Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1286360

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30717
Name: Downing-Nelson Oil Co Inc
Address 1: PO BOX 1019
Address 2:
City: HAYS State: KS Zip: 67601 + ____
Contact Person: Ron Nelson
Phone: (785) 621-2610
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: Marc Downing
Purchaser:

Designate Type of Completion:

☑ New Well ☐ Re-Entry ☐ Workover

☐ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☑ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ 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 ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

02/04/2016	02/11/2016	02/12/2016
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-153-21175-00-00
Spot Description:
__ - __ - __ - NW Sec. 11 Twp. 1 S. R. 33 ☐ East ☑ West
915 Feet from ☑ North / ☐ South Line of Section
1635 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☑ NW ☐ SE ☐ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*

Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84

County: Rawlins
Lease Name: Marjorie-Norma Jean Unit Well #: 1-11
Field Name: Wildcat
Producing Formation: None
Elevation: Ground: 2902 Kelly Bushing: 2910
Total Vertical Depth: 4124 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 222 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: 26000 ppm Fluid volume: 320 bbls
Dewatering method used: Evaporated

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**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 02/23/2016

[redacted] 1286360

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Marjorie-Norma Jean Unit Well #: 1-11

Sec. 11 Twp. 1 S. R. 33 ☐ East ☑ West County: Rawlins

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☐ Yes ☑ No

List All E. Logs Run:

☐ Log Formation (Top), Depth and Datum ☑ Sample

Name	Top	Datum
Top Anhydrite	2727'	+183
Base Anhydrite	2765'	+145
Topeka	3640'	-730
Oread	3760'	-850
Heebner	3788'	-878
LKC	3829'	-919
BKC	4101'	-1191

CASING RECORD ☑ New ☐ 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
Surface	12.25	8.625	23	222	Common	150	2% Gel 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	-			
	-			

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth

TUBING RECORD: Size: Set At: Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. Producing Method: ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☐ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Marjorie-Norma Jean Unit 1-11
Doc ID	1286360

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	222	Common	150	2% Gel 3% CC

ALLIED OIL & GAS SERVICES, LLC

14100

Federal Tax I.D. #20-5975804

067724

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Ashley, Ks

DATE 2/4/16	SEC. 11	TWP. 1	RANGE 33	CALLED OUT	ON LOCATION	JOB START 3:00pm	JOB FINISH 7:30pm
LEASE [redacted]	WELL # 1-11		LOCATION Atwood N to 00 3½E Stato			COUNTY Rawlins	STATE KS
OLD OR NEW (Circle one)							

Marjorie
Norma Jean

CONTRACTOR Discovery 1
TYPE OF JOB Surface
HOLE SIZE 10 ¼ T.D. 223
CASING SIZE 8 5/8 DEPTH 221.6
TUBING SIZE DEPTH
DRILL PIPE 4½ DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15
PERFS.
DISPLACEMENT 13.1

OWNER Same

CEMENT

AMOUNT ORDERED 150 sx 3%cc 2% gel

EQUIPMENT

PUMP TRUCK CEMENTER Mac Ryan
560-281 HELPER Kevin Ryan
BULK TRUCK
891-281 DRIVER Cory Braun
BULK TRUCK
DRIVER

COMMON	150	@ 17.90	2685.00
POZMIX		@	
GEL	28 lb	@ 50	141.00
CHLORIDE	423	@ 1.10	465.30
ASC		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
		@	
TOTAL			3,291.30
DISCOUNT 45 %			1481.08

REMARKS:

Ran Csg, Circulated, Mixed Cement, Displaced Cement, Shut In

Cement Did Circulate

Thank You
Mac, Kevin, Cory

SERVICE

HANDLING	202 CF	@ 2.00	404.00
MILEAGE	2 sx/mile 7 miles	70	1617.91
DEPTH OF JOB			
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE		@	
HV MILEAGE	50	@ 7.70	385.00
LV MILEAGE	50	@ 4.00	200.00
		@	
		@	
TOTAL			3,537.42
DISCOUNT 45 %			1591.84

CHARGE TO: Downing - Nelson
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
TOTAL		
DISCOUNT %		

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
TOTAL CHARGES 6,828.72
DISCOUNT 3,072.92 (45%) IF PAID IN 30 DAYS
NET TOTAL 3,755.79 IF PAID IN 30 DAYS

PRINTED NAME

SIGNATURE

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co., Inc.**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

11-1s-33w Rawlins KS

Marjorie-Norma Jean Unit #1-11

Start Date: 2016.02.08 @ 01:02:00
End Date: 2016.02.08 @ 08:49:15
Job Ticket #: 65326 DST #: 1

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

Printed: 2016.02.12 @ 15:54:00

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65326 **DST#: 1**

Test Start: 2016.02.08 @ 01:02:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:32:45
Time Test Ended: 08:49:15

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

Interval: 3734.00 ft (KB) To 3780.00 ft (KB) (TVD)
Total Depth: 3780.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

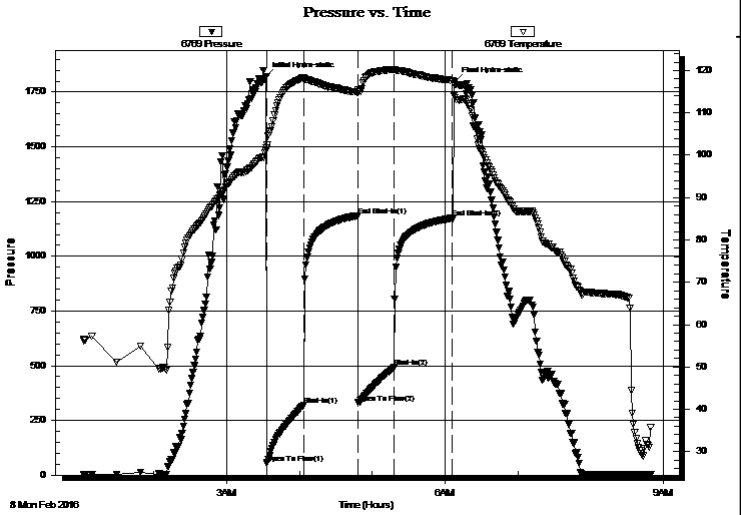
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6769 **Inside**

Press@RunDepth: 493.49 psig @ 3735.00 ft (KB)
Start Date: 2016.02.08 End Date: 2016.02.08
Start Time: 01:02:05 End Time: 08:49:14

Capacity: 8000.00 psig
Last Calib.: 2016.02.08
Time On Btm: 2016.02.08 @ 03:32:30
Time Off Btm: 2016.02.08 @ 06:08:15

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 3 3/4 min. (Diesel in bucket)
45 - ISI: Weak surface blow back, dead at 24 min.
30 - FF: Blow built to BOB at 5 min.
45 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1822.15	101.06	Initial Hydro-static
1	54.84	101.62	Open To Flow (1)
31	320.55	118.28	Shut-In(1)
76	1185.40	114.92	End Shut-In(1)
76	328.97	115.39	Open To Flow (2)
106	493.49	120.27	Shut-In(2)
154	1174.06	117.63	End Shut-In(2)
156	1799.27	113.52	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
635.00	SMCW w/trace oil 95%w , 5%m	7.73
250.00	MCW w/trace oil 89%w , 11%m	3.51
130.00	MCW w/trace oil 64%w , 36%m	1.82

Gas Rates

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

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65326 **DST#: 1**

Test Start: 2016.02.08 @ 01:02:00

GENERAL INFORMATION:

Formation: **Oread**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 03:32:45
Time Test Ended: 08:49:15

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 83

Interval: 3734.00 ft (KB) To 3780.00 ft (KB) (TVD)
Total Depth: 3780.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

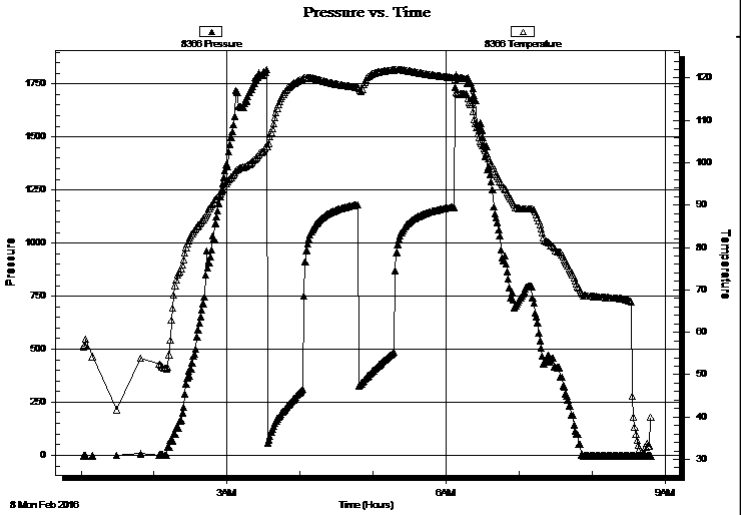
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 3735.00 ft (KB)
Start Date: 2016.02.08 End Date: 2016.02.08
Start Time: 01:02:05 End Time: 08:48:29

Capacity: 8000.00 psig
Last Calib.: 2016.02.08
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to BOB (11") at 3 3/4 min. (Diesel in bucket)
45 - ISI: Weak surface blow back, dead at 24 min.
30 - FF: Blow built to BOB at 5 min.
45 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
635.00	SMCW w/trace oil 95%w , 5%m	7.73
250.00	MCW w/trace oil 89%w , 11%m	3.51
130.00	MCW w/trace oil 64%w , 36%m	1.82

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65326 **DST#: 1**

Test Start: 2016.02.08 @ 01:02:00

Tool Information

Drill Pipe:	Length:	3404.00 ft	Diameter:	3.80 inches	Volume:	47.75 bbl	
Heavy Wt. Pipe:	Length:	312.00 ft	Diameter:	3.25 inches	Volume:	3.20 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	50.95 bbl	

Drill Pipe Above KB:	11.00 ft
Depth to Top Packer:	3734.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	46.00 ft
Tool Length:	75.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		56000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	50000.00 lb
	Final	55000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3706.00		
Shut In Tool	5.00			3711.00		
Hydraulic tool	5.00			3716.00		
Jars	5.00			3721.00		
Safety Joint	3.00			3724.00		
Packer	5.00			3729.00	29.00	Bottom Of Top Packer
Packer	5.00			3734.00		
Stubb	1.00			3735.00		
Recorder	0.00	6769	Inside	3735.00		
Recorder	0.00	8366	Outside	3735.00		
Perforations	8.00			3743.00		
Blank Spacing	34.00			3777.00		
Bullnose	3.00			3780.00	46.00	Bottom Packers & Anchor
Total Tool Length:	**75.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65326 **DST#: 1**

Test Start: 2016.02.08 @ 01:02:00

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:	29000 ppm
Viscosity:	57.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

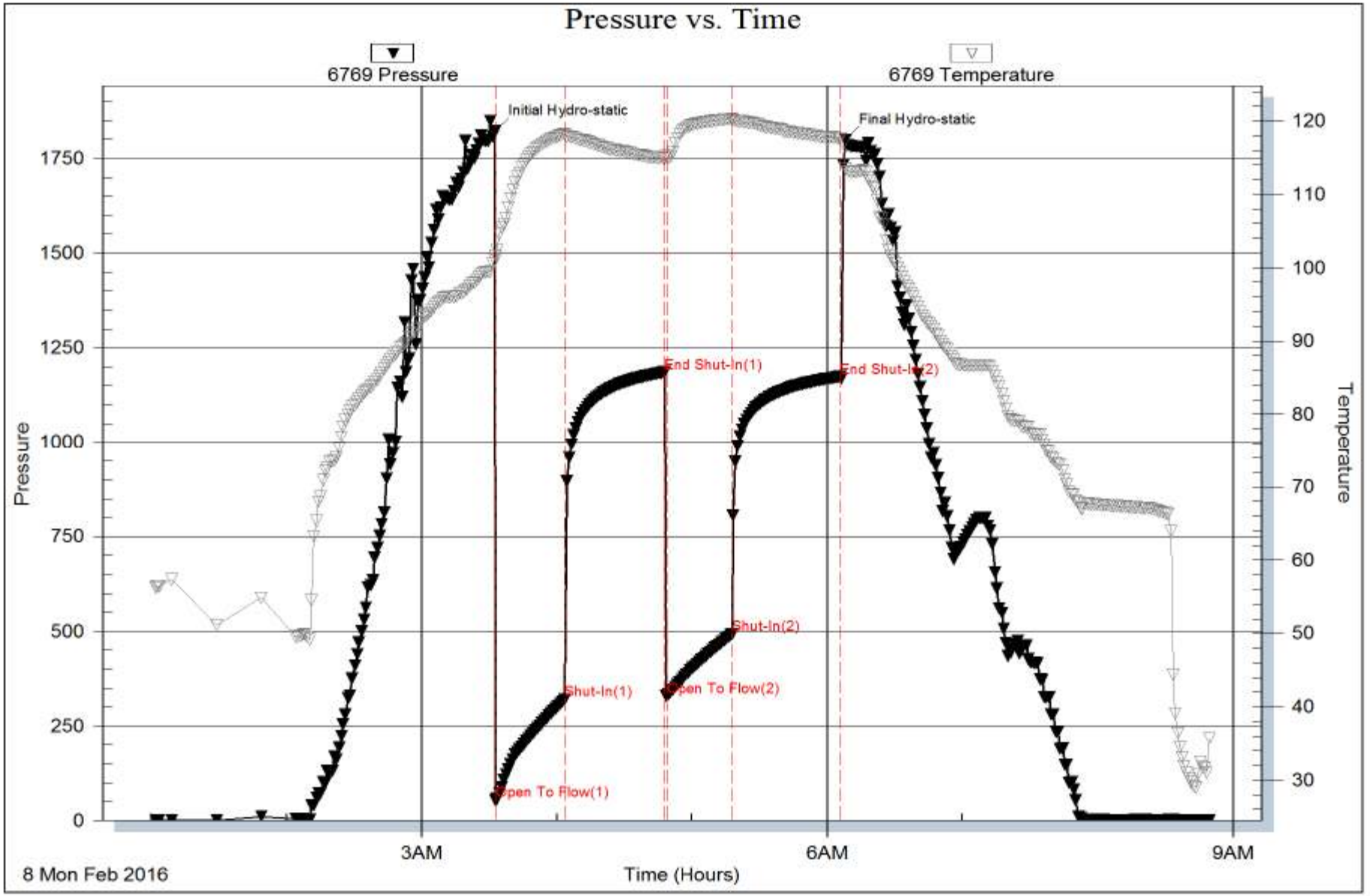
Length ft	Description	Volume bbl
635.00	SMCW w /trace oil 95%w , 5%m	7.732
250.00	MCW w /trace oil 89%w , 11%m	3.507
130.00	MCW w /trace oil 64%w , 36%m	1.824

Total Length: 1015.00 ft Total Volume: 13.063 bbl

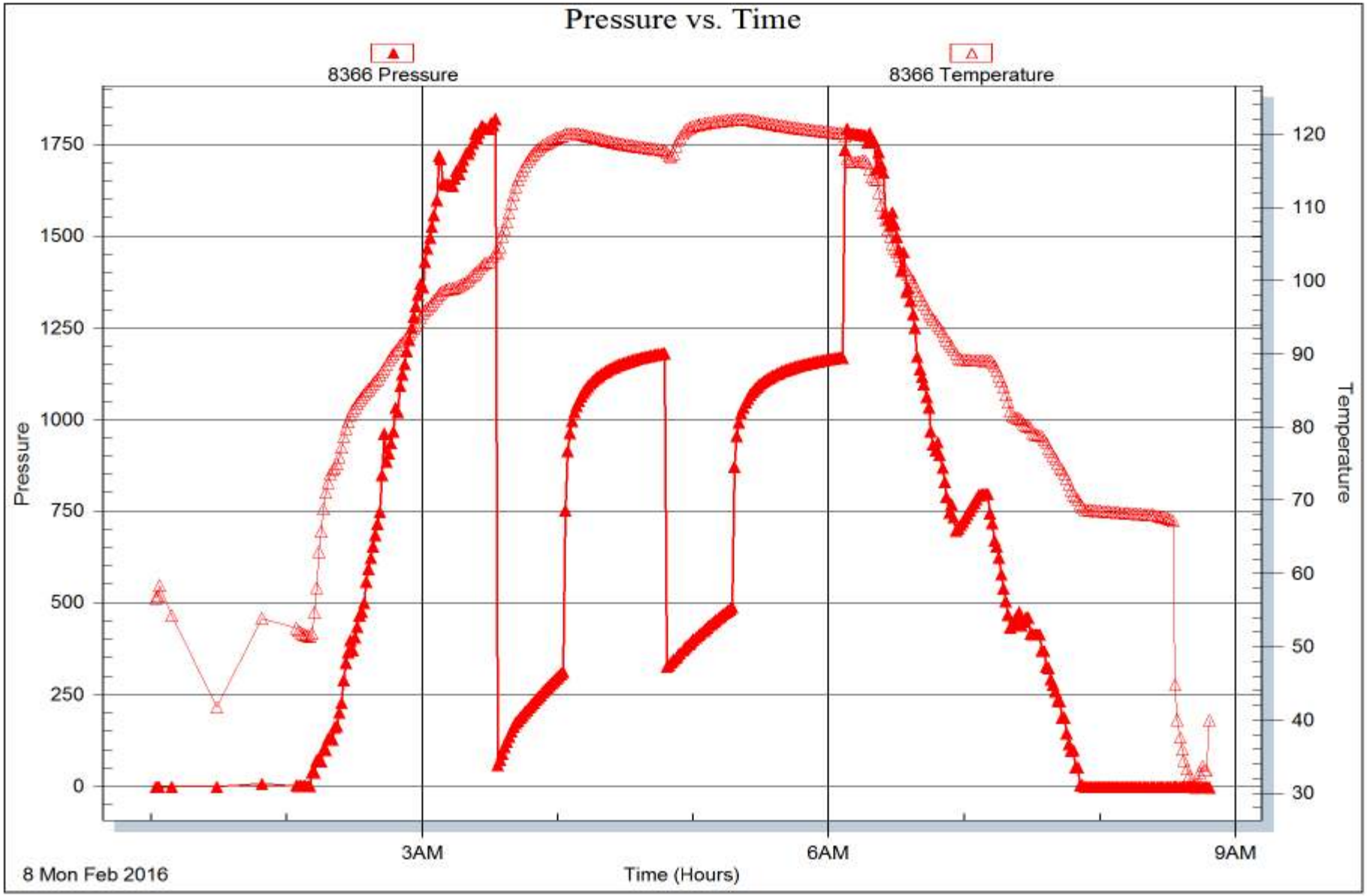
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:

Laboratory Name: Laboratory Location:

Recovery Comments: RW = .368 ohms @ 45 deg
Chlorides = 29,000 ppm


Pressure vs. Time
6769 Pressure
6769 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Shut-In(1)
Shut-In(2)
Open To Flow(1)
Open To Flow(2)
Pressure
Temperature
Time (Hours)
3AM
6AM
9AM
8 Mon Feb 2016
0
250
500
750
1000
1250
1500
1750
30
40
50
60
70
80
90
100
110
120

Serial #: 8366 **Outside** Downing-Nelson Oil Co., Inc. 11-1s-33w Rawlins KS DST Test Number: 1



Trilobite Testing, Inc Ref. No: 65326 Printed: 2016.02.12 @ 15:54:05

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co., Inc.**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

11-1s-33w Rawlins KS

Marjorie-Norma Jean Unit #1-11

Start Date: 2016.02.08 @ 18:55:00
End Date: 2016.02.09 @ 03:00:15
Job Ticket #: 65327 DST #: 2

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

Printed: 2016.02.12 @ 15:50:49

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65327 **DST#: 2**

Test Start: 2016.02.08 @ 18:55:00

GENERAL INFORMATION:

Formation: **LKC "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:39:30
Time Test Ended: 03:00:15

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3844.00 ft (KB) To 3902.00 ft (KB) (TVD)
Total Depth: 3902.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

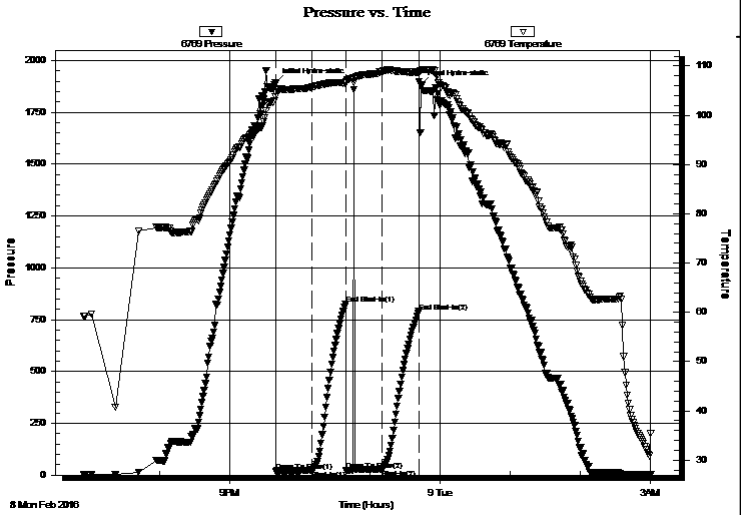
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6769 **Inside**

Press@RunDepth: 29.22 psig @ 3845.00 ft (KB)
Start Date: 2016.02.08 End Date: 2016.02.09
Start Time: 18:55:05 End Time: 03:00:14

Capacity: 8000.00 psig
Last Calib.: 2016.02.09
Time On Btm: 2016.02.08 @ 21:39:15
Time Off Btm: 2016.02.08 @ 23:44:00

TEST COMMENT: 30 - IF: Blow built to 1/2", died back, dead at 24 min. (Diesel in bucket)
30 - ISI: No blow
30 - FF: No blow , Flushed tool, surface blow for 4 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1891.15	103.83	Initial Hydro-static
1	19.31	104.57	Open To Flow (1)
31	22.31	105.78	Shut-In(1)
60	825.53	106.53	End Shut-In(1)
61	24.06	106.86	Open To Flow (2)
92	29.22	108.91	Shut-In(2)
123	788.40	108.73	End Shut-In(2)
125	1882.87	109.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w/oil spots 98%m, 2%o	0.10

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65327 **DST#: 2**

Test Start: 2016.02.08 @ 18:55:00

GENERAL INFORMATION:

Formation: **LKC "B"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 21:39:30
Time Test Ended: 03:00:15

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3844.00 ft (KB) To 3902.00 ft (KB) (TVD)
Total Depth: 3902.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

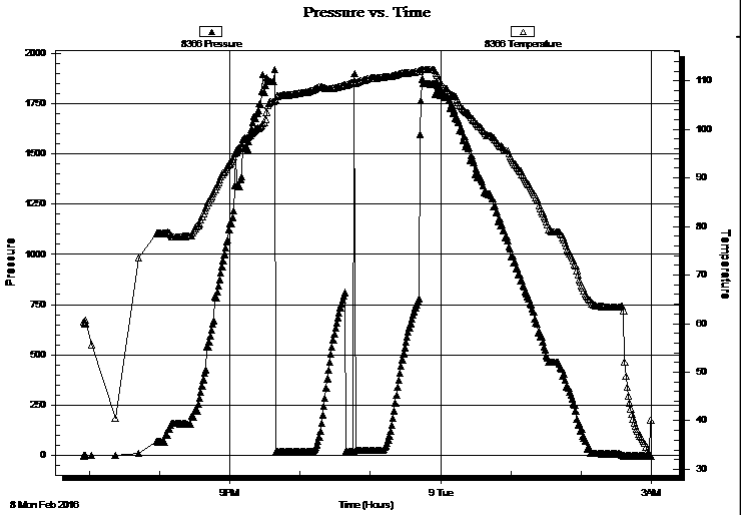
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 3845.00 ft (KB)
Start Date: 2016.02.08 End Date: 2016.02.09
Start Time: 18:55:05 End Time: 02:59:29

Capacity: 8000.00 psig
Last Calib.: 2016.02.09
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 1/2", died back, dead at 24 min. (Diesel in bucket)
30 - ISI: No blow
30 - FF: No blow , Flushed tool, surface blow for 4 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud w/oil spots 98%m, 2%o	0.10

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65327 **DST#: 2**

Test Start: 2016.02.08 @ 18:55:00

Tool Information

Drill Pipe:	Length:	3531.00 ft	Diameter:	3.80 inches	Volume:	49.53 bbl	
Heavy Wt. Pipe:	Length:	312.00 ft	Diameter:	3.25 inches	Volume:	3.20 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	52.73 bbl	

Drill Pipe Above KB:	28.00 ft
Depth to Top Packer:	3844.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	58.00 ft
Tool Length:	87.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		56000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	50000.00 lb
	Final	50000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3816.00		
Shut In Tool	5.00			3821.00		
Hydraulic tool	5.00			3826.00		
Jars	5.00			3831.00		
Safety Joint	3.00			3834.00		
Packer	5.00			3839.00	29.00	Bottom Of Top Packer
Packer	5.00			3844.00		
Stubb	1.00			3845.00		
Recorder	0.00	6769	Inside	3845.00		
Recorder	0.00	8366	Outside	3845.00		
Perforations	20.00			3865.00		
Blank Spacing	34.00			3899.00		
Bullnose	3.00			3902.00	58.00	Bottom Packers & Anchor
Total Tool Length:	**87.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65327 **DST#: 2**

Test Start: 2016.02.08 @ 18:55:00

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:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.95 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

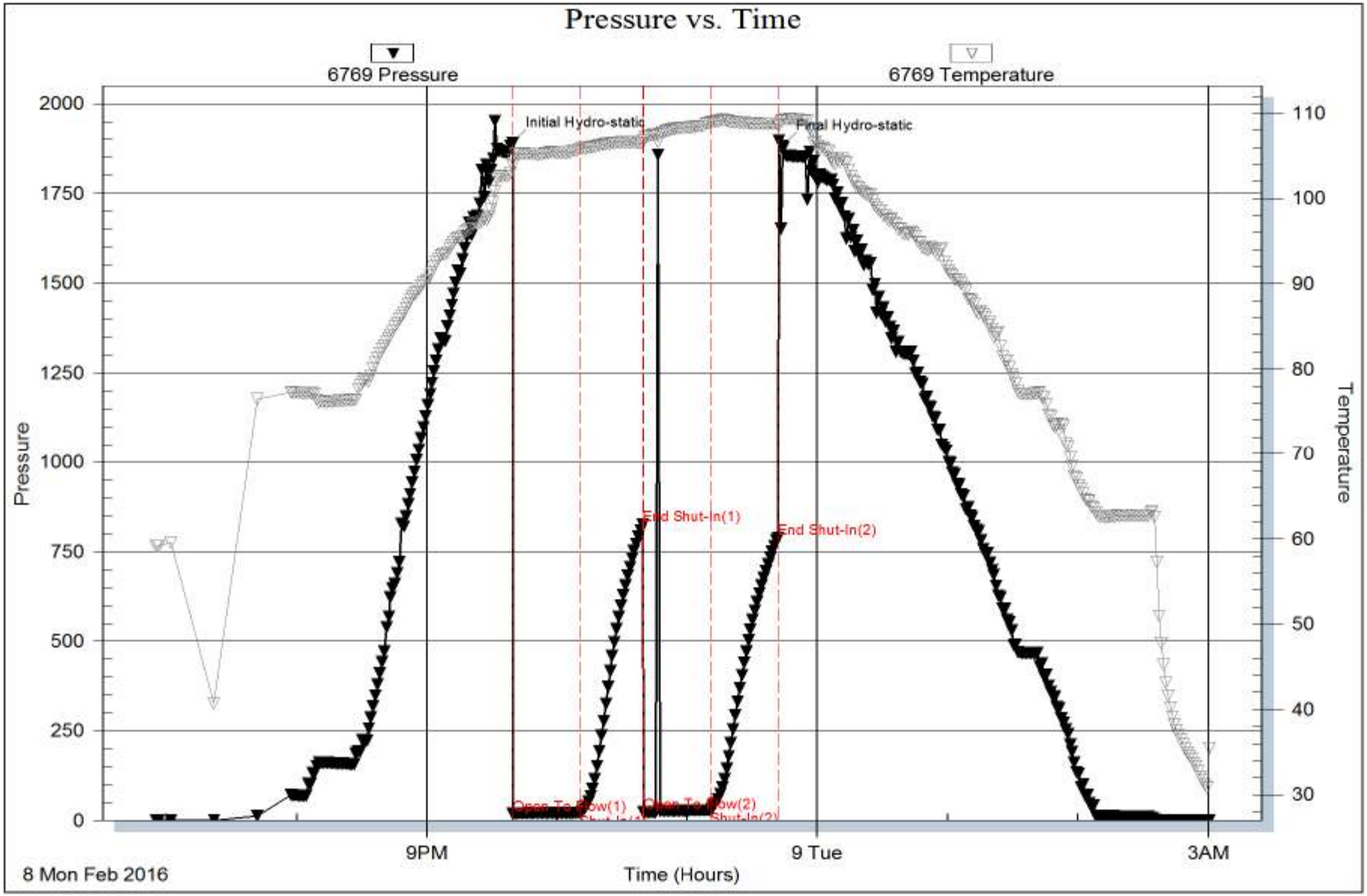
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud w /oil spots 98%m, 2%o	0.103

Total Length: 10.00 ft Total Volume: 0.103 bbl

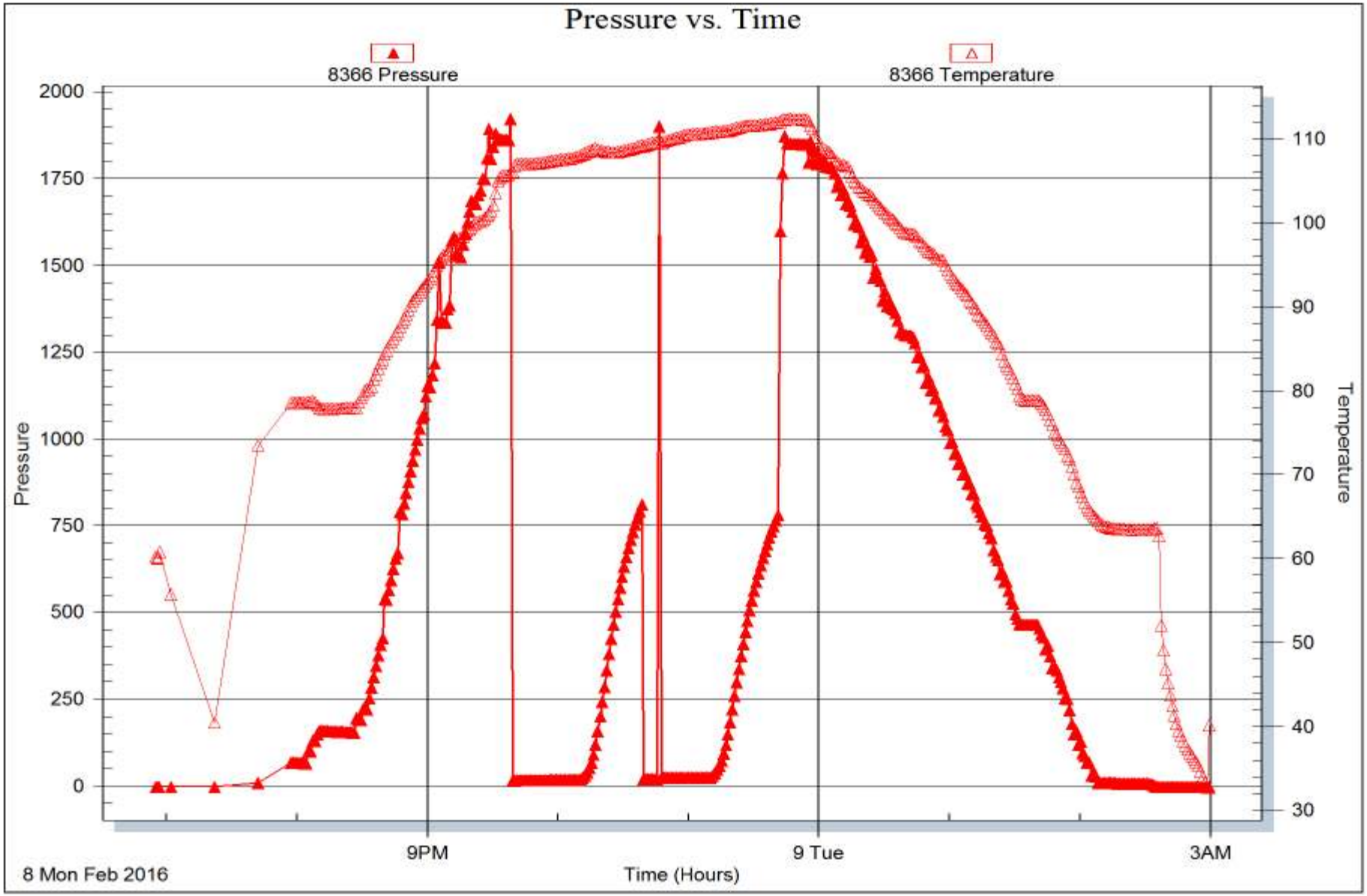
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6769 **Inside** Dow ning-Nelson Oil Co., Inc. 11-1s-33w Raw lins KS DST Test Number: 2



Trilobite Testing, Inc Ref. No: 65327 Printed: 2016.02.12 @ 15:50:52

Serial #: 8366 **Outside** Dow ning-Nelson Oil Co., Inc. 11-1s-33w Raw lins KS DST Test Number: 2



Trilobite Testing, Inc Ref. No: 65327 Printed: 2016.02.12 @ 15:50:52

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co., Inc.**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

11-1s-33w Rawlins KS

Marjorie-Norma Jean Unit #1-11

Start Date: 2016.02.11 @ 03:53:00
End Date: 2016.02.11 @ 09:37:30
Job Ticket #: 65328 DST #: 3

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

Printed: 2016.02.12 @ 15:46:46

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65328 **DST#: 3**

Test Start: 2016.02.11 @ 03:53:00

GENERAL INFORMATION:

Formation: **LKC "C - D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:53:45
Time Test Ended: 09:37:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3897.00 ft (KB) To 3997.00 ft (KB) (TVD)
Total Depth: 3997.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

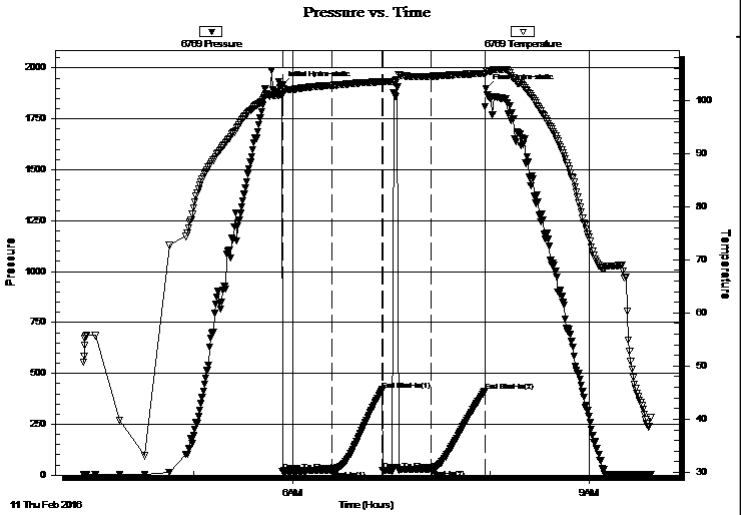
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6769 **Inside**

Press@RunDepth: 27.61 psig @ 3898.00 ft (KB)
Start Date: 2016.02.11 End Date: 2016.02.11
Start Time: 03:53:05 End Time: 09:37:29

Capacity: 8000.00 psig
Last Calib.: 2016.02.11
Time On Btm: 2016.02.11 @ 05:53:30
Time Off Btm: 2016.02.11 @ 07:57:30

TEST COMMENT: 30 - IF: 1/2" Blow at open, built slightly then died back, dead at 12 min.
30 - ISI: No blow (Diesel in bucket)
30 - FF: No blow , Flushed tool, surface blow for 4 1/2 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1912.70	101.11	Initial Hydro-static
1	19.40	101.19	Open To Flow (1)
31	22.76	102.81	Shut-In(1)
61	419.63	103.49	End Shut-In(1)
61	23.10	103.45	Open To Flow (2)
91	27.61	104.51	Shut-In(2)
123	412.43	105.07	End Shut-In(2)
124	1898.79	105.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
12.00	Mud w/trace oil 100%m	0.12

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65328 **DST#: 3**

Test Start: 2016.02.11 @ 03:53:00

GENERAL INFORMATION:

Formation: **LKC "C - D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:53:45
Time Test Ended: 09:37:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3897.00 ft (KB) To 3997.00 ft (KB) (TVD)
Total Depth: 3997.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

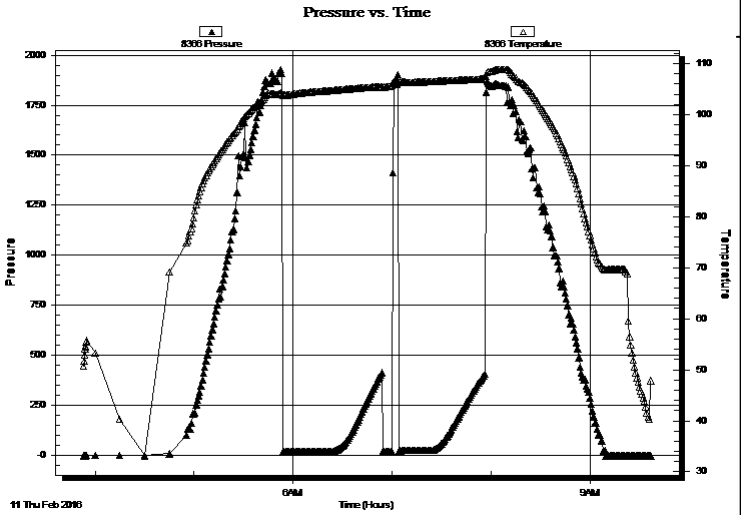
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 3898.00 ft (KB)
Start Date: 2016.02.11 End Date: 2016.02.11
Start Time: 03:53:05 End Time: 09:36:44

Capacity: 8000.00 psig
Last Calib.: 2016.02.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: 1/2" Blow at open, built slightly then died back, dead at 12 min.
30 - ISI: No blow (Diesel in bucket)
30 - FF: No blow , Flushed tool, surface blow for 4 1/2 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
12.00	Mud w/trace oil 100%m	0.12

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65328 **DST#: 3**

Test Start: 2016.02.11 @ 03:53:00

Tool Information

Drill Pipe:	Length:	3563.00 ft	Diameter:	3.80 inches	Volume:	49.98 bbl	
Heavy Wt. Pipe:	Length:	312.00 ft	Diameter:	3.25 inches	Volume:	3.20 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	53.18 bbl	

Drill Pipe Above KB:	7.00 ft
Depth to Top Packer:	3897.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	100.00 ft
Tool Length:	129.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	52000.00 lb
	Final	52000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3869.00		
Shut In Tool	5.00			3874.00		
Hydraulic tool	5.00			3879.00		
Jars	5.00			3884.00		
Safety Joint	3.00			3887.00		
Packer	5.00			3892.00	29.00	Bottom Of Top Packer
Packer	5.00			3897.00		
Stubb	1.00			3898.00		
Recorder	0.00	6769	Inside	3898.00		
Recorder	0.00	8366	Outside	3898.00		
Perforations	30.00			3928.00		
Blank Spacing	66.00			3994.00		
Bullnose	3.00			3997.00	100.00	Bottom Packers & Anchor
Total Tool Length:	**129.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65328 **DST#: 3**

Test Start: 2016.02.11 @ 03:53:00

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:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

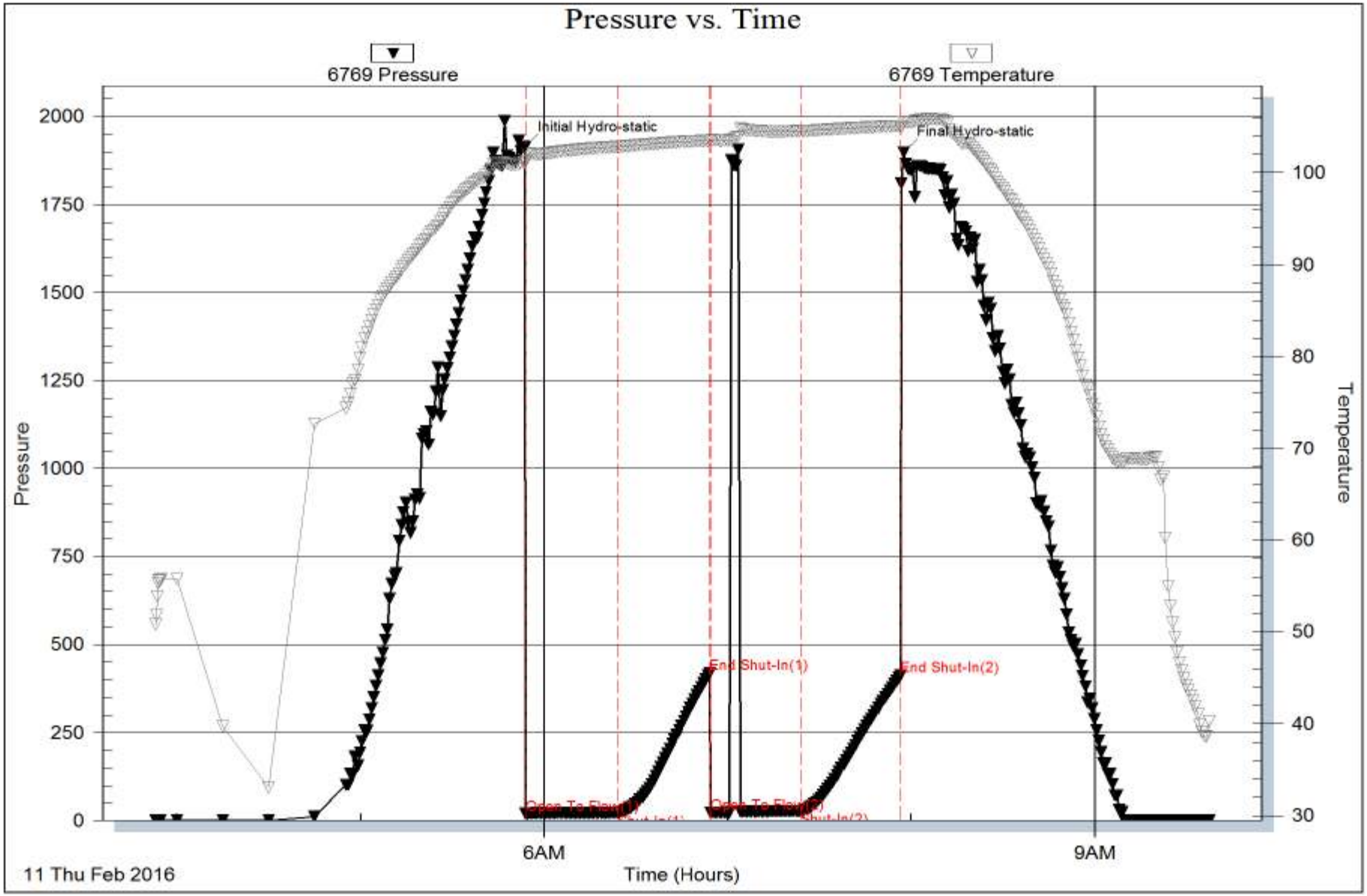
Recovery Table

Length ft	Description	Volume bbl
12.00	Mud w /trace oil 100%m	0.123

Total Length: 12.00 ft Total Volume: 0.123 bbl

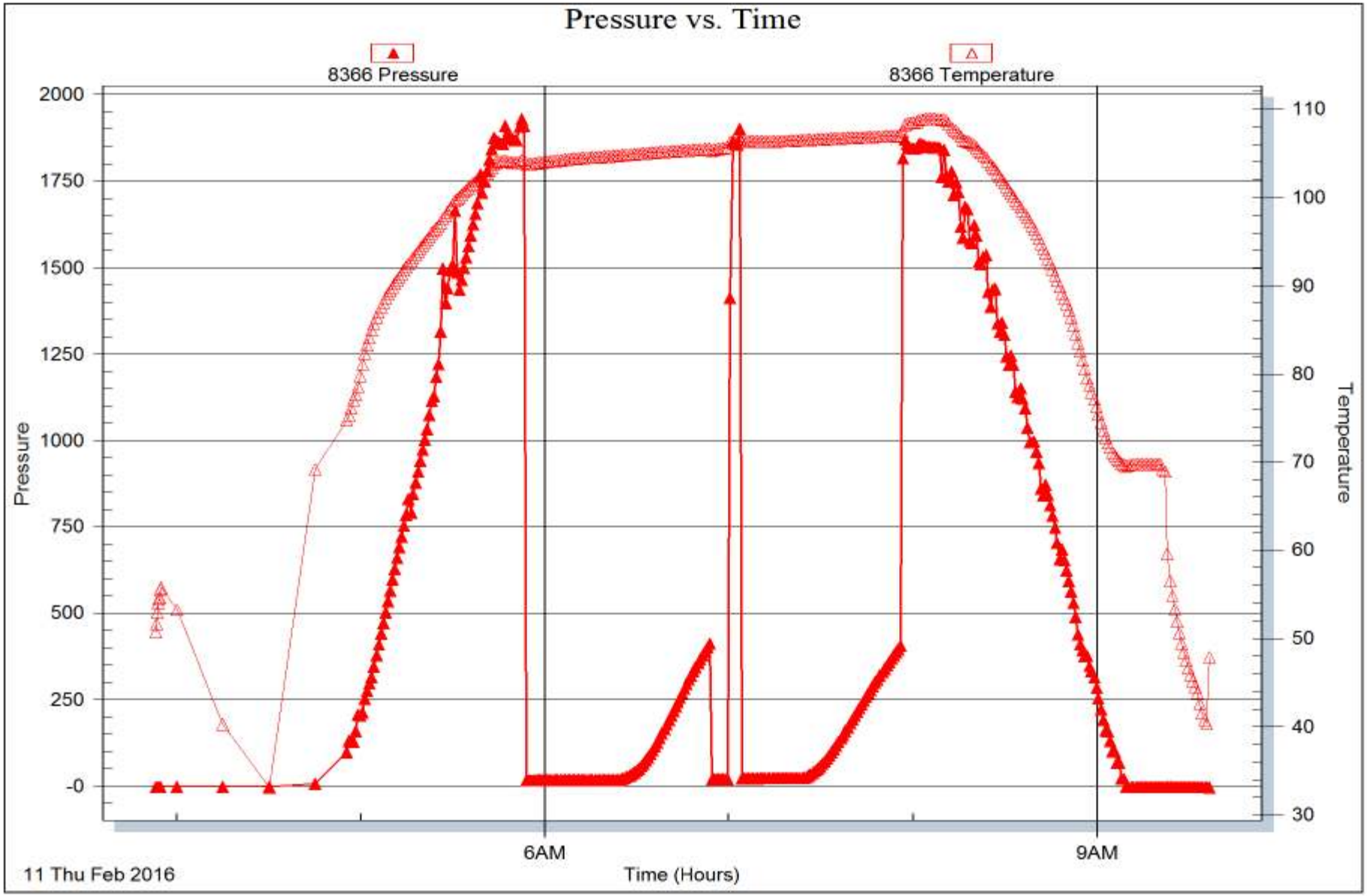
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6769 **Inside** Downing-Nelson Oil Co., Inc. 11-1s-33w Rawlins KS DST Test Number: 3



Trilobite Testing, Inc Ref. No: 65328 Printed: 2016.02.12 @ 15:46:50

Serial #: 8366 **Outside** Downing-Nelson Oil Co., Inc. 11-1s-33w Rawlins KS DST Test Number: 3



Trilobite Testing, Inc Ref. No: 65328 Printed: 2016.02.12 @ 15:46:50

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co., Inc.**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

11-1s-33w Rawlins KS

Marjorie-Norma Jean Unit #1-11

Start Date: 2016.02.11 @ 16:28:00
End Date: 2016.02.11 @ 22:08:15
Job Ticket #: 65329 DST #: 4

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

Printed: 2016.02.12 @ 15:44:24

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65329 **DST#: 4**

Test Start: 2016.02.11 @ 16:28:00

GENERAL INFORMATION:

Formation: **LKC "E"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:16:30
Time Test Ended: 22:08:15

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3991.00 ft (KB) To 4040.00 ft (KB) (TVD)
Total Depth: 4040.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

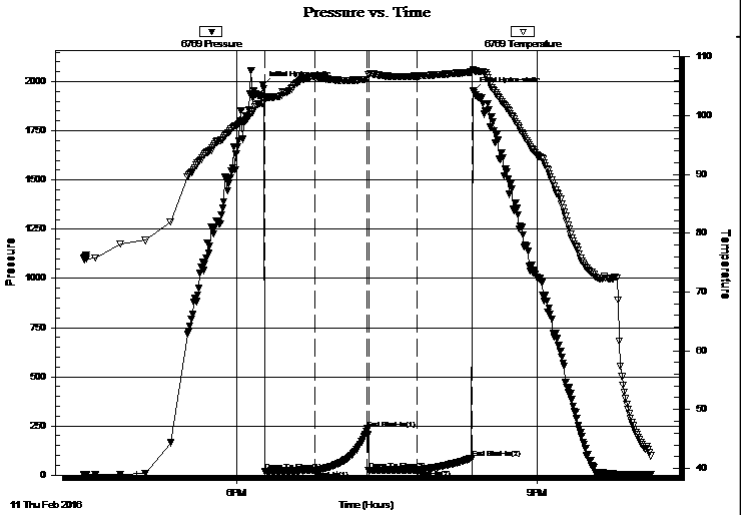
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6769 **Inside**

Press@RunDepth: 27.33 psig @ 3992.00 ft (KB)
Start Date: 2016.02.11 End Date: 2016.02.11
Start Time: 16:28:05 End Time: 22:08:14

Capacity: 8000.00 psig
Last Calib.: 2016.02.11
Time On Btm: 2016.02.11 @ 18:15:15
Time Off Btm: 2016.02.11 @ 20:21:15

TEST COMMENT: 30 - IF: Blow built to about 1/2", died back, dead at 18 min. (Diesel in bucket)
30 - ISI: No blow
30 - FF: Surface blow for 8 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1981.94	102.03	Initial Hydro-static
2	19.49	102.97	Open To Flow (1)
32	23.99	106.65	Shut-In(1)
63	235.24	106.12	End Shut-In(1)
64	24.09	106.88	Open To Flow (2)
93	27.33	106.70	Shut-In(2)
126	86.99	107.38	End Shut-In(2)
126	1951.33	107.84	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90%m, 8%o, 2%g	0.15
1.00	Free Oil	0.01

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65329 **DST#: 4**

Test Start: 2016.02.11 @ 16:28:00

GENERAL INFORMATION:

Formation: **LKC "E"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 18:16:30
Time Test Ended: 22:08:15

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 3991.00 ft (KB) To 4040.00 ft (KB) (TVD)
Total Depth: 4040.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

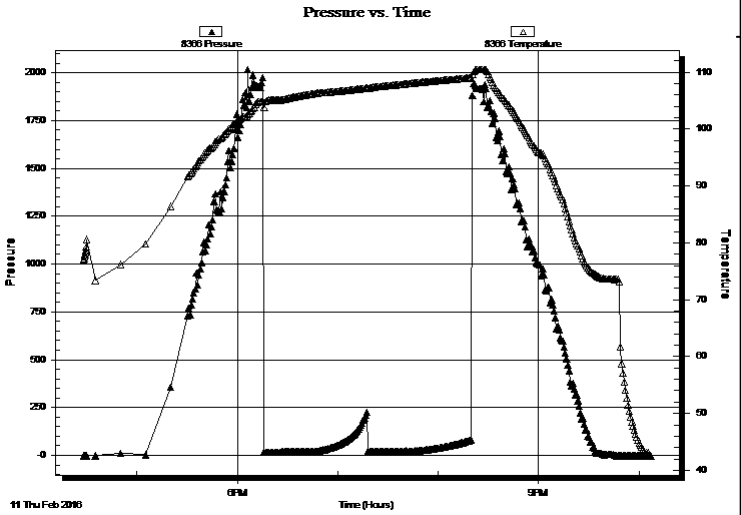
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 3992.00 ft (KB)
Start Date: 2016.02.11 End Date: 2016.02.11
Start Time: 16:28:05 End Time: 22:07:29

Capacity: 8000.00 psig
Last Calib.: 2016.02.11
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to about 1/2", died back, dead at 18 min. (Diesel in bucket)
30 - ISI: No blow
30 - FF: Surface blow for 8 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	OCM 90%m, 8%o, 2%g	0.15
1.00	Free Oil	0.01

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65329 **DST#: 4**

Test Start: 2016.02.11 @ 16:28:00

Tool Information

Drill Pipe:	Length:	3661.00 ft	Diameter:	3.80 inches	Volume:	51.35 bbl	
Heavy Wt. Pipe:	Length:	312.00 ft	Diameter:	3.25 inches	Volume:	3.20 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	54.55 bbl	

Drill Pipe Above KB:	11.00 ft
Depth to Top Packer:	3991.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	49.00 ft
Tool Length:	78.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		54000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	50000.00 lb
	Final	50000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3963.00		
Shut In Tool	5.00			3968.00		
Hydraulic tool	5.00			3973.00		
Jars	5.00			3978.00		
Safety Joint	3.00			3981.00		
Packer	5.00			3986.00	29.00	Bottom Of Top Packer
Packer	5.00			3991.00		
Stubb	1.00			3992.00		
Recorder	0.00	6769	Inside	3992.00		
Recorder	0.00	8366	Outside	3992.00		
Perforations	11.00			4003.00		
Blank Spacing	34.00			4037.00		
Bullnose	3.00			4040.00	49.00	Bottom Packers & Anchor
Total Tool Length:	**78.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 65329 **DST#: 4**

Test Start: 2016.02.11 @ 16:28:00

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:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

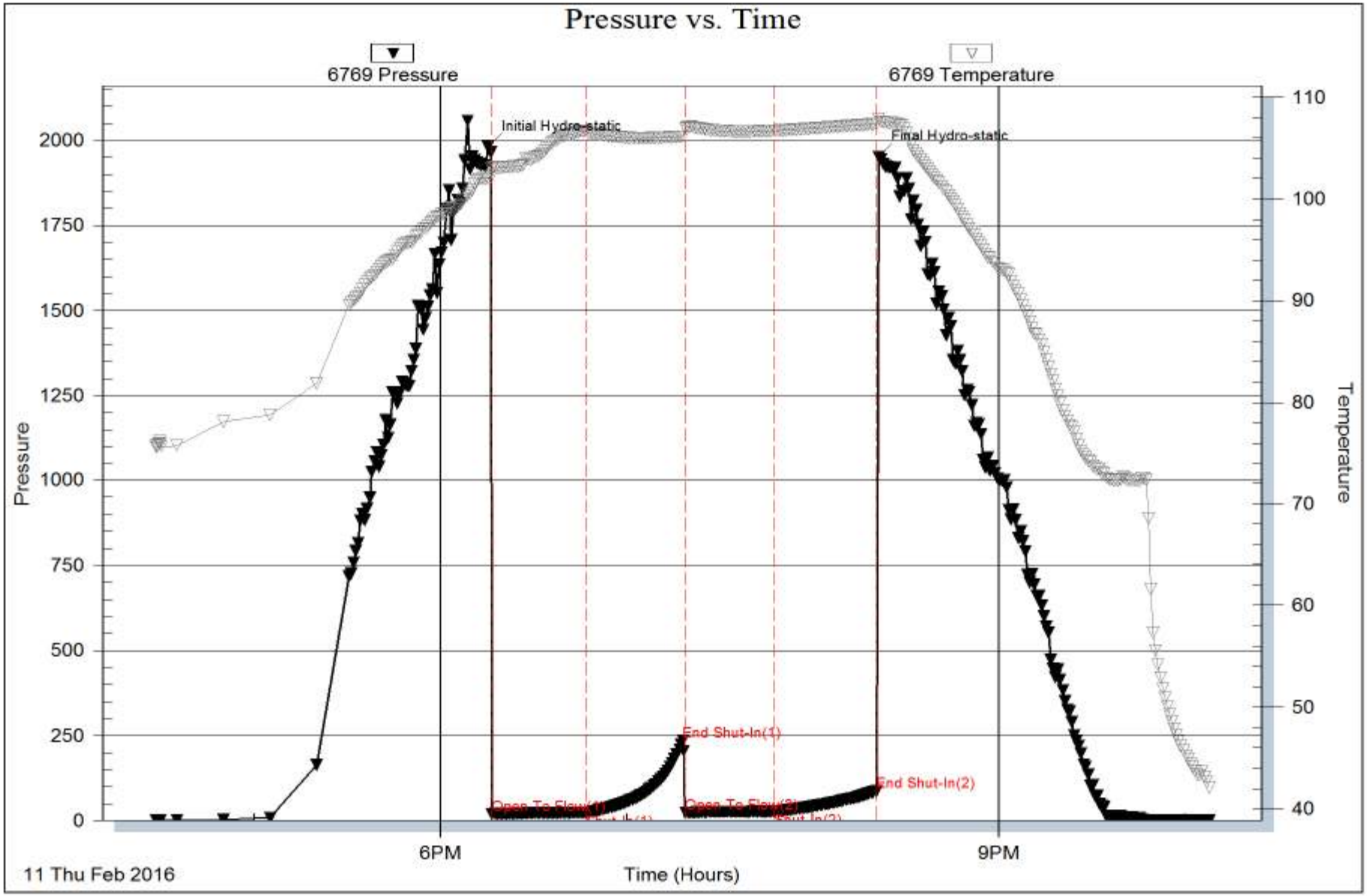
Recovery Table

Length ft	Description	Volume bbl
15.00	OCM 90%m, 8%o, 2%g	0.154
1.00	Free Oil	0.010

Total Length: 16.00 ft Total Volume: 0.164 bbl

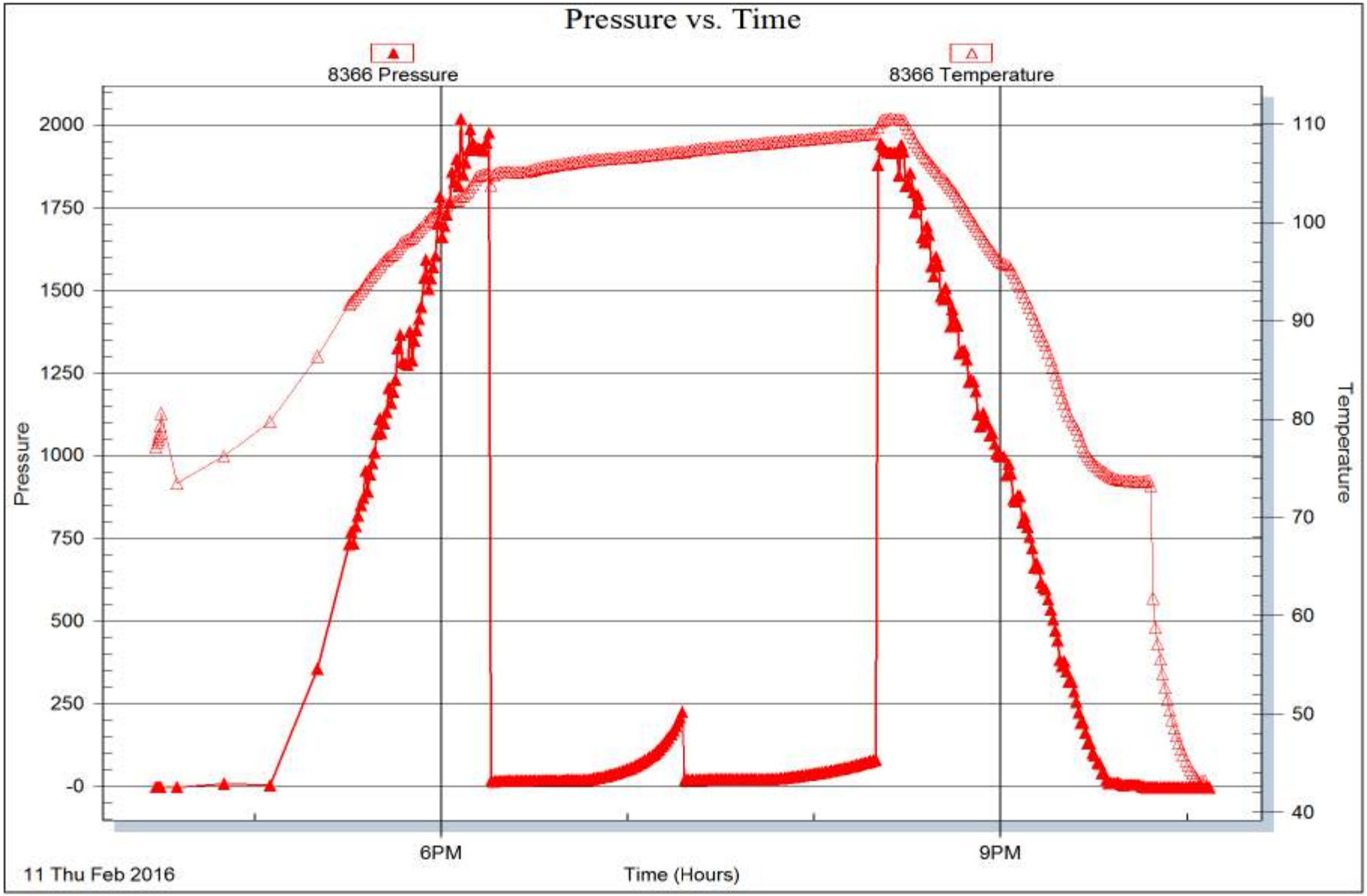
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6769 **Inside** Downing-Nelson Oil Co., Inc. 11-1s-33w Rawlins KS DST Test Number: 4



Trilobite Testing, Inc Ref. No: 65329 Printed: 2016.02.12 @ 15:44:37

Serial #: 8366 **Outside** Dow ning-Nelson Oil Co., Inc. 11-1s-33w Raw lins KS DST Test Number: 4



Trilobite Testing, Inc Ref. No: 65329 Printed: 2016.02.12 @ 15:44:37

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing-Nelson Oil Co., Inc.**

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

11-1s-33w Rawlins KS

Marjorie-Norma Jean Unit #1-11

Start Date: 2016.02.12 @ 07:22:00
End Date: 2016.02.12 @ 13:18:00
Job Ticket #: 56330 DST #: 5

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

Printed: 2016.02.12 @ 15:43:01

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 56330 **DST#: 5**

Test Start: 2016.02.12 @ 07:22:00

GENERAL INFORMATION:

Formation: **LKC "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:11:45
Time Test Ended: 13:18:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4035.00 ft (KB) To 4124.00 ft (KB) (TVD)
Total Depth: 4124.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

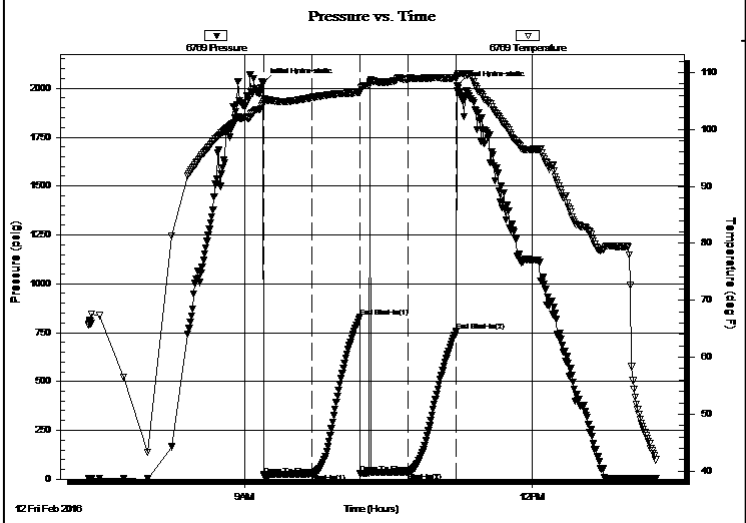
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 6769 **Inside**

Press@RunDepth: 36.82 psig @ 4036.00 ft (KB)
Start Date: 2016.02.12 End Date: 2016.02.12
Start Time: 07:22:05 End Time: 13:17:59

Capacity: 8000.00 psig
Last Calib.: 2016.02.12
Time On Btm: 2016.02.12 @ 09:11:30
Time Off Btm: 2016.02.12 @ 11:13:15

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3/4", died back, dead at 24 min.
30 - ISI: No blow (Diesel in bucket)
30 - FF: No blow , Flushed tool, surface blow for 5 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2030.41	104.46	Initial Hydro-static
1	19.52	104.78	Open To Flow (1)
31	27.80	105.59	Shut-In(1)
61	829.46	106.47	End Shut-In(1)
61	29.45	106.60	Open To Flow (2)
91	36.82	108.72	Shut-In(2)
121	757.96	109.05	End Shut-In(2)
122	2013.50	109.50	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w/trace oil 100%m	0.31

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 56330 **DST#: 5**

Test Start: 2016.02.12 @ 07:22:00

GENERAL INFORMATION:

Formation: **LKC "F"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 09:11:45
Time Test Ended: 13:18:00

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 83

Interval: 4035.00 ft (KB) To 4124.00 ft (KB) (TVD)
Total Depth: 4124.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

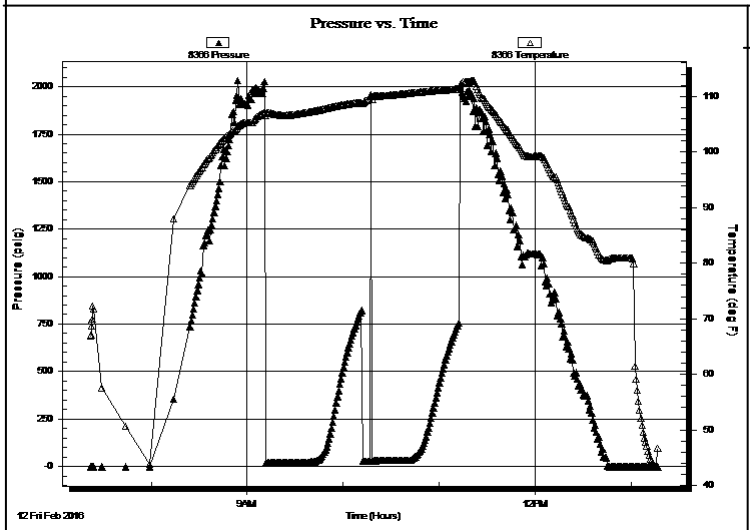
Reference Elevations: 2915.00 ft (KB)
2905.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8366 **Outside**

Press@RunDepth: psig @ 4036.00 ft (KB)
Start Date: 2016.02.12 End Date: 2016.02.12
Start Time: 07:22:05 End Time: 13:16:59

Capacity: 8000.00 psig
Last Calib.: 2016.02.12
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: 1/4" Blow at open, built to 3/4", died back, dead at 24 min.
30 - ISI: No blow (Diesel in bucket)
30 - FF: No blow , Flushed tool, surface blow for 5 min., then dead
30 - FSI: No blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	Mud w /trace oil 100%m	0.31

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 56330 **DST#: 5**

Test Start: 2016.02.12 @ 07:22:00

Tool Information

Drill Pipe:	Length:	3722.00 ft	Diameter:	3.80 inches	Volume:	52.21 bbl	
Heavy Wt. Pipe:	Length:	312.00 ft	Diameter:	3.25 inches	Volume:	3.20 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	
					Total Volume:	55.41 bbl	

Drill Pipe Above KB:	28.00 ft
Depth to Top Packer:	4035.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	89.00 ft
Tool Length:	118.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		56000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	53000.00 lb
	Final	53000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4007.00		
Shut In Tool	5.00			4012.00		
Hydraulic tool	5.00			4017.00		
Jars	5.00			4022.00		
Safety Joint	3.00			4025.00		
Packer	5.00			4030.00	29.00	Bottom Of Top Packer
Packer	5.00			4035.00		
Stubb	1.00			4036.00		
Recorder	0.00	6769	Inside	4036.00		
Recorder	0.00	8366	Outside	4036.00		
Perforations	19.00			4055.00		
Blank Spacing	66.00			4121.00		
Bullnose	3.00			4124.00	89.00	Bottom Packers & Anchor
Total Tool Length:	**118.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Dow ning

Marjorie-Norma Jean Unit #1-11

11-1s-33w Rawlins KS

Job Ticket: 56330 **DST#: 5**

Test Start: 2016.02.12 @ 07:22:00

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:	49.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.96 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	2500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

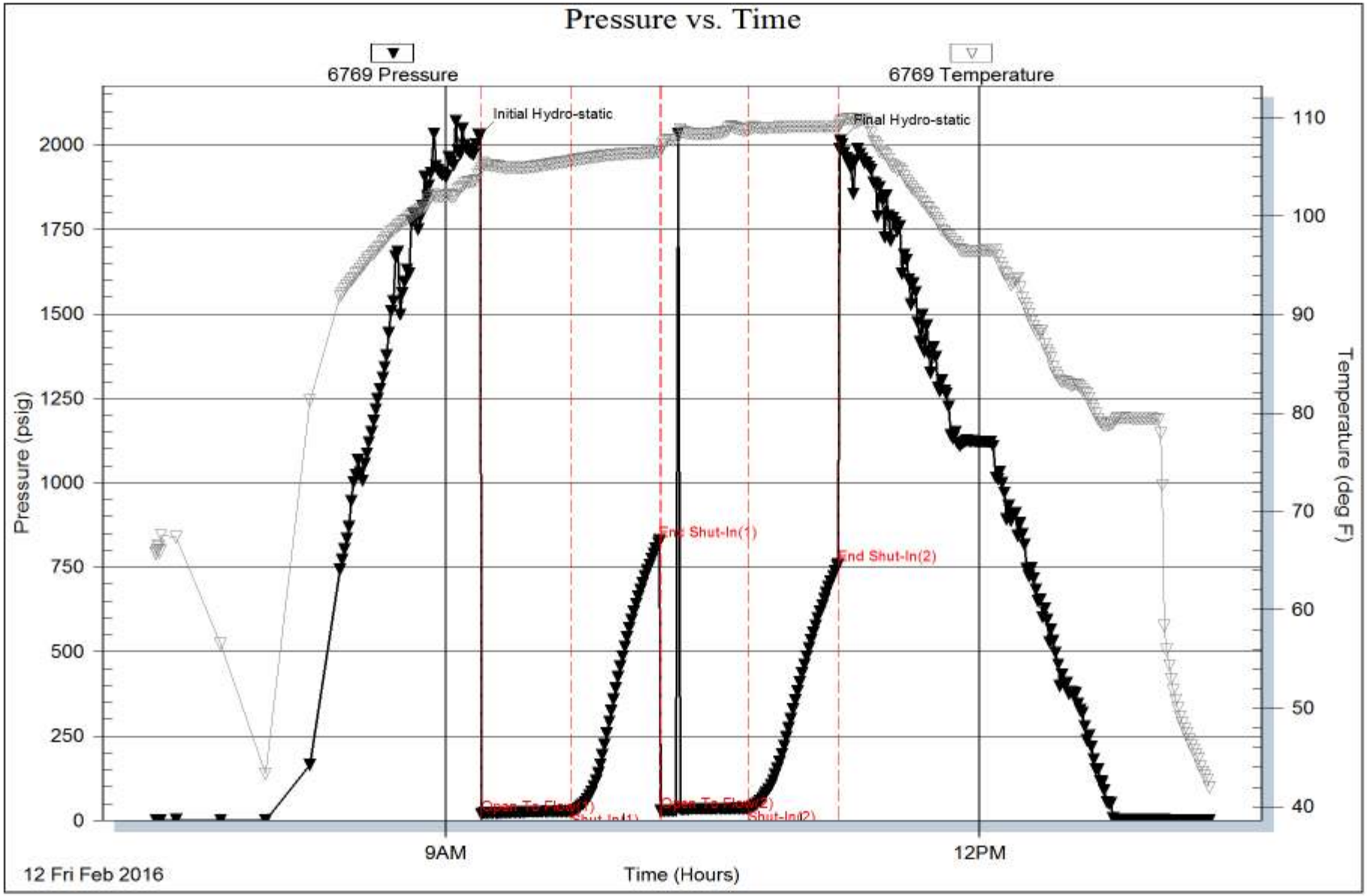
Recovery Table

Length ft	Description	Volume bbl
30.00	Mud w /trace oil 100%m	0.308

Total Length: 30.00 ft Total Volume: 0.308 bbl

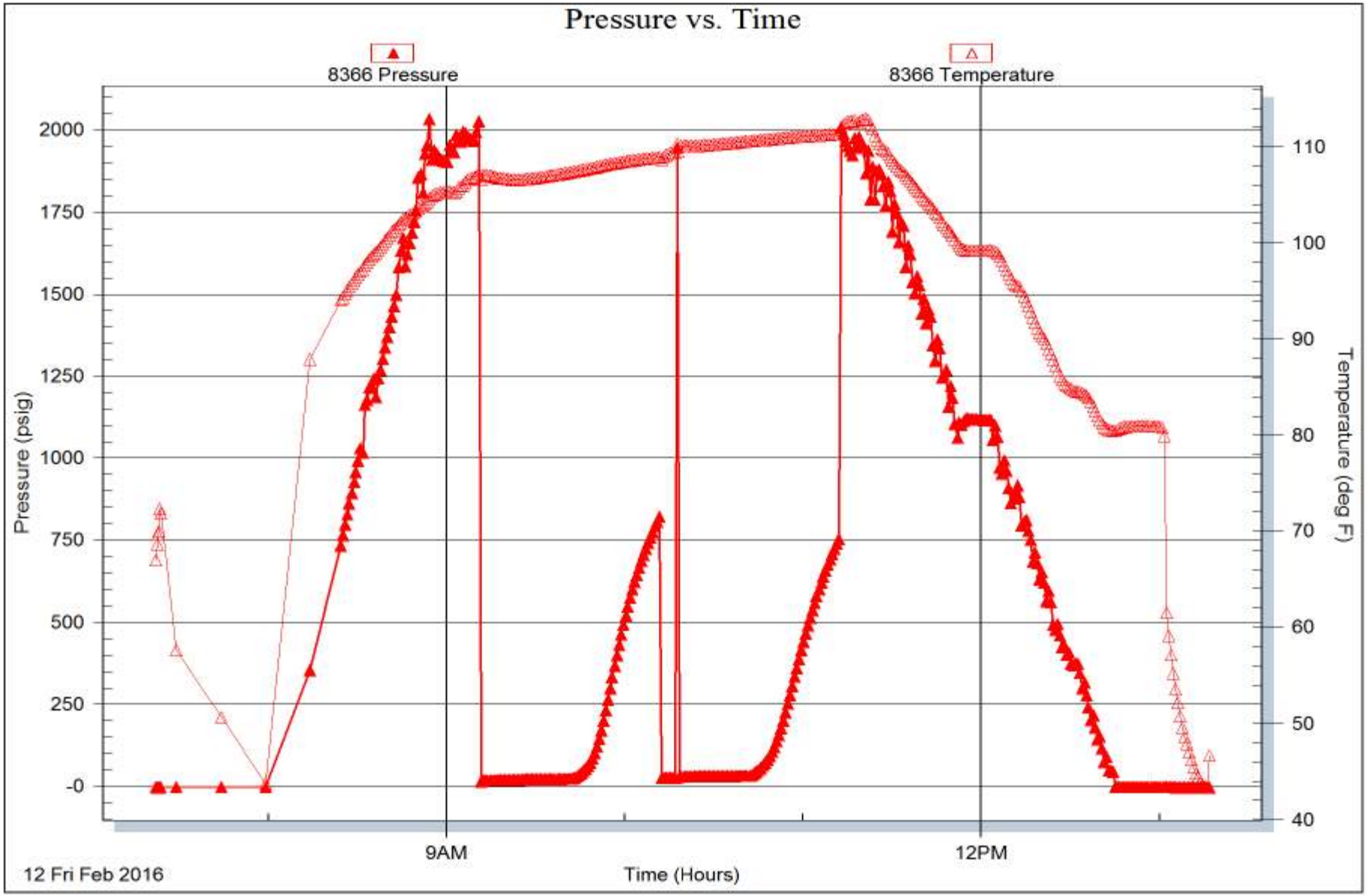
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 6769 **Inside** Downing-Nelson Oil Co., Inc. 11-1s-33w Rawlins KS DST Test Number: 5



Trilobite Testing, Inc Ref. No: 56330 Printed: 2016.02.12 @ 15:43:06

Serial #: 8366 **Outside** Dow ning-Nelson Oil Co., Inc. 11-1s-33w Raw lins KS DST Test Number: 5



Trilobite Testing, Inc Ref. No: 56330 Printed: 2016.02.12 @ 15:43:07

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65326

Well Name & No. Marjorie - Norma Jean Unit #1-11 Test No. 1 Date 2-8-16

Company Downing-Nelson Oil Co. Inc Elevation 2915 KB 2905 GL

Address PO Box 1019 Hays, KS 67601

Co. Rep / Geo. Marc Downing Rig Discovery #1

Location: Sec. 11 Twp. 15 Rge. 33w Co. Rawlins State KS

Interval Tested 3734 - 3780 Zone Tested Oread

Anchor Length 46 Drill Pipe Run 3404 Mud Wt. 8.7

Top Packer Depth 3729 Drill Collars Run - Vis 57

Bottom Packer Depth 3734 Wt. Pipe Run 312 WL 8.0

Total Depth 3780 Chlorides 500 ppm System LCM 4

Blow Description IF: Blow built to BOB (11") at 3 3/4 min (Diesel in bucket)

ISI: Weak surface blowback, dead at 24 min.

FF: Blow built to BOB at 5 min.

FSI: No blowback

Rec	130	Feet of	MCW w/trace oil	%gas	trace	%oil	64	%water	36 %mud
Rec	250	Feet of	MCW w/trace oil	%gas	trace	%oil	89	%water	11 %mud
Rec	635	Feet of	SMCW w/trace oil	%gas	trace	%oil	95	%water	5 %mud
Rec		Feet of		%gas		%oil		%water	%mud
Rec		Feet of		%gas		%oil		%water	%mud

Rec Total 1015 BHT 118 Gravity ____ API RW .368 @ 45 °F Chlorides 29000 ppm

(A) Initial Hydrostatic	1822	☑ Test	1050	T-On Location	23:45 2/7
(B) First Initial Flow	55	☑ Jars	250	T-Started	1:02
(C) First Final Flow	321	☑ Safety Joint	75	T-Open	3:32
(D) Initial Shut-In	1185	☐ Circ Sub		T-Pulled	6:06
(E) Second Initial Flow	329	☐ Hourly Standby		T-Out	8:45 2/8
(F) Second Final Flow	493	☑ Mileage	88 RT	Comments	
(G) Final Shut-In	1174	☐ Sampler			
(H) Final Hydrostatic	1799	☐ 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	1463
Final Shut-In	45	☐ Accessibility		MP/DST Disc't	
		Sub Total	1463		

Approved By ____ Our Representative James Hamilton

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65327

Well Name & No. Marjorie - Norma Jean Unit #1-11 Test No. 2 Date 2-8-16

Company Downing - Nelson Oil Co. Inc Elevation 2915 KB 2905 GL

Address PO Box 1019 Hays, KS 67601

Co. Rep / Geo. Marc Downing Rig Discovery #1

Location: Sec. 11 Twp. 15 Rge. 33w Co. Rawlins State KS

Interval Tested 3844 - 3902 Zone Tested LKC "B"

Anchor Length 58 Drill Pipe Run 3531 Mud Wt. 9.0

Top Packer Depth 3839 Drill Collars Run - Vis 49

Bottom Packer Depth 3844 Wt. Pipe Run 312 WL 8.0

Total Depth 3902 Chlorides 500 ppm System LCM 2½

Blow Description IF: Blow built to ½", died back, dead at 24min. (Diesel in bucket)
ISI: No blow
FF: No blow, Flushed tool, surface blow for 4min, then dead
FSI: No blow

Rec 10	Feet of Mud w/oil spots	- %gas	2 %oil	- %water	98 %mud	
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 10 BHT 109 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1891
(B) First Initial Flow 19
(C) First Final Flow 22
(D) Initial Shut-In 826
(E) Second Initial Flow 24
(F) Second Final Flow 29
(G) Final Shut-In 788
(H) Final Hydrostatic 1883

Initial Open 30
Initial Shut-In 30
Final Flow 30
Final Shut-In 30

- ☑ Test 1050
- ☑ Jars 250
- ☑ Safety Joint 75
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 88 RT
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☐ Day Standby
- ☐ Accessibility

Sub Total 1463

T-On Location 18:00 2/8
T-Started 18:55
T-Open 21:39
T-Pulled 23:41
T-Out 2:55 2/9

Comments

- ☐ Ruined Shale Packer
- ☐ Ruined Packer
- ☐ Extra Copies

Sub Total 0
Total 1463
MP/DST Disc't

Approved By _____ Our Representative James Winkler

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65328

Well Name & No. Marjorie - Norma Jean Unit #1-11 Test No. 3 Date 2-11-16

Company Downing - Nelson Oil Co. Inc Elevation 2915 KB 2905 GL

Address PO Box 1019 Hays KS 67601

Co. Rep / Geo. Marc Downing Rig Discovery #1

Location: Sec. 11 Twp. 15 Rge. 33 w Co. Rawlins State KS

Interval Tested 3897 - 3997 Zone Tested LKC "C-D"

Anchor Length 100 Drill Pipe Run 3563 Mud Wt. 8.9

Top Packer Depth 3892 Drill Collars Run - Vis 47

Bottom Packer Depth 3897 Wt. Pipe Run 312 WL 8.0

Total Depth 3997 Chlorides 500 ppm System LCM 1 1/2

Blow Description IF: 1/2" Blow at open, built slightly, died back, dead at 12 min.

ISI: No blow (Diesel in bucket)

FF: No blow, Flushed tool, surface blow for 4 1/2 min then dead

FSI: No blow

Rec 12	Feet of Mud w/trace oil	%gas trace	%oil	%water 100	%mud
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 12 BHT 105 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1913

(B) First Initial Flow 19

(C) First Final Flow 23

(D) Initial Shut-In 420

(E) Second Initial Flow 23

(F) Second Final Flow 28

(G) Final Shut-In 412

(H) Final Hydrostatic 1899

Initial Open 30

Initial Shut-In 30

Final Flow 30

Final Shut-In 30

- ☑ Test 1050
- ☑ Jars 250
- ☑ Safety Joint 75
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 88RT
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☐ Day Standby 1.5d 12.5h
- ☐ Accessibility

Sub Total 1463

T-On Location 3:30

T-Started 3:53

T-Open 5:53

T-Pulled 7:56

T-Out 9:35

Comments

- ☐ Ruined Shale Packer
- ☐ Ruined Packer
- ☐ Extra Copies

Sub Total 416.67

Total 1463+416.67

MP/DST Disc't

Approved By ____ Our Representative James Winder

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65329

Well Name & No. Marjorie - Norma Jean Unit # 1-11 Test No. 4 Date 2-11-16

Company Downing Nelson Oil Co. Inc Elevation 2915 KB 2905 GL

Address PO Box 1019 Hays, KS 67601

Co. Rep / Geo. Marc Downing Rig Discovery #1

Location: Sec. 11 Twp. 15 Rge. 33w Co. Rawlins State KS

Interval Tested 3991 - 4040 Zone Tested LKC "E

Anchor Length 49 Drill Pipe Run 3661 Mud Wt. 9.3

Top Packer Depth 3986 Drill Collars Run - Vis 49

Bottom Packer Depth 3991 Wt. Pipe Run 312 WL 8.0

Total Depth 4040 Chlorides 2500 ppm System LCM 2½

Blow Description IF: Blow built to about ½", died back, dead at 18 min. (Diesel in bucket)

ISI: No blow

FF: Surface blow for 8 min, then dead

FSI: No blow

Rec 1	Feet of Free Oil		%gas	%oil	%water	%mud
Rec 15	Feet of OCM	2	%gas 8	%oil	%water 90	%mud
Rec	Feet of		%gas	%oil	%water	%mud
Rec	Feet of		%gas	%oil	%water	%mud
Rec	Feet of		%gas	%oil	%water	%mud

Rec Total 16 BHT 107 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1982

(B) First Initial Flow 19

(C) First Final Flow 24

(D) Initial Shut-In 235

(E) Second Initial Flow 24

(F) Second Final Flow 27

(G) Final Shut-In 87

(H) Final Hydrostatic 1951

Initial Open 30

Initial Shut-In 30

Final Flow 30

Final Shut-In 30

- ☑ Test 1150
- ☑ Jars 250
- ☑ Safety Joint 75
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 88RT
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☐ Day Standby
- ☐ Accessibility

Sub Total 1563

T-On Location 16:00

T-Started 16:28

T-Open 18:16

T-Pulled 20:20

T-Out 22:00

Comments

- ☐ Ruined Shale Packer
- ☐ Ruined Packer
- ☐ Extra Copies

Sub Total 0

Total 1563

MP/DST Disc't

Approved By ____ Our Representative James Hinden

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 65330

Well Name & No. Marjorie - Norma Jean Unit #1-11 Test No. 5 Date 2-12-16

Company Downing-Nelson Oil Co. Inc Elevation 2915 KB 2905 GL

Address PO Box 1019 Hays KS 67601

Co. Rep / Geo. Marc Downing Rig Discovery #1

Location: Sec. 11 Twp. 15 Rge. 33w Co. Rawlins State KS

Interval Tested 4035 - 4124 Zone Tested LKC "F"

Anchor Length 89 Drill Pipe Run 3722 Mud Wt. 9.2

Top Packer Depth 4030 Drill Collars Run - Vis 49

Bottom Packer Depth 4035 Wt. Pipe Run 312 WL 8

Total Depth 4124 Chlorides 2500 ppm System LCM 2½

Blow Description IF: ¼" Blow at open, built to ¾", died back, dead at 24 min.

ISI: No blow (Diesel in bucket)

FF: No blow, Flushed tool, surface blow for 5 min., then dead

FSI: No blow

Rec 30	Feet of Mud w/trace of oil	%gas trace	%oil	%water 100	%mud	
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 30 BHT 109 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2030

(B) First Initial Flow 20

(C) First Final Flow 28

(D) Initial Shut-In 829

(E) Second Initial Flow 29

(F) Second Final Flow 37

(G) Final Shut-In 758

(H) Final Hydrostatic 2014

Initial Open 30

Initial Shut-In 30

Final Flow 30

Final Shut-In 30

- ☑ Test 1150
- ☑ Jars 250
- ☑ Safety Joint 75
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 88 RT
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☐ Day Standby
- ☐ Accessibility

Sub Total 1563

T-On Location 6:40

T-Started 7:22

T-Open 9:11

T-Pulled 11:12

T-Out 13:15

Comments

- ☐ Ruined Shale Packer
- ☐ Ruined Packer
- ☐ Extra Copies

Sub Total 0

Total 1563

MP/DST Disc't

Approved By ____ Our Representative James Winder

ALLIED OIL & GAS SERVICES, LLC

Federal Tax I.D. #20-5975804

067519

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT: Oakley KS

DATE 7-12-16	SEC. 11	TWP. 1	RANGE 33	CALLED OUT	ON LOCATION 4:30pm	JOB START 7:30pm	JOB FINISH 8:30PM
LEASE Jean Unit	WELL # 1-11		LOCATION Atwood N to DD, 3½E, E + Sinto			COUNTY Rawlins	STATE KS
OLD OR NEW (Circle one)							

CONTRACTOR Discovery rig #1
TYPE OF JOB PTA
HOLE SIZE 7 7/8 T.D. 4200'
CASING SIZE DEPTH
TUBING SIZE DEPTH
DRILL PIPE 4 1/2 DEPTH 2750'
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT 1st plug 30bbl 2nd plug 13bbl mud

EQUIPMENT

PUMP TRUCK # 431 CEMENTER Paul Beaver
HELPER Levin Ryan
BULK TRUCK # 410 DRIVER Monty Phillips
BULK TRUCK # DRIVER

OWNER Same

CEMENT
AMOUNT ORDERED 255 sks 60/40 4% gel ¼# Flo-Seal

COMMON		@	
POZMIX		@	
GEL		@	
CHLORIDE		@	
ASC		@	
60/40/4	255 sks	@ 18.92	4,824.60
		@	
Flo-seal	64 #	@ 2.97	190.08
		@	
		@	
		@	
		@	
		@	
		TOTAL	5,014.68
		DISCOUNT 45 %	2256.61

REMARKS:

mix 50 sks @ 2750' Displace w/ mud
mix 100 sks @ 2000', Displace w/ mud
mix 50 sks @ 275'
mix 10 sks @ 40' w/ wiper plug
mix 30 sks in R.H
mix 15 sks in M.H
plug down @ 8:30 p.m.
Thank You!
Paul + Crew

SERVICE

HANDLING	273.8747	@ 2.48	679.20
MILEAGE	11.44 tons x 50 mi x 2.75		1573.00
DEPTH OF JOB	2700		
PUMP TRUCK CHARGE			2,483.59
EXTRA FOOTAGE		@	
HV MILEAGE	50	@ 7.70	385.00
LV MILEAGE	50	@ 4.40	220.00
		@	
		@	
		TOTAL	5,340.79
		DISCOUNT 45 %	2403.35

CHARGE TO: Downing + Nelson Oil Co. Inc.
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 5/8 Wooden Plug			
8 5/8 Wooden Plug		@	110.00
		@	
		@	
		@	
		@	
		TOTAL	110.00
		DISCOUNT 0 %	0

To: Allied Oil & Gas Services, LLC.
You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

PRINTED NAME
SIGNATURE

SALES TAX (If Any)
TOTAL CHARGES 10,465.47
DISCOUNT 4,659.96 (45%) IF PAID IN 30 DAYS
NET TOTAL 5,805.50 IF PAID IN 30 DAYS

Marc A. Downing Consulting Petroleum Geologist	Geologic Report Drilling Time and Sample Log

Operator **Downing-Nelson Oil Co., Inc.**	**Elevation** KB 2910 DF 2908 GL 2902
Lease **Marjorie-Norma Jean** No. **1-11**	
API # **15-153-21175-0000**	**Casing Record** Surface 8 5/8" @ 223' Production None
Field **Wildcat**	
Location **915' FNL & 1635' FWL**	**Electrical Surveys** None
Sec. **11** Twp. **1s** Rge. **33w**	
County **Rawlins** State **Kansas**	

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	2727		+183	+6
Base Anhydrite	2765		+145	-2
Topeka	3640		-730	-6
Oread	3760		-850	-2
Heebner	3788		-878	-6
Lansing	3829		-919	-5
BKC	4101		-1191	-1
Total Depth	4124		-1214	

Reference Well For Structural Comparison **DNOCI**

Horinek #1-11 335' FNL & 420' FEL Sec. 10-1s-33w

Drilling Contractor		Discovery Drilling, Rig #1		
Commenced	2-4-16	Completed		2-12-16
Samples Saved From		3700	To	RTD
Drilling Time Kept From		3500	To	RTD
Samples Examined From		3700	To	RTD
Geological Supervision From		3500	To	RTD

Summary and Recommendations

Due to structural position, DST recovery, and log evaluation, it was decided to plug and abandon the well.

Respectfully Submitted,

Marc A. Downing