



DRILL STEM TEST REPORT

Prepared For: **TDI**

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

Munjor East #1

30-14s-17w Ellis,KS

Start Date: 2014.11.05 @ 17:21:53

End Date: 2014.11.05 @ 23:37:53

Job Ticket #: 58405 DST #: 1

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

Printed: 2014.11.08 @ 11:08:33



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

TDI

1310 Bison Rd
Hays, KS 67601

ATTN: Herb Deines

30-14s-17w Ellis, KS

Munjoy East #1

Job Ticket: 58405

DST#: 1

Test Start: 2014.11.05 @ 17:21:53

GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:05:53

Time Test Ended: 23:37:53

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 3258.00 ft (KB) To 3310.00 ft (KB) (TVD)

Reference Elevations: 1947.00 ft (KB)

Total Depth: 3310.00 ft (KB) (TVD)

1937.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 10.00 ft

Serial #: 8655 Outside

Press@RunDepth: 24.08 psig @ 3259.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.05

End Date:

2014.11.05

Last Calib.: 2014.11.05

Start Time: 17:21:54

End Time:

23:37:53

Time On Btm: 2014.11.05 @ 20:05:23

Time Off Btm: 2014.11.05 @ 22:06:23

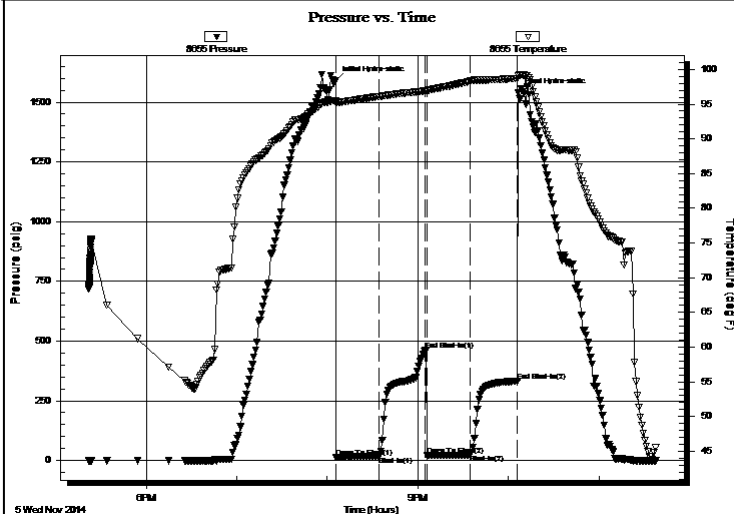
TEST COMMENT: 30- IF- Slowly built to 1"

30- IS- No blow

30- FF- No blow

30- FSI- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1589.61	95.55	Initial Hydro-static
1	13.24	95.24	Open To Flow (1)
29	19.59	96.10	Shut-In(1)
60	463.51	96.90	End Shut-In(1)
61	20.33	96.89	Open To Flow (2)
89	24.08	98.33	Shut-In(2)
121	332.30	98.72	End Shut-In(2)
121	1539.26	99.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	M	0.41

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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1310 Bison Rd
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ATTN: Herb Deines

30-14s-17w Ellis, KS

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Job Ticket: 58405

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Total Depth: 3310.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 1947.00 ft (KB)

1937.00 ft (CF)

KB to GR/CF: 10.00 ft

Serial #: 8651 Inside

Press@RunDepth: psig @ 3259.00 ft (KB)

Start Date: 2014.11.05

End Date:

2014.11.05

Start Time: 17:22:18

End Time:

23:39:17

Capacity: 8000.00 psig

Last Calib.: 2014.11.05

Time On Btm:

Time Off Btm:

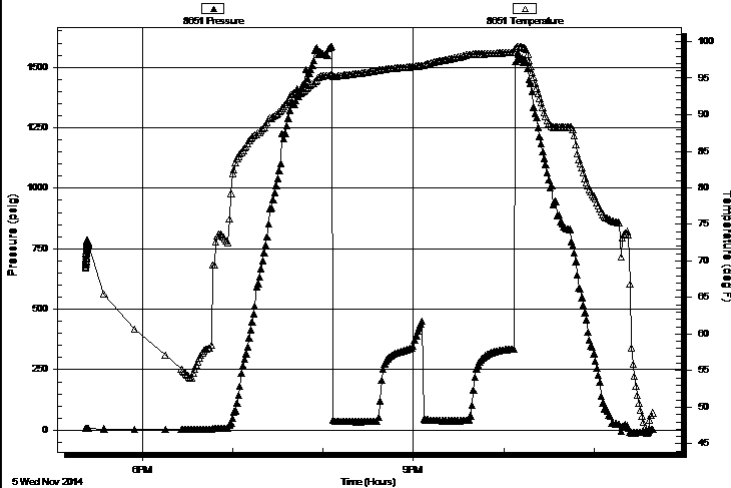
TEST COMMENT: 30- IF- Slowly built to 1"

30- IS- No blow

30- FF- No blow

30- FSI- No blow

Pressure vs. Time



PRESSURE SUMMARY

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

Length (ft)	Description	Volume (bbl)
30.00	M	0.41

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

TDI

30-14s-17w Ellis,KS

1310 Bison Rd
Hays, KS 67601

Munjor East #1

Job Ticket: 58405

DST#: 1

ATTN: Herb Deines

Test Start: 2014.11.05 @ 17:21:53

Tool Information

Drill Pipe:	Length:	3242.00 ft	Diameter:	3.75 inches	Volume:	44.29 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	inches	Volume:	- bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:	48000.00 lb
					Total Volume:	- bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		4.00 ft					String Weight: Initial	36000.00 lb
Depth to Top Packer:		3258.00 ft					Final	36000.00 lb
Depth to Bottom Packer:		ft						
Interval between Packers:		52.00 ft						
Tool Length:		72.00 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			3239.00	
Shut In Tool	5.00			3244.00	
Hydraulic tool	5.00			3249.00	
Packer	5.00			3254.00	20.00 Bottom Of Top Packer
Packer	4.00			3258.00	
Stubb	1.00			3259.00	
Recorder	0.00	8651	Inside	3259.00	
Recorder	0.00	8655	Outside	3259.00	
Perforations	15.00			3274.00	
Change Over Sub	1.00			3275.00	
Drill Pipe	31.00			3306.00	
Change Over Sub	1.00			3307.00	
Bullnose	3.00			3310.00	52.00 Bottom Packers & Anchor

Total Tool Length: 72.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

TDI

30-14s-17w Ellis,KS

1310 Bison Rd
Hays, KS 67601

Munjor East #1

Job Ticket: 58405

DST#: 1

ATTN: Herb Deines

Test Start: 2014.11.05 @ 17:21:53

Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 53.00 sec/qt

Water Loss: 7.19 in³

Resistivity: ohm.m

Salinity: 2100.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length:

Cushion Volume:

Gas Cushion Type:

Gas Cushion Pressure:

Oil API:

Water Salinity:

deg API

ppm

ft

bbl

psig

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	M	0.410

Total Length: 30.00 ft

Total Volume: 0.410 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

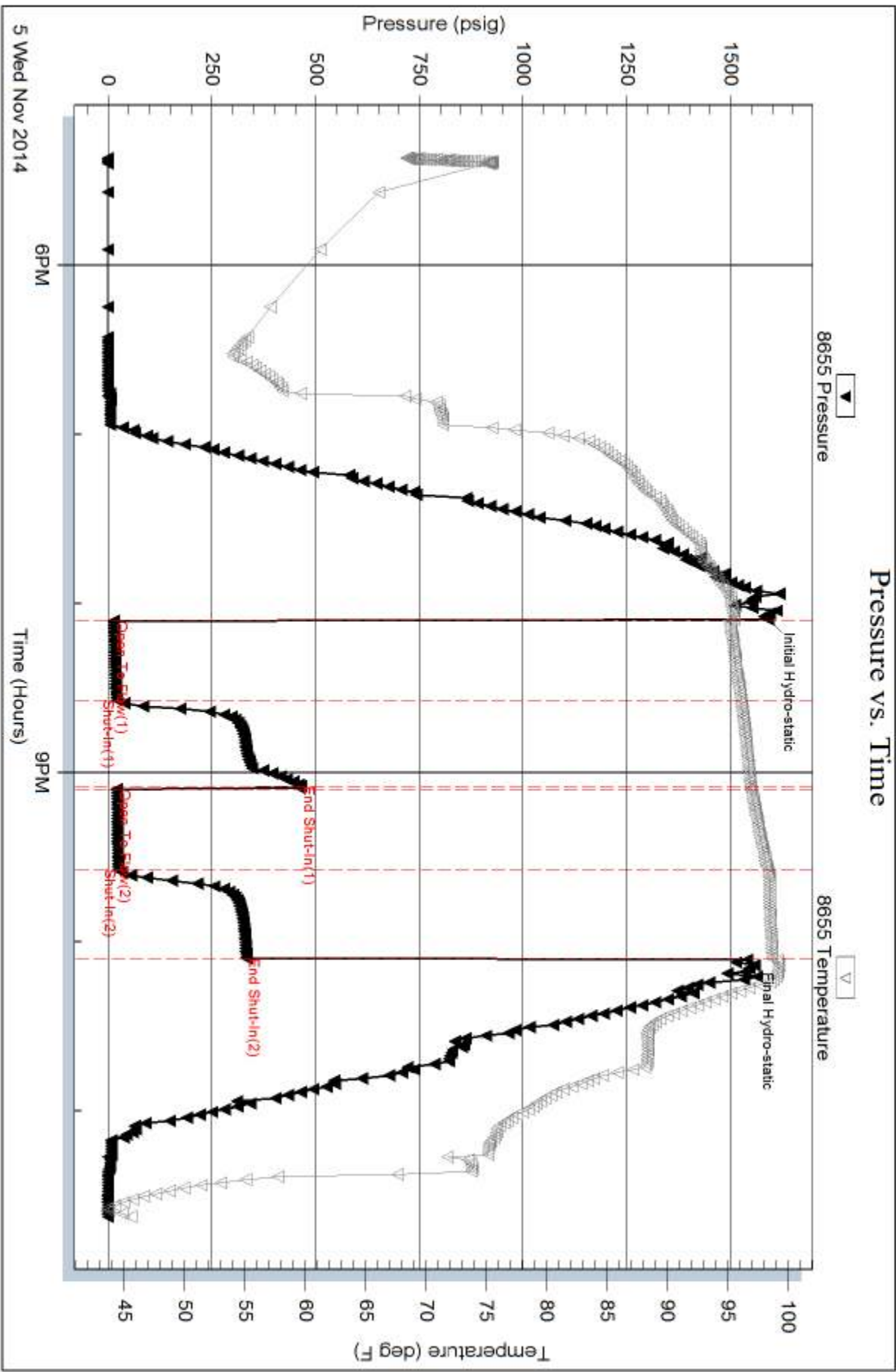
Recovery Comments:

Serial #: 8655

Outside TDI

Major East #1

DST Test Number: 1

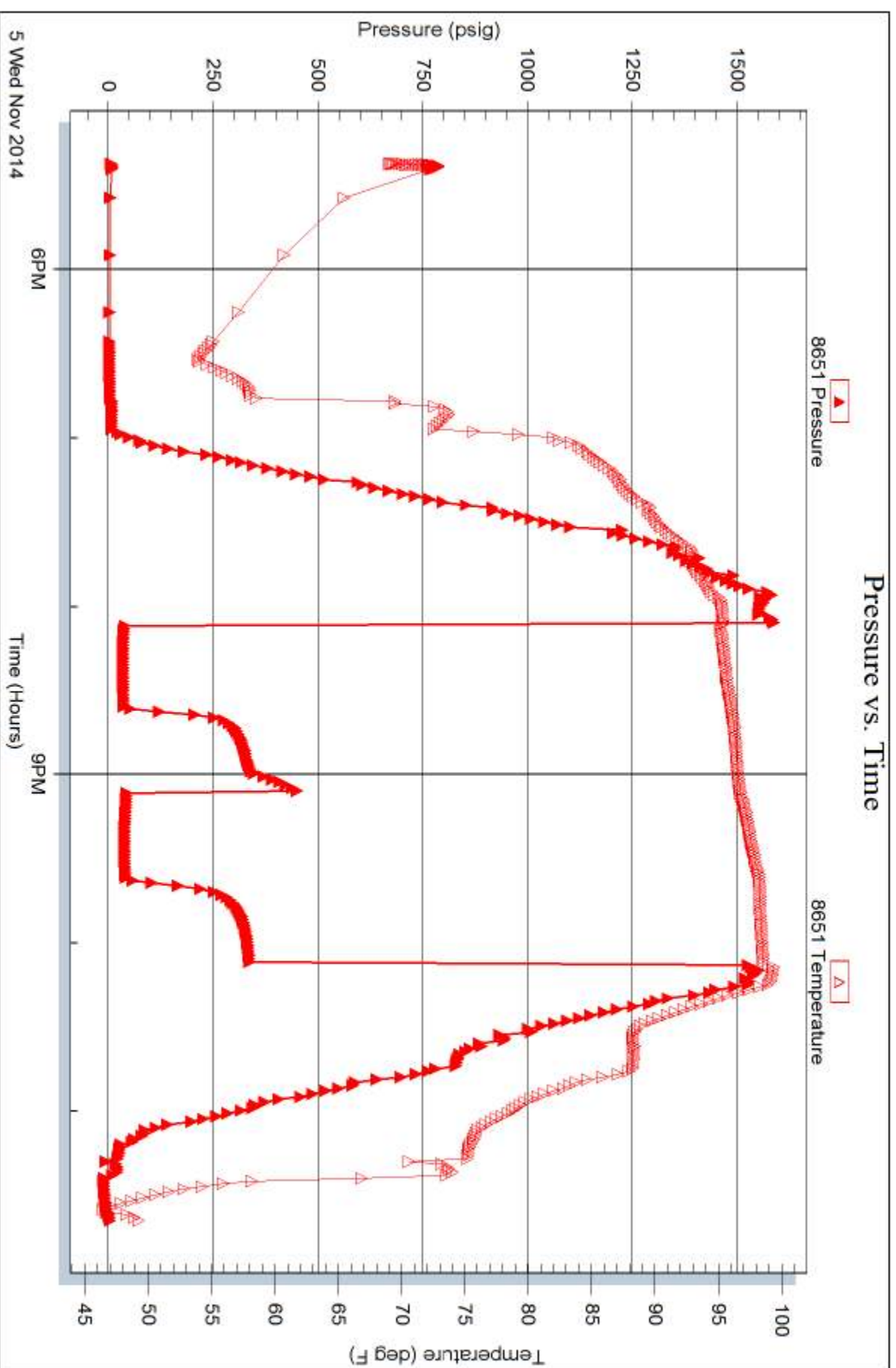


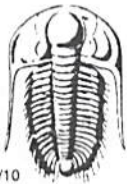
Serial #: 8651

Inside TDI

Major East #1

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58405

Well Name & No. TPI Munjor East #1 Test No. 1 Date 10/5/14
 Company TPI Elevation 1947 KB 1937 GL
 Address 1310 Bison Rd. Hays, KS 67601
 Co. Rep / Geo. Herb Demes Rig Southwind #1
 Location: Sec. 30 Twp. 14 S Rge. 17 W Co. Ellis State KS

Interval Tested 3238-3310 Zone Tested LKC "C+D"
 Anchor Length 52' Drill Pipe Run 3242 Mud Wt. 8.9
 Top Packer Depth 3253 Drill Collars Run — Vis 53
 Bottom Packer Depth 3258 Wt. Pipe Run — WL 7.2
 Total Depth 3310 Chlorides 3100 ppm System LCM 2nd

Blow Description IF - slowly built to 1"
ISI - No Blow
PF - No Blow
PSI - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
30	M				

Rec Total 30' BHT 99° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1590</u>	☒ Test <u>1150</u>	T-On Location <u>1703</u>
(B) First Initial Flow <u>13</u>	☐ Jars <u>—</u>	T-Started <u>1722</u>
(C) First Final Flow <u>20</u>	☐ Safety Joint <u>—</u>	T-Open <u>2006</u>
(D) Initial Shut-In <u>464</u>	☐ Circ Sub <u>—</u>	T-Pulled <u>2206</u>
(E) Second Initial Flow <u>20</u>	☐ Hourly Standby <u>—</u>	T-Out <u>2339</u>
(F) Second Final Flow <u>24</u>	☒ Mileage <u>14 RT x2</u> <u>21.70</u>	Comments <u>Loaded 11/1 @ 545</u>
(G) Final Shut-In <u>332</u>	☐ Sampler <u>—</u> <u>21.70</u>	
(H) Final Hydrostatic <u>1539</u>	☐ Straddle <u>—</u>	☐ Ruined Shale Packer <u>—</u>
	☐ Shale Packer <u>—</u>	☐ Ruined Packer <u>—</u>

Initial Open <u>30</u>	☐ Extra Packer <u>—</u>	☐ Extra Copies <u>—</u>
Initial Shut-In <u>30</u>	☐ Extra Recorder <u>—</u>	Sub Total <u>0</u>
Final Flow <u>30</u>	☐ Day Standby <u>—</u>	Total <u>1193.40</u>
Final Shut-In <u>30</u>	☐ Accessibility <u>—</u>	MP/DST Disc't <u>—</u>
	Sub Total <u>1193.40</u>	

Approved By — Our Representative Brannan Lonsdale

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