

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) (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: | |
|----------------|-------|---------|------------|--|



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee St
 Suite 125
 Denver, CO 80202+1386
 ATTN: Sean Deenihan

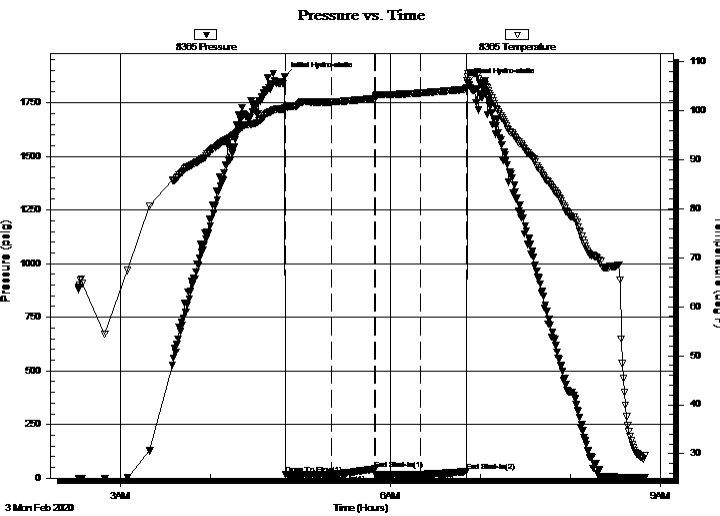
9/12S/20W/Ellis
CV #1-9
 Job Ticket: 66229 **DST#: 1**
 Test Start: 2020.02.03 @ 02:32:00

GENERAL INFORMATION:

Formation: **Lansing**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:50:02
 Time Test Ended: 08:50:02
 Interval: **3810.00 ft (KB) To 3866.00 ft (KB) (TVD)**
 Total Depth: 3866.00 ft (KB) (TVD)
 Hole Diameter: 7.80 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Ken Swinney
 Unit No: 72 Hays/44
 Reference Elevations: 2284.00 ft (KB)
 2279.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8365 Inside
 Press@RunDepth: 18.59 psig @ 3811.00 ft (KB) Capacity: psig
 Start Date: 2020.02.03 End Date: 2020.02.03 Last Calib.: 2020.02.03
 Start Time: 02:32:01 End Time: 08:50:02 Time On Btm: 2020.02.03 @ 04:49:32
 Time Off Btm: 2020.02.03 @ 06:51:17

TEST COMMENT: IF 30 Minutes/ Blow built to 1 inch
 ISI 30 Minutes/ No blow back
 FF 30 Minutes/ Few bubbles at open then dead
 FSI 30 Minutes/ No blow back



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1872.85 | 100.72 | Initial Hydro-static |
| 1 | 17.97 | 100.72 | Open To Flow (1) |
| 31 | 18.18 | 101.82 | Shut-In(1) |
| 60 | 43.23 | 102.57 | End Shut-In(1) |
| 61 | 19.04 | 102.85 | Open To Flow (2) |
| 91 | 18.59 | 103.66 | Shut-In(2) |
| 121 | 31.01 | 104.44 | End Shut-In(2) |
| 122 | 1841.46 | 106.99 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 5.00 | VSOCW O 5% M 95% | 0.02 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

ARP Operating LLC

9/12S/20W/Ellis

1444 Wazee St
Suite 125
Denver, CO 80202+1386
ATTN: Sean Deenihan

CV #1-9

Job Ticket: 66229

DST#: 1

Test Start: 2020.02.03 @ 02:32:00

GENERAL INFORMATION:

Formation: **Lansing**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:50:02

Time Test Ended: 08:50:02

Test Type: Conventional Bottom Hole (Initial)

Tester: Ken Swinney

Unit No: 72 Hays/44

Interval: **3810.00 ft (KB) To 3866.00 ft (KB) (TVD)**

Reference Elevations: 2284.00 ft (KB)

Total Depth: 3866.00 ft (KB) (TVD)

2279.00 ft (CF)

Hole Diameter: 7.80 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: **6755** Outside

Press@RunDepth: 31.90 psig @ 3812.00 ft (KB)

Capacity: psig

Start Date: 2020.02.03

End Date:

2020.02.03

Last Calib.:

2020.02.03

Start Time: 02:32:01

End Time:

08:50:02

Time On Btm:

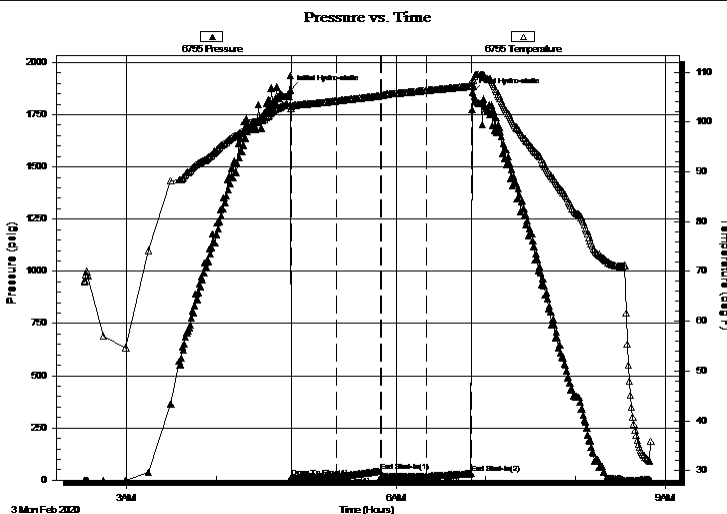
2020.02.03 @ 04:49:32

Time Off Btm:

2020.02.03 @ 06:51:02

TEST COMMENT: IF 30 Minutes/ Blow built to 1 inch
ISI 30 Minutes/ No blow back
FF 30 Minutes/ Few bubbles at open then dead
FSI 30 Minutes/ No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1867.89 | 103.32 | Initial Hydro-static |
| 1 | 14.24 | 102.71 | Open To Flow (1) |
| 31 | 17.72 | 104.24 | Shut-In(1) |
| 60 | 44.31 | 105.26 | End Shut-In(1) |
| 61 | 18.29 | 105.27 | Open To Flow (2) |
| 91 | 18.37 | 106.33 | Shut-In(2) |
| 121 | 31.90 | 107.21 | End Shut-In(2) |
| 122 | 1857.88 | 107.77 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------|--------------|
| 5.00 | VSOCW O 5% M 95% | 0.02 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9/12S/20W/Ellis

1444 Wazee St
Suite 125
Denver, CO 80202+1386
ATTN: Sean Deenihan

CV #1-9

Job Ticket: 66229

DST#: 1

Test Start: 2020.02.03 @ 02:32:00

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: 59.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.00 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|------------------|---------------|
| 5.00 | VSOCW O 5% M 95% | 0.025 |

Total Length: 5.00 ft Total Volume: 0.025 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

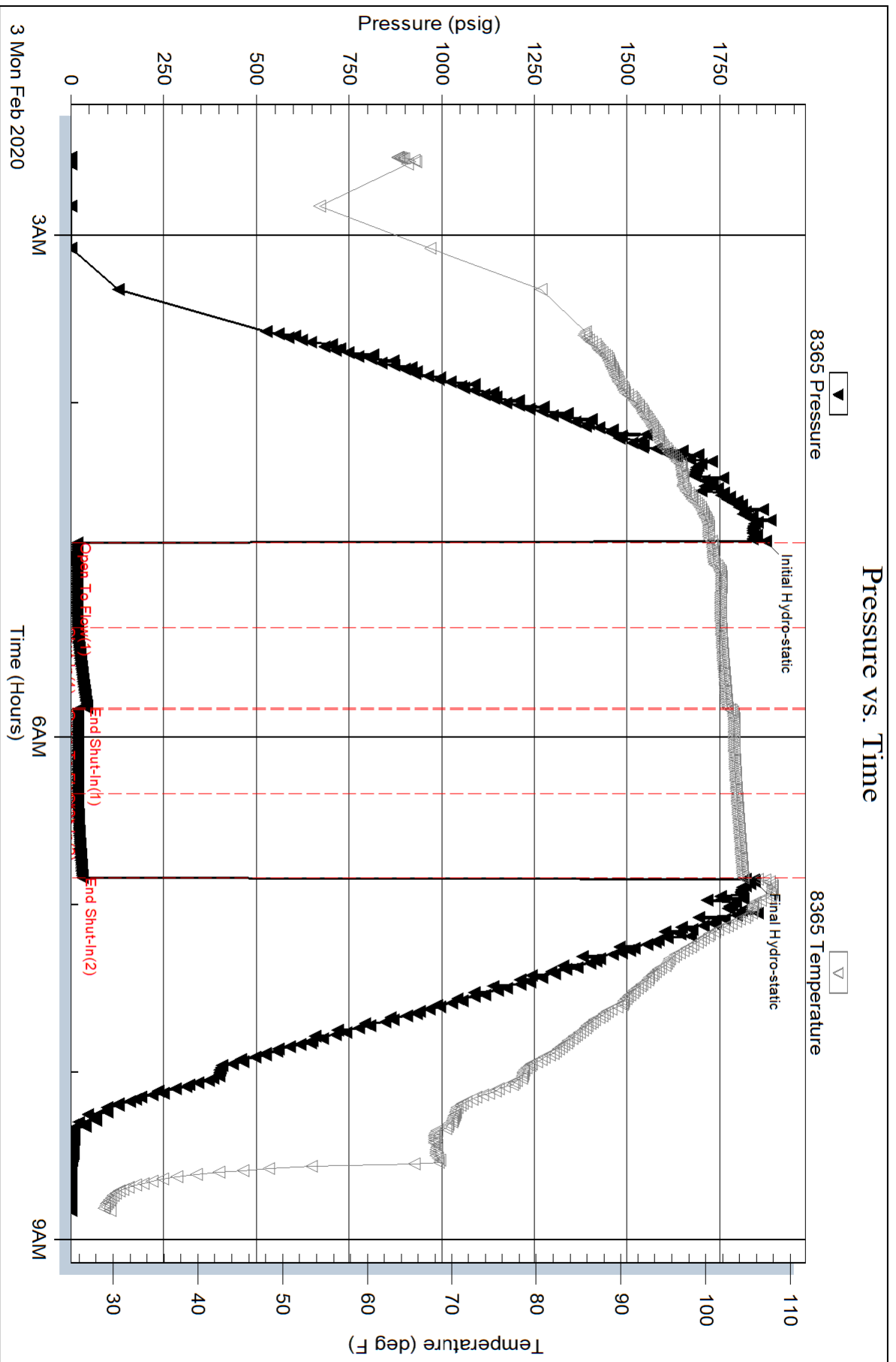
Serial #:

Laboratory Name:

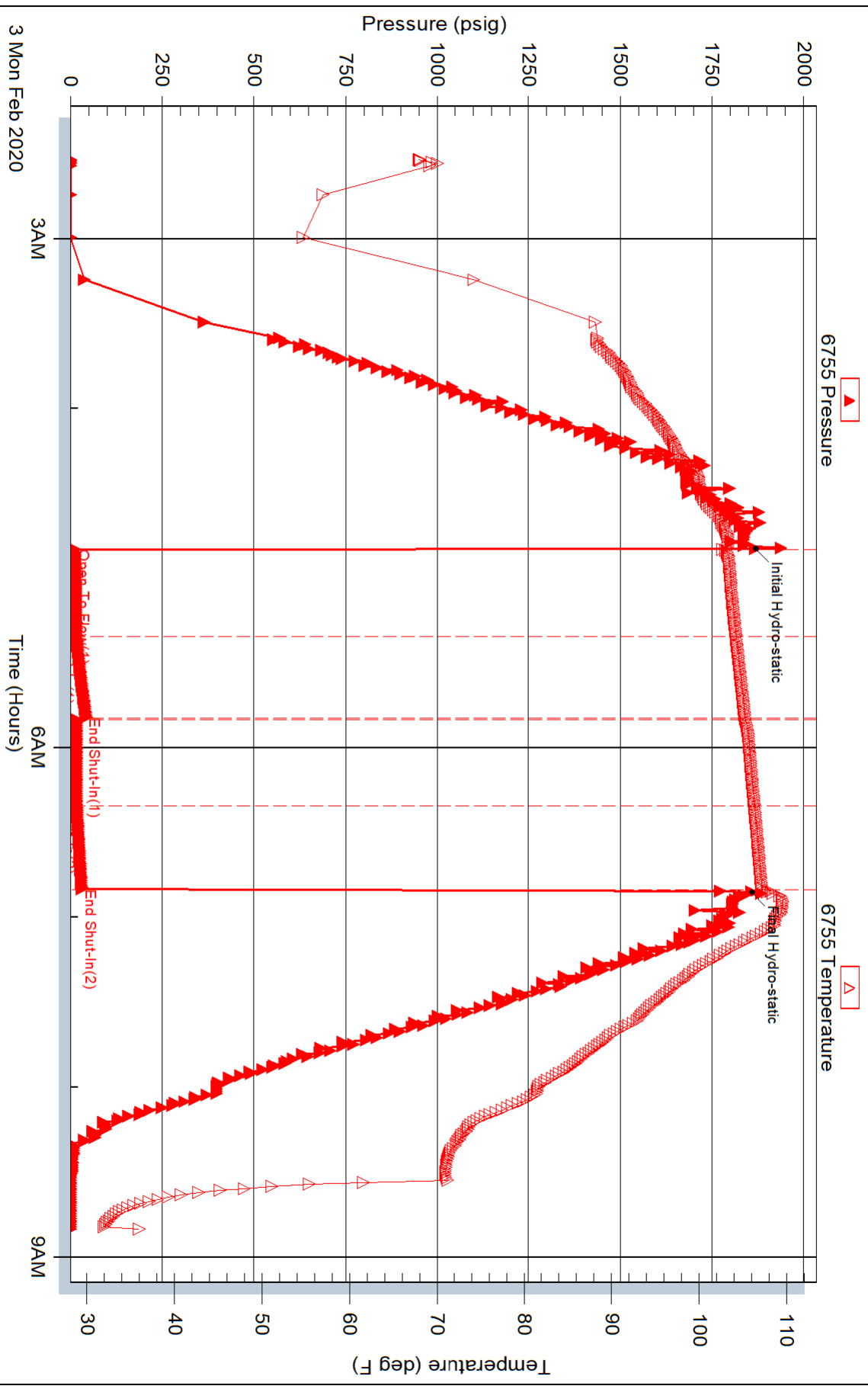
Laboratory Location:

Recovery Comments:

Pressure vs. Time



Pressure vs. Time





TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

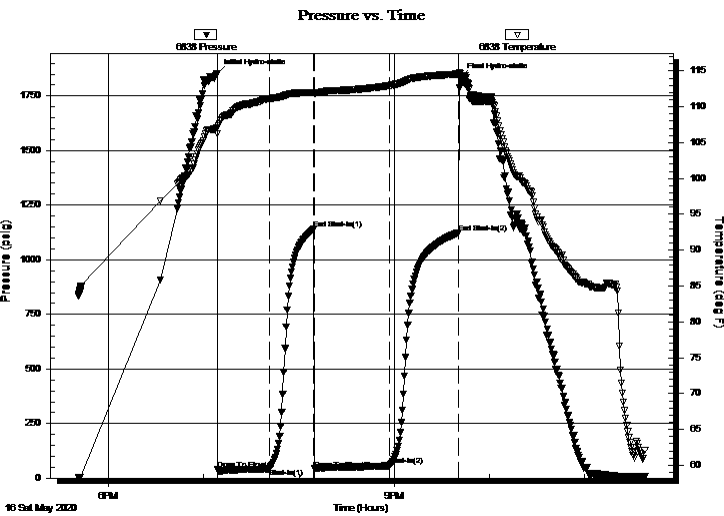
9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66387 **DST#: 2**
 Test Start: 2020.05.16 @ 17:41:00

GENERAL INFORMATION:

Formation: **LKC K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 19:08:37
 Time Test Ended: 23:38:12
 Interval: **3814.00 ft (KB) To 3850.00 ft (KB) (TVD)**
 Total Depth: 3850.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J Staab
 Unit No: 84
 Reference Elevations: 2301.00 ft (KB)
 2296.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 6838 **Inside**
 Press@RunDepth: 57.77 psig @ 3815.00 ft (KB) Capacity: psig
 Start Date: 2020.05.16 End Date: 2020.05.16 Last Calib.: 2020.05.17
 Start Time: 17:41:01 End Time: 23:38:12 Time On Btm: 2020.05.16 @ 19:08:32
 Time Off Btm: 2020.05.16 @ 21:41:32

TEST COMMENT: 30-IF-Fair; Built to 9"
 30-ISI-No Return
 45-FF-BOB 24 mins; Built to 14"
 45-FSI-No Return



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1853.57 | 107.13 | Initial Hydro-static |
| 1 | 39.30 | 106.27 | Open To Flow (1) |
| 33 | 44.72 | 111.13 | Shut-In(1) |
| 61 | 1139.01 | 111.94 | End Shut-In(1) |
| 62 | 42.34 | 111.83 | Open To Flow (2) |
| 109 | 57.77 | 112.95 | Shut-In(2) |
| 153 | 1125.13 | 114.58 | End Shut-In(2) |
| 153 | 1832.48 | 114.59 | Final Hydro-static |

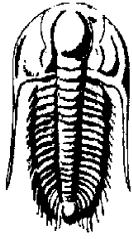
Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------|--------------|
| 60.00 | MO 30%M 70%O | 0.57 |
| 40.00 | GMCO 30%G 20%M 50%O | 0.57 |
| 0.00 | 260 GIP 100%G | 0.00 |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66387 **DST#: 2**
 Test Start: 2020.05.16 @ 17:41:00

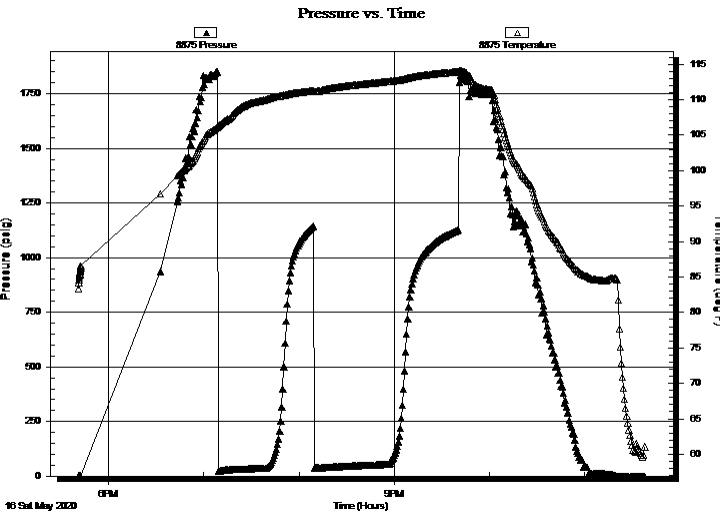
GENERAL INFORMATION:

Formation: **LKC K**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 19:08:37 Tester: Spencer J Staab
 Time Test Ended: 23:38:12 Unit No: 84
Interval: 3814.00 ft (KB) To 3850.00 ft (KB) (TVD) Reference Elevations: 2301.00 ft (KB)
 Total Depth: 3850.00 ft (KB) (TVD) 2296.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8875 Outside

| | |
|--|---|
| Press@RunDepth: psig @ 3815.00 ft (KB) | Capacity: psig |
| Start Date: 2020.05.16 End Date: 2020.05.16 | Last Calib.: 2020.05.17 |
| Start Time: 17:41:01 End Time: 23:38:12 | Time On Btm: |
| | Time Off Btm: |

TEST COMMENT: 30-IF-Fair; Built to 9"
 30-ISI-No Return
 45-FF-BOB 24 mins; Built to 14"
 45-FSI-No Return



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|---------------------|--------------|
| 60.00 | MO 30%M 70%O | 0.57 |
| 40.00 | GMCO 30%G 20%M 50%O | 0.57 |
| 0.00 | 260 GIP 100%G | 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

ARP Operating LLC

9-12S-20W Ellis KS

1444 Wazee Street Suite 125
Denver CO 80202+1386

CV #2-9

Job Ticket: 66387

DST#: 2

ATTN: Sean Deenihan

Test Start: 2020.05.16 @ 17:41:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

20 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbbl |
|--------------|---------------------|----------------|
| 60.00 | MO 30%M 70%O | 0.573 |
| 40.00 | GMCO 30%G 20%M 50%O | 0.567 |
| 0.00 | 260 GIP 100%G | 0.000 |

Total Length: 100.00 ft

Total Volume: 1.140 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

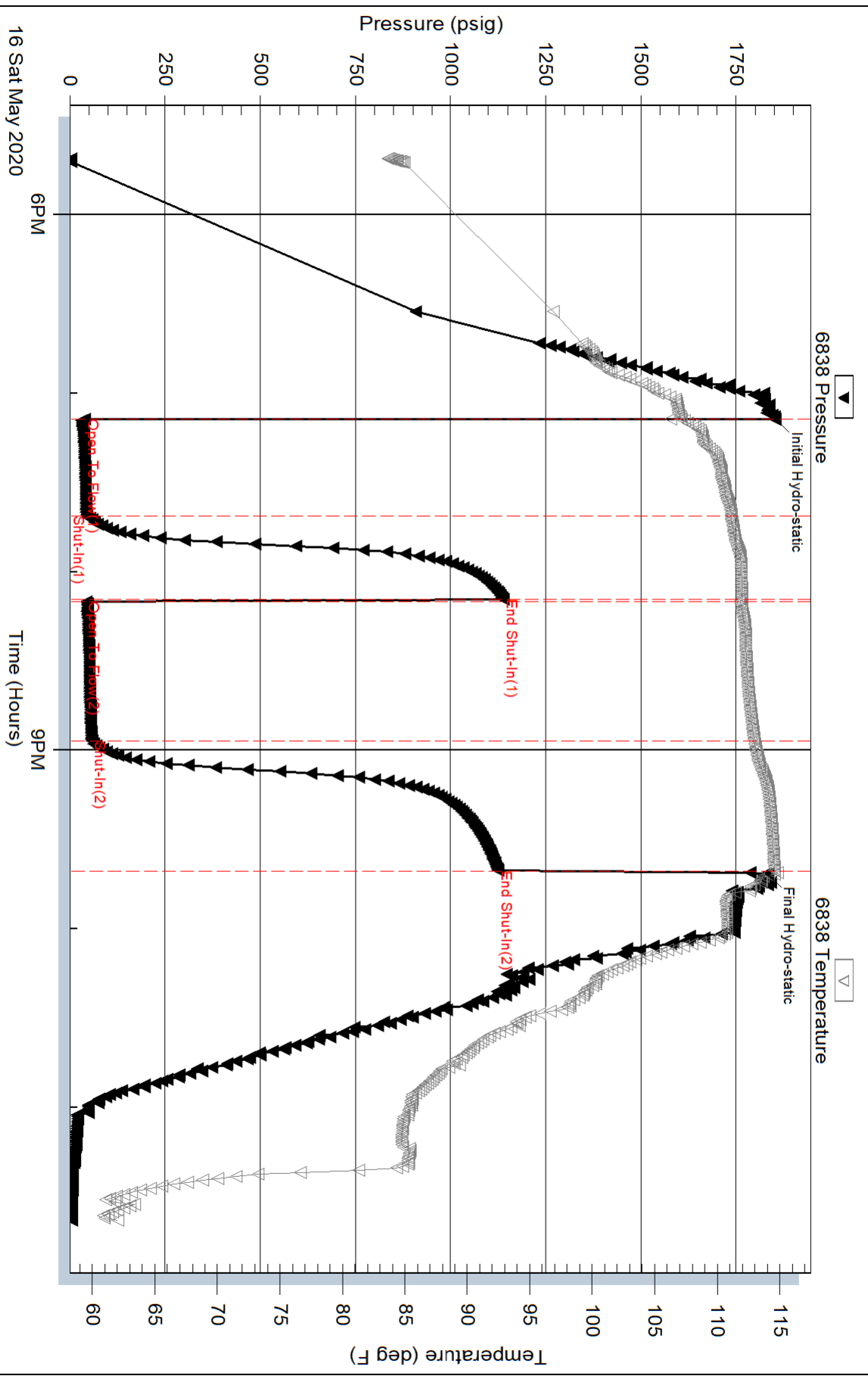
Serial #:

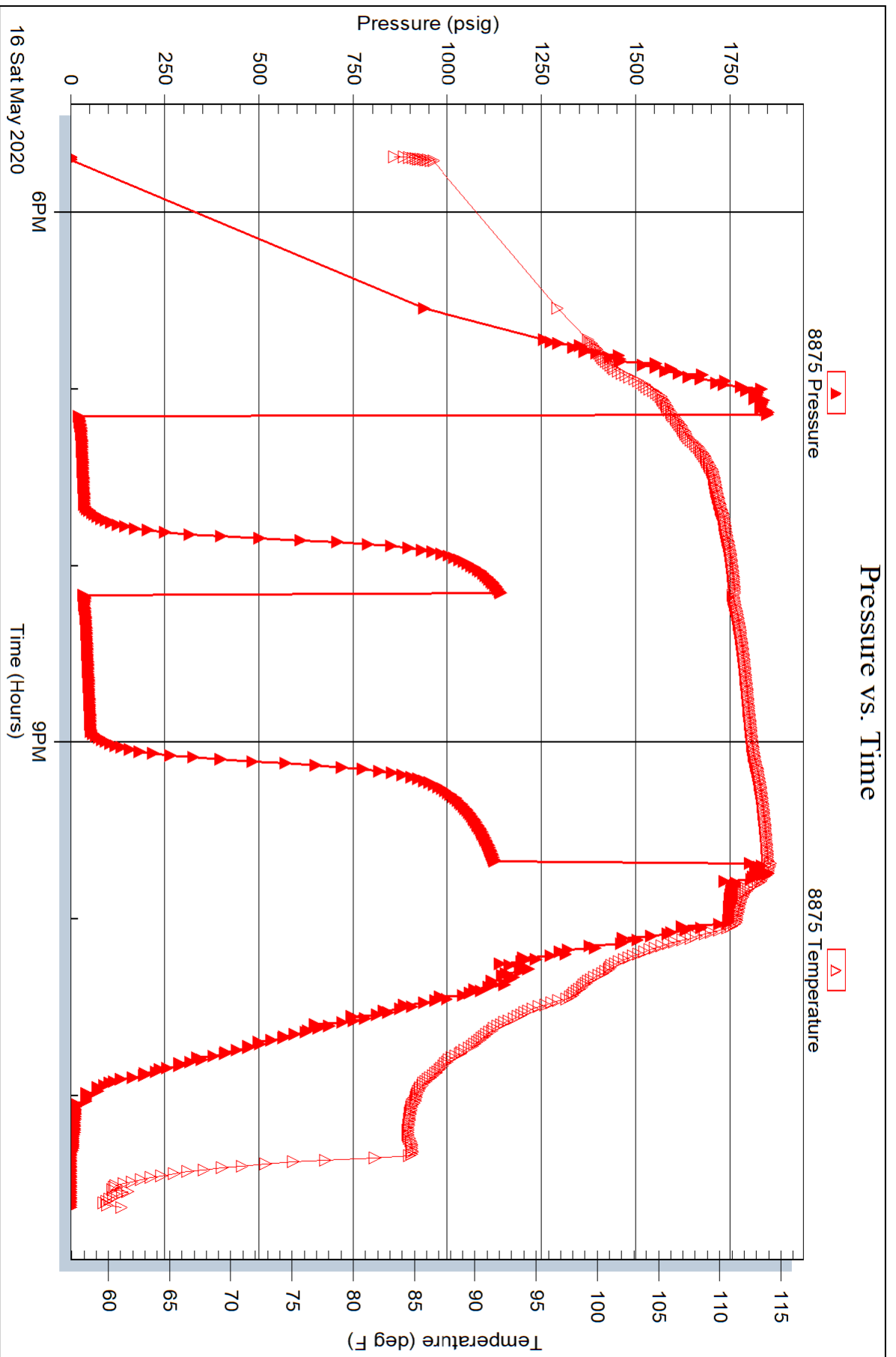
Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM

Pressure vs. Time







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66388 **DST#: 3**
 Test Start: 2020.05.17 @ 10:51:00

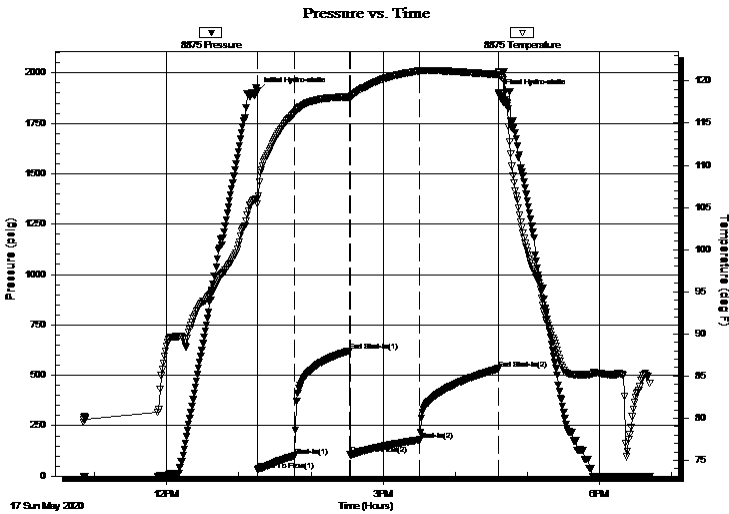
GENERAL INFORMATION:

Formation: **Marmaton**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 13:15:22 Tester: Spencer J Staab
 Time Test Ended: 18:42:07 Unit No: 84
 Interval: **3928.00 ft (KB) To 3965.00 ft (KB) (TVD)** Reference Elevations: 2301.00 ft (KB)
 Total Depth: 3965.00 ft (KB) (TVD) 2296.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 8875 Outside
 Press@RunDepth: 179.71 psig @ 3929.00 ft (KB) Capacity: psig
 Start Date: 2020.05.17 End Date: 2020.05.17 Last Calib.: 2020.05.17
 Start Time: 10:51:01 End Time: 18:42:07 Time On Btm: 2020.05.17 @ 13:15:12
 Time Off Btm: 2020.05.17 @ 16:36:02

TEST COMMENT: 30-IF-BOB 7 mins; Built to 37"
 45-ISI-Weak; Built to 3"
 60-FF-BOB 8 mins; Built to 35"
 60-FSI-Weak; Built to 1&1/2"

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1908.94 | 106.06 | Initial Hydro-static |
| 1 | 30.76 | 105.41 | Open To Flow (1) |
| 32 | 100.84 | 116.22 | Shut-In(1) |
| 77 | 621.71 | 118.07 | End Shut-In(1) |
| 78 | 106.56 | 117.99 | Open To Flow (2) |
| 136 | 179.71 | 121.19 | Shut-In(2) |
| 201 | 532.30 | 120.78 | End Shut-In(2) |
| 201 | 1895.07 | 120.98 | Final Hydro-static |

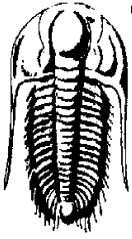
Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------|--------------|
| 30.00 | GMO 20%G 30%M 50%O | 0.15 |
| 445.00 | GO 50%G 50%O | 6.31 |
| 0.00 | 475 GIP 100%G | 0.00 |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC

9-12S-20W Ellis KS

1444 Wazee Street Suite 125
Denver CO 80202+1386

CV #2-9

Job Ticket: 66388

DST#: 3

ATTN: Sean Deenihan

Test Start: 2020.05.17 @ 10:51:00

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:15:22

Time Test Ended: 18:42:07

Test Type: Conventional Bottom Hole (Reset)

Tester: Spencer J Staab

Unit No: 84

Interval: 3928.00 ft (KB) To 3965.00 ft (KB) (TVD)

Reference Elevations: 2301.00 ft (KB)

Total Depth: 3965.00 ft (KB) (TVD)

2296.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 5.00 ft

Serial #: 6838

Inside

Press@RunDepth: psig @ 3929.00 ft (KB)

Capacity: psig

Start Date: 2020.05.17 End Date: 2020.05.17

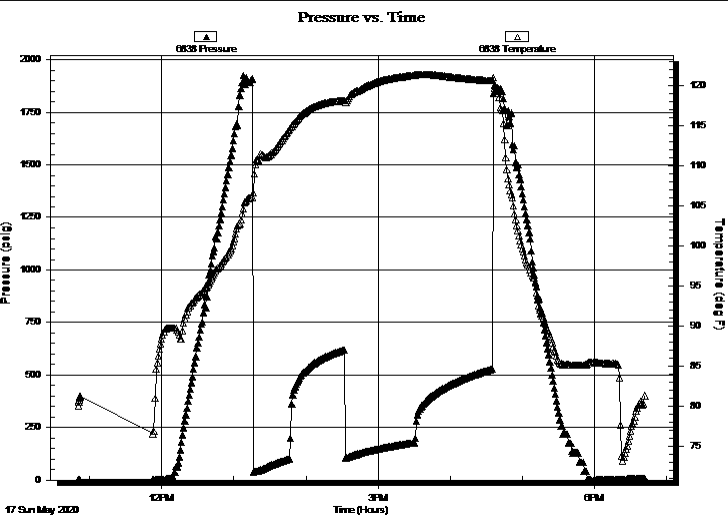
Last Calib.: 2020.05.17

Start Time: 10:51:01 End Time: 18:42:07

Time On Btm:

Time Off Btm:

TEST COMMENT: 30-IF-BOB 7 mins; Built to 37"
45-ISI-Weak; Built to 3"
60-FF-BOB 8 mins; Built to 35"
60-FSI-Weak; Built to 1&1/2"



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|--------------------|--------------|
| 30.00 | GMO 20%G 30%M 50%O | 0.15 |
| 445.00 | GO 50%G 50%O | 6.31 |
| 0.00 | 475 GIP 100%G | 0.00 |
| | | |
| | | |
| | | |

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9-12S-20W Ellis KS

1444 Wazee Street Suite 125
Denver CO 80202+1386

CV #2-9

Job Ticket: 66388

DST#: 3

ATTN: Sean Deenihan

Test Start: 2020.05.17 @ 10:51:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

40 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 50.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|--------------------|---------------|
| 30.00 | GMO 20%G 30%M 50%O | 0.148 |
| 445.00 | GO 50%G 50%O | 6.308 |
| 0.00 | 475 GIP 100%G | 0.000 |

Total Length: 475.00 ft

Total Volume: 6.456 bbl

Num Fluid Samples: 0

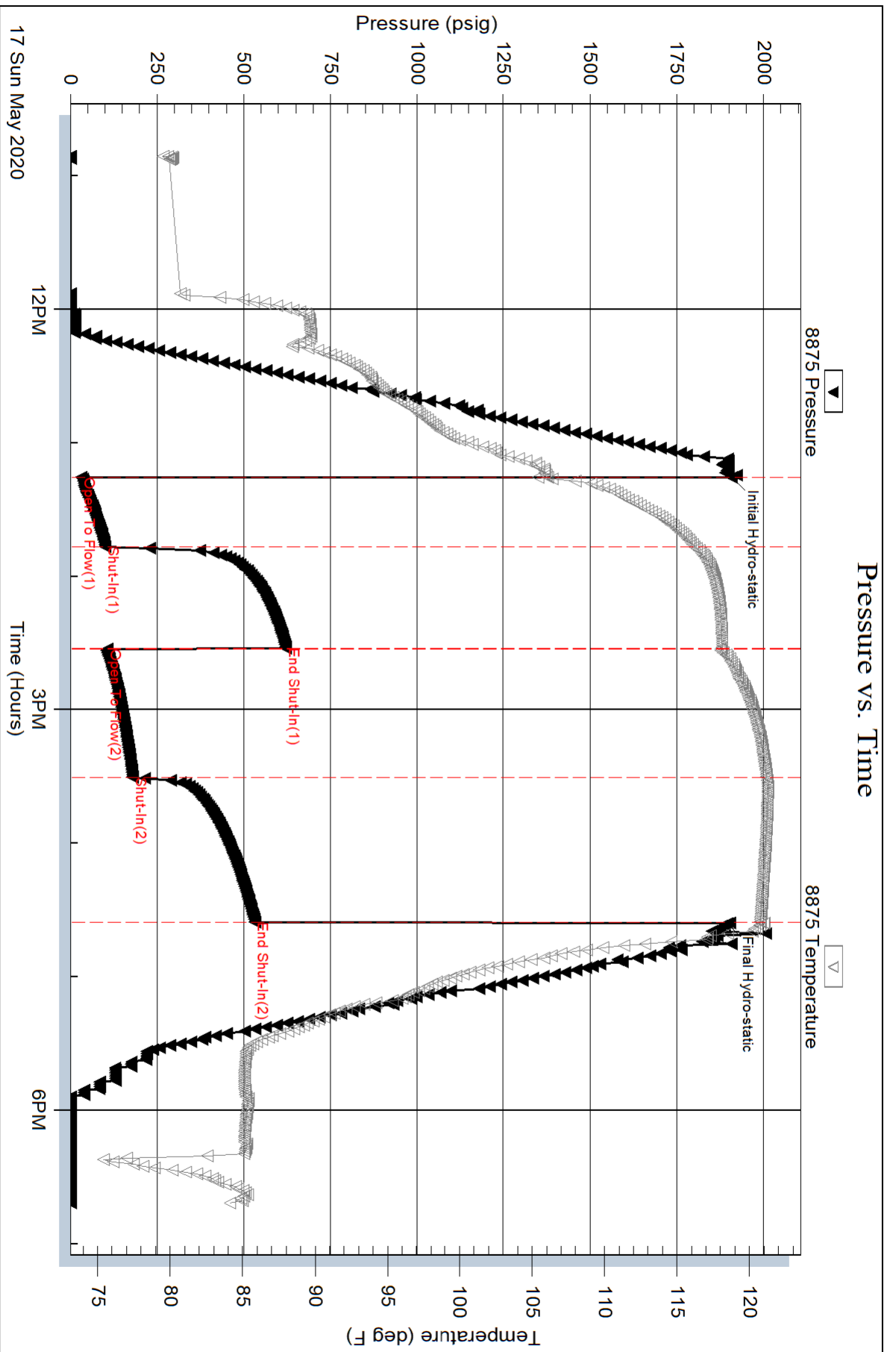
Num Gas Bombs: 0

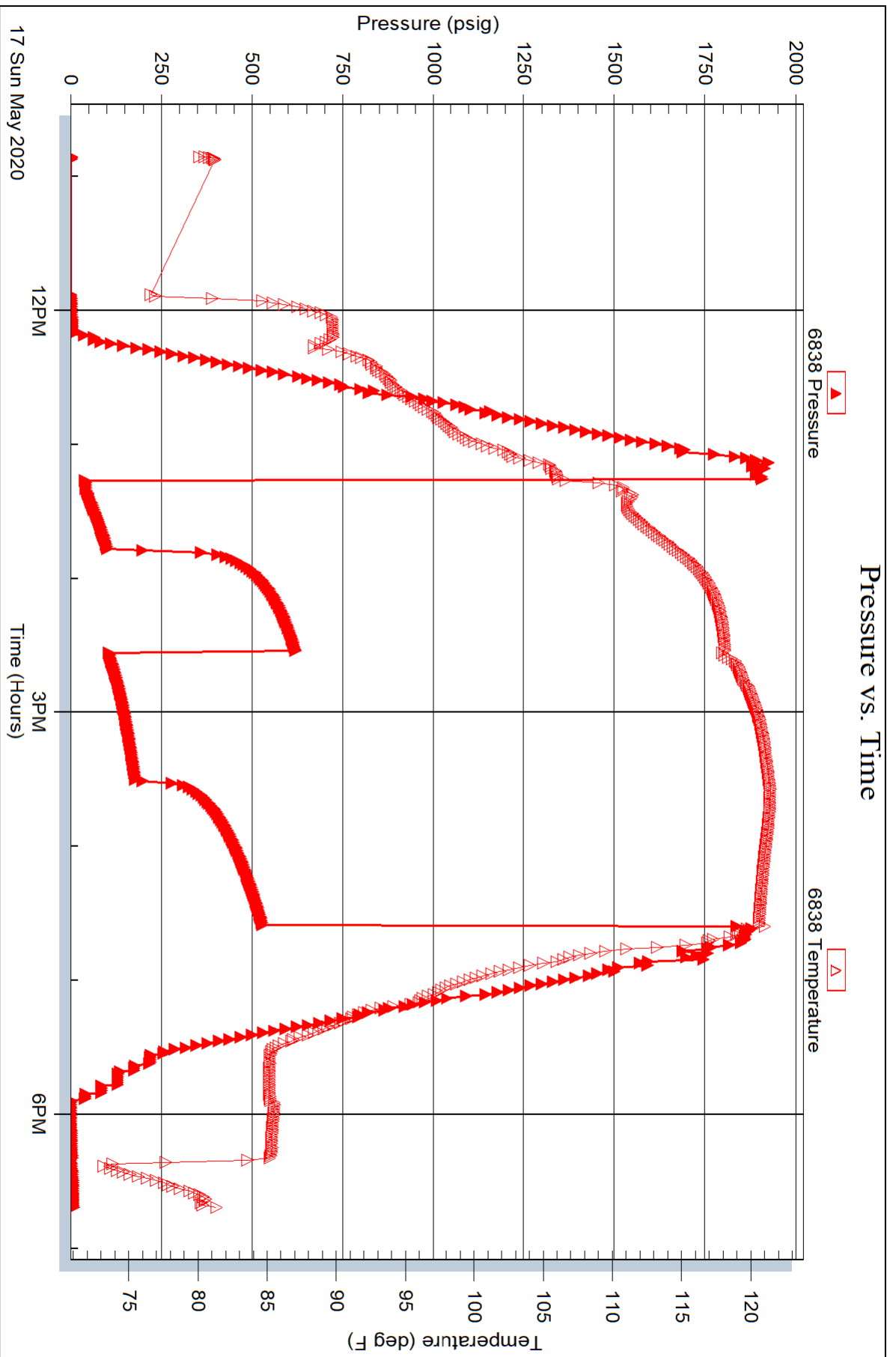
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM







**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

ARP Operating LLC
1444 Wazee Street Suite 125
Denver CO 80202+1386
ATTN: Sean Deenihan

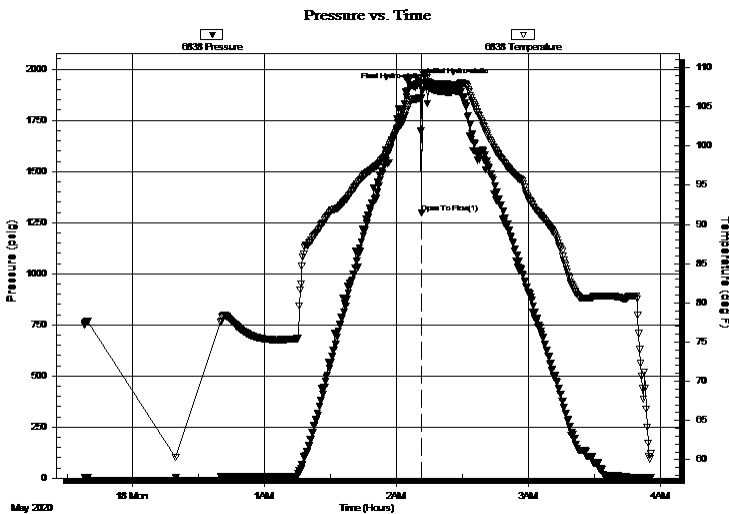
9-12S-20W Ellis KS
CV #2-9
Job Ticket: 66389 **DST#: 4**
Test Start: 2020.05.17 @ 23:38:00

GENERAL INFORMATION:

Formation: **Conglomerate**
Deviated: No Whipstock: ft (KB) Test Type: Conventional Bottom Hole (Reset)
Time Tool Opened: 02:11:27 Tester: Spencer J Staab
Time Test Ended: 03:55:57 Unit No: 84
Interval: 3965.00 ft (KB) To 3992.00 ft (KB) (TVD) Reference Elevations: 2301.00 ft (KB)
Total Depth: 3992.00 ft (KB) (TVD) 2296.00 ft (CF)
Hole Diameter: 7.88 inches Hole Condition: Fair KB to GR/CF: 5.00 ft

Serial #: 6838 Inside
Press@RunDepth: psig @ 3966.00 ft (KB) Capacity: psig
Start Date: 2020.05.17 End Date: 2020.05.18 Last Calib.: 2020.05.18
Start Time: 23:38:01 End Time: 03:55:57 Time On Btm: 2020.05.18 @ 02:10:57
Time Off Btm: 2020.05.18 @ 02:14:22

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1932.61 | 106.15 | Initial Hydro-static |
| 1 | 1297.15 | 108.61 | Open To Flow (1) |
| 4 | 1910.63 | 108.25 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 250.00 | Mud | 3.27 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

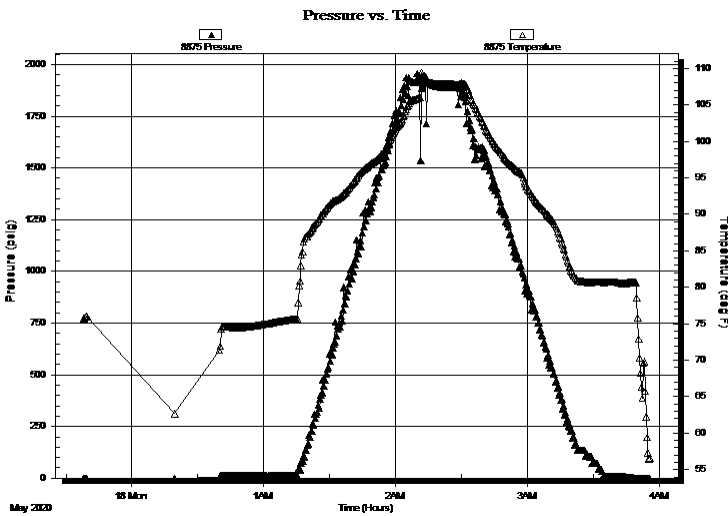
9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66389 **DST#: 4**
 Test Start: 2020.05.17 @ 23:38:00

GENERAL INFORMATION:

Formation: **Conglomerate**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:11:27
 Time Test Ended: 03:55:57
 Interval: **3965.00 ft (KB) To 3992.00 ft (KB) (TVD)**
 Total Depth: 3992.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J Staab
 Unit No: 84
 Reference Elevations: 2301.00 ft (KB)
 2296.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8875 Outside
 Press@RunDepth: psig @ 3966.00 ft (KB) Capacity: psig
 Start Date: 2020.05.17 End Date: 2020.05.18 Last Calib.: 2020.05.18
 Start Time: 23:38:01 End Time: 03:55:57 Time On Btm:
 Time Off Btm:

TEST COMMENT: Packer Failure



PRESSURE SUMMARY

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

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 250.00 | Mud | 3.27 |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9-12S-20W Ellis KS

1444 Wazee Street Suite 125
Denver CO 80202+1386

CV #2-9

Job Ticket: 66389

DST#: 4

ATTN: Sean Deenihan

Test Start: 2020.05.17 @ 23:38:00

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:

bbl

Water Loss: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 250.00 | Mud | 3.266 |

Total Length: 250.00 ft

Total Volume: 3.266 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

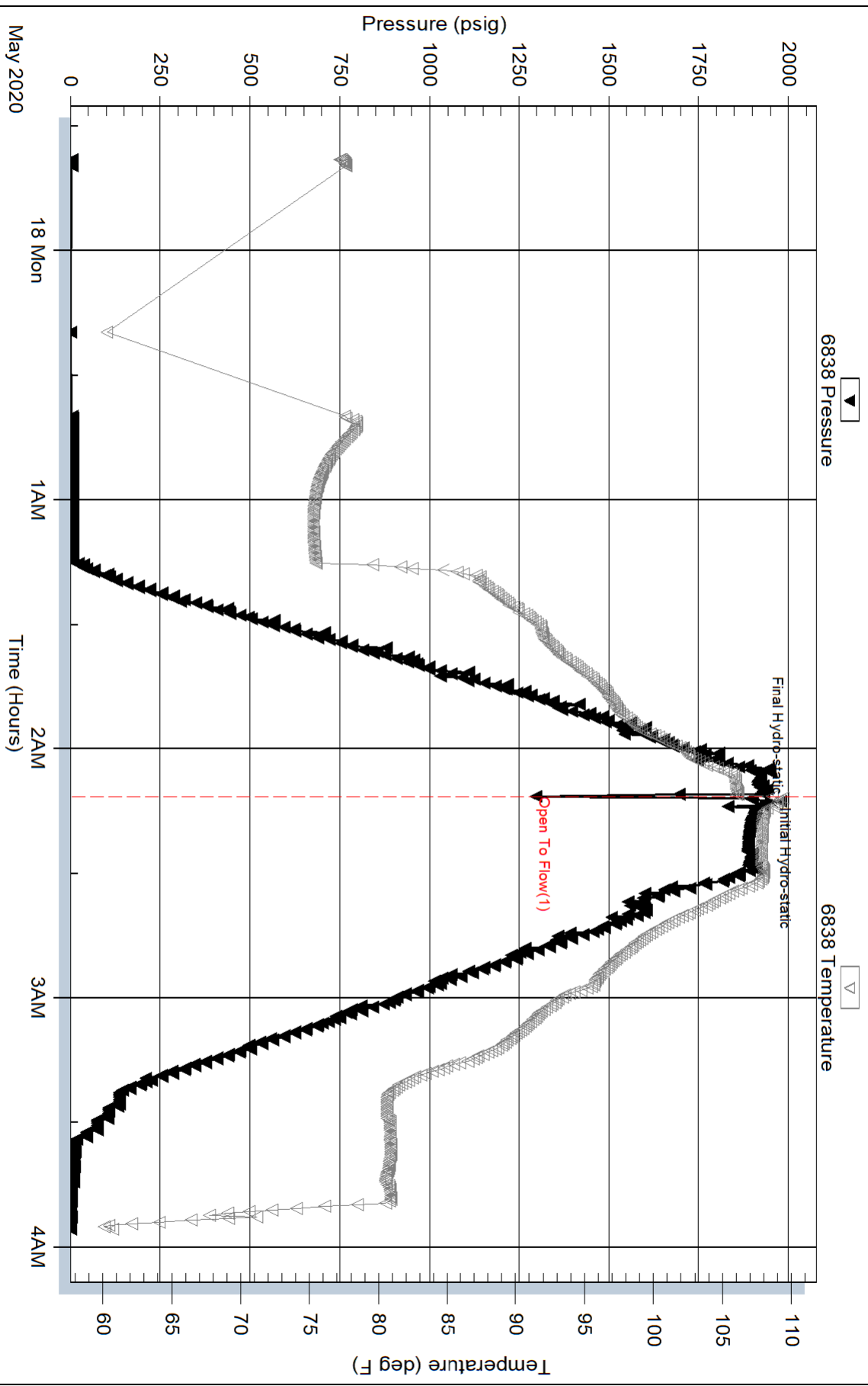
Serial #:

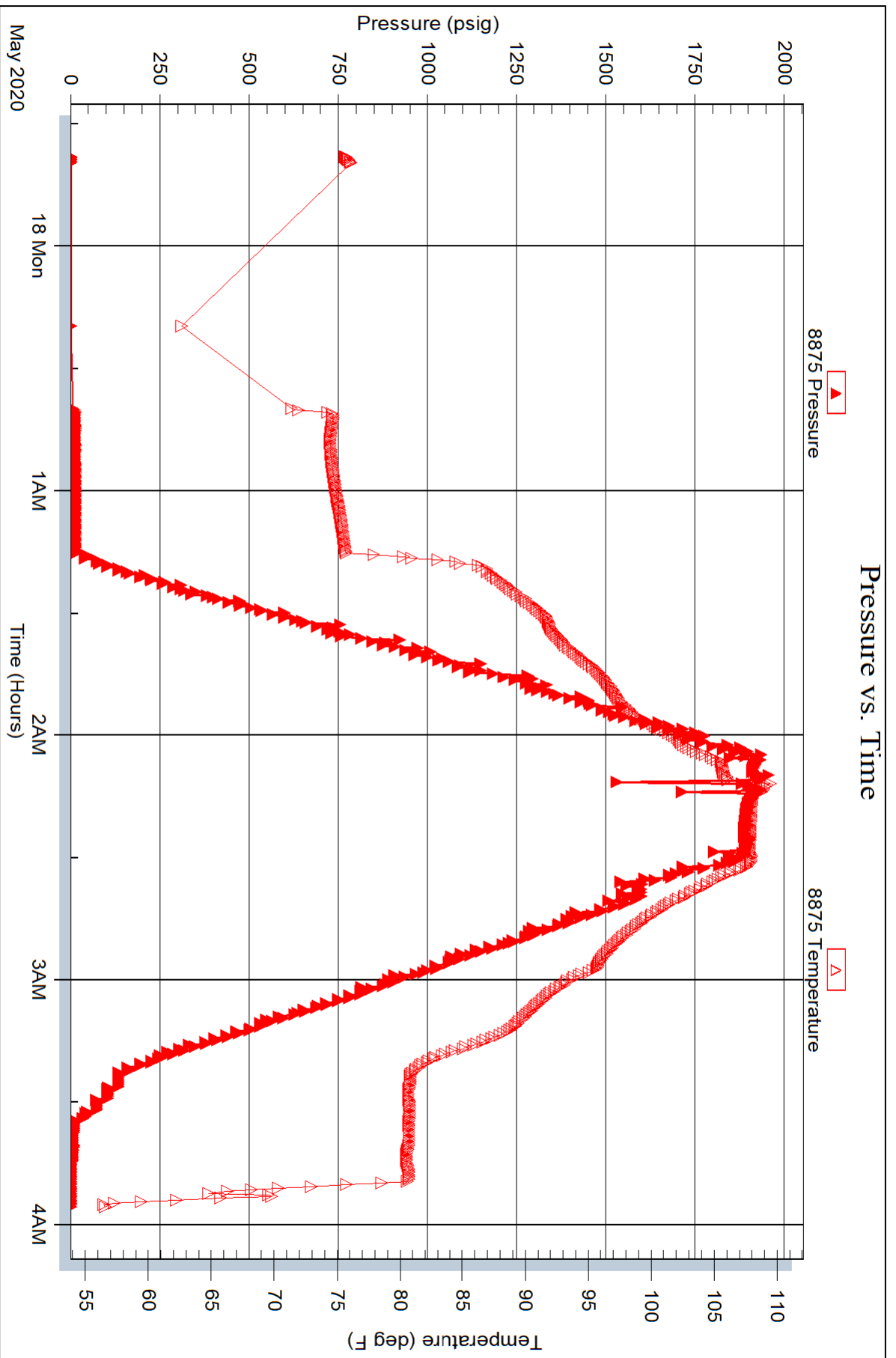
Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM

Pressure vs. Time







TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

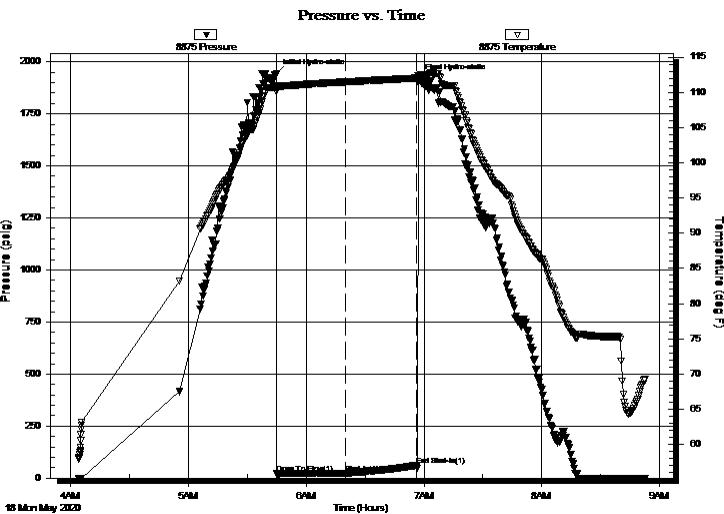
9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66390 **DST#: 5**
 Test Start: 2020.05.18 @ 04:04:00

GENERAL INFORMATION:

Formation: **Conglomerate**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:44:52
 Time Test Ended: 08:52:37
 Interval: **3958.00 ft (KB) To 3992.00 ft (KB) (TVD)**
 Total Depth: 3992.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J Staab
 Unit No: 84
 Reference Elevations: 2301.00 ft (KB)
 2296.00 ft (CF)
 KB to GR/CF: 5.00 ft

Serial #: 8875 Outside
 Press@RunDepth: 23.46 psig @ 3959.00 ft (KB) Capacity: psig
 Start Date: 2020.05.18 End Date: 2020.05.18 Last Calib.: 2020.05.18
 Start Time: 04:04:01 End Time: 08:52:37 Time On Btm: 2020.05.18 @ 05:44:47
 Time Off Btm: 2020.05.18 @ 06:57:07

TEST COMMENT: 30-IF-Weak; Built to 3/4"
 45-ISI-No Return
 Pulled Tool



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 1944.20 | 110.88 | Initial Hydro-static |
| 1 | 21.74 | 110.09 | Open To Flow (1) |
| 36 | 23.46 | 111.48 | Shut-In(1) |
| 72 | 61.25 | 112.03 | End Shut-In(1) |
| 73 | 1920.79 | 112.39 | Final Hydro-static |

Recovery

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

* Recovery from multiple tests

Gas Rates

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



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

ARP Operating LLC
 1444 Wazee Street Suite 125
 Denver CO 80202+1386
 ATTN: Sean Deenihan

9-12S-20W Ellis KS
CV #2-9
 Job Ticket: 66390 **DST#: 5**
 Test Start: 2020.05.18 @ 04:04:00

GENERAL INFORMATION:

Formation: **Conglomerate**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 05:44:52
 Time Test Ended: 08:52:37
Interval: 3958.00 ft (KB) To 3992.00 ft (KB) (TVD)
 Total Depth: 3992.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Spencer J Staab
 Unit No: 84
 Reference Elevations: 2301.00 ft (KB)
 2296.00 ft (CF)
 KB to GR/CF: 5.00 ft

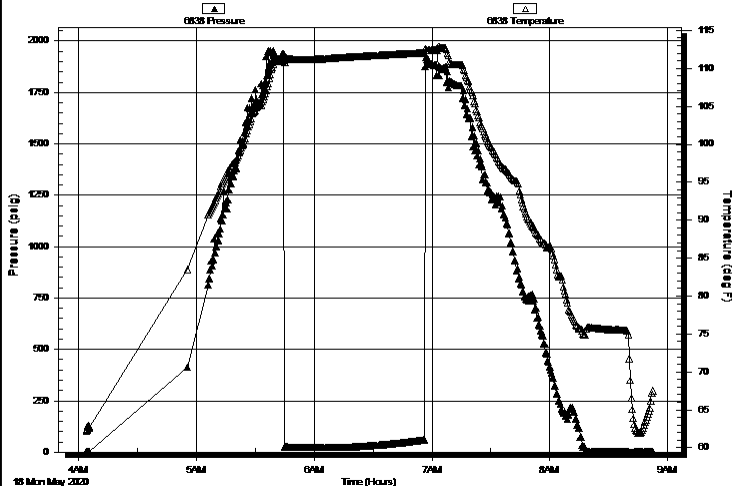
Serial #: 6838

Inside

Press@RunDepth: psig @ 3959.00 ft (KB) Capacity: psig
 Start Date: 2020.05.18 End Date: 2020.05.18 Last Calib.: 2020.05.18
 Start Time: 04:04:01 End Time: 08:52:37 Time On Btm:
 Time Off Btm:

TEST COMMENT: 30-IF-Weak; Built to 3/4"
 45-ISI-No Return
 Pulled Tool

Pressure vs. Time



PRESSURE SUMMARY

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

Recovery

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

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

ARP Operating LLC

9-12S-20W Ellis KS

1444 Wazee Street Suite 125
Denver CO 80202+1386

CV #2-9

Job Ticket: 66390

DST#: 5

ATTN: Sean Deenihan

Test Start: 2020.05.18 @ 04:04:00

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: 5.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 5.00 | Mud 100%M | 0.025 |

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

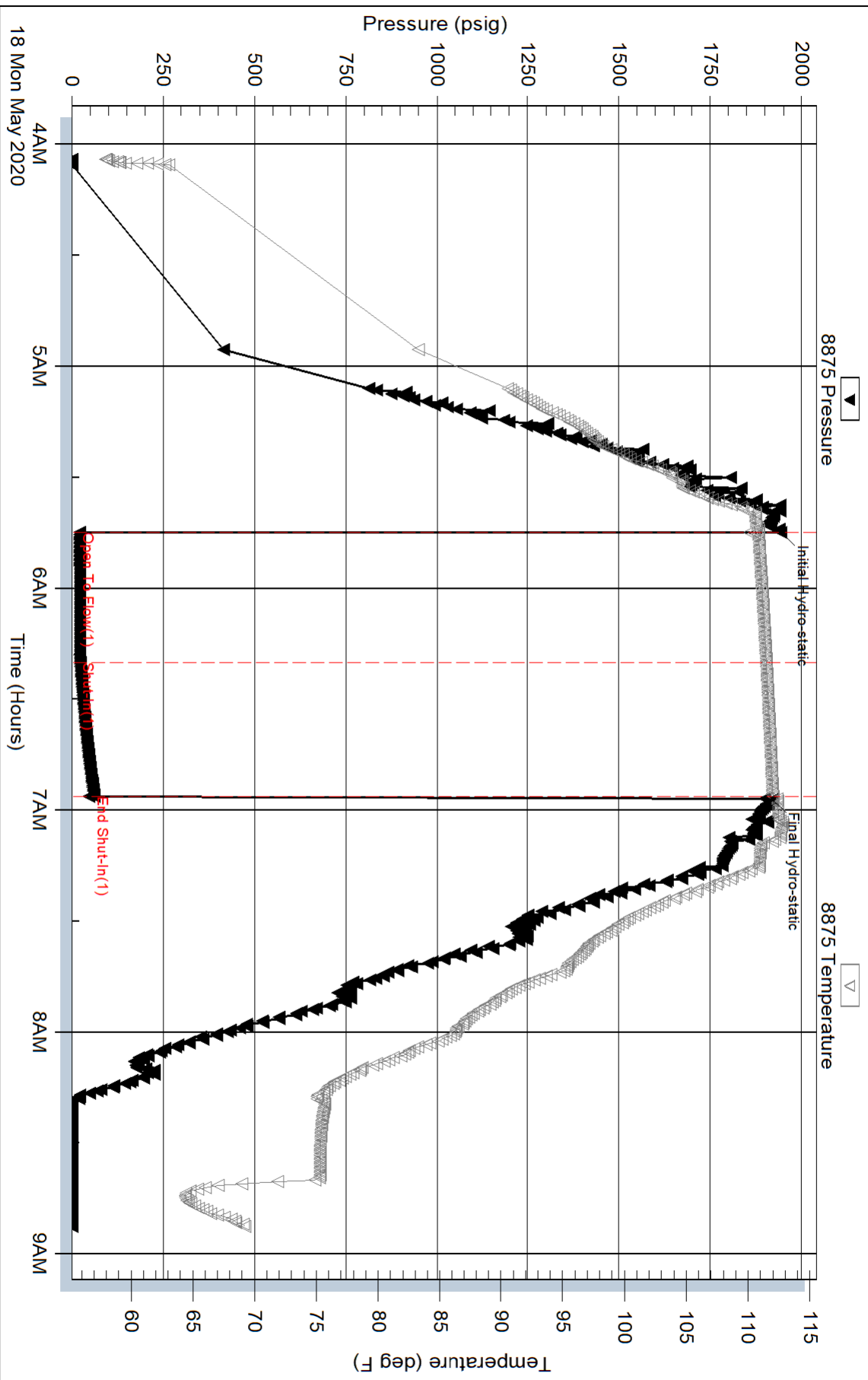
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2#LCM

Pressure vs. Time



Serial #: 6838

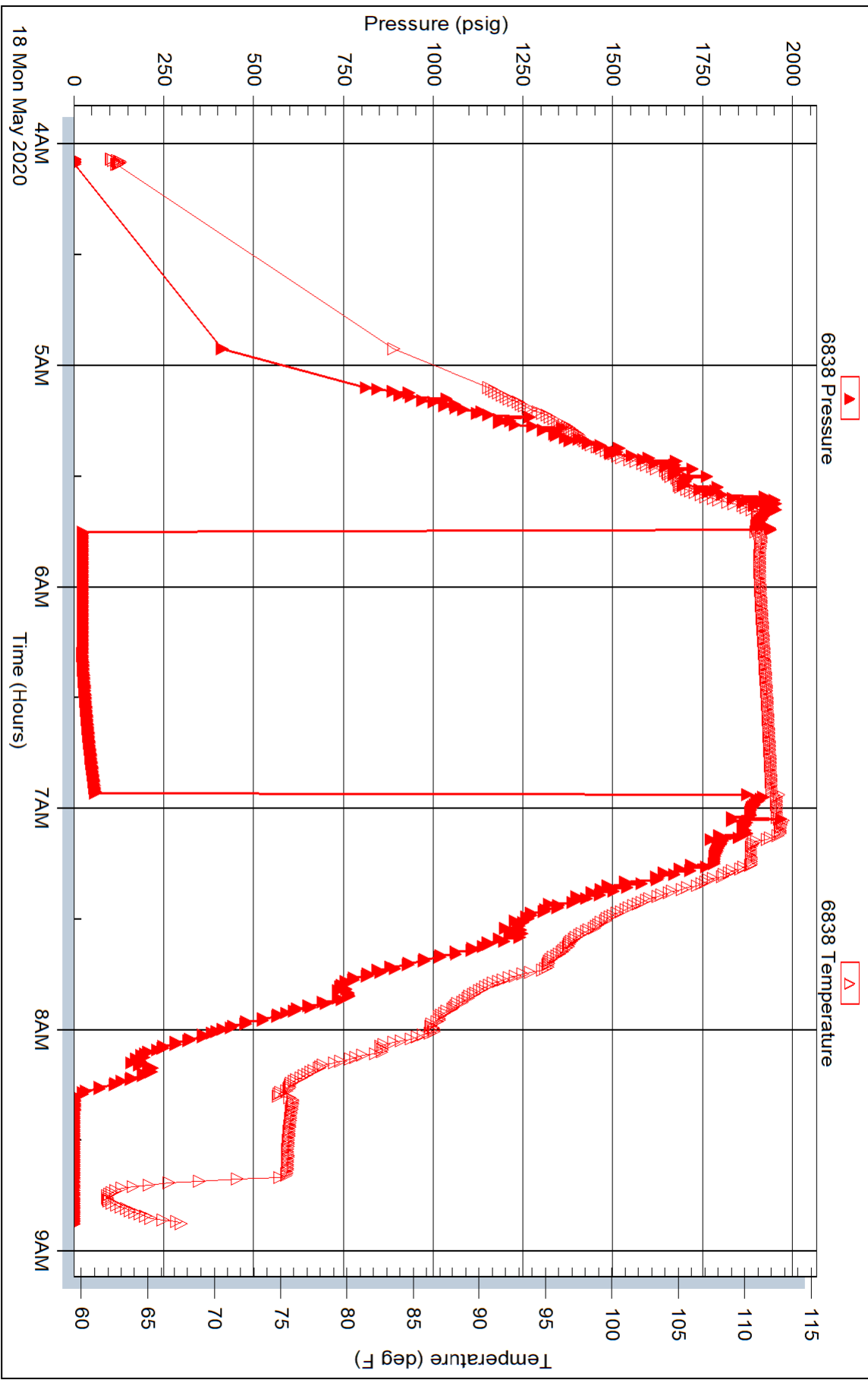
Inside

ARPP Operating LLC

CV #2-9

DST Test Number: 5

Pressure vs. Time



FRANKS Oilfield Service

◆ 815 Main Street Victoria, KS 67671 ◆ 24 Hour Phone (785) 639-7269
 ◆ Office Phone (785) 639-3949 ◆ Email: franksoilfield@yahoo.com

TICKET NUMBER 0161
 LOCATION Maxie KS
 FOREMAN Preston Deering

FIELD TICKET & TREATMENT REPORT CEMENT

| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY |
|----------------------------------|------------|--------------------|---------|----------|---------|--------|
| 5-12-20 | | C-V 2-9 | 9 | 12 | 20W | Ellis |
| CUSTOMER <i>ARP Operating</i> | | | TRUCK # | | | |
| MAILING ADDRESS | | | DRIVER | | TRUCK # | |
| CITY | | | DRIVER | | TRUCK # | |
| STATE | | | DRIVER | | TRUCK # | |
| ZIP CODE | | | DRIVER | | TRUCK # | |

JOB TYPE Surface HOLE SIZE 12.75" HOLE DEPTH 218' CASING SIZE & WEIGHT 8 5/8" 23#
 CASING DEPTH 217' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 14.8# SLURRY VOL 1.41" WATER gal/sk _____ CEMENT LEFT in CASING _____
 DISPLACEMENT 12.75 B66 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety meeting & sign upon making well. Circulate casing mix 150 sacks.
Class A 3" cell 2" bag. displacer w/ 12.75" slk. water. Shut in Cement chd. circulate

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|-------------------|------------|
| PL002 | 1 | PUMP CHARGE | 1150.00 | \$1150.00 |
| M001 | 65 | MILEAGE | \$6.50 | \$422.50 |
| M002 | 7.4 tons | Ton mileage | \$1.50 | \$721.50 |
| CB004 | 150 SXS | Class A surface blend | \$24.50 | \$3,675.00 |
| | | | sub total | \$5,969.00 |
| | | | less 35% discount | \$2,089.15 |
| | | | sub total | \$3,879.85 |
| | | | SALES TAX | 155.25 |
| | | | ESTIMATED TOTAL | 4,034.10 |

AUTHORIZATION *John David* 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.

FRANKS Oilfield Service

◆ 815 Main Street Victoria, KS 67671 ◆ 24 Hour Phone (785) 639-7269
 ◆ Office Phone (785) 639-3949 ◆ Email: franksoilfield@yahoo.com

TICKET NUMBER 0163
 LOCATION Hoxey KS
 FOREMAN Miles Skea

FIELD TICKET & TREATMENT REPORT CEMENT

| DATE | CUSTOMER # | WELL NAME & NUMBER | SECTION | TOWNSHIP | RANGE | COUNTY |
|---------|------------|--------------------|---------|----------|-------|--------|
| 5/19/20 | | CV 2-9 | 9 | 12.5 | 20W | E/113 |

| | | |
|------------------------|-------|----------|
| CUSTOMER ARP | | |
| MAILING ADDRESS | | |
| CITY | STATE | ZIP CODE |

| TRUCK # | DRIVER | TRUCK # | DRIVER |
|---------|-----------|---------|--------|
| 101 | Locky H | | |
| 102 | Miles S | | |
| | Jack T | | |
| | Preston O | | |

JOB TYPE 2 stage HOLE SIZE 7 7/8" HOLE DEPTH _____ CASING SIZE & WEIGHT 5.5" 17 #
 CASING DEPTH _____ DRILL PIPE _____ TUBING _____ OTHER PV @ 1726'
 SLURRY WEIGHT 14.7/12.4 SLURRY VOL 151/1.9 WATER gal/sk _____ CEMENT LEFT in CASING _____
 DISPLACEMENT 92/2 DISPLACEMENT PSI _____ MIX PSI _____ RATE _____

REMARKS: Safety Meeting & Rig up on Muffin drilling Rig #16 Run in 96 Sats
Centralizer Sats 3, 5, 7, 9, 11, 13, 15, SS Baskets on Sats 4, 16, 56 Circulate & Recip to
36 cis DV tool on sat 56. Pump 500 gal Mud Flush 26651 UCL mix 175 sec OWS 5 #
Walsal Shutdown Clear pump & lines release plug displace 55 bbls water 37.5 bbls Mud
with 900 psi lb plug landed & hold @ 1800 psi. Pressure opening dact wait 15 mins open
tool with 800 psi Circulate casing 3 hrs. Pump 500 gal mud flush mix 380 sec
60/40 life down casing Shutdown Clear Pump & lines Release plug displace 40 1/4 bbls
water with 70 # lift Plug landed tool shut & hold @ 1800 #

305x RH 205x MH Thanks Miles & crew

| ACCOUNT CODE | QUANTITY or UNITS | DESCRIPTION of SERVICES or PRODUCT | UNIT PRICE | TOTAL |
|--------------|-------------------|------------------------------------|-------------------|-----------|
| PC004 | 1 | PUMP CHARGE | 2500.00 | 2500.00 |
| M001 | 65 | MILEAGE | 6.50 | 422.50 |
| M002 | 29.7 Tons | Ton Mitegas & Lolin | 1.20 | 2895.75 |
| CP013 | 1000 gal | Mud Flush | 1.00 | 1000.00 |
| CP014 | 2 gal | UCL | 39 | 78.00 |
| CB021 | 430 sec | 60/40 29 sec 1/4" Flw | 17.35 | 7460.50 |
| CB030 | 175 sec | OWC 5" Walsal | 28.55 | 4996.25 |
| FE013 | 8 | Centralizers 5.5" | 80.00 | 640.00 |
| FE022 | 3 | Baskets 5.5" | 385.00 | 1155.00 |
| FE033 | 1 | 5.5" AFU 6x20 shoe | 600.00 | 600.00 |
| FE052 | 1 | Latch down Plus Plox | 695.00 | 695.00 |
| FE090 | 1 | 5.5" DV tool weather band | 6000.00 | 6000.00 |
| FE096 | 20 | 5.5" Scratchers | 75 | 1500.00 |
| | | | Subtotal | 29943.00 |
| | | | less 45% disc | 13474.35 |
| | | | Subtotal | 16468.65 |
| | | | SALES TAX | 8702.46 |
| | | | ESTIMATED TOTAL * | 17,331.11 |

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.

Conservation Division
266 N. Main St., Ste. 220
Wichita, KS 67202-1513



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

Susan K. Duffy, Chair
Dwight D. Keen, Commissioner
Andrew J. French, Commissioner

Laura Kelly, Governor

September 11, 2020

Sean Deenihan
ARP Operating, LLC
1444 WAZEE STREET SUITE 125
DENVER, CO 80202-1386

Re: ACO-1
API 15-051-26984-00-00
CV 2-9
SE/4 Sec.09-12S-20W
Ellis County, Kansas

Dear Sean Deenihan:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 5/11/2020 and the ACO-1 was received on September 11, 2020 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department