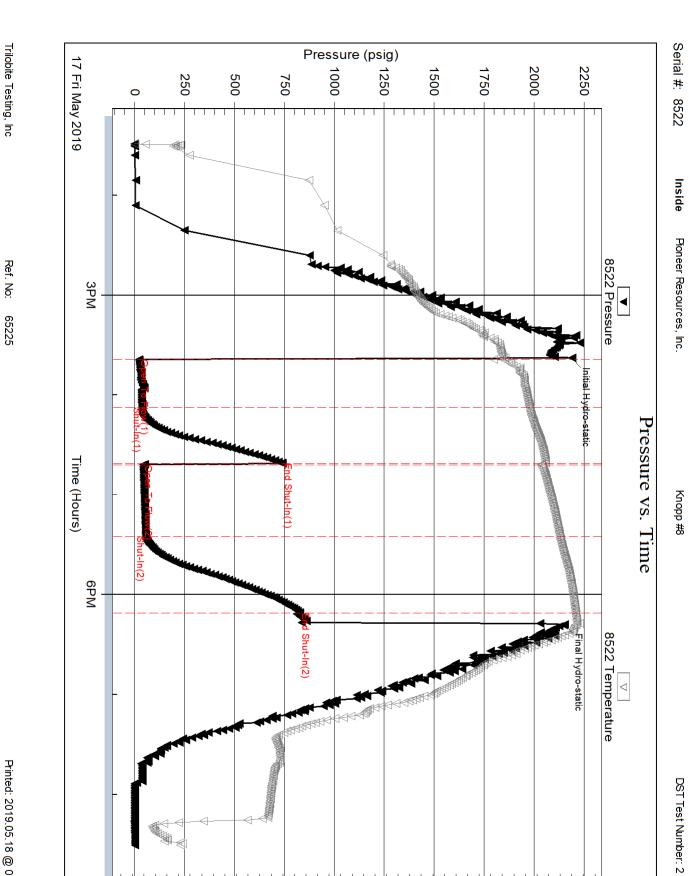
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments:

, -

Trilobite Testing, Inc Ref. No: 65225 Printed: 2019.05.18 @ 07:19:12



Temperature (deg F)

△ 8319 Temperature

110

105

115

DST Test Number: 2

6PM

75

80

85

90

Temperature (deg F)



Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

Job Ticket: 64352 DST#: 3

ATTN: Jason Alm Test Start: 2019.05.18 @ 05:40:00

GENERAL INFORMATION:

Formation: Morrow

Deviated: No Test Type: Conventional Bottom Hole (Reset) Whipstock: ft (KB)

Time Tool Opened: 08:05:45 Time Test Ended: 11:52:00

Tester: **Bradley Walter**

Unit No: 78

Interval: 4411.00 ft (KB) To 4450.00 ft (KB) (TVD) Total Depth: 4450.00 ft (KB) (TVD)

Reference Elevations: 2792.00 ft (KB)

2785.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8522 Press@RunDepth: Inside

36.42 psig @

Capacity:

8000.00 psig

Start Date: Start Time: 2019.05.18 05:40:05

End Date: End Time:

4412.00 ft (KB)

2019.05.18 11:51:59

Time On Btm:

2019.05.18 2019.05.18 @ 08:05:15

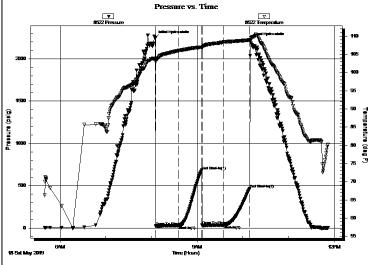
Time Off Btm:

Last Calib.:

2019.05.18 @ 10:10:15

TEST COMMENT: 30- IF: 1" blow.

30- ISI: No return. 30- FF: 1/2" blow. 30- FSI: No return.



| | PRESSURE SUMMARY | | | |
|---|------------------|----------|---------|----------------------|
| Ī | Time | Pressure | Temp | Annotation |
| | (Min.) | (psig) | (deg F) | |
| | 0 | 2248.36 | 103.86 | Initial Hydro-static |
| | 1 | 25.90 | 102.84 | Open To Flow (1) |
| | 31 | 30.77 | 106.01 | Shut-In(1) |
| , | 61 | 683.34 | 106.94 | End Shut-In(1) |
| 3 | 62 | 32.97 | 106.67 | Open To Flow (2) |
| | 90 | 36.42 | 108.36 | Shut-In(2) |
| , | 124 | 466.55 | 108.91 | End Shut-In(2) |
| 9 | 125 | 2223.19 | 109.45 | Final Hydro-static |
| | | | | |
| | | | | |
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| | | | | |
| | | | | |

DDESCLIDE SLIMMADV

Recovery

| Length (ft) | Description | Volume (bbl) |
|----------------------|-----------------------|--------------|
| 25.00 | mud 100m w /oil spots | 0.12 |
| | | |
| | | |
| | | |
| | | |
| | | |
| * Recovery from mult | iple tests | |

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

Trilobite Testing, Inc. Ref. No: 64352 Printed: 2019.05.18 @ 14:39:59



Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

Job Ticket: 64352 **DST#: 3**

ATTN: Jason Alm Test Start: 2019.05.18 @ 05:40:00

GENERAL INFORMATION:

Formation: Morrow

Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)

Time Tool Opened: 08:05:45

Tester: Bradley Walter
Time Test Ended: 11:52:00

Unit No: 78

 Interval:
 4411.00 ft (KB) To
 4450.00 ft (KB) (TVD)
 Reference Elevations:
 2792.00 ft (KB)

Total Depth: 4450.00 ft (KB) (TVD) 2785.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 7.00 ft

Serial #: 8319 Outside

 Press@RunDepth:
 psig
 @
 4412.00 ft (KB)
 Capacity:
 8000.00 psig

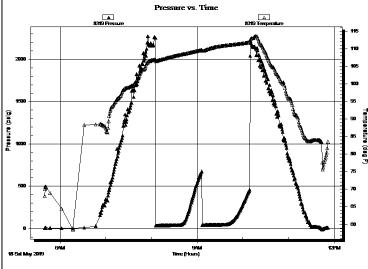
Start Date: 2019.05.18 End Date: 2019.05.18 Last Calib.: 2019.05.18

 Start Time:
 05:40:05
 End Time:
 11:51:59
 Time On Btm:

Time Off Btm:

TEST COMMENT: 30- IF: 1" blow . 30- ISI: No return. 30- FF: 1/2" blow .

30- FSI: No return.



| P | RESSUR | RE SU | MMAR' | ′ |
|---|--------|-------|-------|---|
| | | | | _ |

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|--------------------|-----------------------|--------------|
| 25.00 | mud 100m w /oil spots | 0.12 |
| | | |
| | | |
| | | |
| | | |
| | | |
| * Recovery from mu | ultiple tests | |

Gas Rates

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

Trilobite Testing, Inc Ref. No: 64352 Printed: 2019.05.18 @ 14:40:00



FLUID SUMMARY

Pioneer Resources, Inc.

13 14s 32w

80 Windmill Dr.

Knopp #8

Phillipsburg, Ks 67661

Job Ticket: 64352

Serial #:

DST#: 3

ATTN: Jason Alm

Test Start: 2019.05.18 @ 05:40:00

Mud and Cushion Information

9.19 in³

Mud Type: Gel Chem Cushion Type: Oil API: 0 deg API Water Salinity: 0 ppm

Mud Weight: Cushion Length: 9.00 lb/gal ft Viscosity: 56.00 sec/qt Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Resistivity: ohm.m 4000.00 ppm Salinity: Filter Cake: 1.00 inches

Recovery Information

Water Loss:

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------------|---------------|
| 25.00 | mud 100m w /oil spots | 0.123 |

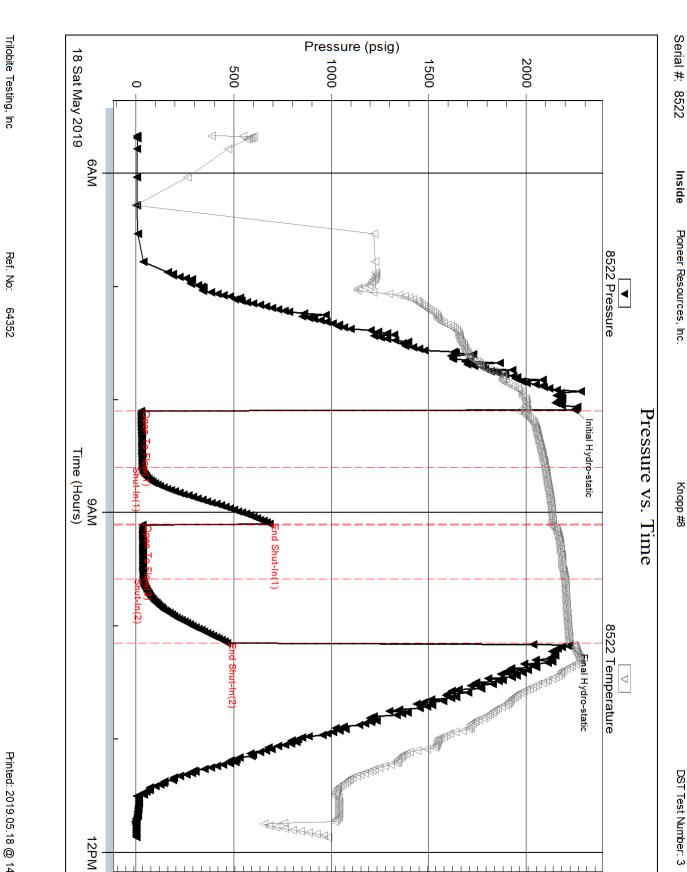
Total Length: 25.00 ft Total Volume: 0.123 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0

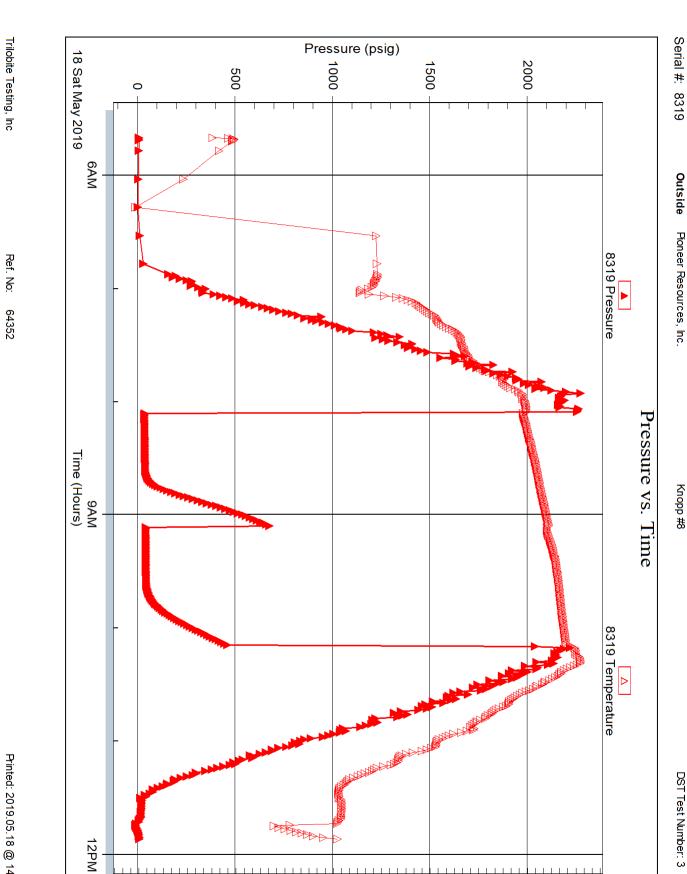
Laboratory Name: Laboratory Location:

Recovery Comments:

Printed: 2019.05.18 @ 14:40:00 Trilobite Testing, Inc Ref. No: 64352



Temperature (deg F)



Temperature (deg F)