

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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

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 #: _____

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ 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: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

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 Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT I II III Approved by: _____ Date: _____

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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 <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i> Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample Name Top Datum
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CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> 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

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> 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:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	RODNEY HAMBURG 1-24
Doc ID	1539782

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Denstiy/Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	RODNEY HAMBURG 1-24
Doc ID	1539782

Tops

Name	Top	Datum
Top Anhydrite	1697'	+626
Base Anhydrite	1744'	+579
Topeka	3354'	-1031
Heebner	3576'	-1253
Toronto	3596'	-1273
LKC	3612'	-1289
BKC	3847'	-1524
Marmaton	3912'	-1589
Arbuckle	3984'	-1661
TD	4097'	-1774

SWIFT Services, Inc.

DATE: 11-27-2020
PAGE NO. 1

OWNER Downing + Nelson		WELL NO. 1-24		LEASE Railway Hamburg		JOB TYPE Surface Pipe		TICKET NO. 033373	
CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS	
				T	C	TUBING	CASING		
	2030								ON Location
									RTD: 224' 8 5/8"
2100	2040								Break Circulation
	2115	3 1/2	5		✓		250		Pump 5bl H ₂ O Spacer
	2120	3	36		✓		200		Mix 150 sks of Standard CMT w/ 2% gel, 3% CC @ 14.7 ppg
	2135	4 1/2	0		✓		100		Start Displacement
		4 1/2	11		✓		300		Circulate CMT to Surface [10 sks]
	2145	-	13 1/4		✓		200		KO Pump * Shut in * - Release Pressure * Hold *
									Plug down @ 9:45 PM
	2150								Wash up Trk #112
2215	2150								Job Complete
									150 sks of Standard CMT w/ 2% gel, 3% CC used
									- 10 sks to the Pit *
									Thanks!
									Bedeau, Kirby, Dusty

LOG

SWIFT Services, Inc.

DATE
12/6/2020PAGE NO.
1

CUSTOMER

Dwelling + Nelson Oil

WELL NO.

1-24

LEASE

Rodney Hamburg

JOB TYPE

Long String

TICKET NO.

032693

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2445							On Loc. Laying Down D.P.
	0215							Start in hole 5'1/2" 14" Csg.
								Insert Float Shoe 4097' TD=4100'
								Latch Down Baffle 4054.95'
								Cent. #1, 3, 5, 7, 9, 11, 59
								Basket #60 D.V. #60 @ 1689'
	0345							Csg. In hole Prop Ball
	0400							Circulate + Rotate
	0425		12					Pump 500 gal Mud Flush
			20					20 ^{ss} KCL Flush
		6						Mix 150 sks EA-2 Cnt
			36					Finish mixing with out pump + line
	0445							Displ. shut off Plug
	0505					1500		Plug Down 1500 psi holding
								Drop opening plug
	0510							Plug Rat Hole + Mousehole
	0525					1000		Open D.V. tool 1,000 psi
								20 ^{ss} KCL Flush
								120 sks SMD Cement
								Finish mixing
								Drop closing Plug
								Displ.
	0600		40.7					Plug Down 1500 psi holding
								Release press D.V. closed
								wash and Rack up tool
	0630							Job Complete
								Circulated 20 sks Cnt. to P.+

[Signature]

[Signature]
Rogers, Austin, Isaac, Ted



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Rodney Hamburg #1-24

24-12S-21W

Start Date: 2020.12.02 @ 00:07:05

End Date: 2020.12.02 @ 07:43:29

Job Ticket #: 67425 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2020.12.10 @ 09:38:24

Downing-Nelson Oil Co

24-12S-21W

Rodney Hamburg #1-24

DST # 1

Toronto - LCK "A"

2020.12.02



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

ATTN: Marc Dow ning

Job Ticket: 67425

DST#: 1

Test Start: 2020.12.02 @ 00:07:05

GENERAL INFORMATION:

Formation: **Toronto - LCK "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:39:00

Time Test Ended: 07:43:29

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3573.00 ft (KB) To 3635.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 3635.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8671 Outside

Press@RunDepth: 36.65 psig @ 3574.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.02 End Date: 2020.12.02

Last Calib.: 2020.12.02

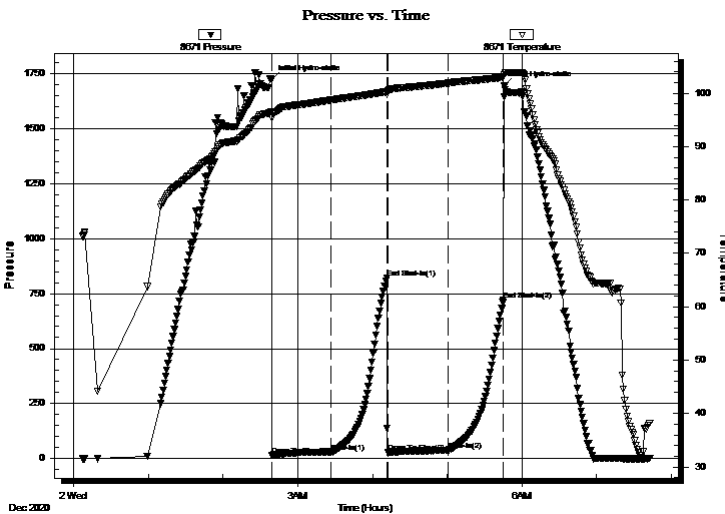
Start Time: 00:07:05 End Time: 07:43:29

Time On Btm: 2020.12.02 @ 02:38:45

Time Off Btm: 2020.12.02 @ 05:45:59

TEST COMMENT: 45 - IF - Blow started out as a weak blow and built up to 2"
45 - ISI - No Return
45 - FF - blow started out as a weak blow and built up to 5 1/4"
45 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1724.46	96.49	Initial Hydro-static
1	13.10	95.34	Open To Flow (1)
48	29.04	98.71	Shut-In(1)
93	820.84	100.27	End Shut-In(1)
94	26.89	100.40	Open To Flow (2)
142	36.65	101.87	Shut-In(2)
187	721.62	102.96	End Shut-In(2)
188	1694.14	103.53	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
53.00	OCM - 20%o - 80%M	0.38
0.00	136' - GIP - 100%g	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 67425

DST#: 1

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 00:07:05

GENERAL INFORMATION:

Formation: **Toronto - LCK "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:39:00

Time Test Ended: 07:43:29

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3573.00 ft (KB) To 3635.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 3635.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8354 Inside

Press@RunDepth: psig @ 3574.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.02 End Date: 2020.12.02

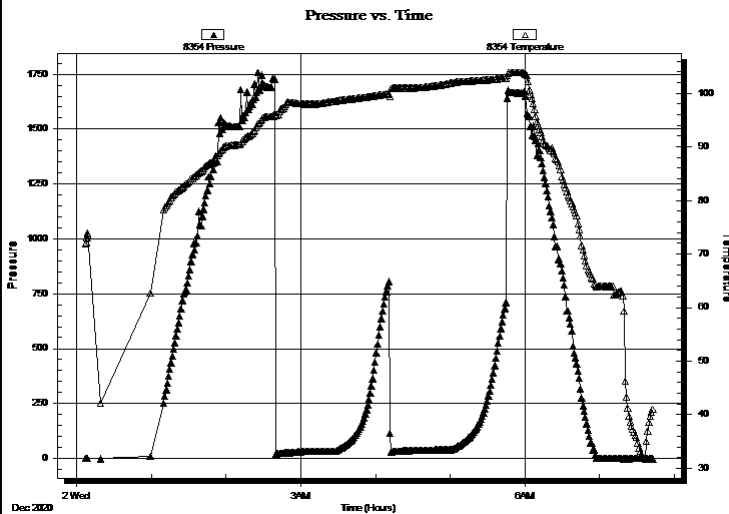
Last Calib.: 2020.12.02

Start Time: 00:07:05 End Time: 07:43:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 45 - IF - Blow started out as a weak blow and built up to 2"
45 - ISI - No Return
45 - FF - blow started out as a weak blow and built up to 5 1/4"
45 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
53.00	OCM - 20%o - 80%M	0.38
0.00	136' - GIP - 100%g	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 67425

DST#: 1

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 00:07:05

Tool Information

Drill Pipe:	Length: 3542.04 ft	Diameter: 3.25 inches	Volume: 36.34 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.41 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 36.49 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	25.45 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3573.00 ft			Final 62000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	62.00 ft			
Tool Length:	87.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3553.00	
Hydraulic tool	5.00			3558.00	
Em Tool	5.00			3563.00	
Packer	5.00			3568.00	25.00 Bottom Of Top Packer
Packer	5.00			3573.00	
Stubb	1.00			3574.00	
Recorder	0.00	8354	Inside	3574.00	
Recorder	0.00	8671	Outside	3574.00	
perforations	25.00			3599.00	
Change Over Sub	1.00			3600.00	
Drill Pipe	31.00			3631.00	
Change Over Sub	1.00			3632.00	
Bullnose	3.00			3635.00	62.00 Bottom Packers & Anchor

Total Tool Length: 87.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 67425

DST#: 1

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 00:07:05

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: 50.00 sec/qt

Cushion Volume:

bbf

Water Loss: 8.77 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
53.00	OCM - 20%o - 80%M	0.376
0.00	136' - GIP - 100%g	0.000

Total Length: 53.00 ft Total Volume: 0.376 bbf

Num Fluid Samples: 0

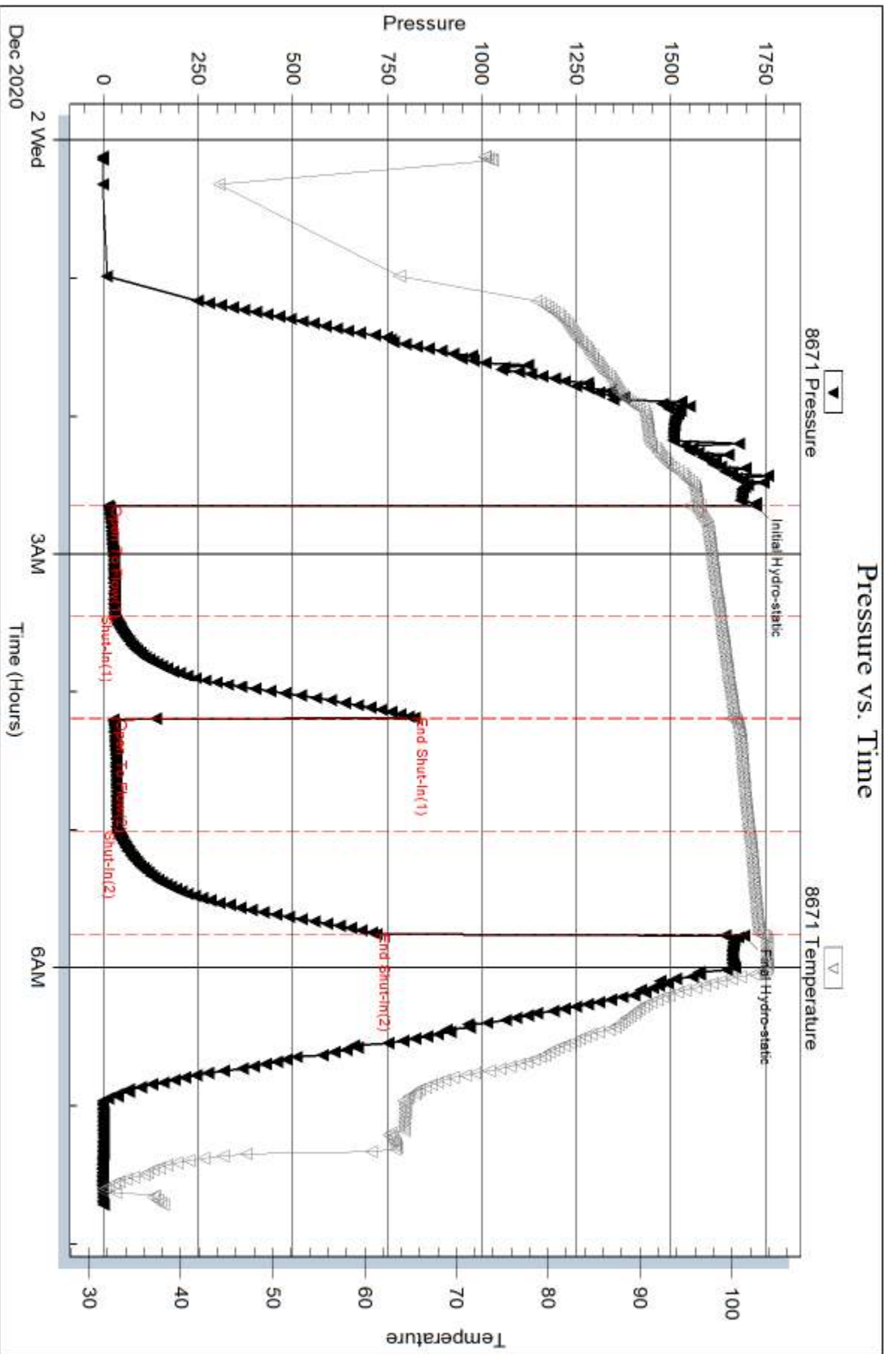
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



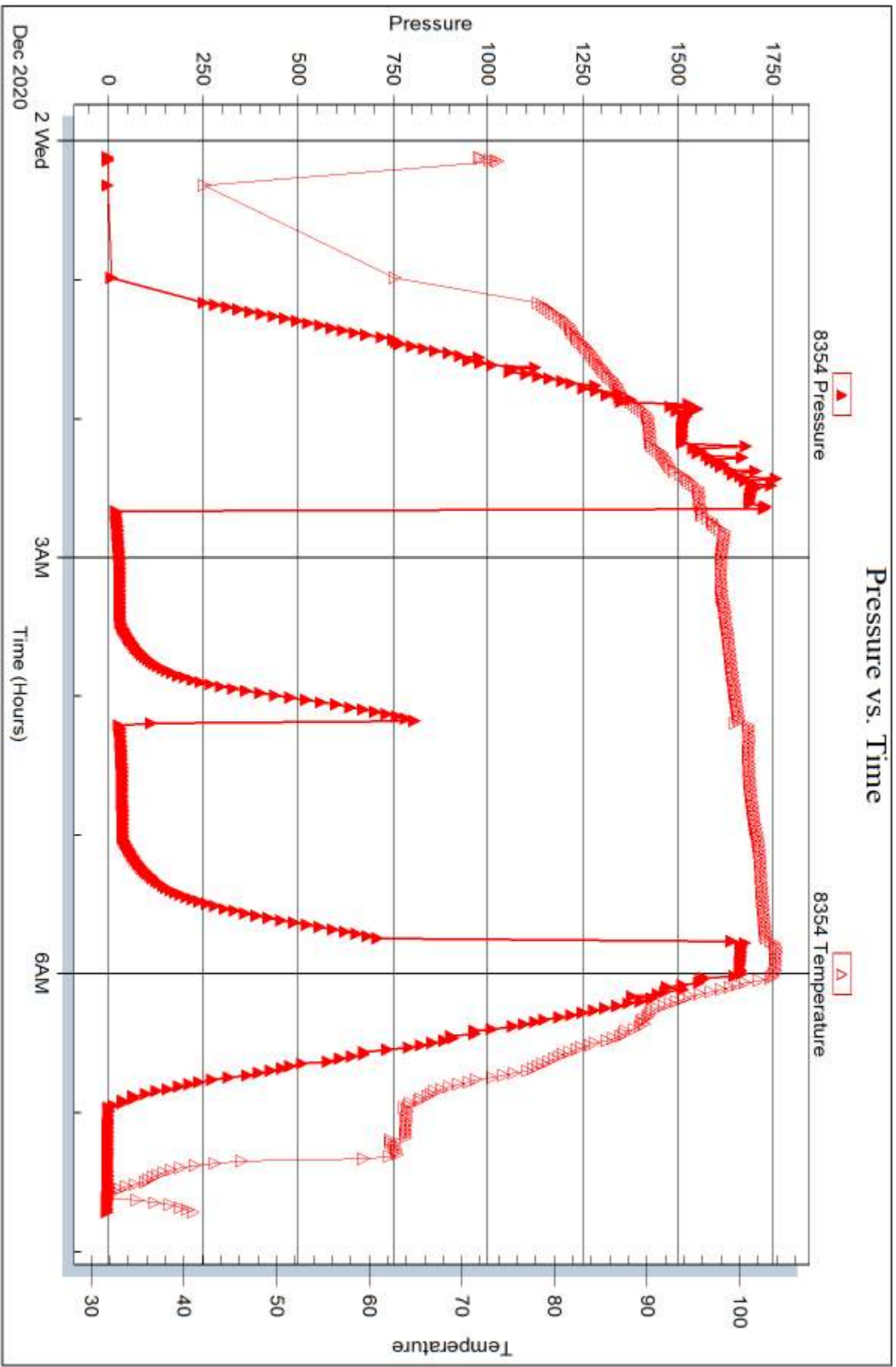
Serial #: 8354

Inside

Dow nung-Nelson Oil Co

Rodney Hamburg #1-24

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 67425

Printed: 2020.12.10 @ 09:38:26



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Rodney Hamburg #1-24

24-12S-21W

Start Date: 2020.12.02 @ 14:50:00

End Date: 2020.12.02 @ 22:16:30

Job Ticket #: 47676 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2020.12.10 @ 09:37:36



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

ATTN: Marc Dow ning

Job Ticket: 47676

DST#: 2

Test Start: 2020.12.02 @ 14:50:00

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:45

Time Test Ended: 22:16:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3628.00 ft (KB) To 3662.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 3662.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8671 Outside

Press@RunDepth: 114.08 psig @ 3629.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.02 End Date: 2020.12.02

Last Calib.: 2020.12.02

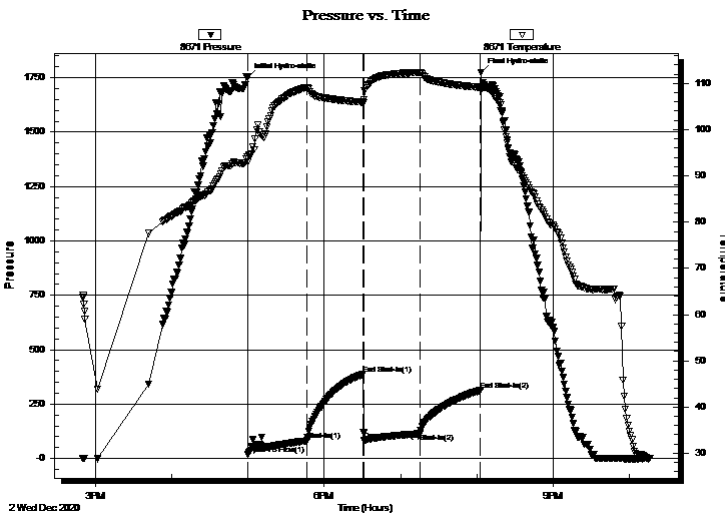
Start Time: 14:50:05 End Time: 22:16:29

Time On Btm: 2020.12.02 @ 16:59:30

Time Off Btm: 2020.12.02 @ 20:03:30

TEST COMMENT: 45 - IF - started out w ith a good blow and built up to 7" in diesel
45 - ISI - No Return
45 - FF - blow started out good and built up to 5"
45 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1752.16	94.01	Initial Hydro-static
1	18.67	92.99	Open To Flow (1)
47	82.79	109.13	Shut-In(1)
91	386.94	105.95	End Shut-In(1)
92	84.34	106.51	Open To Flow (2)
136	114.08	112.37	Shut-In(2)
184	313.43	109.16	End Shut-In(2)
184	1774.18	109.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
204.00	OSMW - Oil Spots - 20%m - 80%w	1.93

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47676

DST#: 2

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 14:50:00

GENERAL INFORMATION:

Formation: **LKC "C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 16:59:45

Time Test Ended: 22:16:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3628.00 ft (KB) To 3662.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 3662.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8354

Inside

Press@RunDepth: psig @ 3629.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.02 End Date: 2020.12.02

Last Calib.: 2020.12.02

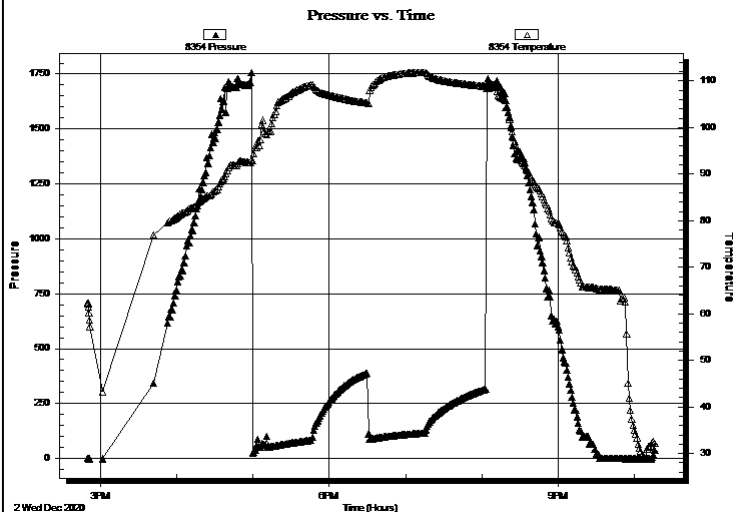
Start Time: 14:50:05 End Time: 22:16:29

Time On Btm:

Time Off Btm:

TEST COMMENT: 45 - IF - started out w ith a good blow and built up to 7" in diesel
45 - ISI - No Return
45 - FF - blow started out good and built up to 5"
45 - FSI - No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
204.00	OSMW - Oil Spots - 20%m - 80%w	1.93

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47676

DST#: 2

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 14:50:00

Tool Information

Drill Pipe:	Length: 3605.84 ft	Diameter: 3.25 inches	Volume: 37.00 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.41 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 37.15 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	34.25 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3628.00 ft			Final 60000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	34.00 ft			
Tool Length:	59.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3608.00	
Hydraulic tool	5.00			3613.00	
Em Tool	5.00			3618.00	
Packer	5.00			3623.00	25.00 Bottom Of Top Packer
Packer	5.00			3628.00	
Stubb	1.00			3629.00	
Recorder	0.00	8354	Inside	3629.00	
Recorder	0.00	8671	Outside	3629.00	
perforations	30.00			3659.00	
Bullnose	3.00			3662.00	34.00 Bottom Packers & Anchor
Total Tool Length:	59.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47676

DST#: 2

ATTN: Marc Dow ning

Test Start: 2020.12.02 @ 14:50:00

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:

15000 ppm

Viscosity: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2250.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
204.00	OSMW - Oil Spots - 20%m - 80%w	1.925

Total Length: 204.00 ft Total Volume: 1.925 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

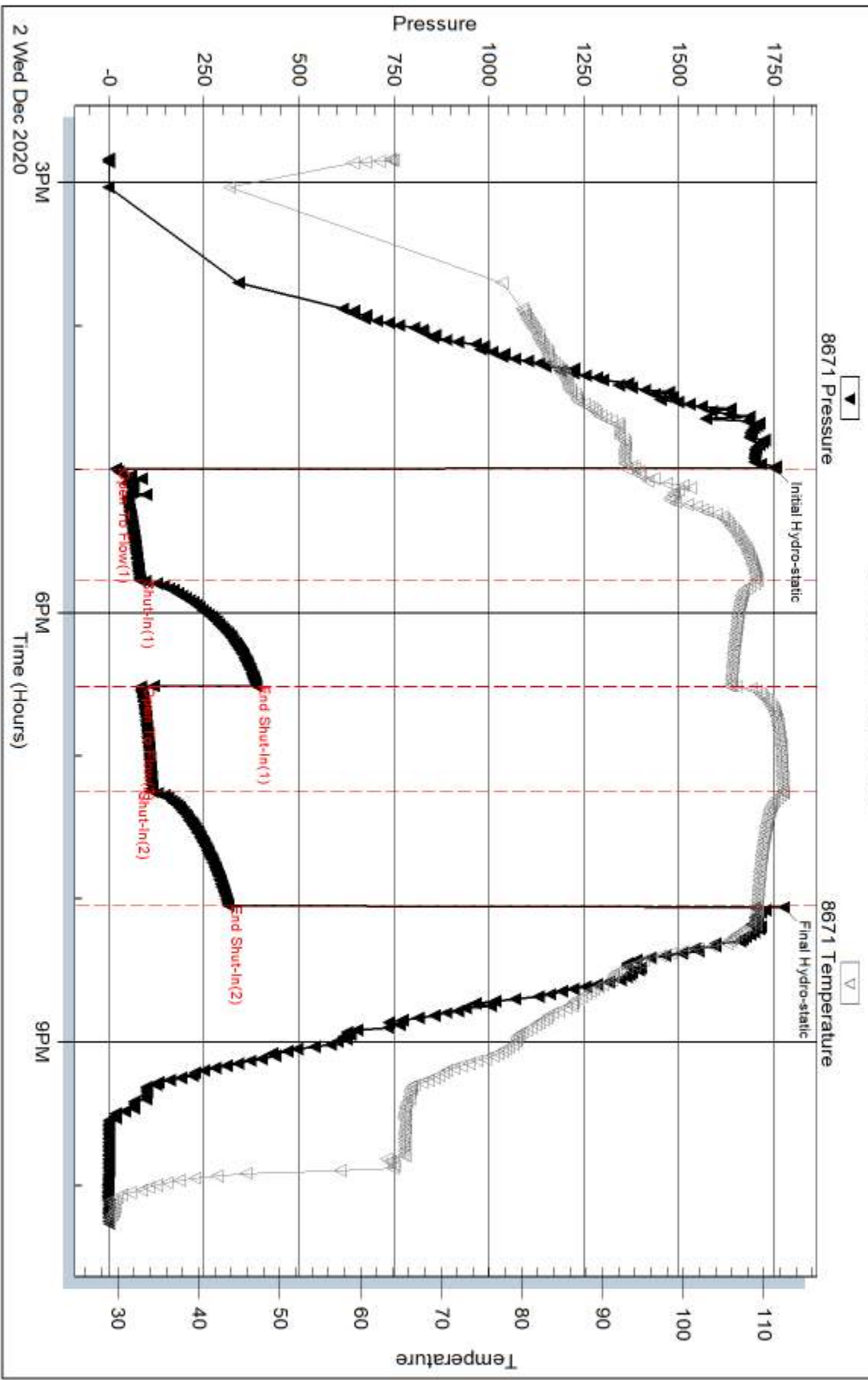
Serial #: 8671

Outside Dow nting-Nelson Oil Co

Rodney Harburg #1-24

DST Test Number: 2

Pressure vs. Time



Trilobe Testing, Inc

Ref. No: 47676

Printed: 2020.12.10 @ 09:37:38

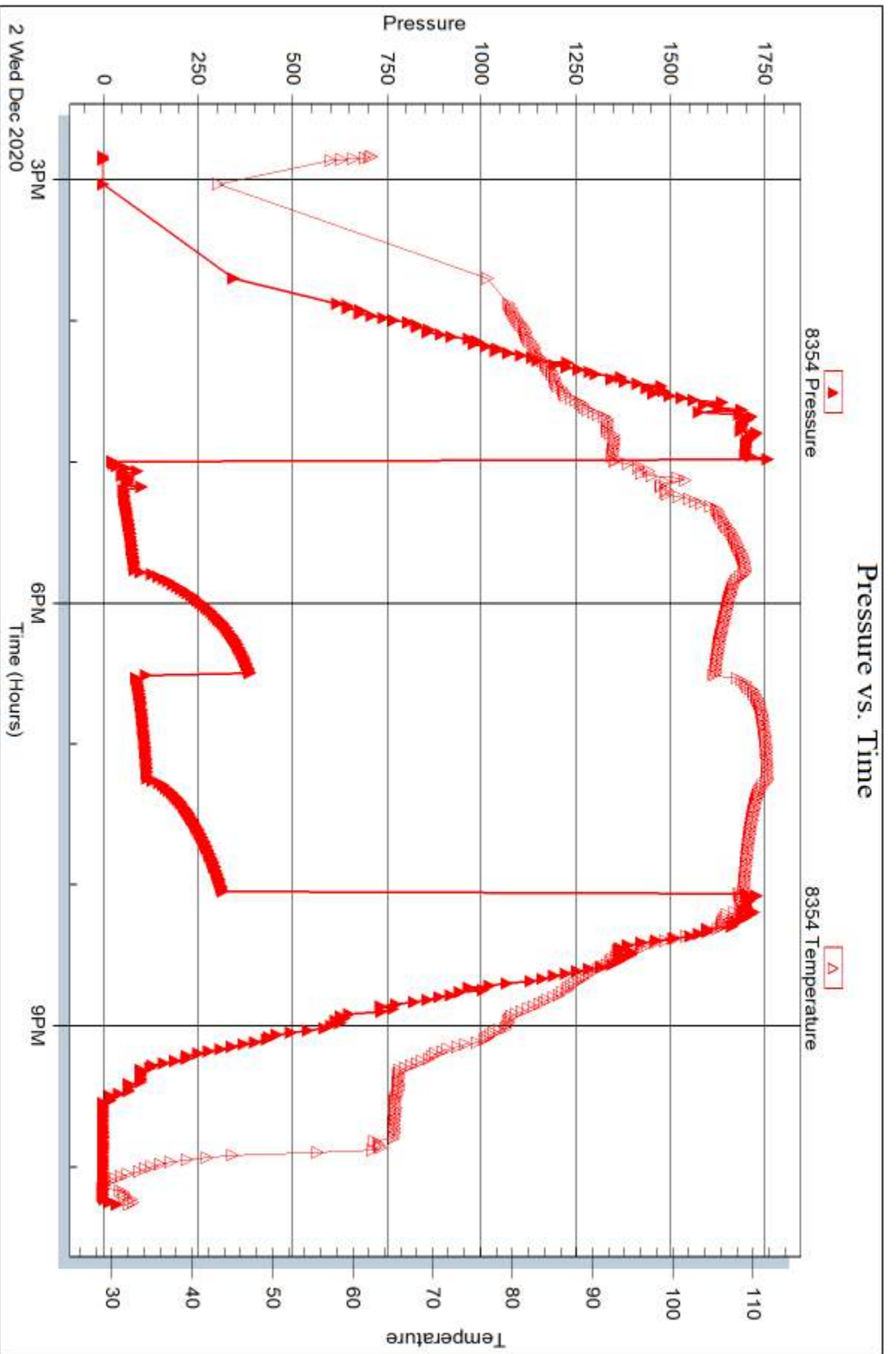
Serial #: 8354

Inside

Dow nng-Nelson Oil Co

Rodney Harburg #1-24

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 47676

Printed: 2020.12.10 @ 09:37:38



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Rodney Hamburg #1-24

24-12S-21W

Start Date: 2020.12.04 @ 05:19:00

End Date: 2020.12.04 @ 12:52:15

Job Ticket #: 47677 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2020.12.10 @ 09:36:57



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

ATTN: Marc Dow ning

Job Ticket: 47677

DST#: 3

Test Start: 2020.12.04 @ 05:19:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:42:30

Time Test Ended: 12:52:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3939.00 ft (KB) To 4013.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 4013.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8671 Outside

Press@RunDepth: 82.62 psig @ 3940.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.04 End Date: 2020.12.04

Last Calib.: 2020.12.04

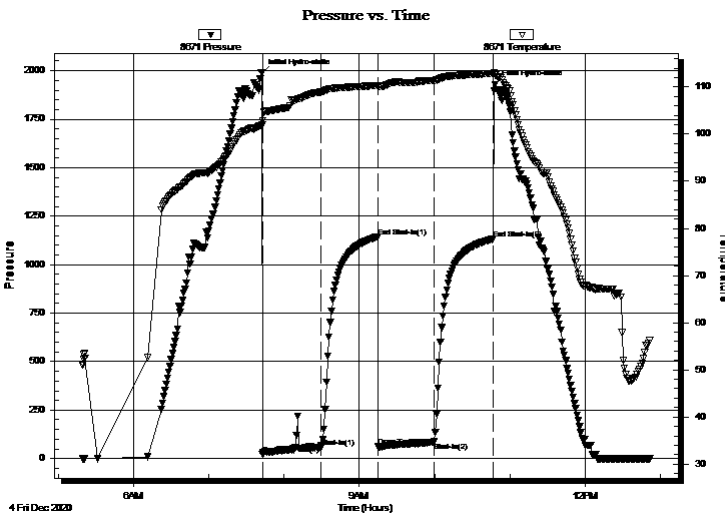
Start Time: 05:19:05 End Time: 12:52:14

Time On Btm: 2020.12.04 @ 07:42:00

Time Off Btm: 2020.12.04 @ 10:48:30

TEST COMMENT: 45 - IF - Blow started out strong and built up to 8 3/4" in diesel
45 - ISI - No Return
45 - FF - Blow started right aw ay and built up to 7 1/2"
45 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1987.65	101.76	Initial Hydro-static
1	23.89	101.92	Open To Flow (1)
48	60.08	108.93	Shut-In(1)
93	1143.54	110.33	End Shut-In(1)
94	62.17	109.94	Open To Flow (2)
138	82.62	111.34	Shut-In(2)
185	1131.84	112.85	End Shut-In(2)
187	1929.67	112.76	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCO - 30% m 70% o	1.77
40.00	Free Oil - 100% o	0.41
0.00	63 - GIP	0.00

Gas Rates

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



DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47677 **DST#: 3**

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 05:19:00

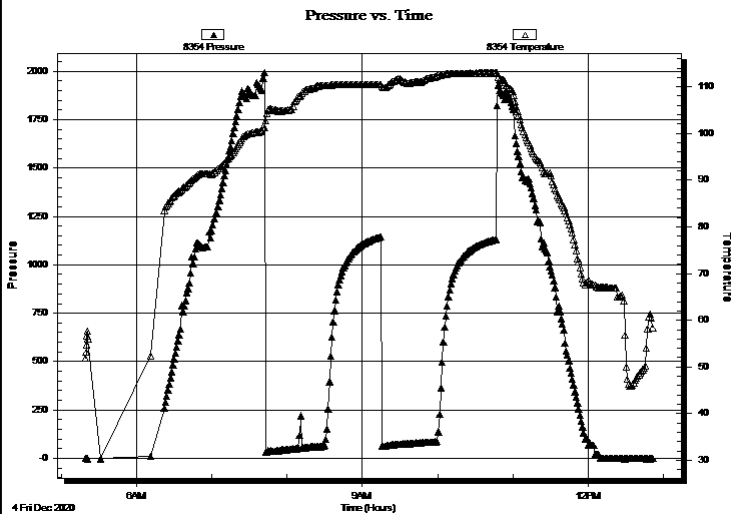
GENERAL INFORMATION:

Formation: Arbuckle		Test Type: Conventional Bottom Hole (Initial)
Deviated: No Whipstock: ft (KB)		Tester: Royal Fisher
Time Tool Opened: 07:42:30		Unit No: 77
Time Test Ended: 12:52:15		
Interval: 3939.00 ft (KB) To 4013.00 ft (KB) (TVD)		Reference Elevations: 2324.00 ft (KB)
Total Depth: 4013.00 ft (KB) (TVD)		2318.00 ft (CF)
Hole Diameter: 7.88 inches	Hole Condition: Poor	KB to GR/CF: 6.00 ft

Serial #: 8354 Inside

Press@RunDepth: psig @ 3940.00 ft (KB)	Capacity: 8000.00 psig
Start Date: 2020.12.04 End Date: 2020.12.04	Last Calib.: 2020.12.04
Start Time: 05:19:05 End Time: 12:52:14	Time On Btm:
	Time Off Btm:

TEST COMMENT: 45 - IF - Blow started out strong and built up to 8 3/4" in diesel
 45 - ISI - No Return
 45 - FF - Blow started right aw ay and built up to 7 1/2"
 45 - FSI - No Return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
189.00	MCO - 30% m 70% o	1.77
40.00	Free Oil - 100% o	0.41
0.00	63 - GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47677

DST#: 3

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 05:19:00

Tool Information

Drill Pipe:	Length: 3890.91 ft	Diameter: 3.25 inches	Volume: 39.92 bbl	Tool Weight:	2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 31.41 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	76000.00 lb
			<u>Total Volume: 40.07 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	8.32 ft			String Weight: Initial	62000.00 lb
Depth to Top Packer:	3939.00 ft			Final	63000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	74.00 ft				
Tool Length:	99.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3919.00	
Hydraulic tool	5.00			3924.00	
Em Tool	5.00			3929.00	
Packer	5.00			3934.00	25.00 Bottom Of Top Packer
Packer	5.00			3939.00	
Stubb	1.00			3940.00	
Recorder	0.00	8354	Inside	3940.00	
Recorder	0.00	8671	Outside	3940.00	
perforations	5.00			3945.00	
Change Over Sub	1.00			3946.00	
Drill Pipe	63.00			4009.00	
Change Over Sub	1.00			4010.00	
Bullnose	3.00			4013.00	74.00 Bottom Packers & Anchor

Total Tool Length: 99.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47677

DST#: 3

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 05:19:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

31 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.59 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2250.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
189.00	MCO - 30% _m 70% _o	1.771
40.00	Free Oil - 100% _o	0.410
0.00	63 - GIP	0.000

Total Length: 229.00 ft Total Volume: 2.181 bbl

Num Fluid Samples: 0

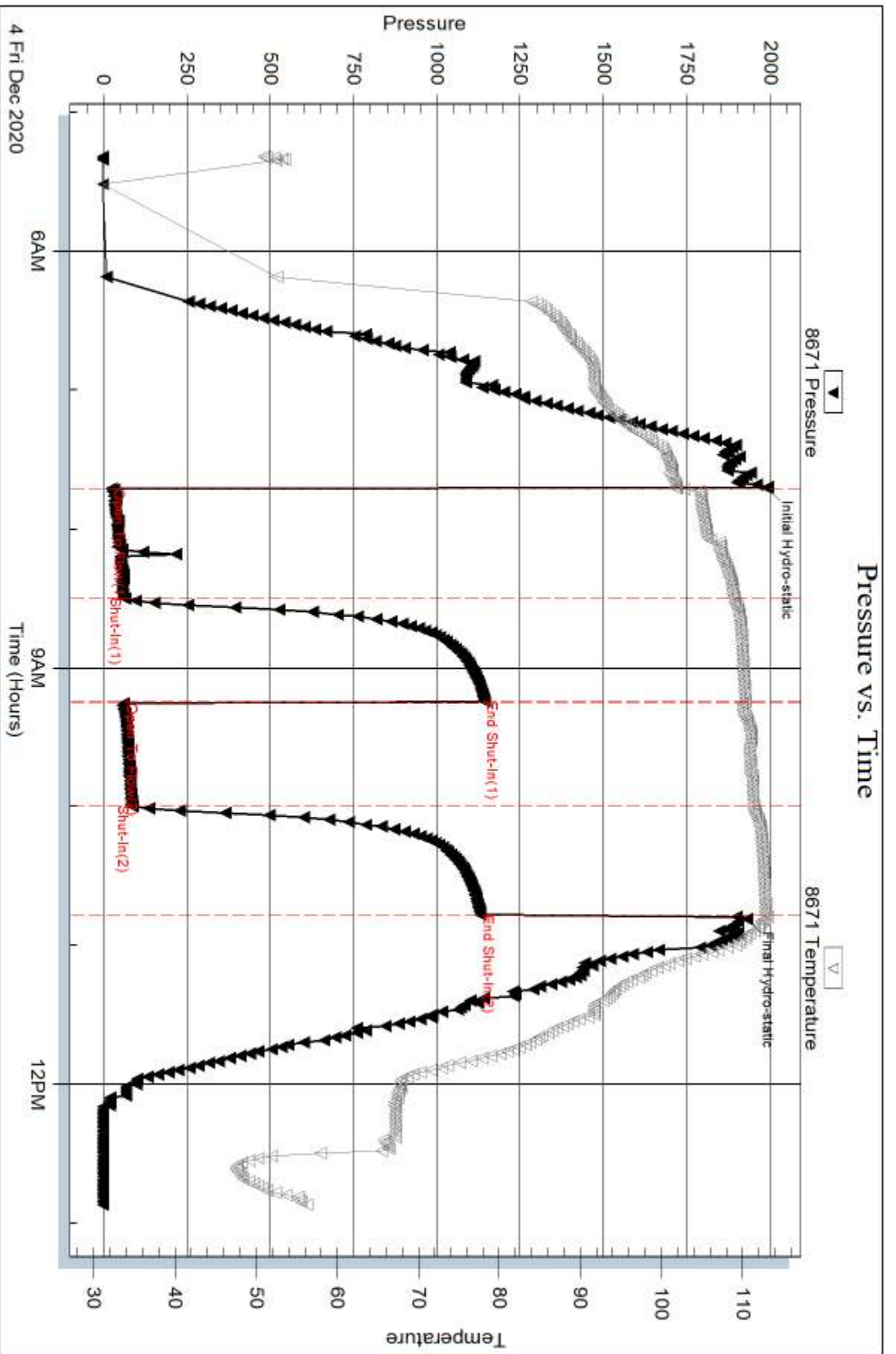
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



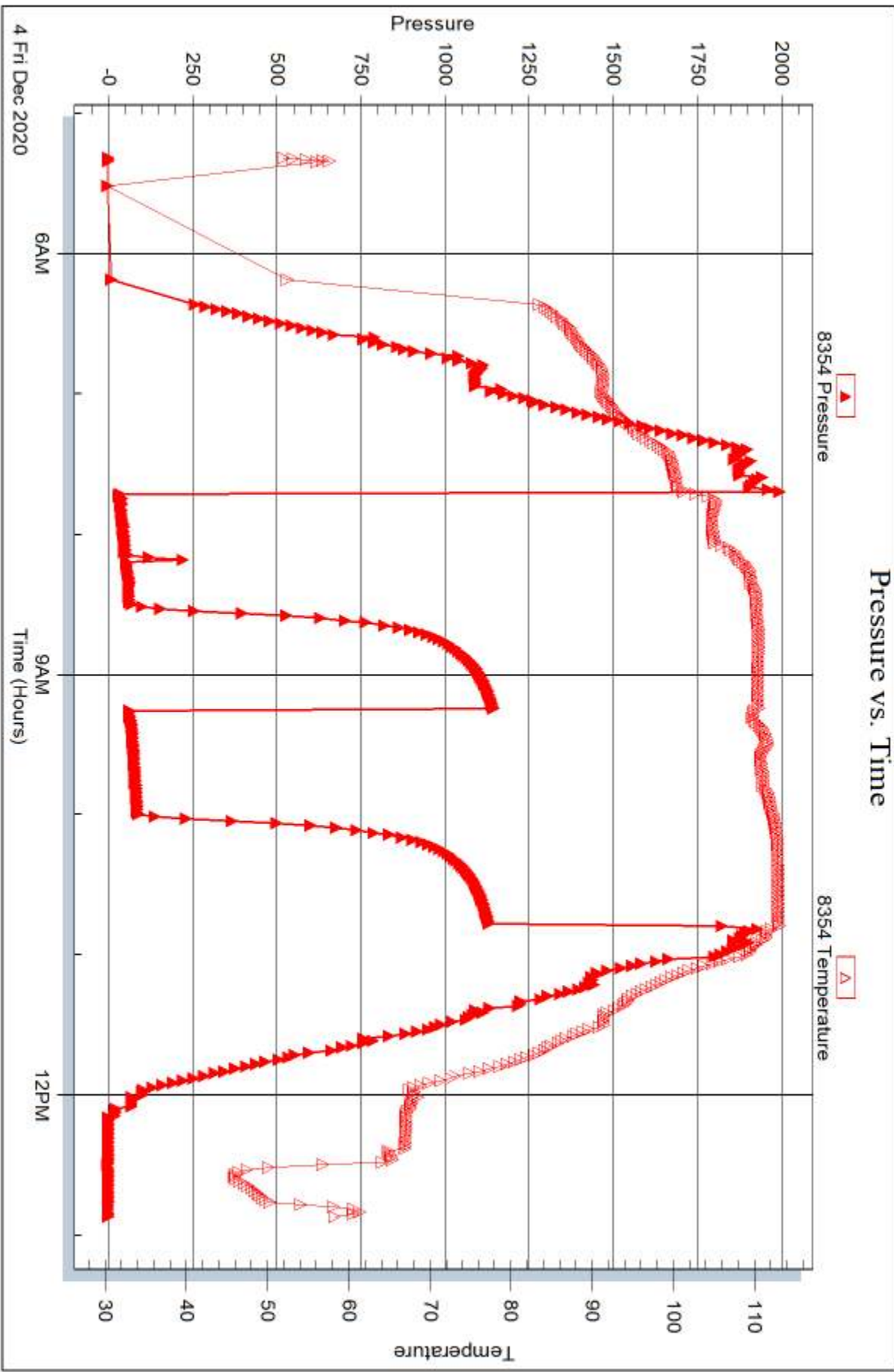
Serial #: 8354

Inside

Dow nrg-Nelson Oil Co

Rodney Hamburg #1-24

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 47677

Printed: 2020.12.10 @ 09:36:58



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Rodney Hamburg #1-24

24-12S-21W

Start Date: 2020.12.04 @ 19:29:00

End Date: 2020.12.05 @ 03:55:15

Job Ticket #: 47678 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Printed: 2020.12.10 @ 09:30:00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47678

DST#: 4

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 19:29:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:45:45

Time Test Ended: 03:55:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 4013.00 ft (KB) To 4036.00 ft (KB) (TVD)

Reference Elevations: 2324.00 ft (KB)

Total Depth: 4036.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8671 Outside

Press@RunDepth: 639.99 psig @ 4014.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.04

End Date:

2020.12.05

Last Calib.: 2020.12.05

Start Time: 19:29:05

End Time:

03:55:14

Time On Btm: 2020.12.04 @ 21:44:00

Time Off Btm: 2020.12.04 @ 23:18:15

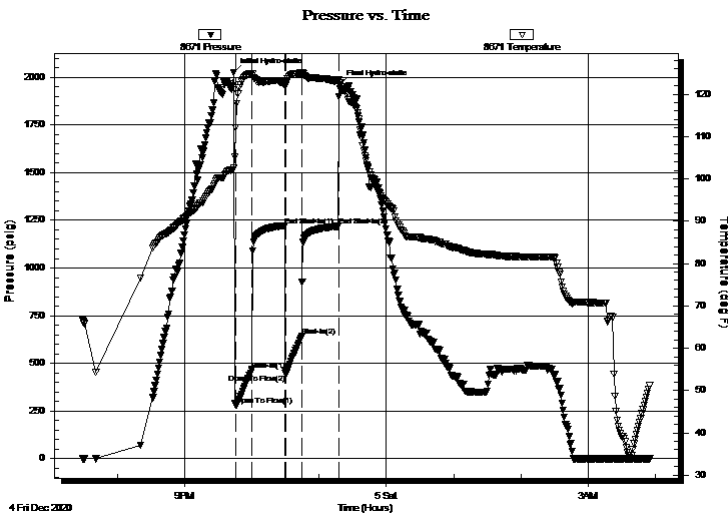
TEST COMMENT: 15 - IF - BOB in 1 and a half mins.

30 - ISI - No Return

15 - FF - BOB in 2 mins.

30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2025.64	102.55	Initial Hydro-static
2	279.14	112.06	Open To Flow (1)
16	465.71	124.83	Shut-In(1)
46	1222.48	122.38	End Shut-In(1)
46	445.28	122.00	Open To Flow (2)
61	639.99	124.94	Shut-In(2)
94	1218.98	123.36	End Shut-In(2)
95	1959.67	122.72	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1155.00	MCWO - 5% m - 15% w - 80% o	11.68
388.00	MCOw - 10% m - 30% o - 60% w	3.98
0.00	220 - GIP	0.00

Gas Rates

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



DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47678 **DST#: 4**

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 19:29:00

GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 21:45:45

Time Test Ended: 03:55:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: **4013.00 ft (KB) To 4036.00 ft (KB) (TVD)**

Reference Elevations: 2324.00 ft (KB)

Total Depth: 4036.00 ft (KB) (TVD)

2318.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 6.00 ft

Serial #: 8354

Inside

Press@RunDepth: psig @ 4014.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.12.04 End Date: 2020.12.05

Last Calib.: 2020.12.05

Start Time: 19:29:05 End Time: 03:55:14

Time On Btm:

Time Off Btm:

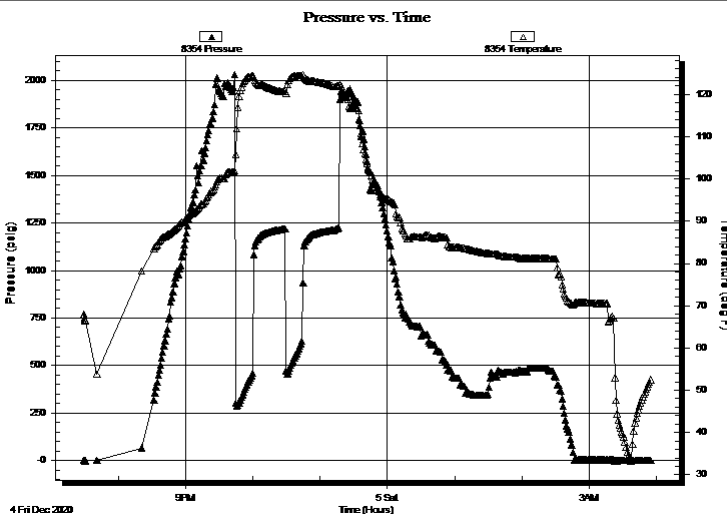
TEST COMMENT: 15 - IF - BOB in 1 and a half mins.

30 - ISI - No Return

15 - FF - BOB in 2 mins.

30 - FSI - No Return

PRESSURE SUMMARY



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

Recovery

Length (ft)	Description	Volume (bbl)
1155.00	MCWO - 5%m - 15%w - 80%o	11.68
388.00	MCOw - 10%m - 30%o - 60%w	3.98
0.00	220 - GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47678

DST#: 4

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 19:29:00

Tool Information

Drill Pipe:	Length: 3985.82 ft	Diameter: 3.25 inches	Volume: 40.90 bbl	Tool Weight: 2500.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.41 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 78000.00 lb
			<u>Total Volume: 41.05 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	29.23 ft			String Weight: Initial 62000.00 lb
Depth to Top Packer:	4013.00 ft			Final 68000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	23.00 ft			
Tool Length:	48.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3993.00	
Hydraulic tool	5.00			3998.00	
Em Tool	5.00			4003.00	
Packer	5.00			4008.00	25.00 Bottom Of Top Packer
Packer	5.00			4013.00	
Stubb	1.00			4014.00	
Recorder	0.00	8354	Inside	4014.00	
Recorder	0.00	8671	Outside	4014.00	
perforations	19.00			4033.00	
Bullnose	3.00			4036.00	23.00 Bottom Packers & Anchor
Total Tool Length:	48.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co

24-12S-21W

PO Box 1019
Hays KS 67601

Rodney Hamburg #1-24

Job Ticket: 47678

DST#: 4

ATTN: Marc Dow ning

Test Start: 2020.12.04 @ 19:29:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1155.00	MCWO - 5%m - 15%w - 80%o	11.683
388.00	MCOW - 10%m - 30%o - 60%w	3.981
0.00	220 - GIP	0.000

Total Length: 1543.00 ft

Total Volume: 15.664 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

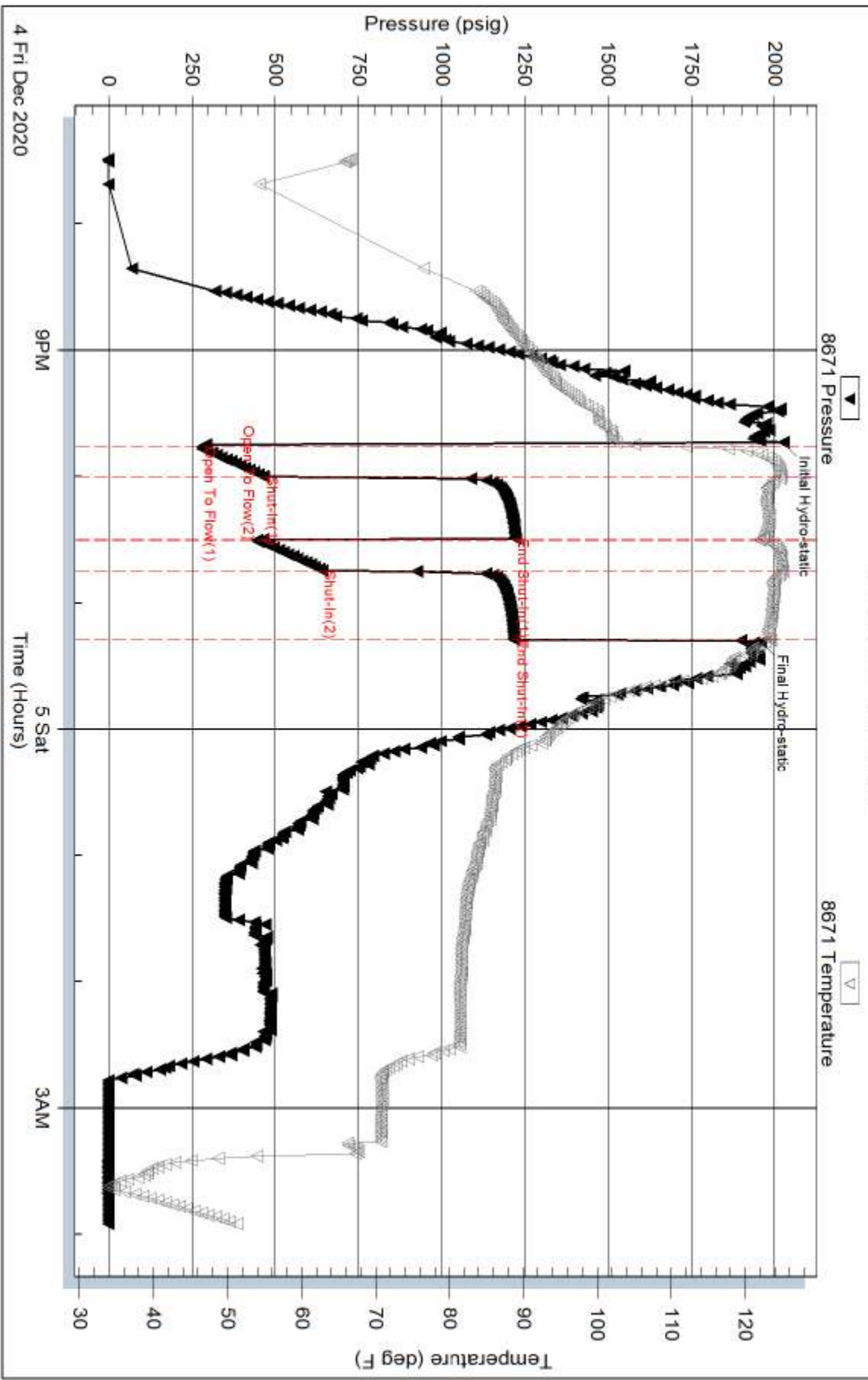
Serial #: 8671

Outside Dow nting-Nelson Oil Co

Rodney Hamburg #1-24

DST Test Number: 4

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 47678

Printed: 2020.12.10 @ 09:30:06

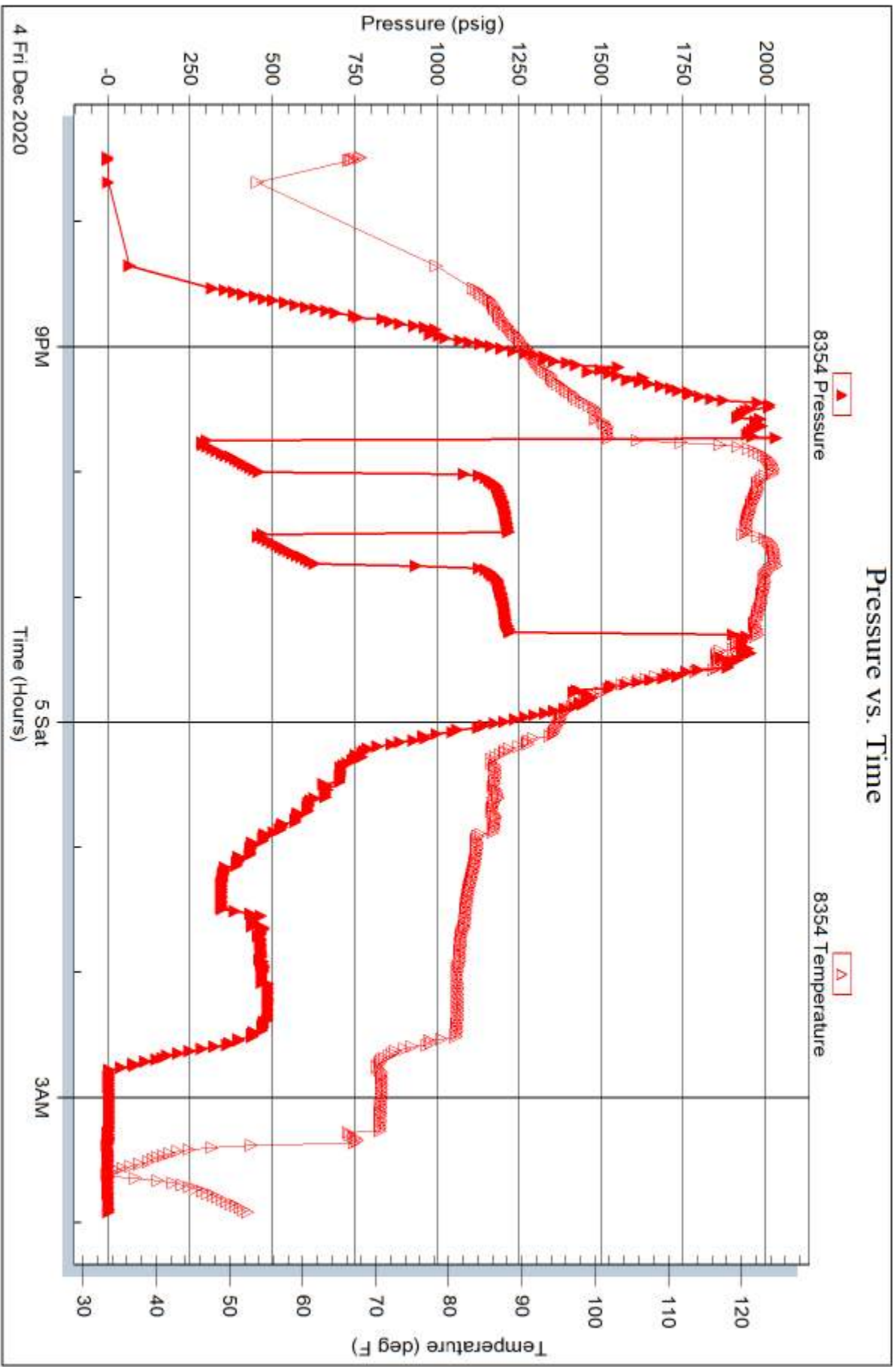
Serial #: 8354

Inside

Dow nging-Nelson Oil Co

Rodney Hamburg #1-24

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 47678

Printed: 2020.12.10 @ 09:30:06



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 67425

Well Name & No. Rodney Hamburg #1-24 Test No. 1 Date 12-1-2020
 Company DNOC I Elevation 2324 KB 2318 GL
 Address PO Box 109 Hays KS 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 24 Twp 12S Rge. 21W Co. Trego State KS

Interval Tested 3573' - 3635 Zone Tested Toronto - LHC "A"
 Anchor Length 62' Drill Pipe Run 3542.04' Mud Wt. 8.8
 Top Packer Depth 3568' Drill Collars Run 31.41' Vis 50
 Bottom Packer Depth 3573' Wt. Pipe Run 0 WL 8.8
 Total Depth 3635' Chlorides 2000 ppm System LCM 1#

Blow Description IF - Blow started out weak and built to 2"
ISI - No Return
FF - Blow started out weak and built to 5 1/4"
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>53'</u>	<u>0cm</u>	<u>20</u>		<u>80</u>	
Rec	Feet of <u>136' - GIP</u>	<u>100</u>			
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 53' BHT 103°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

- (A) Initial Hydrostatic 1724
- (B) First Initial Flow 13
- (C) First Final Flow 29
- (D) Initial Shut-In 821
- (E) Second Initial Flow 27
- (F) Second Final Flow 37
- (G) Final Shut-In 722
- (H) Final Hydrostatic 11694

- Test 1200
- Jars _____
- Safety Joint _____
- Circ Sub _____
- Hourly Standby _____
- Mileage 46 RIT 46
- Sampler _____
- Straddle _____
- Shale Packer _____
- Extra Packer _____
- Extra Recorder _____
- Day Standby _____
- Accessibility _____
- Sub Total 1246

T-On Location 11:20pm
 T-Started 12:07am
 T-Open 2:40am
 T-Pulled 5:40am
 T-Out 7:43am
 Comments _____
 EM Tool 350
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1246
 MP/DST Disc't _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45

Approved By _____ Our Representative Royal F. Sutor

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Thanks



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47676

Well Name & No. Radney Hamburg #1-24 Test No. 2 Date 12-2-2020
 Company DNOCT Elevation 2324 KB 2318 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 24 Twp. 12S Rge. 21W Co. Trego State Ks

Interval Tested 3628'-3662' Zone Tested LKC-C
 Anchor Length 34' Drill Pipe Run 3605.84' Mud Wt. 9
 Top Packer Depth 3623' Drill Collars Run 331.41' Vis 54
 Bottom Packer Depth 3628' Wt. Pipe Run 0 WL 7.6
 Total Depth 3662' Chlorides 2250 ppm System LCM 2#

Blow Description IF Started out with a good blow & built up to 7" in diesel
ISF - No Return
FF - Blow started right away and built up to 5" in diesel
FSI - No Return

Rec	Feet of	%gas	Spots	%oil	%water	%mud
204'	OSMW			80	20	

Rec Total 204' BHT 1090 F Gravity _____ API RW 1,250 @ 23 ° F Chlorides 15,000 ppm

(A) Initial Hydrostatic 1752 Test 1200 T-On Location 2:30 pm
 (B) First Initial Flow 19 Jars _____ T-Started 2:50 pm
 (C) First Final Flow 83 Safety Joint _____ T-Open 5:00 pm
 (D) Initial Shut-In 387 Circ Sub _____ T-Pulled 8:00 pm
 (E) Second Initial Flow 84 Hourly Standby _____ T-Out 10:16 pm
 (F) Second Final Flow 114 Mileage 46 R/T 46 Comments em Tool 350
 (G) Final Shut-In 313 Sampler _____
 (H) Final Hydrostatic 1774 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 45 Extra Packer _____ Extra Copies _____
 Initial Shut-In 45 Extra Recorder _____ Sub Total 0
 Final Flow 45 Day Standby _____ Total 1246
 Final Shut-In 45 Accessibility _____ MP/DST Disc't _____
 Sub.Total 1246

Approved By _____ Our Representative Royal Fisher

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Thanks



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47677

Well Name & No. Rodney Hamburg #1-24 Test No. 3 Date 12-4-2020
 Company DNOCJ Elevation 2324' KB 2318' GL
 Address Po Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 24 Twp. 12S Rge. 21W Co. Trego State Ks

Interval Tested 3939'-4013' Zone Tested Arbuckle
 Anchor Length 74' Drill Pipe Run 3890.91' Mud Wt. 9
 Top Packer Depth 3934' Drill Collars Run 31.41 Vis 53
 Bottom Packer Depth 3939' Wt. Pipe Run Ø WL 7.16
 Total Depth 4013' Chlorides 2250 ppm System LCM 1#

Blow Description IF-Started out with a strong blow & built up to 834"
ISI-No Return
FF-Blow started right away and built up to 7 1/2"
FST-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>189'</u>	<u>mco</u>	<u>70</u>		<u>30</u>	
<u>40'</u>	<u>Free Oil</u>	<u>100</u>			
	<u>63'-GIP</u>				

Rec Total 229' BHT 1130°F Gravity 31 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1988 Test 1300 T-On Location 4:45am
 (B) First Initial Flow 24 Jars _____ T-Started 5:19am
 (C) First Final Flow 60 Safety Joint _____ T-Open 7:44am
 (D) Initial Shut-In 1144 Circ Sub _____ T-Pulled 10:44am
 (E) Second Initial Flow 62 Hourly Standby _____ T-Out 12:52pm
 (F) Second Final Flow 83 Mileage 46 R/T 46 Comments Em Tool 350
 (G) Final Shut-In 1132 Sampler _____
 (H) Final Hydrostatic 1930 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 45 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1346
 Final Flow 45 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1346

Approved By _____ Our Representative [Signature]

Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Thanks



TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

Test Ticket

NO. 47678

Well Name & No. Rodney Hamburg #1-24 Test No. 4 Date 12-4-2020
 Company DNOCT Elevation 2324' KB 2318' GL
 Address Po Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 24 Twp. 12S Rge. 21W Co. Trego State Ks

Interval Tested 4013'-4036' Zone Tested Arbuckle
 Anchor Length 23' Drill Pipe Run 3985.82' Mud Wt. 9.4
 Top Packer Depth 4008' Drill Collars Run 31.41 Vis 56
 Bottom Packer Depth 4013' Wt. Pipe Run Ø WL 8.8
 Total Depth 4036' Chlorides 3000 ppm System LCM 1.75#

Blow Description IF-Surface blow built to B.O.B. in 1 1/2 mins.
ISI-No Return
FF-Surface Blow built to B.O.B. in 2 mins
FSI-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>1155'</u>	<u>mcwo</u>	<u>80</u>	<u>15</u>	<u>5</u>	
<u>388'</u>	<u>mcow</u>	<u>30</u>	<u>60</u>	<u>10</u>	
	<u>220'-GIP</u>	<u>100</u>			

Rec Total 1543' BHT 123F Gravity 30 API RW @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 2026 Test 1300 T-On Location 7:05pm
 (B) First Initial Flow 279 Jars _____ T-Started 7:29pm
 (C) First Final Flow 466 Safety Joint _____ T-Open 9:44pm
 (D) Initial Shut-In 1222 Circ Sub Dropped Bar 50 T-Pulled 11:14pm
 (E) Second Initial Flow 445 Hourly Standby _____ T-Out 3:55am
 (F) Second Final Flow 640 Mileage 46 R/T 46 Comments Em Tool 350
 (G) Final Shut-In 1219 Sampler _____
 (H) Final Hydrostatic 1960 Straddle _____
 Shale Packer _____
 Shale Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1396

Initial Open 15
 Initial Shut-In 30
 Final Flow 15
 Final Shut-In 30

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Sub Total 0
 Total 1396
 MP/DST Disc't _____

Approved By _____ Our Representative Royal Justice

TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.

Marc A. Downing Geologic Report		Discovery Drilling, Rig #4 Commenced 11-28-20 Completed RTD Samples Saved From 3250 To 12-5-20 Drilling Time Kept From 3350 To RTD Samples Examined From 3350 To RTD Geological Supervision From 3350 To RTD	
Operator Downing-Nelson Oil Co., Inc.		Elevation KB 2323 DF 2321 GL 2315	
Lease Rodney Hamburg No. 1-24		Casing Record Surface 8 5/8" @ 223' Production 5 1/2" @ 4099'	
API # 15-195-23113-0000		Field Ellis Northwest	
Location 2025' FSL & 380' FWL		Electrical Surveys CNDL, DIL MEL, Sonic	
Sec. 24	Twp. 12s	Rge. 21w	
County Trego	State Kansas		
Formation	Sample tops	Log Tops	Datum Struct Comp
Top Anhydrite	1697	1697	+626 +5
Base Anhydrite	1748	1744	+579 +5
Topeka	3354	3354	-1031 +2
Heebner	3577	3576	-1253 +7
Toronto	3597	3596	-1273 +7
LKC	3613	3612	-1289 +6
BKC	3848	3847	-1524 +4
Marmaton	3914	3912	-1589 +3
Arbuckle	3985	3984	-1661 +24
Total Depth	4100	4097	-1774

Summary and Recommendations

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

Respectfully Submitted,

Marc A. Downing

ROCK TYPES
 shale, red
 shale, gray
 Carbon Sh
 Lmst w/7>
 shale, gm
 Cht varf
 Dolprfm
 Vancolorbed chert

ACCESSORIES

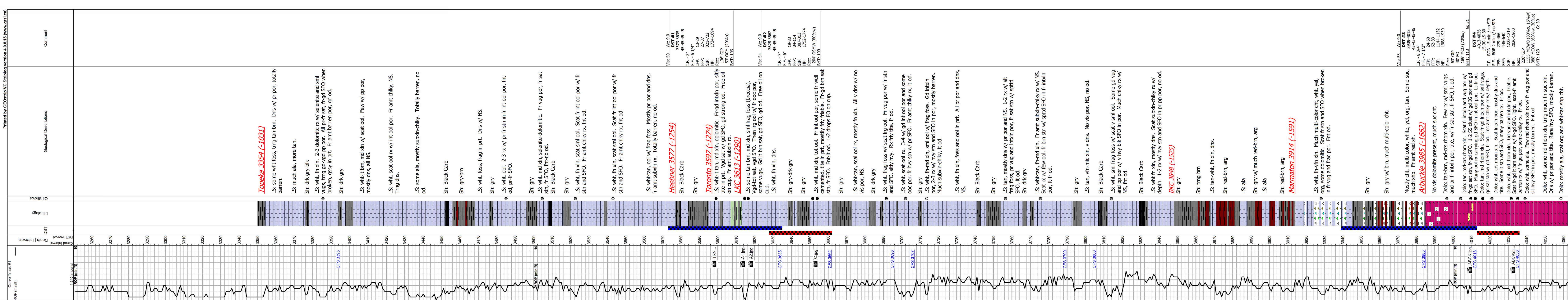
STRINGER
 Sandstone

MINERAL
 Vancolorbed chert

MISC
 Daily Report
 Digital Photo
 Document
 Folder
 Link
 Vertical Log File
 Horizontal Log File
 Core Log File
 Drill Cuttings Rpt

OIL SHOWS
 Even Sin 75%
 Spotted Sin 50-75%
 Spotted Sin 25-50%
 Spotted Sin 1-25%
 Questionable Sin
 Dead Oil Sin
 Fluorescence

OTHER SYMBOLS
 DST
 DST Int
 DST alt
 DST #1
 DST #2



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ROP (min/ft) vs. Depth (ft) graph showing ROP (min/ft) on the y-axis (0 to 10) and Depth (ft) on the x-axis (3260 to 4100). Key DST intervals are marked: CFS 3395, CFS 3435, CFS 3496, CFS 3696, CFS 3790, CFS 3806.

ROP (min/ft) vs. Depth (ft) graph showing ROP (min/ft) on the y-axis (0 to 10) and Depth (ft) on the x-axis (3980 to 4100). Key DST intervals are marked: CFS 3985, CFS 4036, CFS 4036.