

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

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

1. Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*
3. Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5) (Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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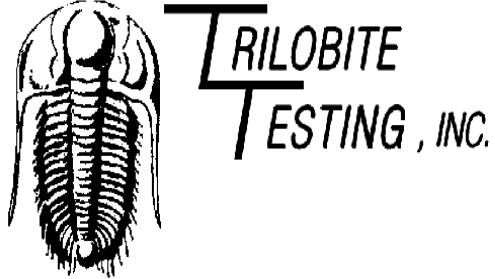
Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Bear Petroleum, LLC
Well Name	HIGGINS C 1
Doc ID	1416474

All Electric Logs Run

Geologic Report
Compensated Density/Neutron PE Log
Dual Induction Log
Micro Log
Cement Bond Log



DRILL STEM TEST REPORT

Prepared For: **Bear Petroleum, LLC**

PO Box 438
Haysville, KS 67060-0438

ATTN: Dick Schremmer/Aaron

Higgins C #1

10-30S-08W Kingman, KS

Start Date: 2018.03.11 @ 14:03:00

End Date: 2018.03.11 @ 21:37:00

Job Ticket #: 62024 DST #: 1

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

Printed: 2018.03.14 @ 14:35:37



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

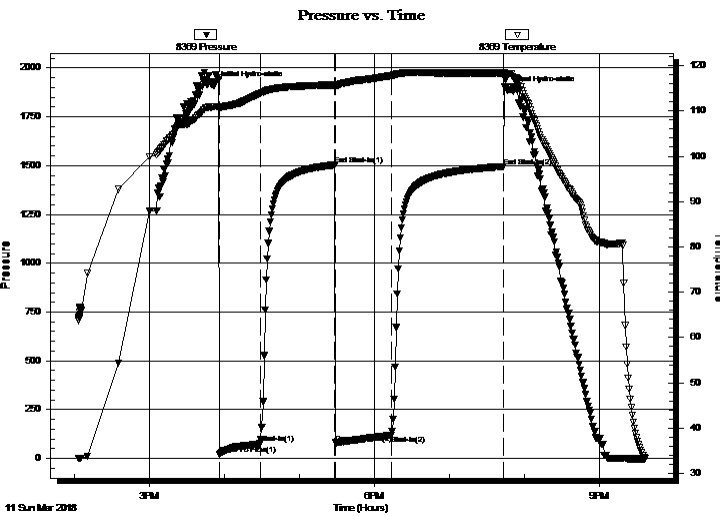
10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 62024 **DST#: 1**
 Test Start: 2018.03.11 @ 14:03:00

GENERAL INFORMATION:

Formation: **Hertha**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 15:55:40
 Time Test Ended: 21:37:00
 Interval: **3850.00 ft (KB) To 3874.00 ft (KB) (TVD)**
 Total Depth: 3874.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 1536.00 ft (KB)
 1525.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8369 Outside
 Press@RunDepth: 118.76 psig @ 3851.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.03.11 End Date: 2018.03.11 Last Calib.: 2018.03.11
 Start Time: 14:03:01 End Time: 21:37:00 Time On Btm: 2018.03.11 @ 15:52:00
 Time Off Btm: 2018.03.11 @ 19:46:39

TEST COMMENT: IF - Weak blow building to 2"
 FF - Weak blow building to 2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1911.31	110.94	Initial Hydro-static
4	20.08	110.52	Open To Flow (1)
37	75.43	113.82	Shut-In(1)
97	1503.62	115.76	End Shut-In(1)
97	79.79	115.39	Open To Flow (2)
142	118.76	117.79	Shut-In(2)
232	1495.74	118.40	End Shut-In(2)
235	1885.16	118.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
220.00	HMCW with trace O TR O 26% M 74%	W 2.25

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Bear Petroleum, LLC
PO Box 438
Haysville, KS 67060-0438
ATTN: Dick Schremmer/Aaron

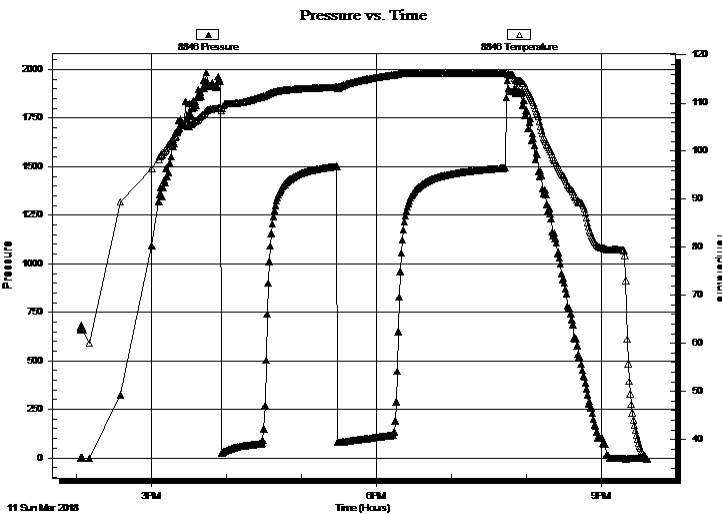
10-30S-08W Kingman, KS
Higgins C #1
Job Ticket: 62024 **DST#: 1**
Test Start: 2018.03.11 @ 14:03:00

GENERAL INFORMATION:

Formation: **Hertha**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:55:40
Time Test Ended: 21:37:00
Interval: **3850.00 ft (KB) To 3874.00 ft (KB) (TVD)**
Total Depth: 3874.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair
Test Type: Conventional Bottom Hole (Initial)
Tester: Jimmy Ricketts
Unit No: 80
Reference Elevations: 1536.00 ft (KB)
1525.00 ft (CF)
KB to GR/CF: 11.00 ft

Serial #: 8846 **Inside**
Press@RunDepth: psig @ 3851.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2018.03.11 End Date: 2018.03.11 Last Calib.: 1899.12.30
Start Time: 14:03:01 End Time: 21:37:00 Time On Btm:
Time Off Btm:

TEST COMMENT: IF - Weak blow building to 2"
FF - Weak blow building to 2"



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
220.00	HMCW with trace O TR O 26% M 74%	W 2.25

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 62024 **DST#: 1**
 Test Start: 2018.03.11 @ 14:03:00

Tool Information

Drill Pipe:	Length: 3761.00 ft	Diameter: 3.80 inches	Volume: 52.76 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 20000.00 lb
Drill Collar:	Length: 92.00 ft	Diameter: 2.25 inches	Volume: 0.45 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 53.21 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 55000.00 lb
Depth to Top Packer:	3850.00 ft			Final 55000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	52.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3823.00	
Shut In Tool	5.00			3828.00	
Hydraulic tool	5.00			3833.00	
Jars	5.00			3838.00	
Safety Joint	3.00			3841.00	
Packer	4.00			3845.00	28.00 Bottom Of Top Packer
Packer	5.00			3850.00	
Stubb	1.00			3851.00	
Recorder	0.00	8369	Outside	3851.00	
Recorder	0.00	8846	Inside	3851.00	
Perforations	18.00			3869.00	
Bullnose	5.00			3874.00	24.00 Bottom Packers & Anchor

Total Tool Length: 52.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bear Petroleum, LLC

10-30S-08W Kingman, KS

PO Box 438
Haysville, KS 67060-0438

Higgins C #1

Job Ticket: 62024

DST#: 1

ATTN: Dick Schremmer/Aaron

Test Start: 2018.03.11 @ 14:03:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

95000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 13500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
220.00	HMCW with trace O TR O 26% M 74% W	2.248

Total Length: 220.00 ft Total Volume: 2.248 bbl

Num Fluid Samples: 0

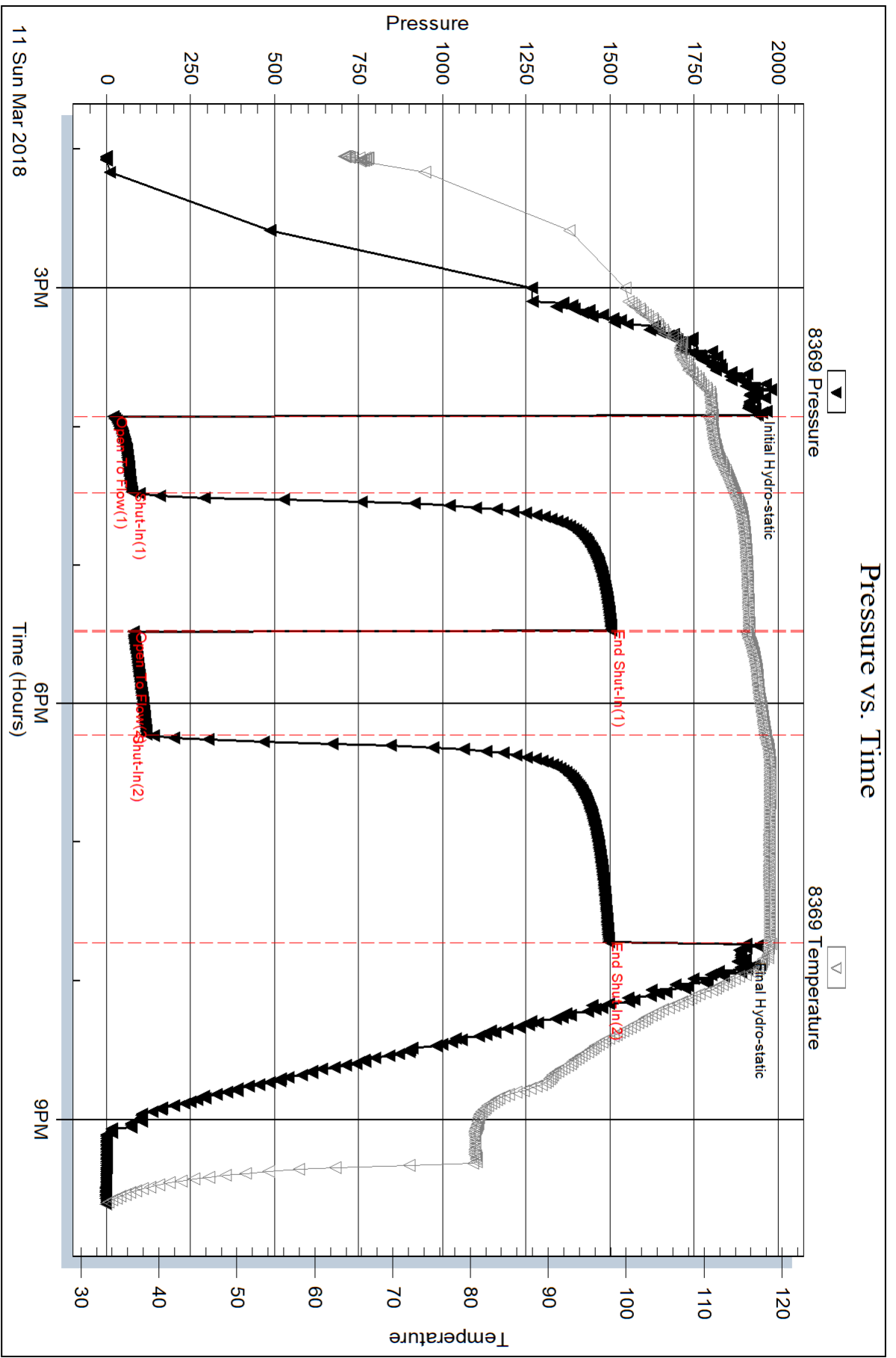
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



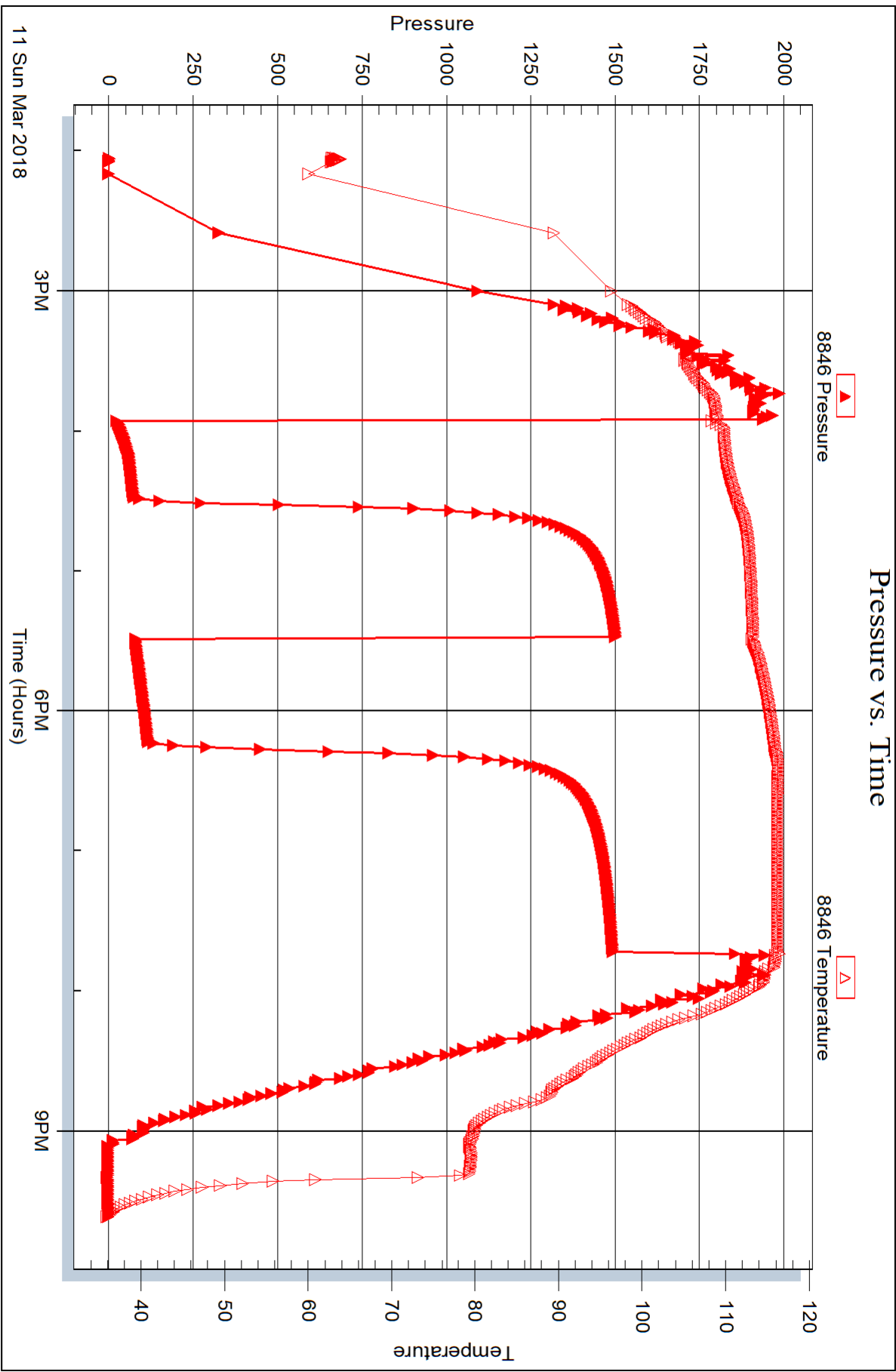
Serial #: 8846

Inside

Bear Petroleum, LLC

Higgins C#1

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Bear Petroleum, LLC**

PO Box 438
Haysville, KS 67060-0438

ATTN: Dick Schremmer/Aaron

Higgins C #1

10-30S-08W Kingman, KS

Start Date: 2018.03.12 @ 21:20:00

End Date: 2018.03.13 @ 05:28:09

Job Ticket #: 62025 DST #: 2

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

Printed: 2018.03.14 @ 14:29:09



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

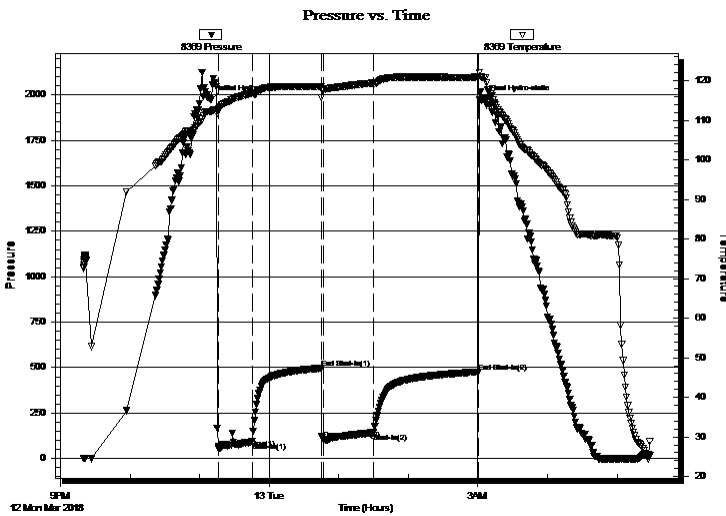
10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 62025 **DST#: 2**
 Test Start: 2018.03.12 @ 21:20:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:16:40
 Time Test Ended: 05:28:09
 Interval: **4098.00 ft (KB) To 4195.00 ft (KB) (TVD)**
 Total Depth: 4195.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 1536.00 ft (KB)
 1525.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8369 Outside
 Press@RunDepth: 140.90 psig @ 4099.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.03.12 End Date: 2018.03.13 Last Calib.: 2018.03.12
 Start Time: 21:20:01 End Time: 05:28:10 Time On Btm: 2018.03.12 @ 23:10:00
 Time Off Btm: 2018.03.13 @ 03:04:20

TEST COMMENT: IF - Weak blow building to strong blow 1 1/2 minutes into initial flow period. Gas to surface in 27 minutes
 IS - Strong blow throughout
 FF - Strong blow throughout
 FS - Strong blow back throughout



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1974.86	112.19	Initial Hydro-static
7	56.15	112.98	Open To Flow (1)
36	91.52	116.81	Shut-In(1)
95	496.35	118.59	End Shut-In(1)
97	103.95	117.73	Open To Flow (2)
140	140.90	119.41	Shut-In(2)
231	476.72	120.87	End Shut-In(2)
235	1974.80	120.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
300.00	Gassy mud 11% G 89% M	3.37
0.00	GTS	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.25	3.70	28.71
Last Gas Rate	0.25	2.20	26.33
Max. Gas Rate	0.25	3.70	28.71



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 62025 **DST#: 2**
 Test Start: 2018.03.12 @ 21:20:00

Tool Information

Drill Pipe:	Length: 3983.00 ft	Diameter: 3.80 inches	Volume: 55.87 bbl	Tool Weight: 2600.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 92.00 ft	Diameter: 2.25 inches	Volume: 0.45 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 56.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4098.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	97.00 ft			
Tool Length:	125.00 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			4071.00	
Shut In Tool	5.00			4076.00	
Hydraulic tool	5.00			4081.00	
Jars	5.00			4086.00	
Safety Joint	3.00			4089.00	
Packer	4.00			4093.00	28.00 Bottom Of Top Packer
Packer	5.00			4098.00	
Stubb	1.00			4099.00	
Recorder	0.00	8369	Outside	4099.00	
Recorder	0.00	8846	Inside	4099.00	
Perforations	22.00			4121.00	
Change Over Sub	0.50			4121.50	
Blank Spacing	63.00			4184.50	
Change Over Sub	0.50			4185.00	
Perforations	5.00			4190.00	
Bullnose	5.00			4195.00	97.00 Bottom Packers & Anchor
Total Tool Length:	125.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bear Petroleum, LLC

10-30S-08W Kingman, KS

PO Box 438
Haysville, KS 67060-0438

Higgins C #1

Job Ticket: 62025

DST#: 2

ATTN: Dick Schremmer/Aaron

Test Start: 2018.03.12 @ 21:20:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 10.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 13000.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
300.00	Gassy mud 11% G 89% M	3.370
0.00	GTS	0.000

Total Length: 300.00 ft

Total Volume: 3.370 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Bear Petroleum, LLC

10-30S-08W Kingman, KS

PO Box 438
Haysville, KS 67060-0438

Higgins C #1

Job Ticket: 62025

DST#: 2

ATTN: Dick Schremmer/Aaron

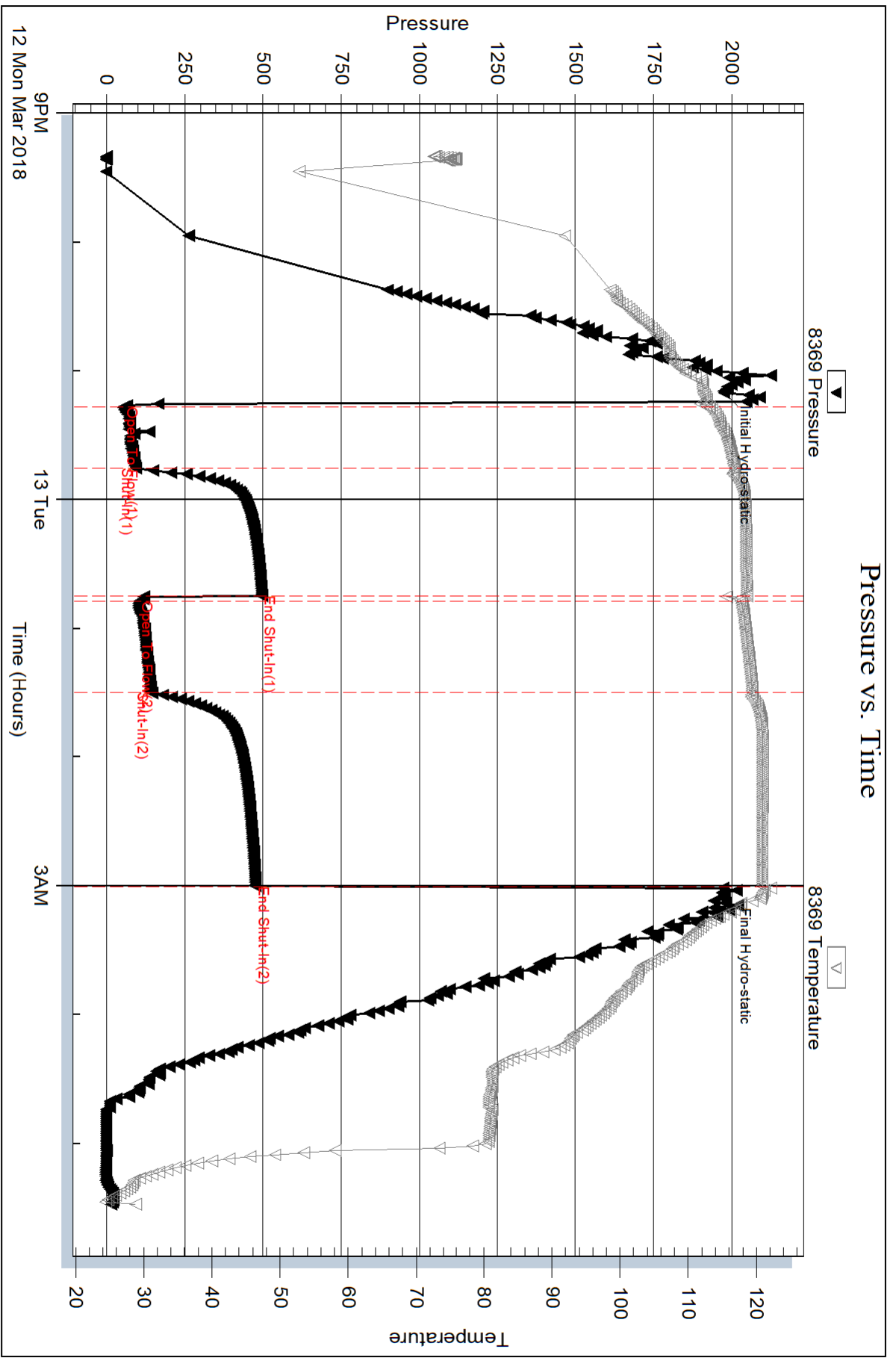
Test Start: 2018.03.12 @ 21:20:00

Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.25	3.70	28.71
2	20	0.25	2.70	27.13
2	30	0.25	2.00	26.02
2	40	0.25	2.20	26.33
2	45	0.25	2.20	26.33



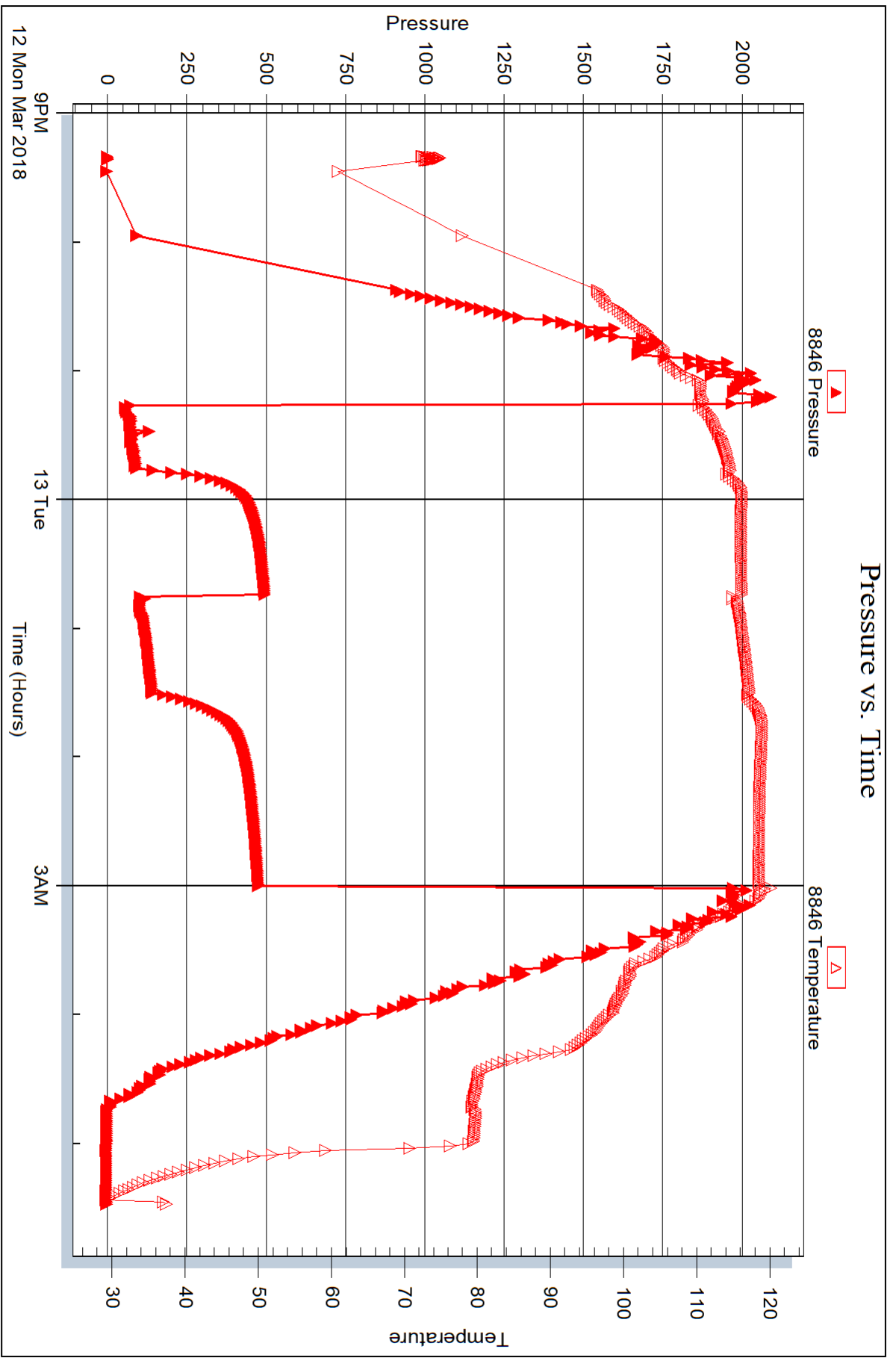
Serial #: 8846

Inside

Bear Petroleum, LLC

Higgins C#1

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 62025

Printed: 2018.03.14 @ 14:29:11



DRILL STEM TEST REPORT

Prepared For: **Bear Petroleum, LLC**

PO Box 438
Haysville, KS 67060-0438

ATTN: Dick Schremmer/Aaron

Higgins C #1

10-30S-08W Kingman, KS

Start Date: 2018.03.13 @ 12:59:00

End Date: 2018.03.13 @ 20:18:30

Job Ticket #: 63376 DST #: 3

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

Printed: 2018.03.14 @ 14:35:08



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

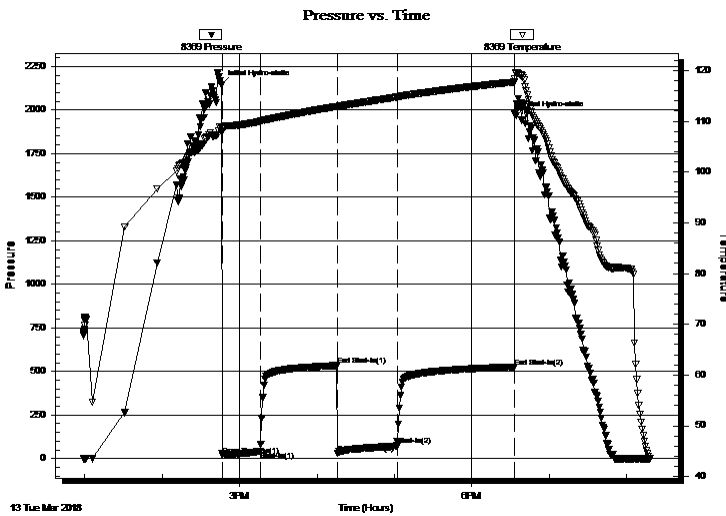
10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 63376 **DST#: 3**
 Test Start: 2018.03.13 @ 12:59:00

GENERAL INFORMATION:

Formation: **Mississippian**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 14:46:50
 Time Test Ended: 20:18:30
 Interval: **4194.00 ft (KB) To 4210.00 ft (KB) (TVD)**
 Total Depth: 4210.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Jimmy Ricketts
 Unit No: 80
 Reference Elevations: 1536.00 ft (KB)
 1525.00 ft (CF)
 KB to GR/CF: 11.00 ft

Serial #: 8369 Outside
 Press@RunDepth: 73.97 psig @ 4195.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2018.03.13 End Date: 2018.03.13 Last Calib.: 2018.03.13
 Start Time: 12:59:01 End Time: 20:18:30 Time On Btm: 2018.03.13 @ 14:46:00
 Time Off Btm: 2018.03.13 @ 18:34:20

TEST COMMENT: IF - Weak blow building to strong blow 29 minutes into initial flow period. Gas to surface in 29 minutes
 IS - Surface blow back
 FF - Strong blow throughout
 FS - 4" blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2143.43	108.90	Initial Hydro-static
1	20.31	108.67	Open To Flow (1)
30	41.11	109.97	Shut-In(1)
90	533.67	112.94	End Shut-In(1)
91	30.47	112.76	Open To Flow (2)
136	73.97	114.75	Shut-In(2)
227	525.76	117.71	End Shut-In(2)
229	1967.98	119.58	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GO and M cut W 10%G 8%O 71%W 11%	0.30
85.00	GHO and W cut M 10%G 22%O 26%w	4.0.90l
0.00	GTS	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	0.13	1.10	5.80
Last Gas Rate	0.13	3.40	6.66
Max. Gas Rate	0.13	3.40	6.66



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bear Petroleum, LLC
 PO Box 438
 Haysville, KS 67060-0438
 ATTN: Dick Schremmer/Aaron

10-30S-08W Kingman, KS
Higgins C #1
 Job Ticket: 63376 **DST#: 3**
 Test Start: 2018.03.13 @ 12:59:00

Tool Information

Drill Pipe:	Length: 4079.00 ft	Diameter: 3.80 inches	Volume: 57.22 bbl	Tool Weight: 2300.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: inches	Volume: 0.00 bbl	Weight set on Packer: 22000.00 lb
Drill Collar:	Length: 92.00 ft	Diameter: 2.25 inches	Volume: 0.45 bbl	Weight to Pull Loose: 61000.00 lb
			<u>Total Volume: 57.67 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	4194.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	16.00 ft			
Tool Length:	44.00 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			4167.00	
Shut In Tool	5.00			4172.00	
Hydraulic tool	5.00			4177.00	
Jars	5.00			4182.00	
Safety Joint	3.00			4185.00	
Packer	4.00			4189.00	28.00 Bottom Of Top Packer
Packer	5.00			4194.00	
Stubb	1.00			4195.00	
Recorder	0.00	8369	Outside	4195.00	
Recorder	0.00	8846	Inside	4195.00	
Perforations	10.00			4205.00	
Bullnose	5.00			4210.00	16.00 Bottom Packers & Anchor

Total Tool Length: 44.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Bear Petroleum, LLC

10-30S-08W Kingman, KS

PO Box 438
Haysville, KS 67060-0438

Higgins C #1

Job Ticket: 63376

DST#: 3

ATTN: Dick Schremmer/Aaron

Test Start: 2018.03.13 @ 12:59:00

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:

8500 ppm

Viscosity: 58.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.38 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 8500.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
60.00	GO and M cut W 10%G 8%O 71%W 11%M	0.295
85.00	GHO and W cut M 10%G 22%O 26%w 42%M	0.901
0.00	GTS	0.000

Total Length: 145.00 ft

Total Volume: 1.196 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Bear Petroleum, LLC

10-30S-08W Kingman, KS

PO Box 438
Haysville, KS 67060-0438

Higgins C #1

Job Ticket: 63376

DST#: 3

ATTN: Dick Schremmer/Aaron

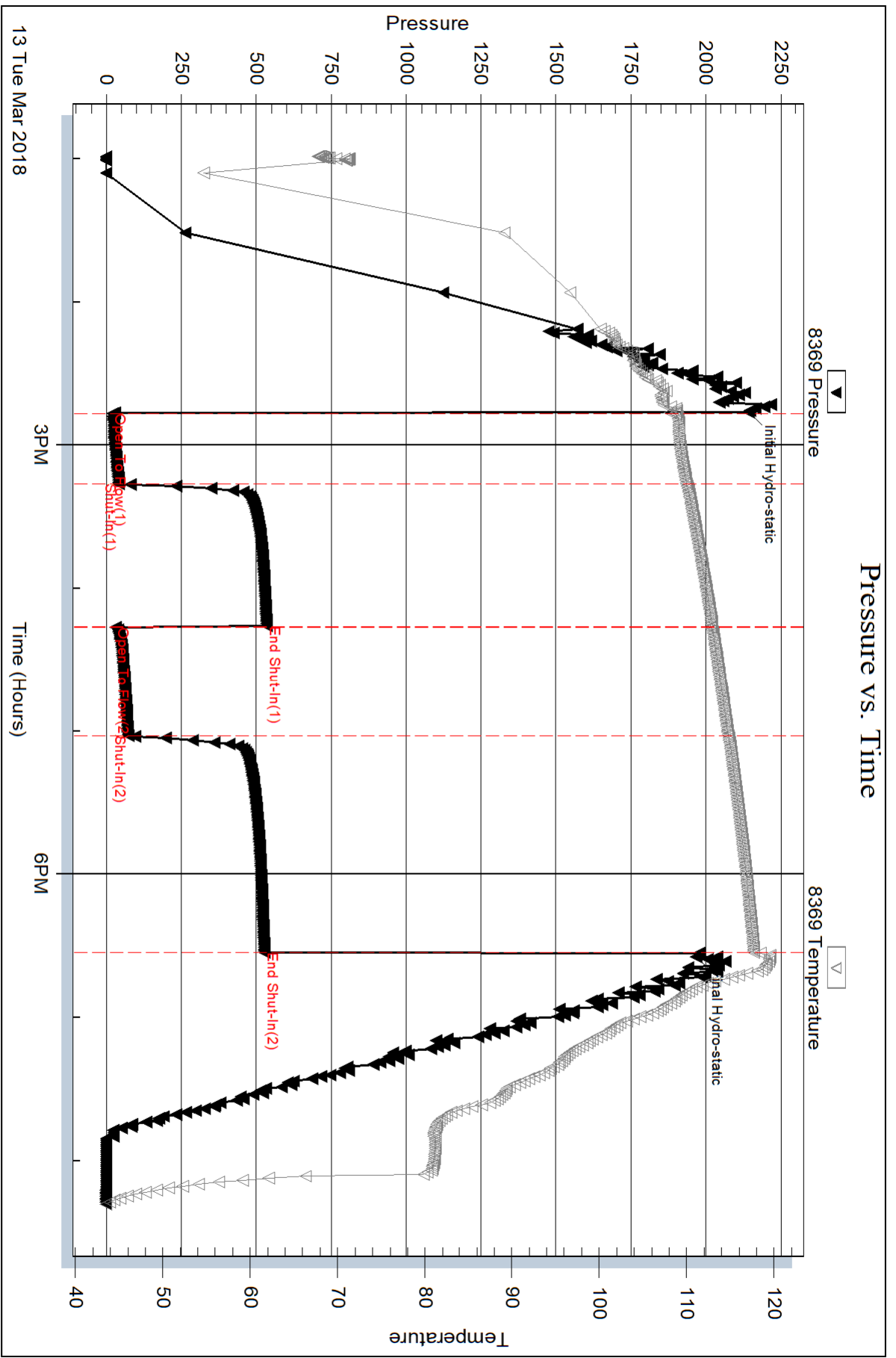
Test Start: 2018.03.13 @ 12:59:00

Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
2	10	0.13	1.10	5.80
2	20	0.13	1.90	6.10
2	30	0.13	2.90	6.47
2	40	0.13	3.20	6.59
2	45	0.13	3.40	6.66



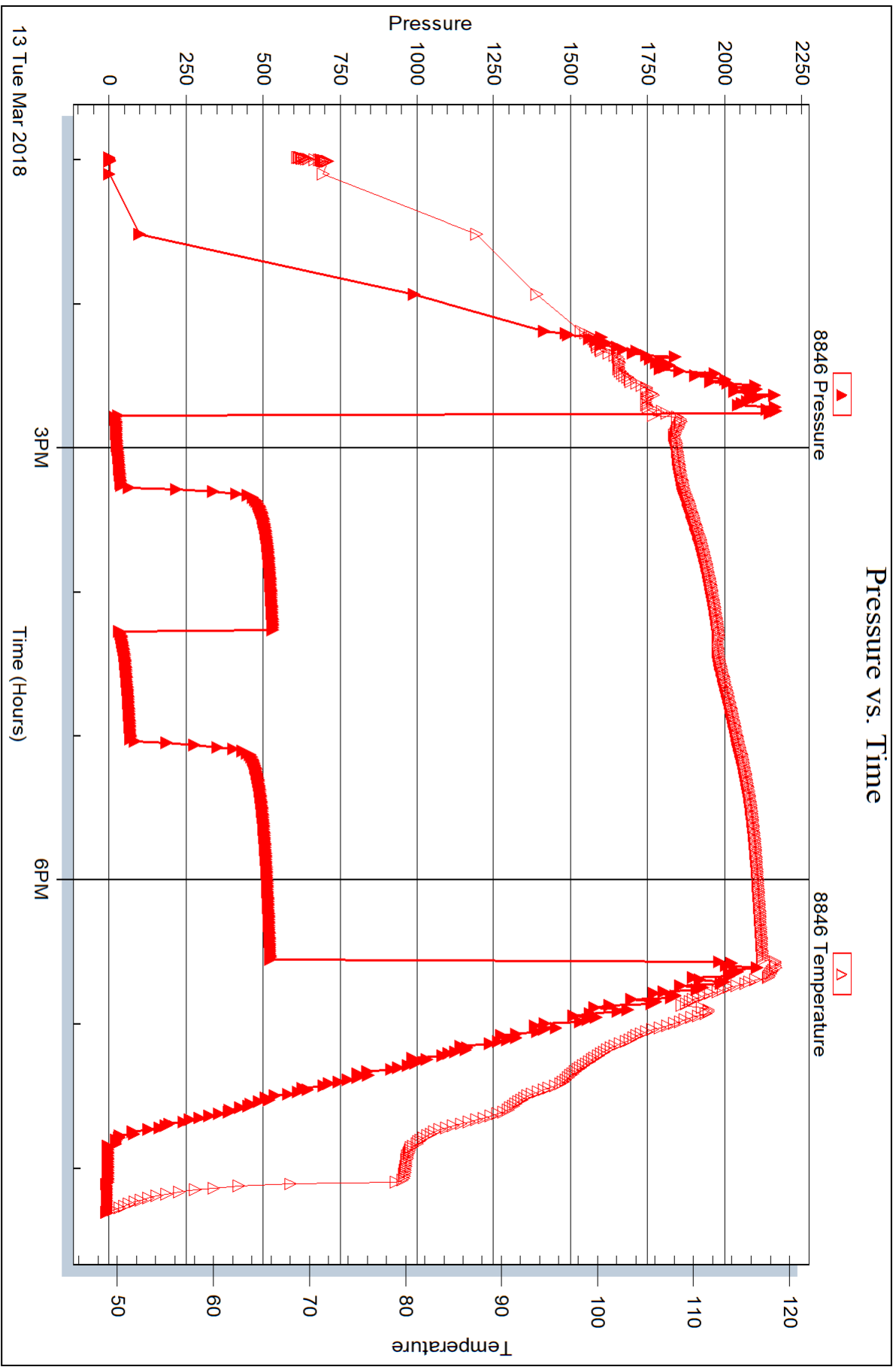
Serial #: 8846

Inside

Bear Petroleum, LLC

Higgins C#1

DST Test Number: 3





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 62024

Well Name & No. Higgins OC #1 Test No. 1 Date 3-11-18
 Company Bear Petroleum, LLC Elevation 1536 KB 1525 GL
 Address P.O. Box 438 Haysville, KS, 67060-0438
 Co. Rep / Geo. Dick Schreiner/Aaron Young Rig Martin Drilling #20
 Location: Sec. 10 Twp. 30 S Rge. 8 W Co. Kingman State KS

Interval Tested 3850 - 3874 Zone Tested Hertha
 Anchor Length 24' Drill Pipe Run 3761 Mud Wt. 9.6
 Top Packer Depth 3845 Drill Collars Run 92 Vis 48
 Bottom Packer Depth 3850 Wt. Pipe Run 0 WL 8.8
 Total Depth 3874 Chlorides 13500 ppm System LCM
 Blow Description IF - weak blow building to 2 inches IFP
FF - weak blow building to 2 inches FFP.

Rec	Feet of	%gas	%oil	%water	%mud
<u>220</u>	<u>Heavy mud cut water</u>	<u>TR</u>		<u>74</u>	<u>26</u>
	<u>with trace oil</u>				

Rec Total 220 BHT 118 Gravity API RW .137 @ 47.1 °F Chlorides 95000 ppm
 (A) Initial Hydrostatic 1911 Test 1050 T-On Location 1330
 (B) First Initial Flow 20 Jars 250 T-Started 1403
 (C) First Final Flow 75 Safety Joint 75 T-Open 1555
 (D) Initial Shut-In 1504 Circ Sub _____ T-Pulled 1943
 (E) Second Initial Flow 80 Hourly Standby _____ T-Out 2230
 (F) Second Final Flow 119 Mileage 102 RT 102 Comments _____
 (G) Final Shut-In 1496 Sampler _____
 (H) Final Hydrostatic 1885 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Initial Open 33 Day Standby _____ Sub Total 0
 Initial Shut-In 60 Accessibility _____ Total 1727
 Final Flow 45 Sub Total 1727 MP/DST Disc't _____
 Final Shut-In 90

Approved By _____

Our Representative Jimmy Dickel

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. 62025

Well Name & No. Higgins C #1 Test No. 2 Date 3-12-18
 Company Bear Petroleum, LLC Elevation 1536 KB 1525 GL
 Address P.O. Box 438 Haysville, KS. 67060-0438
 Co. Rep / Geo. Dick Schremmer / Aaron Young Rig Markin Drilling #20
 Location: Sec. 10 Twp. 30 S Rge. 8 W Co. Kingman State KS.

Interval Tested 4098-4195 Zone Tested Mississippian
 Anchor Length 97 Drill Pipe Run 3983 Mud Wt. 9.5
 Top Packer Depth 4093 Drill Collars Run 92 Vis 49
 Bottom Packer Depth 4098 Wt. Pipe Run 0 WL 8.8
 Total Depth 4195 Chlorides 13000 ppm System LCM

Blow Description IF-Weak blow building to Strong blow 1 1/2 mins into IFP
Gas to Surface 27 mins. into IFP. Strong blow back during FSP.
FF- Strong blow throughout FFP

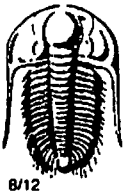
Rec	Feet of	%gas	%oil	%water	%mud
300	Gassy Mud	11		89	
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud

Rec Total 300 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>1975</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2040</u>
(B) First Initial Flow <u>56</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>2120</u>
(C) First Final Flow <u>92</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2315</u>
(D) Initial Shut-In <u>496</u>	<input type="checkbox"/> Circ Sub _____	T-Pulled <u>0300</u>
(E) Second Initial Flow <u>104</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>0520</u>
(F) Second Final Flow <u>141</u>	<input checked="" type="checkbox"/> Mileage <u>102</u> <u>RT 102</u>	Comments _____
(G) Final Shut-In <u>477</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>1975</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>1827</u>
Final Shut-In <u>90</u>	<input type="checkbox"/> Day Standby _____	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>1827</u>	

Approved By _____ Our Representative Jimmy Dickel

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Gas Volume Report

Bear Petroleum, LLC

Higgins C #1

2

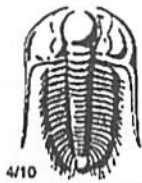
TFP Operator

TFP Well Name and No.

DST No.

Min.	Ins. of Water PSIG	Orifice Size	CF/D	Min.	Ins. of Water PSIG	Orifice Size	CF/D
27			Gas to Surface	10	3.7	1/4	28700
				20	2.7	1/4	27100
				30	2.0	1/4	26000
				40	2.2	1/4	26300
				45	2.2	1/4	26300

Remarks:



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **63376**

Well Name & No. Higgins C #1 Test No. 3 Date 3-13-18
 Company Bear Petroleum, LLC Elevation 1536 KB 1525 GL
 Address P.O. Box 438 Haysville, KS. 67060-0438
 Co. Rep / Geo. Dick Schremmer / Aaron Young Rig Murfin Drilling #20
 Location: Sec. 10 Twp 30S Rge. 8W Co. Kingman State KS

Interval Tested 4194-4210 Zone Tested Mississippian
 Anchor Length 16' Drill Pipe Run 4079 Mud Wt. 9.1
 Top Packer Depth 4189 Drill Collars Run 92 Vis 58
 Bottom Packer Depth 4194 Wt. Pipe Run 0 WL 8.4
 Total Depth 4210 Chlorides 8500 ppm System LCM

Blow Description IF- Weak blow building to Strong blow 2mins into FFP
Gas to Surface 29 mins. Into IFF. Surface Blow back during FSP.

FF- Strong blow throughout FFP.

FS- 4 inch blow back during FSP

Rec	Feet of	%gas	%oil	%water	%mud
<u>60</u>	<u>Cassy oil and mud cut water</u>	<u>10</u>	<u>8</u>	<u>71</u>	<u>11</u>
<u>85</u>	<u>Cassy Heavy oil and water cut mud</u>	<u>10</u>	<u>22</u>	<u>26</u>	<u>42</u>
<u> </u>	<u>Cassy oil and mud cut water</u>	<u>10</u>	<u>8</u>	<u>71</u>	<u>11</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

Rec Total 145 BHT _____ Gravity _____ API RW 090 @ 55 °F Chlorides 8500 ppm

(A) Initial Hydrostatic 2143 Test 1150 T-On Location 1230
 (B) First Initial Flow 20 Jars 250 T-Started 1259
 (C) First Final Flow 41 Safety Joint 75 T-Open 1446
 (D) Initial Shut-In 534 Circ Sub _____ T-Pulled 1833
 (E) Second Initial Flow 30 Hourly Standby _____ T-Out 2010
 (F) Second Final Flow 74 Mileage 102 RT 102 Comments _____
 (G) Final Shut-In 526 Sampler _____
 (H) Final Hydrostatic 1968 Straddle _____ Ruined Shale Packer _____
 Shale Packer 250 Ruined Packer _____

Initial Open 30 Extra Packer _____ Extra Copies _____
 Initial Shut-In 60 Extra Recorder _____ Sub Total 0
 Final Flow 45 Day Standby _____ Total 1827
 Final Shut-In 92 Accessibility _____ MP/DST Disc't _____
 Sub Total 1827

Approved By _____ Our Representative Jimmy Ricketts

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.



FIELD ORDER N^o C 45662

BOX 438 • HAYSVILLE, KANSAS 67060
316-524-1225

DATE 3/7/12 2012

IS AUTHORIZED BY: Dear Petroleum (NAME OF CUSTOMER)

Address _____ City _____ State _____

To Treat Well As Follows: Lease Higgins Well No. C-1 Customer Order No. _____

Sec. Twp. _____ Range _____ County Kingman State Ks

CONDITIONS: As a part of the consideration hereof it is agreed that Copeland Acid Service is to service or treat at owners risk, the hereinbefore mentioned well and is not to be held liable for any damage that may accrue in connection with said service or treatment. Copeland Acid Service has made no representation, expressed or implied, and no representations have been relied on, as to what may be the results or effect of the servicing or treating said well. The consideration of said service or treatment is payable. There will be no discount allowed subsequent to such date. 6% interest will be charged after 60 days. Total charges are subject to correction by our invoicing department in accordance with latest published price schedules.
The undersigned represents himself to be duly authorized to sign this order for well owner or operator.

THIS ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED _____ Well Owner or Operator By _____ Agent

CODE	QUANTITY	DESCRIPTION	UNIT COST	AMOUNT
2	90	mileage pump trucks	4. ⁰⁰ / ₁₀₀	360.00
2	90	mileage pickup	2. ⁰⁰ / ₁₀₀	180.00
2	1	Pump Charge - Surface		1,100.00
2	185	60/40 per. 2% sol.	10. ⁷⁵ / ₁₀₀	1,985.75
2	10	Calcium Chloride	30. ⁰⁰ / ₁₀₀	300.00
2	195	Bulk Charge	1. ²⁵ / ₁₀₀	243.75
2		Bulk Truck Miles $8.39T \times 90m = 755.17m \times 1.19$	1. ¹⁰ / ₁₀₀	830.61
		Process License Fee on _____ Gallons		5,003.11
TOTAL BILLING				

I certify that the above material has been accepted and used; that the above service was performed in a good and workmanlike manner under the direction, supervision and control of the owner, operator or his agent, whose signature appears below.

Copeland Representative Nctm. W.

Station C-13

Dick S.
Well Owner, Operator or Agent

Remarks _____

NET 30 DAYS



1880

1880

1880

1880
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1880

1880

1880

Geologic Report
Aaron L. Young

Drilling Time and Sample Log

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

Well Name: Higgins C #1
API: 15-095-22319
Location: Section 10 - T30S - R8W
License Number: 4419
Spud Date: 3/6/2018
Surface Coordinates: 3300' FSL and 3300' FEL
Approx. SE - NW
Region: Kingman Co., KS
Drilling Completed: 3/15/2018
Bottom Hole Coordinates:
Ground Elevation (ft): 1525' K.B. Elevation (ft): 1536'
Logged Interval (ft): 3000' To: 4250' Total Depth (ft): 4250'
Formation: Mississippi
Type of Drilling Fluid: Chemical - Andy's

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

OPERATOR

Company: Bear Petroleum, LLC
Address: PO BOX 438
Haysville, KS 67060+0438

GEOLOGIST

Name: Aaron L. Young, M.S.
Company: Young Consulting LLC
Address: 100 S Main, Suite 505
Wichita, Kansas 67202

General Info

CONTRACTOR: Murfin Drilling, Rig #20

BIT RECORD:

No.	Size	Make	Jets	Out	Feet	Hours
1	12-1/4	Smith	16-16-16	225	214	3.5
2	7-7/8	HTCO DP 506 PDC	15-15-15	2988	2774	48.0
3	7-7/8	HTCO GX220C	15-15-15	4250	1262	50.0 / 101.5

SURVEYS: 211'-0.7, 649'-0.4, 1155'-0.2, 1661'-0.4, 1946'-0, 2261'-0.1, 2988-0, 3494'-0.4, 3874'-0.3, 4250'-0.2

GENERAL DRILLING AND PUMP INFORMATION:

Drilling with 28,000 - 36,000 lbs. on bit and approx 80-85 RPM.
Running 8.5 stands of collars; 511.61'
Pumping approx 800-900 psi at standpipe.

Daily Status

3/6/18 - Spud, Ran 5 jts of 8 5/8" surface casing set @ 211', cmt w/ 185 sx 60/40 poz, 2% gel, 3% CC
3/7/18 - WOC
3/8/18 - Drilling @ 1820'
3/9/18 - Drilling @ 2705'
3/10/18 - Drilling @ 3442'
3/11/18 - Drilling @ 3950' DST #1

3/12/18 - Drilling @ 4308' DST #2

3/13/18 - Circ @ 4195' DST #3

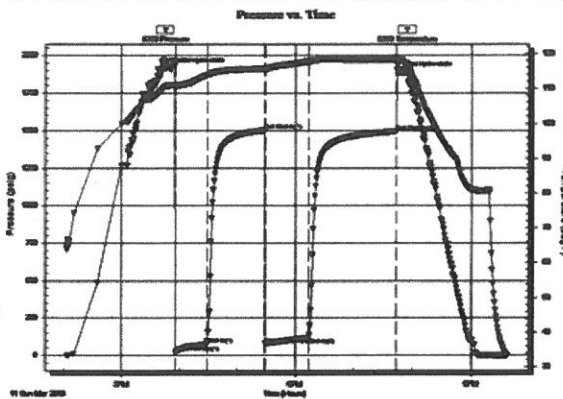
3/14/18 - Drilling at 4308', Set 4 1/2" used production casing w/ 150 sx 60/40 Poz 2% gel

DST #1 HERTHA 3850' - 3874'
30"-60"-45"-90"

IF: Weak blow, built to 2"
ISI: No blow
FF: Weak blow built to 2"
FSI: No blow

Rec'd: 220' HMCW w/ trace of oil (26% M, 74% W)

SIP: 1504-1496# FP: 20-75#, 80-119# HP: 1911-1885#



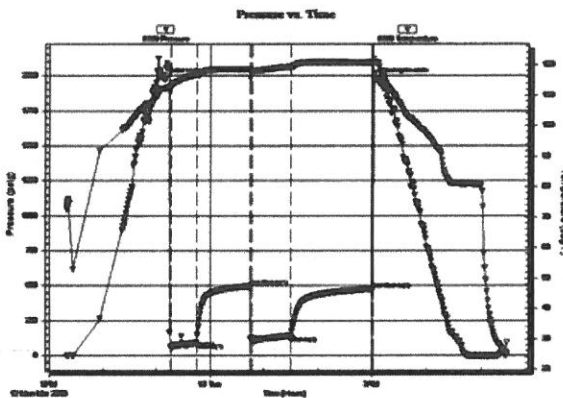
DST #2 MISSISSIPPI 4098' - 4195'
30"-60"-45"-90"

IF: Weak build to BOB in 2.5 min, GTS in 27 min
ISI: Strong blow throughout
FF: Strong blow throughout
FSI: Strong blow throughout

Rec'd: 300' Gassy mud (11% G, 89% M)

Guaged 28.71 Mcf/d stabilized

SIP: 496-477# FP: 56-92#, 104-141# HP: 1975-1975#



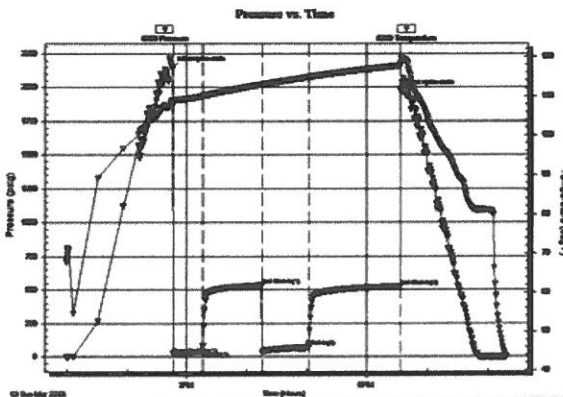
DST #3 MISSISSIPPI 4194' - 4210'
30"-60"-45"-90"

IF: Weak build to strong blow, GTS in 29 min
ISI: Surface blow back
FF: Strong blow throughout

Rec'd: 60' GO&MCW (10% G, 8% O, 71% W, 11% M), 85'
GHO&WCM (10% G, 22% O, 26% W, 42% M)

Guaged 6.7 Mcf/d stabilized

SIP: 534-526#
FP: 20-41#, 30-74#
HP: 2143-1968#



ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Dol

- Gyp
- lgne
- Lmst
- Meta
- Mrst
- Salt
- Shale
- Shcol

- Shgy
- Sltst
- Ss
- Till
- Carb sh
- Dol
- Dtd
- Gry sh

- Sandylms
- Shale
- Sltstn
- Shlysis
- Sitysh
- Lms

ACCESSORIES

- MINERAL
- Anhy
 - Arggrn
 - Arg
 - Bent
 - Bit
 - Brecfrag
 - Calc
 - Carb
 - Chtdk
 - Chtlt
 - Dol
 - Feldspar
 - Ferrpel
 - Ferr
 - Glau
 - Gyp
 - Hvymin
 - Kaol
 - Marl
 - Minxl
 - Nodule
 - Phos
 - Pyr

- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sity

FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram

- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

STRINGER

- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sitstrg
- Ssstrg
- Carbsh

- Clystn
- Dol
- Grysh
- Gryst
- Lms
- Sandylms
- Sh
- Sltstn

TEXTURE

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

OTHER SYMBOLS

- POROSITY TYPE
- Earthy
 - Fenest
 - Fracture
 - Inter
 - Moldic
 - Organic
 - Pinpoint
 - Vuggy

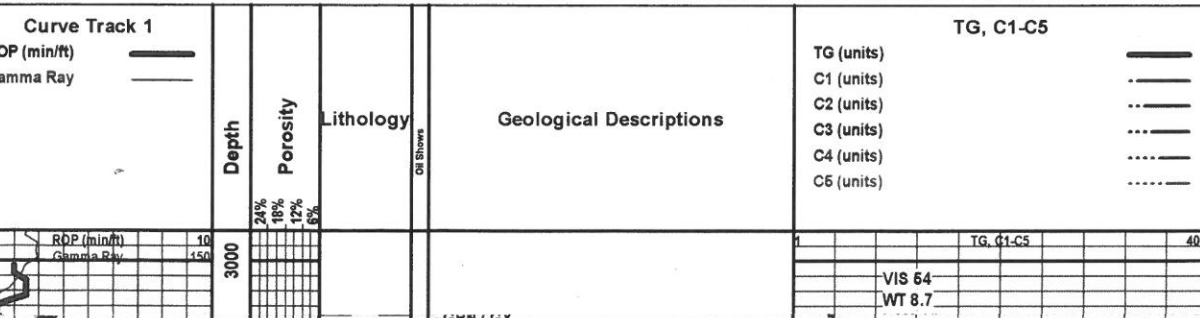
- SORTING
- Well
 - Moderate
 - Poor

- ROUNDING
- Rounded
 - Subrnd
 - Subang
 - Angular

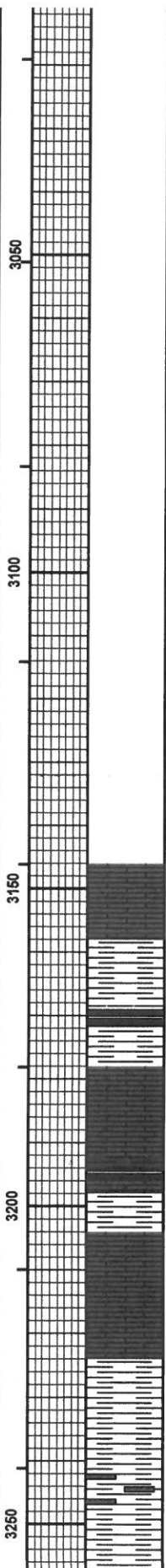
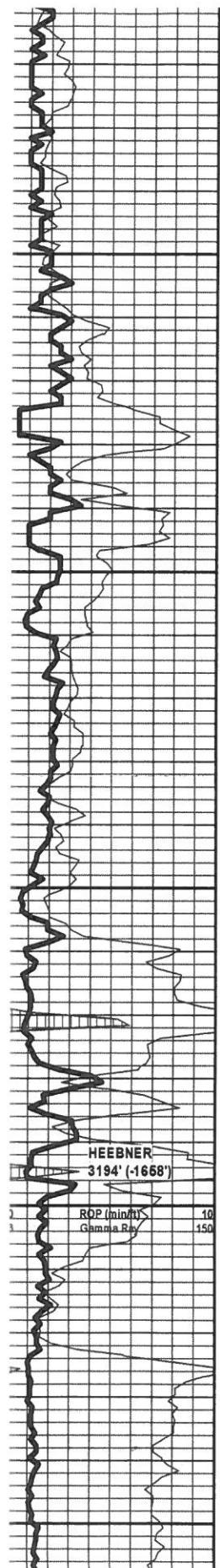
- OIL SHOWS
- Even
 - Spotted
 - Ques
 - Dead
 - Gas show

- INTERVALS
- Core
 - Dst

- EVENTS
- Rft
 - Sidewall
 - Conn



VIS 64
WT 8.7



LS - CRM / TAN, VF / F XLN, SUBCHKY / CHKY,
MOD DNS IN PT, FOSS IN PT

SH - GY / DK GY

SH - BLK, CARB, W/ SH - LT GY / GY

LS - CRM / TAN, VF / F XLN, MOD DNS /
SUBCHKY, CHKY IN PT, FOSS IN PT

SH - BLK, CARB

LS - CRM, VF / F XLN, MOD DNS, SUBCHKY IN
PT

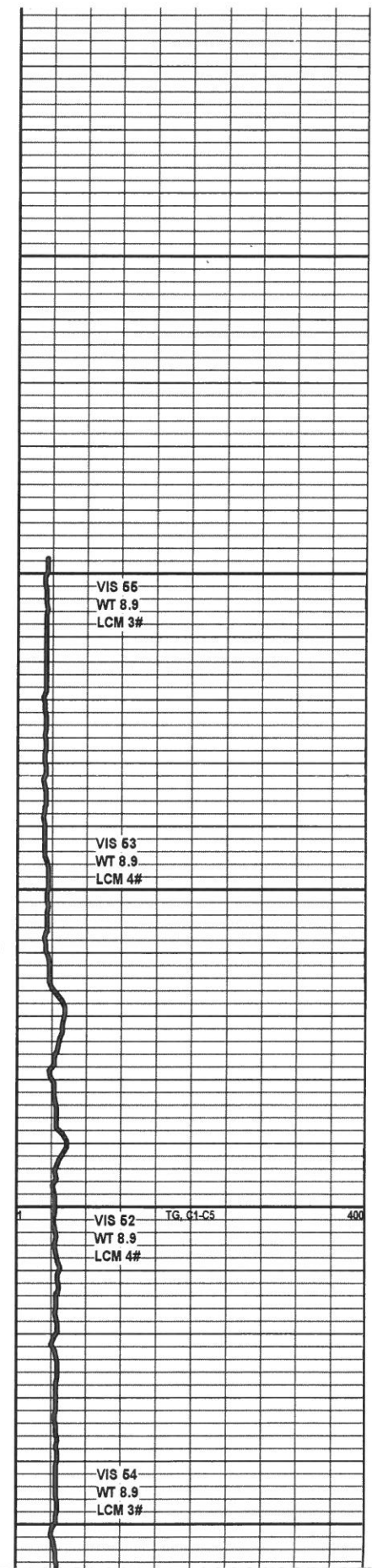
LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, V
CHKY IN PT

LS - TAN / GY, F / M XLN, MOD DNS / DNS,
FOSS

SH - GY / DK GY

SH - GY / DK GY, PYRITIC IN PT

SH - LT GY / GY, SLTY



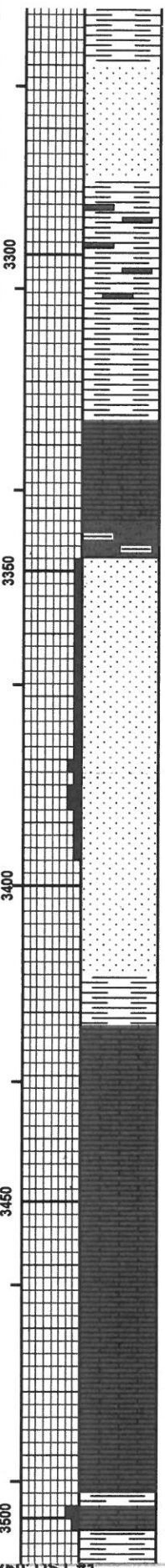
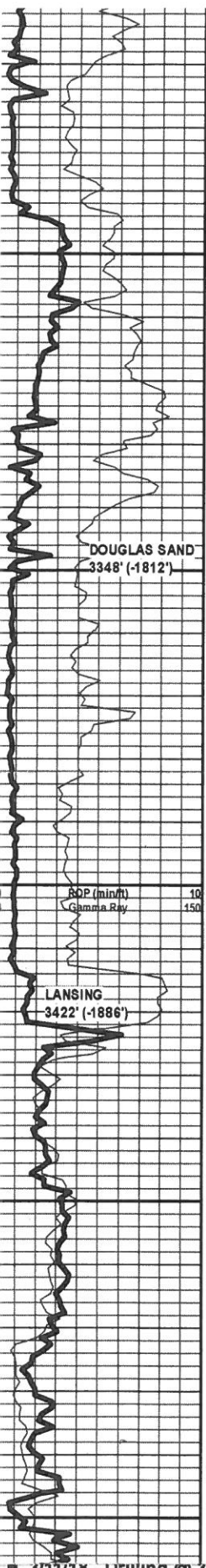
VIS 66
WT 8.9
LCM 3#

VIS 63
WT 8.9
LCM 4#

VIS 62
WT 8.9
LCM 4#

TG, G1-C5 400

VIS 64
WT 8.9
LCM 3#



SH - GY, MOD DNS, W/ FEW PIECS OF SS - CLR / GY, F GR, SUB-RND, WSRTD, SHLY IN PT, P / F INTERGR POR, FRI IN PT, NS, NO ODR

SS - CLR / GY, F GR, SUB-ANG / SUB-RND, W MOD SRTD, W CEM IN PT, FRI IN PT, NS

SH - GY / LT GY, SLTY IN PT

SH - LT GY, SLI SLTY IN PT

SH - LT GY / DK GY

SH - GY, W/ LS - CRM, VF / F XLN, MOD DNS / SUBCHKY

LS - CRM / TAN / BRN IN PT, VF / F XLN, PRED SUBCHKY / MOD DNS, DNS IN PT, FOSS IN PT

LS - CRM / TAN, VF / F XLN, SUBCHKY / CHKY

SHLY SLTSTN - LT GY / GY

SS - CLR / GY, F GR, SUB-RND, WSRTD, M CEM, DNS IN PT, P INTGR POR, NS

SS - CLR / GY, F GR, SUB-RND, WSRTD, FRI IN PT, P / F INTERGR POR

SS - CLR / GY, VF / F GR, SUB-RND, WSRTD, MOD DNS, NS

LS - CRM / WHT IN PT, VF / F XLN, PRED MOD DNS / SUBCHKY, CHKY IN PT

LS - BRN / GY, F / M XLN, MOD DNS / DNS, FOSS

LS - CRM / TAN, VF / F XLN, MOD DNS, FOSS, LRG FOSS REPLACED BY CALCTE

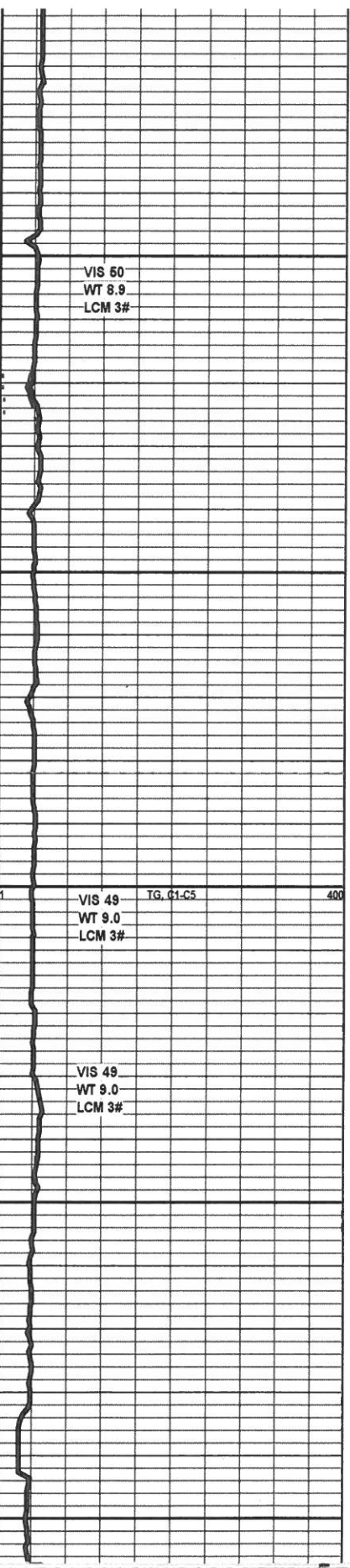
LS - TAN / LT GY, F XLN, MOD DNS / DNS, FOSS, FOSS REPLACED BY CALCTE

LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, CHKY IN PT, STYLITIZED IN PT, FOSS

LS - CRM / TAN, VF / F XLN, MOD DNS, STYLITIZED, FOSS

LS - TAN / GY, F XLN, MOD DNS, FOSS, ABUND FOSS IN PT

LS - BRN / TAN / CRM, F XLN, MOD DNS / DNS, P OOLMOLDIC POR IN PT PT, NS, FOSS, W/ SH GRN / GY



DOUGLAS SAND
3348' (-1812')

RDP (min-ft)
Gamma Ray
10
150

LANSING
3422' (-1886')

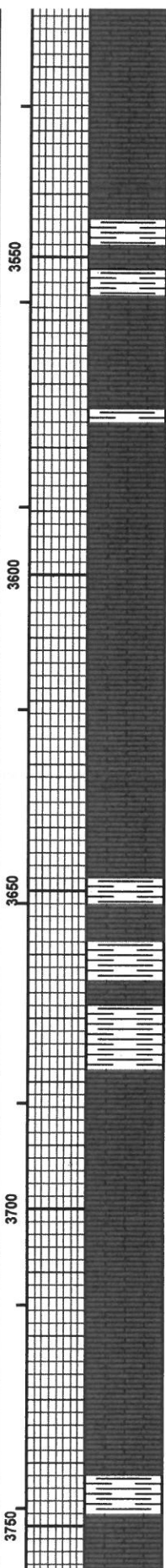
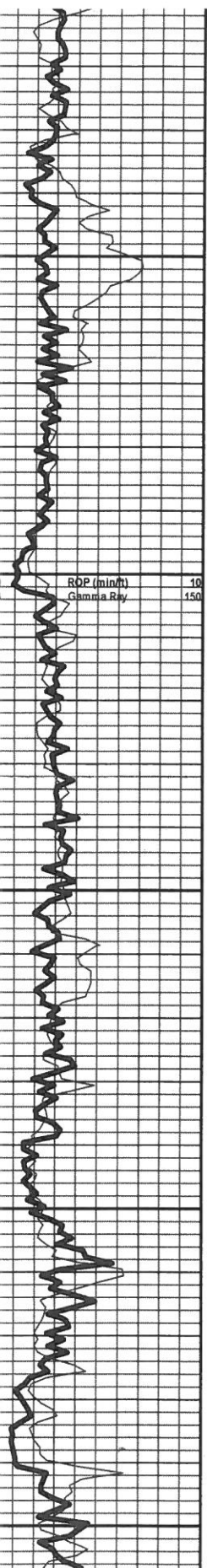
VIS 60
WT 8.9
LCM 3#

VIS 49
WT 9.0
LCM 3#

VIS 49
WT 9.0
LCM 3#

TG. C1-C5

400



LS - CRM / TAN, F XLN, MOD DNS / DNS, ABUND OF FOSS IN PT

LS - TAN / GY, F XLN, MOD DNS / DNS, FOSS

LS - TAN / BRN, F / M XLN, MOD DNS / DNS, FOSS

LS - BRN, F / M XLN, MOD DNS / DNS, FOSS

SH - DK GY / BLK, SLI CARB, W LS - GY, F XLN, MOD DNS, SLI FOSS, W SH - GRN / GY

SH - GRN / GY / BRN, LS - DK BRN / GY, F / M XLN, MOD DNS / DNS, FOSS

LS - DK BRN / GY / TAN, F / M XLN, MOD DNS / DNS, FOSS

LS - CRM / TAN, F XLN, MOD DNS / SUBCHKY, FOSS IN PT, W SH - GY

LS - DK BRN / BRN, F / M XLN, MOD DNS / DNS, ABUND OF FOSS

LS - TAN / DK GY / BRN IN PT, VF / F XLN, MOD DNS / DNS, SUBCHKY IN PT, ABUND FOSS

LS - TAN / GY, F XLN, MOD DNS / DNS, ABUND OF FOSS, PYRITIC IN PT

LS - WHT / GY, VF / F XLN, MOD DNS, SUBCHKY / CHKY IN PT, FOSS IN PT

LS - TAN / LT GY, VF / F XLN, MOD DNS / SUBCHKY IN PT, FOSS

LS - TAN, F / M XLN, MOD DNS / DNS, FOSS, FOSS REPLACED WITH CALCITE CEM

LS - TAN, F XLN, MOD DNS / DNS, FOSS, W SH - GRN / RD / GY

SH - GY, W LS - TAN / GY, F XLN, MOD DNS / DNS, ABUND FOSS

SH - GY / GRN / MAR, W LS - CRM / TAN / GY, VF / F XLN, MOD DNS / SUBCHKY

LS - LT GY / TAN / LT BRN, F / M XLN, MOD DNS / DNS, FOSS

LS - CRM / TAN, VF / F XLN, SUBCHKY / MOD DNS, CHKY IN PT, FOSS IN PT

LS - TAN / GY, F XLN, MOD DNS / DNS, FOSS

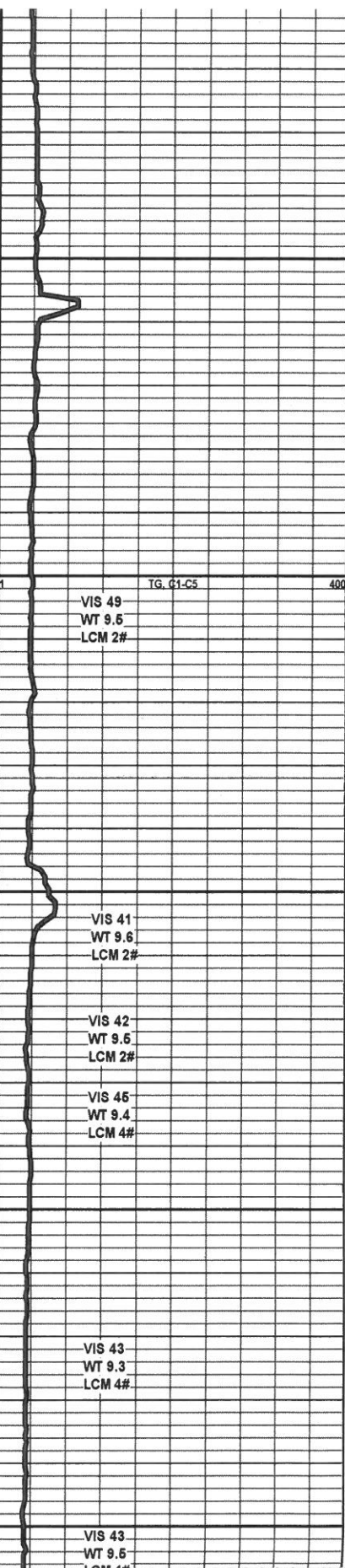
LS - CRM / TAN, VF / F XLN, MOD DNS, SUBCHKY IN PT, FOSS IN PT

LS - WHT / CRM, TAN / GY IN PT, PRED MOD DNS / SUBCHKY, CHKY IN PT

LS - CRM / TAN, BRN IN PT, VF / F XLN, MOD DNS

LS - CRM / TAN, VF / F XLN, MOD DNS, FOSS IN PT,

SH - GRN / GY, PLATY, W LS - TAN / GY, F XLN, DNS, FOSS



TG. G1-C5 400

VIS 49
WT 9.6
LCM 2#

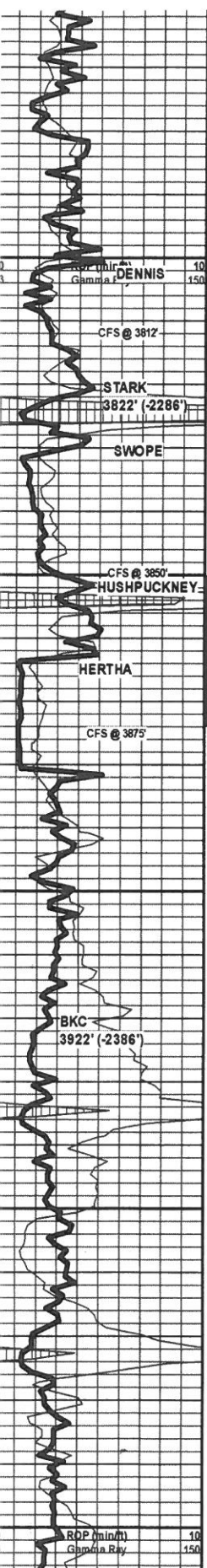
VIS 41
WT 9.6
LCM 2#

VIS 42
WT 9.6
LCM 2#

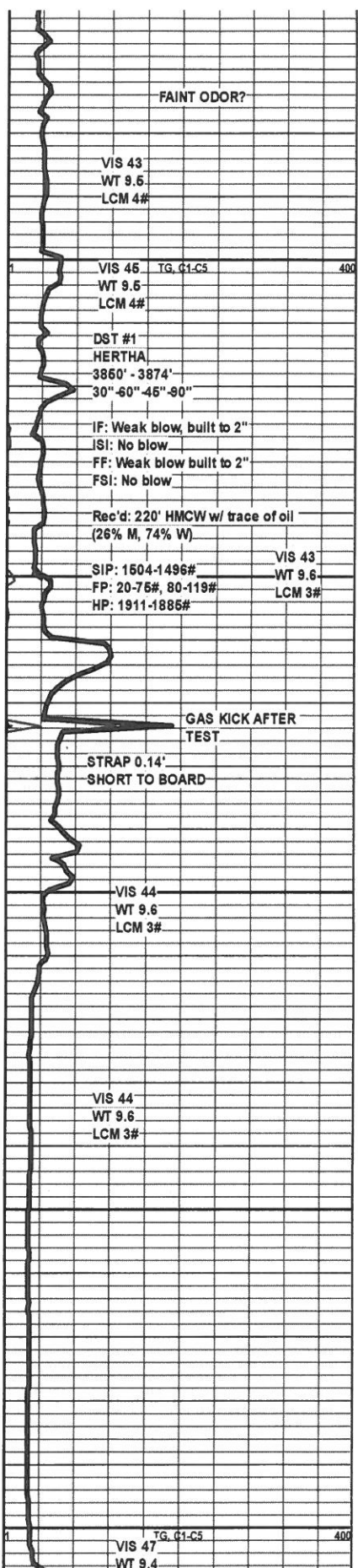
VIS 45
WT 9.4
LCM 4#

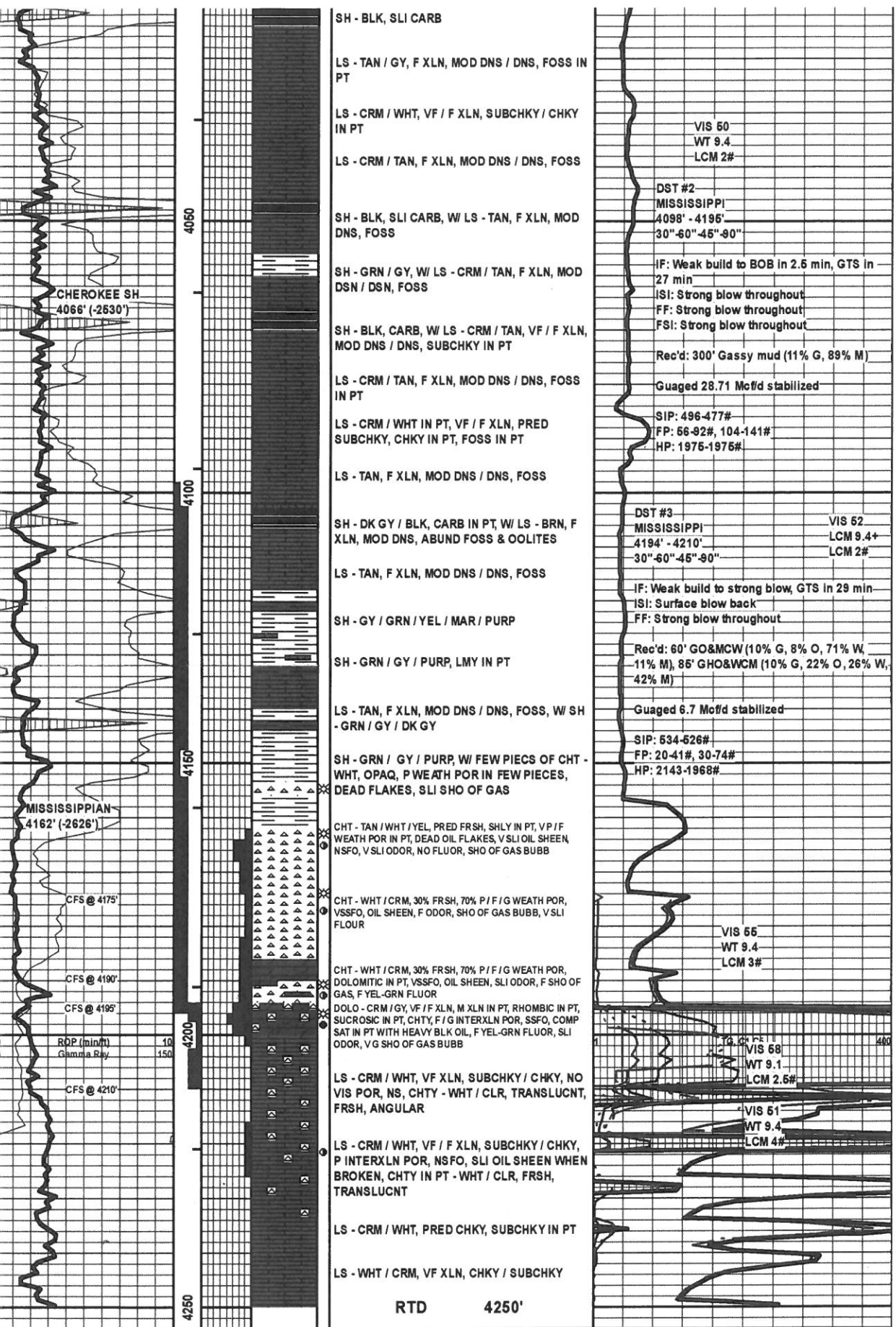
VIS 43
WT 9.3
LCM 4#

VIS 43
WT 9.5
LCM 4#



LS - CRM / TAN, VF XLN, SUBCHKY
 LS - WHT / GY, VF XLN, CHKY / SUBCHKY
 LS - GY / TAN, VF XLN, SUBCHKY / CHKY, NO VIS POR, NS, FAINT CUP ODOR
 LS - TAN / GY, F / M XLN, MOD DNS / DNS, FOSS
 LS - TAN / GY, F / M XLN, MOD DNS / DNS, HEAVILY STYLITIZED
 LS - CRM / TAN, VF / F XLN, MOD DNS / SUBCHKY, CHKY IN PT
 LS - WHT / CRM, VF XLN, SUBCHKY / CHKY
 SH - BLK, CARB, SLI SHO OF GAS BUBBLES
 LS - TAN / CRM, VF / F XLN, PRED MOD DNS, SUBCHKY IN PT, FOSS IN PT
 LS - CRM / WHT, VF XLN, PRED SUBCHKY, CHKY INPT
 LS - CRM, VF / F XLN, SUBCHKY / MOD DNS, STYLITIZED
 SH - BLK, CARB, SLI SHO OF GAS, W/ LS - TAN / GY IN PT, F / M XLN, MOD DNS / DNS, FOSS
 LS - TAN / BRN, F XLN, F/G OOLMOLDIC & INTERXLN POR, SSFO, ABUND OIL SHEEN, F SHO OF GAS BUBB, G CUP ODOR, V BRI YEL-GRN FLUOR, FOSS IN PT
 LS - TAN / BRN, F XLN, PRED MOD DNS, P / F INTERXLN POR, NS, OOLITIC, W CEM
 LS - GY / TAN, F XLN, MOD DNS / DNS, FOSS IN PT
 SH - GY, W/ LS - DK GY, F / M XLN, MOD DNS / DNS
 LS - DK GY, F XLN, MOD DNS / DNS, SHLY, FOSS IN PT
 SH - GY, SOFT
 SH - BLK, CARB, W/ SH - LT GY, V SOFT
 LS - CRM, VF / F XLN, MOD DNS / DNS, FOSS IN PT, W/ SH - LT GRN
 SH - GRN, W/ LS - CRM, VF / F XLN, MOD DNS / SUBCHKY, CHKY IN PT, ABUND OF FOSS IN PT,
 LS - WHT / CRM, VF / F XLN, SUBCHKY / CHKY, FOSS IN PT
 SH - GY / DK GY, BLK IN PT, V SLI CARB
 LS - CRM / WHT, VF / F XLN, SUBCHKY / CHKY, W/ LS - GRN / GY
 LS - CRM / TAN, F XLN, MOD DNS, FOSS, MOD DNS / DNS
 LS - TAN / GY, F XLN, MOD DNS / DNS, FOSS IN PT





SH - BLK, SLI CARB

LS - TAN / GY, F XLN, MOD DNS / DNS, FOSS IN PT

LS - CRM / WHT, VF / F XLN, SUBCHKY / CHKY IN PT

LS - CRM / TAN, F XLN, MOD DNS / DNS, FOSS

SH - BLK, SLI CARB, W/ LS - TAN, F XLN, MOD DNS, FOSS

SH - GRN / GY, W/ LS - CRM / TAN, F XLN, MOD DSN / DSN, FOSS

SH - BLK, CARB, W/ LS - CRM / TAN, VF / F XLN, MOD DNS / DNS, SUBCHKY IN PT

LS - CRM / TAN, F XLN, MOD DNS / DNS, FOSS IN PT

LS - CRM / WHT IN PT, VF / F XLN, PRED SUBCHKY, CHKY IN PT, FOSS IN PT

LS - TAN, F XLN, MOD DNS / DNS, FOSS

SH - DK GY / BLK, CARB IN PT, W/ LS - BRN, F XLN, MOD DNS, ABUND FOSS & OOLITES

LS - TAN, F XLN, MOD DNS / DNS, FOSS

SH - GY / GRN / YEL / MAR / PURP

SH - GRN / GY / PURP, LMY IN PT

LS - TAN, F XLN, MOD DNS / DNS, FOSS, W/ SH - GRN / GY / DK GY

SH - GRN / GY / PURP, W/ FEW PIECS OF CHT - WHT, OPAQ, P WEATH POR IN FEW PIECES, DEAD FLAKES, SLI SHO OF GAS

CHT - TAN / WHT / YEL, PRED FRSH, SHLY IN PT, VP / F WEATH POR IN PT, DEAD OIL FLAKES, V SLI OIL SHEEN, NSFO, V SLI ODOR, NO FLUOR, SHO OF GAS BUBB

CHT - WHT / CRM, 30% FRSH, 70% P / F / G WEATH POR, VSSFO, OIL SHEEN, F ODOR, SHO OF GAS BUBB, V SLI FLOUR

CHT - WHT / CRM, 30% FRSH, 70% P / F / G WEATH POR, DOLOMITIC IN PT, VSSFO, OIL SHEEN, SLI ODOR, F SHO OF GAS, F YEL-GRN FLUOR

DOLO - CRM / GY, VF / F XLN, M XLN IN PT, RHOMBIC IN PT, SUCROSIC IN PT, CHTY, F / G INTERXLN POR, SSFO, COMP SAT IN PT WITH HEAVY BLK OIL, F YEL-GRN FLUOR, SLI ODOR, V G SHO OF GAS BUBB

LS - CRM / WHT, VF XLN, SUBCHKY / CHKY, NO VIS POR, NS, CHTY - WHT / CLR, TRANSLUCNT, FRSH, ANGULAR

LS - CRM / WHT, VF / F XLN, SUBCHKY / CHKY, P INTERXLN POR, NSFO, SLI OIL SHEEN WHEN BROKEN, CHTY IN PT - WHT / CLR, FRSH, TRANSLUCNT

LS - CRM / WHT, PRED CHKY, SUBCHKY IN PT

LS - WHT / CRM, VF XLN, CHKY / SUBCHKY

VIS 50
WT 9.4
LCM 2#

DST #2
MISSISSIPPI
4098' - 4196'
30"-60"-45"-90"

IF: Weak build to BOB in 2.5 min, GTS in 27 min
ISI: Strong blow throughout
FF: Strong blow throughout
FSI: Strong blow throughout
Rec'd: 300' Gassy mud (11% G, 89% M)
Guaged 28.71 Mcf/d stabilized
SIP: 496-477#
FP: 66-92#, 104-141#
HP: 1975-1975#

DST #3
MISSISSIPPI
4194' - 4210'
30"-60"-45"-90"

VIS 52
LCM 9.4+
LCM 2#

IF: Weak build to strong blow, GTS in 29 min
ISI: Surface blow back
FF: Strong blow throughout
Rec'd: 60' GO&MCW (10% G, 8% O, 71% W, 11% M), 85' GHO&WCM (10% G, 22% O, 26% W, 42% M)
Guaged 6.7 Mcf/d stabilized
SIP: 534-526#
FP: 20-41#, 30-74#
HP: 2143-1968#

VIS 55
WT 9.4
LCM 3#

VIS 68
WT 9.1
LCM 2.5#

VIS 51
WT 9.4
LCM 4#

RTD 4250'