



DRILL STEM TEST REPORT

Prepared For: **Bach Oil Production**

PO Box 723
Alma, NE 68920

ATTN: Bob Peterson

Knape #4

18-1s-18w Phillips,KS

Start Date: 2014.11.28 @ 18:50:25

End Date: 2014.11.29 @ 02:35:55

Job Ticket #: 58415 DST #: 1

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

Printed: 2014.12.03 @ 16:03:02



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Bach Oil Production

18-1s-18w Phillips,KS

PO Box 723
Alma, NE 68920

Knappe #4

Job Ticket: 58415

DST#: 1

ATTN: Bob Peterson

Test Start: 2014.11.28 @ 18:50:25

GENERAL INFORMATION:

Formation: **LKC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:14:55

Time Test Ended: 02:35:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: 3338.00 ft (KB) To 3503.00 ft (KB) (TVD)

Reference Elevations: 2116.00 ft (KB)

Total Depth: 3503.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8655 Outside

Press@RunDepth: 150.24 psig @ 3339.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.28

End Date: 2014.11.29

Last Calib.: 2014.11.29

Start Time: 18:50:26

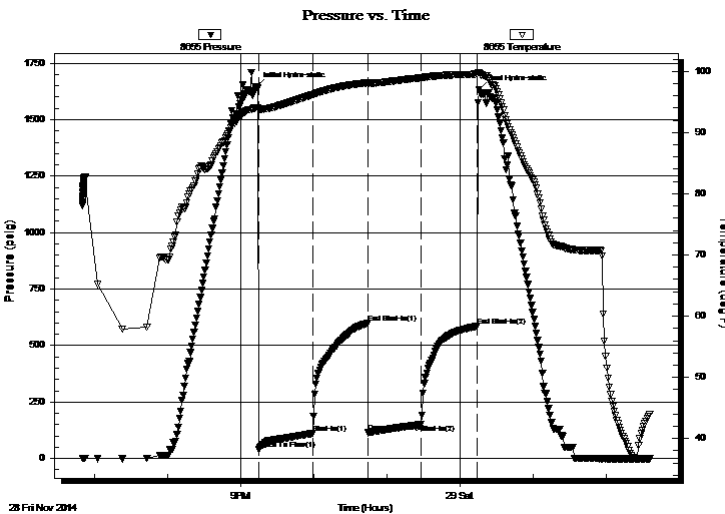
End Time: 02:35:55

Time On Btm: 2014.11.28 @ 21:12:55

Time Off Btm: 2014.11.29 @ 00:15:55

TEST COMMENT: 45- IF- BOB 39 mins
45- IS- No blow
45- FF- Slow ly built to 9"
45- FS- No blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1647.40	94.02	Initial Hydro-static
2	41.37	93.64	Open To Flow (1)
47	110.56	96.17	Shut-In(1)
92	599.21	98.14	End Shut-In(1)
92	114.05	97.99	Open To Flow (2)
136	150.24	98.94	Shut-In(2)
182	586.49	99.54	End Shut-In(2)
183	1632.83	99.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
250.00	MW, 40%M 60%W	2.39
15.00	CO	0.20

Gas Rates

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



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DST#: 1

ATTN: Bob Peterson

Test Start: 2014.11.28 @ 18:50:25

GENERAL INFORMATION:

Formation: **LKC**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:14:55

Time Test Ended: 02:35:55

Test Type: Conventional Bottom Hole (Initial)

Tester: Brannan Lonsdale

Unit No: 62

Interval: **3338.00 ft (KB) To 3503.00 ft (KB) (TVD)**

Reference Elevations: 2116.00 ft (KB)

Total Depth: 3503.00 ft (KB) (TVD)

2111.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 5.00 ft

Serial #: 8651 Inside

Press@RunDepth: psig @ 3339.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.11.28

End Date: 2014.11.29

Last Calib.: 2014.11.29

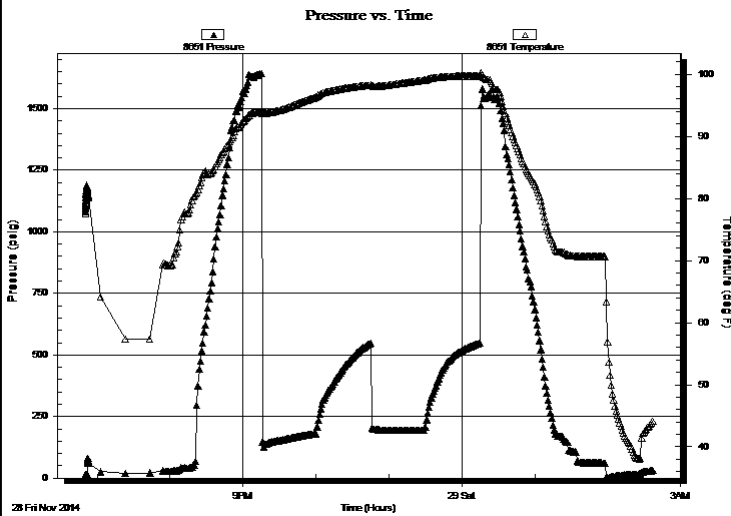
Start Time: 18:50:29

End Time: 02:37:28

Time On Btm:

Time Off Btm:

TEST COMMENT:
45- IF- BOB 39 mins
45- IS- No blow
45- FF- Slow ly built to 9"
45- FS- No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
250.00	MW, 40%M 60%W	2.39
15.00	CO	0.20

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Bach Oil Production

18-1s-18w Phillips,KS

PO Box 723
Alma, NE 68920

Knape #4

Job Ticket: 58415

DST#: 1

ATTN: Bob Peterson

Test Start: 2014.11.28 @ 18:50:25

Tool Information

Drill Pipe:	Length: 3215.00 ft	Diameter: 3.75 inches	Volume: 43.92 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: ft	Diameter: inches	Volume: - bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 117.00 ft	Diameter: 2.25 inches	Volume: 0.58 bbl	Weight to Pull Loose:	59000.00 lb
			<u>Total Volume:</u>	Tool Chased	5.00 ft
			- bbl	String Weight: Initial	55000.00 lb
Drill Pipe Above KB:	21.00 ft			Final	56000.00 lb
Depth to Top Packer:	3338.00 ft				
Depth to Bottom Packer:	ft				
Interval between Packers:	165.00 ft				
Tool Length:	192.00 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			3312.00	
Shut In Tool	5.00			3317.00	
Hydraulic tool	5.00			3322.00	
Jars	5.00			3327.00	
Safety Joint	2.00			3329.00	
Packer	5.00			3334.00	27.00 Bottom Of Top Packer
Packer	4.00			3338.00	
Stubb	1.00			3339.00	
Recorder	0.00	8651	Inside	3339.00	
Recorder	0.00	8655	Outside	3339.00	
Perforations	5.00			3344.00	
Change Over Sub	1.00			3345.00	
Drill Pipe	154.00			3499.00	
Change Over Sub	1.00			3500.00	
Bullnose	3.00			3503.00	165.00 Bottom Packers & Anchor

Total Tool Length: 192.00



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FLUID SUMMARY

Bach Oil Production

18-1s-18w Phillips,KS

PO Box 723
Alma, NE 68920

Knape #4

Job Ticket: 58415

DST#: 1

ATTN: Bob Peterson

Test Start: 2014.11.28 @ 18:50:25

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

36 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 78.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 4.80 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 400.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
250.00	MW, 40%M 60%W	2.392
15.00	CO	0.205

Total Length: 265.00 ft

Total Volume: 2.597 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

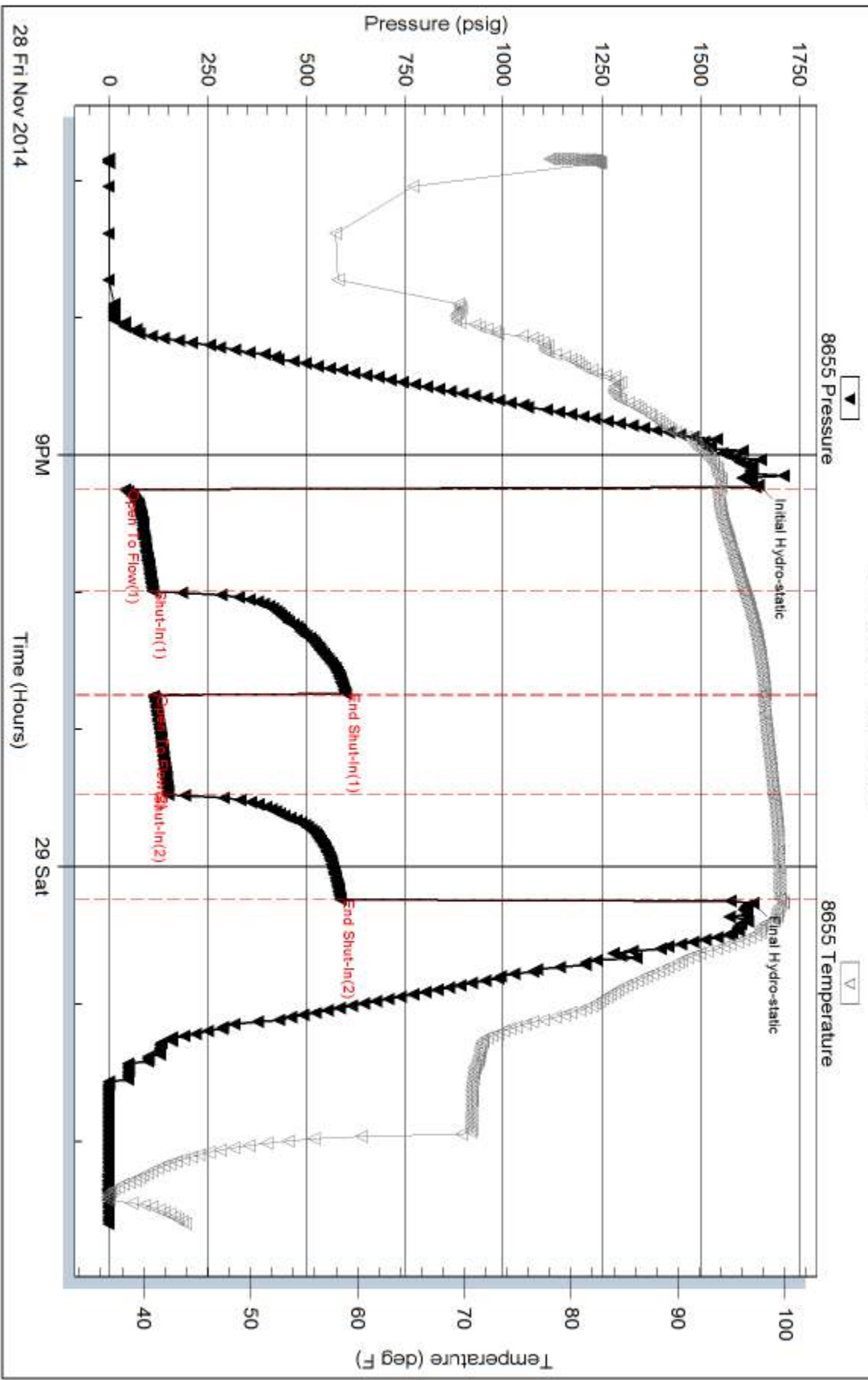
Serial #: 8655

Outside Bach Oil Production

Knape #4

DST Test Number: 1

Pressure vs. Time



Tribble Testing, Inc

Ref. No: 58415

Printed: 2014, 12, 03 @ 16:03:03

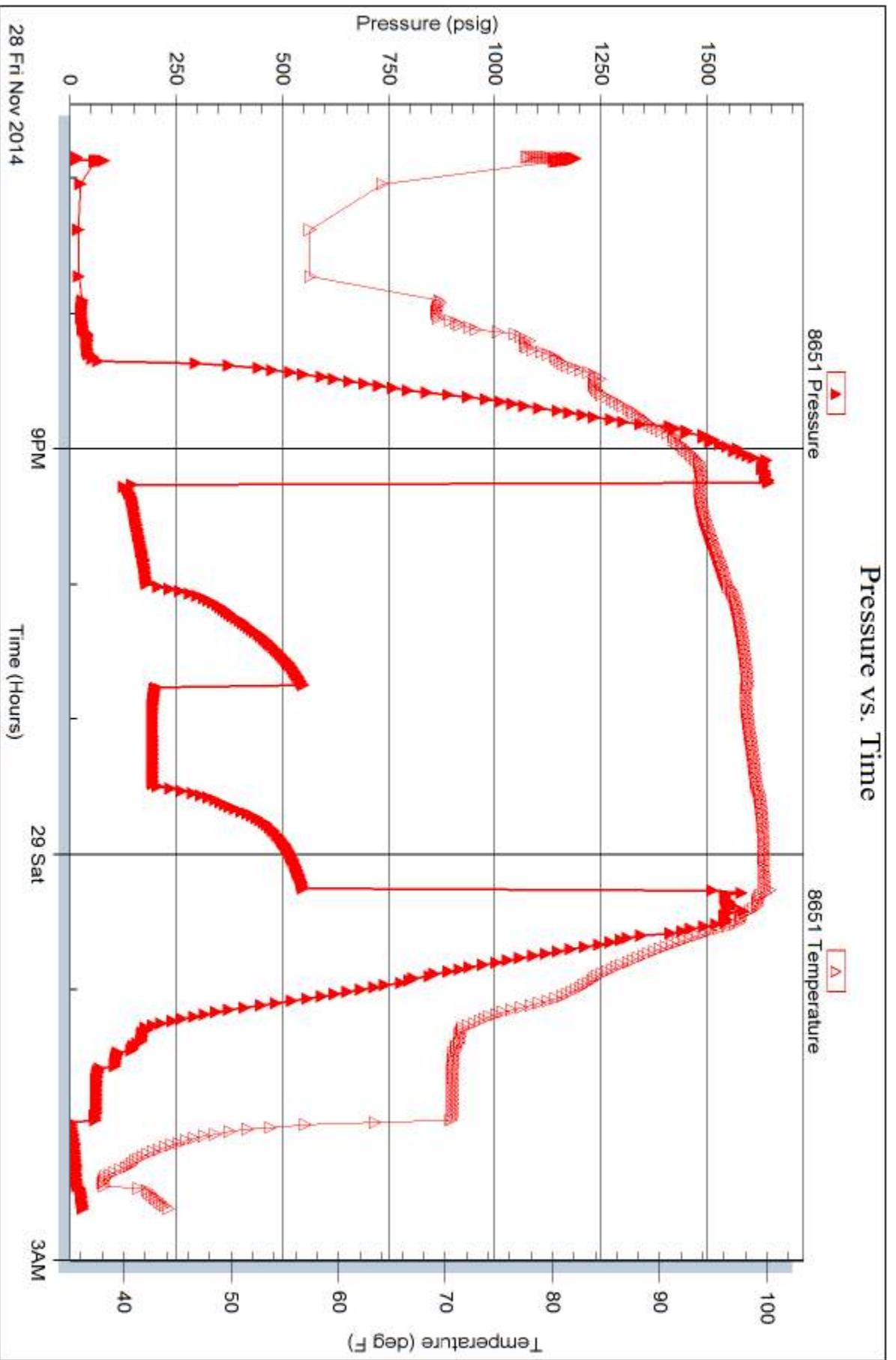
Serial #: 8651

Inside

Back Oil Production

Knape #4

DST Test Number: 1





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 58415

Well Name & No. Knappe #4 Test No. 1 Date 11/28/14
 Company Buch Oil Production Elevation 2116 KB 2111 GL
 Address PO Box 723 Alma, NE 68920
 Co. Rep / Geo. Bob Peterson Rig Murphy #24
 Location: Sec. 18 Twp. 1 S Rge. 18 W Co. Phillips State KS

Interval Tested 3338-3503 Zone Tested LKC
 Anchor Length 165' Drill Pipe Run 3215 Mud Wt. 8.6
 Top Packer Depth 3333 Drill Collars Run 117 Vis 28
 Bottom Packer Depth 3338 Wt. Pipe Run --- WL 4.8
 Total Depth 3503 Chlorides 400 ppm System LCM 2#

Blow Description IF - BOB 32mm
ISI - No Blow
FF - Slowly built to 9"
FSF - No Blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>250</u>	<u>MW</u>			<u>60</u>	<u>40</u>
<u>15</u>	<u>CO</u>				

Rec Total 265' BHT 100° Gravity 36 API RW .17 @ 59 ° F Chlorides 0,000 ppm

(A) Initial Hydrostatic <u>1647</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1845</u>
(B) First Initial Flow <u>41</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>1850</u>
(C) First Final Flow <u>111</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>2115</u>
(D) Initial Shut-In <u>599</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0015</u> <u>11/29</u>
(E) Second Initial Flow <u>114</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>0237</u>
(F) Second Final Flow <u>150</u>	<input checked="" type="checkbox"/> Mileage <u>176 RT</u>	Comments
(G) Final Shut-In <u>586</u>	<input type="checkbox"/> Sampler <u>137 rt 212.35</u>	
(H) Final Hydrostatic <u>1633</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45

Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

Sub Total 1687.35

Total 1687.35
 MP/DST Disc't

Approved By _____ Our Representative Brannan Lonsdale

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