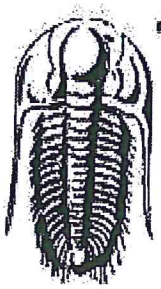


TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Charles N Griffin**

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

Springer #2

34-32s-12w Barber,KS

Start Date: 2016.08.09 @ 02:42:48
End Date: 2016.08.09 @ 10:41:33
Job Ticket #: 55406 DST #: 1

Trilobite Testing, Inc
PO Box 362 Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2016.08.09 @ 16:34:55

DRILL STEM TEST REPORT

Charles N Griffin

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

34-32s-12w Barber,KS

Springer #2

Job Ticket: 55406 **DST#: 1**

Test Start: 2016.08.09 @ 02:42:48

GENERAL INFORMATION:

Formation: **Simpson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:53:03
Time Test Ended: 10:41:33

Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74

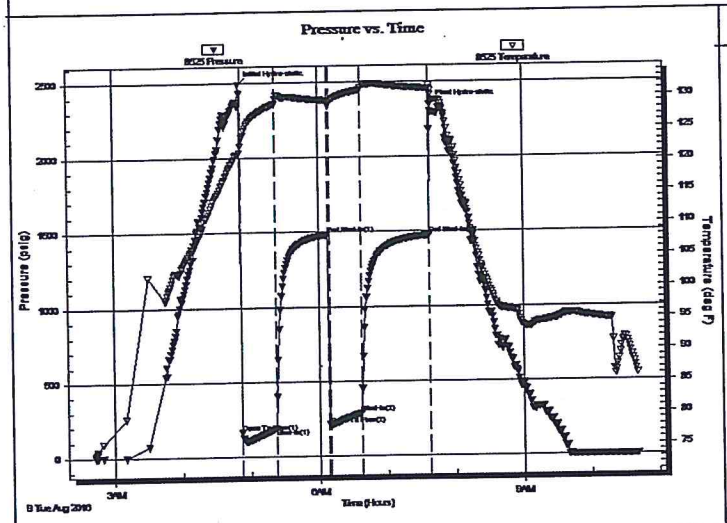
Interval: 4742.00 ft (KB) To 4770.00 ft (KB) (TVD)
Total Depth: 4770.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1517.00 ft (KB)
1512.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 8525 **Inside**
Press@RunDepth: 288.36 psig @ 4743.00 ft (KB)
Start Date: 2016.08.09 End Date: 2016.08.09
Start Time: 02:42:49 End Time: 10:41:33

Capacity: 8000.00 psig
Last Calib.: 2016.08.09
Time On Btm: 2016.08.09 @ 04:51:03
Time Off Btm: 2016.08.09 @ 07:38:48

TEST COMMENT: IF: Strong Blow , BOB in 1 minute, GTS in 30 minutes
ISI: Blow Back Built to 6 inches
FF: Strong Blow , BOB in 30 seconds, GTS immediately, TSTM
FSI: Blow Back Built to BOB in 22 minutes



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2490.99	120.89	Initial Hydro-static
2	161.08	122.25	Open To Flow (1)
31	188.99	128.85	Shut-In(1)
77	1480.76	129.38	End Shut-In(1)
79	206.17	128.78	Open To Flow (2)
107	288.36	131.03	Shut-In(2)
167	1474.67	131.22	End Shut-In(2)
168	2349.09	130.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	4075 GIP	0.00
121.00	Water	0.60
186.00	GOMCW 10%G 10%M 20%O 60%W	2.61
247.00	GMWCO 20%G 6%M 24%W 50%O	3.46
94.00	GMWCO 20%G 10%M 10%W 60%O	1.32

Gas Rates

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

DRILL STEM TEST REPORT

Charles N Griffin

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

34-32s-12w Barber,KS

Springer #2

Job Ticket: 55406 **DST#: 1**

Test Start: 2016.08.09 @ 02:42:48

GENERAL INFORMATION:

Formation: **Simpson**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:53:03
Time Test Ended: 10:41:33

Test Type: Conventional Bottom Hole (Initial)
Tester: Leal Cason
Unit No: 74

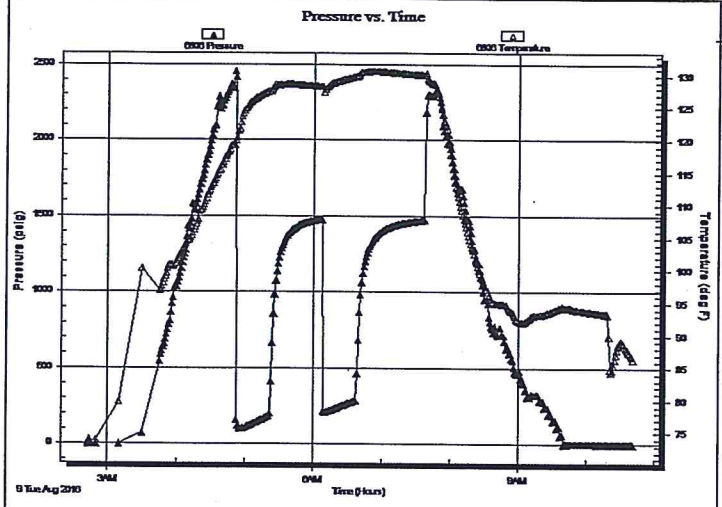
Interval: 4742.00 ft (KB) To 4770.00 ft (KB) (TVD)
Total Depth: 4770.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

Reference Elevations: 1517.00 ft (KB)
1512.00 ft (CF)
KB to GR/CF: 5.00 ft

Serial #: 6806 **Outside**
Press@RunDepth: psig @ 4743.00 ft (KB)
Start Date: 2016.08.09 End Date: 2016.08.09
Start Time: 02:42:49 End Time: 10:41:33

Capacity: 8000.00 psig
Last Calib.: 2016.08.09
Time On Btm:
Time Off Btm:

TEST COMMENT: IF: Strong Blow , BOB in 1 minute, GTS in 30 minutes
ISI: Blow Back Built to 6 inches
FF: Strong Blow , BOB in 30 seconds, GTS immediately, TSTM
FSI: Blow Back Built to BOB in 22 minutes



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
0.00	4075 GIP	0.00
121.00	Water	0.60
186.00	GOMCW 10%G 10%M 20%O 60%W	2.61
247.00	GMWCO 20%G 6%M 24%W 50%O	3.46
94.00	GMWCO 20%G 10%M 10%W 60%O	1.32

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Charles N Griffin

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

34-32s-12w Barber,KS

Springer #2

Job Ticket: 55406 **DST#: 1**

Test Start: 2016.08.09 @ 02:42:48

Tool Information

Drill Pipe:	Length:	4602.00 ft	Diameter:	3.80 inches	Volume:	64.55 bbl	Tool Weight:	2100.00 lb
Heavy Wt. Pipe:	Length:	ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length:	121.00 ft	Diameter:	2.25 inches	Volume:	0.60 bbl	Weight to Pull Loose:	90000.00 lb
					Total Volume:	65.15 bbl	Tool Chased	ft
Drill Pipe Above KB:		7.00 ft					String Weight: Initial	60000.00 lb
Depth to Top Packer:		4742.00 ft					Final	62000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		28.00 ft						
Tool Length:		54.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4721.00		
Hydraulic tool	5.00			4726.00		
Jars	5.00			4731.00		
Safety Joint	2.00			4733.00		
Packer	5.00			4738.00	26.00	Bottom Of Top Packer
Packer	4.00			4742.00		
Stubb	1.00			4743.00		
Recorder	0.00	8525	Inside	4743.00		
Recorder	0.00	6806	Outside	4743.00		
Perforations	24.00			4767.00		
Bullnose	3.00			4770.00	28.00	Bottom Packers & Anchor
Total Tool Length:	**54.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Charles N Griffin

PO Box 347
Pratt, KS 67124

ATTN: Bruce Reed

34-32s-12w Barber,KS

Springer #2

Job Ticket: 55406 **DST#: 1**

Test Start: 2016.08.09 @ 02:42:48

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:	84000 ppm
Viscosity:	54.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.19 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	0.02 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	4075 GIP	0.000
121.00	Water	0.595
186.00	GOMCW 10%G 10%M 20%O 60%W	2.609
247.00	GMWCO 20%G 6%M 24%W 50%O	3.465
94.00	GMWCO 20%G 10%M 10%W 60%O	1.319

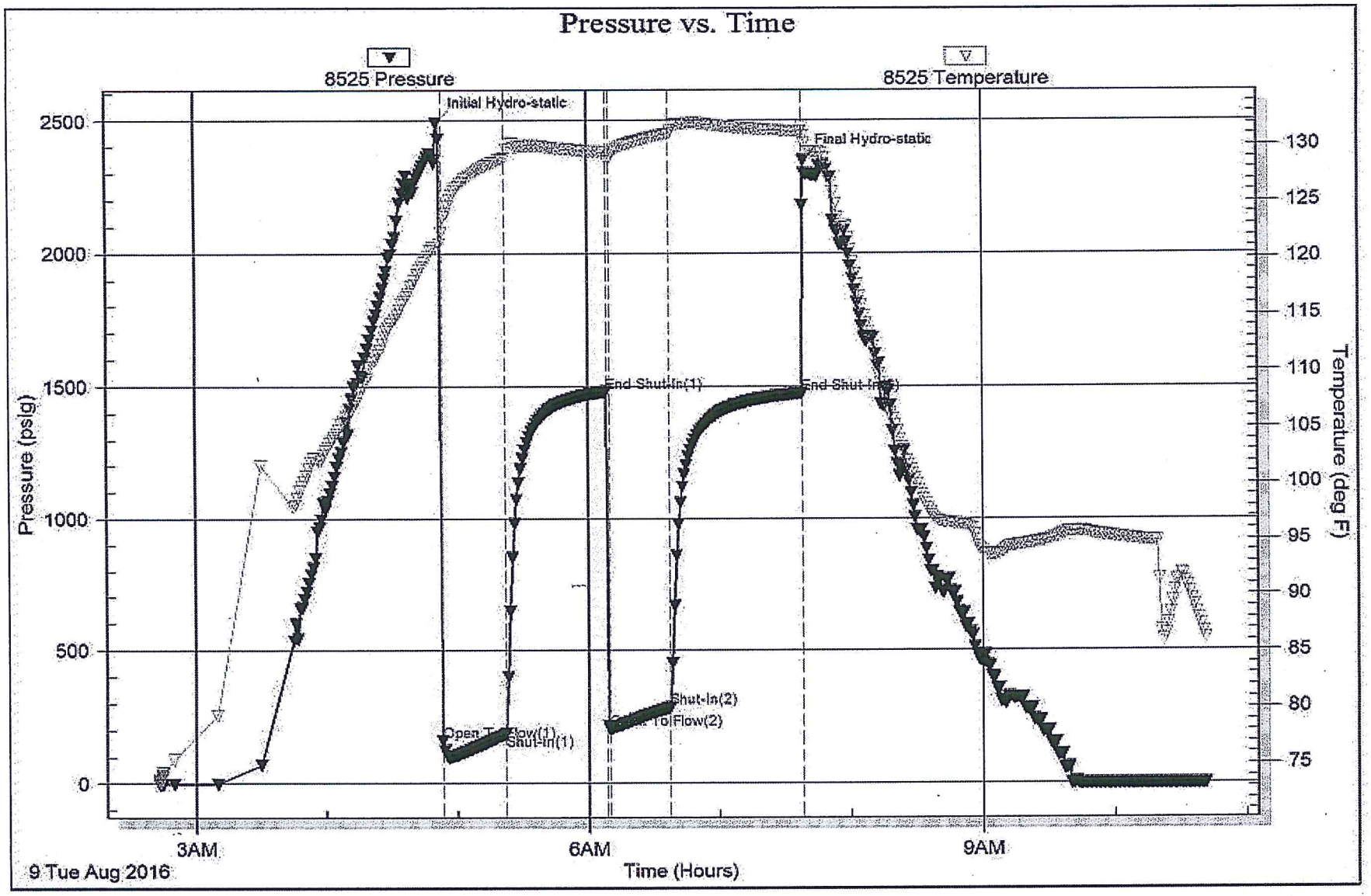
Total Length: 648.00 ft Total Volume: 7.988 bbl

Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

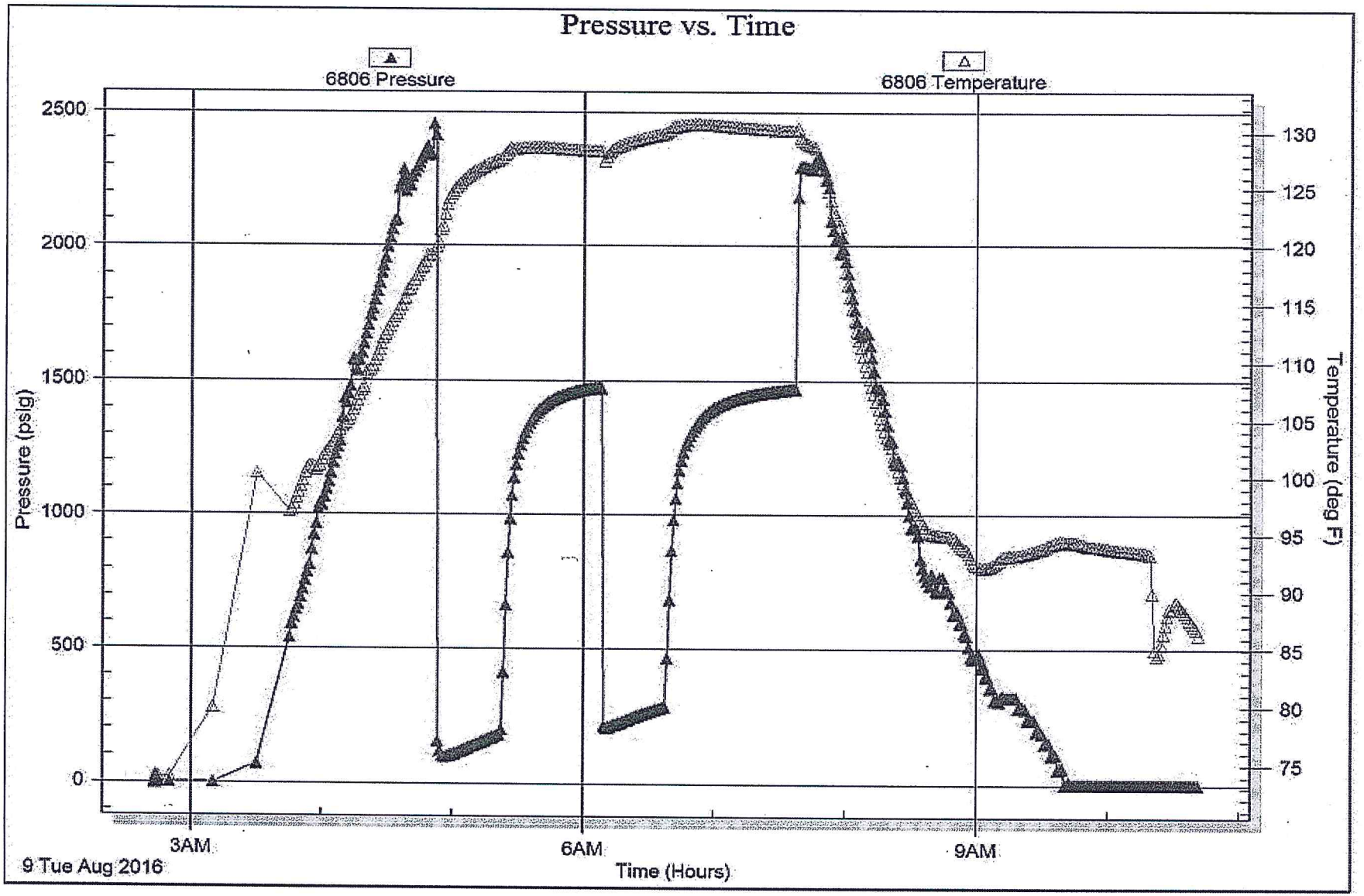
Recovery Comments: RW was .1 @ 66 degrees

Serial #: 8525 Inside Charles N.Griffin Springer #2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 55406 Printed: 2016.08.09 @ 16:34:57

Serial #: 6806 Outside Charles N.Griffin Springer #2 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 55406 Printed: 2016.08.09 @ 16:34:57

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 55406

Well Name & No. Springer 2 Test No. 1 Date 08/09/16

Company Charles N. Griffin Elevation 1517 KB 1512 GL

Address PO Box 347 Pratt, KS 67124

Co. Rep / Geo. Bruce Reed Rig WW 4

Location: Sec. 34 Twp. 32S Rge. 12W Co. Barber State KS

Interval Tested 4742 - 4770 Zone Tested Simpson

Anchor Length 28 Drill Pipe Run 4602 Mud Wt. 9.3

Top Packer Depth 4737 Drill Collars Run 121 Vis 54

Bottom Packer Depth 4742 Wt. Pipe Run 0 WL 9.2

Total Depth 4770 Chlorides 4000 ppm System LCM 1

Blow Description IF: Strong Blow, BOB in 1minute, GTS in 30minutes

ISI: Blow Back Built to 6inches

FF: Strong Blow, BOB in 30seconds, GTS immediate, TSTM

FSI: Blow Back Built to BOB in 22 minutes

		%gas	%oil	%water	%mud
Rec 4075	Feet of GIP				
Rec 94	Feet of GMWCO	20	60	10	10
Rec 247	Feet of GMWCO	20	50	24	6
Rec 186	Feet of GOMCW	10	20	60	10
Rec 121	Feet of water				

Rec Total 648 BHT 131 Gravity NRC API RW .1 @ 66 °F Chlorides 84000 ppm

(A) Initial Hydrostatic	2490	☑ Test 1150	T-On Location 00:15
(B) First Initial Flow	161	☑ Jars 250	T-Started 02:42
(C) First Final Flow	189	☑ Safety Joint 75	T-Open 04:53
(D) Initial Shut-In	1481	☐ Circ Sub	T-Pulled 07:37
(E) Second Initial Flow	206	☐ Hourly Standby	T-Out 10:41
(F) Second Final Flow	288	☑ Mileage 94 W 63	Comments
(G) Final Shut-In	1475	☐ Sampler	
(H) Final Hydrostatic	2349	☐ Straddle	☐ Ruined Shale Packer
		☐ Shale Packer	☐ Ruined Packer
Initial Open	30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In	45	☐ Extra Recorder	Sub Total 0
Final Flow	30	☐ Day Standby	Total 1538
Final Shut-In	60	☐ Accessibility	MP/DST Disc't ✓
		Sub Total 1538	

Approved By Bruce Reed Our Representative