

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 | McCoy Petroleum Corporation |
| Well Name | MACK "A" 1-1 |
| Doc ID | 1410726 |

All Electric Logs Run

| |
|-------------------|
| |
| Geological Report |
| Dual Induction |
| Neutron Density |
| Microlog |

| | |
|-----------|-----------------------------|
| Form | ACO1 - Well Completion |
| Operator | McCoy Petroleum Corporation |
| Well Name | MACK "A" 1-1 |
| Doc ID | 1410726 |

Tops

| Name | Top | Datum |
|----------------|------|-------|
| Base Anhydrite | 1761 | 1006 |
| Stotler | 3570 | -803 |
| Heebner | 4198 | -1431 |
| Toronto | 4215 | -1448 |
| Lansing | 4262 | -1495 |
| Lansing B | 4304 | -1537 |
| Lansing H | 4506 | -1739 |
| Stark | 4620 | -1853 |
| Swope Pors | 4622 | -1855 |
| Hushpuckney | 4665 | -1898 |
| Hertha Pors | 4685 | -1918 |
| Marmaton | 4801 | -2034 |
| Marmaton C | 4845 | -2078 |
| Pawnee | 4882 | -2115 |
| Ft Scott | 4911 | -2144 |
| Cherokee | 4926 | -2159 |
| Atoka | 5073 | -2306 |
| Morrow Sh | 5092 | -2325 |
| St Genevieve | 5100 | -2333 |
| St Louis B | 5202 | -2435 |
| St Louis C | 5288 | -2521 |
| Spergen | 5360 | -2593 |
| Warssaw | 5500 | -2733 |
| Osage Marker | 5548 | -2781 |

| | |
|-----------|-----------------------------|
| Form | ACO1 - Well Completion |
| Operator | McCoy Petroleum Corporation |
| Well Name | MACK "A" 1-1 |
| Doc ID | 1410726 |

Tops

| Name | Top | Datum |
|----------|------|-------|
| Osage | 5888 | -3121 |
| Compton | 6070 | -3303 |
| Viola | 6194 | -3427 |
| Simpson | 6339 | -3572 |
| Arbuckle | 6350 | -3583 |
| LTD | 6398 | -3631 |

TREATMENT REPORT



HURRICANE SERVICES INC

| | | | | | |
|--------------|--------------|-------|-----------|-------------|--------|
| Customer: | McCoy Pet. | Date: | 3/28/2018 | Ticket No.: | 100898 |
| Field Rep: | Lanny Saloga | | | | |
| Address: | | | | | |
| City, State: | | | | | |
| County, Zip: | | | | | |

| | | | | | |
|------------------|------------|---------------|-------------|------------------|-------|
| Field Order No.: | 100898 | Open Hole: | | Perf Depths (ft) | Perfs |
| Well Name: | Mack A 1-1 | Casing Depth: | | | |
| Location: | Montezuma | Casing Size: | | | |
| Formation: | | Tubing Depth: | 6312' | | |
| Type of Service: | Plug Job | Tubing Size: | 4.5 16>6 LB | | |
| Well Type: | Oi | Liner Depth: | | | |
| Age of Well: | New | Liner Size: | | | |
| Packer Type: | | Liner Top: | | | |
| Packer Depth: | | Liner Bottom: | | | |
| Treatment Via: | Drill Pipe | Total Depth: | | | |
| | | | | Total Perfs | 0 |

| TIME | INJECTION RATE | | PRESSURE | | REMARKS | PROP (lbs) | HCL (gls) | FLUID (bbls) |
|----------|----------------|--------|----------|---------|--|------------|-----------|--------------|
| | FLUID | N2/CO2 | STP | ANNULUS | | | | |
| 3:00 PM | | | | | Called Out | | | |
| 7:00 PM | | | | | On Location W/Trucks | | | |
| | | | | | Hold Safety Meeting Spot & Set Up Trucks | | | |
| | | | | | 1 St Plug @ 6312' 50 Sk 60/40 4% Gel | | | |
| 11:10 PM | 6.0 | | 620.0 | | Start Pumping H2O | | | 20.00 |
| 11:16 PM | 5.0 | | 670.0 | | Start Mix & Pump 50 sk | | | 12.65 |
| 11:20 PM | 5.0 | | 400.0 | | Start Displacement H2O | | | 7.00 |
| 11:23 PM | 8.7 | | 800.0 | | Start Displacement Mud W/Rig | | | 79.50 |
| 11:31 PM | | | | | Shut Down PDPOOH | | | |
| | | | | | 2 nd Plug @ 1800' 50 Sk 60/40 4% Gel | | | |
| 2:15 AM | 5.0 | | 250.0 | | Start Pumping H2O | | | 20.00 |
| 2:19 AM | 4.4 | | 220.0 | | Start Mix & Pump 50 sk | | | 12.65 |
| 2:20 AM | 4.4 | | 110.0 | | Start Displacement | | | 6.50 |
| 2:27 AM | 8.7 | | 220.0 | | Start Displacement Mud W/Rig | | | 16.00 |
| 2:29 AM | | | | | Shut Down PDPOOH | | | |
| | | | | | 3 Rd Plug @ 730' 40 Sk 60/40 4% Gel | | | |
| 3:00 AM | 5.0 | | 190.0 | | Start Pumping H2O | | | 20.00 |
| 3:03 AM | 4.5 | | 190.0 | | Start Mix & Pump 40 sk | | | 10.12 |
| TOTAL: | | | | | | - | - | 229.83 |

SUMMARY

| | | | |
|--------------|--------------|---------|---------|
| Max Fl. Rate | Avg Fl. Rate | Max PSI | Avg PSI |
| 8.7 | 4.9 | 800.0 | 288.6 |

PRODUCTS USED

210 Sacks 60/40 4% Gel

Treater: Todd Seba

Customer: Lanny Saloga



DRILL STEM TEST REPORT

Prepared For: **McCoy Petroleum Corp.**

9342 E Central
Wichita, KS 67206

ATTN: Dave Williams

Mack A #1-1

1-29s-29w Gray,KS

Start Date: 2018.03.20 @ 04:11:00

End Date: 2018.03.20 @ 11:31:24

Job Ticket #: 64116 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.28 @ 10:44:21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64116

DST#: 1

ATTN: Dave Williams

Test Start: 2018.03.20 @ 04:11:00

GENERAL INFORMATION:

Formation: **Miss "St Louis"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:50:55

Time Test Ended: 11:31:24

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Hagman

Unit No: 75

Interval: 5152.00 ft (KB) To 5209.00 ft (KB) (TVD)

Reference Elevations: 2767.00 ft (KB)

Total Depth: 5209.00 ft (KB) (TVD)

2754.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 6672

Inside

Press@RunDepth: 33.72 psig @ 5154.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.20

End Date:

2018.03.20

Last Calib.: 1899.12.30

Start Time: 04:11:02

End Time:

11:31:25

Time On Btm: 2018.03.20 @ 06:50:30

Time Off Btm: 2018.03.20 @ 09:33:00

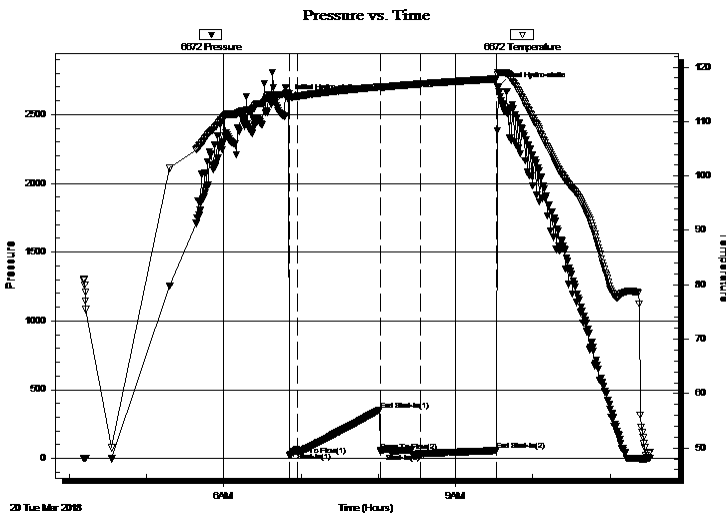
TEST COMMENT: IF: Weak surface blow, died 5 min.

IS: No blow back

FF: No blow

FS: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2612.58 | 115.13 | Initial Hydro-static |
| 1 | 24.30 | 114.49 | Open To Flow (1) |
| 7 | 43.99 | 114.61 | Shut-In(1) |
| 71 | 353.90 | 116.38 | End Shut-In(1) |
| 71 | 49.63 | 116.24 | Open To Flow (2) |
| 102 | 33.72 | 116.90 | Shut-In(2) |
| 162 | 57.24 | 117.84 | End Shut-In(2) |
| 163 | 2702.65 | 118.94 | Final Hydro-static |

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

McCoy Petroleum Corp.

1-29s-29w Gray, KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64116

DST#: 1

ATTN: Dave Williams

Test Start: 2018.03.20 @ 04:11:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 5102.00 ft | Diameter: 3.80 inches | Volume: 71.57 bbl | Tool Weight: 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 20000.00 lb |
| Drill Collar: | Length: 60.00 ft | Diameter: 2.25 inches | Volume: 0.30 bbl | Weight to Pull Loose: 80000.00 lb |
| | | | <u>Total Volume: 71.87 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 33.00 ft | | | String Weight: Initial 71000.00 lb |
| Depth to Top Packer: | 5152.00 ft | | | Final 71000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 57.00 ft | | | |
| Tool Length: | 80.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

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

| | | | | | |
|-----------------|-------|------|---------|---------|-------------------------------|
| Change Over Sub | 1.00 | | | 5130.00 | |
| Shut In Tool | 5.00 | | | 5135.00 | |
| Hydraulic tool | 5.00 | | | 5140.00 | |
| Safety Joint | 3.00 | | | 5143.00 | |
| Packer | 5.00 | | | 5148.00 | 23.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 5152.00 | |
| Stubb | 1.00 | | | 5153.00 | |
| Perforations | 1.00 | | | 5154.00 | |
| Recorder | 0.00 | 8289 | Outside | 5154.00 | |
| Recorder | 0.00 | 6672 | Inside | 5154.00 | |
| Perforations | 18.00 | | | 5172.00 | |
| Change Over Sub | 1.00 | | | 5173.00 | |
| Drill Pipe | 32.00 | | | 5205.00 | |
| Change Over Sub | 1.00 | | | 5206.00 | |
| Bullnose | 3.00 | | | 5209.00 | 57.00 Bottom Packers & Anchor |

Total Tool Length: 80.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64116

DST#: 1

ATTN: Dave Williams

Test Start: 2018.03.20 @ 04:11:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2650.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

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

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

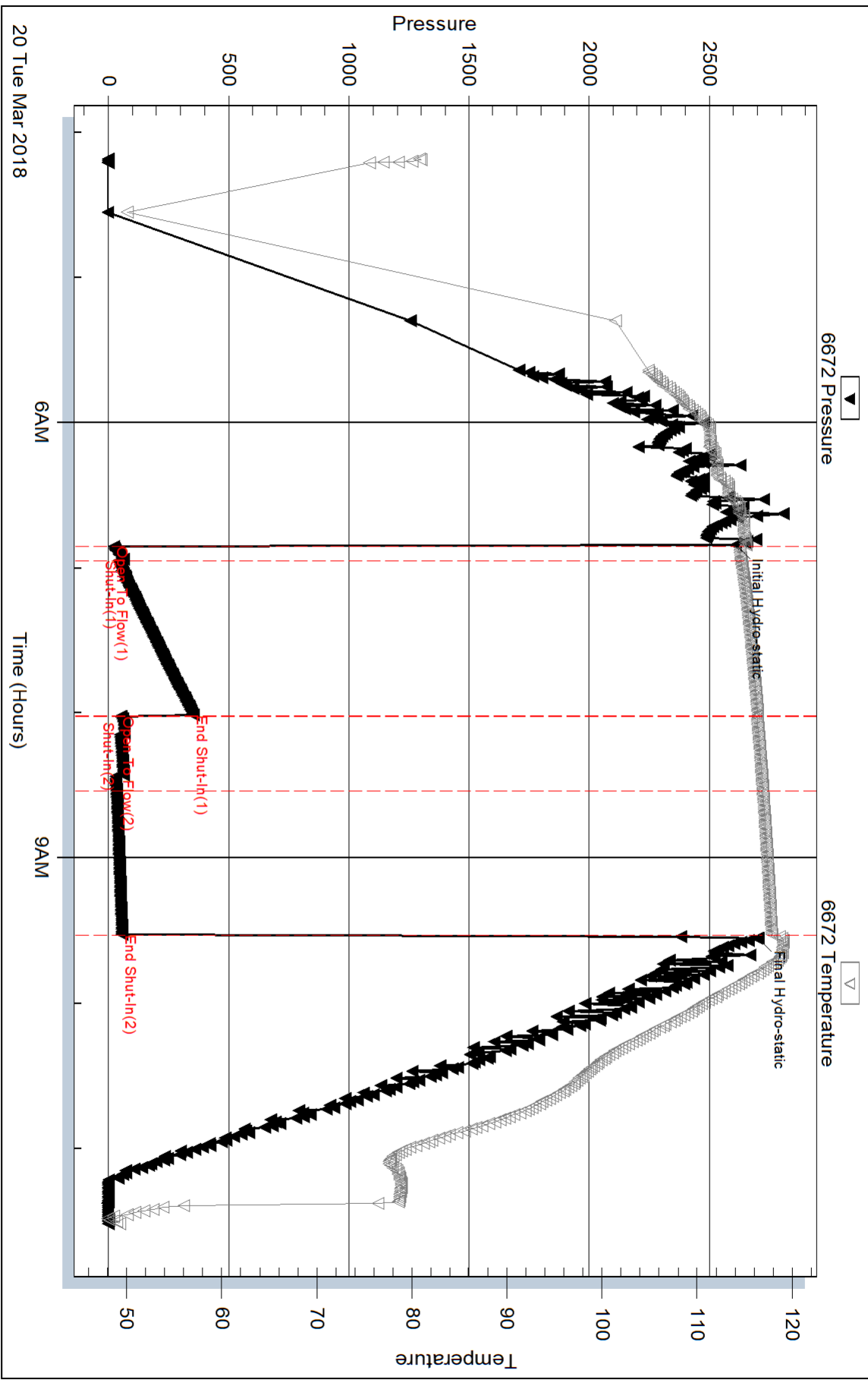
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Pressure vs. Time

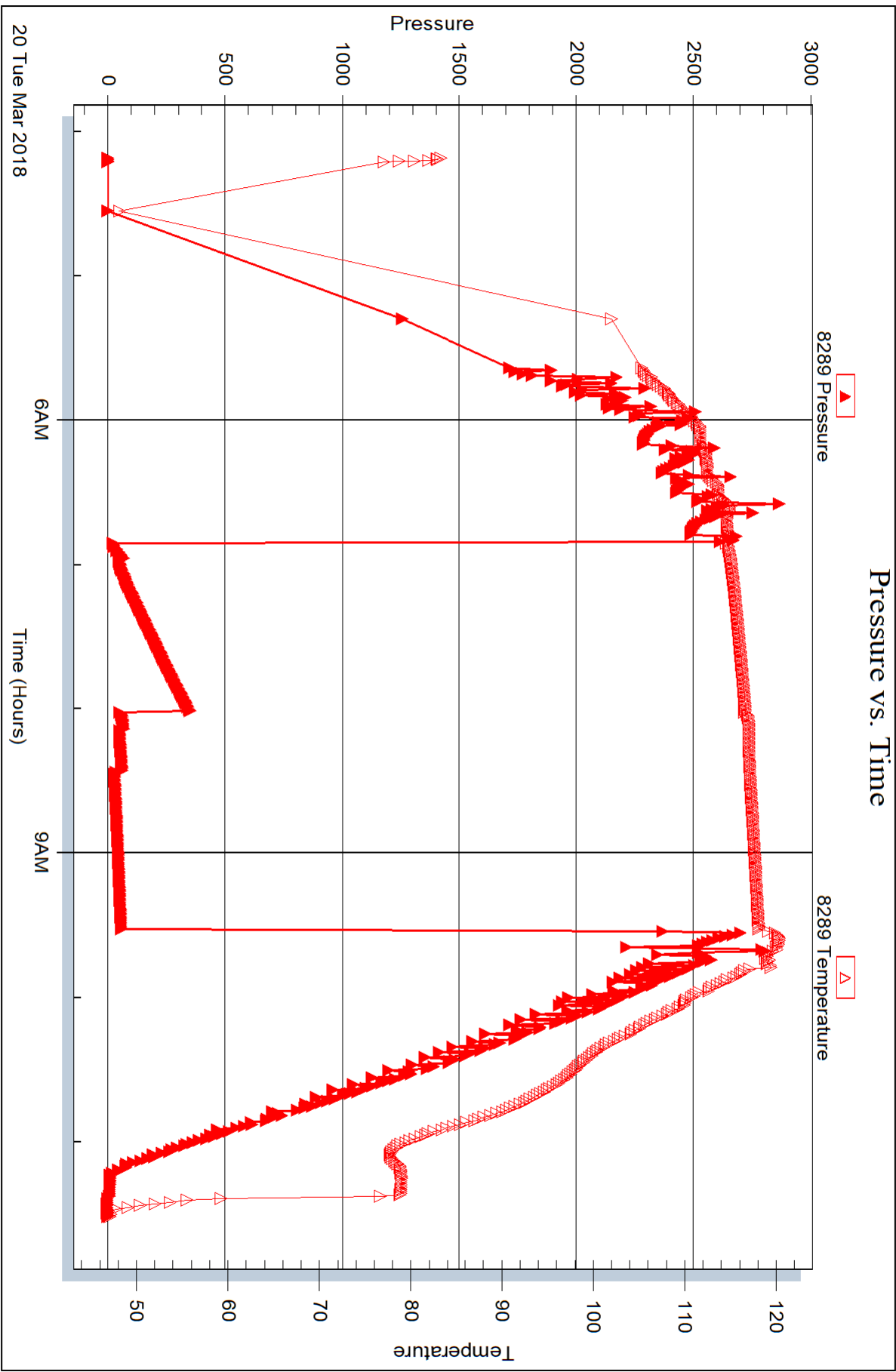


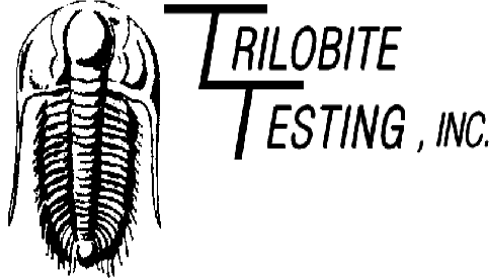
Serial #: 8289

Outside McCoy Petroleum Corp.

Mack A #1-1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **McCoy Petroleum Corp.**

9342 E Central
Wichita, KS 67206

ATTN: Dave Williams

Mack A #1-1

1-29s-29w Gray,KS

Start Date: 2018.03.20 @ 23:50:00

End Date: 2018.03.21 @ 06:49:00

Job Ticket #: 64117 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.28 @ 10:30:51



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

McCoy Petroleum Corp.
 9342 E Central
 Wichita, KS 67206
 ATTN: Dave Williams

1-29s-29w Gray,KS
Mack A #1-1
 Job Ticket: 64117 **DST#: 2**
 Test Start: 2018.03.20 @ 23:50:00

GENERAL INFORMATION:

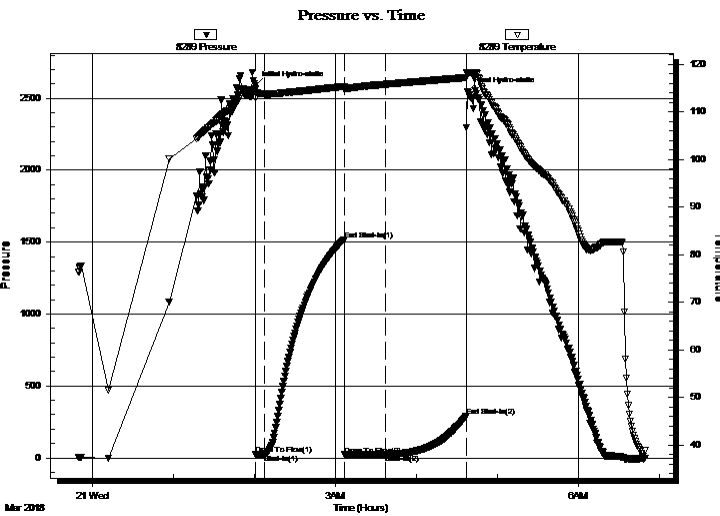
Formation: **St. Louis Miss.**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 02:01:10
 Time Test Ended: 06:49:00
 Interval: **5214.00 ft (KB) To 5258.00 ft (KB) (TVD)**
 Total Depth: 5248.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Chris Hagman
 Unit No: 75
 Reference Elevations: 2767.00 ft (KB)
 2754.00 ft (CF)
 KB to GR/CF: 13.00 ft

Serial #: 8289

Inside

Press@RunDepth: 21.99 psig @ 5245.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.03.20 End Date: 2018.03.21 Last Calib.: 2018.03.20
 Start Time: 23:50:02 End Time: 06:49:00 Time On Btm: 2018.03.21 @ 02:00:55
 Time Off Btm: 2018.03.21 @ 04:37:39

TEST COMMENT: IF: Weak surface blow
 IS: No blow back
 FF: Weak surface blow, died 1 min.
 FS: No blow back



PRESSURE SUMMARY

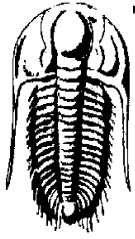
| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2587.99 | 114.80 | Initial Hydro-static |
| 1 | 22.85 | 113.01 | Open To Flow (1) |
| 7 | 26.11 | 113.77 | Shut-In(1) |
| 66 | 1517.67 | 115.36 | End Shut-In(1) |
| 66 | 21.33 | 114.58 | Open To Flow (2) |
| 96 | 21.99 | 115.81 | Shut-In(2) |
| 156 | 288.78 | 117.22 | End Shut-In(2) |
| 157 | 2545.25 | 118.30 | Final Hydro-static |

Recovery

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

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

McCoy Petroleum Corp.
9342 E Central
Wichita, KS 67206
ATTN: Dave Williams

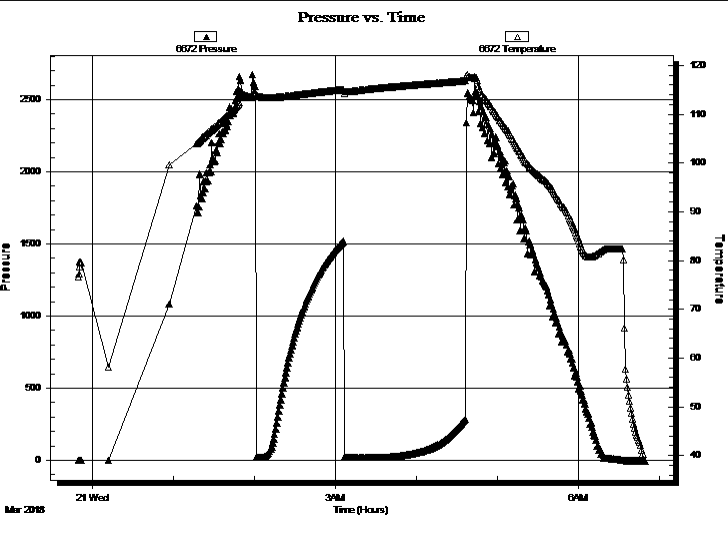
1-29s-29w Gray,KS
Mack A #1-1
Job Ticket: 64117 **DST#: 2**
Test Start: 2018.03.20 @ 23:50:00

GENERAL INFORMATION:

| | | |
|---|----------------------|---|
| Formation: St. Louis Miss. | | Test Type: Conventional Bottom Hole (Initial) |
| Deviated: No Whipstock: ft (KB) | | Tester: Chris Hagman |
| Time Tool Opened: 02:01:10 | | Unit No: 75 |
| Time Test Ended: 06:49:00 | | Reference Elevations: 2767.00 ft (KB) |
| Interval: 5214.00 ft (KB) To 5258.00 ft (KB) (TVD) | | 2754.00 ft (CF) |
| Total Depth: 5248.00 ft (KB) (TVD) | | KB to GR/CF: 13.00 ft |
| Hole Diameter: 7.88 inches | Hole Condition: Good | |

| | | | |
|--|----------------------|-------------------------|--|
| Serial #: 6672 | Outside | | |
| Press@RunDepth: psig @ 5245.00 ft (KB) | | Capacity: 8000.00 psig | |
| Start Date: 2018.03.20 | End Date: 2018.03.21 | Last Calib.: 1899.12.30 | |
| Start Time: 23:50:02 | End Time: 06:48:55 | Time On Btm: | |
| | | Time Off Btm: | |

TEST COMMENT: IF: Weak surface blow
 IS: No blow back
 FF: Weak surface blow , died 1 min.
 FS: No blow back



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

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

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64117

DST#: 2

ATTN: Dave Williams

Test Start: 2018.03.20 @ 23:50:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 5130.00 ft | Diameter: 3.80 inches | Volume: 71.96 bbl | Tool Weight: 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 20000.00 lb |
| Drill Collar: | Length: 60.00 ft | Diameter: 2.25 inches | Volume: 0.30 bbl | Weight to Pull Loose: 80000.00 lb |
| | | | <u>Total Volume: 72.26 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 4.00 ft | | | String Weight: Initial 71000.00 lb |
| Depth to Top Packer: | 5214.00 ft | | | Final 71000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 34.00 ft | | | |
| Tool Length: | 62.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 5187.00 | |
| Shut In Tool | 5.00 | | | 5192.00 | |
| Hydraulic tool | 5.00 | | | 5197.00 | |
| Jars | 5.00 | | | 5202.00 | |
| Safety Joint | 3.00 | | | 5205.00 | |
| Packer | 5.00 | | | 5210.00 | 28.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 5214.00 | |
| Stubb | 1.00 | | | 5215.00 | |
| Perforations | 1.00 | | | 5216.00 | |
| Perforations | 29.00 | | | 5245.00 | |
| Recorder | 0.00 | 8289 | Inside | 5245.00 | |
| Recorder | 0.00 | 6672 | Outside | 5245.00 | |
| Bullnose | 3.00 | | | 5248.00 | 34.00 Bottom Packers & Anchor |

Total Tool Length: 62.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64117

DST#: 2

ATTN: Dave Williams

Test Start: 2018.03.20 @ 23:50:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2700.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

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

Total Length: 5.00 ft Total Volume: 0.025 bbl

Num Fluid Samples: 0

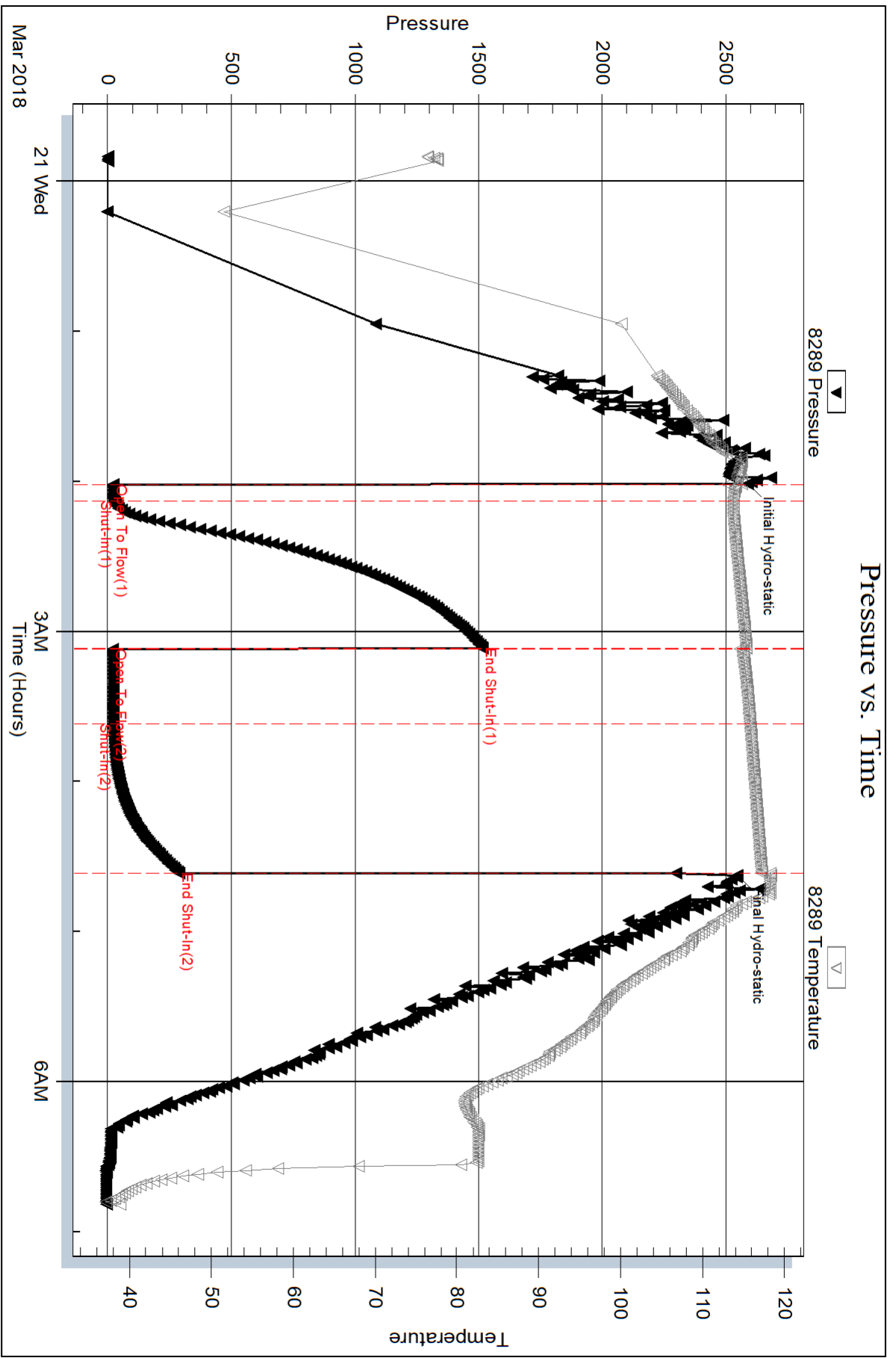
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

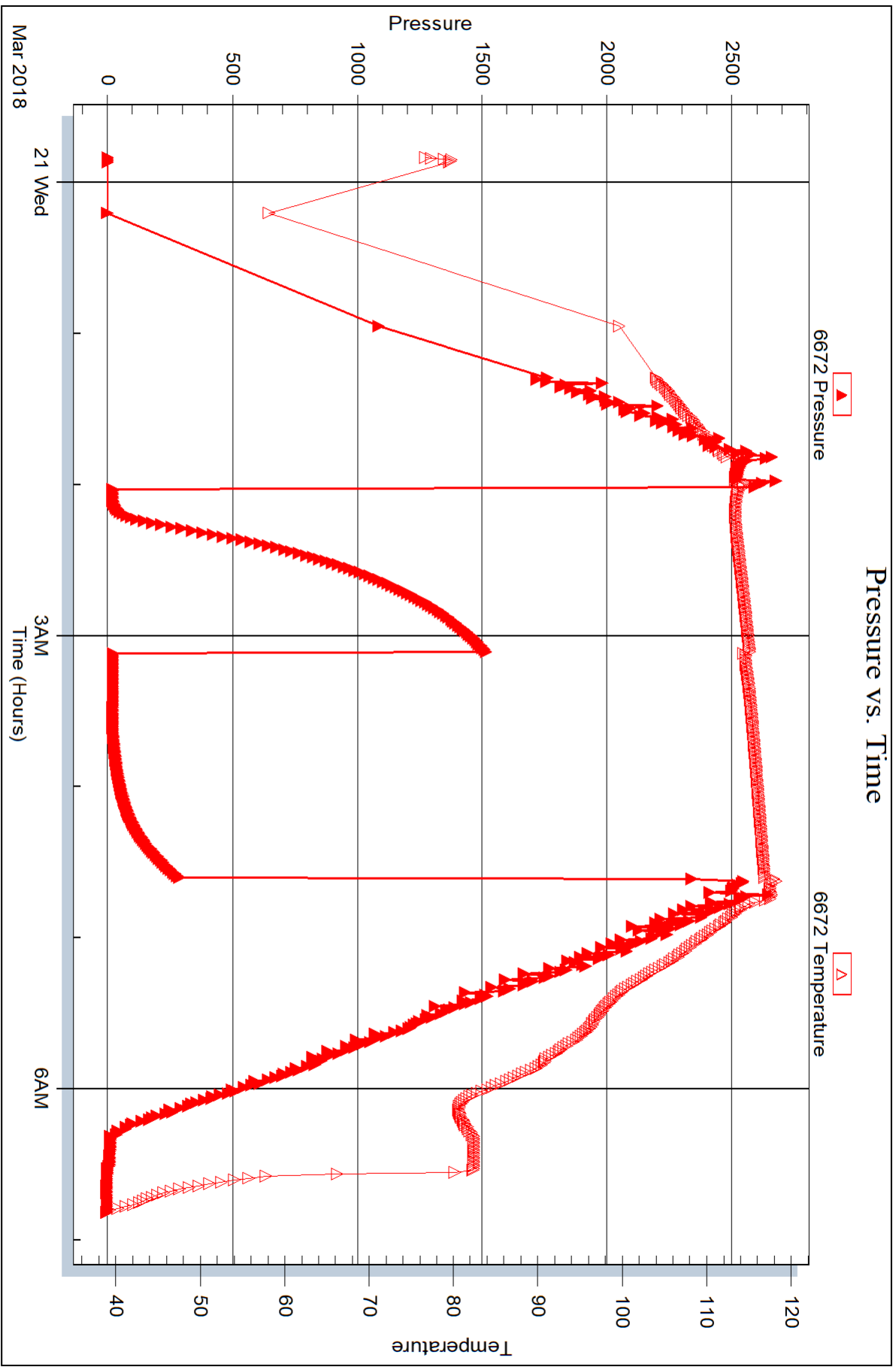


Serial #: 6672

Outside McCoy Petroleum Corp.

Mack A #1-1

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **McCoy Petroleum Corp.**

9342 E Central
Wichita, KS 67206

ATTN: Dave Williams

Mack A #1-1

1-29s-29w Gray,KS

Start Date: 2018.03.25 @ 03:03:00

End Date: 2018.03.25 @ 11:35:55

Job Ticket #: 64118 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.28 @ 10:29:04



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64118

DST#: 3

ATTN: Dave Williams

Test Start: 2018.03.25 @ 03:03:00

GENERAL INFORMATION:

Formation: **Lower Compton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:45:50

Time Test Ended: 11:35:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Hagman

Unit No: 75

Interval: 6190.00 ft (KB) To 6230.00 ft (KB) (TVD)

Reference Elevations: 2767.00 ft (KB)

Total Depth: 6230.00 ft (KB) (TVD)

2754.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8289

Inside

Press@RunDepth: 185.53 psig @ 6227.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.25

End Date:

2018.03.25

Last Calib.:

2018.03.25

Start Time: 03:03:02

End Time:

11:35:55

Time On Btm:

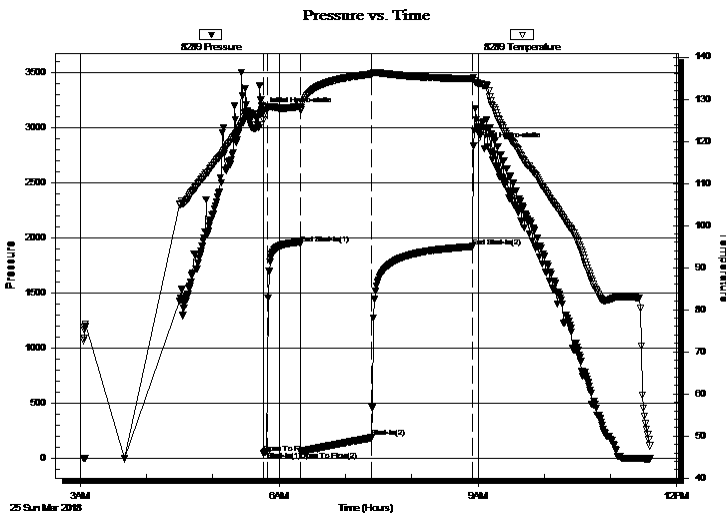
2018.03.25 @ 05:45:40

Time Off Btm:

2018.03.25 @ 08:55:54

TEST COMMENT: IF: 1" in 3 min., strong building blow
IS: No blow back
FF: BOB 37 min., strong building blow
FS: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 3144.91 | 126.86 | Initial Hydro-static |
| 1 | 41.05 | 124.96 | Open To Flow (1) |
| 4 | 62.68 | 127.54 | Shut-In(1) |
| 34 | 1944.68 | 128.25 | End Shut-In(1) |
| 34 | 62.47 | 127.39 | Open To Flow (2) |
| 98 | 185.53 | 135.94 | Shut-In(2) |
| 190 | 1919.03 | 134.81 | End Shut-In(2) |
| 191 | 2828.09 | 135.12 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 310.00 | 100%W | 3.80 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64118

DST#: 3

ATTN: Dave Williams

Test Start: 2018.03.25 @ 03:03:00

Tool Information

| | | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------|-------------|
| Drill Pipe: | Length: 6116.00 ft | Diameter: 3.80 inches | Volume: 85.79 bbl | Tool Weight: | 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: | 20000.00 lb |
| Drill Collar: | Length: 60.00 ft | Diameter: 2.25 inches | Volume: 0.30 bbl | Weight to Pull Loose: | 85000.00 lb |
| | | | <u>Total Volume: 86.09 bbl</u> | Tool Chased | 0.00 ft |
| Drill Pipe Above KB: | 14.00 ft | | | String Weight: Initial | 80000.00 lb |
| Depth to Top Packer: | 6190.00 ft | | | Final | 80000.00 lb |
| Depth to Bottom Packer: | ft | | | | |
| Interval between Packers: | 40.00 ft | | | | |
| Tool Length: | 68.00 ft | | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 6163.00 | |
| Shut In Tool | 5.00 | | | 6168.00 | |
| Hydraulic tool | 5.00 | | | 6173.00 | |
| Jars | 5.00 | | | 6178.00 | |
| Safety Joint | 3.00 | | | 6181.00 | |
| Packer | 5.00 | | | 6186.00 | 28.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 6190.00 | |
| Stubb | 1.00 | | | 6191.00 | |
| Perforations | 2.00 | | | 6193.00 | |
| Perforations | 34.00 | | | 6227.00 | |
| Recorder | 0.00 | 8289 | Inside | 6227.00 | |
| Recorder | 0.00 | 6672 | Outside | 6227.00 | |
| Bullnose | 3.00 | | | 6230.00 | 40.00 Bottom Packers & Anchor |

Total Tool Length: 68.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64118

DST#: 3

ATTN: Dave Williams

Test Start: 2018.03.25 @ 03:03:00

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:

55000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 9.19 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-------------|---------------|
| 310.00 | 100%W | 3.802 |

Total Length: 310.00 ft Total Volume: 3.802 bbl

Num Fluid Samples: 0

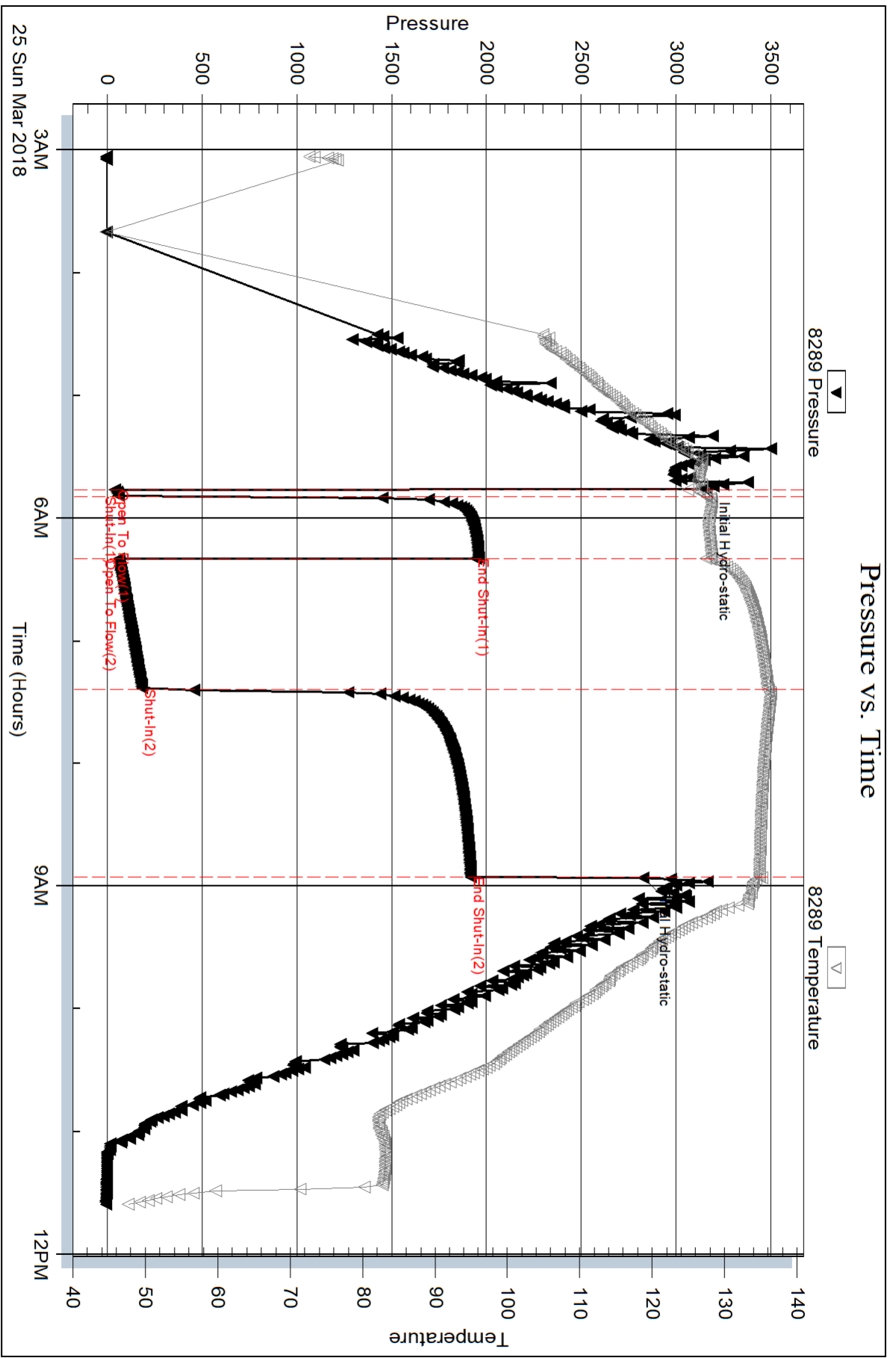
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.149@67F=55,000ppm

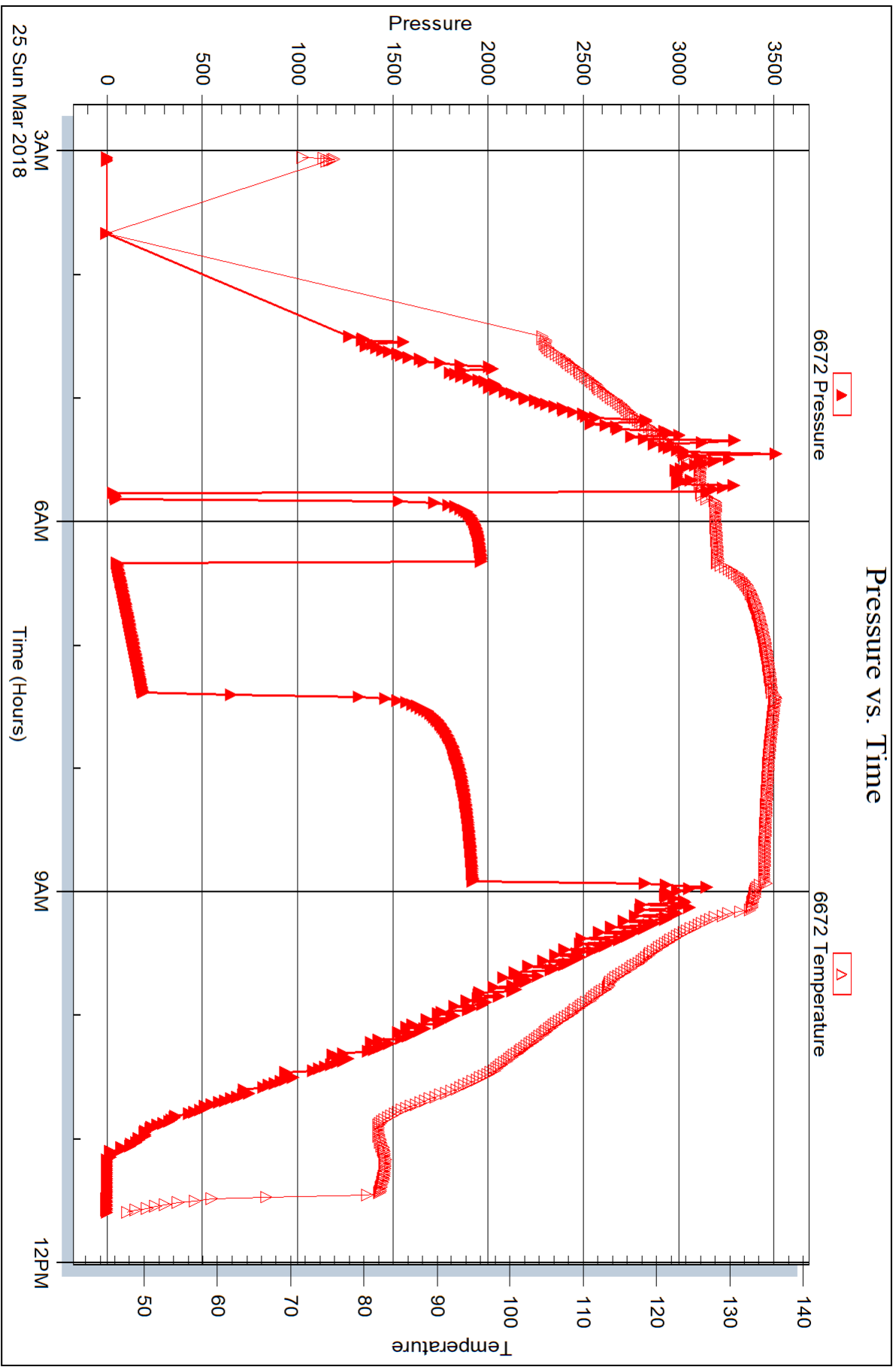


Serial #: 6672

Outside McCoy Petroleum Corp.

Mack A #1-1

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **McCoy Petroleum Corp.**

9342 E Central
Wichita, KS 67206

ATTN: Dave Williams

Mack A #1-1

1-29s-29w Gray,KS

Start Date: 2018.03.26 @ 01:49:00

End Date: 2018.03.26 @ 10:51:10

Job Ticket #: 64119 DST #: 4

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2018.03.28 @ 10:25:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64119

DST#: 4

ATTN: Dave Williams

Test Start: 2018.03.26 @ 01:49:00

GENERAL INFORMATION:

Formation: **Simpson SS**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:36:40

Time Test Ended: 10:51:10

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Hagman

Unit No: 75

Interval: 6268.00 ft (KB) To 6310.00 ft (KB) (TVD)

Reference Elevations: 2767.00 ft (KB)

Total Depth: 6310.00 ft (KB) (TVD)

2754.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8289

Inside

Press@RunDepth: 1222.77 psig @ 6307.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2018.03.26

End Date:

2018.03.26

Last Calib.:

2018.03.26

Start Time: 01:49:02

End Time:

10:51:10

Time On Btm:

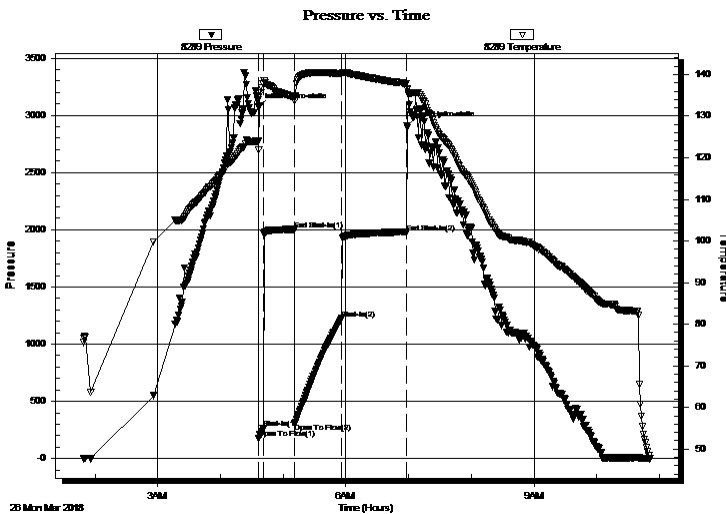
2018.03.26 @ 04:36:35

Time Off Btm:

2018.03.26 @ 06:58:35

TEST COMMENT: IF: BOB 2 min., strong building blow
IS: No blow back
FF: BOB 3 min., strong building blow
FS: No blow back

PRESSURE SUMMARY



| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 3070.52 | 123.91 | Initial Hydro-static |
| 1 | 175.53 | 121.95 | Open To Flow (1) |
| 5 | 260.71 | 137.67 | Shut-In(1) |
| 35 | 2002.50 | 134.66 | End Shut-In(1) |
| 35 | 304.55 | 133.66 | Open To Flow (2) |
| 80 | 1222.77 | 140.21 | Shut-In(2) |
| 142 | 1972.98 | 137.83 | End Shut-In(2) |
| 143 | 2911.58 | 136.57 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|-------------|--------------|
| 2418.00 | 100%W | 33.37 |
| | | |
| | | |
| | | |
| | | |

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64119

DST#: 4

ATTN: Dave Williams

Test Start: 2018.03.26 @ 01:49:00

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 6213.00 ft | Diameter: 3.80 inches | Volume: 87.15 bbl | Tool Weight: 2000.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 20000.00 lb |
| Drill Collar: | Length: 60.00 ft | Diameter: 2.25 inches | Volume: 0.30 bbl | Weight to Pull Loose: 100000.0 lb |
| | | | <u>Total Volume: 87.45 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 33.00 ft | | | String Weight: Initial 80000.00 lb |
| Depth to Top Packer: | 6268.00 ft | | | Final 90000.00 lb |
| Depth to Bottom Packer: | ft | | | |
| Interval between Packers: | 42.00 ft | | | |
| Tool Length: | 70.00 ft | | | |
| Number of Packers: | 2 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|------------------|-------------|------------|----------|------------|-------------------------------|
| Change Over Sub | 1.00 | | | 6241.00 | |
| Shut In Tool | 5.00 | | | 6246.00 | |
| Hydraulic tool | 5.00 | | | 6251.00 | |
| Jars | 5.00 | | | 6256.00 | |
| Safety Joint | 3.00 | | | 6259.00 | |
| Packer | 5.00 | | | 6264.00 | 28.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 6268.00 | |
| Stubb | 1.00 | | | 6269.00 | |
| Perforations | 2.00 | | | 6271.00 | |
| Perforations | 36.00 | | | 6307.00 | |
| Recorder | 0.00 | 8289 | Inside | 6307.00 | |
| Recorder | 0.00 | 6672 | Outside | 6307.00 | |
| Bullnose | 3.00 | | | 6310.00 | 42.00 Bottom Packers & Anchor |

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

McCoy Petroleum Corp.

1-29s-29w Gray,KS

9342 E Central
Wichita, KS 67206

Mack A #1-1

Job Ticket: 64119

DST#: 4

ATTN: Dave Williams

Test Start: 2018.03.26 @ 01:49:00

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:

85000 ppm

Viscosity: 65.00 sec/qt

Cushion Volume:

bbf

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1800.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbf |
|--------------|-------------|---------------|
| 2418.00 | 100%W | 33.372 |

Total Length: 2418.00 ft Total Volume: 33.372 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW=.103@64F=85000ppm

Serial #: 8289

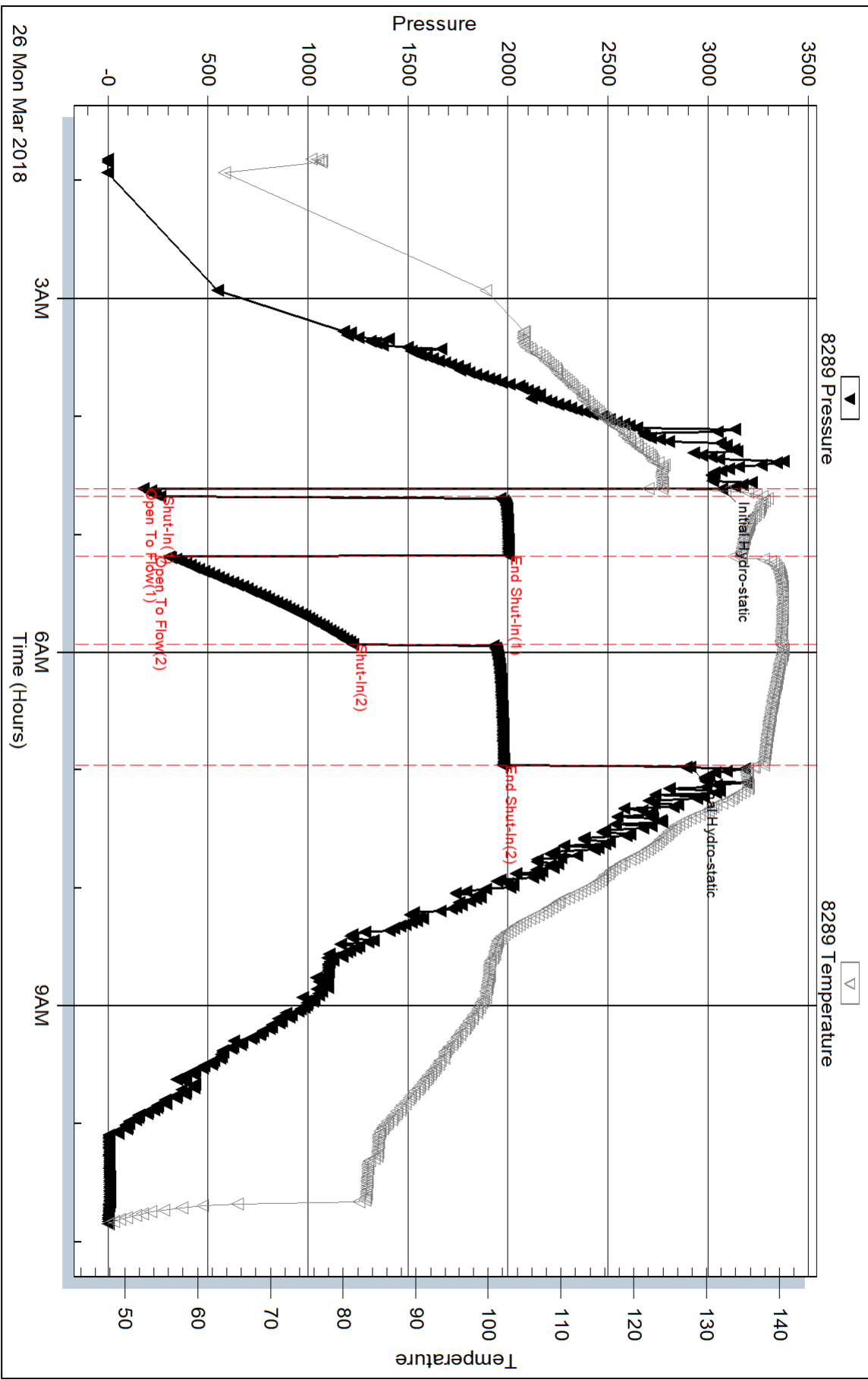
Inside

McCoy Petroleum Corp.

Mack A #1-1

DST Test Number: 4

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 64119

Printed: 2018.03.28 @ 10:25:10

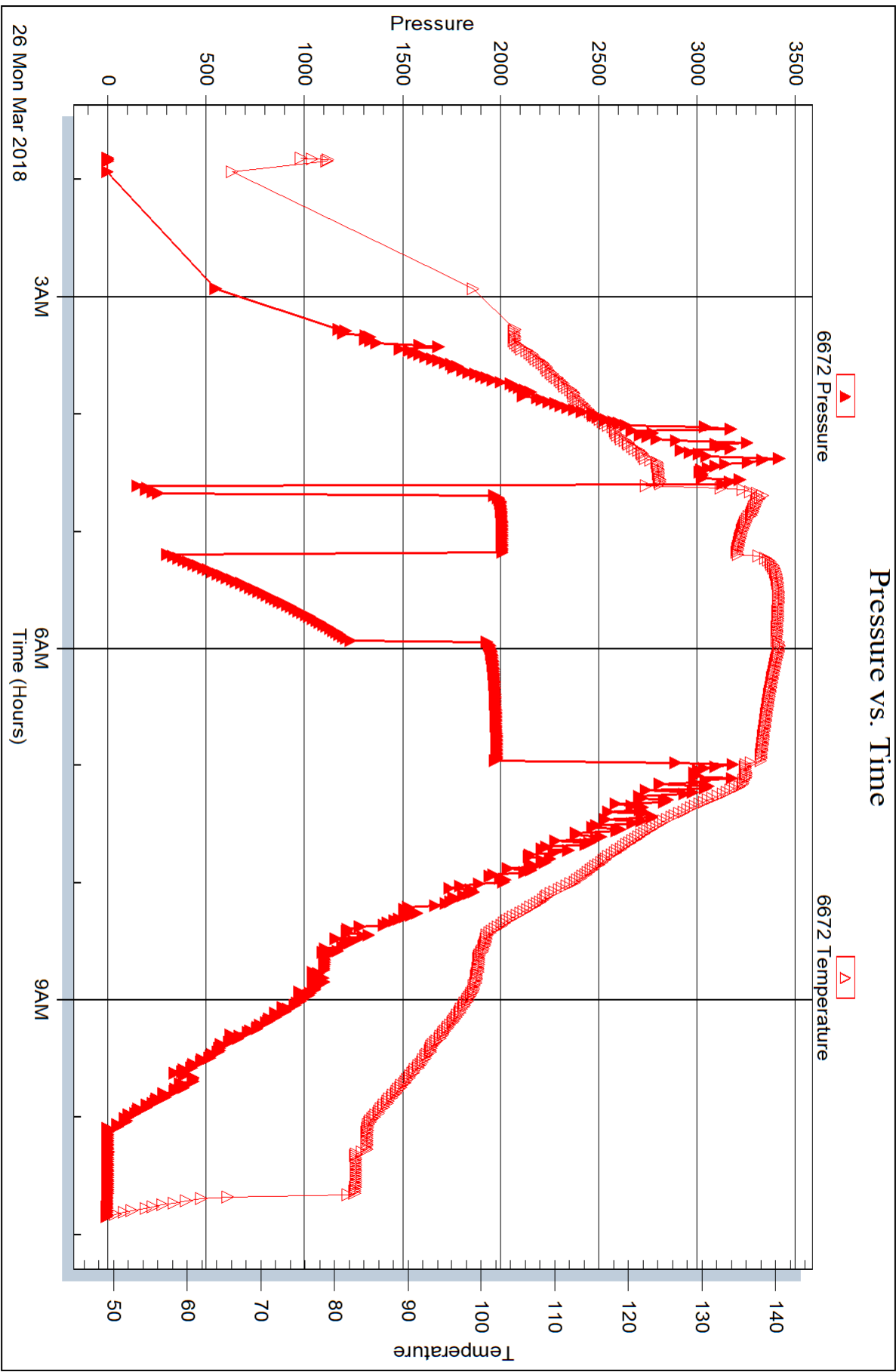
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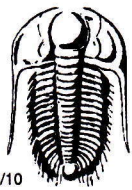
Outside

McCoy Petroleum Corp.

Mack A #1-1

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64116**

Well Name & No. Mark A 1-1 Test No. 1 Date 3-20-18
 Company McCoy Petroleum Corp. Elevation 2767 KB 2754 GL
 Address 9342 E Central Wichita, KS 67206
 Co. Rep / Geo. Dave Williams Rig Sterling #5
 Location: Sec. 1 Twp. 29 Rge. 29 Co. Gray State KS

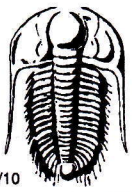
Interval Tested 5152-5209 Zone Tested M.SS "ST. LOUIS"
 Anchor Length 57' Drill Pipe Run 5102 Mud Wt. 9.2
 Top Packer Depth 5147 Drill Collars Run 60 Vis 56
 Bottom Packer Depth 5152 Wt. Pipe Run N.A. WL 6.8
 Total Depth 5209 Chlorides 2650 ppm System LCM 4#
 Blow Description IF! Weak surface blow, died 5 min.
ISL! No blow back
FP! No blow
FSL! No blow back

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

Rec Total 5 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2613 Test CONV. 1250 T-On Location 0300
 (B) First Initial Flow 24 Jars 250 T-Started 0415
 (C) First Final Flow 44 Safety Joint 75 T-Open 0650
 (D) Initial Shut-In 354 Circ Sub _____ T-Pulled 0930
 (E) Second Initial Flow 50 Hourly Standby _____ T-Out 1130
 (F) Second Final Flow 34 Mileage X130 130 Comments Rats on @ 0411
 (G) Final Shut-In 57 Sampler _____
 (H) Final Hydrostatic 2703 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 10 Extra Recorder _____ Sub Total 0
 Initial Shut-In 60 Day Standby _____ Total 1705
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 60 Sub Total 1705

Approved By Dave P. Williams Our Representative Chris Magran
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64117**

4/10

Well Name & No. Mack A 1-1 Test No. 2 Date 3-20-18
 Company McCoy Petroleum Corp. Elevation 2767 KB 2754 GL
 Address 9342 E Central Wichita, KS 67206
 Co. Rep / Geo. Dave Williams Rig Sterling #5
 Location: Sec. 1 Twp. 29 Rge. 29 Co. Gray State KS

Interval Tested 5214-5248 Zone Tested St. Louis - Miss.
 Anchor Length 34' Drill Pipe Run 5130 Mud Wt. 9.4
 Top Packer Depth 5209 Drill Collars Run 60 Vis 57
 Bottom Packer Depth 5214 Wt. Pipe Run N.A. WL 6.8
 Total Depth 5248 Chlorides 2700 ppm System LCM 4th
 Blow Description TF: weak surface blow
ISB: No blow back
FF: weak surface blow, dried 1 min.
FSSB: No blow back

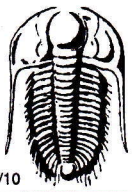
| Rec | Feet of | %gas | %oil | %water | %mud |
|----------|------------|------|------|--------|------------|
| <u>5</u> | <u>mud</u> | | | | <u>100</u> |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
|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

Rec Total 5 BHT 117 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2588 Test conv. 1250 T-On Location 2300
 (B) First Initial Flow 23 Jars 250 T-Started 2400
 (C) First Final Flow 26 Safety Joint 75 T-Open 200
 (D) Initial Shut-In 1518 Circ Sub _____ T-Pulled 0435
 (E) Second Initial Flow 21 Hourly Standby _____ T-Out 0700
 (F) Second Final Flow 22 Mileage 130 130 Comments bats on @ 2350
 (G) Final Shut-In 289 Sampler _____
 (H) Final Hydrostatic 2545 Straddle _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1705
 Sub Total 1705 MP/DST Disc't _____

Approved By [Signature] Our Representative [Signature] Chris Hagner

TriLOBITE Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered of sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64118**

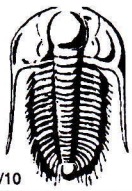
Well Name & No. Mack A 1-1 Test No. 3 Date 3-28-18
 Company McLoy Petroleum Corp. Elevation 2767 KB 2784 GL
 Address 9342 E Central Wichita, KS 67206
 Co. Rep / Geo. Dave Williams Rig Sterling #5
 Location: Sec. 1 Twp. 29 Rge. 29 Co. Crawey State KS

Interval Tested 6190-6230 Zone Tested Lower Compton
 Anchor Length 40' Drill Pipe Run 6116 Mud Wt. 9.2
 Top Packer Depth 6185 Drill Collars Run 60 Vis 56
 Bottom Packer Depth 6190 Wt. Pipe Run N.A. WL 9.2
 Total Depth 6230 Chlorides 5800 ppm System LCM 6[#]
 Blow Description BF: 1 inch in 3 min., strong building blow
FSI: No blow back
PF: BOB 37 min., strong building blow
FSI: No blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|------------|--------------|------|------|-------------|------|
| <u>310</u> | <u>water</u> | | | <u>100%</u> | |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 310 BHT 135 Gravity _____ API RW .149 @ 69 °F Chlorides 55,000 ppm
 (A) Initial Hydrostatic 3145 Test COM. 1400 T-On Location 0230
 (B) First Initial Flow 41 Jars 250 T-Started 0330
 (C) First Final Flow 63 Safety Joint 75 T-Open 0545
 (D) Initial Shut-In 1945 Circ Sub _____ T-Pulled 0848
 (E) Second Initial Flow 62 Hourly Standby _____ T-Out _____
 (F) Second Final Flow 186 Mileage 130 130 Comments Bats on @ 0303
 (G) Final Shut-In 1919 Sampler _____
 (H) Final Hydrostatic 2828 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 3 Extra Recorder _____ Sub Total 0
 Initial Shut-In 30 Day Standby _____ Total 1855
 Final Flow 60 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 90 Sub Total 1855

Approved By Dave Williams Our Representative Chris Hagan
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **64119**

Well Name & No. Mark A H1 Test No. 4 Date 3-26-18
 Company Meloy Petroleum Corp. Elevation 2767 KB 2754 GL
 Address 9342 E Central Wichita, KS 67206
 Co. Rep / Geo. Dave Williams Rig Sterling #5
 Location: Sec. 1 Twp. 29 Rge. 29 Co. Gray State KS

Interval Tested 6268-6310 Zone Tested Simpson SS
 Anchor Length 42' Drill Pipe Run 6213 Mud Wt. 9.35
 Top Packer Depth 6263 Drill Collars Run 60 Vis 65
 Bottom Packer Depth 6268 Wt. Pipe Run W.A. WL 8.0
 Total Depth 6310 Chlorides 1800 ppm System LCM 8[#]

Blow Description IF: BOB 2 min, strong building blow
ISI: No blow back
FP: BOB 3 min, strong building blow
FST: No blow back

| Rec | Feet of | %gas | %oil | %water | %mud |
|-------------|--------------|------|------|------------|------|
| <u>2418</u> | <u>water</u> | | | <u>100</u> | |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |
| Rec | Feet of | %gas | %oil | %water | %mud |

Rec Total 2418 BHT 140 Gravity _____ API RW .103 @ 64 °F Chlorides 85,000 ppm

(A) Initial Hydrostatic 3071 Test CONV 1400 T-On Location 0120
 (B) First Initial Flow 176 Jars 250 T-Started 0200
 (C) First Final Flow 261 Safety Joint 75 T-Open ~~1200~~ 0435
 (D) Initial Shut-In 2003 Circ Sub _____ T-Pulled 0653
 (E) Second Initial Flow 305 Hourly Standby _____ T-Out 1100
 (F) Second Final Flow 1223 Mileage 130 260 Comments batts on @ 0149
 (G) Final Shut-In 1973 Sampler _____ loaded tools 3/26 23:45
 (H) Final Hydrostatic 2912 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 1985
 Accessibility _____ MP/DST Disc't _____
 Sub Total 1985

Approved By Dave P. Williams Our Representative Chris Hagan
 TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

MUD LOG
WellSight Systems
Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: MACK "A" #1-1
API: 15-069-20,505-00-00
Location: C-NE-SW
License Number: KCC #5003
Spud Date: 03/13/2018
Surface Coordinates: 1980' FSL & 1980' FWL

Region: GRAY CO., KS.
Drilling Completed:

Bottom Hole
Coordinates:
Ground Elevation (ft): 2754' K.B. Elevation (ft): 2767'
Logged Interval (ft): To: Total Depth (ft):
Formation:
Type of Drilling Fluid: Chemical/Polymer/Gel & Mud Displacement at 3188'.

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

OPERATOR

Company: McCoy Petroleum Corporation
Address: 9342 E. Central
Wichita, KS 67206

GEOLOGIST

Name: David P. Williams, P.G., KSBTP #88
Company: DW ENERGY, LLC (DWE)
Address: 312 N. BROADVIEW STREET
WICHITA, KANSAS 67208

Casing & Deviation Survey's:

SURFACE CASING: Spud at 4:15 P. M. on 3/13/2018. Drilled 12 1/4" to 1757'. Ran 41 joints of new 24# 8 5/8" casing. cksTallied 1736.70' with 1' GS. Set at 1752' KB. Welded straps on bottom 3 joints and welled top 5 collors. Centralizers (3) oin joints 1,2,3, Float incert in top of 1st collar. SJ-30.22'. Basket on joint #28 (1205'). Cemented with 475 sacks H-Conn, 3% Cc, 1/2# CF. Tailed with 200 sacks Common, 2% Geo, 3% Cc & 1/2# CF. Cement did circulate. Plug down at 4:45 A.M. on 3/15/2018. Hurricane Cementing. Ticket #100890.

DEVIATION SURVEY'S: @ 1752' = 1 1/2 degrees; @ 5209' = 1 1/2 degrees; @ 5547' = 3/4 degree; @ 6230'= 1 degree;

DSTs

~~DST # 1~~Interval: 5152'-5209'; Times: 7"-60"-30"-60".

Blow: IF= Surface 1/4" Blow- Died @ 5"; ISIP-No BB.; FF=No Blow; FSIP - No BB.

Recovery: 5' Mud (100% Mud).

Pressures: IH=2613#; FH=2703#; IF=24-44#; FF=34-57#; ISIP=354#; FSIP=57#; TEMP=117 Deg. F.

~~ DST # 2~~Interval: 5214'-5248'; Times: 7"-60"-30"-60".

Blow: IF= Surface 1/4" Blow; ISIP=No BB. FF=Surface Blow Died @ 1"; FSIP - No BB.

Recovery: 5' Mud (100% Mud).

Pressures: IH=2588#; FH=2545#; IF=23-26#; FF=21-22#; ISIP= 1518#; FSIP=289#; TEMP= 117 Deg. F.

~~DST # 3~~ Interval: 6190'-6230'; Times: 5"-30"-60"-90".

Blow: IF= 1"/3 Min. ISIP=No BB. FF=BOB/37 Min.; FSIP=No BB.

Recovery: 310' (100% Muddy Wtr.).

Pressures: IH=3145#; FH=2828#; IF=41-63#; FF=62-186#; ISIP= 1945#; FSIP=1919#; TEMP= 135 Deg. F.

~~DST #4~~Interval: 6268'-6310'; Times: 5"-30"-45"-60".

Blow: IF= BOB/2". ISIP=No BB. FF= BOB/3". FSIP=No BB.

Recovery: 2,418' (100% Wtr. (Gassy)).

Pressures: IH=3071#; FH=2912#; IF=176-261#; FF=305-1223#;
ISIP=2003#; FSIP=1973#; TEMP=140 Deg. F..

Comments

Qualifiers: CARBONATE CLASSIFICATION: AFTER DUNHAM:

GRAIN; any fossil, fossil fragment, sand grain, or other rock fragment within the rock.

MUDSTONE; muddy carbonate rocks containing < (less than 10%) grains.

WACKESTONE; mud supported carbonate rocks with > (more than 10%) grains.

PACKSTONE; grain supported muddy carbonate rocks.

GRAINSTONE; mud free carbonate rock, grain supported.

BOUNDSTONE; carbonate rock bound together at deposition (coral, etc.).

CRYSTALLINE CARBONATE; carbonate rock retaining to little of their depositional texture to be classified.

Qualifiers; (Fossils, Minerals, Shows, Porosity, etc.)

Rare = < (less than 1%) of sample total.

Trace = < (less than 5%) of sample total, > (greater than 5%) an estimate of total percentage.

ROCK TYPES

| | | | | | | | | | |
|--|---------|--|--------|--|-----------|--|--------|--|-------|
| | Anhy | | Clyst | | Gry shale | | Mrlst | | Shgy |
| | Bent | | Coal | | Gyp | | Red sh | | Sltst |
| | Brec | | Congl | | Igne | | Salt | | Ss |
| | Carb sh | | Dol | | Lmst | | Shale | | Till |
| | Cht | | Grn sh | | Meta | | Shcol | | |

OTHER SYMBOLS

POROSITY

| | |
|--|----------|
| | Ø |
| | Earthy |
| | Fenest |
| | Fracture |
| | Moldic |
| | Organic |

| | |
|--|----------|
| | Pinpoint |
| | Vuggy |

SORTING

| | |
|--|----------|
| | Well |
| | Moderate |
| | Poor |

ROUNDING

| | |
|--|---------|
| | Rounded |
| | Subrnd |
| | Subang |
| | Angular |

OIL SHOW

| | |
|--|------|
| | Even |
|--|------|

| | |
|--|----------|
| | Gas show |
| | Spotted |
| | Ques |
| | Dead |

EVENT

| | |
|--|----------|
| | Rft |
| | Sidewall |

INTERVAL

| | |
|--|---------|
| | Dst |
| | Dst_alt |

ACCESSORIES

- MINERAL**
- Anhy
 - Arggrn
 - Arg
 - Bent
 - Bit
 - Brecfrag
 - Calc
 - Carb
 - Chlorite
 - Chtdk
 - Chtlt
 - Dol
 - Feldspar
 - Ferrpel
 - Ferr
 - Glau

- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff

- FOSSIL**
- Algae

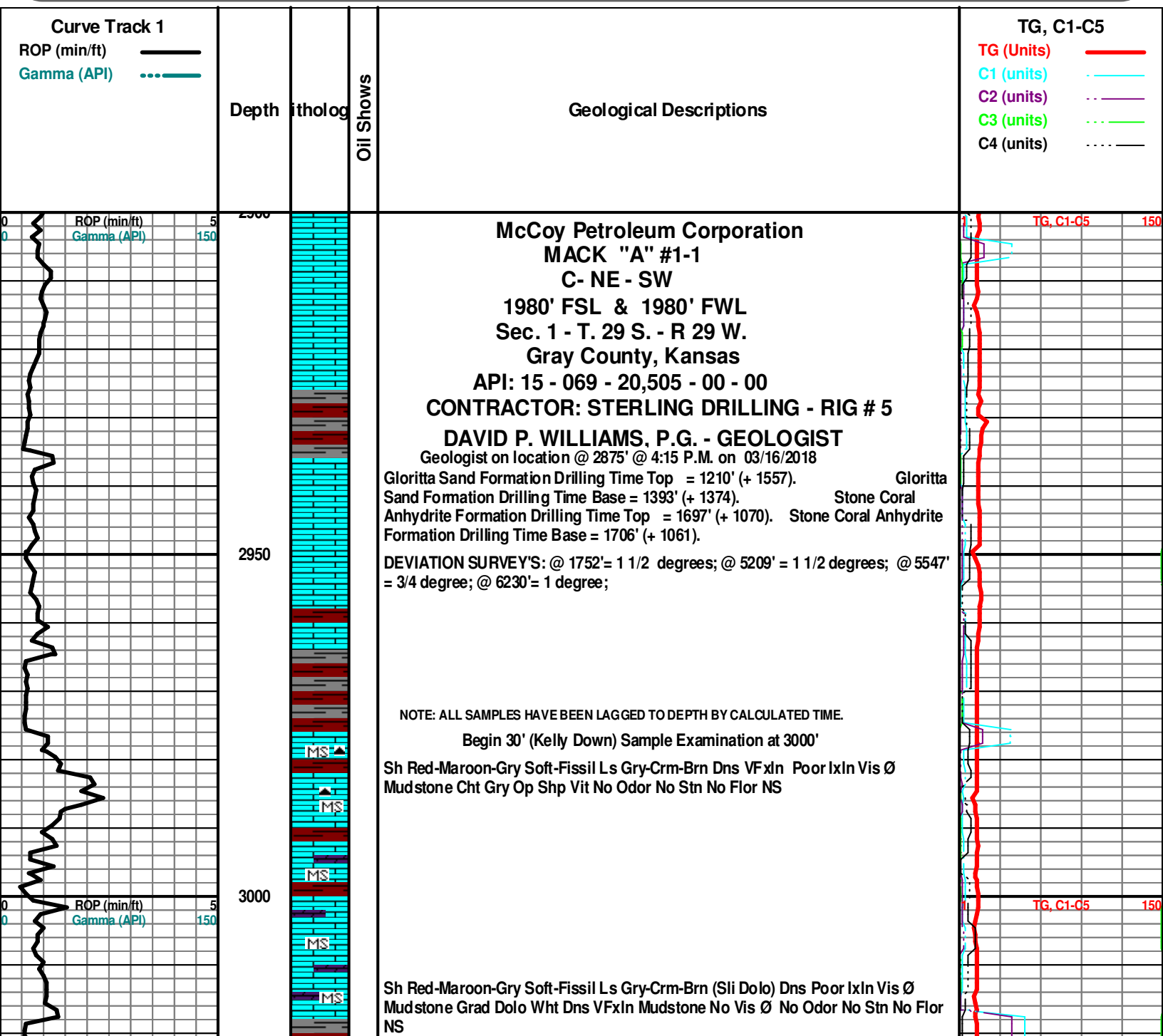
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Fuss
- Gastro
- Oolite
- Oomold
- Ostra

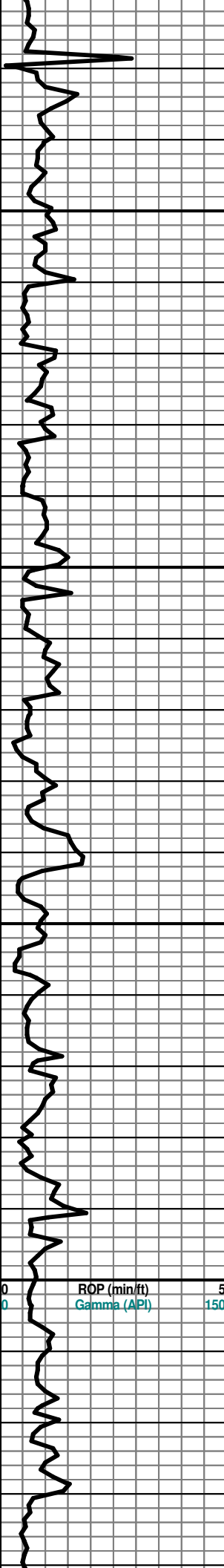
- Pelec
- Pellet
- Pisolite
- Plant
- Strom

- STRINGER**
- Anhy
 - Arg
 - Bent
 - Coal
 - Dol
 - Dol
 - Grysh
 - Gryslt
 - Gyp
 - Ls

- Mrst
- Sltstrg
- Ssstrg

- TEXTURE**
- Boundst
 - Chalky
 - Cryxln
 - Earthy
 - Finexln
 - Grainst
 - Lithogr
 - Microxln
 - Mudst
 - Packst
 - Wackest





3050



Sh Red-Maroon-Gry-Lt Grn Soft-Fissil Ls Gry-Crm-Brn Dns VFxln Poor Ixln Vis Ø
Mudstone Cht Gry Op Shp Vit No Odor No Stn No Flor NS

COTTONWOOD 3082' (- 315)

Sh Red-Maroon-Gry-Lt Grn Soft-Fissil Ls Gry-Crm-Brn Dns VFxln Poor Ixln Ø
Mudstone Grad Granular Fxln Lithographic Ø Fos (Fuss) No Odor No Stn No Flor NS

3100

Ls Wht-Gry-Crm-Brn Dns VFxln Poor Ixln Ø Mudstone Grad Granular Fxln
Lithographic Ø Sh Red-Maroon-Gry-Lt Grn Soft-Fissil No Odor No Stn ? Min Scat
Flor (Lt Grn) NS

3150

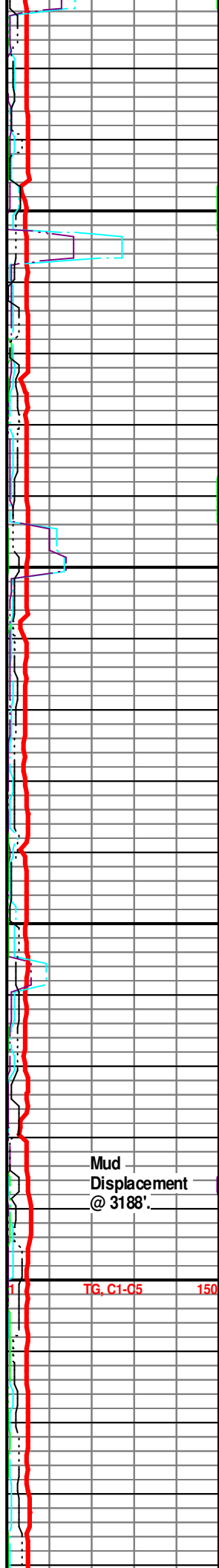
Ls Wht-Gry-Crm-Brn Dns VFxln Poor Ixln Ø Mudstone Grad Granular Fxln
Lithographic Ø Sh Red-Maroon-Gry-Lt Grn Soft-Fissil No Odor No Stn ? Min Scat
Flor (Lt Grn) NS

3200

Sh Red Soft (Wash Red) V ABD Ls Crm-Wht MicroIn No Vis Ø Mudstone No Odor
No Stn No Flor NS

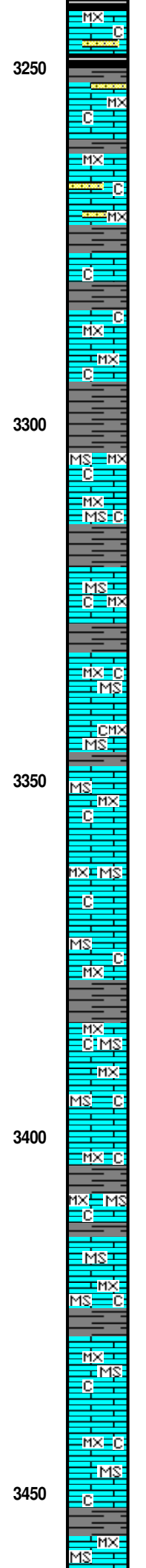
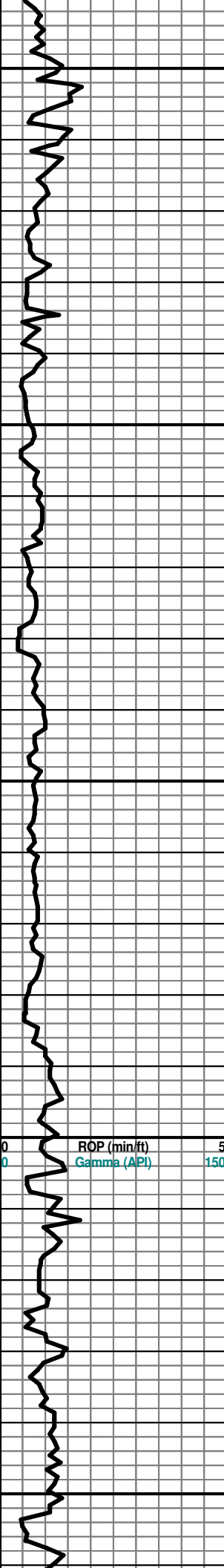
NEVA 3206' (- 439)

Ls Wht-Gry-Crm-Brn Dns MicroIn Poor Ixln Ø Mudstone Chalky Sh
Red-Maroon-Gry-Lt Grn Soft-Fissil No Odor No Stn ? Min Scat Flor (Lt Grn) NS



Mud Displacement @ 3188'

TG, C1-C5 150



Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad Granular Qtz Ss Wht w/
 ? Sli Min Flor (Lt Crn-Few Pcs) Chalk Dec Sh Drk Gry-Red- Maroon Soft-Fissil No
 Odor No Stn NS

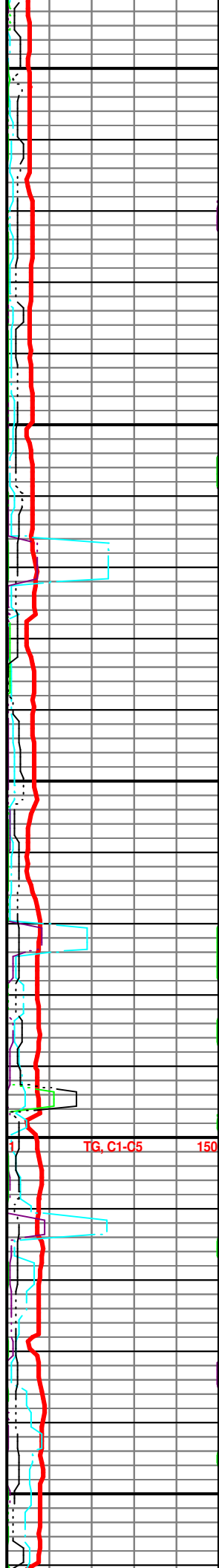
Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Chalk Sh Drk Gry-
 Red-Maroon Soft AA No Odor No Stn NS

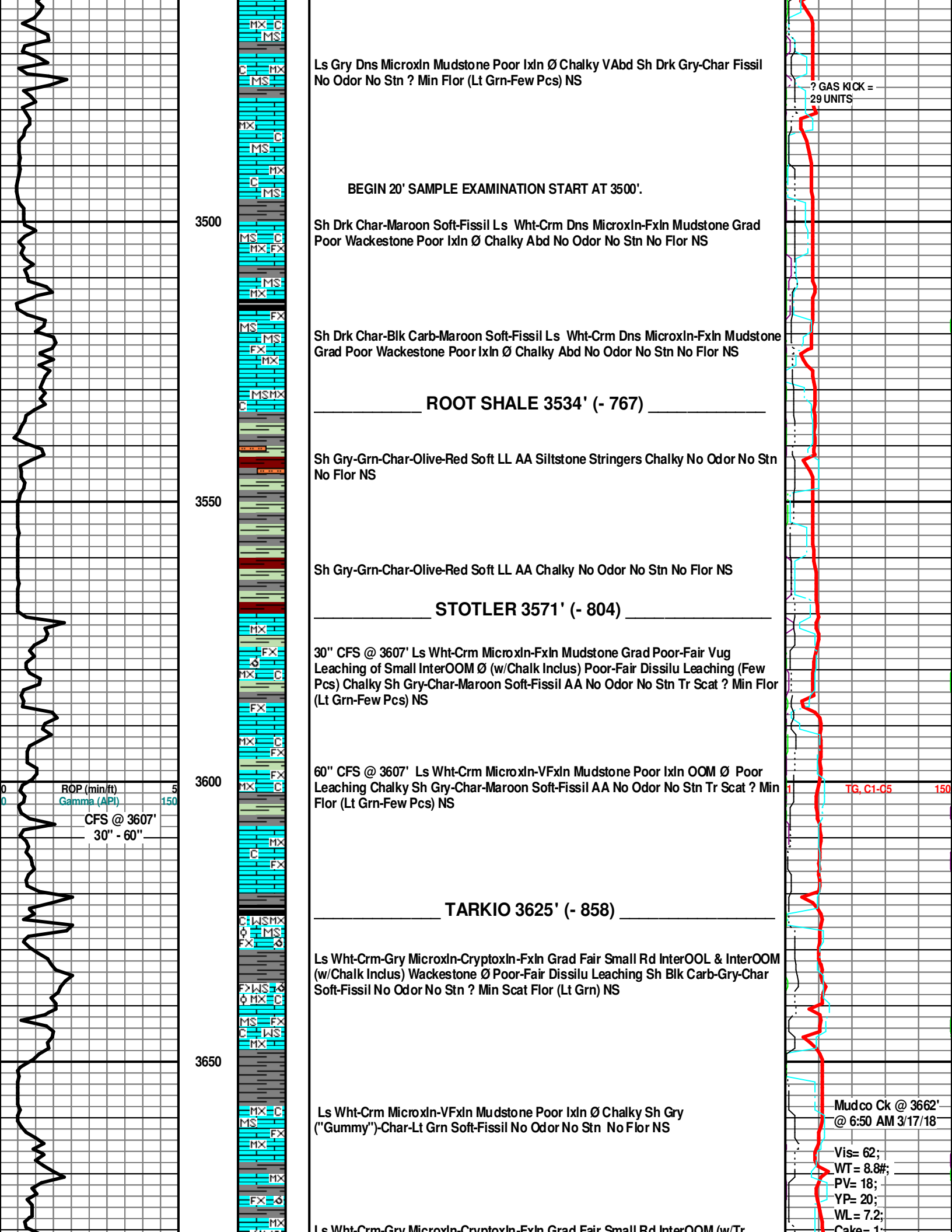
FORAKER 3320' (- 553)

Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Chalky VAbd Sh Drk
 Gry-Red-Maroon Soft No Odor No Stn ? Min Flor (Lt Grn-Few Pcs) NS

Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Chalky VAbd Sh Drk
 Gry-Red-Maroon Soft No Odor No Stn ? Min Flor (Lt Grn-Few Pcs) NS

Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Chalky VAbd Sh Drk
 Gry-Red-Maroon Soft No Odor No Stn ? Min Flor (Lt Grn-Few Pcs) NS





Ls Gry Dns MicroIn Mudstone Poor IxIn Ø Chalky VAbd Sh Drk Gry-Char Fissil
No Odor No Stn ? Min Flor (Lt Grn-Few Pcs) NS

? GAS KICK =
29 UNITS

BEGIN 20' SAMPLE EXAMINATION START AT 3500'

3500

Sh Drk Char-Maroon Soft-Fissil Ls Wht-Crm Dns MicroIn-FxIn Mudstone Grad
Poor Wackestone Poor IxIn Ø Chalky Abd No Odor No Stn No Flor NS

Sh Drk Char-Blk Carb-Maroon Soft-Fissil Ls Wht-Crm Dns MicroIn-FxIn Mudstone
Grad Poor Wackestone Poor IxIn Ø Chalky Abd No Odor No Stn No Flor NS

ROOT SHALE 3534' (- 767)

3550

Sh Gry-Grn-Char-Olive-Red Soft LL AA Siltstone Stringers Chalky No Odor No Stn
No Flor NS

Sh Gry-Grn-Char-Olive-Red Soft LL AA Chalky No Odor No Stn No Flor NS

STOTLER 3571' (- 804)

30" CFS @ 3607' Ls Wht-Crm MicroIn-FxIn Mudstone Grad Poor-Fair Vug
Leaching of Small InterOOM Ø (w/Chalk Includ) Poor-Fair Dissilu Leaching (Few
Pcs) Chalky Sh Gry-Char-Maroon Soft-Fissil AA No Odor No Stn Tr Scat ? Min Flor
(Lt Grn-Few Pcs) NS

3600

60" CFS @ 3607' Ls Wht-Crm MicroIn-VFxn Mudstone Poor IxIn OOM Ø Poor
Leaching Chalky Sh Gry-Char-Maroon Soft-Fissil AA No Odor No Stn Tr Scat ? Min
Flor (Lt Grn-Few Pcs) NS

TG, C1-C5

TARKIO 3625' (- 858)

Ls Wht-Crm-Gry MicroIn-CryptoxIn-FxIn Grad Fair Small Rd InterOOM & InterOOM
(w/Chalk Includ) Wackestone Ø Poor-Fair Dissilu Leaching Sh Blk Carb-Gry-Char
Soft-Fissil No Odor No Stn ? Min Scat Flor (Lt Grn) NS

3650

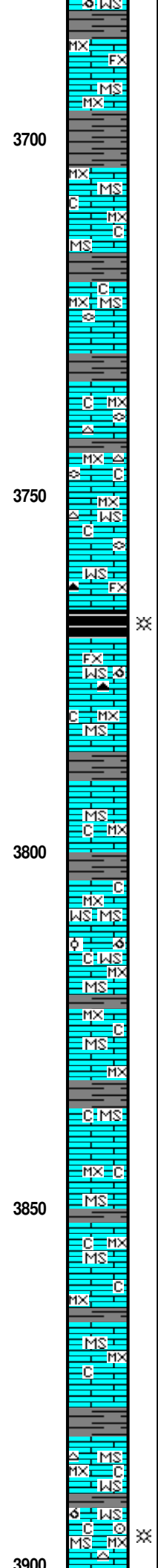
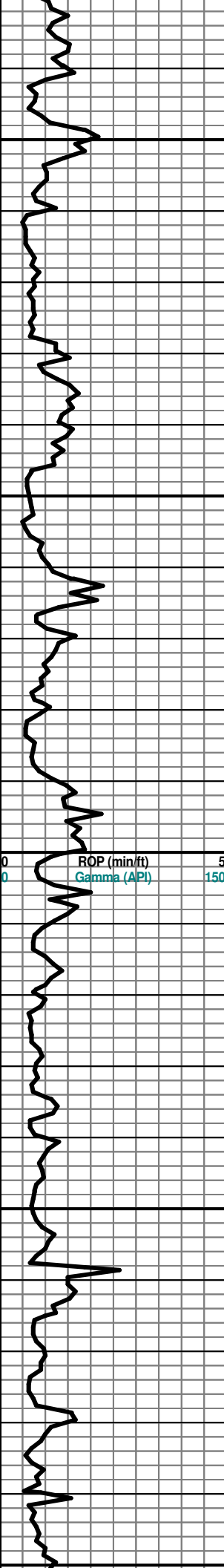
Ls Wht-Crm MicroIn-VFxn Mudstone Poor IxIn Ø Chalky Sh Gry
("Gummy")-Char-Lt Grn Soft-Fissil No Odor No Stn No Flor NS

Mudco Ck @ 3662'
@ 6:50 AM 3/17/18

Vis= 62;
WT= 8.8#;
PV= 18;
YP= 20;
WL= 7.2;
Cake= 1;

Ls Wht-Crm-Gry MicroIn-CryptoxIn-FxIn Grad Fair Small Rd InterOOM (w/Tr

ROP (min/ft) 5
Gamma (API) 150
CFS @ 3607'
30" - 60"



Ls Wht-Crm-Gry Microxln Fxln Grad Fair Small Rd Incl OOM (w/1
 Poor-Fair Vug Leaching) Wackstone Ø Chalky Sh Gry-Char-Lt Grn Soft-Fissil No
 Odor No Stn No Flor (Lt Grn) NS

Ls Gry-Crm Microxln Poor Ixln Ø Mudstone Fxln Chalky Sh Char-Gry Soft No Odor
 No Stn No Flor NS

Ls Wht-Crm Microxln Poor Ixln Ø Mudstone w/Fos (Fuss) Includ Poor Ixln Grad
 Fxln Wackstone (w/Fuss Includ) Chalky No Odor No Stn No Flor NS

TOPEKA 3731' (- 964)

Ls Wht-Crm Microxln Poor Ixln Ø Mudstone w/Fos (Fuss) Includ Poor Ixln Grad
 Fxln Wackstone (w/Fuss Includ) Cht Wht Op Vit Chalky No Odor No Stn No Flor
 NS

Ls Wht-Crm-Gry Fxln Mudstone Grad Poor-Fair Small Rd OOids (In Pl) Grad
 Wackstone w/Poor InterOOM Ø (w/Chalk Includ) Poor-Fair Dissilu Leaching w/
 Small Vugs Cht Drk Gry Op Shp Vit Chalky Sh Blk Carb-Gry Soft-Fissil AA No
 Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Mudstone Chalky (Abd) Sh Char-Gry Soft-Fissil No
 Odor No Stn No Flor NS

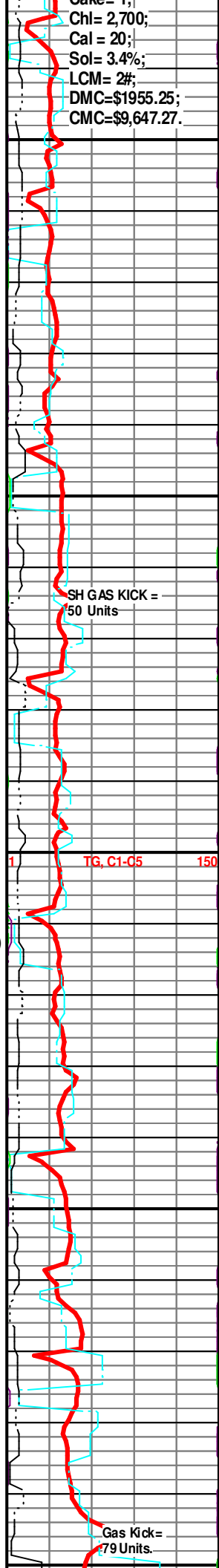
Ls Wht-Crm-Gry Microxln-Fxln Mudstone Grad Poor Small Rd OOids (In Pl) Grad
 Wackstone w/Poor InterOOL & InterOOM Ø Poor Dissilu Leaching (w/Small Vugs)
 Chalky Sh Carb-Gry Soft-Fissil No Odor No Stn No Flor NS

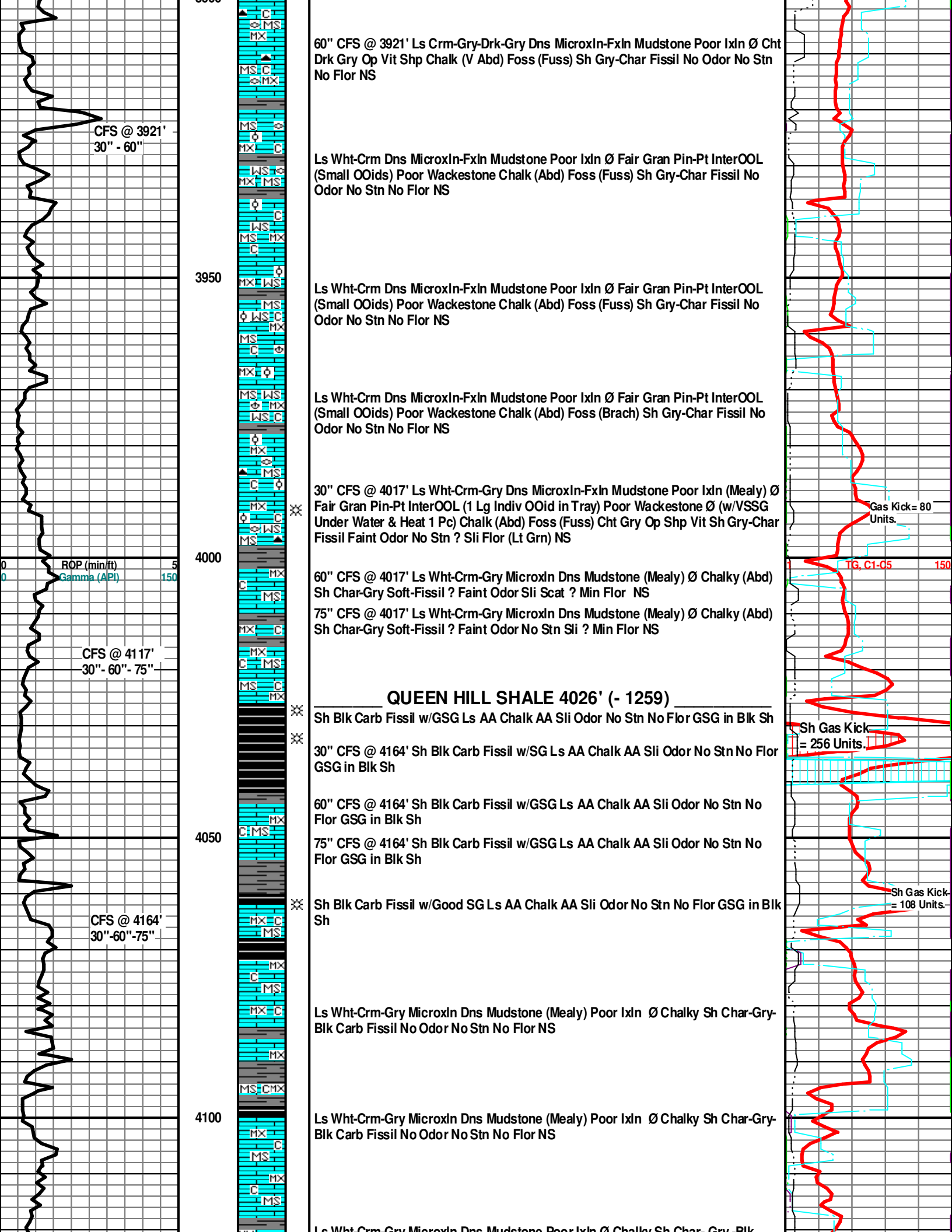
Ls Wht-Crm-Gry Microxln Dns Mudstone Chalky (Abd) Sh Char-Gry Soft-Fissil No
 Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Mudstone Chalky (Abd) Sh Char-Gry Soft-Fissil No
 Odor No Stn No Flor NS

Ls Wht-Crm-Gry Microxln Dns Mudstone Chalky (Abd) Sh Char-Gry Soft-Fissil No
 Odor No Stn No Flor NS

30" CFS @ 3921' Ls Wht-Crm-Gry Fxln Mudstone Grad Poor Develop Wackstone
 w/Poor InterOOM Ø Poor Dissilu Leaching (Tr Small Vugs-VFew Pcs) Cht Wht-Gry
 Op Shp Vit Fos (Crim) Chalky Sh Gry Fissil No Odor No Stn No Flor NS





CFS @ 3921'
30" - 60"

60" CFS @ 3921' Ls Crm-Gry-Drk-Gry Dns MicroIn-FxIn Mudstone Poor IxIn Ø Cht Drk Gry Op Vit Shp Chalk (V Abd) Foss (Fuss) Sh Gry-Char Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Dns MicroIn-FxIn Mudstone Poor IxIn Ø Fair Gran Pin-Pt InterOOL (Small OOids) Poor Wackestone Chalk (Abd) Foss (Fuss) Sh Gry-Char Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Dns MicroIn-FxIn Mudstone Poor IxIn Ø Fair Gran Pin-Pt InterOOL (Small OOids) Poor Wackestone Chalk (Abd) Foss (Fuss) Sh Gry-Char Fissil No Odor No Stn No Flor NS

Ls Wht-Crm Dns MicroIn-FxIn Mudstone Poor IxIn Ø Fair Gran Pin-Pt InterOOL (Small OOids) Poor Wackestone Chalk (Abd) Foss (Brach) Sh Gry-Char Fissil No Odor No Stn No Flor NS

30" CFS @ 4017' Ls Wht-Crm-Gry Dns MicroIn-FxIn Mudstone Poor IxIn (Mealy) Ø Fair Gran Pin-Pt InterOOL (1 Lg Indiv OOid in Tray) Poor Wackestone Ø (w/VSSG Under Water & Heat 1 Pc) Chalk (Abd) Foss (Fuss) Cht Gry Op Shp Vit Sh Gry-Char Fissil Faint Odor No Stn ? Sli Flor (Lt Grn) NS

Gas Kick= 80 Units.

60" CFS @ 4017' Ls Wht-Crm-Gry MicroIn Dns Mudstone (Mealy) Ø Chalky (Abd) Sh Char-Gry Soft-Fissil ? Faint Odor Sli Scat ? Min Flor NS

TG, C1-C5 150

75" CFS @ 4017' Ls Wht-Crm-Gry MicroIn Dns Mudstone (Mealy) Ø Chalky (Abd) Sh Char-Gry Soft-Fissil ? Faint Odor No Stn Sli ? Min Flor NS

QUEEN HILL SHALE 4026' (- 1259)

Sh Blk Carb Fissil w/GSG Ls AA Chalk AA Sli Odor No Stn No Flor GSG in Blk Sh

Sh Gas Kick = 256 Units.

30" CFS @ 4164' Sh Blk Carb Fissil w/SG Ls AA Chalk AA Sli Odor No Stn No Flor GSG in Blk Sh

60" CFS @ 4164' Sh Blk Carb Fissil w/GSG Ls AA Chalk AA Sli Odor No Stn No Flor GSG in Blk Sh

75" CFS @ 4164' Sh Blk Carb Fissil w/GSG Ls AA Chalk AA Sli Odor No Stn No Flor GSG in Blk Sh

Sh Blk Carb Fissil w/Good SG Ls AA Chalk AA Sli Odor No Stn No Flor GSG in Blk Sh

Sh Gas Kick = 108 Units.

Ls Wht-Crm-Gry MicroIn Dns Mudstone (Mealy) Poor IxIn Ø Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

Ls Wht-Crm-Gry MicroIn Dns Mudstone (Mealy) Poor IxIn Ø Chalky Sh Char-Gry-Blk Carb Fissil No Odor No Stn No Flor NS

ROP (min/ft) 5
Gamma (API) 150

CFS @ 4117'
30" - 60" - 75"

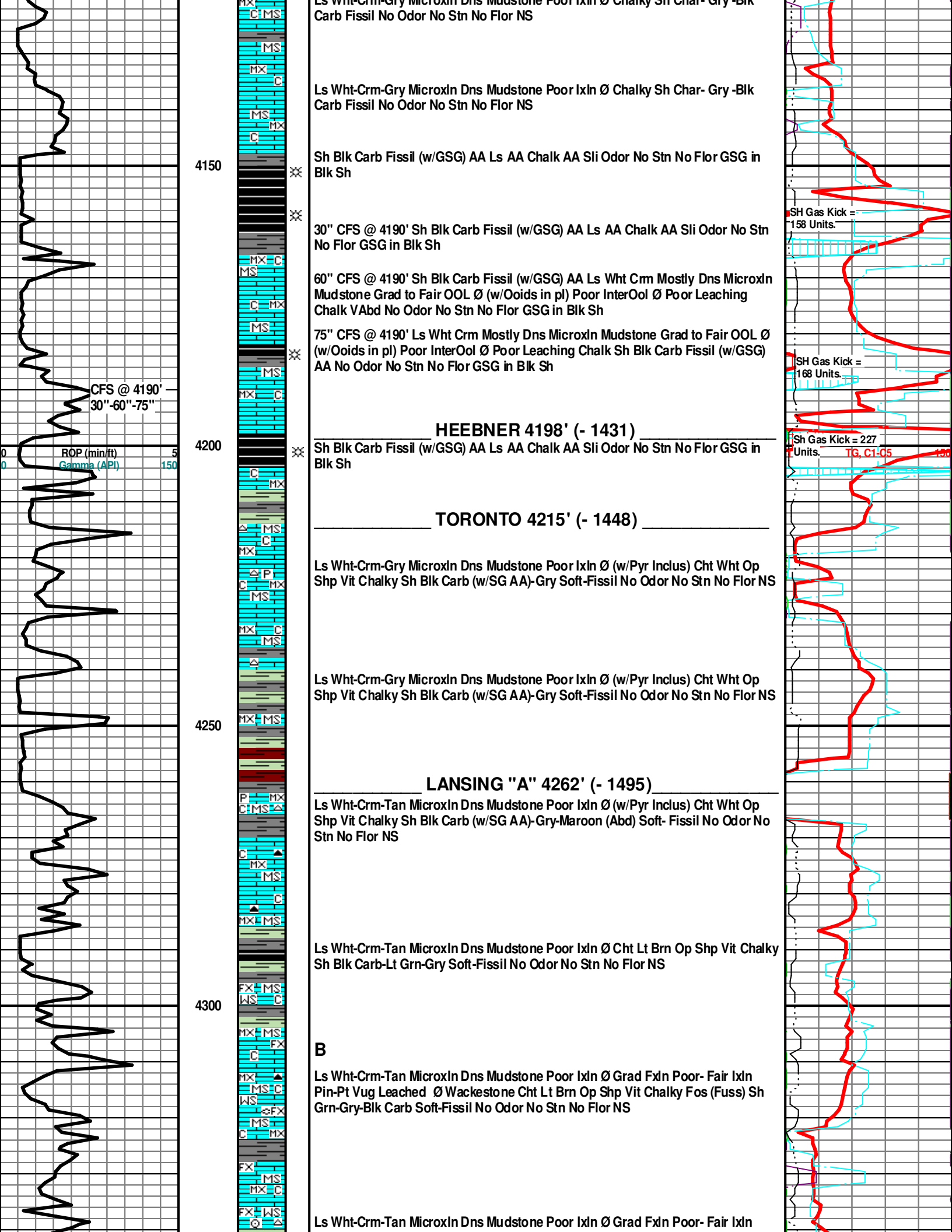
CFS @ 4164'
30" - 60" - 75"

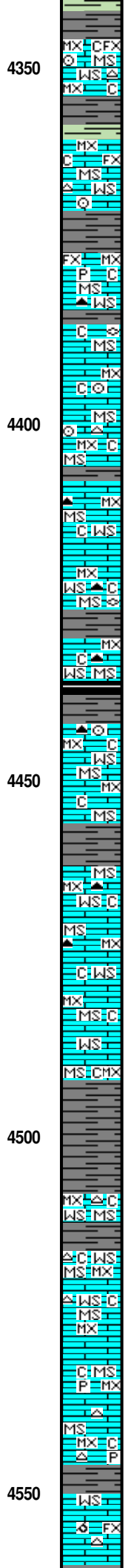
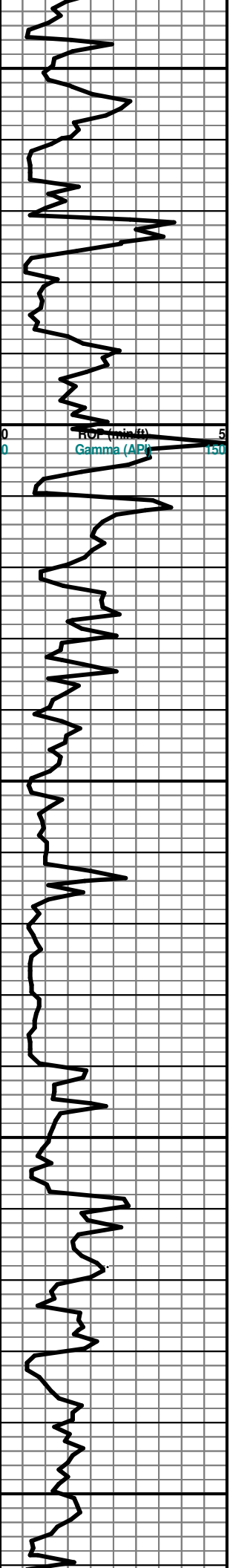
3950

4000

4050

4100





Pin-Pt Vug Leached Ø Wackestone Cht Op Shp Vit Chalky Fos (Crin) Sh Aqua/Grn-Gry-Blk Carb Soft-Fissil No Odor No Stn No Flor NS

C
Ls Wht-Crm-Tan Microxln Dns Mudstone Poor Ixln Ø Grad Fxln Poor- Fair Ixln Pin-Pt Vug Leached Ø Wackestone Cht Wht Op Shp Vit Chalky Fos (Crin) Sh Aqua/Grn-Gry-Blk Carb Soft-Fissil No Odor No Stn No Flor NS

D
Ls Wht-Crm-Tan-Gry (w/Pyr Inclus) Microxln Dns Mudstone Poor Ixln Ø Grad Fxln Poor-Fair Ixln Pin-Pt Vug Leached Ø Wackestone Cht Drk Gry-Brn Op Shp Vit Fos (Fuss) Chalky (VAbd) Sh Gm/Gry-Char-Blk Carb Fissil No Odor No Stn No Flor NS

E
Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Cht Wht Op Shp Vit Fos (Crin) Chalky Sh Grn/Gry-Char-Blk Carb Fissil No Odor No Stn No Flor NS

F
Ls Wht-Crm-Tan-Gry (w/Pyr Inclus) Microxln Dns Mudstone Poor Ixln Ø Grad Fxln Poor Ixln Tr Pin-Pt Vug Leached Ø Wackestone (Few Pcs) Cht Amber-Brn Translu-Op Shp Vit Pyr (Mass) Fos (Fuss) Chalky (VAbd) Sh Gm/Gry-Char-Blk Carb Fissil No Odor No Stn No Flor NS

G
Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Grad Fxln Poor Ixln Tr Pin-Pt Vug Leached Ø Wackestone (Few Pcs) Cht Amber-Brn Translu-Op Shp Vit Fos (Crin) Chalky (VAbd) Sh Char-Blk Carb Fissil No Odor No Stn No Flor NS

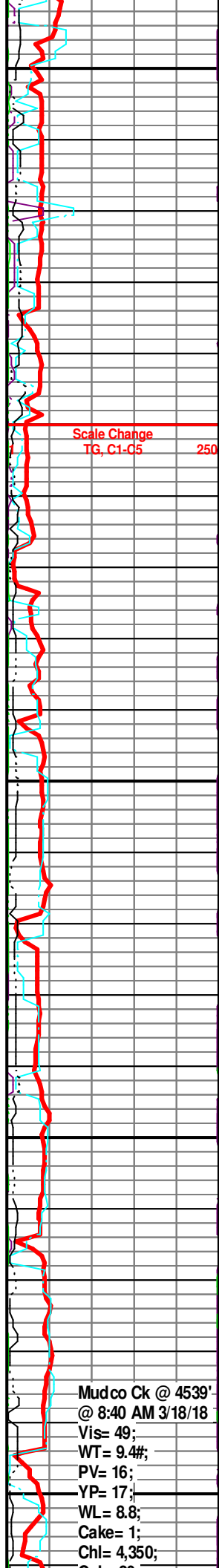
Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Grad Fxln w/Tr Pin-Pt Poor Ixln Ø Friable Grad Poor InterOOL (w/Poor Vug Dissolu) Ø Wackestone (Few Pcs) Cht Drk-Gry Translu-Op Shp Vit Chalky Sh Char-Blk Carb Fissil No Odor No Stn No Flor NS

Sh Gry Fissil Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Grad Fxln w/Tr Pin-Pt Poor Ixln Ø Grad Poor InterOOL (w/Poor Vug Dissolu) Ø Wackestone (Few Pcs AA) Chalky (Abd) No Odor No Stn No Flor NS

KANSAS CITY "IOLA" (H) 4508' (- 1741)

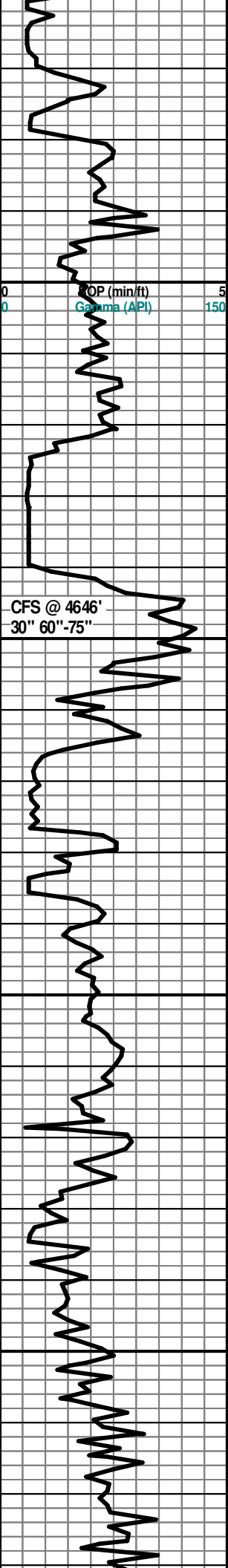
Sh Gry Fissil Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Grad Fxln w/Tr Pin-Pt Poor Ixln Ø Grad Poor InterOOL (w/Poor Vug Dissolu) Ø Wackestone (Few Pcs AA) Cht Smoky Gry Translu-Op Shp Viy Chalky (Abd) No Odor No Stn No Flor NS

Ls Wht-Crm-Tan-Gry Microxln Dns Mudstone Poor Ixln Ø Cht Smoky Gry Translu-Op Shp Viy Pyr Mass Chalky (Abd) Sh Gry Fissil No Odor No Stn No Flor NS

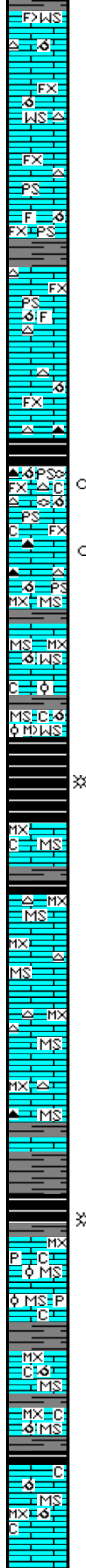


Scale Change
TG, C1-C5 250

Mudco Ck @ 4539'
@ 8:40 AM 3/18/18
Vis= 49;
WT= 9.4#;
PV= 16;
YP= 17;
WL= 8.8;
Cake= 1;
Chl= 4,350;



4600
4650
4700
4750



Ls Wht-Crm Fair-Good Small-Med Size Vug OOM Ø Fair-Med Vug Leaching Dissolu
Grad FxIn Fair-Med IxIn Pin-Pt Vug Ø Wackestone Cht Smoky Gry-Wht Translu-Op
Shp Vit Chalky Sh Gry-Char No Odor No Stn No Flor NS

Ls Wht-Crm Fair-Good Med-Lg Size OOM Ø Med-Good Vug Leaching Dissolu (Few
Pcs) Grad FxIn Fair-Good IxIn Pin-Pt Vug Ø Packstone Cht Tan-Smoky Gry (w/ Fos
(Spicule Includ) Translu-Op Shp Vit Chalky Sh Gry-Char-Blk Carb No Odor No Stn
No Flor NS

STARK 4620' (- 1853)

KANSAS CITY "SWOPE" (K) 4624' (- 1857)

30" CFS @ 4646' Ls Wht-Crm Fair-Good Small-Med Size Vug OOM Ø Good Vug Leaching Dissolu Grad
FxIn Fair-Good IxIn Pin-Pt Vug Ø Packstone Cht Smoky Gry- Drk Gry-Wht (w/Small Rd Wht OOids in
pl-No Dissolu) Translu-Op Shp Vit Fos (Fuss) Chalky Sh Gry-Char-Blk Carb No Odor No Stn No Flor
NS

60" CFS @ 4646' Ls Wht-Crm Fair-Good Small-Med Size Vug OOM Ø Good Vug Leaching Dissolu Grad
FxIn Fair-Good IxIn Pin-Pt Vug Ø Packstone Cht Smoky Gry- Drk Gry-Wht (w/Small Rd Wht OOids in
pl-No Dissolu) Translu-Op Shp Vit Fos (Fuss) Chalky Sh Gry-Char-Blk Carb No Odor No Stn No Flor
NS

75" CFS @ 4646' Ls AA Good OOM Ø Grad Dns MicroIn Mudstone No Vis Ø Sh AA No Odor No Stn
No Flor NS

HUSHPUCKNEY SHALE 4664' (- 1879)

Sh Blk Carb Fissil(w/GSG)-Grn/Gry-Char Fissil Ls Wht-Crm-Tan Dns MicroIn
Mudstone Poor IxIn Ø Grad FxIn w/Tr Pin-Pt Poor IxIn Ø Grad Med-Good
OOM/OOL Ø (w/Small-Med Sized Vug Dissolu with OOids in pl) Ø Wackestone
Chalky No Odor No Stn No Flor NS

KANSAS CITY "UPPER HERTHA" (L) 4686' (- 1919)

Ls Wht-Crm-Tan Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn w/Tr Pin-Pt Poor
IxIn Ø Cht Gry Translu-Op Shp Vit Chalk (Dec) Sh Blk-Carb Fissil (w/SG)-Gry-Char
Fissil No Odor No Stn No Flor NS

Sh Char-Gry-Blk-Carb Fissil (w/SSG) Ls Wht-Crm-Tan Dns MicroIn Mudstone Tr
Poor IxIn Ø Grad FxIn w/Pin-Pt Poor IxIn Ø Cht Wht-Gry-AmberTranslu-Op Shp Vit
Chalk (Dec) No Odor No Stn No Flor NS

KANSAS CITY "LOWER HERTHA" (L) 4685' (- 1918)

Sh Char-Gry Fissil Ls Wht-Crm-Gry (w/Pyr Includ) Dns MicroIn Mudstone Tr Poor
FxIn IGran IxIn Ø Grad FxIn w/Pin-Pt Poor OOL Ø (w/Ooids in pl-No Dissolu) Fos
(Crim) Chalky No Odor No Stn No Flor NS

Ls Wht-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad Poor OOM Ø (w/Good
Small Rd OOM Dissolu) Chalky Sh Char-Blk Carb Fissil No Odor No Stn No Flor
NS

Cal = 20;
Sol = 7.6%;
LCM = 2#;
DMC = \$1532.59;
CMC = \$11,179.86

TG, C1-C5

Gas Test @ 4618'
Extractor = 59
Units.

GAS KICK = 52
UNITS

GAS KICK =
46 UNITS

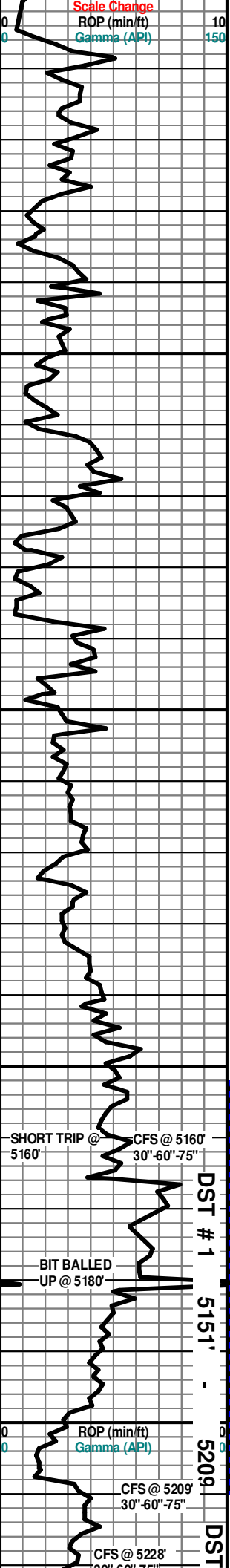
SH GAS KICK =
69 UNITS.

SH GAS KICK =
49 UNITS.

Gas Kick = 59
Units

CFS @ 4646'
30" 60"-75"

OP (min/ft)
Gamma (API)



Sh Blk Carb-Gry Fissil Ls Wht-Crm-Tan Dns MicroXln Mudstone Poor Ixln Ø Grad Poor IGran InterOOL Ø (w/Small Rd OOL in pl) No Leaching Dissolu Cht Wht-Amber Translu-Op Chalk (Dec) No Odor No Stn No Flor NS

Sh Blk Carb-Char-Gry Fissil Ls Wht-Crm--Tan Dns MicroXln Mudstone Poor Ixln Ø Cht Wht Op Chalk (Dec) No Odor No Stn No Flor NS

Ls Wht (w/Pyr Inclus)-Crm-Gry (w/Pyr Inclus) MicroXln Dns Mudstone Poor Ixln Ø Cht Amber-Wht Translu-Op Shp Vit Chalky Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

Ls Wht (w/Pyr Inclus)-Crm-Gry (w/Pyr Inclus) MicroXln Dns Lithographic Mudstone Poor Ixln Ø Cht Amber-Wht-Lt Org Translu-Op Shp Vit Chalky Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

ATOKA SHALE 5075' (-2308)

Ls Wht (w/Pyr Inclus)-Crm-Gry (w/Pyr Inclus) MicroXln Dns Mudstone Poor Ixln Ø Cht Amber-Wht-Lt Org Translu-Op Shp Vit Chalky Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

MORROW LIME 5088' (- 2321)

MORROW SHALE 5095' (-2328)

MISSISSIPPIAN "STE. GEN." 5100' (- 2333)

Ls Wht (w/Pyr Inclus)-Gry Fxln "Sandy Ls" Barren Grad MicroXln Arenaceous Mudstone Poor Ixln Ø Dns Grad Tan Gry Fxln Wackestone Cht Amber Translu Shp Vit Fos (Fuss) Chalky Sh Char-Blk Carb-Gry- Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

Ls Wht (w/Pyr Inclus)-Gry Fxln "Sandy Ls" Barren Grad MicroXln Arenaceous Mudstone Dns Grad Tan Gry Fxln Wackestone Grad Tr Ls (w/Qtz Ss Inclus) Brn-Crm-Tan VFGrn Ang-Sub Ang Inclus (fL=125-177 Microns= 3.0-225 Ø) w/SSO (? Sluff-Only 1 Pcw/CaCo3 Matrix Good Lt Grn Streaming Cut w/Acid) Cht Amber Translu Shp Vit Chalky Sh Char- Blk Carb-Gry-Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

Ls Wht-Gry Fxln "Sandy Ls" Barren Grad MicroXln Arenaceous Mudstone Dns Grad Tan Gry Fxln-Poor InterOOL Ø (w/Ooids in pl-Poor Disslu) Wackestone Cht Gry Op Shp Vit Pyr Mass Chalky Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft Fissil AA No Odor No Stn No Flor NS

30" CFS @ 5160' Ls Wht-Crm-Gry Fxln "Sandy Ls" Barren Grad MicroXln Arenaceous Mudstone (Tr Glacu/ Pyr Inclus) Tr Poor InterOOL Ø Pyr Mass Chalky Sh Char-Blk Carb-Gry- Drab Grn-Aqua Soft-Fissil AA No Odor No Stn No Flor NS
 60" & 75" CFS @ 5160' Ls AA (w/ 1 Pc w/Qtz Ss Inclus) Brn-Crm VFGrn Ang-Sub Ang Inclus (fL=125-177 Microns= 3.0-225 Ø) w/SSO (? Sluff w/CaCo3 Matrix) Good Lt Grn Streaming Cut w/Acid) Cht AA Pyr Mass Sh Blk Carb (Inc) AA No odor No Stn No Flor NS

Begin 10' Sample Examination at 5170'

Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft-Fissil Ls Wht-Crm-Gry Fxln "Sandy Ls" Barren Grad MicroXln Arenaceous Mudstone (Tr Glacu/Pyr Inclus) Grad Poor InterOOL Ø (Poor Dissolu Leaching) Arenaceous Cht Org-Wht Fos (Brach, Fuss) Pyr Mass Chalky No Odor No Stn No Flor NS

MISSISSIPPIAN " ST. LOUIS" 5181' (-2414)

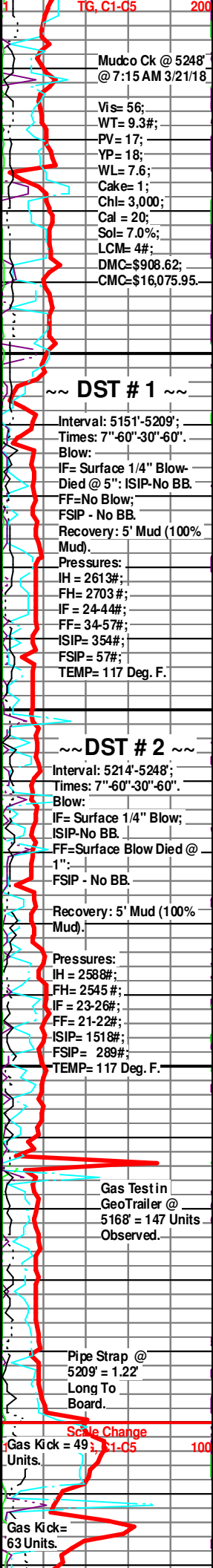
0" CFS @ 5209' Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft-Fissil Ls Wht-Crm Dns MicroXln Mudstone Poor Ixln Ø Grad Poor-Fair OOM Ø (w/ Poor Leaching Dissolu) Grad Poor Arenaceous InterOOL Ø (w/Small Rd Ooids in pl) No-Poor Dissolu Leaching Cht Amber Translu Shp Vit Chalky No Stn No Flor No Odor NS

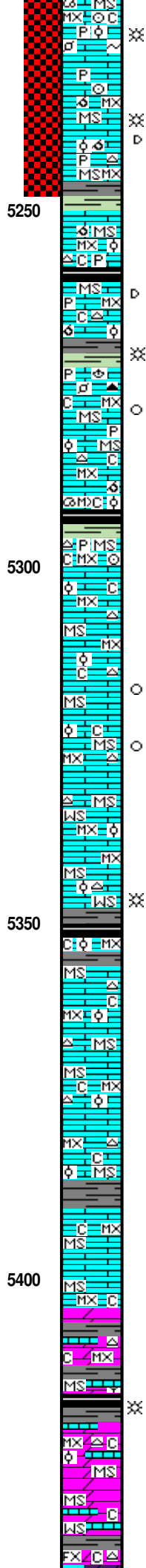
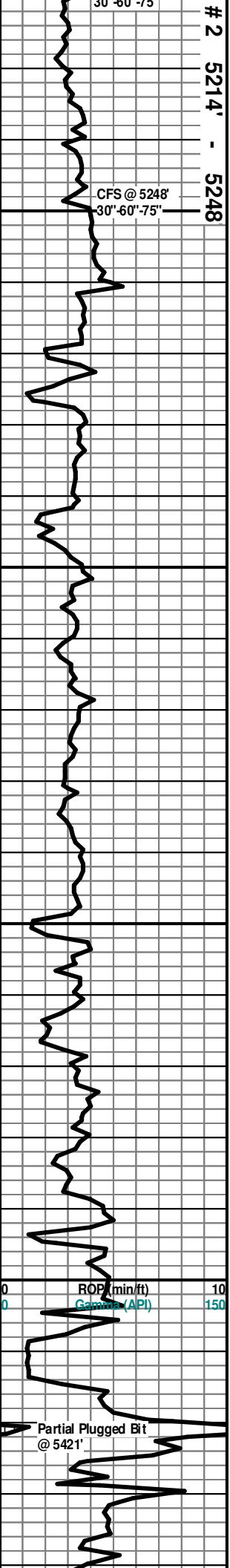
30" CFS @ 5209' Ls Wht-Crm Dns MicroXln Poor Ixln Ø Grad Poor-Fair OOM Ø (w/ Poor-Fair Leaching Dissolu) SSG Grad Poor Arenaceous InterOOL Ø (w/Small Rd Ooids in pl) No-Poor Dissolu Cht Wht Op Shp Vit Chalky Fos (Crin) Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft-Fissil No Stn No Flor Faint Odor SSG

60" & 75" CFS @ 5209' Ls Wht-Crm Dns MicroXln Poor Ixln Ø Grad Poor-Fair OOM Ø (w/ Poor-Fair Leaching Dissolu) SSG Grad Poor Arenaceous InterOOL Ø (w/Small Rd Ooids in pl) No-Poor Dissolu Cht Amber Translu Shp Vit Chalky Fos (Crin) Sh Char-Blk Carb-Gry-Drab Grn-Aqua Soft-Fissil No Stn No Flor Faint Odor SSG

30" CFS @ 5228' Ls Wht-Crm Dns MicroXln Poor Ixln Ø Poor Leaching Dissolu Grad Tr VPoor Arenaceous InterOOL Ø (w/Few Small Rd Ooids in pl) Cht Gry Translu Shp Vit Chalk (VAbd) Fos (Crin, Grastra) Sh Char-Blk Carb-Gry-Drab Grn-Aqua-Yell Soft-Fissil No Stn No Flor Faint Odor SSG

60" & 75" CFS @ 5228' Ls Wht-Crm (w/Pvr. Glacu Inclus) Dns MicroXln Poor Ixln Ø Poor Leaching Grad





Tr Vpvr Arenaceous InterOOL Ø (w/Few Small Rd Ooids (1 Peloidal) in Tray) Cht Gry Translu-Op Shp Vit Pyr Mass Chalk (VAbd) Fos (Crin, Gastro) Sh Char-Blk Carb-Gry-Drab Grn-Aqua-Yell Soft-Fissil No Stn No Flor Faint (Inc) Odor SSG

30" CFS @ 5248' Ls Wht-Crm (w/Pyr inclus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor OOM Ø (w/ Poor Vug Leaching) Grad Poor Arenaceous InterOOL Ø (w/Small Individual Rd-Sli Oblong Ooids in pl) Cht Gry-Wht Translu Shp Vit Fos Crin Chalky Tr Dead Stn No Flor Faint Odor ? SG ? SO

60" & 75" CFS @ 5248' Ls Wht-Crm (w/Pyr inclus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor OOM Ø (w/ Poor Vug Leaching) Grad Poor Arenaceous InterOOL Ø (w/Small Individual Rd-Sli Oblong Ooids in pl) Cht Gry-Wht Translu Shp Vit Fos (Crin) Chalky Tr Dead Stn (NSFO) No Flor Faint Odor ? SG ? SO

Ls Wht-Crm (w/Pyr inclus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Small OOM Ø (w/ Poor Vug Leaching) Grad Poor Arenaceous InterOOL Ø (w/Clusters of Small Rd Ooids in pl) Cht Wht-Clear (w/Blk Inlus Specks) Translu-Op Shp Vit Chalky No Stn No Flor No Odor NS

30"-60"-75" CFS @ 5273' Ls Wht-Crm (w/Pyr inclus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor-Med OOM Ø (w/ Poor-Fair Vug Leaching) Grad Poor-Fair-Med Leached Arenaceous InterOOL Vug Ø (w/Banded Clusters of Med-Lg Rd to Oblong Pellet Sized Ooids Inc/ w/SG in Deep Leached Weathered Vugs (As Observed in Wtr Under Heat) Cht Wht-Clear (w/Abd Blk Inlus Specks)-Amber-Yellow-Org Translu-Op Shp Vit Fos (Brach) Chalk Abd Sh Varicolored Char-Gry-Aqua-Maroon Soft-Fissil No Stn No Flor No Odor NS

75" CFS @ 5280' 5273' Ls Wht-Crm (w/Pyr inclus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor-Med OOM Ø (w/ Poor Vug Leaching AA) Grad Poor-Fair Arenaceous InterOOL Vug Ø Cht Wht-Clear-Amber (w/Abd Blk Inlus Specks AA)-Org Translu-Op Shp Vit Chalk Abd Sh Varicolored Char-Gry-Aqua-Maroon Soft-Fissil No Stn No Flor No Odor NS

MISSISSIPPIAN "ST. LOUIS (C)" 5292' (-2525)

Ls Wht-Crm Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Arenaceous InterOOL Ø (VSmall Ooids in pl) Cht Wht-Amber (w/Blk Inlus Specks) Translu-Op Shp Vit Fos (Crin) Chalk (Inc Abd) Sh Char-Gry-Aqua-Blk Carb Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm (w/Pyr Inlus) Dns MicroIn Mudstone Poor IxIn Ø Grad Poor-Med Grad Poor Arenaceous InterOOL Ø (VSmall Ooids in pl) Cht Wht-Amber (w/Blk Inlus Specks) Translu-Op Shp Vit Pry Mass Fos (Gastro) Chalk Sh Char-Gry-Aqua-Blk Carb Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm Dns MicroIn Mudstone Poor IxIn Ø (Tr Poor OOL Ø AA Dec) Cht Amber -Wht/Gry (Banded w/Small OOL Inlus in pl) Translu-Op Shp Vit Chalk Sh Char-Gry- Aqua-Blk Carb Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Arenaceous InterOOL Ø (Small Ooids in pl) Cht Wht (w/Blk Inlus Specks) Translu-Op Shp Vit Chalk Sh Char- Aqua Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm Dns MicroIn Mudstone Poor-Fair IxIn Ø Grad Poor-Fair Arenaceous InterOOL Ø (Small-Med Sized Ooids in pl) Poor-Fair Leaching Dissolu Grad FxIn Poor-Fair IxIn Ø Mudstone/Wackestone Cht Wht (w/Blk Inlus Specks)-Gry-Amber Translu-Op Shp Vit Chalk Sh Char-Aqua Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm Dns MicroIn Mudstone Poor-Fair IxIn Ø Grad Poor-Fair Arenaceous InterOOL Ø (Dec Small-Med Sized Ooids in pl) Poor-Fair Leaching Dissolu Grad FxIn Poor-Fair IxIn Ø Mudstone/Wackestone Cht Wht (w/Blk Inlus Specks)-Gry-Amber Translu-Op Shp Vit Chalk (Abd) Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

MISSISSIPPIAN "ST. LOUIS" (D) 5352' (- 2585)

Ls Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Mudstone Cht Wht-Gry (w/Small Ooid Inlus in pl) Translu-Op Shp Vit Chalk (Dec) Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Ls Crm-Wht Dns MicroIn Mudstone Poor-Fair IxIn Ø Grad Poor-Fair Arenaceous InterOOL Ø (Small-Med Sized Ooids in pl) Poor Leaching Dissolu Grad FxIn Poor IxIn Ø Mudstone Cht Wht (w/Small Ooid Inlus in pl) Translu-Op Shp Vit Chalk Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Ls Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Arenaceous InterOOL Ø (Small-Med Sized Ooids in pl) Poor-Fair Leaching Dissolu Grad FxIn Poor IxIn Ø Mudstone Cht Wht-Gry Op Shp Vit Chalky Sh Char-GrySoft-Fissil No Stn No Flor No Odor NS

Ls Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Arenaceous InterOOL Ø (Small-Med Sized Ooids in pl) Poor-Fair Leaching Dissolu Grad FxIn Poor IxIn Ø Mudstone Cht Wht-Gry Op Shp Vit Chalky Sh Char-GrySoft-Fissil No Stn No Flor No Odor NS

Ls/Dolo Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad Poor Arenaceous InterOOL Ø (Small-Med Sized Ooids in pl) Poor-Fair Leaching Dissolu Grad FxIn Poor-Fair IxIn Ø Mudstone Cht Wht-Gry Op Shp Vit Chalky Sh Char-GrySoft-Fissil No Stn No Flor No Odor NS

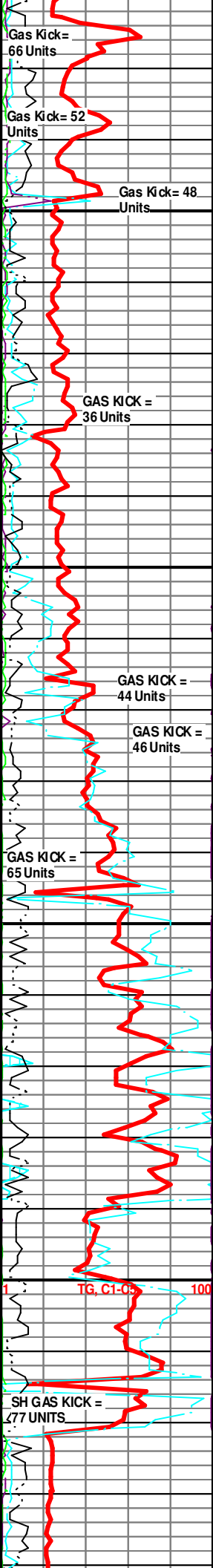
Ls/Dolo Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad Poor IxIn Ø Mudstone Cht Wht Op Shp Vit Chalk (Dec) Sh Char-Gry-Blk Carb Soft-Fissil No Stn No Flor No Odor NS

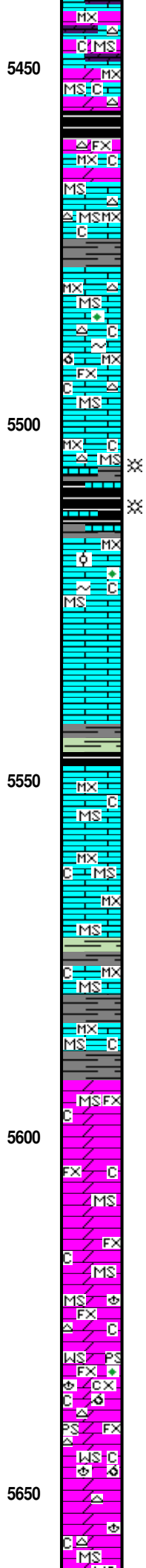
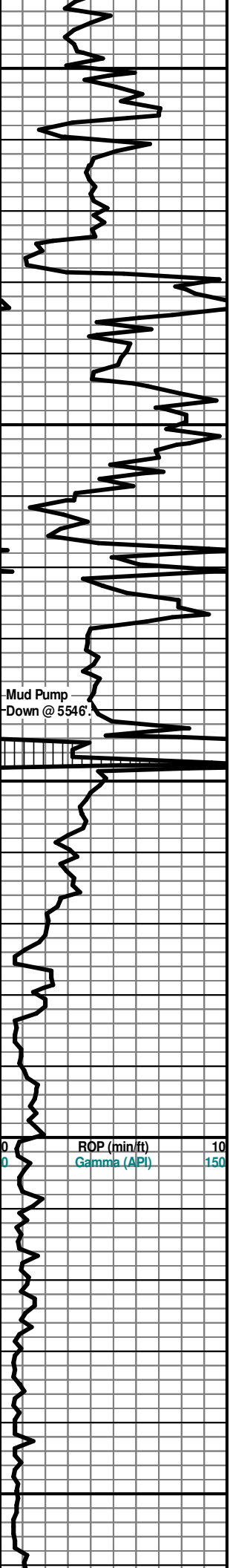
MISSISSIPPIAN "SPERGEN" 5408' (- 2641)

Dolo/Ls Tan Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad Poor IxIn Ø Mudstone Cht Wht (w/Small OOL Inlus)-Gry Translu-Op Shp Vit Chalk (Inc) Sh Char-Gry-Blk-CarbSoft-Fissil No Stn No Flor No Odor NS

Dolo/Ls Tan-Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad Poor IxIn Ø Mudstone Cht Wht (w/Small OOL Inlus)-Gry Translu-Op Shp Vit Chalk (V Abd) Sh Char-Gry-AquaSoft-Fissil No Stn No Flor No Odor NS

Dolo/Ls Tan-Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn Poor-Fair Sucrosic IxIn Ø Mudstone/Wackestone Cht Wht (w/Small OOL Inlus)-Gry Translu-Op Shp Vit Chalk (V Abd) Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS





Ls/Dolo Tan-Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn Poor IxIn Ø Mudstone Cht Wht (w/Blk Includ Specks) Translu-Op Shp Vit Chalk (V Abd Inc) Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Ls/Dolo Tan-Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn Poor IxIn Ø Mudstone Cht Wht (w/Blk Includ Specks) Translu-Op Shp Vit Chalk (V Abd Inc) Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Chalk Wht "Gummy" (V Abd Inc) Ls/Dolo Tan-Crm-Wht-Gry Dns MicroIn Mudstone Poor IxIn Ø Cht Wht (w/Blk Includ Specks) (Tr Only) Op Shp Vit Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Ls/Dolo Wht- Tan-Crm-Gry Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn Poor IxIn Ø Mudstone Cht Wht (w/Chlorite/Glacu Includ ?(Lt Grn)- Op Shp Vit Sh Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Tan-Gry Dns MicroIn-FxIn Mudstone Poor IxIn Ø Grad Tr Poor-Fair OOM Ø (w/ Med-Good Vug Leaching) Cht Wht Op Shp Vit Chalk Abd Sh Char-Blk Carb Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Tan Dns MicroIn-FxIn Mudstone Poor IxIn Ø Cht Wht Op Shp Vit Chalk Sh Char-Blk Carb Fissil No Stn No Flor No Odor NS

Sh Blk Carb-Char Fissil (w/GSG When Bkn-Under Heat in Wtr)-Gry-Char Fissil Ls Wht-Crm-Tan-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn (W/Chlorite/Glacu Includ-Lt Grn & Tr Pin-Pt Ø) Poor Leached IxIn Ø Grad Poor Sucrosic Ø Cht Wht Op Shp Vit Pyr Mass Chalky (Abd) No Odor No Stn No Flor GSG in Blk Sh

MISSISSIPPIAN "WARSAW" 5517' (- 2750)

Chalk Wht "Gummy" (V Abd Inc) Ls Tan-Crm-Wht Dns MicroIn Mudstone Poor IxIn Ø Grad FxIn Poor-Fair InterOOL Ø (w/Small Ooids in pl-Poor-Fair Dissolu Leaching) Mudstone Grad FxIn (W/Chlorite/Glacu Includ-Lt Grn & Tr Pin-Pt Ø) Cht Wht-Amber Translu-Op Shp Vit Sh Blk Carb-Char-Gry Soft-Fissil No Stn No Flor No Odor NS

Mud Pump down for Repairs - No Sample

Mud Pump down for Repairs - No Sample

Ls Wht-Crm-Tan-Gry (w/Pyr Includ) Dns MicroIn-FxIn Mudstone Poor IxIn Ø Grad Poor-Fair Sucrosic IxIn Ø Grad FxIn Pin-Pt Ø Wackestone Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Char-Blk Carb-Char-Aqua Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Tan-Gry (w/Pyr Includ) Dns MicroIn-FxIn Mudstone Poor IxIn Ø Grad Poor-Fair Sucrosic IxIn Ø Grad FxIn Pin-Pt Ø Wackestone Cht Wht-Gry Translu-Op Shp Vit Chalky Sh Char-Blk Carb-Char-Aqua Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Gry Dns MicroIn-FxIn Mudstone Grad Fair IxIn Pin-Pt Ø Wackestone Cht Wht-Gry Translu- Op Shp Vit Chalky Sh Char-Blk Carb- Char-Aqua Fissil No Stn No Flor No Odor NS

Ls Wht-Crm-Gry Dns MicroIn-FxIn Mudstone Grad Fair IxIn Pin-Pt Ø Wackestone Cht Wht-Gry Translu-Op Shp Vit Chalk (Abd) Sh Char-Blk Carb- Char-Aqua Fissil No Stn No Flor No Odor NS

Dolo Crm-Tan-Wht Dns FxIn Poor IxIn Ø Mudstone Grad Poor Sucrosic Ø Cht Gry-Crm-Wht Op Shp Vit Chalk (Abd) Sh Blk Carb-Char-Gry Fissil No Odor No Stn No Flor NS

Dolo Crm-Tan-Gry Dns FxIn Poor IxIn Ø Mudstone Grad Poor Sucrosic Ø Cht Gry-Crm -Wht Op Shp Vit Chalk (Abd) Sh Gry Fissil No Odor No Stn No Flor NS

Dolo Crm Wht Dns FxIn Poor IxIn Ø Mudstone Grad Poor Sucrosic Ø Very Chalky Sh Gry Fissil No Odor No Stn No Flor NS

Dolo Crm Wht Dns FxIn Poor-Fair IxIn Ø Mudstone Grad Fair-Med Sucrosic Ø Cht Wht-Crm Op Shp Vit Fos (Brach) Chalky Sh Gry Fissil No Odor No Stn No Flor NS

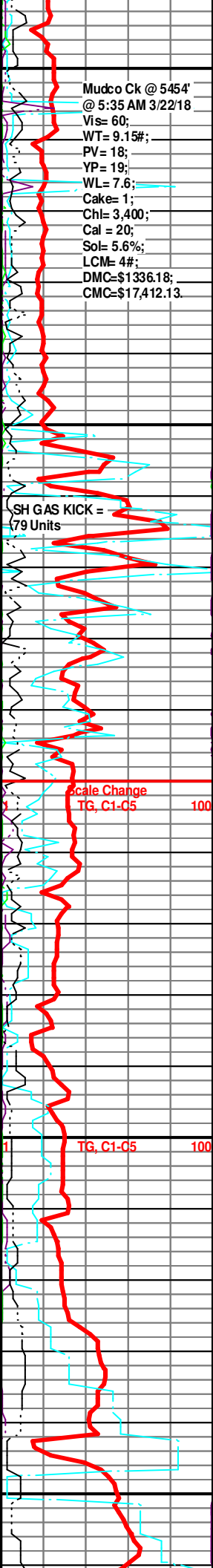
Dolo Wht-Crm-Gry (w/? Clorite Lt Grn Banding) FxIn-MxIn w/Good IxIn Ø (Abd) Grad Good Sucrosic IxIn Ø (Abd) Grad Good OOM Ø (Abd) (w/Good Deep Vug Leaching Dissolu) Wackestone/Packstone Cht Wht-Gry Op Shp Vit Pyr Mass Chalky Sh Gry Fissil No Odor No Stn No Flor NS

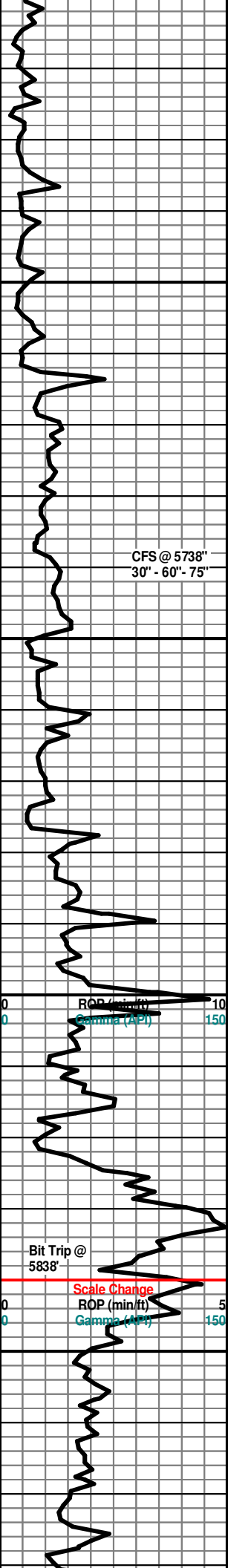
Dolo Wht-Crm-Gry FxIn-MxIn Ø Grad Med Sucrosic IxIn Ø Grad Good OOM Ø (w/Fair-Med Leaching Vug Dissolu) Wackestone/Packstone Cht Wht-Crm Op Shp Vit Fos (Brach) Chalk (Dec) Sh Gry Fissil No Odor No Stn No Flor NS

Dolo Wht-Crm-Gry FxIn-MxIn Ø Grad Med Sucrosic IxIn Ø Grad Good OOM Ø (w/Fair-Med Leaching Vug Dissolu) Wackestone Cht Wht-Crm Op Shp Vit Fos (Brach) Chalk (Dec) Sh Gry Fissil No Odor No Stn No Flor NS

MISSISSIPPIAN "OSAGE MARKER" 5658' (- 2891)

Dolo Gry (Abd)-Crm-Wht AA Dns FxIn-MxIn IxIn Ø Mudstone Grad Fair-Med Sucrosic Ø Cht Wht-Crm





5700

5750

5800

5850

CFS @ 5738'
30' - 60' - 75'

ROP (min/ft)
Gamma (API)

Bit Trip @
5838'

Scale Change
ROP (min/ft)
Gamma (API)

Dolo Gry (Abd)-Crm-Wht AA Dns FxIn-MxIn IxIn Ø Mudstone Grad Fair-Med Sucrosic Ø Cht Wht-Crm Op Shp Vit Fos (Brach) Chalk (Dec) Sh Gry Fissil No Odor No Stn No Flor NS

Dolo Gry (Abd)-Crm-Wht AA Dns FxIn-MxIn IxIn Ø Mudstone Grad Fair-Med Sucrosic Ø Cht Wht-Crm Op Shp Vit Fos (Brach) Chalk (Dec) Sh Gry Fissil No Odor No Stn No Flor NS

Dolo Gry (Abd)-Crm-Wht AA Dns FxIn Fair IxIn Ø Mudstone Grad Fair Sucrosic Ø Cht Wht-Crm Op Shp Vit Chalky Sh Gry Fissil No Odor No Stn No Flor NS

Dolo/Ls Wht-Crm-Gry (w/Pyr Incls) MicroxIn Dns Mustone Grad Fair IxIn Sucrosic Ø Grad Fair IxIn Cht Wht Op Shp Vit AA No Odor No Stn No Flor NS

Dolo/Ls Wht-Crm-Gry (w/Pyr Incls) MicroxIn Dns Mustone Grad Fair-Med IxIn Sucrosic Ø Grad Med-Good XIn Vug Ø Fos (Brach) Cht Wht Op Shp Vit AA No Odor No Stn No Flor NS

30' CFS @ 5738' Dolo Wht-Crm-Gry-Grn Dns MicroxIn Mudstone Grad FxIn Fair Sucrosic Ø Wackstone Grad XIn Deep Vug Leached Ø Friable Packstone Cht Wht Op Shp Vit Sh Blk Carb-Aqua/Grn-Gry Fissil No Odor No Stn No Flor NS

60' CFS @ 5738' Dolo Wht-Crm-Gry (w/Pyr Incls) Dns MicroxIn Mudstone Grad FxIn Good Vug Sucrosic Ø Wackstone Grad Good XIn Deep Vug Leached Ø Friable Packstone Cht Wht (Frosted w/Pyr Incls)-Clear Translu-Op Shp Vit Sh Blk Carb-Aqua/Grn-Gry Fissil No Odor No Stn No Flor NS

75' CFS @ 5738' Dolo Wht-Crm-Gry (w/Pyr Incls) Dns MicroxIn Mudstone Grad FxIn Good Vug Sucrosic Ø Wackstone Grad Good XIn Deep Vug Leached Ø Friable Packstone Cht Wht (Frosted w/Pyr Incls)-Clear Translu-Op Shp Vit Sh Char--Gry Fissil No Odor No Stn No Flor NS

Dolo Wht-Crm-Gry (w/Pyr Incls) Dns MicroxIn Mudstone Grad FxIn Good Vug Sucrosic Ø Wackstone Grad Good InterOOL Deep Vug Leached Ø Friable Packstone Cht Wht (Frosted w/Pyr Incls)-Clear Translu-Op Shp Vit Fos (Crim) Sh Char--Gry Fissil No Odor No Stn No Flor NS

Dolo Wht-Crm-Tan-Gry (w/Pyr Incls) Dns MicroxIn Mudstone Grad FxIn Fair Vug Sucrosic IxIn Ø Grad Fair InterOOL Vug Leached Ø Friable Wackstone Cht Wht (Frosted) Translu-Op Shp Vit Fos (Crim) Sh Blk Carb-Gry Fissil No Odor No Stn No Flor NS

Dolo Gry (V Abd)-Crm-Wht Dns MicroxIn Mudstone Grad Tr FxIn Fair Vug Sucrosic IxIn Ø AA Grad Fair InterOOL Vug Leached Ø Friable Cht Wht (Frosted) Translu-Op Shp Vit No Odor No Stn No Flor NS

Dolo Gry (V Abd)-Crm-Wht Dns MicroxIn Mudstone Grad Crm FxIn Fair Vug Sucrosic IxIn Ø AA Grad Fair InterOOL Vug Leached Ø Cht Wht (Frosted) Translu-Op Shp Vit No Odor No Stn No Flor NS

Dolo Gry (V Abd) Dns MicroxIn Mudstone Grad Tr Crm FxIn Fair Vug Sucrosic IxIn Ø AA Grad Wht Poor InterOOL Vug Leached Ø AA Cht Wht (Frosted) Translu-Op Shp Vit No Odor No Stn No Flor NS

Dolo Gry (V Abd) Dns MicroxIn Mudstone Grad Tr Wht FxIn Fair Vug Sucrosic IxIn Ø AA Grad Crm Poor InterOOL Vug Leached Ø Cht Wht (Frosted) Translu-Op Shp Vit Sh Maroon-Blk Carb Fissil No Odor No Stn No Flor NS

Dolo Gry (V Abd w/Chlorite Incls)-Crm Dns MicroxIn Mudstone Grad Tr Wht FxIn Fair Vug Sucrosic IxIn Ø AA Grad Poor InterOOL Vug Leached Ø Cht Wht (Frosted) Translu-Op Shp Vit Sh Maroon Fissil No Odor No Stn No Flor NS

Dolo Gry (V Abd w/Chlorite Incls)-Crm Dns MicroxIn Mudstone Grad Tr Wht FxIn Poor Sucrosic IxIn Ø Cht Wht (Frosted) Translu-Op Shp Vit Sh Blk-Carb Fissil No Odor No Stn No Flor NS

No Sample - Bit Trip

MISSISSIPPIAN OSAGE 5830' (- 3063)

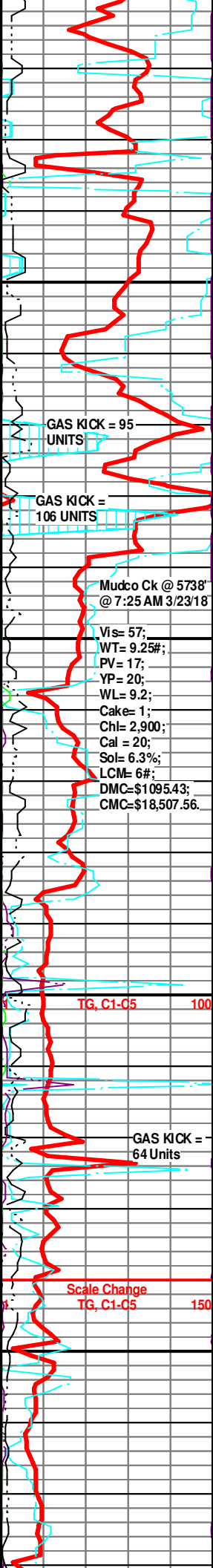
Dolo Gry (V Abd w/Chlorite Incls)-Crm Dns MicroxIn Mudstone Grad Tr Wht FxIn Poor Sucrosic IxIn Ø Cht Wht (Frosted) Translu-Op Shp Vit Sh Blk-Carb Fissil No Odor No Stn No Flor NS

Dolo Gry-Crm-Tan Dns MicroxIn Mudstone Grad Tr Wht FxIn Good Sucrosic IxIn Leached Vug Ø (3 Pcs) Cht Wht (Frosted) Translu-Op Shp Vit Sh Blk-Carb Fissil No Odor No Stn No Flor NS

Dolo Lt Gry-Crm-Tan-Drk Btn Dns MicroxIn Mudstone Grad Tr Tan FxIn Good Sucrosic IxIn Leached Vug Ø (1 Pc) Cht Wht (Frosted) Translu-Op Shp Vit No Odor No Stn No Flor NS

Dolo Lt Gry-Wht Dns MicroxIn Mudstone Grad Tr Tan-Wht FxIn Good Sucrosic IxIn Leached Vug Ø (5 Pc) Cht Wht (Frosted) Translu-Op Shp Vit Sh Char Fissil (Tr Only) No Odor No Stn No Flor NS

Dolo Wht (w/Chlorite/Glacu & Fos (Spicule) Incls)-Gry-Crm (w/ Good Ool Leached IxIn Ø MicroxIn Dns Poor IxIn Ø Mudstone Grad Poor-Fair FxIn Sucrosic IxIn Ø Grad Med-Good OOL Leached Ø Cht Wht (w/Chlorite/Glacu/Pyr Incls) Op Shp Vit No Stn No Flor No Odor NS



GAS KICK = 95 UNITS

GAS KICK = 106 UNITS

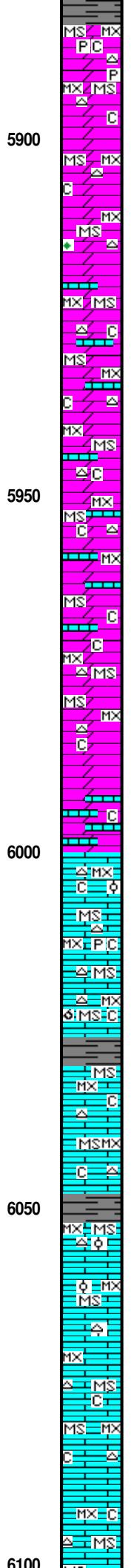
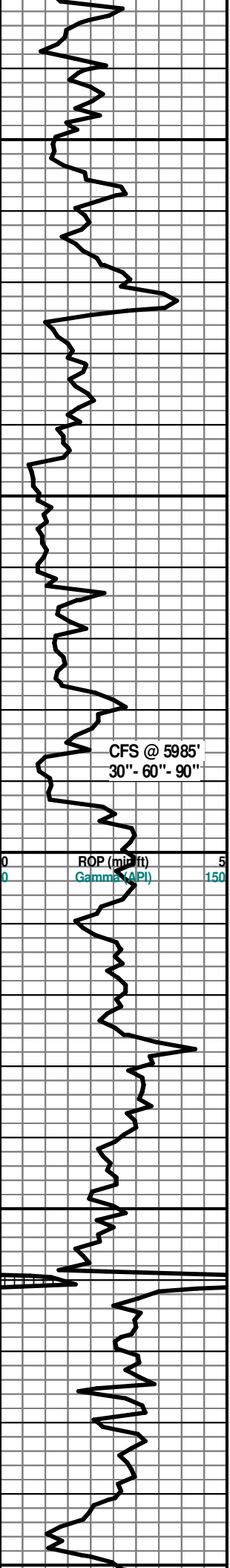
Mudco Ck @ 5738' @ 7:25 AM 3/23/18

- Vi= 57;
- WT= 9.25#;
- PV= 17;
- YP= 20;
- WL= 9.2;
- Cake= 1;
- Chl= 2,900;
- Cal = 20;
- Sol= 6.3%;
- LCM= 6#;
- DMC=\$1095.43;
- CMC=\$18,507.56.

TG, C1-C5 100

GAS KICK = 64 Units

Scale Change TG, C1-C5 150



Dolo Wht-Crm (w/tr Fair Ixln Vug Leached Ø) Mostly Microxln Dns Poor Ixln Ø Mudstone Grad Poor Cht Wht Translu-Op Shp Vit Chalky No Stn No Flor No Odor NS

Dolo Wht-Crm (w/Pyr Includ) Microxln Dns Poor Ixln Ø Mudstone Grad Tan Poor-Fair Fxln Sucrosic Pin-Pt Ixln Ø (w/Fair Vug Leached Dissolu Ø) Cht Wht-Smoky Gry Translu-Op Shp Vit Chalk (Inc) No Stn No Flor No Odor NS

Dolo Wht-Crm Microxln Dns Poor Ixln Ø Mudstone Grad Tan Poor-Fair Fxln Sucrosic Pin-Pt Ixln Ø (w/Fair Vug Leached Dissolu Ø) Cht Wht- Smoky Gry Translu-Op Shp Vit Chalk (Abd) No Stn No Flor No Odor NS

Dolo Lt Gry-Wht (w/Chlorite Includ) Dns Microxln Mudstone Grad Tr Tan-Wht Fxln Fair-Med Sucrosic Ixln Ø (Tr/Vug Leached Dissolu) Cht Wht (Frosted) Translu-Op Shp Vit Sh Char Fissil No Odor No Stn No Flor NS

Dolo Wht-Grn/Gry Ls Crm Microxln Dns Poor Ixln Ø Mudstone Grad Poor- Fair Fxln Sucrosic Pin-Pt Ixln Ø Cht Wht-Smoky Gry (Banded) Translu-Op Shp Vit Chalk No Stn No Flor No Odor NS

Dolo Wht-Gry Ls Crm Microxln Dns Poor Ixln Ø Mudstone Grad Poor-Fair Fxln Sucrosic Ixln Ø Cht Wht (v Abd)-Smoky Gry (Banded) Translu-Op Shp Vit Chalk Sh Char-No Stn No Flor No Odor NS

Dolo Wht-Gry Ls Crm Microxln Dns Poor Ixln Ø Mudstone Grad Poor-Fair Fxln Sucrosic Ixln Ø Cht Wht (v Abd)-Smoky Gry (Banded) Translu-Op Shp Vit Chalk Sh Char-No Stn No Flor No Odor NS

30" CFS @ 5985' Dolo Wht-Gry Ls-Crm Microxln Dns Poor Ixln Ø Mudstone Grad Poor-Fair Fxln Sucrosic Ixln Ø Cht Wht (VAbd)-Smoky Gry-Clear Translu-Op Shp Vit Chalk Sh Blk Carb Fissil No Stn No Flor No Odor NS

60" CFS @ 5985' Dolo/Ls Crm-Gry Microxln Dns Poorlxln Mucstone Ø Grad Poor-Fair Fxln Sucrosic Ixln Ø Cht Wht (Banded-Abd)-Smoky Gry-Clear Translu-Op Shp Vit Chalky Sh Char-Gry (Tr Only) Fissil No Stn No Flor No Odor NS

90" CFS @ 5985' Dolo/Ls Crm-Gry Microxln Dns Poorlxln Mucstone Ø Grad Poor-Fair Fxln Sucrosic Ixln Ø Cht Wht (Frosted w/Fos Spicule & Small Rd OOL Includ) (VAbd)-Smoky Gry-Op Shp Vit Chalky Sh Char-Gry (Tr) Fissil No Stn No Flor No Odor NS

Dolo/Ls Wht-Crm-Gry Dns Microxln Poor Ixln Ø Cht Bone Wht (w/ Small OOL Includ)-Smoky Gry (VAbd) Translu-Op Shp Vit Chalky Sh Blk Carb-Drk Gry-Char Fissil (Tr Only) No Odor No Flor No Stn NS

Ls Crm-Gry-Wht Dns Microxln Poor Ixln Ø Cht Bone Wht (w/ Small OOL Includ)-Smoky Gry (VAbd) Translu-Op Shp Vit Chalky Sh Drk Gry-Char Fissil (Tr Only) No Odor No Flor No Stn NS

Ls Wht (w/Pyr Includ)-Crm-Gry Dns Microxln Poor Ixln Ø Grad Poor Fxln Sucrosic Ixln Ø Cht Bone Wht-Smoky Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS

Ls Wht (w/Pyr Includ)-Crm-Grn/Gry Dns Microxln Poor Ixln Ø Grad Poor Fxln Sucrosic Ixln Ø Grad Crm Poor-Fair OOM Ø (3 Pc w/ Deep Vug Leaching) Cht Bone Wht (Frosted)-Smoky Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS

COMPTON 6036' (- 3269)

Ls Wht-Crm-Grn/Gry Dns Microxln Poor Ixln Ø Grad Poor Sucrosic Ixln Ø Cht Smoky Gry (VAbd) -Bone Wht (Frosted) Chalky Sh Drk Gry-Char Fissil (Tr Only) No Odor No Flor No Stn NS

Ls Crm-Gry-Wht Dns Microxln Poor Ixln Ø Cht Wht-Gry Op Shp Vit (VAbd) Chalky Sh Char Fissil No Odor No Flor No Stn NS

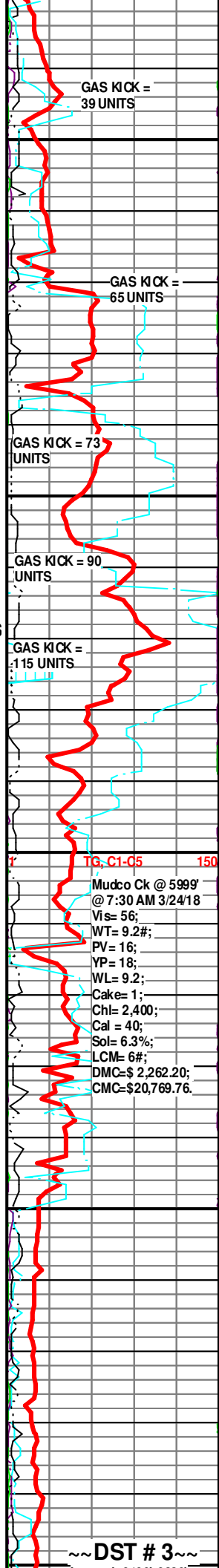
Ls Crm-Grn/Gry-Wht (w/Tr Chlorite/Glacu Includ) Dns Microxln Poor Ixln Grad Poor Fxln Sucrosic Ixln Ø Cht Wht (w/Small OOL Includ)-Smoky Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS

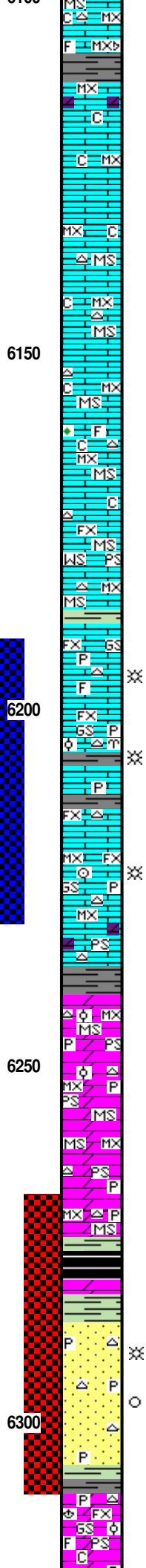
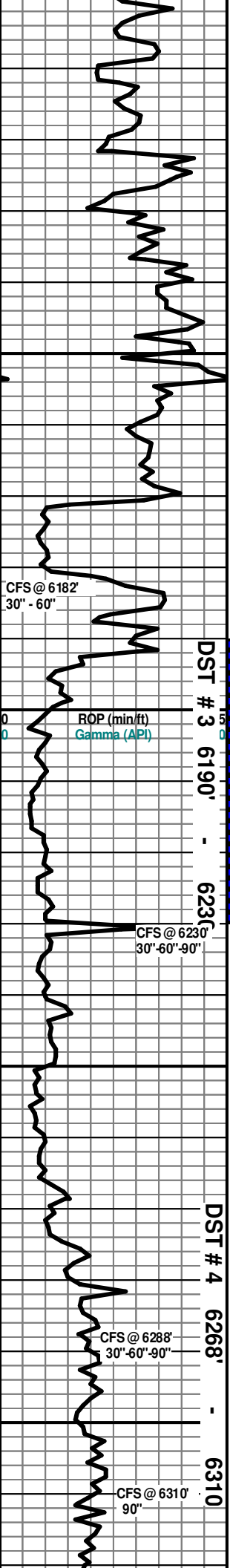
Ls Crm-Tan-Lt Brn (vAbd) Dns Microxln Poor Ixln Grad Poor Fxln Sucrosic Ixln Ø Cht Wht (w/Small OOL Includ)-Smoky Gry Op Shp Vit (VAbd) Chalky Sh Drk Grn Soft-Fissil (tr Only) No Odor No Flor No Stn NS

Ls Wht-Crm-Grn/Gry Dns Microxln Poor Ixln Ø Cht Wht-Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS

Ls Wht-Crm-Grn/Gry Dns Microxln Poor Ixln Ø Cht Wht-Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS

Ls Gry-Wht-Grn Dns Microxln Poor Ixln Ø Cht Wht-Gry Op Shp Vit (VAbd) Chalky No Odor No Flor No Stn NS





Ls Wht-Crm-Grn/Gry Dns MicroxIn Poor IxIn Ø Cht Wht-Gry (w/Fos (Brach, Spicule) Includ Op Shp Vit (VAbd) Chalky Sh Blk Carb Fissil No Odor No Flor No Stn NS

Ls/Dolo Wht-Crm Dns MicroxIn Poor IxIn Ø Cht Wht-Gry Tranlu-Op Shp Vit (Abd) Chalky Sh Blk Carb-Grn/Gry Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Dns MicroxIn Poor IxIn Ø Cht Wht-Gry Tranlu-Op Shp Vit (Abd) Chalky Sh Blk Carb-Char-Gry Fissil No Odor No Flor No Stn NS

Ls Wht-Crm Dns MicroxIn Poor IxIn Ø Cht Wht-Gry Tranlu-Op Shp Vit Chalk (Abd) Sh Char-Grn/Gry-Blk Carb (Tr Only) Fissil No Odor No Flor No Stn NS

Ls Lt Gray-Crm-Wht Dns MicroxIn Poor IxIn Ø Cht Wht-Gry Tranlu-Op Shp Vit Chalk (Abd) Sh Char-Grn/Gry-Blk Carb (Tr Only) Fissil No Odor No Flor No Stn NS

30" CFS @ 6182' Ls Gry Dns MicroxIn Mudstone Grad Fair-Med Sucrosic IxIn Ø Wackestone Gry (w/Chlorite Includ (Drk Grn)) Cht Smoky Gry (w/Wht Fos (Spicule) Includ)-Drk Gry/Wht (Banded)-Crm Tranlu-Op Shp Vit Chalky Sh Char Fissil (Tr Only) No Odor No Stn No Flor NS

VIOLA 6171' (- 3404)

60" CFS @ 6182' Ls Gry Dns FxIn Mudstone Grad Med-Good Sucrosic IxIn Ø Wackestone/Packstone Cht Wht-Smoky Gry-Clear Tranlu-Op Shp Vit Chalky No Odor No Stn No Flor NS

Ls Crm-Wht Dns MicroxIn Poor IxIn Ø Mudstone Cht Wht-Smoky Gry AA Sh Grn/Gry Fissil No Odor No Stn No Flor NS

30" CFS @ 6230' Ls Wht-Crm FxIn Good Sucrosic IxIn Ø Grainstone Cht Wht-Smoky Gry (w/Abd Blk Speck Includ Includ. Fos (Spicule & Pyr)) Sh Char (w/Pyr Includ) Fissil No Odor No Flor No Stn NS

60" CFS @ 6230' Ls Wht-Crm FxIn Good Sucrosic IxIn Ø Grainstone Cht Wht (w/Small-Med Rd-Lg Oblong OOL Includ)-Smoky Gry (w/Blk Speck Includ Includ. Fos (Bry))-Clear-Amber Tranlu-Op Shp Vit Sh Char (w/Pyr Includ)-Grn/Gry Fissil No Odor No Flor No Stn NS

90" CFS @ 6230' Ls Wht (w/Pyr Includ)-Crm Dns MicroxIn Mudstone (w/SG In Wtr Under Heat) Grad FxIn Good Sucrosic IxIn Ø Grainstone Cht Wht-Smoky Gry (w/Blk Speck Includ Includ)-Clear-Tranlu-Op Shp Vit Fos (Crim) Sh Char (w/Pyr Includ)-Grn/Gry Fissil No Odor No Flor No Stn NS

Ls/Dolo Wht-Crm-Tan (w/Pyr Includ) Dns MicroxIn Mudstone Grad FxIn Med Sucrosic IxIn Ø Packstone Cht Wht-Smoky Gry (w/Blk Speck Includ)-Clear-Amber Tranlu-Op Shp Vit Sh Char-Grn/Gry (w/Pyr Includ) Fissil No Odor No Flor No Stn NS

Dolo Tan-Crm (w/Pyr Includ) Dns MicroxIn Mudstone Grad FxIn Med Sucrosic IxIn Ø Packstone Cht Wht-Smoky Gry (w/Blk Speck & Small-Med Rd OOL Includ)- Clear-Amber Tranlu-Op Shp Vit Sh Char-Grn/Gry (w/Pyr Includ) Fissil No Odor No Flor No Stn NS

Dolo Tan-Crm (w/Pyr Includ) Dns MicroxIn Mudstone Grad FxIn Med Sucrosic IxIn Ø Packstone Cht Wht-Smoky Gry (w/Blk Speck & Small-Med Rd OOL Includ)- Clear-Amber Tranlu-Op Shp Vit Sh Char-Grn/Gry (w/Pyr Includ) Fissil No Odor No Flor No Stn NS

30" CFS @ 6288' Dolo Tan-Crm (w/Pyr Includ) Dns MicroxIn Mudstone Grad FxIn Med Sucrosic IxIn Ø Packstone Cht Wht-Smoky Gry (w/Blk Speck & Small-Med Rd OOL Includ)- Clear-Amber Tranlu-Op Shp Vit Sh Char-Grn/Gry (w/Pyr Includ) Fissil No Odor No Flor No Stn NS

SIMPSON SHALE 6276' (- 3509)

60" CFS @ 6288' Sh Aqua (w/Pyr Includ)-Blk Carb-Char Fissil Dolo Tan-Crm (w/Pyr Includ) Dns MicroxIn Mudstone Grad FxIn Med Sucrosic IxIn Ø Packstone Cht Wht-Smoky Gry (w/Blk Speck & Small-Med Rd OOL Includ)-Clear-Amber Tranlu-Op Shp Vit No Odor No Flor No Stn NS

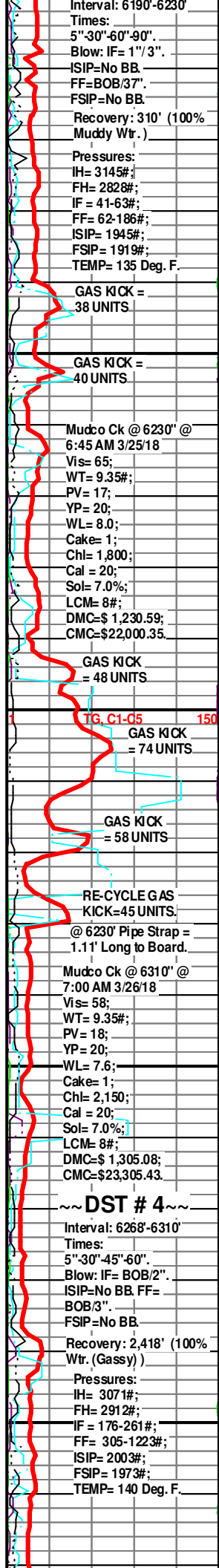
SIMPSON SAND 6286' (- 3519)

90" CFS @ 6288' Dolo Tan-Crm (w/Pyr Includ) Dns MicroxIn Mudstone AA Qtz Ss Tr Wht VFgrn Small Sub-Ang-Ang Well-Sorted Good IxIn Ø Grainstone Cht Wht (w/Pyr Includ) Pyr Mass Sh Aqua (w/Pyr Includ)-Blk Carb-Char Fissil No Odor No Stn No Flor NS

90" CFS @ 6310' Qtz Ss Tan-Crm-Lt Brn-Wht VFgrn Small-Med Sub-Ang-Ang Well-Sorted Frosted Qtz Ss Grains (w/Fair-Med-Good IxIn Ø) Friable (w/CaCO3 Cmt Matrix) Grainstone (w/FSG In Wtr Under Heat) Some Qtz SS Tan Dns ("Tite") VF Igrn Ø Packstone Faint Odor No Flor Mostly Tan-Lt Brn Small-Med Clusters (fL=125-177 Microns= 3.0-225 Ø) Grad Wht Med Igrn Ø Well Sorted Sub-Ang-Ang Frosted Igrn Ø Grainstone Cht Wht-Smoky Gry AA Tranlu-Op Shp Vit Sh Char-Grn/Gry-Blk Carb Fissil Faint Odor Stn (Lt Brn w/No Cut w/Acid) No Flor FSG

ARBUCKLE 6312' (- 3545)

90" CFS @ 6330' Dolo Tan-Crm (w/Pyr Includ) FxIn Fair-Med-Good IxIn Rhombic Sucrosic Ø Packstone/Grainstone Friable VSSG (Under Heat in Wtr) Cht Bone Wht



Interval: 6190'-6230'

Times: 5"-30"-60"-90".

Blow: IF= 1"-3".

ISIP=No BB.

FF=BOB/37".

FSIP=No BB.

Recovery: 310' (100% Muddy Wtr.)

Pressures: IH= 3145#; FH= 2828#; IF = 41-63#; FF= 62-186#; ISIP= 1945#; FSIP= 1919#; TEMP= 135 Deg. F.

GAS KICK = 38 UNITS

GAS KICK = 40 UNITS

Mudco Ck @ 6230' @ 6:45 AM 3/25/18

Vi= 65;

WT= 9.35#;

PV= 17;

YP= 20;

WL= 8.0;

Cake= 1;

Chl= 1,800;

Cal = 20;

Sol= 7.0%;

LCM= 8#;

DMC=\$ 1,230.59;

CMC=\$22,000.35.

GAS KICK = 48 UNITS

TG, C1-C5 150

GAS KICK = 74 UNITS

GAS KICK = 58 UNITS

RE-CYCLE GAS KICK=45 UNITS.

@ 6230' Pipe Strap = 1.11' Long to Board.

Mudco Ck @ 6310' @ 7:00 AM 3/26/18

Vi= 58;

WT= 9.35#;

PV= 18;

YP= 20;

WL= 7.6;

Cake= 1;

Chl= 2,150;

Cal = 20;

Sol= 7.0%;

LCM= 8#;

DMC=\$ 1,305.08;

CMC=\$23,305.43.

DST # 4

Interval: 6268'-6310'

Times: 5"-30"-45"-60".

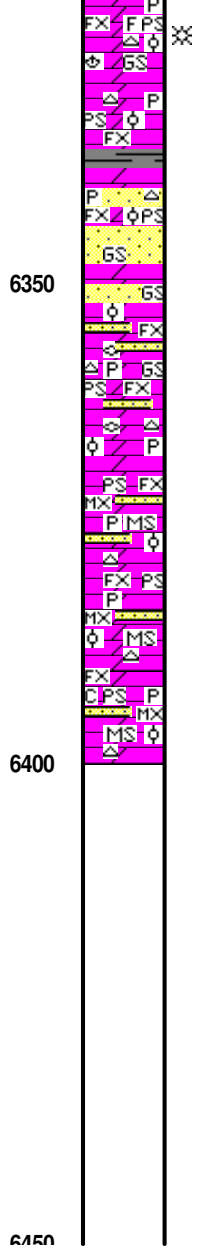
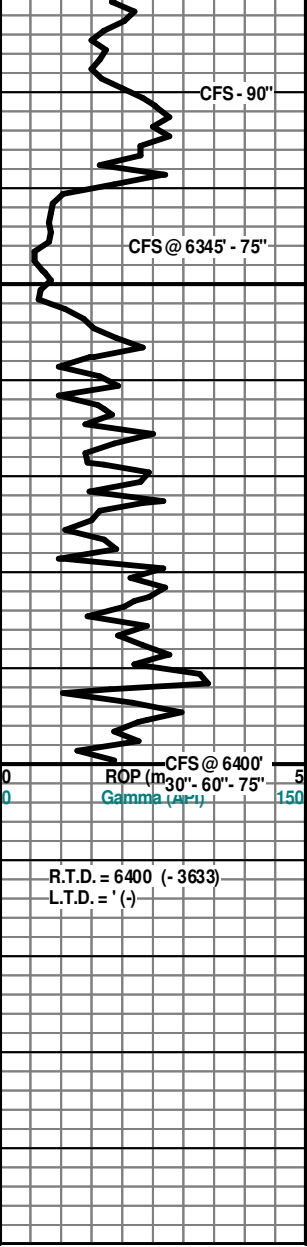
Blow: IF= BOB/2".

ISIP=No BB. FF= BOB/3".

FSIP=No BB.

Recovery: 2,418' (100% Wtr. (Gassy))

Pressures: IH= 3071#; FH= 2912#; IF = 176-261#; FF= 305-1223#; ISIP= 2003#; FSIP= 1973#; TEMP= 140 Deg. F.



(w/Med Rd OOL & Fos (Spicule) in pl)-Lt Gry Translu-Op Shp Vit Fos (Brach) Chalk (Tr Only) Sh Aqua (w/Pyr Inclus)-Char-Blk Carb Fissil No Flor No Stn Faint Odor VSSG

75" @ 6345' Dolo Tan-Crm (w/Pyr Inclus) FxIn Fair-Med-Good IxIn Rhombic Sucrosic Ø Packstone/Grainstone Friable Qtz Ss Wht Lg-Med-Small Ang-Well Rd Well Sorted Frosted Grains in Clusters Poor-No Matrix Cmt Cht Bone Wht (w/Small Rd OOL Tr Poor Vug Leaching Sh Aqua (w/Pyr Inclus)-Char Fissil No Flor No Stn No Odor NS

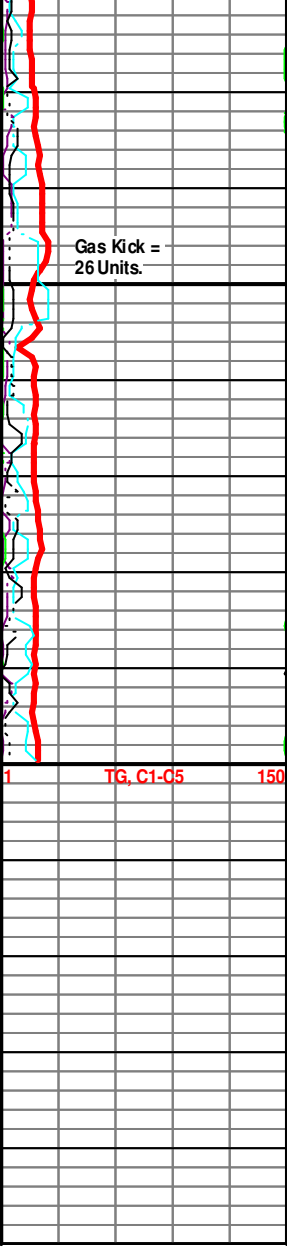
Qtz Ss Wht Lg-Med-Small Ang-Well Rd Well Sorted Frosted Grains in Clusters Poor-No Matrix Cmt Dolo Tan-Crm (w/Pyr Inclus) FxIn Fair-Med-Good IxIn Rhombic Sucrosic Ø Grainstone Friable Cht Bone Wht (w/Small Rd OOLw/Tr Poor Vug Leaching) Fos (Fuss) Sh Aqua (w/Pyr Inclus)-Char Fissil No Flor No Stn No Odor NS

Qtz Ss Wht Lg-Med-Small Ang-Well Rd Well Sorted Frosted Grains in Clusters (& Individual Loose Grains w/Pyr Inclus) Poor-No Matrix Cmt Dolo Tan-Crm (w/Pyr Inclus) FxIn Fair-Med IxIn Sucrosic Ø Packstone Friable Cht Bone Wht (w/Small Rd OOLin pl) -Smoky Gry (w/Wht Banding) Fos (Fuss) Sh Aqua (w/Pyr Inclus)-Char-Blk Carb Fissil No Flor No Stn No Odor NS

Dolo Tan-Crm (w/Pyr Inclus) Dns MicroIn Mudstone Grad FxIn Fair IxIn Friable Sucrosic Ø Packstone Friable Qtz Ss Wht AA (Dec) Cht Bone Wht (w/Small Rd OOL) Smoky Gry Translu-Op Shp Vit Sh Aqua (w/Pyr Inclus)-Char Fissil No Flor No Stn No Odor NS

30' CFS @ 6400' Dolo Tan-Crm (w/Pyr Inclus)-Wht Mostly Dns MicroIn Mudstone Grad FxIn Fair-Med IxIn Friable Sucrosic Ø Packstone AA Qtz Ss Wht AA (Dec) Cht Bone Wht-Smoky Gry Translu-Op Shp Vit Sh Aqua (w/Pyr Inclus)-Char Fissil No Flor No Stn No Odor NS

60" & 75" CFS @ 6400' Dolo Tan-Crm (w/Pyr Inclus)-Wht Mostly Dns MicroIn Mudstone Grad FxIn Fair-Med IxIn Friable Sucrosic Ø Packstone AA Qtz Ss Wht AA (Dec) Cht Bone Wht (w/Small Rd OOLin pl) Sh Aqua (w/Pyr Inclus)-Char Fissil Chalk (Tr Only) No Flor No Stn No Odor NS



**Electric Logs Run: By Weatherford Logging:
Density-Neutron Caliper; Dual Induction & Microresistivity.**

R.T.D. = 6400 (- 3633)
L.T.D. = ' (-)

6450

TREATMENT REPORT



HURRICANE SERVICES INC

| TIME | INJECTION RATE | | PRESSURE | | REMARKS | PROP (lbs) | HCL (gls) | FLUID (bbls) |
|---------|----------------|--------|----------|---------|---|------------|-----------|--------------|
| | FLUID | N2/CO2 | STP | ANNULUS | | | | |
| 4:46 AM | | | | | Release Psi | | | |
| | | | | | Float Held 1/2 BBL Back | | | |
| | | | | | Wash Up Truck | | | |
| | | | | | Good Circulation | | | |
| | | | | | Circulate 50 Sacks To Pit | | | |
| | | | | | WOC 1.5 Hours | | | |
| 7:45 AM | | | | | Cellar Full | | | |
| 8:00 AM | | | | | Off Location | | | |
| | | | | | Thank You | | | |
| | | | | | Please Call Again | | | |
| | | | | | Todd Cody Devin Joe Glen | | | |
| | | | | | Lead 475 Sacks Lead 3% CC 1/2 Lb/Sk PS | | | |
| | | | | | Tail 200 Sacks Common 2% Gel 3% CC 1/2 Lb/Sk PS | | | |
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Activity provided on this page is calculated in the summary and totals on page 1



250 N. Water, Ste 200 - Wichita, Ks 67202

HURRICANE SERVICES INC

104 Prairie Plaza Parkway - Garnett, Ks 66032

| | | | | | | | | |
|-------------------|-----------------------------|-------------|--------|----------------|---------------------------|----------------------------|-----------|---------------|
| Customer | McCoy Petroleum Corporation | | | Customer Name: | Dave Oller | Ticket No.: | 100890 | |
| Address: | P.O. Box 39 | | | Contractor: | Sterling Drilling Rig # 5 | Date: | 3/14/2018 | |
| City, State, Zip: | Spivey, Ks. 67142 | | | Job type: | 1800' 8 5/8 | Well Type: | Oil | |
| Service District: | Medicine Lodge, Ks. | | | Well Details: | Sec 1 | Twps: | 29S | Ri: 29W |
| Well name & No.: | Mack A 1-1 | | | Well Location: | Montezuma | County: | Gray | State: Kansas |
| Equipment # | Driver | Equipment # | Driver | Equipment # | Driver | TRUCK CALLED | | AM PM |
| 230 | Cody | | | | | ARRIVED AT JOB | | 8:45 |
| 177-250 | Devin | | | | | START OPERATION | | 3:15 |
| 176-260 | Joe | | | | | FINISH OPERATION | | 4:45 |
| 28 | Todd | | | | | RELEASED | | 8:00 |
| 31 | Glen | | | | | MILES FROM STATION TO WELL | | 132 |

| Product/Service Code | Description | Unit of Measure | Quantity | List Price/Unit | Gross Amount | Net Amount |
|----------------------|----------------------------------|-----------------|----------|-----------------|--------------|------------|
| C001 | Heavy Equip. One Way | mi | 180.00 | | | |
| C002 | Light Equip. One Way | mi | 60.00 | | | |
| C003 | Ton Mileage - One way | mi | 1,982.00 | | | |
| C012 | Cement Plug Container | job | 1.00 | | | |
| C019 | Cement Pump | ea | 1.00 | | | |
| CP003 | H-Con | sack | 475.00 | | | |
| CP006 | Regular - Class A Cement | sack | 200.00 | | | |
| CP016 | Bentonite Gel | lb | 376.00 | | | |
| CP017 | Calcium - Chloride | lb | 1,904.00 | | | |
| CP027 | Pheno Seal | lb | 338.00 | | | |
| CP110 | 8 5/8 - AFU Flapper Insert Valve | ea | 1.00 | | | |
| CP109 | 8 5/8 - Reg Guide Shoe | ea | 1.00 | | | |
| CP112 | 8 5/8 - Centralizer x 12 1/4 | ea | 3.00 | | | |
| CP051 | Rubber Plug 8 5/8" | ea | 1.00 | | | |
| CP113 | 8 5/8 - Cementing Basket | ea | 1.00 | | | |
| C021 | Cement Pump | hr | 2.00 | | | |

TERMS: Cash in advance unless Hurricane Services Inc. (HSI) has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts may pay interest on the balance past due at the rate of 1 1/4% per month or the maximum allowable by applicable state or federal laws if such laws limit interest to a lesser amount. In the event it is necessary to employ an agency and/or attorney to affect the collection of said account, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with HSI becomes delinquent, HSI has the right to revoke any and all discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount will become immediately due and subject to collection. Prices quoted are estimates only and are good for 30 days from the date of issue. Pricing does not include federal, state, or local taxes, or royalties and stated price adjustments. Actual charges may vary depending upon time, equipment, and material ultimately required to perform these services. Discount rate is based on 30 days net payment terms or cash.

DISCLAIMER NOTICE:
This technical data is presented in good faith, but no warranty is given by and H.S.I. assumes no liability for advice or recommendations made concerning results to be obtained from the use of any product or service. The information presented is HSI best estimate of the actual results that may be achieved and should be used for comparison purposes and make no guarantee of future production performance. Customer warrants that well and all associated equipment in acceptable condition to receive services by H.S.I. Likewise, the customer will guarantee proper operational care of all customer owned production and associated equipment, while H.S.I. is on location performing services which could adversely affect the performance of such services. Authorization below acknowledges receipt and acceptance of all terms and conditions stated above.

X _____
CUSTOMER AUTHORIZED AGENT

| | |
|--|------|
| Gross: | |
| Total Taxable | \$ - |
| Frac and Acid service treatments designed with intent to increase production on newly drilled or existing wells are not taxable. | |
| Date of Service: | |
| HSI Representative: | |
| Customer Comments: | |