

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	GEIST-TILLET UNIT 1-22
Doc ID	1491954

All Electric Logs Run

Micro
Sonic
Dual Induction
Compansated Denisty Neutron



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

22-10S-23W Graham,KS

Geist-Tillet Unit #1-22

Start Date: 2020.01.20 @ 11:57:00

End Date: 2020.01.20 @ 17:46:00

Job Ticket #: 66340 DST #: 1

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

Printed: 2020.01.24 @ 08:24:37



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Co

Geist-Tillet Unit #1-22

PO Box 1019
Hays KS 67601

22-10S-23W Graham,KS

ATTN: Marc Downing

Job Ticket: 66340

DST#: 1

Test Start: 2020.01.20 @ 11:57:00

GENERAL INFORMATION:

Formation: **LKC A**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:56:00

Time Test Ended: 17:46:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3643.00 ft (KB) To 3677.00 ft (KB) (TVD)

Reference Elevations: 2365.00 ft (KB)

Total Depth: 3677.00 ft (KB) (TVD)

2357.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671 Outside

Press@RunDepth: 33.76 psig @ 3644.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.20 End Date: 2020.01.20

Last Calib.: 2020.01.20

Start Time: 11:57:05 End Time: 17:45:59

Time On Btm: 2020.01.20 @ 13:55:30

Time Off Btm: 2020.01.20 @ 15:59:45

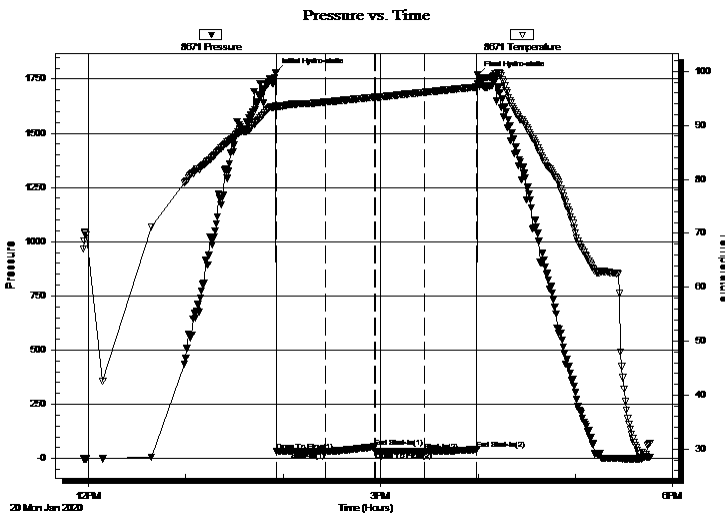
TEST COMMENT: 30 - IF - Chased tool 3' to bottom surface blow built to 3" then died off to 2"

30 - ISI - No Return

30 - FF - Weak surface blow built to 1/4" then died back to a weak blow

30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1780.49	93.57	Initial Hydro-static
1	33.91	93.30	Open To Flow (1)
31	34.00	94.33	Shut-In(1)
61	54.47	95.22	End Shut-In(1)
62	33.32	95.23	Open To Flow (2)
92	33.76	96.14	Shut-In(2)
124	41.87	97.10	End Shut-In(2)
125	1768.07	97.79	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OSM - Oil Spots - 100%m	0.05

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

Geist-Tillet Unit #1-22

PO Box 1019
Hays KS 67601

22-10S-23W Graham,KS

Job Ticket: 66340

DST#: 1

ATTN: Marc Downing

Test Start: 2020.01.20 @ 11:57:00

Tool Information

Drill Pipe:	Length: 3614.30 ft	Diameter: 3.25 inches	Volume: 37.09 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: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 80000.00 lb
			<u>Total Volume: 37.25 bbl</u>	Tool Chased 3.00 ft
Drill Pipe Above KB:	22.83 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3643.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	34.00 ft			
Tool Length:	54.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3628.00	
Hydraulic tool	5.00			3633.00	
Packer	5.00			3638.00	20.00 Bottom Of Top Packer
Packer	5.00			3643.00	
Stubb	1.00			3644.00	
Recorder	0.00	8360	Inside	3644.00	
Recorder	0.00	8671	Outside	3644.00	
perforations	30.00			3674.00	
Bullnose	3.00			3677.00	34.00 Bottom Packers & Anchor
Total Tool Length:	54.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

Geist-Tillet Unit #1-22

PO Box 1019
Hays KS 67601

22-10S-23W Graham,KS

Job Ticket: 66340

DST#: 1

ATTN: Marc Downing

Test Start: 2020.01.20 @ 11:57:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OSM - Oil Spots - 100%m	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

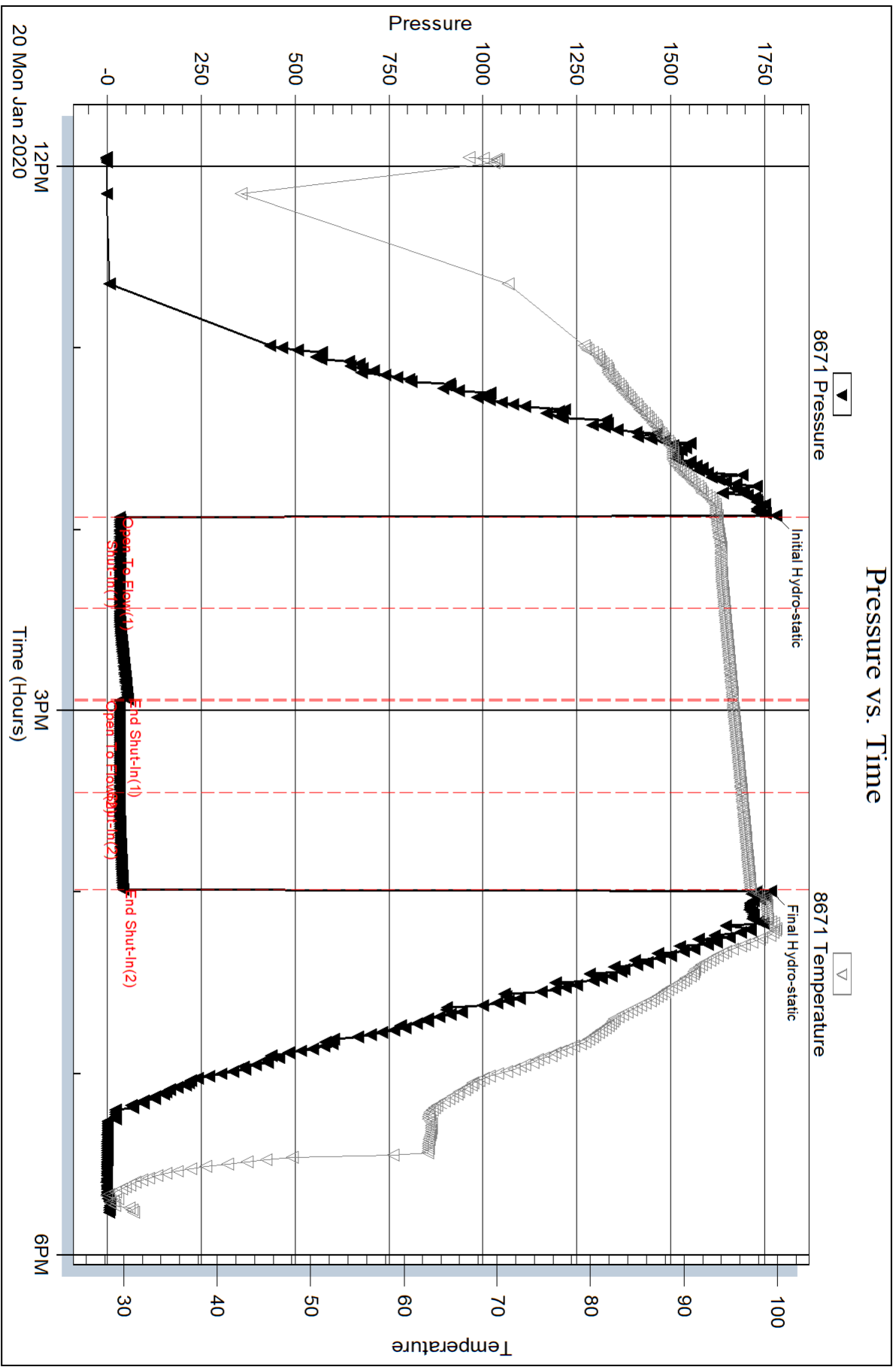
Recovery Comments:

Serial #: 8671

Outside Dow ning Nelson Oil Co

22-10S-23W Graham,KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 66340

Printed: 2020.01.24 @ 08:24:38

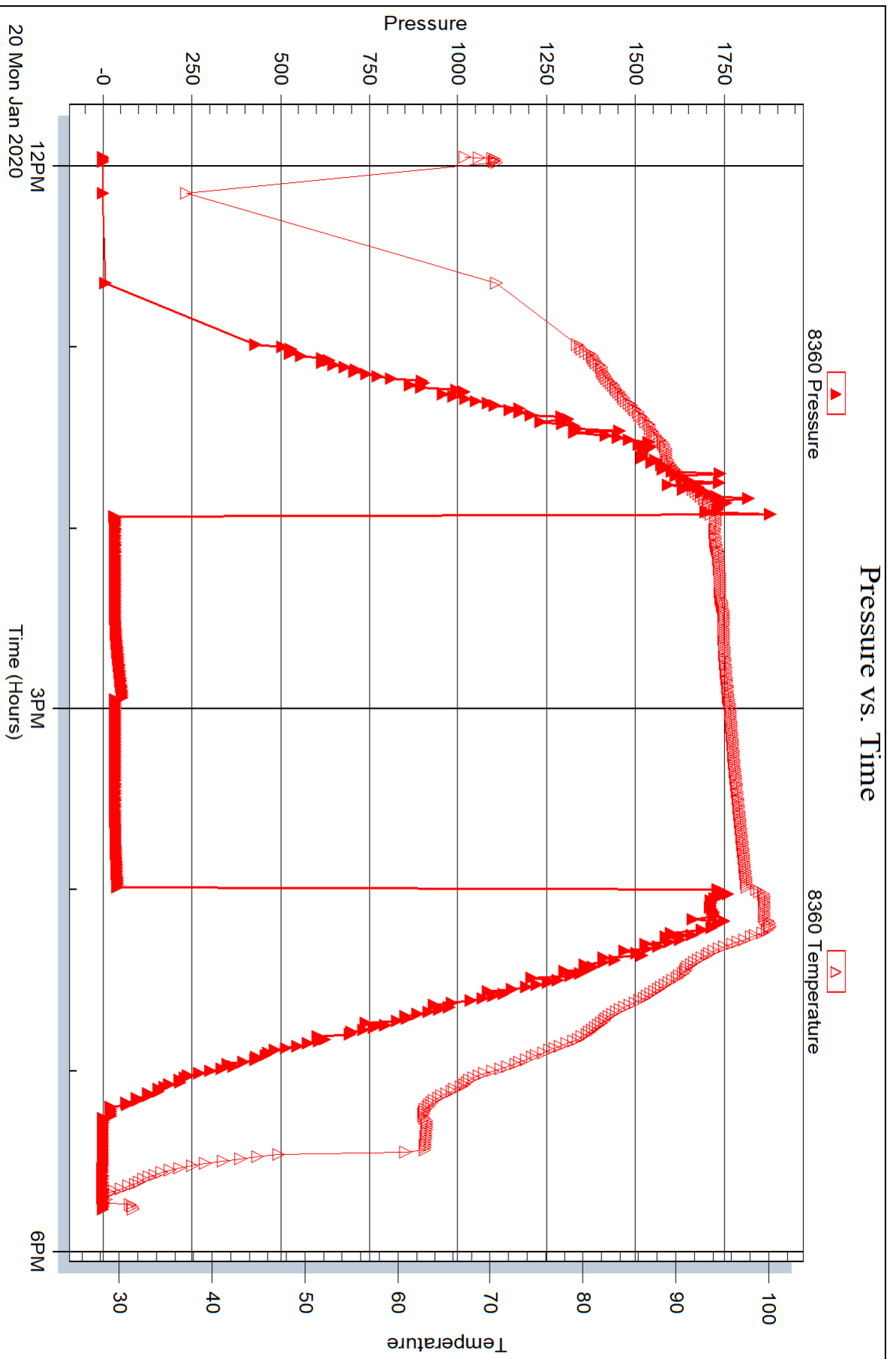
Serial #: 8360

Inside

Dow nIng Nelson Oil Co

22-10S-23W Graham,KS

DST Test Number: 1





DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

Geist Tillet #1-22

22-10S-23W Graham,KS

Start Date: 2020.01.21 @ 00:25:00

End Date: 2020.01.21 @ 07:07:45

Job Ticket #: 66341 DST #: 2

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

Printed: 2020.01.24 @ 08:18:16



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays KS 67601

Geist Tillet #1-22

Job Ticket: 66341

DST#: 2

ATTN: Marc Dow ning

Test Start: 2020.01.21 @ 00:25:00

GENERAL INFORMATION:

Formation: **LKC C - D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 02:21:30

Time Test Ended: 07:07:45

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3673.00 ft (KB) To 3711.00 ft (KB) (TVD)

Reference Elevations: 2365.00 ft (KB)

Total Depth: 3711.00 ft (KB) (TVD)

2357.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671

Outside

Press@RunDepth: 52.29 psig @ 3674.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.21

End Date:

2020.01.21

Last Calib.:

2020.01.21

Start Time: 00:25:05

End Time:

07:07:44

Time On Btm:

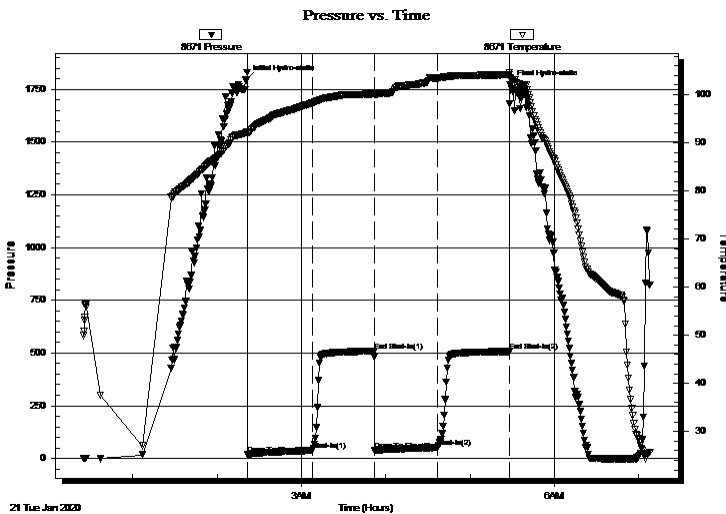
2020.01.21 @ 02:21:00

Time Off Btm:

2020.01.21 @ 05:28:30

TEST COMMENT: 45 - IF - Surface blow built up to 4"
45 - ISI - No Return
45 - FF - Surface blow slowly built to 2 1/4"
45 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1793.61	92.26	Initial Hydro-static
1	17.70	91.76	Open To Flow (1)
47	38.20	98.30	Shut-In(1)
91	508.56	100.17	End Shut-In(1)
92	39.74	100.06	Open To Flow (2)
136	52.29	103.43	Shut-In(2)
187	507.18	104.15	End Shut-In(2)
188	1769.95	103.44	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
65.00	MW - 30%w - 70%w	0.50

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays KS 67601

Geist Tillet #1-22

Job Ticket: 66341

DST#: 2

ATTN: Marc Downing

Test Start: 2020.01.21 @ 00:25:00

Tool Information

Drill Pipe:	Length: 3645.99 ft	Diameter: 3.25 inches	Volume: 37.41 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: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 37.57 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.52 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3673.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	38.00 ft			
Tool Length:	58.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3658.00	
Hydraulic tool	5.00			3663.00	
Packer	5.00			3668.00	20.00 Bottom Of Top Packer
Packer	5.00			3673.00	
Stubb	1.00			3674.00	
Recorder	0.00	8360	Inside	3674.00	
Recorder	0.00	8671	Outside	3674.00	
perforations	34.00			3708.00	
Bullnose	3.00			3711.00	38.00 Bottom Packers & Anchor
Total Tool Length:	58.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays KS 67601

Geist Tillet #1-22

Job Ticket: 66341

DST#: 2

ATTN: Marc Downing

Test Start: 2020.01.21 @ 00:25:00

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:

35000 ppm

Viscosity: 49.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.58 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	MW - 30%m - 70%w	0.498

Total Length: 65.00 ft Total Volume: 0.498 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

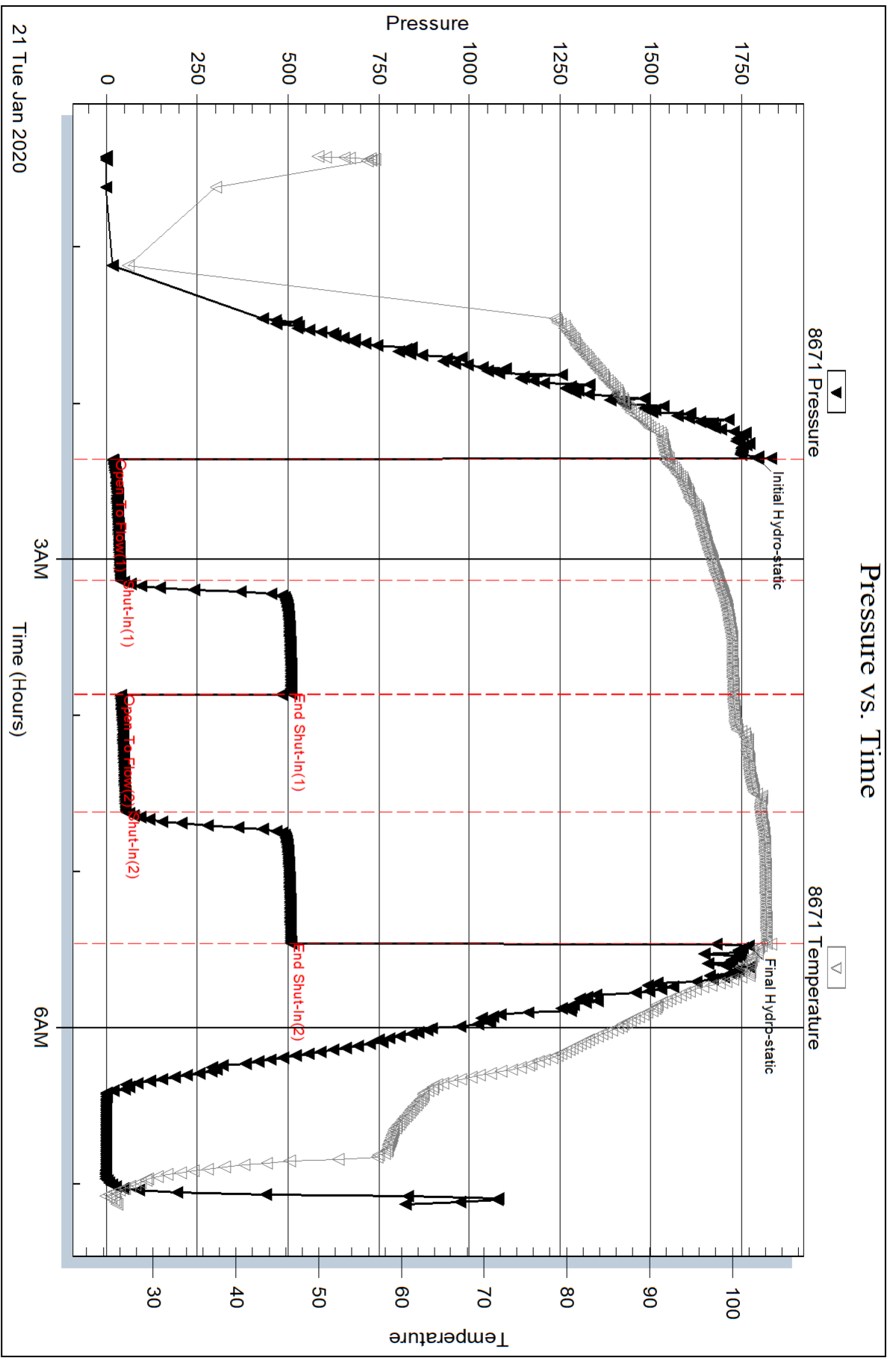
Recovery Comments: Resistivity - .626 @ 21 deg.

Serial #: 8671

Outside Dow n ing Nelson Oil Co

Geist Tilt #1-22

DST Test Number: 2



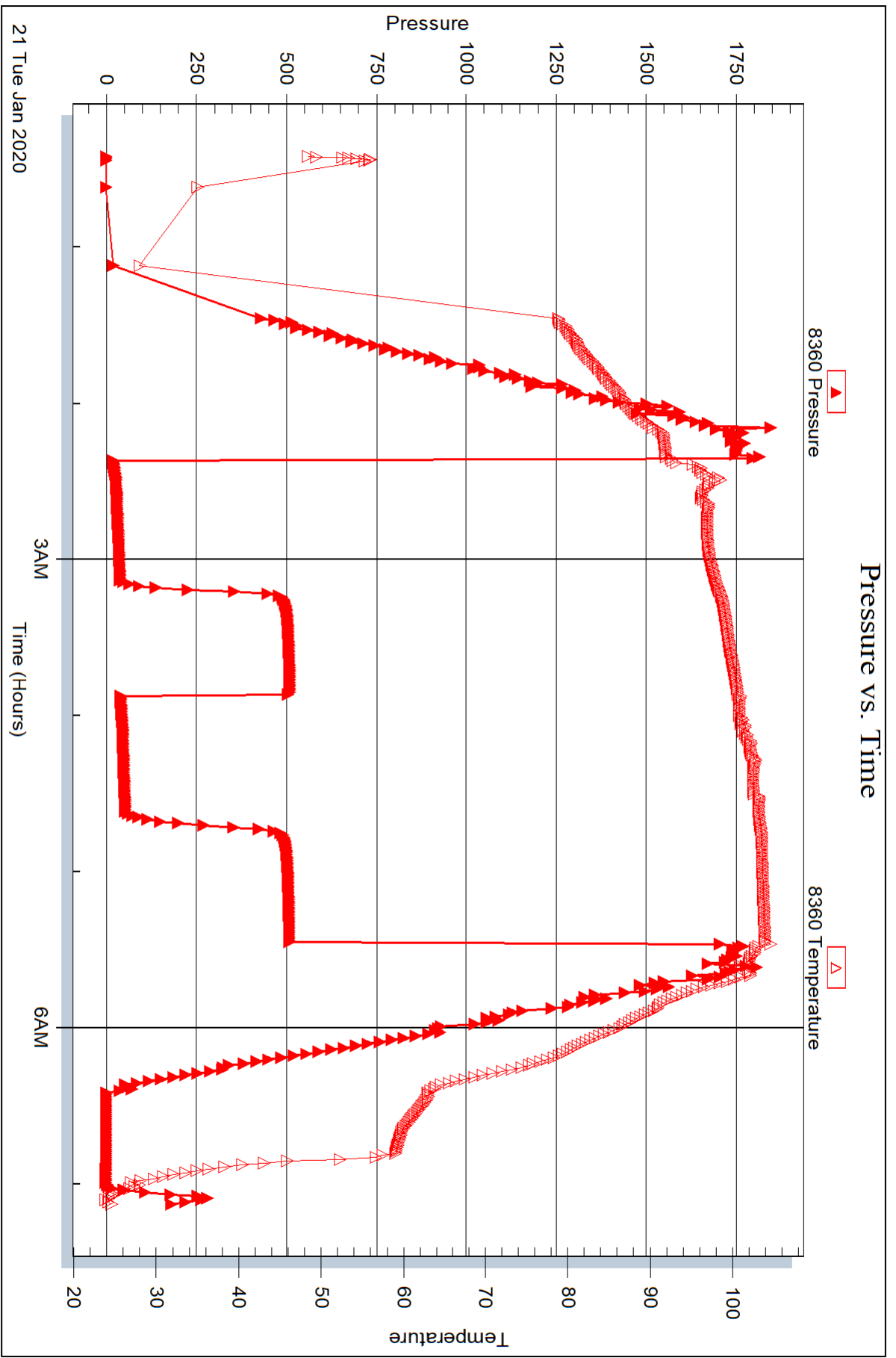
Serial #: 8360

Inside

Dow n/ing Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 66341

Printed: 2020.01.24 @ 08:18:17



DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays Ks 67601

ATTN: Marc Downing

Geist Tillet #1-22

22-10S-23W Graham,KS

Start Date: 2020.01.21 @ 14:35:00

End Date: 2020.01.21 @ 19:58:30

Job Ticket #: 66342 DST #: 3

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

Printed: 2020.01.24 @ 08:13:59

Downing Nelson Oil Co
22-10S-23W Graham,KS
Geist Tillet #1-22
DST # 3
LKC E
2020.01.21



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Downing Nelson Oil Co
 PO Box 1019
 Hays Ks 67601
 ATTN: Marc Downing

22-10S-23W Graham,KS

Geist Tillet #1-22

Job Ticket: 66342

DST#: 3

Test Start: 2020.01.21 @ 14:35:00

GENERAL INFORMATION:

Formation: **LKC E**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 17:19:45
 Time Test Ended: 19:58:30
 Interval: **3711.00 ft (KB) To 3733.00 ft (KB) (TVD)**
 Total Depth: 3733.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Poor
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Royal Fisher
 Unit No: 77
 Reference Elevations: 2365.00 ft (KB)
 2357.00 ft (CF)
 KB to GR/CF: 8.00 ft

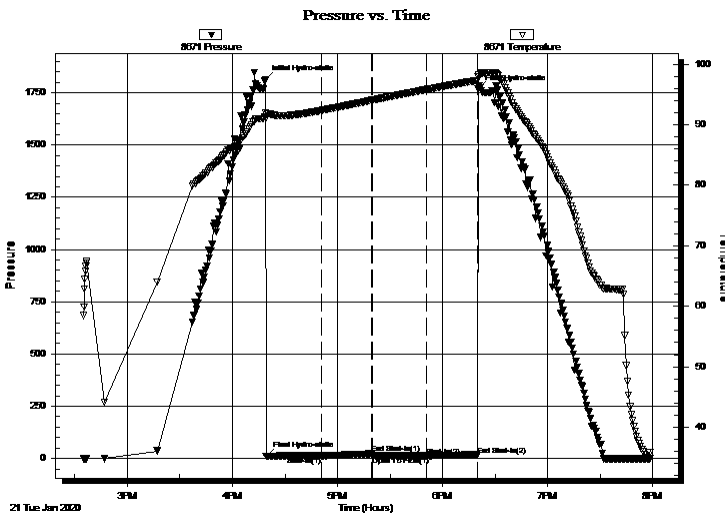
Serial #: 8671

Outside

Press@RunDepth: 12.54 psig @ 3712.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2020.01.21 End Date: 2020.01.21 Last Calib.: 2020.01.21
 Start Time: 14:35:05 End Time: 19:58:29 Time On Btm: 2020.01.21 @ 16:19:00
 Time Off Btm: 2020.01.21 @ 16:19:15

TEST COMMENT: 30 - IF - Surface blow slowly built up to 1"
 30 - ISI - No Return
 30 - FF - Surface started at a faint blow and built to a weak blow
 30 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1811.81	91.90	Initial Hydro-static
1	11.06	91.16	Final Hydro-static
32	12.29	92.34	Shut-In(1)
61	22.63	94.00	End Shut-In(1)
61	11.33	94.03	Open To Flow (1)
92	12.54	95.81	Shut-In(2)
121	15.95	97.31	End Shut-In(2)
122	1767.05	97.87	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	OSM - Oil Spots - 100%m	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66342

DST#: 3

ATTN: Marc Downing

Test Start: 2020.01.21 @ 14:35:00

Tool Information

Drill Pipe:	Length: 3677.70 ft	Diameter: 3.25 inches	Volume: 37.74 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: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 68000.00 lb
			<u>Total Volume: 37.90 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	18.23 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3711.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	22.00 ft			
Tool Length:	42.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3696.00	
Hydraulic tool	5.00			3701.00	
Packer	5.00			3706.00	20.00 Bottom Of Top Packer
Packer	5.00			3711.00	
Stubb	1.00			3712.00	
Recorder	0.00	8360	Inside	3712.00	
Recorder	0.00	8671	Outside	3712.00	
perforations	18.00			3730.00	
Bullnose	3.00			3733.00	22.00 Bottom Packers & Anchor
Total Tool Length:	42.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66342

DST#: 3

ATTN: Marc Downing

Test Start: 2020.01.21 @ 14:35:00

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: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
1.00	OSM - Oil Spots - 100%m	0.005

Total Length: 1.00 ft Total Volume: 0.005 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

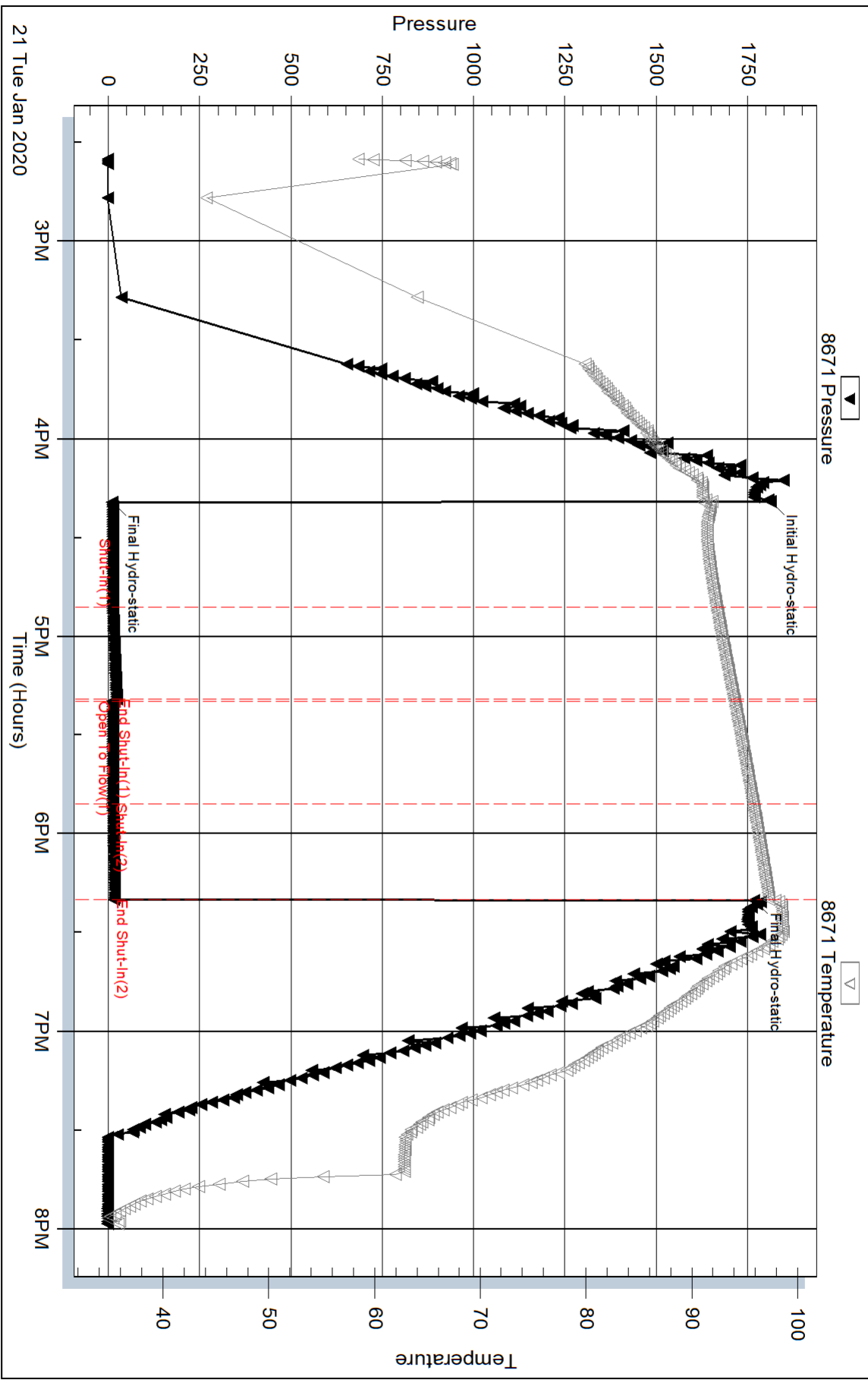
Serial #: 8671

Outside Dow nting Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 3

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 66342

Printed: 2020.01.24 @ 08:14:00

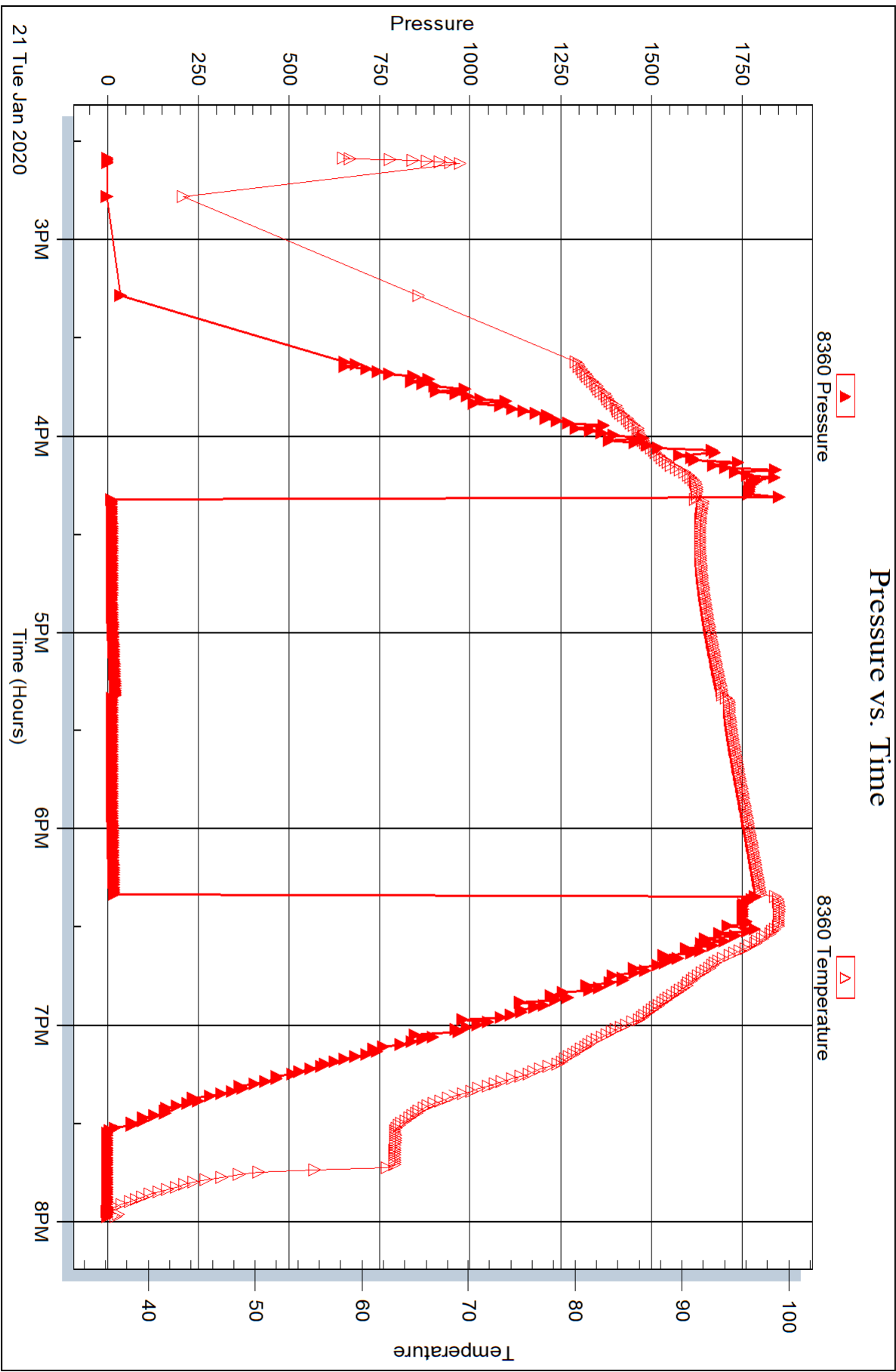
Serial #: 8360

Inside

Dow nIng Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 3





DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays Ks 67601

ATTN: Marc Downing

Geist Tillet #1-22

22-10S-23W Graham,KS

Start Date: 2020.01.22 @ 02:06:00

End Date: 2020.01.22 @ 08:42:30

Job Ticket #: 66343 DST #: 4

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

Printed: 2020.01.24 @ 08:13:38



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66343

DST#: 4

ATTN: Marc Downing

Test Start: 2020.01.22 @ 02:06:00

GENERAL INFORMATION:

Formation: **LKC E - F**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:01:45

Time Test Ended: 08:42:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3712.00 ft (KB) To 3750.00 ft (KB) (TVD)

Reference Elevations: 2365.00 ft (KB)

Total Depth: 3750.00 ft (KB) (TVD)

2357.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671

Outside

Press@RunDepth: 116.53 psig @ 3713.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.22

End Date:

2020.01.22

Last Calib.:

2020.01.22

Start Time: 02:06:05

End Time:

08:42:29

Time On Btm:

2020.01.22 @ 04:00:45

Time Off Btm:

2020.01.22 @ 06:35:45

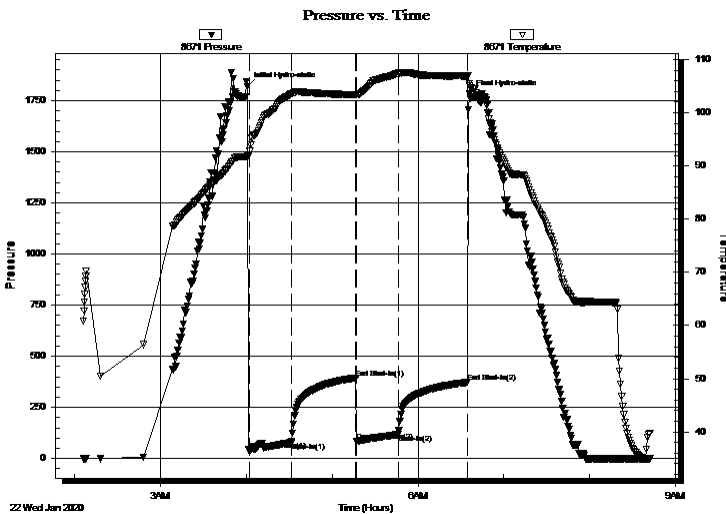
TEST COMMENT: 30 - IF - Surface blow built to B.o.B. in 10 mins and built up to 18"

45 - ISI - Return started 5 mins in and built to 3/4"

30 - FF - Surface blow built to B.o.B. in 20 mins and built to 12"

45 - FSI - Return started 5 mins. in and built to 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1816.96	92.04	Initial Hydro-static
1	37.80	92.13	Open To Flow (1)
31	77.03	103.55	Shut-In(1)
76	393.32	103.42	End Shut-In(1)
77	82.56	103.36	Open To Flow (2)
106	116.53	107.40	Shut-In(2)
154	372.47	106.89	End Shut-In(2)
155	1781.48	105.46	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
124.00	MW - 20%m - 80%w	1.10
78.00	OCWM - 15%o - 35%w - 50%m	0.80
15.00	Free Oil - 100%o	0.15
0.00	124' - GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66343

DST#: 4

ATTN: Marc Downing

Test Start: 2020.01.22 @ 02:06:00

Tool Information

Drill Pipe:	Length: 3677.70 ft	Diameter: 3.25 inches	Volume: 37.74 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: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose:	65000.00 lb
			<u>Total Volume: 37.90 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	17.23 ft			String Weight: Initial	50000.00 lb
Depth to Top Packer:	3712.00 ft			Final	54000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	38.00 ft				
Tool Length:	58.00 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			3697.00	
Hydraulic tool	5.00			3702.00	
Packer	5.00			3707.00	20.00 Bottom Of Top Packer
Packer	5.00			3712.00	
Stubb	1.00			3713.00	
Recorder	0.00	8360	Inside	3713.00	
Recorder	0.00	8671	Outside	3713.00	
perforations	34.00			3747.00	
Bullnose	3.00			3750.00	38.00 Bottom Packers & Anchor
Total Tool Length:	58.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66343

DST#: 4

ATTN: Marc Downing

Test Start: 2020.01.22 @ 02:06:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

35 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

53000 ppm

Viscosity: 56.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
124.00	MW - 20%m - 80%w	1.104
78.00	OCWM - 15%o - 35%w - 50%m	0.800
15.00	Free Oil - 100%o	0.154
0.00	124' - GIP	0.000

Total Length: 217.00 ft Total Volume: 2.058 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

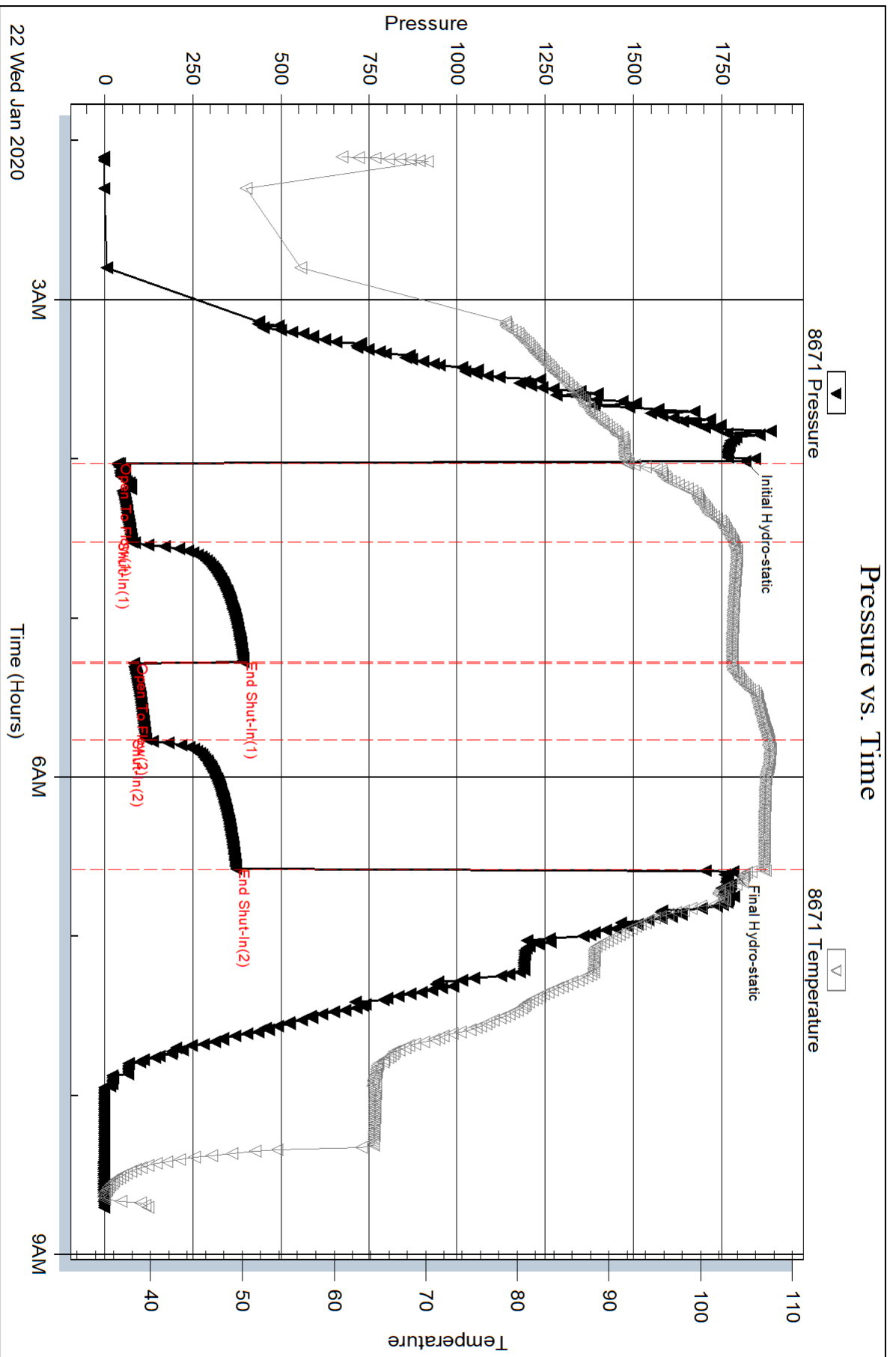
Recovery Comments: Res. - .273 @ 36 deg

Serial #: 8671

Outside Dow n/ing Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 4



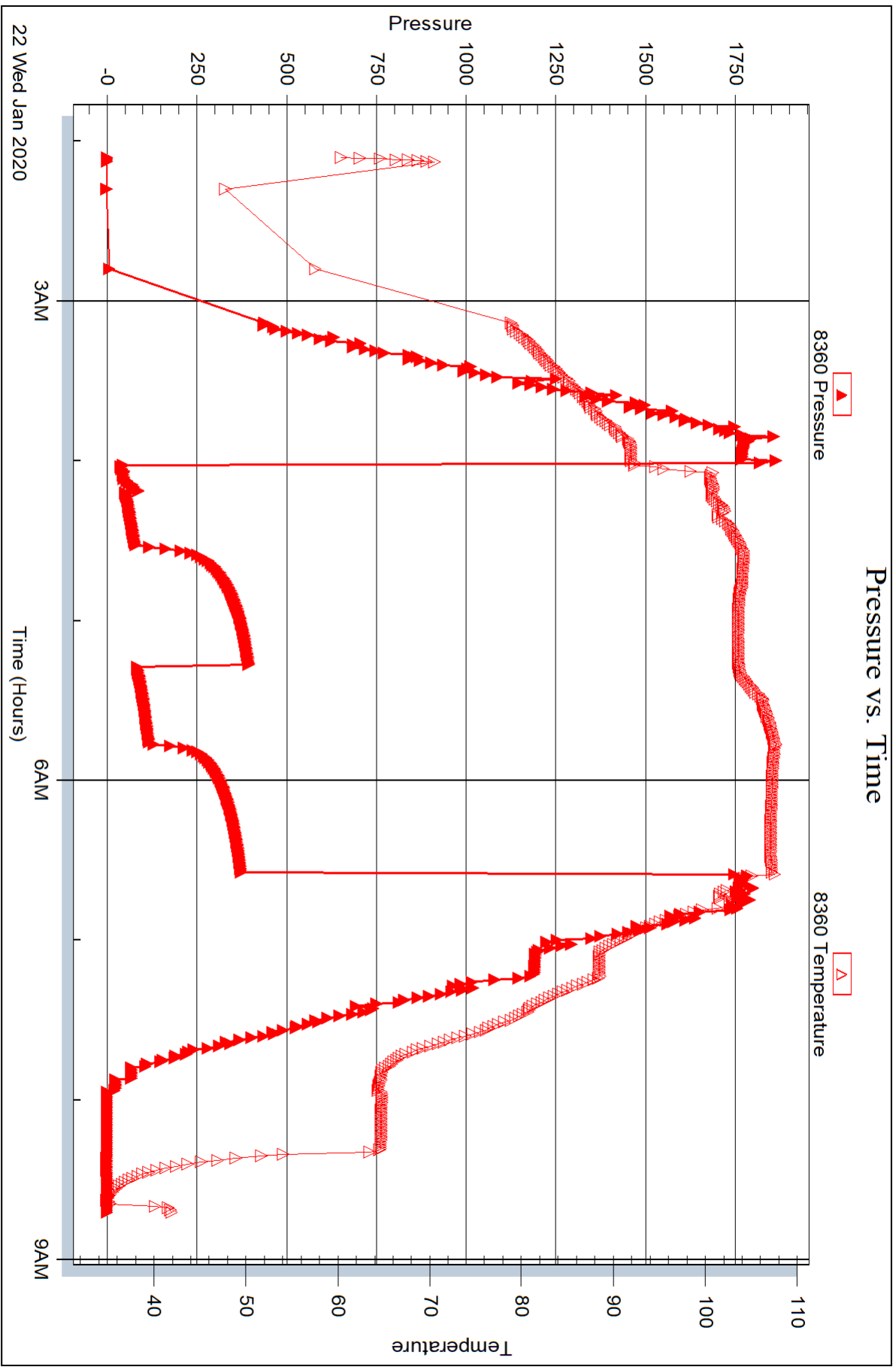
Serial #: 8360

Inside

Dow n/ing Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 4





DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co**

PO Box 1019
Hays Ks 67601

ATTN: Marc Downing

Geist Tillet #1-22

22-10S-23W Graham,KS

Start Date: 2020.01.22 @ 17:54:00

End Date: 2020.01.23 @ 01:31:00

Job Ticket #: 66344 DST #: 5

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

Printed: 2020.01.24 @ 08:13:14



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66344

DST#: 5

ATTN: Marc Dow ning

Test Start: 2020.01.22 @ 17:54:00

GENERAL INFORMATION:

Formation: **LKC H - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:59:00

Time Test Ended: 01:31:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: 77

Interval: 3773.00 ft (KB) To 3837.00 ft (KB) (TVD)

Reference Elevations: 2365.00 ft (KB)

Total Depth: 3837.00 ft (KB) (TVD)

2357.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 8.00 ft

Serial #: 8671 Outside

Press@RunDepth: 323.28 psig @ 3774.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2020.01.22

End Date: 2020.01.23

Last Calib.: 2020.01.23

Start Time: 17:54:05

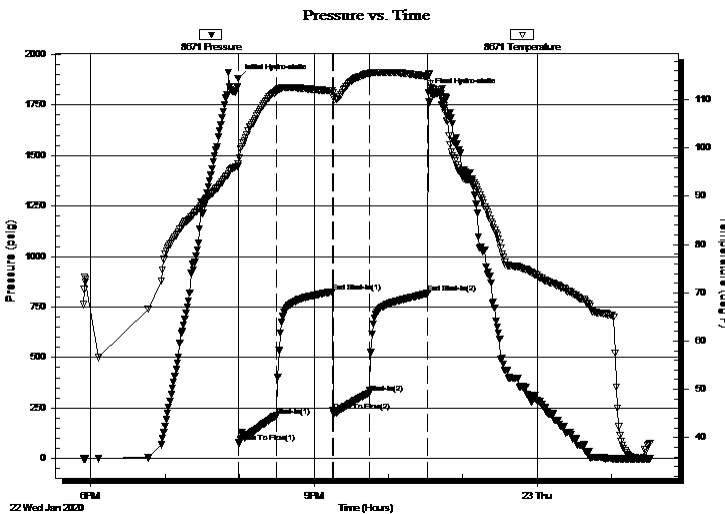
End Time: 01:30:59

Time On Btm: 2020.01.22 @ 19:58:45

Time Off Btm: 2020.01.22 @ 22:32:15

TEST COMMENT: 30 - IF - Blow built to B.o.B. in 2 mins. and built up to 148"
45 - ISI - Return built to B.o.B. in 9 mins. and built to 20"
30 - FF - Blow built to B.o.B. in 4 mins. and built up to 100"
45 - FSI - Return built to B.o.B. in 8 mins and built to 45"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1881.16	96.71	Initial Hydro-static
1	78.86	96.32	Open To Flow (1)
31	212.10	111.81	Shut-In(1)
76	825.64	111.84	End Shut-In(1)
77	236.14	111.45	Open To Flow (2)
106	323.28	115.49	Shut-In(2)
153	817.79	114.84	End Shut-In(2)
154	1809.73	115.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
248.00	GMO - 30%g - 20%m - 50%o	2.38
589.00	GO - 45%g - 55%o	6.04
0.00	2,697' - GIP	0.00

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66344

DST#: 5

ATTN: Marc Downing

Test Start: 2020.01.22 @ 17:54:00

Tool Information

Drill Pipe:	Length: 3740.54 ft	Diameter: 3.25 inches	Volume: 38.38 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: 31.53 ft	Diameter: 2.25 inches	Volume: 0.16 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 38.54 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	19.07 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3773.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	64.00 ft			
Tool Length:	84.00 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			3758.00	
Hydraulic tool	5.00			3763.00	
Packer	5.00			3768.00	20.00 Bottom Of Top Packer
Packer	5.00			3773.00	
Stubb	1.00			3774.00	
Recorder	0.00	8360	Inside	3774.00	
Recorder	0.00	8671	Outside	3774.00	
perforations	27.00			3801.00	
Change Over Sub	1.00			3802.00	
Drill Pipe	31.00			3833.00	
Change Over Sub	1.00			3834.00	
Bullnose	3.00			3837.00	64.00 Bottom Packers & Anchor

Total Tool Length: 84.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co

22-10S-23W Graham,KS

PO Box 1019
Hays Ks 67601

Geist Tillet #1-22

Job Ticket: 66344

DST#: 5

ATTN: Marc Downing

Test Start: 2020.01.22 @ 17:54:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 55.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 6.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 750.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
248.00	GMO - 30%g - 20%m - 50%o	2.376
589.00	GO - 45%g - 55%o	6.044
0.00	2,697' - GIP	0.000

Total Length: 837.00 ft

Total Volume: 8.420 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

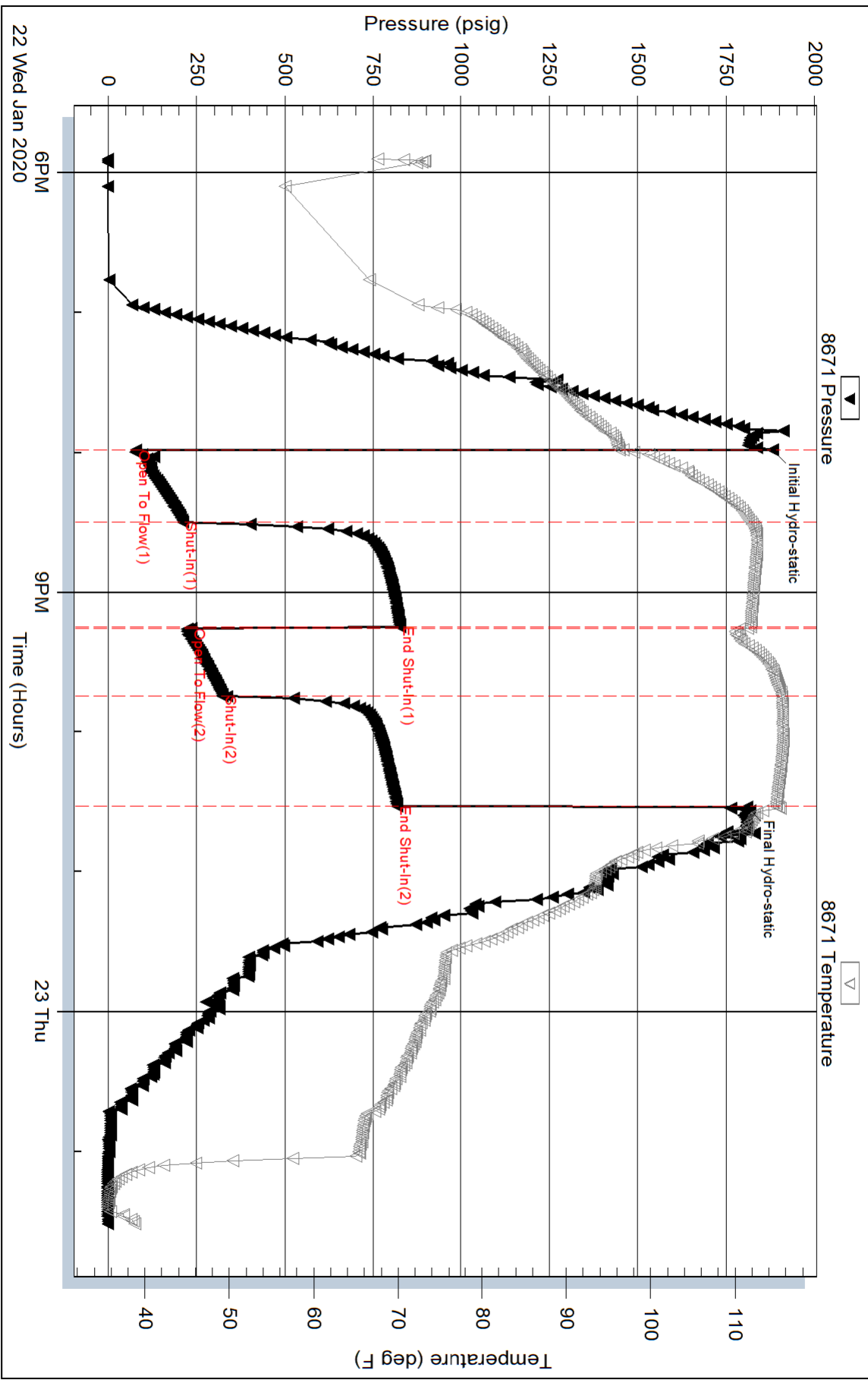
Serial #: 8671

Outside Dow nting Nelson Oil Co

Geist Tilet #1-22

DST Test Number: 5

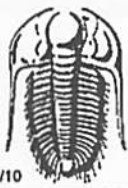
Pressure vs. Time



Trilobe Testing, Inc

Ref. No: 66344

Printed: 2020.01.24 @ 08:13:15



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66340

NO.

Well Name & No. Geist Tillet #1-22 Test No. 1 Date 1-20-2020
 Company DNOCT Elevation 2365 KB 2357 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 22 Twp 10S Rge. 23W Co. Graham State Ks

Interval Tested 3643' - 3677' Zone Tested LKC-A
 Anchor Length 34' Drill Pipe Run 3614.30' Mud Wt. 8.9
 Top Packer Depth 3638' Drill Collars Run 31.53' Vls 49
 Bottom Packer Depth 3643' Wt. Pipe Run 0 WL 7.6
 Total Depth 3677' Chlorides 750 ppm System LCM 13/4 #
 Blow Description IF - Closed tool 3' surface flow built to 3" then died off to 2"
ISI - No Return
FF - weak surface blow built to 1/4" then died back off to weak blow
ESI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
10'	OSM				

Rec Total 10' BHT 97°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1780.49 Test 1200 T-On Location 10:30 am
 (B) First Initial Flow 33.91 Jars _____ T-Started 11:57 am
 (C) First Final Flow 34 Safety Joint _____ T-Open 1:51 pm
 (D) Initial Shut-In 54.47 Circ Sub _____ T-Pulled 3:51 pm
 (E) Second Initial Flow 33.32 Hourly Standby _____ T-Out 5:46 pm
 (F) Second Final Flow 33.76 Mileage 86 R/T 86 Comments _____
 (G) Final Shut-In 41.87 Sampler _____
 (H) Final Hydrostatic 1768.07 Straddle _____ EM Tool _____
 Shale Packer _____ Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Extra Copies _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1286
 Sub Total 1286 MP/DST Disc't _____

Approved By _____ Our Representative Royal Fisher Thanks!
 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66341

NO.

Well Name & No. Geist Tillet #1-22 Test No. 2 Date 1-21-2020
 Company DNOCT Elevation 2365 KB 2357 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 22 Twp 10S Rge. 23W Co. Graham State Ks

Interval Tested 3673'-3711' Zone Tested LHC-C&D
 Anchor Length 38' Drill Pipe Run 3645.99' Mud Wt. 8.9
 Top Packer Depth 3668' Drill Collars Run 31.53' Vis 49
 Bottom Packer Depth 3673' Wt. Pipe Run Ø WL 7.6
 Total Depth 3711 Chlorides 750 ppm System LCM 13/4#

Blow Description IF-Surface blow built up to 4"
ISI-No Return
FF-Surface blow built up to 2 1/4"
FBI-No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>105'</u>	<u>MW</u>		<u>70</u>	<u>30</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 105' BHT 104°F Gravity _____ API RW 626 @ 21 °F Chlorides 35,000 ppm
 (A) Initial Hydrostatic 1794 Test 1200 T-On Location 12:05am
 (B) First Initial Flow 18 Jars _____ T-Started 12:25am
 (C) First Final Flow 38 Safety Joint _____ T-Open 2:21am
 (D) Initial Shut-In 509 Circ Sub _____ T-Pulled 5:21am
 (E) Second Initial Flow 40 Hourly Standby _____ T-Out 7:08am
 (F) Second Final Flow 52 Mileage 86 R/T 86 Comments _____
 (G) Final Shut-In 507 Sampler _____
 (H) Final Hydrostatic 1720 Straddle _____
 Initial Open 45 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 45 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Sub Total 1286 Accessibility _____
 Sub Total 1286 Total 1286 MP/DST Disc't _____

Approved By _____ Our Representative Randy Fisher Thanks!
 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66342

NO.

Well Name & No. Geist Tillet #1-22 Test No. 3 Date 1-21-2020
 Company DNOCT Elevation 2315 KB 2357 GL
 Address PO Box 1019 Hays ks 67601
 Co. Rep / Geo. Marc Dunning Rig Discovery #4
 Location: Sec. 22 Twp 10S Rge. 23W Co. Graham State Ks

Interval Tested 3711'-3733' Zone Tested LKC-E
 Anchor Length 22' Drill Pipe Run 3477.70' Mud Wt. 9.2
 Top Packer Depth 3706' Drill Collars Run 31.53 Vis 56
 Bottom Packer Depth 3711' Wt. Pipe Run 0 WL 6.8
 Total Depth 3733' Chlorides 750 ppm System LCM 2#

Blow Description IF - Surface blow built to 1" slowly
ISI - No Return
EF - Blow started as a faint blow & built to a weak blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>1'</u>	Feet of <u>0.5m</u>				
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 1' BHT 97°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1812 Test 1200 T-On Location 2:05pm
 (B) First Initial Flow 11 Jars _____ T-Started 2:35pm
 (C) First Final Flow 12 Safety Joint _____ T-Open 4:20pm
 (D) Initial Shut-In 23 Circ Sub _____ T-Pulled 6:20pm
 (E) Second Initial Flow 11 Hourly Standby _____ T-Out 8:00pm
 (F) Second Final Flow 13 Mileage 86 R/T 86 Comments _____
 (G) Final Shut-In 16 Sampler _____
 (H) Final Hydrostatic 1767 Straddle _____
 Shale Packer _____ EM Tool _____
 Extra Packer _____ Ruined Shale Packer _____
 Extra Recorder _____ Ruined Packer _____
 Day Standby _____ Sub Total 0
 Accessibility _____ Total 1286
 Sub Total 1286 MP/DST Disc't _____

Approved By _____ Our Representative Royal Fresh Thanks!
 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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66343

NO.

Well Name & No. Geist Tillet #1-22 Test No. 4 Date 1-22-2020
 Company DINOCT Elevation 2365 KB 2357 GL
 Address PO Box 1019 Hays ks 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #4
 Location: Sec. 22 Twp 10S Rge. 23W Co. Graham State ks

Interval Tested 3712'-3750' Zone Tested LKC-E4F
 Anchor Length 38' Drill Pipe Run 3677.70' Mud Wt. 9.2
 Top Packer Depth 3707' Drill Collars Run 31.53' Vls 56
 Bottom Packer Depth 3712' Wt. Pipe Run Ø WL 6.8
 Total Depth 3750' Chlorides 750 ppm System LCM 2#

Blow Description IF-Surface blow built to B.O.B in 10mins & built to 18"
ISI-Return started 5mins in & built to 34"
FF-Surface blow built to B.O.B in 20mins & built to 12"
EST-Return started 5mins in & built to 1"

Rec	Feet of	%gas	%oil	%water	%mud
<u>124'</u>	<u>mw</u>		<u>80</u>	<u>20</u>	
<u>78'</u>	<u>OCWm</u>	<u>15</u>	<u>35</u>	<u>50</u>	
<u>15'</u>	<u>Free Oil</u>	<u>100</u>			
	<u>124'-GTP</u>	<u>100</u>			

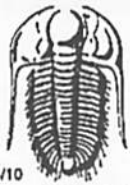
Rec Total 217' BHT 107F Gravity 35@100 API RW 273@360 F Chlorides 53,000 ppm

(A) Initial Hydrostatic 1817 Test 1200 T-On Location 1:35am
 (B) First Initial Flow 38 Jars _____ T-Started 2:00am
 (C) First Final Flow 77 Safety Joint _____ T-Open 4:00am
 (D) Initial Shut-In 393 Circ Sub _____ T-Pulled 6:30am
 (E) Second Initial Flow 83 Hourly Standby _____ T-Out 8:42am
 (F) Second Final Flow 116 Mileage 816 BIT 86 Comments _____
 (G) Final Shut-In 372 Sampler _____
 (H) Final Hydrostatic 1781 Straddle _____

Initial Open 30 Shale Packer _____ EM Tool _____
 Initial Shut-In 45 Extra Packer _____ Ruined Shale Packer _____
 Final Flow 30 Extra Recorder _____ Ruined Packer _____
 Final Shut-In 45 Day Standby _____ Extra Copies _____
 Sub Total 0 Accessibility _____ Total 1286
 Sub Total 1286 MP/DST Disc't _____

Approved By _____ Our Representative _____

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.



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket 66344

NO.

Well Name & No. Geist Tillet #1-22 Test No. 5 Date 1-22-2020
 Company DNOCET Elevation 2365 KB 2357 GL
 Address PO Box 1019 Hays Ks 67601
 Co. Rep / Geo. Marc Dawning Rig Discovery #4
 Location: Sec. 22 Twp 10S Rge. 23 W Co. Graham State Ks

Interval Tested 3773' - 3837' Zone Tested UKC-H-J
 Anchor Length 64' Drill Pipe Run 3740.59' Mud Wt. 9.1
 Top Packer Depth 3768' Drill Collars Run 31.53' Vis 55
 Bottom Packer Depth 3773' Wt. Pipe Run Ø WL 6.8
 Total Depth 3837' Chlorides 750 ppm System LCM 2#

Blow Description IF-Blow built to B.o.B in 2 mins, & built to 48"
ISI-Return built to B.o.B in 9 mins & built to 20"
FF-Blow built to B.o.B in 4 mins, & built up to 100"
ESI-Return built to B.o.B in 8 mins & built up to 45"

Rec	Feet of	%gas	%oil	%water	%mud
<u>248'</u>	<u>GMO</u>	<u>30</u>	<u>50</u>	<u>20</u>	
<u>589'</u>	<u>GO</u>	<u>45</u>	<u>55</u>		
	<u>2,697'-GIP</u>	<u>100</u>			

Rec Total 837' BHT 115°F Gravity 37@60° API RW @ °F Chlorides ppm

- (A) Initial Hydrostatic 1881
- (B) First Initial Flow 79
- (C) First Final Flow 212
- (D) Initial Shut-In 826
- (E) Second Initial Flow 236
- (F) Second Final Flow 323
- (G) Final Shut-In 818
- (H) Final Hydrostatic 1810

- Initial Open 30
- Initial Shut-In 45
- Final Flow 30
- Final Shut-In 45

- Test 1200
- Jars
- Safety Joint
- Circ Sub
- Hourly Standby
- Mileage 86 B/T 86+86
- Sampler
- Straddle
- Shale Packer
- Extra Packer
- Extra Recorder
- Day Standby
- Accessibility
- Sub Total 1372

- T-On Location 5:15 pm
- T-Started 5:54 pm
- T-Open 7:59 pm
- T-Pulled 10:29 pm
- T-Out 1:31 am
- Comments picked up tool 1:23-2020 from 12:30pm to 1:00 pm
- EM Tool
- Ruined Shale Packer
- Ruined Packer
- Extra Copies
- Sub Total 0
- Total 1372
- MP/DST Disc't

Approved By _____ Our Representative Royal Fisher Thanks!

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.

JOB LOG

SWIFT Services, Inc.

DATE 1-16-2020 PAGE NO. 2

CUSTOMER Downing-Nelson WELL NO. 1-22 LEASE Grest/Tillet JOB TYPE Shallow Surf. TICKET NO. 32739

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	2100							On location
								8 5/8 RTD - 221 set @ 221
	2310							Break circ on Bottom
	2320							Pump wtr spacer
	2325	4 1/4	35			200		Stamp CMT - 150 sls @ 14.7 ppm
	2345	4	12.75			400		Disp Shot in Circulated - 25 sls amt to pit
								JOB Complete
								Thanks DAVID, ZACH & Kirby

SWIFT Services, Inc.

DATE 1-24-2020 PAGE NO. 3

CUSTOMER Dawning - Nelson WELL NO. 1-22 LEASE 601ST - Tillet Unit JOB TYPE 2 Stage
 TICKET NO. 32737

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0000							On location
								Csg - 5 1/2 x 14 # Rtn - 3955 Set @ 3952.73 Shoe - 42.38 Back - 3910.35 DV TOOL - 1878.77 # 50 Centricizers 1,3,5,7,9,11,13 Basket - 50
	1/5							START Running Csg
	330							Break Circ on Bottom
	400	5.5	12			300		START Running Csg pump mut
		5.5	20			300		pump kcal spacer
		5.5	35			300		pump CMT - 150 sks @ 15.5 MP
								Drop plug Wash PAC
	4/5	6	0			200		Start Disp
		5	95.5			800/1500		land plug - lift psi - 800 # land psi - 1500 #
								Release psi - Dry
		2.5	8			0		Drop D.V opening bomb
		2.5	4			0		plug Rat hole - 30 sks
	500					300		plug mouse hole - 15 sks
		4.5	0					open D.V TOOL
		4.5	91			500		Start CMT - 165 sks @ 11.2 MP
	545	4.5	98			250		Raise wgt to 14 MP for 25 sks
								End CMT
		4.5	0			200		Drop plug
								Start Disp
	600	4.5	20			400		Circ CMT - 45 sks to pit
		4.5	45			600/1500		land plug - lift psi - 600 # land psi - 1500 #
								Release psi - Dry
								JOB Complete
								Thanks
								David Zand to Rocky

Marc A. Downing		Geologic Report	
Consulting Petroleum Geologist		Drilling Time and Sample Log	
Operator Downing-Nelson Oil Co., Inc.		Elevation	
Lease Geist-Tillet Unit No. 1-22		KB 2362	
API # 15-065-24179-0000		DF 2360	
Field Wildcat		GL 2354	
Location 2567' FNL & 2130' FEL		Casing Record	
Sec. 22 Twp. 10s Rge. 23w		Surface 8 5/8" @ 232'	
County Graham State Kansas		Production 5 1/2" @ 3954'	
Formation		Electrical Surveys	
Sample tops		CNDL, DIL	
Log Tops		MEL, Sonic	
Datum		Struct Comp	
Top Anhydrite 1903		1896 +466 +5	
Base Anhydrite 1938		1937 +425 NA	
Topeka 3398		3399 -1037 NA	
Heebner 3617		3618 -1256 +6	
Toronto 3638		3638 -1276 +7	
LKC 3654		3656 -1294 +3	
BKC 3880		3882 -1520 FL	
Total Depth 3955		3957 -1595	
Reference Well For Structural Comparison		NCRA - Conness 'A' #1	
NW NE SE Sec. 22-10s-23w			

Drilling Contractor	Discovery Drilling, Rig #4
Commenced	1-16-20 Completed 1-23-20
Samples Saved From	3400 To RTD
Drilling Time Kept From	3250 To RTD
Samples Examined From	3400 To RTD
Geological Supervision From	3400 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

ROCK TYPES
 shale, red
 shale, gry
 Carbon Sh
 shale, gry
 shale, gm

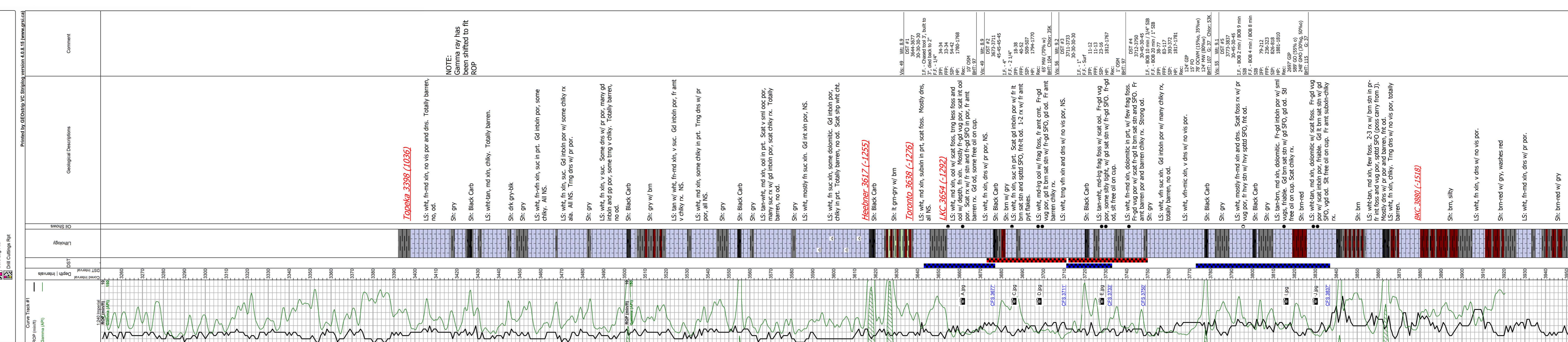
ACCESSORIES

OTHER SYMBOLS

OIL SHOWS
 Vertical Log File
 Horizontal Log File
 Core Log File
 Drill Cuttings Rpt

MISC
 Daily Report
 Digital Photo
 Document
 Folder
 Link

DST
 DST Int
 DST alt
 Core
 Tail pipe



NOTE: Gamma ray has been shifted to fit ROP

RTD: 3955 (-1593)