KOLAR Document ID: 1311655

CORRECTION #1

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
November 2016
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: Al Downing
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
☑ Gas ☐ DH ☐ EOR
☐ OG ☐ GSW
☐ 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 EOR ☐ Conv. to SWD
☐ Plug Back ☐ Liner ☐ Conv. to GSW ☐ Conv. to Producer

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

08/21/2015 Spud Date or Recompletion Date
09/04/2015 Date Reached TD
09/05/2015 Completion Date or Recompletion Date

API No.: 15-145-21807-00-00
Spot Description:
SE - NW - NW - NW Sec. 21 Twp. 23 S. R. 18 ☐ East ☑ West
564 Feet from ☑ North / ☐ South Line of Section
335 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: Pawnee
Lease Name: Hogan Family Trust Well #: 1-21
Field Name: Wildcat
Producing Formation: Mississippian
Elevation: Ground: 2113 Kelly Bushing: 2121
Total Vertical Depth: 4460 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1188 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: 41000 ppm Fluid volume: 400 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: Paul's Oilfield Service Inc.
Lease Name: James Trust #2A(SWD) License #: 31085
Quarter NE Sec. 21 Twp. 23 S. R. 16 ☐ East ☑ West
County: Pawnee Permit #: 28849

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: 01/07/2016
☑ **Confidential Release Date:** 01/06/2018
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 07/14/2016

CORRECTION #1

Page Two

KOLAR Document ID: 1311655

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Hogan Family Trust Well #: 1-21

Sec. 21 Twp. 23 S. R. 18 ☐ East ☑ West County: Pawnee

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 *(Attach Additional Sheets)*	☑ Yes	☐ No
Samples Sent to Geological Survey	☐ Yes	☑ No
Cores Taken	☐ Yes	☑ No
Electric Log Run	☑ Yes	☐ No
Geolgist Report / Mud Logs	☐ Yes	☐ No

List All E. Logs Run:
Attached

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

Name	Top	Datum
Attached	Attached	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
Surface	12.25	8.625	23	8	80/20 Poz	450	2% Gel & 3% CC
Production	7.875	5.5	4	4455	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	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/ Injection: 06/12/2016

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

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
			208					

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)*

PRODUCTION INTERVAL: Top _____ Bottom _____

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*

TUBING RECORD: Size: 2.3750 Set At: 4360' Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hogan Family Trust 1-21
Doc ID	1311655

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hogan Family Trust 1-21
Doc ID	1311655

Tops

Name	Top	Datum
Top Anhydrite	1182'	+938
Base Anhydrite	1199'	+921
Heebner	3736'	-1616
Douglas Shale	3767'	-1647
LKC	3850'	-1730
BKC	4155'	-2035
Fort Scott	4301'	-2181
Conglomerate Sand	4352'	-2232
Mississippi	4402'	-2282
Gilmore City	4445'	-2325

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hogan Family Trust 1-21
Doc ID	1311655

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	8	80/20 Poz	450	2% Gel & 3% CC
Production	7.875	5.5	4	4455	EA/2	125	-

Summary of Changes

Lease Name and Number: Hogan Family Trust 1-21

API/Permit #: 15-145-21807-00-00

Doc ID: 1311655

Correction Number: 1

Approved By: Karen Ritter

Field Name	Previous Value	New Value
Approved By	NAOMI JAMES	Karen Ritter
Approved Date	01/11/2016	07/14/2016
Date of First or Resumed Production or SWD or Enhr		06/12/2016
Disposition Of Gas - Sold	No	Yes
Method Of Completion - Perf	No	Yes
Perf_Record_1		4360'-4364'
Perf_Shots_1		4
Producing Method Flowing	No	Yes
Production - MCF Gas		208
Save Link	../../kcc/detail/operatorEditDetail.cfm?docID=1264190	../../kcc/detail/operatorEditDetail.cfm?docID=1311655

Summary of changes for correction 1 continued

Field Name	Previous Value	New Value
Tubing Set At		4360'
Tubing Size		2.3750
Well Type	OIL	GAS

Confidentiality Requested:
☑ Yes ☐ No

CONFIDENTIAL

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1264190

Form ACO-1
August 2013
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CONTRACTOR: License # 31548
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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:

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Original Comp. Date: Original Total Depth:

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☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
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08/21/2015	09/04/2015	09/05/2015
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Operator Name: Paul's Oilfield Service Inc.
Lease Name: James Trust #2A(SWD) License #: 31085
Quarter NE Sec. 21 Twp. 23 S. R. 16 ☐ East ☑ West
County: Pawnee Permit #: 28849

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: 01/07/2016
☐ **Confidential Release Date:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 01/11/2016

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 **Home Office P.O. Box 32 Russell, KS 67665** **No.** 1025
Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
8-22-15	21	23	18	Pawnee	KS		2:15 PM

Location Sanford 10S to D Rd 1/4E S into

Lease Hogan Family Trust Well No. 1-21

Owner
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.

Contractor Discovery #2

Type Job Surface

Hole Size 12 1/4 T.D. 1189

Csg. 8 5/8 Depth 1189

Charge To Downing - Nelson

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. 42.20 Shoe Joint 42.20

Cement Amount Ordered 450 80/20 3% cc 2% Gel 1/2# Flo

Meas Line Displace 73 bbl

EQUIPMENT

Pumptrk 20	No.	Cementer Helper	Craig
Bulktrk 19	No.	Driver Driver	Nick
Bulktrk PU	No.	Driver Driver	Brett

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Ran 1149 8 5/8 Surface
Est circulation
Mix 450 sx
Displaced Rubber plug w/ [redacted] bbl
Plug did not land 74 bbl
Cement did circulate

Common	360
Poz. Mix	90
Gel.	9
Calcium	16
Hulls	
Salt	
Flowseal	225#
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	475
Mileage	

8 5/8 FLOAT EQUIPMENT

Guide Shoe	1 Baffle plate
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Rubber Plug	1
Pumptrk Charge	Long Surface
Mileage	45
Tax	
Discount	
Total Charge	

X Signature

JOB LOG

SWIFT Services, Inc.

DATE 4-5-15 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Downing & Nelson	1-21	Hogan Family Trust	Long String	27042

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	1900							On Loc. Rig Laying Down D.P.
	2015							Start in hole 5 1/2" 14# Csg.
								Insert Float Shoe 4454'
								Latch down Baffle 4420'
								Cent. #1, #3, #5, #7, #9
								Basket top #1
	2145							Drop Ball
	2210							Circulate & Rotate
	2230							Plug R.H. & M.H. 30-20sks
	2245		12					Pump 500gal Mud Flush
			20					20bbl KCL Flush
	2250							Mix 125sks EA-2 Cement
			30					Finish Mixing
								wash out pump & line
	2300							Displ. Latch down Plug
	2315		108					Plug down
								Release Press. Float held
	2345							wash & Rack up truck
								Job Complete

Thank You

Roger, Dewe E., Issac

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co Inc**

PO Box 1019
Hays KS 67601

ATTN: Al Downing

Hogan Family #1-21

21-23s-18w Pawnee,KS

Start Date: 2015.08.31 @ 22:38:00
End Date: 2015.09.01 @ 05:56:00
Job Ticket #: 62436 DST #: 1

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

Printed: 2015.09.07 @ 10:44:12

DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Al Downing

21-23s-18w Pawnee,KS

Hogan Family #1-21

Job Ticket: 62436 **DST#: 1**

Test Start: 2015.08.31 @ 22:38:00

GENERAL INFORMATION:

Formation: **Cong. Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:34:15
Time Test Ended: 05:56:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Cody Bloedorn
Unit No: 73

Interval: 4330.00 ft (KB) To 4353.00 ft (KB) (TVD)
Total Depth: 4353.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

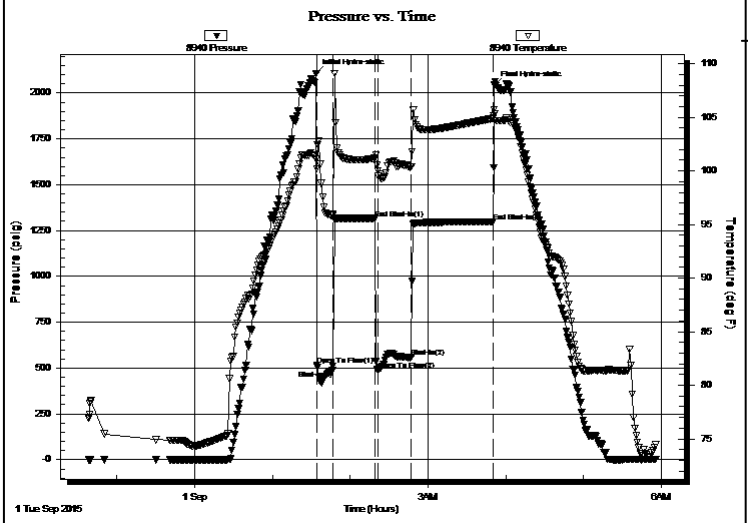
Reference Elevations: 2115.00 ft (KB)
2107.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8940 **Outside**

Press@RunDepth: 558.11 psig @ 4335.00 ft (KB)
Start Date: 2015.08.31 End Date: 2015.09.01
Start Time: 22:38:05 End Time: 05:55:59

Capacity: 8000.00 psig
Last Calib.: 2015.09.01
Time On Btm: 2015.09.01 @ 01:33:45
Time Off Btm: 2015.09.01 @ 03:51:00

TEST COMMENT: 15 - IF- B.O.B. instantly. G.T.S @ 6 minutes -Gauging
30 - ISI- Did not bleed off
30 - FF- B.O.B. instantly - Gauging
60 - FSI- bled off in 15 minutes, B.O.B. in 30 seconds



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2107.15	101.10	Initial Hydro-static
1	516.20	100.21	Open To Flow (1)
13	488.82	95.86	Shut-In(1)
45	1315.93	101.17	End Shut-In(1)
48	486.71	99.98	Open To Flow (2)
74	558.11	100.40	Shut-In(2)
137	1296.34	104.91	End Shut-In(2)
138	2042.60	105.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GM - Show of oil, 5%G, 95%M	0.88
144.00	GVSOCM, 2%O, 5%G, 93%M	1.79
0.00	GTS	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	40.00	1563.93
Last Gas Rate	1.00	70.00	2426.40
Max. Gas Rate	1.00	70.00	2426.40

DRILL STEM TEST REPORT

Downing Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Al Downing

21-23s-18w Pawnee,KS

Hogan Family #1-21

Job Ticket: 62436 **DST#: 1**

Test Start: 2015.08.31 @ 22:38:00

GENERAL INFORMATION:

Formation: **Cong. Sand**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 01:34:15
Time Test Ended: 05:56:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Cody Bloedorn
Unit No: 73

Interval: 4330.00 ft (KB) To 4353.00 ft (KB) (TVD)
Total Depth: 4353.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

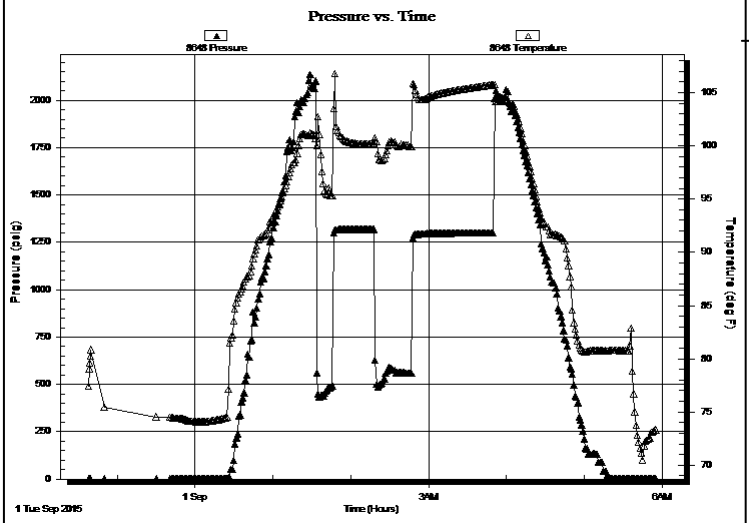
Reference Elevations: 2115.00 ft (KB)
2107.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8648 **Inside**

Press@RunDepth: psig @ 4335.00 ft (KB)
Start Date: 2015.08.31 End Date: 2015.09.01
Start Time: 22:38:05 End Time: 05:55:29

Capacity: 8000.00 psig
Last Calib.: 2015.09.01
Time On Btm:
Time Off Btm:

TEST COMMENT: 15 - IF- B.O.B. instantly. G.T.S @ 6 minutes -Gauging
30 - ISI- Did not bleed off
30 - FF- B.O.B. instantly - Gauging
60 - FSI- bled off in 15 minutes, B.O.B. in 30 seconds



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
120.00	GM - Show of oil, 5%G, 95%M	0.88
144.00	GVSOCM, 2%O, 5%G, 93%M	1.79
0.00	GTS	0.00

Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
First Gas Rate	1.00	40.00	1563.93
Last Gas Rate	1.00	70.00	2426.40
Max. Gas Rate	1.00	70.00	2426.40

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Al Dow ning

21-23s-18w Pawnee,KS

Hogan Family #1-21

Job Ticket: 62436 **DST#: 1**

Test Start: 2015.08.31 @ 22:38:00

Tool Information

Drill Pipe:	Length:	4160.00 ft	Diameter:	3.80 inches	Volume:	58.35 bbl	
Heavy Wt. Pipe:	Length:	155.00 ft	Diameter:	2.75 inches	Volume:	1.14 bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
					Total Volume:	59.49 bbl	

Drill Pipe Above KB:	13.00 ft
Depth to Top Packer:	4330.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	23.00 ft
Tool Length:	51.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		30000.00 lb
Weight to Pull Loose:		56000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	50000.00 lb
	Final	51000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			4303.00		
Shut In Tool	5.00			4308.00		
Hydraulic tool	5.00			4313.00		
Jars	5.00			4318.00		
Safety Joint	3.00			4321.00		
Packer	5.00			4326.00	28.00	Bottom Of Top Packer
Packer	4.00			4330.00		
Stubb	1.00			4331.00		
Perforations	4.00			4335.00		
Recorder	0.00	8648	Inside	4335.00		
Recorder	0.00	8940	Outside	4335.00		
Perforations	15.00			4350.00		
Bullnose	3.00			4353.00	23.00	Bottom Packers & Anchor
Total Tool Length:	**51.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Al Downing

21-23s-18w Pawnee,KS

Hogan Family #1-21

Job Ticket: 62436 **DST#: 1**

Test Start: 2015.08.31 @ 22:38:00

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:	sec/qt	Cushion Volume:	bbl		
Water Loss:	19.16 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	20000.00 ppm				
Filter Cake:	2.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
120.00	GM - Show of oil, 5%G, 95%M	0.882
144.00	GVSOCM, 2%O, 5%G, 93%M	1.786
0.00	GTS	0.000

Total Length: 264.00 ft Total Volume: 2.668 bbl

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

DRILL STEM TEST REPORT

GAS RATES

Dow ning Nelson Oil Co Inc

PO Box 1019
Hays KS 67601

ATTN: Al Dow ning

21-23s-18w Pawnee,KS

Hogan Family #1-21

Job Ticket: 62436 **DST#: 1**

Test Start: 2015.08.31 @ 22:38:00

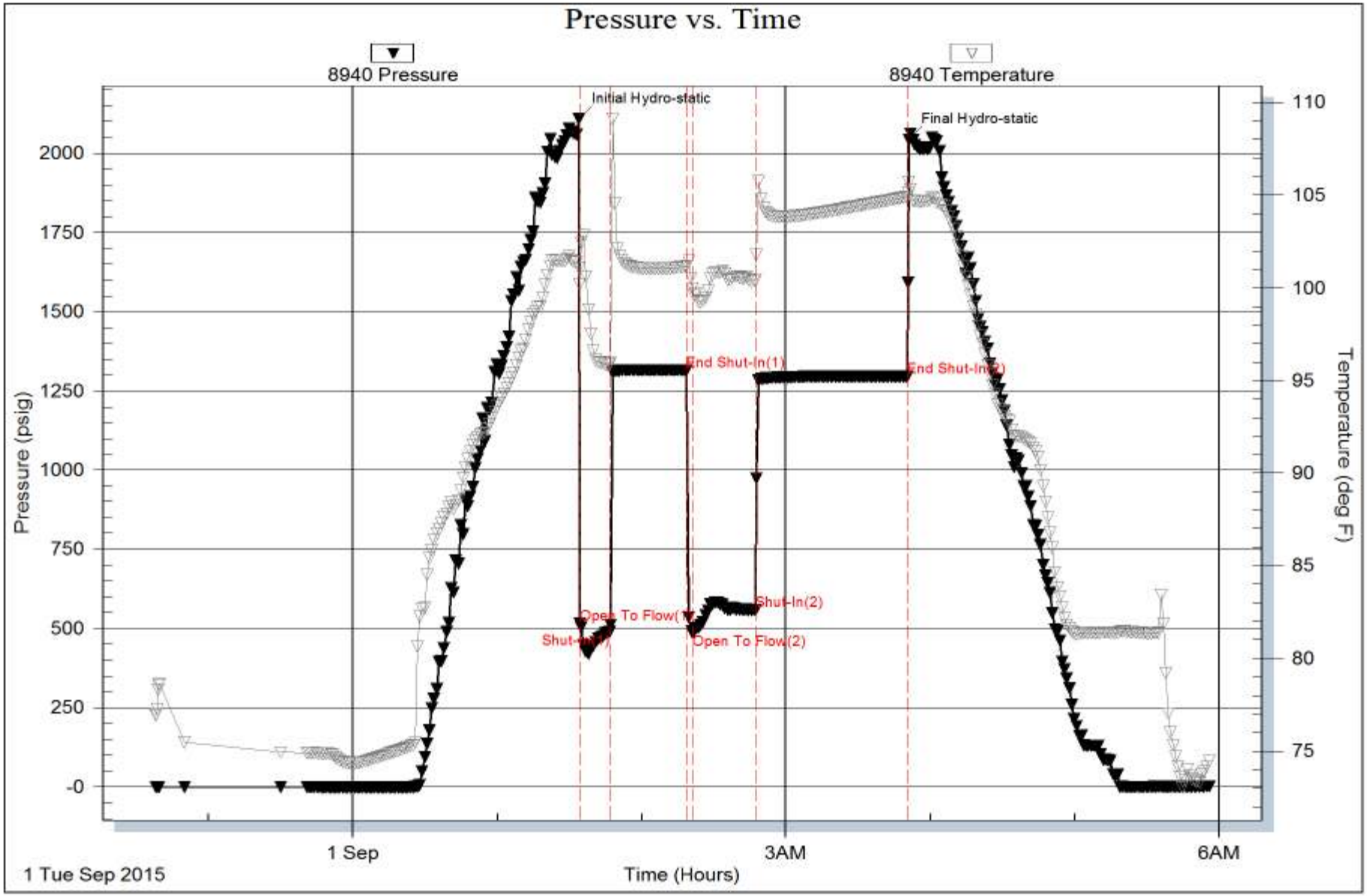
Gas Rates Information

Temperature: 59 (deg F)
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

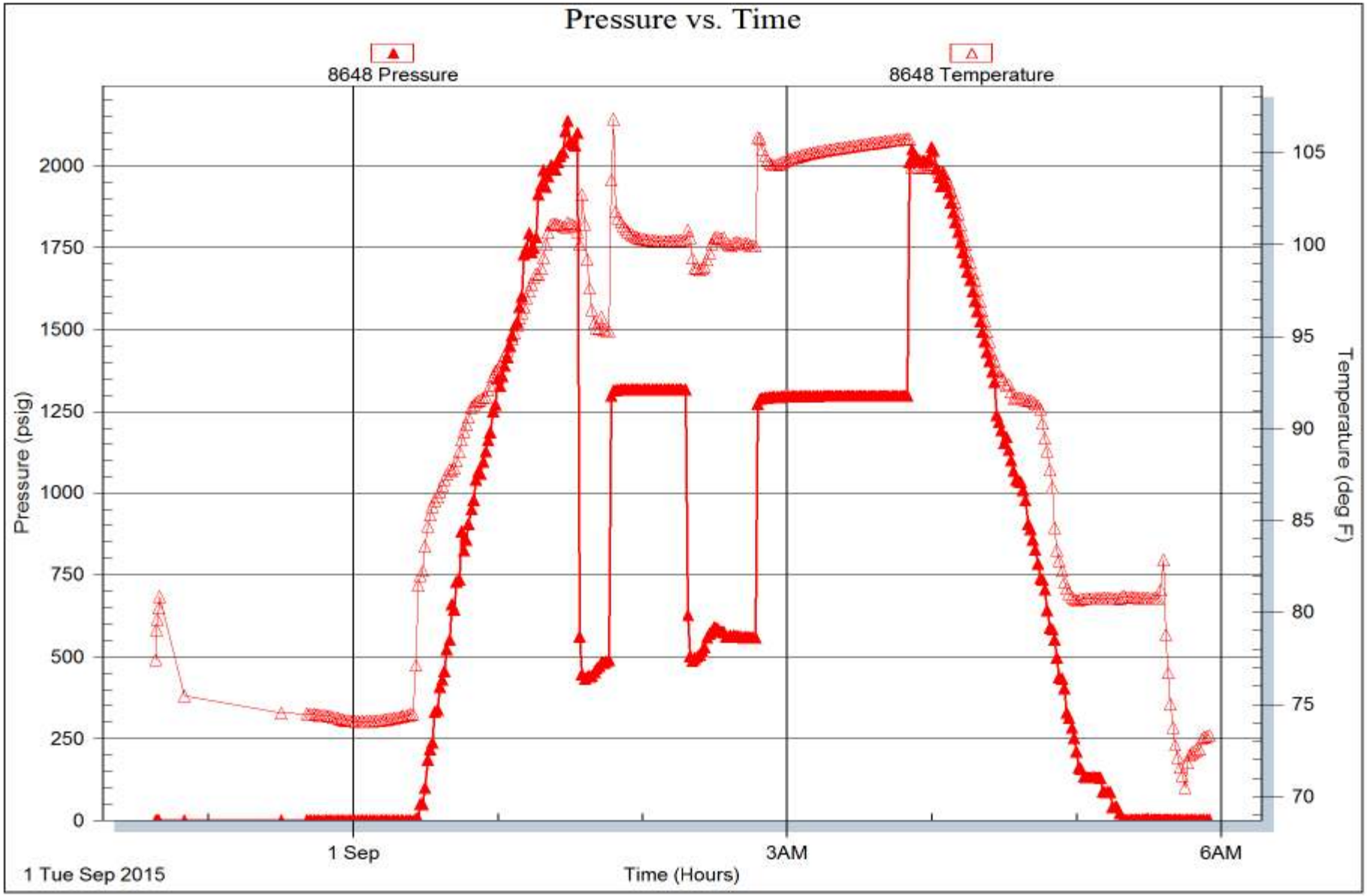
Flow Period	Elapsed Time	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
1	6	1.00	40.00	1563.93
1	6	1.00	40.00	1563.93
1	10	1.00	50.00	1851.42
1	15	1.00	60.00	2138.91
2	5	1.00	40.00	1563.93
2	10	1.00	60.00	2138.91
2	15	1.00	65.00	2282.66
2	20	1.00	69.00	2397.65
2	30	1.00	70.00	2426.40

Serial #: 8940 **Outside** Dow ning Nelson Oil Co Inc Hogan Family #1-21 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62436 Printed: 2015.09.07 @ 10:44:14

Serial #: 8648 **Inside** Dow ning Nelson Oil Co Inc Hogan Family #1-21 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62436 Printed: 2015.09.07 @ 10:44:14

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

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Test Ticket

NO. 62436

Well Name & No. Hogan Family Trust 1-21 Test No. 1 Date 8-31-15

Company Downing Nelson Oil Company Inc Elevation 2113 KB 2107 GL

Address Po Box 1019, Hays KS, 67601

Co. Rep / Geo. Al Downing Rig Discovery #2

Location: Sec. 21 Twp. 23s Rge. 18w Co. Pawnee State KS

Interval Tested 4330 - 4353 Zone Tested Cong. Sand

Anchor Length 23' Drill Pipe Run 4160' Mud Wt. 8.9

Top Packer Depth 4325 Drill Collars Run — Vis NA

Bottom Packer Depth 4330 Wt. Pipe Run 155' WL 19.2

Total Depth 4353 Chlorides 20,000 ppm System LCM 2#

Blow Description IF - B.O.B. instantly. G.T.S. @ 6 Minutes gauging
ISI - Did not bleed off
FF - B.O.B. instantly - Guaging
FSI - bled off in 15 minutes. B.O.B. in 30 seconds.

Rec 120	Feet of GM - show of oil	5 %gas	%oil	%water	95	%mud
Rec 144'	Feet of GVSOCM	5 %gas	2 %oil	%water	93	%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud

Rec Total 164' BHT 104° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 2107	☒ Test 1150	T-On Location 2218
(B) First Initial Flow 516	☒ Jars 250	T-Started 2238
(C) First Final Flow 488	☒ Safety Joint 75	T-Open 0134
(D) Initial Shut-In 1315	☐ Circ Sub	T-Pulled 0349
(E) Second Initial Flow 486	☐ Hourly Standby	T-Out 0556
(F) Second Final Flow 558	☒ Mileage 121 RT	Comments loaded tools 9/5 12:00
(G) Final Shut-In 1296	☐ Sampler	
(H) Final Hydrostatic 2042	☐ Straddle	☐ 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 30	☐ Day Standby ?	Total 1596
Final Shut-In 60	☐ Accessibility	MP/DST Disc't
	Sub Total 1596	

Thank You

Approved By Our Representative Cody Bloeder

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

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Gas Volume Report

Downing Nelson Oil Co Inc — Operator

Hogan Family Trust 1-21 — Well Name and No.

62436 — DST No.

Initial				Final			
Min.	Ins. of Water PSIG	Orifice Size	MCF/D	Min.	Ins. of Water PSIG	Orifice Size	MCF/D
6	40	1"	GTS. 1563.935	0	[illegible]	1"	
10	50		1851.424	5	40		1563.935
14	60		2138.912	10	60		[illegible] 2138.912
				15	[illegible]65		[illegible] 2282.656
				20	69		[illegible] 2397.651
				25	70		2426.400
				30	70		2426.400

Remarks:

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

Operator **Downing-Nelson Oil Co., Inc.**	**Elevation** KB **2120** DF GL **2112**
Lease **Hogan Family Trust** No. **1-21**	
API # **15-145-21807-0000**	**Casing Record** Surface **8 5/8" @ 1189'** Production **5 1/2" @ 4456'**
Field **Wildcat**	
Location **564' FNL & 335' FWL**	**Electrical Surveys** **CNDL, DIL, MEL, SONIC**
Sec. **21** Twp. **23s** Rge. **18w**	
County **Pawnee** State **Kansas**	

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	1178	1182	+938	-1
Base Anhydrite	1199	1199	+921	+1
Heebner	3732	3736	-1616	-6
Douglas Sh	3763	3767	-1647	-8
LKC	3847	3850	-1730	-5
BKC	4151	4155	-2035	-5
Fort Scott	4295	4301	-2181	-7
Conglomerate Sand	4347	4352	-2232	+4
Miss	4396	4402	-2282	-9
Gilmore City	4441	4445	-2325	FL
Total Depth	4460	4456	-2336	

Reference Well For Structural Comparison **DNOCI**
Leta Faye #1-20 **565' FNL & 1595' FEL** **Sec. 20-23s-18w**

Drilling Contractor		**Discovery Drilling, Rig #2**		
Commenced	**8-21-15**	Completed		**9-5-15**
Samples Saved From		**3700**	To	**RTD**
Drilling Time Kept From		**3600**	To	**RTD**
Samples Examined From		**3700**	To	**RTD**
Geological Supervision From		**3700**	To	**RTD**

Summary and Recommendations

Due to structural position, DST recovery, and log evaluation, it was decided to set 5 1/2" production casing for completion.

Durring short trip for DST #1, a portion of the blocks broke while working a tight spot. The elevators hit the table, came open, and released the drill pipe down hole 600'. Only one DST was conducted due to hole conditions.

Respectfully Submitted,

Marc A. Downing