KOLAR Document ID: 1375351

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

Form ACO-1
January 2018
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
☐ 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 #:

08/14/2017 Spud Date or Recompletion Date
08/20/2017 Date Reached TD
09/21/2017 Completion Date or Recompletion Date

API No.: 15-165-22150-00-00
Spot Description:
N2 - SE - SE - SE Sec. 25 Twp. 17 S. R. 19 ☐ East ☑ West
530 Feet from ☐ North / ☑ South Line of Section
330 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: GLORIA Well #: 1-25
Field Name: Wildcat
Producing Formation: Arbuckle
Elevation: Ground: 2109 Kelly Bushing: 2117
Total Vertical Depth: 3855 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 1276 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: 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: 12/08/2017
☑ **Confidential Release Date:** 12/08/2019
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 12/08/2017

Operator Name: Downing-Nelson Oil Co Inc Lease Name: GLORIA Well #: 1-25

Sec. 25 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 *(Attach Additional Sheets)*	☑ Yes	☐ No	
Samples Sent to Geological Survey	☐ Yes	☑ No	
Cores Taken	☐ Yes	☑ No	
Electric Log Run	☑ Yes	☐ No	
Geologist 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	1276	SMDC	400	-
Production	7.875	5.5	14	3851	EA2	130	-

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: 10/06/2017

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	15	0	35		

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
3851	3855

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)*
	3851	3855			

TUBING RECORD: Size: 2.875 Set At: 3849 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	GLORIA 1-25
Doc ID	1375351

All Electric Logs Run

Sonic
Micro
Dual Induction
Compensated Denisty Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	GLORIA 1-25
Doc ID	1375351

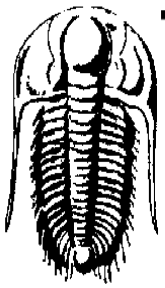
Tops

Name	Top	Datum
Top Anhydrite	1281'	+836
Base Anhydrite	1312'	+805
Topeka	3185'	-1041
Heebner	3448'	-1331
Toronto	3466'	-1349
LKC	3498'	-1381
BKC	3766'	-1649
Marmaton	3812'	-1695
Arbuckle	3850'	-1733

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	GLORIA 1-25
Doc ID	1375351

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	1276	SMDC	400	-
Production	7.875	5.5	14	3851	EA2	130	-



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Gloria #1-15

25-17S-19W Rush,KS

Start Date: 2017.08.19 @ 02:19:00
End Date: 2017.08.19 @ 07:39:00
Job Ticket #: 62634 DST #: 1

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

Printed: 2017.08.21 @ 09:40:53

DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62634 **DST#: 1**

Test Start: 2017.08.19 @ 02:19:00

GENERAL INFORMATION:

Formation: **LKC C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:20:30
Time Test Ended: 07:39:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72

Interval: 3508.00 ft (KB) To 3536.00 ft (KB) (TVD)
Total Depth: 3536.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

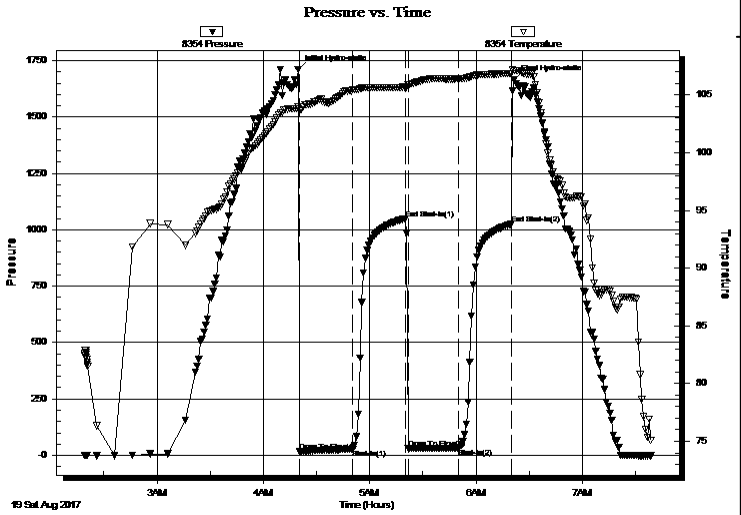
Reference Elevations: 2123.00 ft (KB)
2116.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: 31.84 psig @ 3509.00 ft (KB)
Start Date: 2017.08.19 End Date: 2017.08.19
Start Time: 02:19:05 End Time: 07:38:59

Capacity: 8000.00 psig
Last Calib.: 2017.08.19
Time On Btm: 2017.08.19 @ 04:19:30
Time Off Btm: 2017.08.19 @ 06:21:30

TEST COMMENT: IFP 30 Minutes Blow built to 1"
ISI 30 Minutes No blow back
FFP 30 Minutes Weak surface blow for 1 minute then dead
FSI 30 Mintues No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.70	103.97	Initial Hydro-static
1	16.19	103.64	Open To Flow (1)
31	26.23	105.45	Shut-In(1)
61	1049.53	105.68	End Shut-In(1)
62	30.35	105.85	Open To Flow (2)
91	31.84	106.41	Shut-In(2)
121	1025.46	106.89	End Shut-In(2)
122	1666.18	107.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Light oil spotted mud/ Mud 100%	0.36

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

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62634 **DST#: 1**

Test Start: 2017.08.19 @ 02:19:00

GENERAL INFORMATION:

Formation: **LKC C**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:20:30
Time Test Ended: 07:39:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72

Interval: 3508.00 ft (KB) To 3536.00 ft (KB) (TVD)
Total Depth: 3536.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

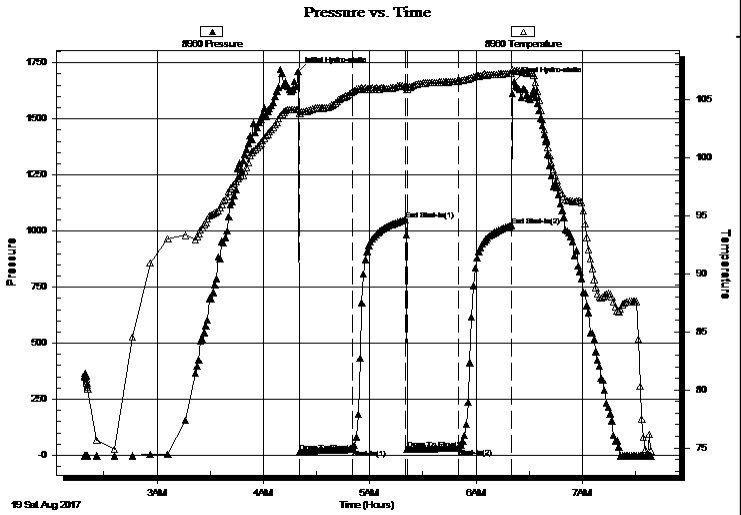
Reference Elevations: 2123.00 ft (KB)
2116.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8960 **Outside**

Press@RunDepth: 1024.87 psig @ 3510.00 ft (KB)
Start Date: 2017.08.19 End Date: 2017.08.19
Start Time: 02:19:05 End Time: 07:38:59

Capacity: 8000.00 psig
Last Calib.: 2017.08.19
Time On Btm: 2017.08.19 @ 04:19:30
Time Off Btm: 2017.08.19 @ 06:21:30

TEST COMMENT: IFP 30 Minutes Blow built to 1"
ISI 30 Minutes No blow back
FFP 30 Minutes Weak surface blow for 1 minute then dead
FSI 30 Mintues No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1710.30	104.23	Initial Hydro-static
1	13.42	103.79	Open To Flow (1)
31	26.61	105.69	Shut-In(1)
61	1049.21	106.11	End Shut-In(1)
62	28.80	105.91	Open To Flow (2)
91	31.89	106.61	Shut-In(2)
121	1024.87	107.27	End Shut-In(2)
122	1665.21	107.47	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
45.00	Light oil spotted mud/ Mud 100%	0.36

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62634 **DST#: 1**

Test Start: 2017.08.19 @ 02:19:00

Tool Information

Drill Pipe:	Length:	3488.00 ft	Diameter:	3.80 inches	Volume:	48.93 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	
					Total Volume:	49.08 bbl	

Drill Pipe Above KB:	30.00 ft
Depth to Top Packer:	3508.00 ft
Depth to Bottom Packer:	ft
Interval between Packers:	28.00 ft
Tool Length:	48.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2000.00 lb
Weight set on Packer:		20000.00 lb
Weight to Pull Loose:		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	
Shut-In Tool	5.00			3493.00		
Hydraulic tool	5.00			3498.00		
Top Packer	5.00			3503.00		
Packer	5.00			3508.00	20.00	Bottom Of Top Packer
Recorder	1.00	8354	Inside	3509.00		
Recorder	1.00	8960	Outside	3510.00		
Anchor	23.00			3533.00		
Bullnose	3.00			3536.00	28.00	Anchor Tool
Total Tool Length:	**48.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62634 **DST#: 1**

Test Start: 2017.08.19 @ 02:19:00

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:	66.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.18 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4800.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

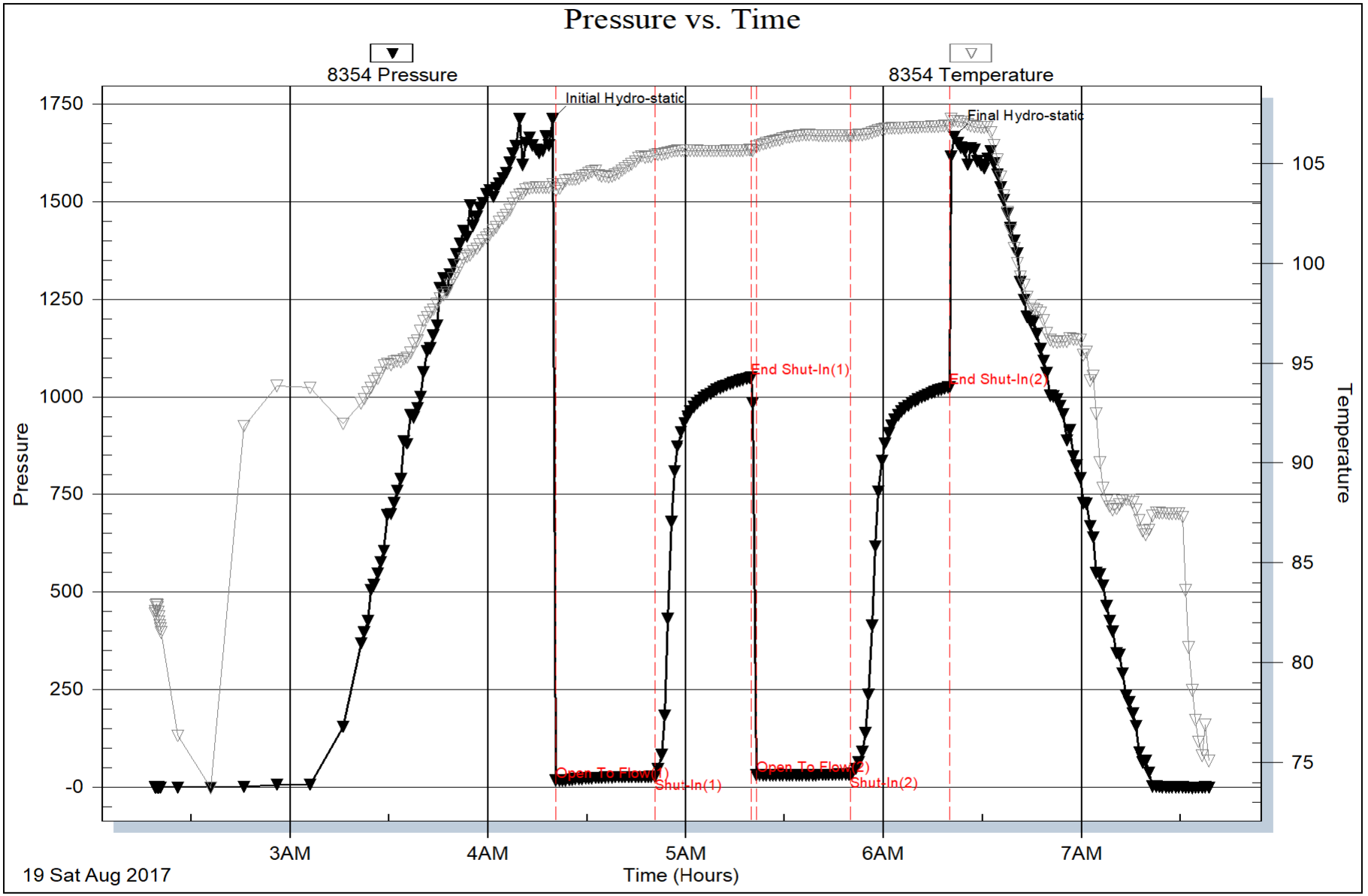
Recovery Table

Length ft	Description	Volume bbl
45.00	Light oil spotted mud/ Mud 100%	0.358

Total Length: 45.00 ft Total Volume: 0.358 bbl

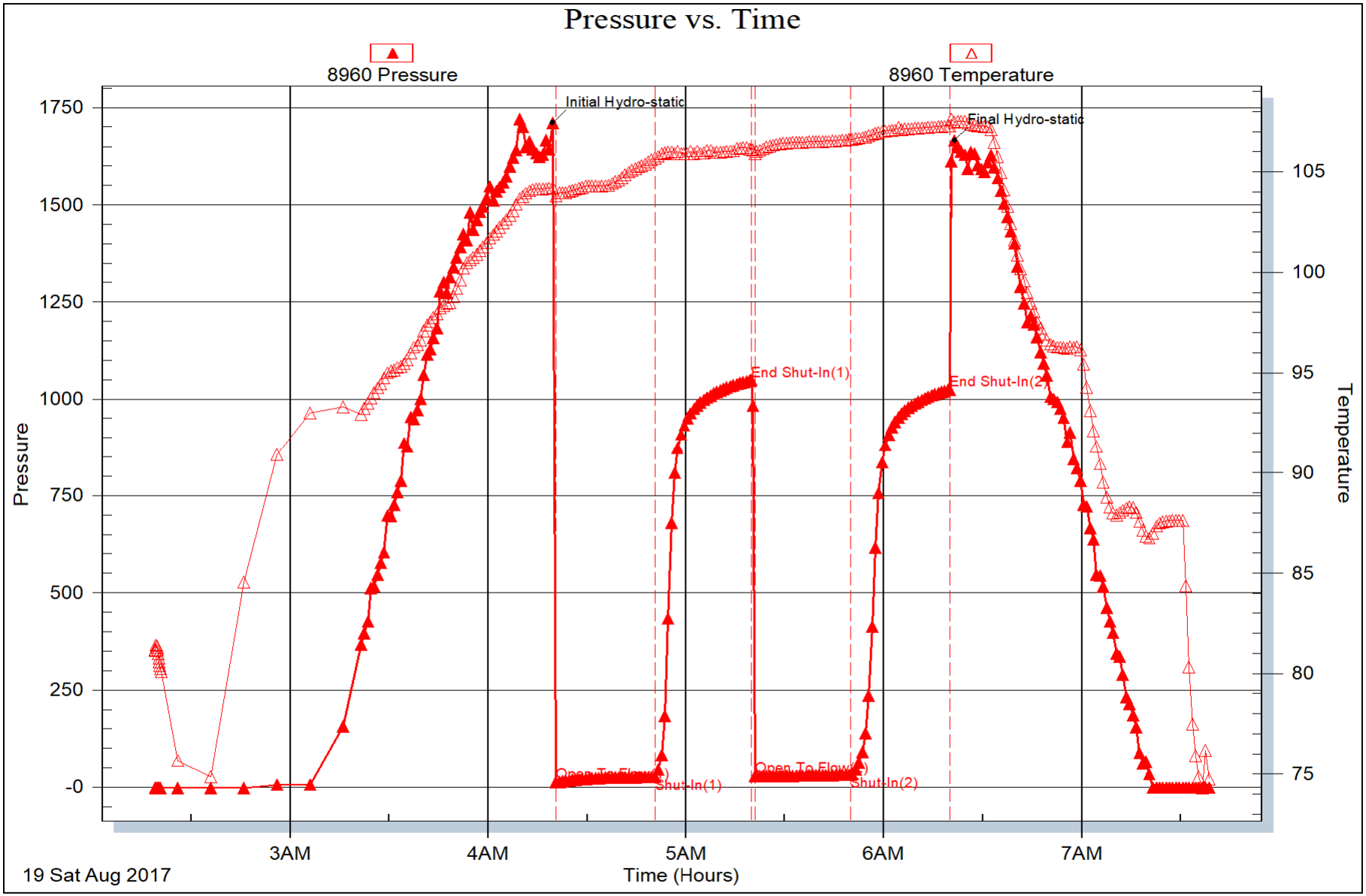
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8354 **Inside** Dow ning Nelson Oil Co. Inc. Gloria #1-15 DST Test Number: 1

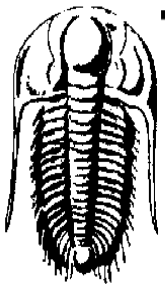


Trilobite Testing, Inc Ref. No: 62634 Printed: 2017.08.21 @ 09:40:53

Serial #: 8960 **Outside** Dow ning Nelson Oil Co. Inc. Gloria #1-15 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 62634 Printed: 2017.08.21 @ 09:40:54



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Gloria #1-15

25-17S-19W Rush,KS

Start Date: 2017.08.19 @ 09:01:00
End Date: 2017.08.19 @ 14:33:00
Job Ticket #: 62635 DST #: 2

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

Printed: 2017.08.21 @ 09:39:22

DRILL STEM TEST REPORT

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62635 **DST#: 2**

Test Start: 2017.08.19 @ 09:01:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:38:30
Time Test Ended: 14:33:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72

Interval: 3830.00 ft (KB) To 3855.00 ft (KB) (TVD)
Total Depth: 3855.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

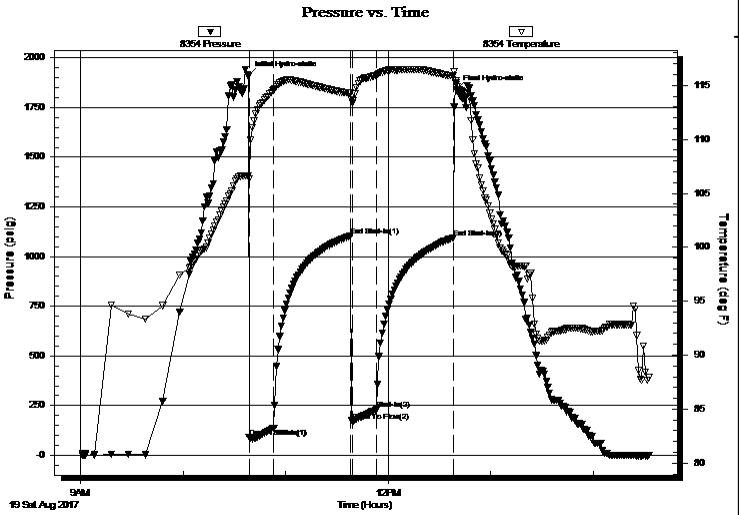
Reference Elevations: 2123.00 ft (KB)
2116.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: 229.51 psig @ 3831.00 ft (KB)
Start Date: 2017.08.19 End Date: 2017.08.19
Start Time: 09:01:05 End Time: 14:32:59

Capacity: 8000.00 psig
Last Calib.: 2017.08.20
Time On Btm: 2017.08.19 @ 10:38:00
Time Off Btm: 2017.08.19 @ 12:40:00

TEST COMMENT: IFP 15 Minutes Blow built to BOB in 3 1/2 minutes
ISI 45 Minutes Blow back built to 3 1/2"
FFP 15 Minutes Blow built to BOB in 4 minutes
FSI 45 Minutes Blow back built to 1 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1908.43	106.64	Initial Hydro-static
1	91.83	106.33	Open To Flow (1)
15	136.41	114.56	Shut-In(1)
60	1103.94	114.27	End Shut-In(1)
61	169.54	113.35	Open To Flow (2)
75	229.51	115.90	Shut-In(2)
120	1095.09	115.89	End Shut-In(2)
122	1838.84	115.08	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Emulsified Oily Mud/ Oil 20% Mud 80%	1.41
453.00	Gassy Oil/ Gas 20% Oil 80%	6.35
0.00	109 Feet of 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: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62635 **DST#: 2**

Test Start: 2017.08.19 @ 09:01:00

GENERAL INFORMATION:

Formation: **Arbuckle**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:38:30
Time Test Ended: 14:33:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Ken Swinney
Unit No: 72

Interval: 3830.00 ft (KB) To 3855.00 ft (KB) (TVD)
Total Depth: 3855.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

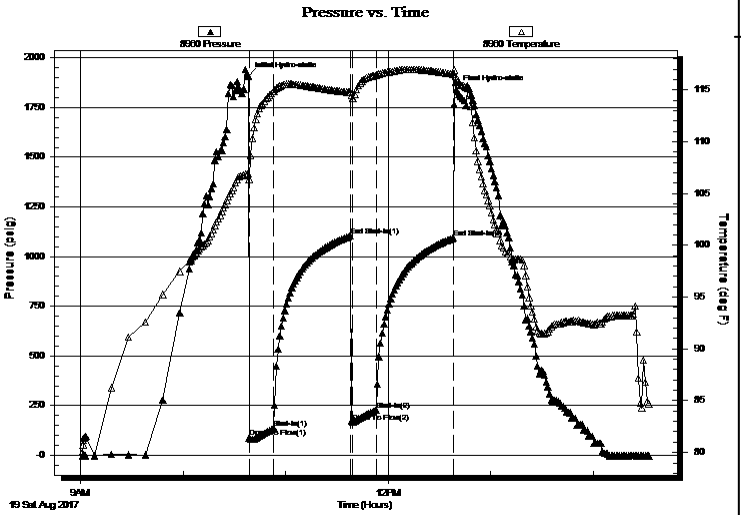
Reference Elevations: 2123.00 ft (KB)
2116.00 ft (CF)
KB to GR/CF: 7.00 ft

Serial #: 8960 **Outside**

Press@RunDepth: 1093.45 psig @ 3832.00 ft (KB)
Start Date: 2017.08.19 End Date: 2017.08.19
Start Time: 09:01:05 End Time: 14:32:59

Capacity: 8000.00 psig
Last Calib.: 2017.08.20
Time On Btm: 2017.08.19 @ 10:38:00
Time Off Btm: 2017.08.19 @ 12:40:00

TEST COMMENT: IFP 15 Minutes Blow built to BOB in 3 1/2 minutes
ISI 45 Minutes Blow back built to 3 1/2"
FFP 15 Minutes Blow built to BOB in 4 minutes
FSI 45 Minutes Blow back built to 1 1/2"



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1907.49	106.90	Initial Hydro-static
1	89.30	106.38	Open To Flow (1)
15	135.43	114.90	Shut-In(1)
60	1103.72	114.78	End Shut-In(1)
61	167.53	114.24	Open To Flow (2)
75	228.86	116.44	Shut-In(2)
120	1093.45	116.54	End Shut-In(2)
122	1837.98	115.96	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	Emulsified Oily Mud/ Oil 20% Mud 80%	1.41
453.00	Gassy Oil/ Gas 20% Oil 80%	6.35
0.00	109 Feet of GIP	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62635 **DST#: 2**

Test Start: 2017.08.19 @ 09:01:00

Tool Information

Drill Pipe:	Length:	3805.00 ft	Diameter:	3.80 inches	Volume:	53.37 bbl	Tool Weight:		2000.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		20000.00 lb
Drill Collar:	Length:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	Weight to Pull Loose:		65000.00 lb
					Total Volume:	53.52 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		25.00 ft					String Weight:	Initial	59000.00 lb
Depth to Top Packer:		3830.00 ft						Final	60000.00 lb
Depth to Bottom Packer:		ft							
Interval between Packers:		25.00 ft							
Tool Length:		45.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut-In Tool	5.00			3815.00		
Hydraulic tool	5.00			3820.00		
Top Packer	5.00			3825.00		
Packer	5.00			3830.00	20.00	Bottom Of Top Packer
Recorder	1.00	8354	Inside	3831.00		
Recorder	1.00	8960	Outside	3832.00		
Anchor	20.00			3852.00		
Bullnose	3.00			3855.00	25.00	Anchor Tool
Total Tool Length:	**45.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co. Inc.

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

25-17S-19W Rush,KS

Gloria #1-15

Job Ticket: 62635 **DST#: 2**

Test Start: 2017.08.19 @ 09:01:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	33 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	50.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.77 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	5000.00 ppm				
Filter Cake:	1.50 inches				

Recovery Information

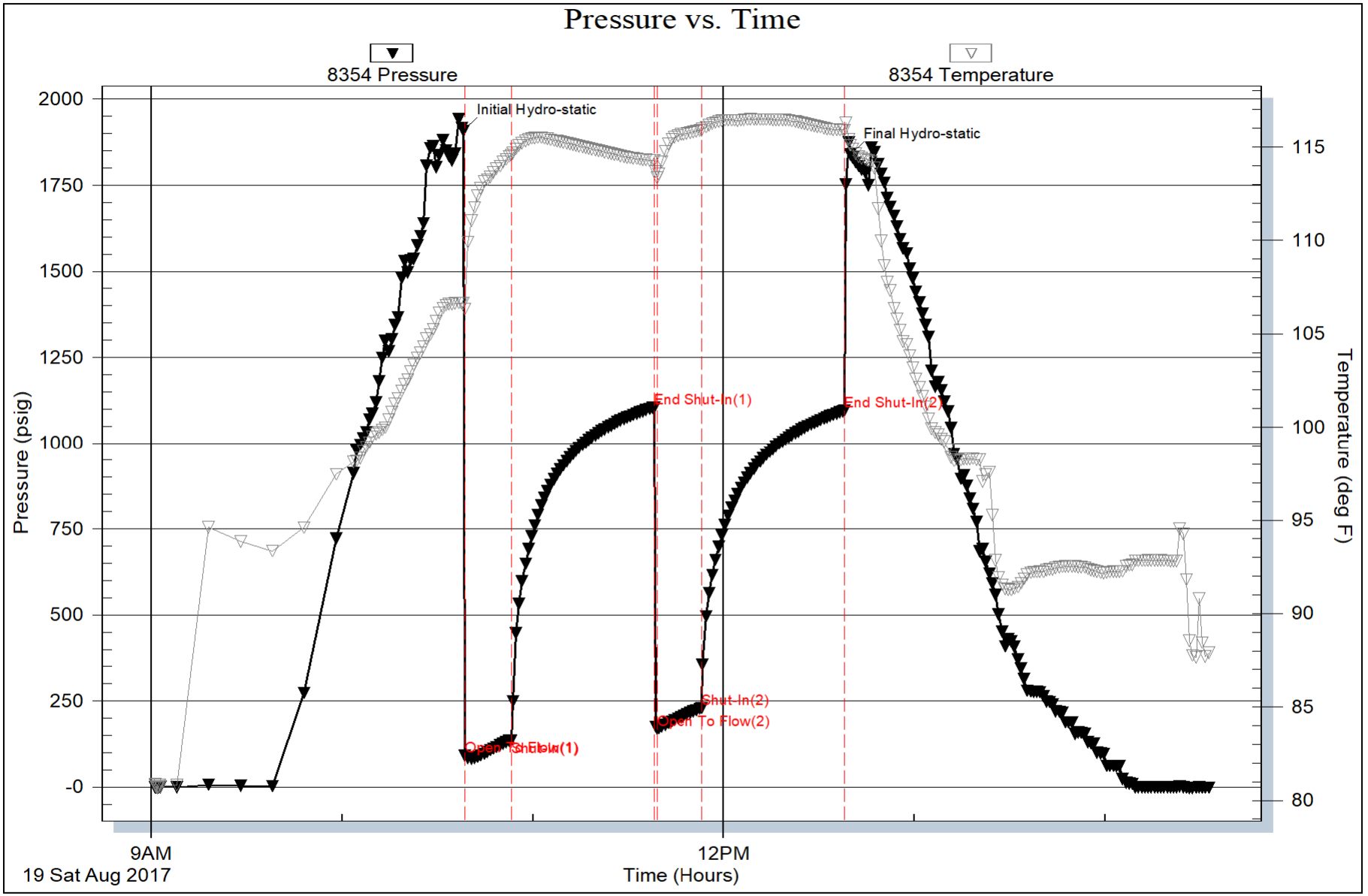
Recovery Table

Length ft	Description	Volume bbl
120.00	Emulsified Oily Mud/ Oil 20% Mud 80%	1.410
453.00	Gassy Oil/ Gas 20% Oil 80%	6.354
0.00	109 Feet of GIP	0.000

Total Length: 573.00 ft Total Volume: 7.764 bbl

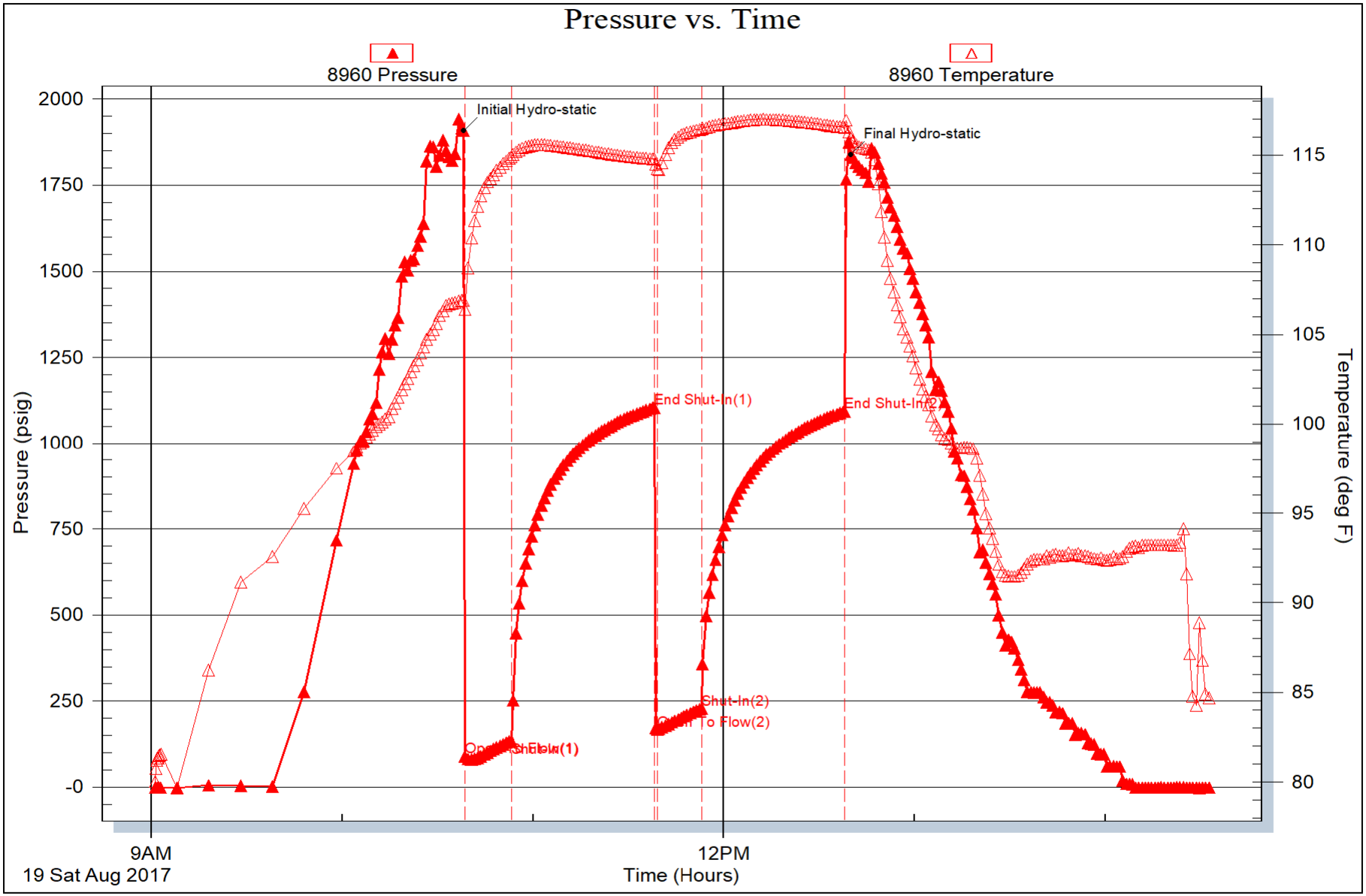
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8354 **Inside** Dow ning Nelson Oil Co. Inc. Gloria #1-15 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62635 Printed: 2017.08.21 @ 09:39:23

Serial #: 8960 **Outside** Dow ning Nelson Oil Co. Inc. Gloria #1-15 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 62635 Printed: 2017.08.21 @ 09:39:23

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 62634

Well Name & No. Gloria 1-25 Test No. 1 Date 19 Aug 17

Company Downing Nelson Oil Company Inc Elevation 2123 KB 2116 GL

Address PO Box 1019 Hays Kansas 67601

Co. Rep / Geo. Marc Downing Rig Discovery Rig 4

Location: Sec. 25 Twp. 17S Rge. 19W Co. Rush State KS

Interval Tested 3508-3536 Zone Tested Lansing / Kansas City zone C

Anchor Length 28 Drill Pipe Run 3488 Mud Wt. 8.9

Top Packer Depth 3503 Drill Collars Run 30 Vis 66

Bottom Packer Depth 3508 Wt. Pipe Run — WL 7.2

Total Depth 3536 Chlorides 4800 ppm System LCM 2#

Blow Description I.F. Blow built to 1"

I.S.I No blow back

F.F. Weak surface blow for 1 minute then dead

F.S.I no blow back

Rec 45	Feet of light oil spotted mud	%gas	%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 E	Feet of	%gas	%oil	%water	%mud

Rec Total 45 BHT 106 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 1710	☒ Test 1050	T-On Location 1:33 am
(B) First Initial Flow 16	☐ Jars	T-Started 2:19 am
(C) First Final Flow 26	☐ Safety Joint	T-Open 4:21 am
(D) Initial Shut-In 1049	☐ Circ Sub	T-Pulled 6:21 am
(E) Second Initial Flow 30	☐ Hourly Standby	T-Out 7:39 am
(F) Second Final Flow 31	☒ Mileage 45 60	Comments
(G) Final Shut-In 1025	☐ Sampler	
(H) Final Hydrostatic 1666	☐ Straddle	☐ Ruined Shale Packer
	☐ Shale Packer	☐ Ruined Packer
Initial Open 30	☐ Extra Packer	☐ Extra Copies
Initial Shut-In 30	☐ Extra Recorder	Sub Total 0
Final Flow 30	☐ Day Standby	Total 1095
Final Shut-In 30	☐ Accessibility	MP/DST Disc't
	Sub Total 1095	

Approved By ____ Our Representative ____

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 62635

Well Name & No. Gloria 1-25 Test No. 2 Date 20 AUG 17

Company Downing Nelson Oil Company Inc. Elevation 2123 KB 2116 GL

Address PO Box 1019 Hays Kansas 67601

Co. Rep / Geo. Marc Downing Rig Discovery Rig 4

Location: Sec. 25 Twp. 17S Rge. 19W Co. Rush State KS

Interval Tested 3830-3855 Zone Tested Arbuckle

Anchor Length 25 Drill Pipe Run 3805 Mud Wt. 9.2

Top Packer Depth 3825 Drill Collars Run 30 Vis 50

Bottom Packer Depth 3830 Wt. Pipe Run — WL 8.8

Total Depth 3855 Chlorides 5000 ppm System LCM 1.5#

Blow Description I.F. Blow built to BOB in 3½ minutes

I.S.I. Blow back built to 3½ inches

F.F. Blow built to BOB in 4 minutes

F.S.I. Blow back built to 1½ inches

Rec 120	Feet of Emusified Oily Mud	%gas	20 %oil	%water	80 %mud
Rec 453	Feet of Gassy Oil	20 %gas	80 %oil	%water	%mud
Rec 109	Feet of GIP	100 %gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 573 BHT 115 Gravity 33 API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic	1906	☒ Test	1050	T-On Location	5:11 am
(B) First Initial Flow	91	☐ Jars		T-Started	9:01 am
(C) First Final Flow	136	☐ Safety Joint		T-Open	10:38 am
(D) Initial Shut-In	1103	☐ Circ Sub		T-Pulled	12:38 pm
(E) Second Initial Flow	169	☐ Hourly Standby		T-Out	2:32 pm
(F) Second Final Flow	229	☒ Mileage	45 60	Comments	
(G) Final Shut-In	1095	☐ Sampler			
(H) Final Hydrostatic	1838	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	15	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	45	☐ Extra Recorder		Sub Total	0
Final Flow	15	☐ Day Standby		Total	1095
Final Shut-In	45	☐ Accessibility		MP/DST Disc't	
		Sub Total	1095		

Approved By ____ Our Representative ____

SWIFT Services, Inc.

CHARGE TO: Downing - Nelson
ADDRESS
CITY, STATE, ZIP CODE

TICKET 30502

PAGE 1 OF

SERVICE LOCATIONS	WELL/PROJECT NO.	LEASE	COUNTY/PARISH	STATE	CITY	DATE	OWNER
1. Hays Ks	1-25	Gloria	Rush	Ks		8-15-17	
2. Ness City Ks	TICKET TYPE ☐ SERVICE ☐ SALES	CONTRACTOR Discovery Drilling	RIG NAME/NO. #4	SHIPPED VIA G	DELIVERED TO Location	ORDER NO.	
3.	WELL TYPE Oil	WELL CATEGORY development	JOB PURPOSE Deep Surface		WELL PERMIT NO.	WELL LOCATION	
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING LOC	ACCT	DF	DESCRIPTION	QTY.	U/M	QTY.	U/M	UNIT PRICE	AMOUNT
575		1			MILEAGE Trk #110	30	Mi			5 00	150 00
576D		1			Pump Charge - Deep Surface	1	EA			1250 00	1250 00
290		1			D-Air	6	Gal			42 00	252 00
221		1			Liquid Kcl	2	Gal			25 00	50 00
412		1			Baffle Plate 8 5/8	1	EA			110 00	110 00
330		2			Swift Multi Density	400	SKS			15 75	6300 00
276		2			Flocele	100	lbs			2 25	225 00
581		2			Service Charge Cmt	400	SKS			1 50	~~600~~ 00
583		2			Drayage	565	TM			75	423 75

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY,** and **LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

X

DATE SIGNED | TIME SIGNED ☐ A.M. ☐ P.M.

REMIT PAYMENT TO:

SWIFT SERVICES, INC.
P.O. BOX 466
NESS CITY, KS 67560
785-798-2300

SURVEY	AGREE	UN-DECIDED	DIS-AGREE
OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN?			
WE UNDERSTOOD AND MET YOUR NEEDS?			
OUR SERVICE WAS PERFORMED WITHOUT DELAY?			
WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY?			

ARE YOU SATISFIED WITH OUR SERVICE? ☐ YES ☐ NO

☐ CUSTOMER DID NOT WISH TO RESPOND

PAGE TOTAL	9360 75
	-936 08
10% Disc	8424 67
Rush 6.5%	4028 89
TOTAL	8827 56

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

SWIFT OPERATOR David Edgerton | APPROVAL

Thank You!

JOB LOG

SWIFT Services, Inc.

DATE 8-15-17 | PAGE NO.

CUSTOMER Downing - Nelson | WELL NO. 1-25 | LEASE Gloria | JOB TYPE Deep Surface | TICKET NO. 30502

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	2030							On location
								Csg - 8 5/8
								RTD - 1278'
								Set @ 1276.88
								Baffle plate - 1234.65
	2100							Start running Csg
	2255							Break Circ on Bottom
	2315	6	20			200		Pump wtr spacer
		6	0			200		Start cmt @ 11.8 ppg
		6	47			200		Raise wt to 12.5 ppg
		6	104			200		Raise wt to 13.5 ppg
		5	127			100		Raise wt to 14.5 ppg
		4.5	146			100		End cmt
								Release plug
	2350	6.25	0			200		Start Disp
		6.25	65			600		Circulate cmt to Surface
	2400	6.25	79			600		land plug - lift psi - 600 #
								land psi - 1000 #
								Circulated 30 sks cmt to pit
								Thanks
								David, Zach, & Isaac

JOB LOG

SWIFT Services, Inc.

DATE 8-21-17 | PAGE NO.

CUSTOMER Downing-Nelson | WELL NO. 1-25 | LEASE Gloria | JOB TYPE Long String | TICKET NO. 30504

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	130							On location
								Csg - 5 1/2 x 14#
								RTD - 3855
								pipe set @ - 3857.18
								Shoe - 44.60 @ 3806.58
								Centralizers - 1, 3, 5, 7, 9, 11
	250							START Running csg
	420							Break circulation on Bottom
	450							set pkr shoe
	455	2	7			0		plug rat hole - 30 sks
	500	2	5			0		plug Mouse hole - 20 sks
	505	5	12			200		pump Mud flush - 500 gal
		5	20			200		pump Kcl spacer - 20 BBL
	515	5	31			200		pump cmt - 130 sks EA-2
								Drop plug - Wash p&L
	530	6	0			200		Start Disp
	545	5	93			800		Land plug - Lift psi - 800
								Land psi - 1400
								Release psi - Dry
								Thanks
								David, Zach & Shane.

Marc A. Downing

Consulting Petroleum Geologist

Geologic Report

Drilling Time and Sample Log

Operator **Downing-Nelson Oil Co., Inc.**

Lease **Gloria** No. **1-25**

API # **15-165-22150-0000**

Field **Wildcat**

Location **530' FSL & 330' FEL**

Sec. **25** Twp. **17s** Rge. **19w**

County **Rush** State **Kansas**

Elevation
KB **2118**
DF **2116**
GL **2109**

Casing Record
Surface
8 5/8" @ 1276'
Production
5 1/2" @ 3851'

Electrical Surveys
CNDL, DIL, MEL, Sonic

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	1270	1281	+836	+6
Base Anhydrite	1313	1312	+805	+3
Topeka	3157	3158	-1041	+4
Heebner	3447	3448	-1331	+10
Toronto	3466	3466	-1349	+10
LKC	3498	3498	-1381	+11
BKC	3765	3766	-1649	+11
Marmaton	3811	3812	-1695	+13
Arbuckle	3849	3850	-1733	+10
				-11
Total Depth	3855	3858	-1741	

Reference Well For Structural Comparison **Icer Addis**
King #1_____C SW SE_____Sec. 25-17s-19w

Drilling Contractor		**Discovery Drilling, Rig #4**		
Commenced	**8-14-17**	Completed		**8-20-17**
Samples Saved From		**3150**	To	**RTD**
Drilling Time Kept From		**3050**	To	**RTD**
Samples Examined From		**3150**	To	**RTD**
Geological Supervision From		**3050**	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.

Respectfully Submitted,

Marc A. Downing