Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1182805

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: Coffeyville Resources

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 #:

10/29/2013	11/03/2013	11/04/2013
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-165-22043-00-00
Spot Description:
SE - SE - NW - NE Sec. 13 Twp. 17 S. R. 19 ☐ East ☑ West
1142 Feet from ☑ North / ☐ South Line of Section
1611 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: Rush
Lease Name: DeWald Well #: 1-13
Field Name: Wildcat
Producing Formation: Regan Sand
Elevation: Ground: 2154 Kelly Bushing: 2162
Total Vertical Depth: 4000 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1364 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: 30000 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: 01/20/2014
☑ **Confidential Release Date:** 01/20/2016
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 01/21/2014

[redacted] 1182805

Operator Name: Downing-Nelson Oil Co Inc Lease Name: DeWald Well #: 1-13

Sec. 13 Twp. 17 S. R. 19 ☐ East ☑ West County: Rush

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:

Attached

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

Name: Attached Top: Attached Datum: Attached

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
Sueface Pipe	12.25	8.625	23	1364	Common	475	2% Gel & 3% CC
Production Casing	7.8750	5.5	14	4000	EA/2	125	

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
4	3886'-3890'		

TUBING RECORD: Size: 2.875 Set At: 3972' Packer At:

Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 12/01/2013

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
	8				70			

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	DeWald 1-13
Doc ID	1182805

All Electric Logs Run

Sonic
Micro
Dual Induction
Compensated Density/ Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	DeWald 1-13
Doc ID	1182805

Tops

Name	Top	Datum
Top Anhydrite	1358'	+804
Base Anhydrite	1392'	+770
Topeka	3198'	-1036
Heebner	3488'	-1326
LKC	3533'	-1371
BKC	3803'	-1641
Marmaton	3848'	-1686
Conglomerate Sand	3886'	-1724
Arbuckle	3911'	-1749
Conglomerate Fill	3932'	-1770
Arb	3978'	-1816

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	DeWald 1-13
Doc ID	1182805

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Sueface Pipe	12.25	8.625	23	1364	Common	475	2% Gel & 3% CC
Production Casing	7.8750	5.5	14	4000	EA/2	125	

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 **Home Office P.O. Box 32 Russell, KS 67665** **No.** 7463
Cell 785-324-1041

	Sec.	Twp.	Range	County	State	On Location	Finish
Date 10-30-13	13	17	19	Rush	KS		10:30p.m.

Location Lacrosse 3w to 220 2/2n Wind

Lease Dewald Well No. 1-13 Owner

Contractor Discovery #3 To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Type Job Surface

Hole Size 12¼ T.D. 1365 Charge To Downing/Nelson

Csg. 8 5/8 Depth 1363 Street

Tbg. Size Depth City State

Tool Depth The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 41.44 Shoe Joint 41.44 Cement Amount Ordered 475 com 3/cc 2/gel

Meas Line Displace 84 BL

EQUIPMENT

Pumptrk 17	No.	Cementer	Craig
		Helper	
Bulktrk	No.	Driver	Cody
		Driver	
Bulktrk 19	No.	Driver	Chad
		Driver	

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole Cement Circulated!

Centralizers

Baskets

D/V or Port Collar

8 5/8 on bottom. Est Circulation
Mix 475sk & Displace Plug
Cement Circulated.
Plug landed @ 900# Shut in @ 700#
Lost Circulation a Total of 132 BL

Common	475
Poz. Mix	
Gel.	9
Calcium	17
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	501
Mileage	

FLOAT EQUIPMENT

Guide Shoe	8 5/8
Centralizer	2
~~Baskets~~	Rubber Plug
~~AFU Inserts~~	Bottle Plate
Float Shoe	
Latch Down	
Pumptrk Charge	Long Surface
Mileage	33
Tax	
Discount	
Total Charge	

X Signature John Hall

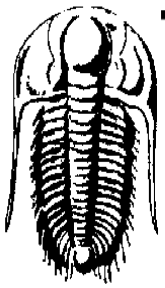
JOB LOG

SWIFT Services, Inc.

DATE 4 NOV 13 | PAGE NO.

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
DOWNING & NELSON		DEWALD 1-13	5½ LONGSTRING	25782

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1730							ON LOCATION
								START PIPE - 5½ - 14#
								RTDE 4000 SET @ 3999
								SHOE JT. 19.85'
								CENTRALIZERS 1, 3, 5, 7, 9, 11
	2100							DROP BALL - CIRCULATE
	2130	6	12		↘		300	Pump 500 gal MUD FLUSH
		6	20		↘		300	Pump 20 Bbl KCL FLUSH
	2134		7.5					PLUG RH - 30sx, MH - 20sx
	2140	4	30		↘			MIX 125 sx EA-2
	2151							WASH OUT Pump & LINES
	2152	6			↘			START DISPLACING PLUG
	2210	0	97		↘		1500	PLUG DOWN LATCH PLUG IN.
	2213				↘			RELEASE PSI - DRY
	2217							WASH TRUCK
	2245							JOB COMPLETE
								THANKS # 115
								JASON DAVE ISAAC



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Al Downing

DeWald #1-13

13-17s-19w Rush,KS

Start Date: 2013.11.04 @ 03:27:16
End Date: 2013.11.04 @ 11:37:46
Job Ticket #: 55769 DST #: 1

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

Printed: 2013.11.06 @ 15:44:39

DRILL STEM TEST REPORT

Dow ning- Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Al Dow ning

13-17s-19w Rush,KS

DeWald #1-13

Job Ticket: 55769 **DST#: 1**

Test Start: 2013.11.04 @ 03:27:16

GENERAL INFORMATION:

Formation: **Reagan**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:50:46
Time Test Ended: 11:37:46

Test Type: Conventional Straddle (Initial)
Tester: Brannan L
Unit No: 70

Interval: 3870.00 ft (KB) To 3915.00 ft (KB) (TVD)
Total Depth: 4003.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

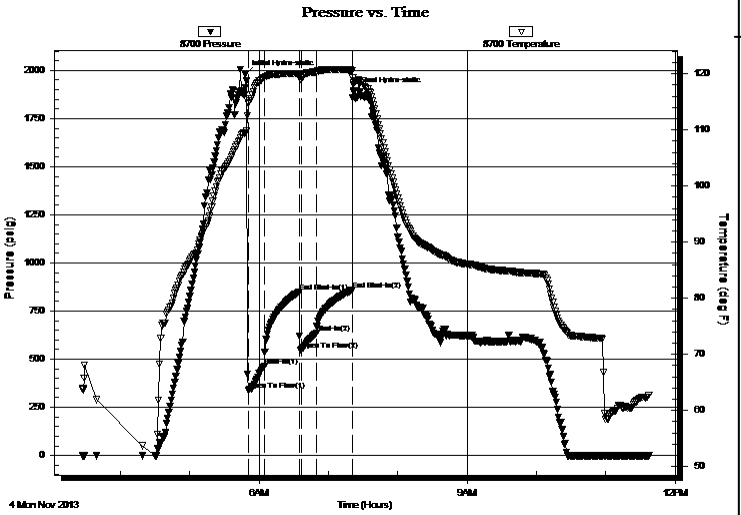
Reference Elevations: 2163.00 ft (KB)
2155.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8700 **Outside**

Press@RunDepth: 634.99 psig @ 3906.00 ft (KB)
Start Date: 2013.11.04 End Date: 2013.11.04
Start Time: 03:27:21 End Time: 11:37:45

Capacity: 8000.00 psig
Last Calib.: 2013.11.04
Time On Btm: 2013.11.04 @ 05:48:16
Time Off Btm: 2013.11.04 @ 07:21:31

TEST COMMENT: 15- IF- BOB 5 secs
30- ISI- Surface Blow
15- FF- BOB 15 secs
30- FSI- Surface blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1979.34	109.59	Initial Hydro-static
3	339.34	114.72	Open To Flow (1)
17	463.75	119.33	Shut-In(1)
47	850.85	119.97	End Shut-In(1)
48	548.17	118.96	Open To Flow (2)
62	634.99	120.34	Shut-In(2)
93	858.38	120.62	End Shut-In(2)
94	1892.56	118.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1615.00	GWMCO, 5%W 10%G 10%M 75%O	21.80
0.00	35' GIP	0.00

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: Al Dow ning

13-17s-19w Rush,KS

DeWald #1-13

Job Ticket: 55769 **DST#: 1**

Test Start: 2013.11.04 @ 03:27:16

GENERAL INFORMATION:

Formation: **Reagan**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:50:46
Time Test Ended: 11:37:46

Test Type: Conventional Straddle (Initial)
Tester: Brannan L
Unit No: 70

Interval: 3870.00 ft (KB) To 3915.00 ft (KB) (TVD)
Total Depth: 4003.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

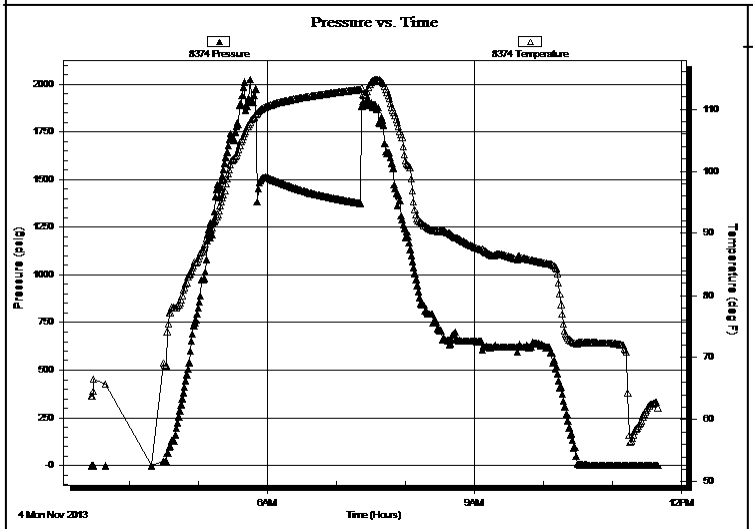
Reference Elevations: 2163.00 ft (KB)
2155.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8374 **Below (Straddle)**

Press@RunDepth: psig @ 3917.00 ft (KB)
Start Date: 2013.11.04 End Date: 2013.11.04
Start Time: 03:27:30 End Time: 11:39:39

Capacity: 8000.00 psig
Last Calib.: 2013.11.04
Time On Btm:
Time Off Btm:

TEST COMMENT: 15- IF- BOB 5 secs
30- ISI- Surface Blow
15- FF- BOB 15 secs
30- FSI- Surface blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1615.00	GWMCO, 5%W 10%G 10%M 75%O	21.80
0.00	35' GIP	0.00

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: Al Downing

13-17s-19w Rush,KS

DeWald #1-13

Job Ticket: 55769 **DST#: 1**

Test Start: 2013.11.04 @ 03:27:16

GENERAL INFORMATION:

Formation: **Reagan**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:50:46
Time Test Ended: 11:37:46

Test Type: Conventional Straddle (Initial)
Tester: Brannan L
Unit No: 70

Interval: 3870.00 ft (KB) To 3915.00 ft (KB) (TVD)
Total Depth: 4003.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

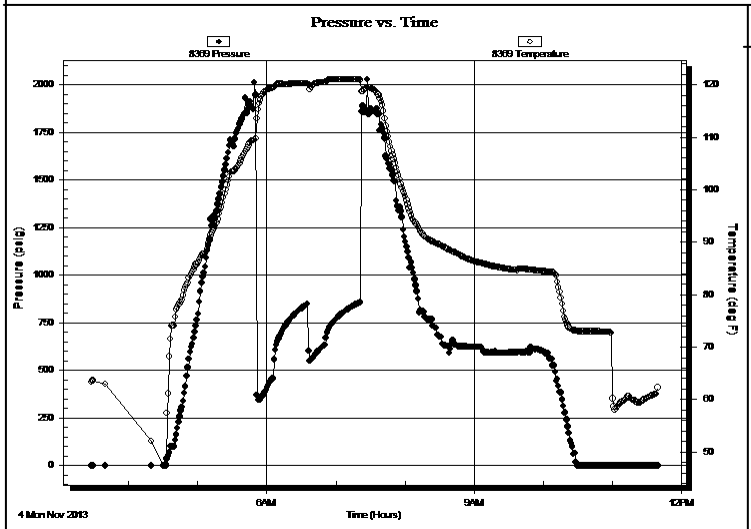
Reference Elevations: 2163.00 ft (KB)
2155.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8369 **Inside**

Press@RunDepth: psig @ 3906.00 ft (KB)
Start Date: 2013.11.04 End Date: 2013.11.04
Start Time: 03:27:47 End Time: 11:39:41

Capacity: 8000.00 psig
Last Calib.: 2013.11.04
Time On Btm:
Time Off Btm:

TEST COMMENT: 15- IF- BOB 5 secs
30- ISI- Surface Blow
15- FF- BOB 15 secs
30- FSI- Surface blow



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1615.00	GWMCO, 5%W 10%G 10%M 75%O	21.80
0.00	35' GIP	0.00

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: Al Dow ning

13-17s-19w Rush,KS

DeWald #1-13

Job Ticket: 55769 **DST#: 1**

Test Start: 2013.11.04 @ 03:27:16

Tool Information

Drill Pipe:	Length:	3835.00 ft	Diameter:	3.75	inches	Volume:	52.39	bbl	
Heavy Wt. Pipe:	Length:	ft	Diameter:	2.75	inches	Volume:	-	bbl	
Drill Collar:	Length:	30.00 ft	Diameter:	2.25	inches	Volume:	0.15	bbl	
						Total Volume:	-	bbl	

Drill Pipe Above KB:	15.00 ft
Depth to Top Packer:	3870.00 ft
Depth to Bottom Packer:	3915.00 ft
Interval betw een Packers:	45.00 ft
Tool Length:	153.00 ft
Number of Packers:	3 Diameter: 6.75 inches

Tool Weight:		2000.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		65000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	54000.00 lb
	Final	62000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3851.00		
Shut In Tool	5.00			3856.00		
Hydraulic tool	5.00			3861.00		
Packer	5.00			3866.00	20.00	Bottom Of Top Packer
Packer	4.00			3870.00		
Stubb	1.00			3871.00		
Perforations	1.00			3872.00		
Change Over Sub	1.00			3873.00		
Drill Pipe	32.00			3905.00		
Change Over Sub	1.00			3906.00		
Recorder	0.00	8369	Inside	3906.00		
Recorder	0.00	8700	Outside	3906.00		
Perforations	5.00			3911.00		
Blank Off Sub	1.00			3912.00		
Blank Spacing	3.00			3915.00	45.00	Tool Interval
Packer	1.00			3916.00		
Stubb	1.00			3917.00		
Recorder	0.00	8374	Below	3917.00		
Perforations	17.00			3934.00		
Change Over Sub	1.00			3935.00		
Drill Pipe	64.00			3999.00		
Change Over Sub	1.00			4000.00		
Bullnose	3.00			4003.00	88.00	Bottom Packers & Anchor
Total Tool Length:	**153.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning- Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Al Dow ning

13-17s-19w Rush,KS

DeWald #1-13

Job Ticket: 55769 **DST#: 1**

Test Start: 2013.11.04 @ 03:27:16

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	40 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	10.38 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1615.00	GWMCO, 5%W 10%G 10%M 75%O	21.800
0.00	35' GIP	0.000

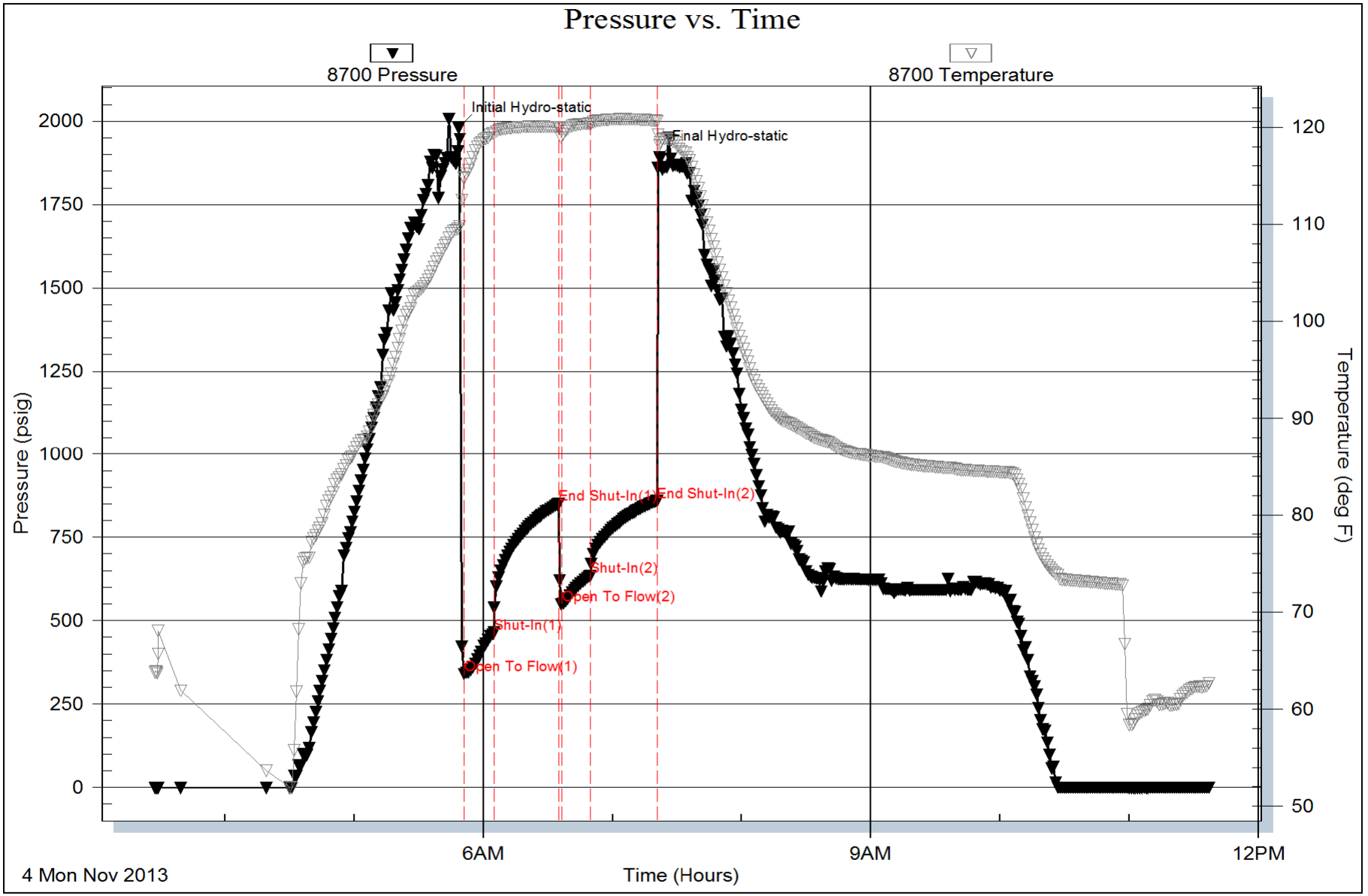
Total Length: 1615.00 ft Total Volume: 21.800 bbl

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

Laboratory Name: Laboratory Location:

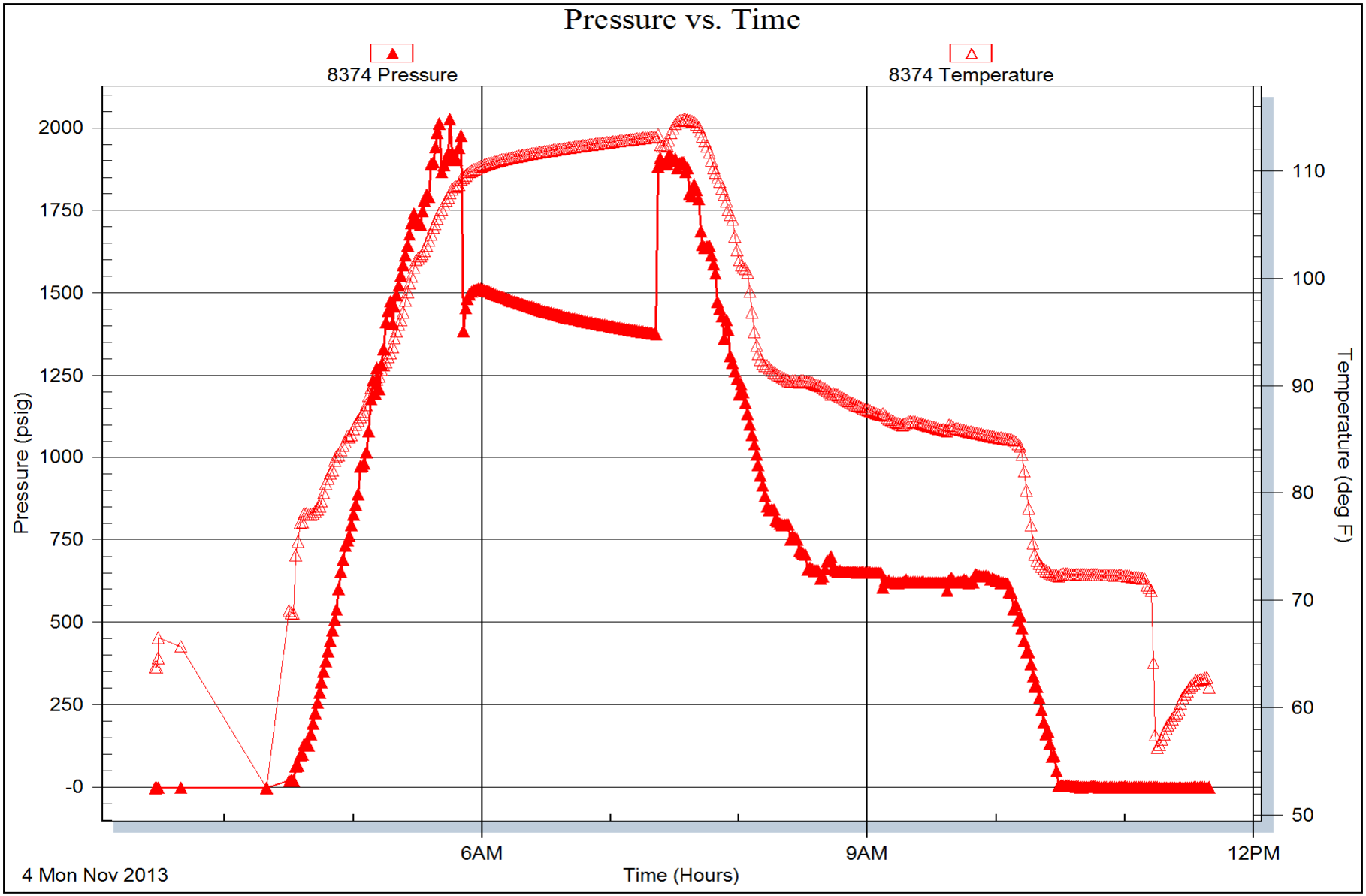
Recovery Comments:

Serial #: 8700 **Outside** Dow ning- Nelson Oil Co., Inc. DeWald #1-13 DST Test Number: 1



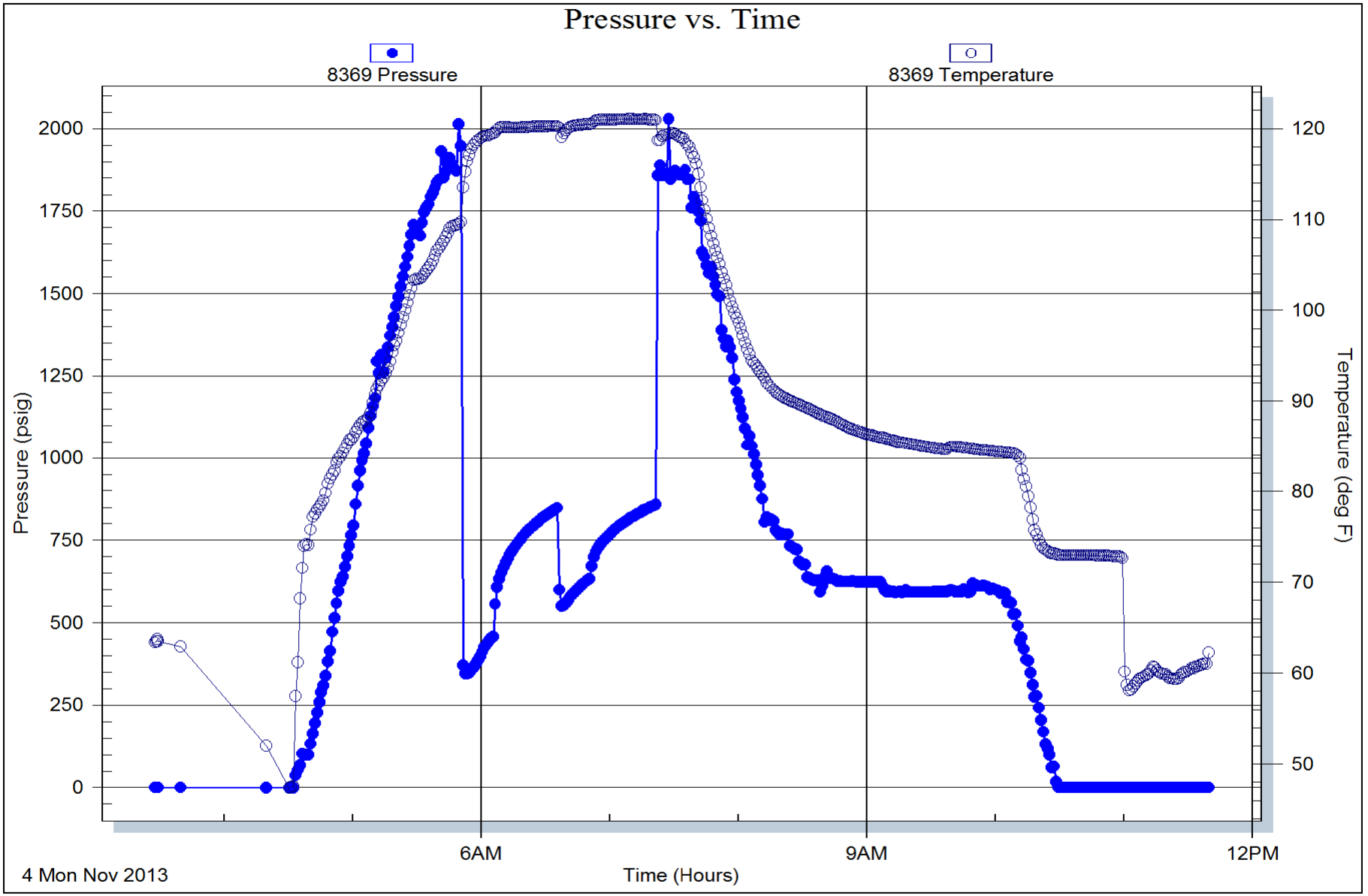
Trilobite Testing, Inc Ref. No: 55769 Printed: 2013.11.06 @ 15:44:40

Serial #: 8374 **Below (Straddle)** Drilling- Nelson Oil Co., Inc. DeWald #1-13 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 55769 Printed: 2013.11.06 @ 15:44:41

Serial #: 8369 **Inside** Dow ning- Nelson Oil Co., Inc. DeWald #1-13 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 55769 Printed: 2013.11.06 @ 15:44:41

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 55769

Well Name & No. DeWald #1-13 Test No. 1 Date 11/4/13

Company Downing-Nelson Oil Co. Inc Elevation 2163 KB 2155 GL

Address PO Box 1019 111 W. 10th St. Hays, KS 67601

Co. Rep / Geo. Al Downing Rig Discovery #3

Location: Sec. 13 Twp. 17S Rge. 19W Co. Rush State KS

Interval Tested 3870-3915 Zone Tested ~~3835~~ Reagan

Anchor Length 45' 88' Tail Drill Pipe Run 3835 Mud Wt. 9.2

Top Packer Depth ~~3865~~ - 3870 Drill Collars Run 30 Vis 56

Bottom Packer Depth 3915 Wt. Pipe Run — WL 10.4

Total Depth 4003 Chlorides 5000 ppm System LCM 1.5#

Blow Description IF- BOB 5secs.
ISI- Weak surface blow
FF- BOB 15secs
FSI- Surface blow

Rec 1615	Feet of GWMCO	10 %gas	75 %oil	5 %water	10 %mud
Rec	Feet of 35' GIP	100 %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 1615 BHT 121° Gravity 40 API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1979	☒ Test 1250	T-On Location 0249
(B) First Initial Flow 339	☐ Jars	T-Started 0327
(C) First Final Flow 464	☐ Safety Joint	T-Open 0550
(D) Initial Shut-In 851	☒ Circ Sub 50	T-Pulled 0720
(E) Second Initial Flow 548	☐ Hourly Standby	T-Out 1139
(F) Second Final Flow 635	☒ Mileage 54 RT 83.70	Comments
(G) Final Shut-In 858	☐ Sampler	
(H) Final Hydrostatic 1893	☒ Straddle 600	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 15	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 30	☐ Extra Recorder	Sub Total 0
Final Flow 15	☐ Day Standby	Total 1983.70
Final Shut-In 30	☐ Accessibility	MP/DST Disc't
	Sub Total 1983.70	

Approved By _____ Our Representative Brannan L

Marc Downing

Consulting Petroleum Geologist
1411 Washington Circle
Hays, Ks 67601
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GEOLOGIC REPORT LOG

COMPANY: Downing-Nelson Oil Co., Inc.
WELL: Dewald #1-13
FIELD:
LOCATION: 1142' FNL - 1611' FEL
SEC. 13 TWP. 17S RGE. 19W
COUNTY: Rush
STATE: Kansas

Section map: 17S 19W; 13; Deets #1

PRODUCTION: Congl. Sand
ELEVATION: KB 2162; DF; GL 2154
Drilling Measured From: 2162 KB
Samples Saved From 3400 To: TD
Drilling Time From 3050 To: TD
Samples Examined From 3450 To: TD
Geological Supervision From 3050 To Total Depth
Wellsite Geologist: Alan Downing
Electrical Surveys: Nabors
CDNL/GR - Microlog
Sonic - Dual Induction

OPERATOR: DNOCI
CONTRACTOR: Discovery Drlg. Rig #3
COMM: 10-29-13 COMP: 11-04-13

CASING RECORD

SURF: 8 5/8" 1364' PROD: 5½ - 4000'
TOTAL DEPTH DRILLERS: 4000
TOTAL DEPTH LOG: 4003

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Anhydrite	1355	1358	+804	-31
Base	1391	1392	+770	-30
Topeka	3195	3198	-1036	-27
Heebner	3483	3488	-1326	-32
Lansing	3529	3533	-1371	-31
BKC	3800	3803	-1641	-37
Marmaton	3846	3848	-1686	-34
Congl. ss	3882	3886	-1724	-36
Arbuckle	3807	3811	-1749	NR
Congl. Fill	3928	3932	-1770	-
Arb	3974	3978	-1816	-

REFERENCE WELL FOR STRUCTURE: Birmingham - Bartlett
Deets #1 NW-NW-SE Sec 13-17S-19W

DRILL STEM TESTS

No.	Interval	IFP	FFP	ISIP	FSIP	REMARKS

REMARKS AND RECOMMENDATIONS

* Note We drilled in a faulted area were Arbuckle was encontered twice with Conglomerate fill inbetween - Congl. sand above 1st Arbuckle Bench was found to be highly Productive, above second bench congl. was mostly Chert & Red shales w/ scatt Indv. ss grains scattered throughout -

LEGEND

Anhydrite · Salt · Sandstone · Shale · Carb Sh · Limestone · Oolf Lime · Chert · Dolomite

DRILLING TIME IN MINUTES PER FOOT | DEPTH | LITHOLOGY | SAMPLE DESCRIPTIONS | OIL SHOWS | REMARKS

Sample descriptions:

- Sh: Black - carb
- Ls: Wht v.f.xn v.dse
- Sh: grn -
- Ls: Wht - mottled wht f - sucxn - chky int Ns w/ few pcs wht Δ chert
- Sh: grn - Brown - Red
- Ls: Wht f.xn dse w/ fair amt wht chky Ls intbed few pcs wht clr. Δ chert
- Sh: grn
- Ls: Wht Tan f.xn v. good oocφ all totally Barren Ns
- Sh: grey
- Ls: Wht lt. Tan f.xn ool w/ scatt ool-oocφ No show - Barren
- Sh: Black - carb
- Ls: Wht f.xn v.ool w/ f. ool. oocφ Ns
- Ls: Tan f.xn ool w/ poor φ Ns.
- Ls: Tan f.xn v. good oocφ Ns show totally Barren
- Ls: Tan - lt. Tan f. v.f.xn all v.dse w/ few pcs v.ool crm - Δ chert.
- Sh: v.dark grn - Black
- Ls: Wht lt. Tan f.xn ool w/ poor φ Ns - chky in pt
- Sh: grn
- Ls: Tan f.xn good oocφ Ns No odor - becoming totally oolitic + dse
- Sh: grn - Brown
- Ls: Wht f.xn v. good excell oocφ x/ SFO - No odor all totally Barren becoming ool tite.
- Sh: Black - carb - drk grn
- Ls: Wht f - sucxn w/ fr. good ool - oocφ No show No odor
- Sh: grn -
- Ls: Wht crm f - sucxn w/ fair intxn - oocφ Ns
- Ls: Wht ool - v. tite - Ns
- Sh: Red - grey - green
- Ls: Wht f - v.f.xn v.dse
- Ls: Tan f. v.f.xn w/ few pcs wht Δ chert.
- Sh: grn - Brown - Red
- Ls: Wht f - v.f.xn all v.dse w/ lots of pink - plag Absent all v.dse No show oil or stn - No odor
- Sh: grn - Black
- SS: crs grn & clusters tite clusters w/ SFO - No odor lots loose
- SS / Abundant - Ns
- SS: crs - v.crs Indv grns on bottom - thru - v.tite grn clusters - sti. glauconitic stn. NSFO - No odor
- Sh: Tourquise
- Dolo: Wht f - m.xn Rhom poor φ Totally Barren Ns
- Dolo: Crs.xn Rhom Wht - Ns
- Ls: Wht f - v.f.xn w/ lots of Dolomite Rhomb - (Arbuckle) intbedded - once much Varicolors Chert throughout No show - w/ lots Indv. Crs. gr. ss grns throughout all Ns.
- Sh: Tourquise grn
- Dolo: Wht crs xln Rhom w/ poor intxn φ - all No show totally Barren

(signature)