

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
--	---

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	VELMA UNIT 1-14
Doc ID	1579553

All Electric Logs Run

Sonic
Micro
Dual Induction
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	VELMA UNIT 1-14
Doc ID	1579553

Tops

Name	Top	Datum
Top Anhydrite	1748'	+606
Base Anhydrite	1801'	+553
Topeka	3393'	-1039
Heebner	3610'	-1256
Toronto	3636'	-1282
LKC	3651'	-1297
BKC	3879'	-1525
Marmaton	3946'	-1592
Arbuckle	3992'	-1638



# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

785-483-1071

Home Office P.O. Box 32 Russell, KS 67665

No. 2262

785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
6-5-21	14	12	21	Trego	KS		7:00 PM
				Location Ellis N to Curve 3W 400RD #21 Winto			

Lease	Well No.	Owner	
Velma Unit	1-14	To Quality Oilwell Cementing, Inc.	
Contractor		You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Type Job		Charge To	
Surface		Downing/Nelson	
Hole Size	T.D.	Street	
12 1/4	224		
Csg.	Depth	City	
8 5/8	223	State	
Tbg. Size	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
		Cement Amount Ordered 150 80/120 3/CL 2/CEL	
Cement Left in Csg.	Shoe Joint		
10'			
Meas Line	Displace		
	13' 2 3/4		

**EQUIPMENT**

Pumptrk	No.	Cementer	Common
5		Helper	120
		Driver	Poz. Mix
		Craig	30
Bulktrk	No.	Driver	Gel.
		Driver	3
Bulktrk	No.	Driver	Calcium
15		Doug	6

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal
Centralizers	Kot-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
8 5/8 on bottom. Est. Circulation	Sand
Mix 150 SK & Displace.	Handling 159
	Mileage

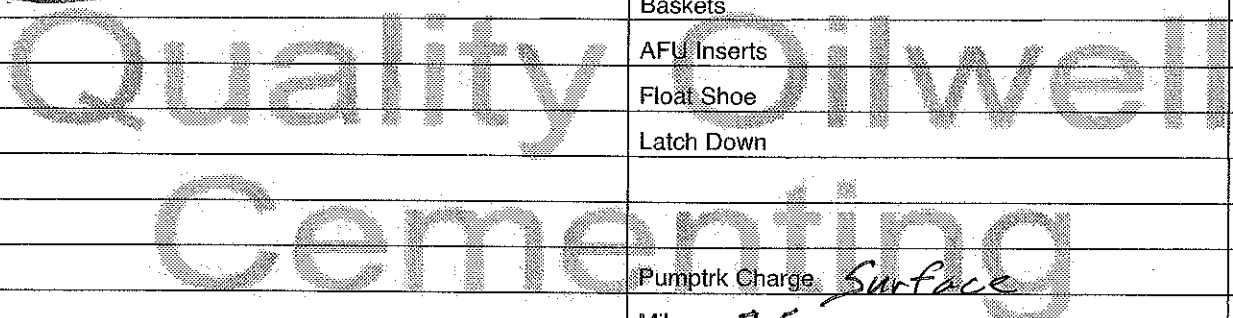
**FLOAT EQUIPMENT**

Guide Shoe
Centralizer
Baskets
AFU Inserts
Float Shoe
Latch Down
Pumptrk Charge
Surface
Mileage
25

Signature	Tax
	Discount
	Total Charge

*[Handwritten Signature]*

Thanks  
*[Handwritten Signature]*



# SWIFT Services, Inc.

DATE 6-13-21 PAGE NO.

OWNER Winnipeg-Nelson WELL NO. 1-14 LEASE VELMA Unit JOB TYPE LONG STRUNG TICKET NO. 35750

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	<u>2000</u>							<u>ON LOCATION</u>
								<u>5 1/2 x 14 #</u>
								<u>RTD - 4118 LTD - 4119</u>
								<u>SHOE - 42</u>
								<u>CENTRALIZERS - 1, 3, 5, 7, 9, 57</u>
								<u>BASKET - 57</u>
								<u>PORT COLLAR - # 58 @ 1747.80</u>
	<u>215</u>							<u>START Running Csg</u>
	<u>430</u>							<u>BREAK Circ on Bottom</u>
		<u>2.5</u>	<u>8</u>			<u>0</u>		<u>Plug RAT Hole - 30 SX</u>
		<u>2.5</u>	<u>4</u>			<u>0</u>		<u>Plug Mouse Hole - 20 SX</u>
		<u>6</u>	<u>12</u>			<u>400</u>		<u>pump MUDFLUSH - 500 GAL</u>
		<u>6</u>	<u>20</u>			<u>400</u>		<u>pump KCL SPACER</u>
		<u>5</u>	<u>36</u>			<u>300</u>		<u>pump CMT - 150 SX EA-2 @ 15.5 PPG</u>
								<u>Drop plug - WASH PCL</u>
	<u>530</u>	<u>6.5</u>	<u>0</u>			<u>300</u>		<u>START Disp</u>
	<u>545</u>	<u>5.5</u>	<u>99</u>			<u>900</u>		<u>LAND plug c 1500 psi</u>
								<u>RELEASE psi - DMY</u>
								<u>JOB Complete</u>
								<u>THANKS</u>
								<u>Davis, Zach &amp; Wayne</u>

# QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-1071  
Cell 785-324-1041

Home Office P.O. Box 32 Russell, KS 67665

No. 2340

Date	7-26-21	Sec.	Twp.	Range	County	State	On Location	Finish
					REGO	Ks		2:30pm

Lease *Velma Unit* Location *Ellis 3N 3W 1W*

Lease	<i>Velma Unit</i>	Well No.	<i>#1-14</i>	Owner	To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.
Contractor	<i>CB</i>			Charge To	<i>Downing - Nelson</i>
Type Job	<i>PORT collar</i>			Street	
Hole Size	<i>7 7/8</i>	T.D.		City	State
Csg.	<i>5 1/2</i>	Depth		The above was done to satisfaction and supervision of owner agent or contractor.	
Tbg. Size	<i>2 3/8</i>	Depth		Cement Amount Ordered	<i>390.00 QMDC</i>
Tool		Shoe Joint		<i>74 Gal</i> <i>to #1 flo seal</i>	
Cement Left in Csg.				Common	<i>390.00 / 20 QMDC</i>
Meas Line		Displace		Poz. Mix	

**EQUIPMENT**

Pumptrk	<i>17</i>	No.	Cementer	<i>Bill</i>	
			Helper		
Bulktrk	<i>18</i>	No.	Driver	<i>Paul</i>	
			Driver		
Bulktrk	<i>19</i>	No.	Driver	<i>David</i>	
			Driver		

**JOB SERVICES & REMARKS**

Remarks:	Hulls
Rat Hole	Salt
Mouse Hole	Flowseal <i>100 #</i>
Centralizers	Kol-Seal
Baskets	Mud CLR 48
D/V or Port Collar	CFL-117 or CD110 CAF 38
<i>P.C. E174</i>	Sand
<i>mix 24 gal</i>	Handling <i>398</i>
<i>Cent of 390 cement</i>	Mileage
<i>Partial Returns</i>	
<i>Close TOB PRESS TO 500 #</i>	
<i>RON SJTS Wash Clean</i>	

**FLOAT EQUIPMENT**

Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	

*Thanks*

Pumptrk Charge	<i>port collar Job</i>
Mileage	<i>23</i>

Signature	<i>Brian Kinton</i>	Tax	
		Discount	
		Total Charge	

*Thanks*





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601-1019

ATTN: Marc Downing

**Velma Unit #1-14**

**14-12-21w Ellis,KS**

Start Date: 2021.06.09 @ 13:24:01

End Date: 2021.06.09 @ 22:04:47

Job Ticket #: 61767                      DST #: 1

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

Printed: 2021.06.15 @ 13:50:53



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61767

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2021.06.09 @ 13:24:01

## GENERAL INFORMATION:

Formation: **LKC I - J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 17:40:32

Time Test Ended: 22:04:47

Test Type: Conventional Bottom Hole (Initial)

Tester: Kevin Webster

Unit No: 72

**Interval: 3795.00 ft (KB) To 3834.00 ft (KB) (TVD)**

Reference Elevations: 2356.00 ft (KB)

Total Depth: 3834.00 ft (KB) (TVD)

2348.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6752 Outside**

Press@RunDepth: 29.93 psig @ 3796.00 ft (KB)

Capacity: psig

Start Date: 2021.06.09

End Date:

2021.06.09

Last Calib.:

2021.06.09

Start Time: 13:24:01

End Time:

22:04:47

Time On Btm:

2021.06.09 @ 17:40:02

Time Off Btm:

2021.06.09 @ 19:41:02

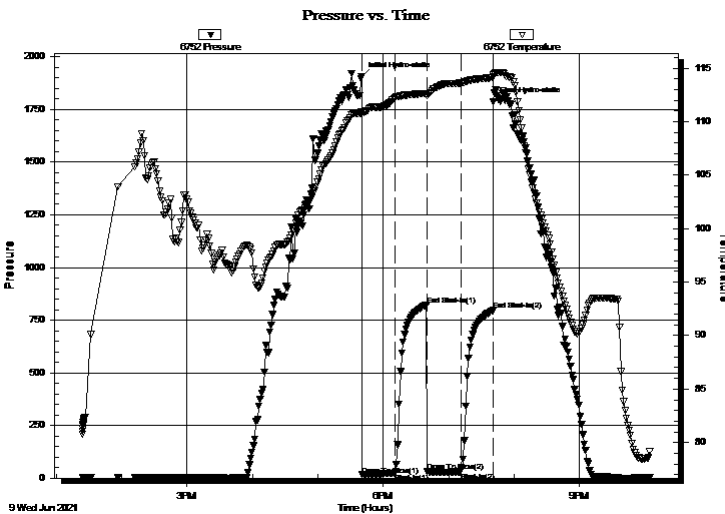
TEST COMMENT: IF-Weak surface blow , died in 9 min

IS- No blow back

FF- No blow

FS- No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1904.25	110.92	Initial Hydro-static
1	15.88	110.82	Open To Flow (1)
31	24.37	112.29	Shut-In(1)
60	822.33	112.66	End Shut-In(1)
61	31.39	112.47	Open To Flow (2)
91	29.93	113.62	Shut-In(2)
121	795.82	114.17	End Shut-In(2)
121	1785.47	114.44	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
40.00	VSOCM 1%oil 99% mud	0.28

## Gas Rates

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61767

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2021.06.09 @ 13:24:01

## Tool Information

Drill Pipe:	Length: 3755.00 ft	Diameter: 3.75 inches	Volume: 51.30 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 51.45 bbl</u>	Tool Chased	5.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial	48000.00 lb
Depth to Top Packer:	3795.00 ft			Final	49000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	39.00 ft				
Tool Length:	59.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			
Tool Comments:					

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3776.00	
Shut In Tool	5.00			3781.00	
Hydraulic tool	5.00		Fluid	3786.00	
Packer	5.00			3791.00	20.00 Bottom Of Top Packer
Packer	4.00			3795.00	
Stubb	1.00			3796.00	
Recorder	0.00	8365	Inside	3796.00	
Recorder	0.00	6752	Outside	3796.00	
Perforations	35.00			3831.00	
Bullnose	3.00			3834.00	39.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>59.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61767

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2021.06.09 @ 13:24:01

### 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: bbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 4000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
40.00	VSOCM 1%oil 99% mud	0.284

Total Length: 40.00 ft      Total Volume: 0.284 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

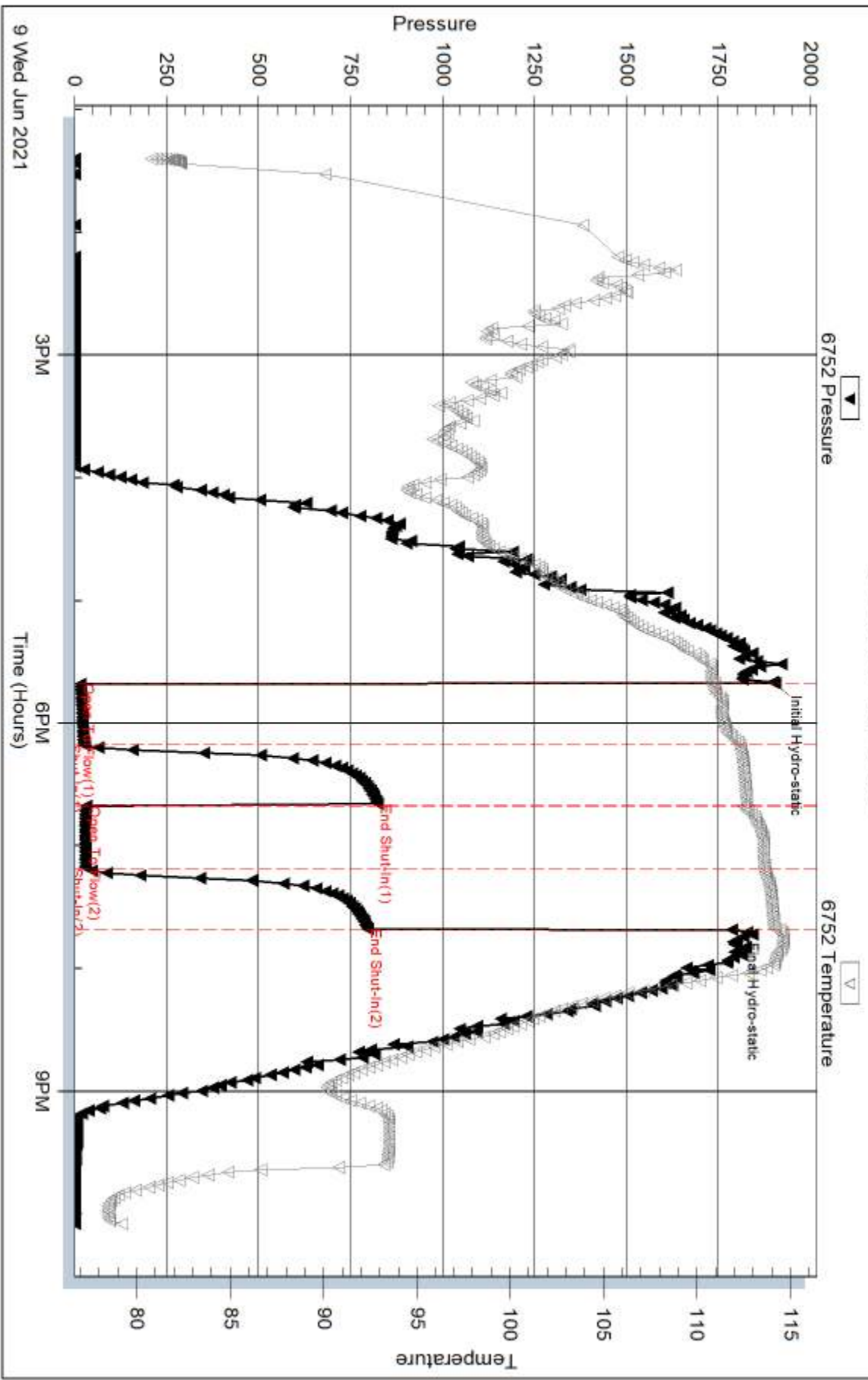
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3/4# lcm

### Pressure vs. Time



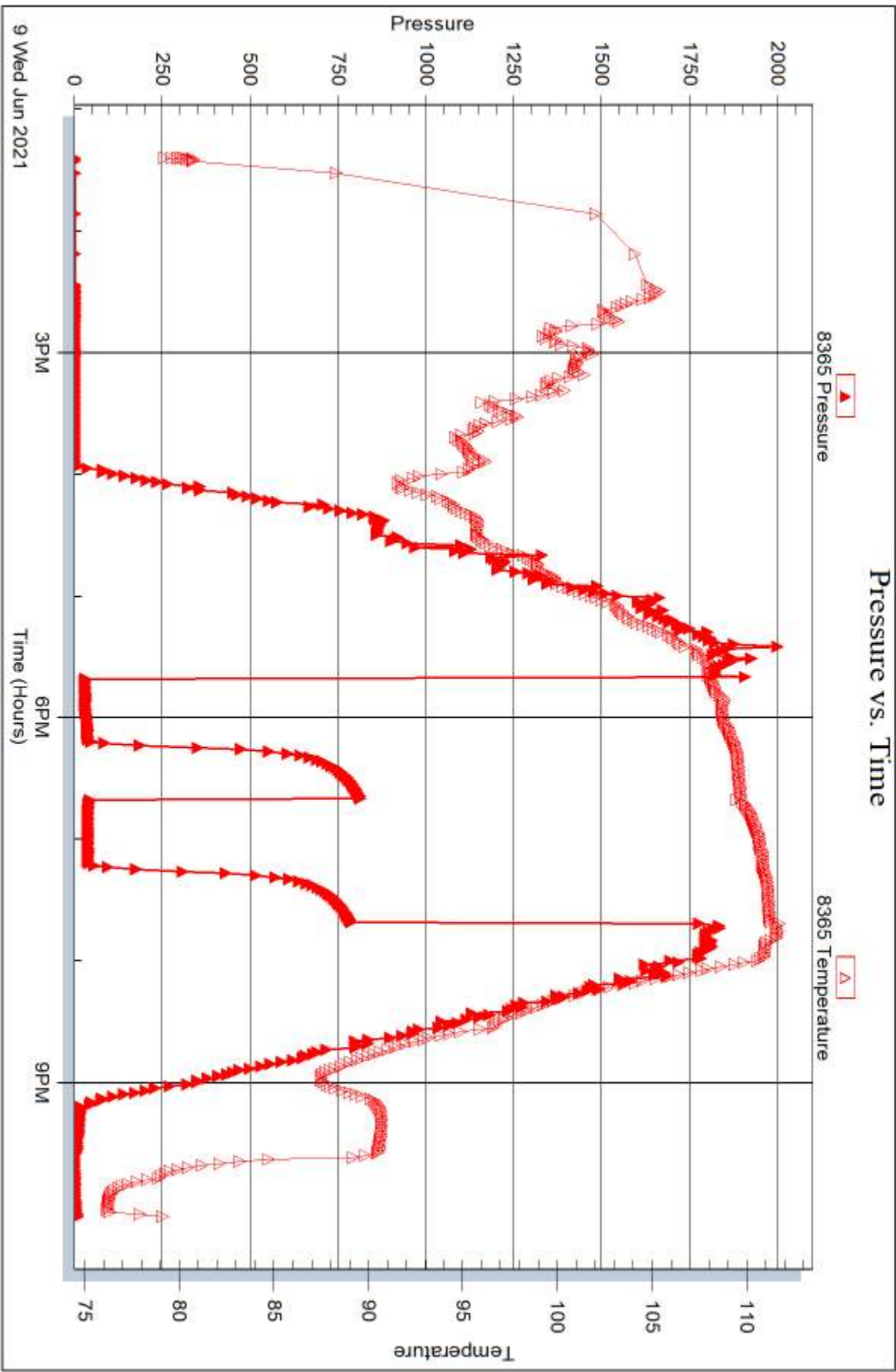
Serial #: 8365

Inside

Dow nrg-Nelson Oil Co

Veina Unit #1-14

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 61767

Printed: 2021.06.15 @ 13:50:54



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601-1019

ATTN: Marc Downing

**Velma Unit #1-14**

**14-12-21w Ellis,KS**

Start Date: 2021.06.10 @ 15:19:00

End Date: 2021.06.10 @ 22:26:02

Job Ticket #: 61768                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.06.15 @ 13:55:22





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61768

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2021.06.10 @ 15:19:00

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:02:32

Time Test Ended: 22:26:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Kevin Webster

Unit No: 72

**Interval: 3998.00 ft (KB) To 4024.00 ft (KB) (TVD)**

Reference Elevations: 2356.00 ft (KB)

Total Depth: 4024.00 ft (KB) (TVD)

2348.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 24.67 psig @ 3999.00 ft (KB)

Capacity: psig

Start Date: 2021.06.10 End Date: 2021.06.10

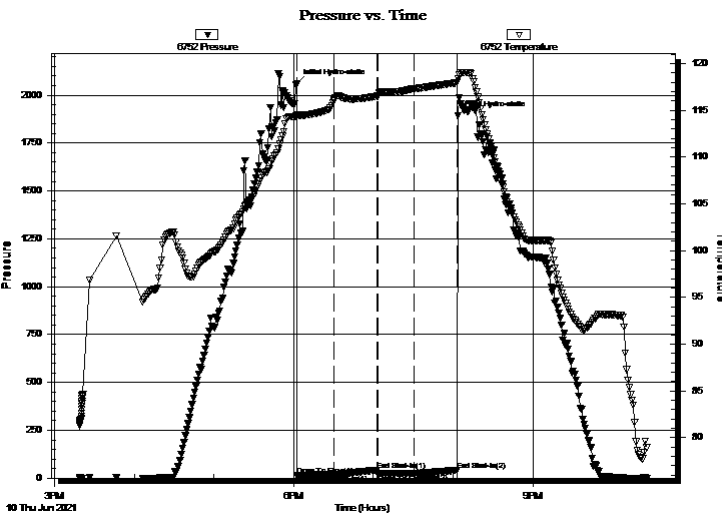
Last Calib.: 2021.06.10

Start Time: 15:19:01 End Time: 22:26:02

Time On Btm: 2021.06.10 @ 18:02:17

Time Off Btm: 2021.06.10 @ 20:03:32

**TEST COMMENT:** IF-Weak surface blow died in 17 min  
IS- No blow back  
FF-No blow , flushed tool, weak surface blow died in 4 min  
FS-No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2058.61	114.54	Initial Hydro-static
1	14.98	114.37	Open To Flow (1)
28	18.60	116.01	Shut-In(1)
61	42.52	116.50	End Shut-In(1)
61	19.87	116.51	Open To Flow (2)
88	24.67	117.33	Shut-In(2)
121	40.96	117.97	End Shut-In(2)
122	1892.48	118.33	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
10.00	vsocm 99% mud 1% oil	0.05

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61768

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2021.06.10 @ 15:19:00

## Tool Information

Drill Pipe:	Length: 3976.00 ft	Diameter: 3.75 inches	Volume: 54.31 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 54.46 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	27.00 ft			String Weight: Initial	49000.00 lb
Depth to Top Packer:	3998.00 ft			Final	49000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	26.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	1	Diameter: 6.75 inches			

Tool Comments:

## Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3984.00	
Hydraulic tool	5.00			3989.00	
Packer	5.00			3994.00	19.00 Bottom Of Top Packer
Packer	4.00			3998.00	
Stubb	1.00			3999.00	
Recorder	0.00	8365	Inside	3999.00	
Recorder	0.00	6752	Inside	3999.00	
Perforations	22.00			4021.00	
Bullnose	3.00			4024.00	26.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61768

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2021.06.10 @ 15:19:00

### Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length: ft

Water Salinity: ppm

Viscosity: 51.00 sec/qt

Cushion Volume: bbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 5000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	vsocm 99% mud 1% oil	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

Num Fluid Samples: 0

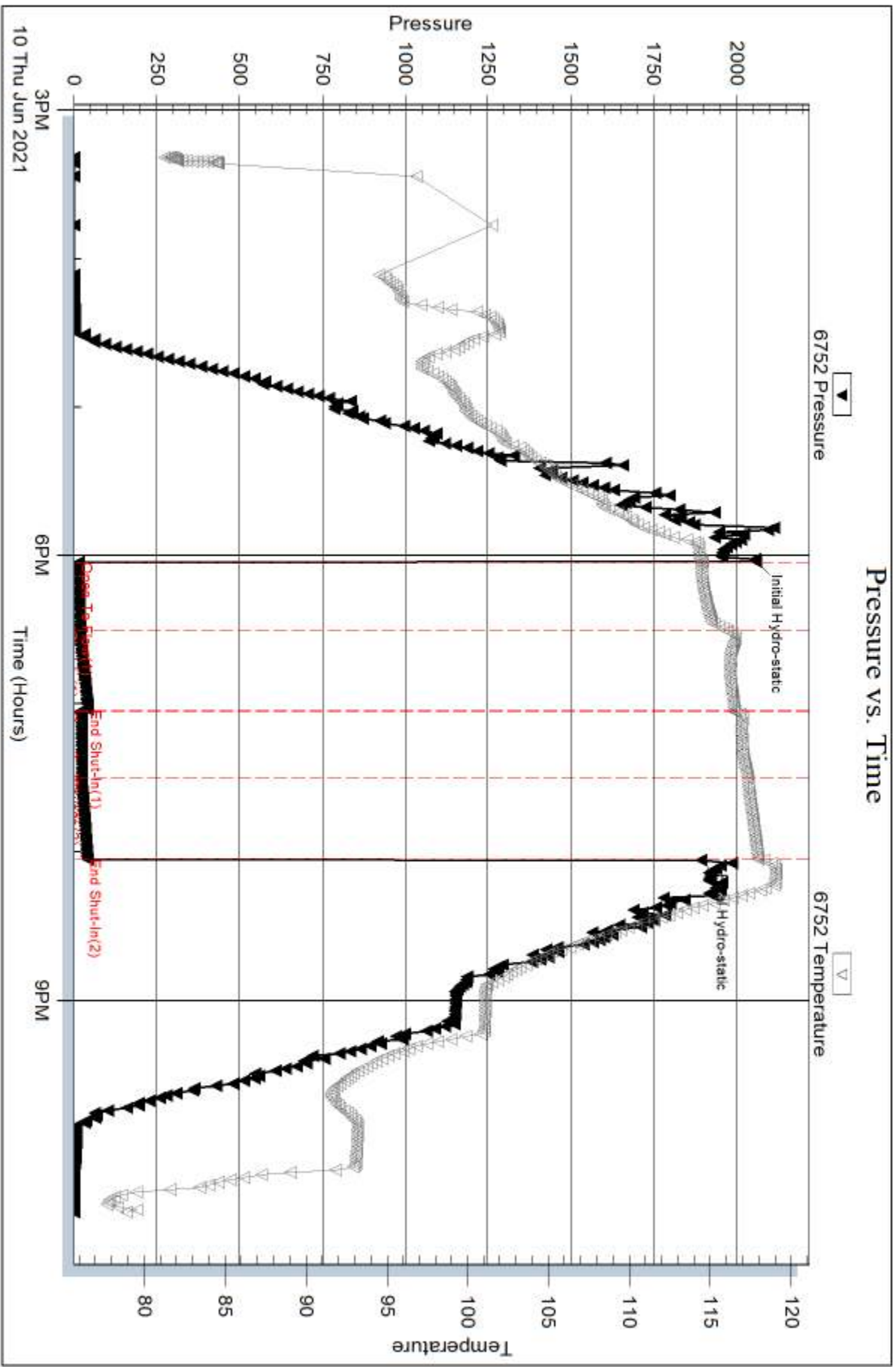
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1/2# LCM



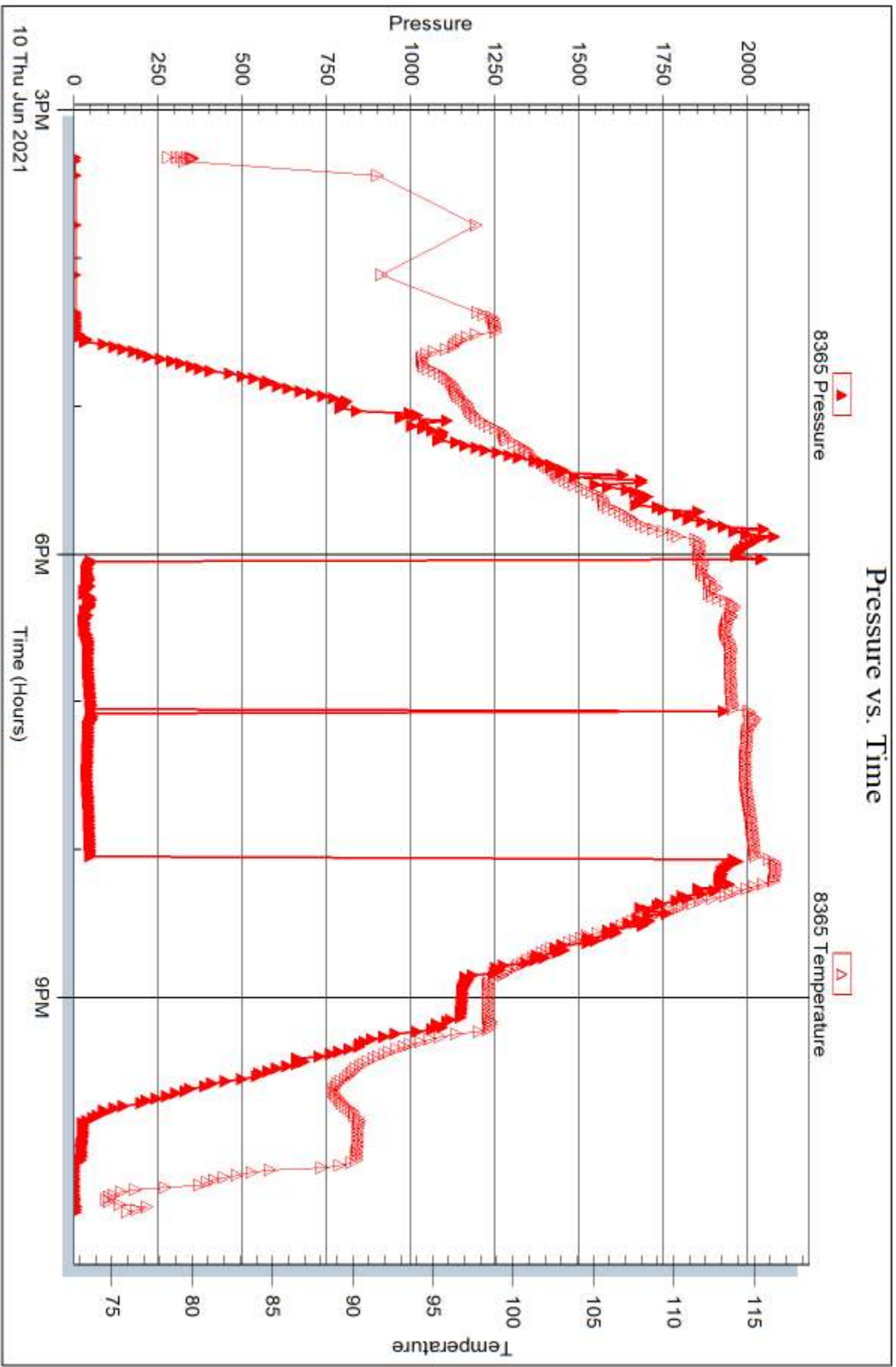
Serial #: 8365

Inside

Dow n/g-Nelson Oil Co

Velma Unit #1-14

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 61768

Printed: 2021.06.15 @ 13:55:26



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601-1019

ATTN: Marc Downing

### **Velma Unit #1-14**

### **14-12-21w Ellis,KS**

Start Date: 2021.06.11 @ 06:22:01

End Date: 2021.06.11 @ 15:22:47

Job Ticket #: 61769                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2021.06.15 @ 13:52:58



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61769

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2021.06.11 @ 06:22:01

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:17:47

Time Test Ended: 15:22:47

Test Type: Conventional Bottom Hole (Reset)

Tester: Kevin Webster

Unit No: 72

**Interval: 4023.00 ft (KB) To 4049.00 ft (KB) (TVD)**

Reference Elevations: 2356.00 ft (KB)

Total Depth: 3834.00 ft (KB) (TVD)

2348.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 42.94 psig @ 4024.00 ft (KB)

Capacity: psig

Start Date: 2021.06.11

End Date: 2021.06.11

Last Calib.: 2021.06.11

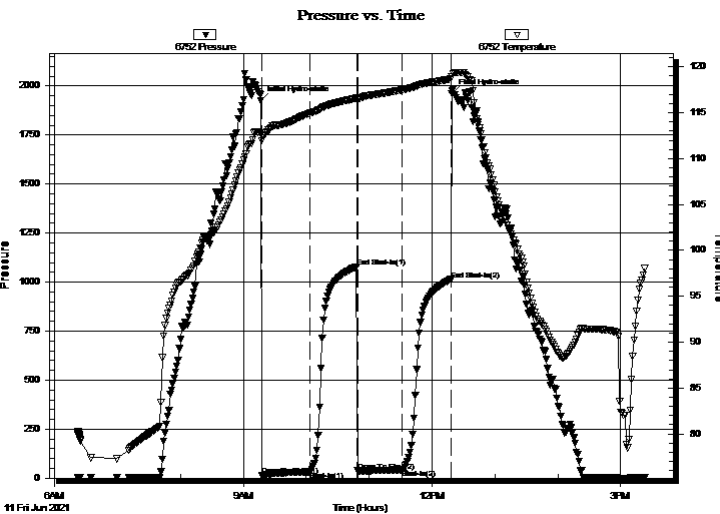
Start Time: 06:22:01

End Time: 15:22:47

Time On Btm: 2021.06.11 @ 09:16:47

Time Off Btm: 2021.06.11 @ 12:18:47

**TEST COMMENT:** IF-WSB built to 3.5"  
ISI No blow back  
FF-No blow , flushed tool, weak surface blow built to 3.5"  
FSI No blow back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1926.51	112.77	Initial Hydro-static
1	14.51	111.96	Open To Flow (1)
47	32.66	114.98	Shut-In(1)
92	1079.15	116.57	End Shut-In(1)
93	34.43	116.48	Open To Flow (2)
135	42.94	117.50	Shut-In(2)
181	1013.15	118.68	End Shut-In(2)
182	1959.80	118.91	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
15.00	100% oil	0.07
60.00	mud cut oil 55% oil 45% mud	0.69

\* Recovery from multiple tests

## Gas Rates

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







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61769

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2021.06.11 @ 06:22:01

## Tool Information

Drill Pipe:	Length: 4006.00 ft	Diameter: 3.75 inches	Volume: 54.72 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	52000.00 lb
			<u>Total Volume: 54.87 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	32.00 ft			String Weight: Initial	49000.00 lb
Depth to Top Packer:	4023.00 ft			Final	50000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	26.00 ft				
Tool Length:	45.00 ft				
Number of Packers:	1	Diameter:	inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Hydraulic tool	5.00			4009.00	
Shut In Tool	5.00			4014.00	
Packer	5.00			4019.00	19.00 Bottom Of Top Packer
Packer	4.00			4023.00	
Stubb	1.00			4024.00	
Recorder	0.00	8365	Inside	4024.00	
Recorder	0.00	6752	Inside	4024.00	
Perforations	22.00			4046.00	
Bullnose	3.00			4049.00	26.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>45.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61769

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2021.06.11 @ 06:22:01

### 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: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.77 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	100% oil	0.074
60.00	mud cut oil 55% oil 45% mud	0.688

Total Length: 75.00 ft

Total Volume: 0.762 bbl

Num Fluid Samples: 0

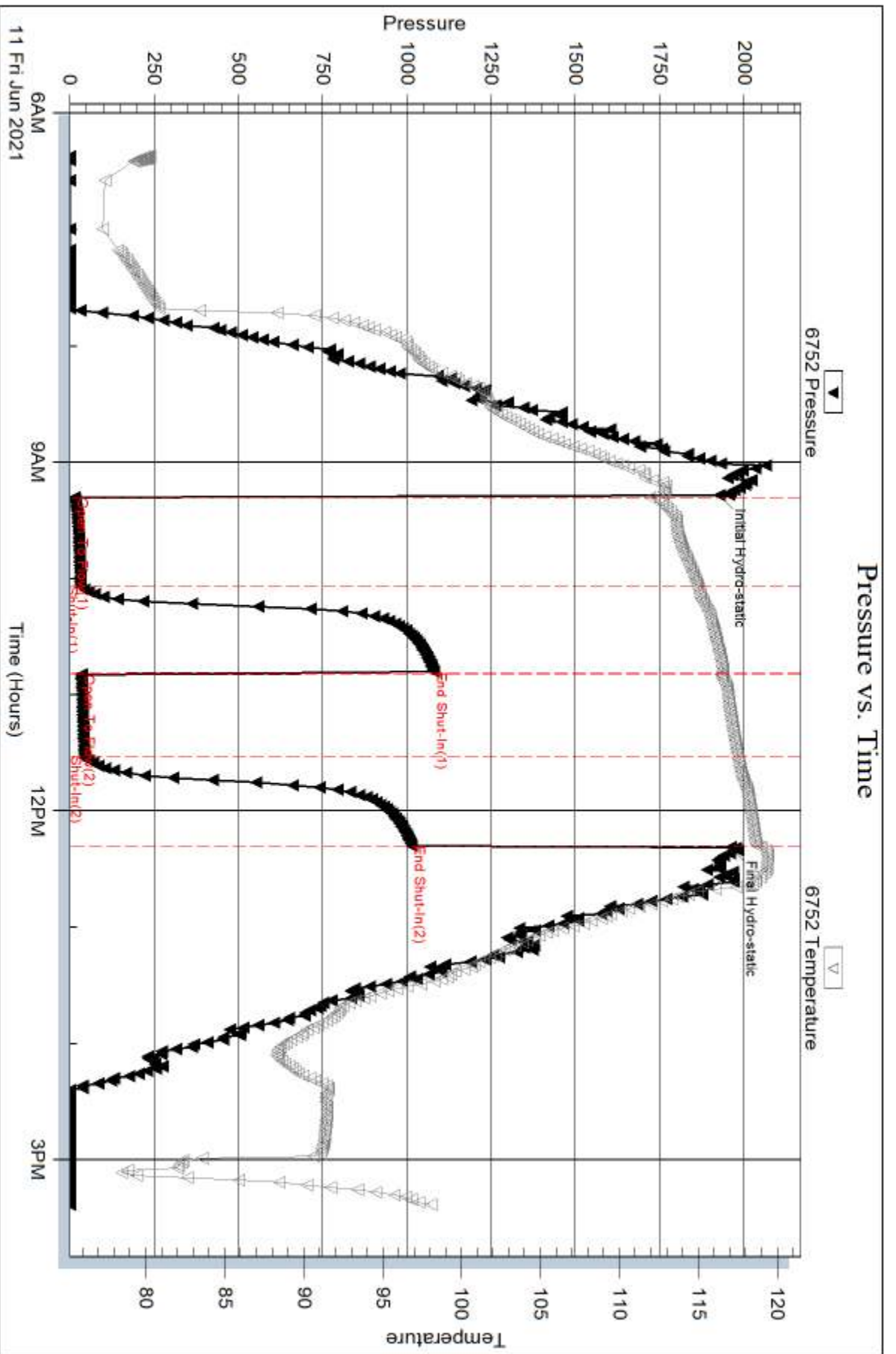
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 1/2# LCM



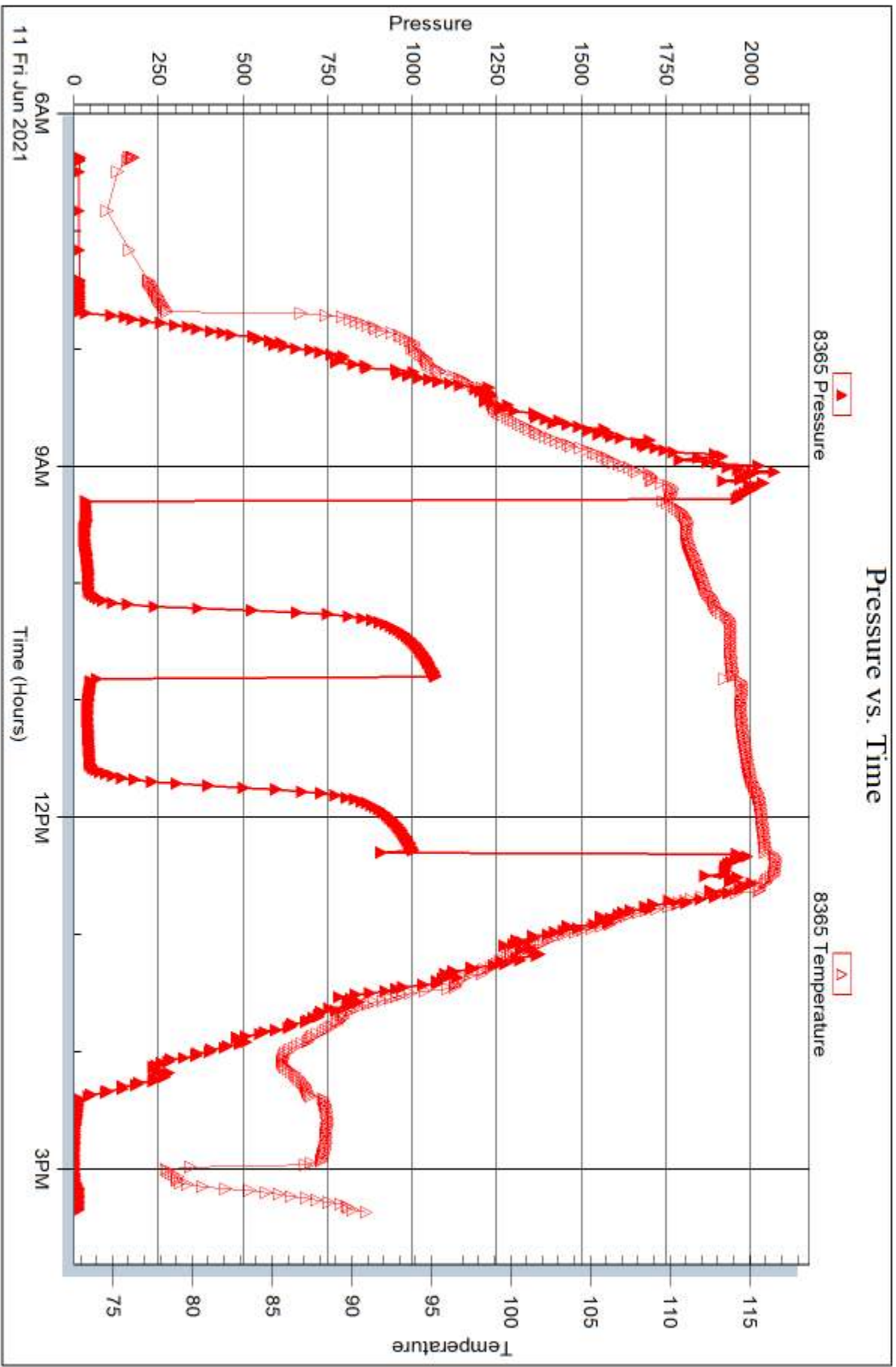
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Inside

Dow n/g-Nelson Oil Co

Velma Unit #1-14

DST Test Number: 3





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601-1019

ATTN: Marc Downing

### **Velma Unit #1-14**

### **14-12-21w Ellis,KS**

Start Date: 2021.06.11 @ 08:38:04

End Date: 2021.06.11 @ 18:32:51

Job Ticket #: 61770                      DST #: 4

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

Printed: 2021.06.15 @ 13:41:00



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

ATTN: Marc Dow ning

Job Ticket: 61770

**DST#: 4**

Test Start: 2021.06.11 @ 08:38:04

## GENERAL INFORMATION:

Formation: **Arbuckle**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:04:36

Time Test Ended: 18:32:51

Test Type: Conventional Bottom Hole (Reset)

Tester: Kevin Webster

Unit No: 72

**Interval: 4048.00 ft (KB) To 4063.00 ft (KB) (TVD)**

Reference Elevations: 2356.00 ft (KB)

Total Depth: 4063.00 ft (KB) (TVD)

2348.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6752 Inside**

Press@RunDepth: 165.19 psig @ 4049.00 ft (KB)

Capacity: psig

Start Date: 2021.06.11

End Date:

2021.06.12

Last Calib.:

2021.06.12

Start Time: 22:40:05

End Time:

08:34:51

Time On Btm:

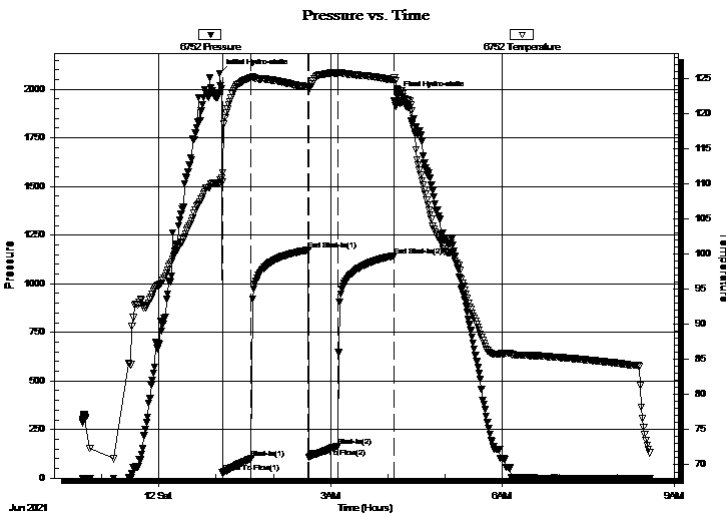
2021.06.12 @ 01:03:36

Time Off Btm:

2021.06.12 @ 04:09:51

**TEST COMMENT:** IF-BOB built to 18"  
IS- No blow back  
FF-BOB built to 15"  
FS- No blow back

## PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2082.24	110.11	Initial Hydro-static
3	28.99	110.35	Open To Flow (1)
34	102.62	125.20	Shut-In(1)
93	1173.60	123.81	End Shut-In(1)
94	108.26	123.52	Open To Flow (2)
124	165.19	125.82	Shut-In(2)
183	1144.81	124.91	End Shut-In(2)
187	1966.46	123.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
34.00	100% oil	0.20
180.00	OCMW10% oil 30% mud 60% w ater	2.46

## Gas Rates

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

\* Recovery from multiple tests







**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61770

**DST#: 4**

ATTN: Marc Dow ning

Test Start: 2021.06.11 @ 08:38:04

## Tool Information

Drill Pipe:	Length: 4006.00 ft	Diameter: 3.75 inches	Volume: 54.72 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	54000.00 lb
			<u>Total Volume: 54.87 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	7.00 ft			String Weight: Initial	51000.00 lb
Depth to Top Packer:	4048.00 ft			Final	52000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	15.00 ft				
Tool Length:	34.00 ft				
Number of Packers:	1	Diameter:	inches		
Tool Comments:					

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
------------------	-------------	------------	----------	------------	----------------

Shut In Tool	5.00			4034.00	
Hydraulic tool	5.00			4039.00	
Packer	5.00			4044.00	19.00 Bottom Of Top Packer
Packer	4.00			4048.00	
Stubb	1.00			4049.00	
Recorder	0.00	6752	Inside	4049.00	
Recorder	0.00	6755	Inside	4049.00	
Perforations	14.00			4063.00	15.00 Bottom Packers & Anchor

**Total Tool Length: 34.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61770

**DST#: 4**

ATTN: Marc Dow ning

Test Start: 2021.06.11 @ 08:38:04

### 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: bbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 5000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
34.00	100% oil	0.202
180.00	OCMW10% oil 30% mud 60% water	2.459

Total Length: 214.00 ft      Total Volume: 2.661 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

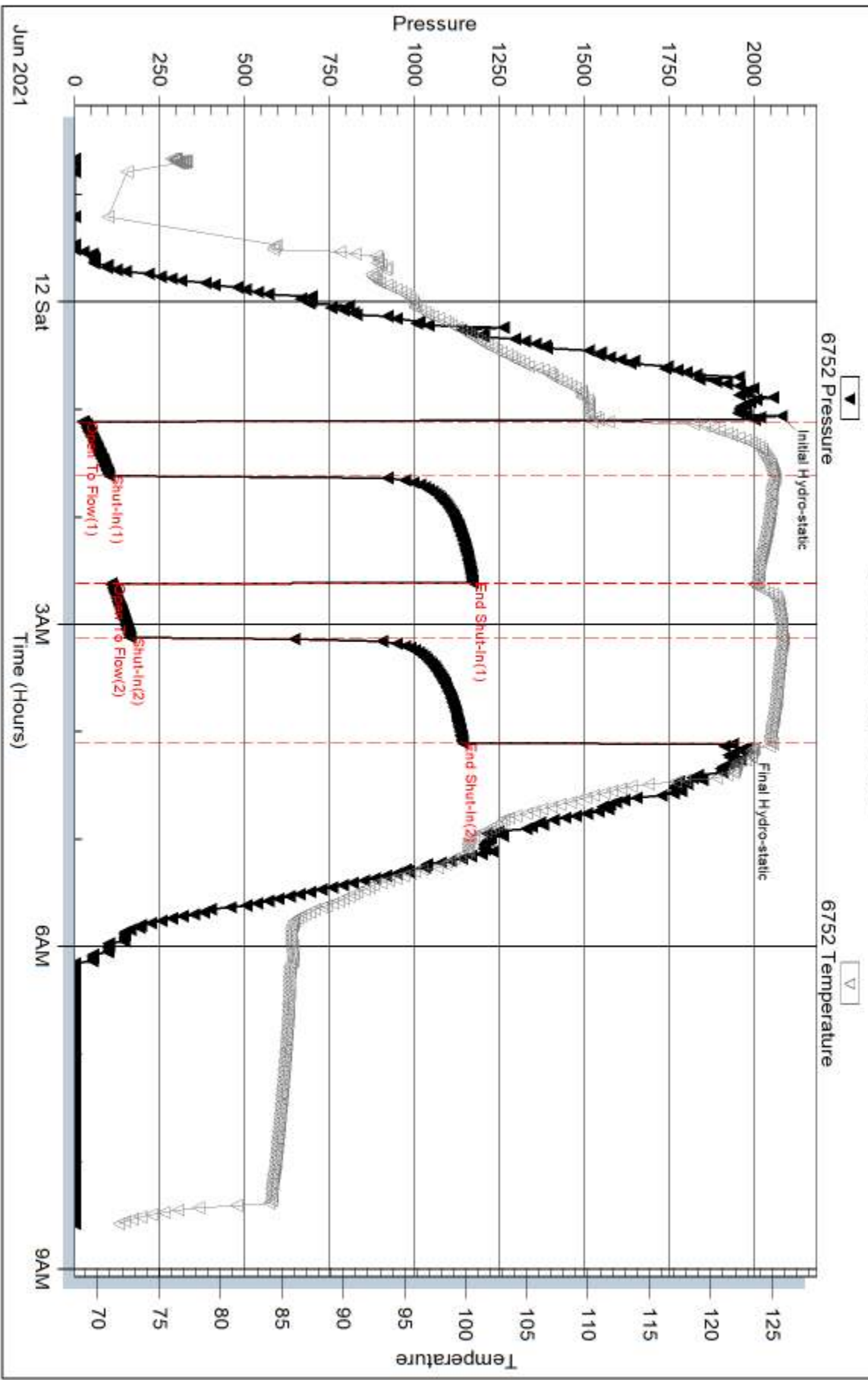
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 3.5# LCM

### Pressure vs. Time



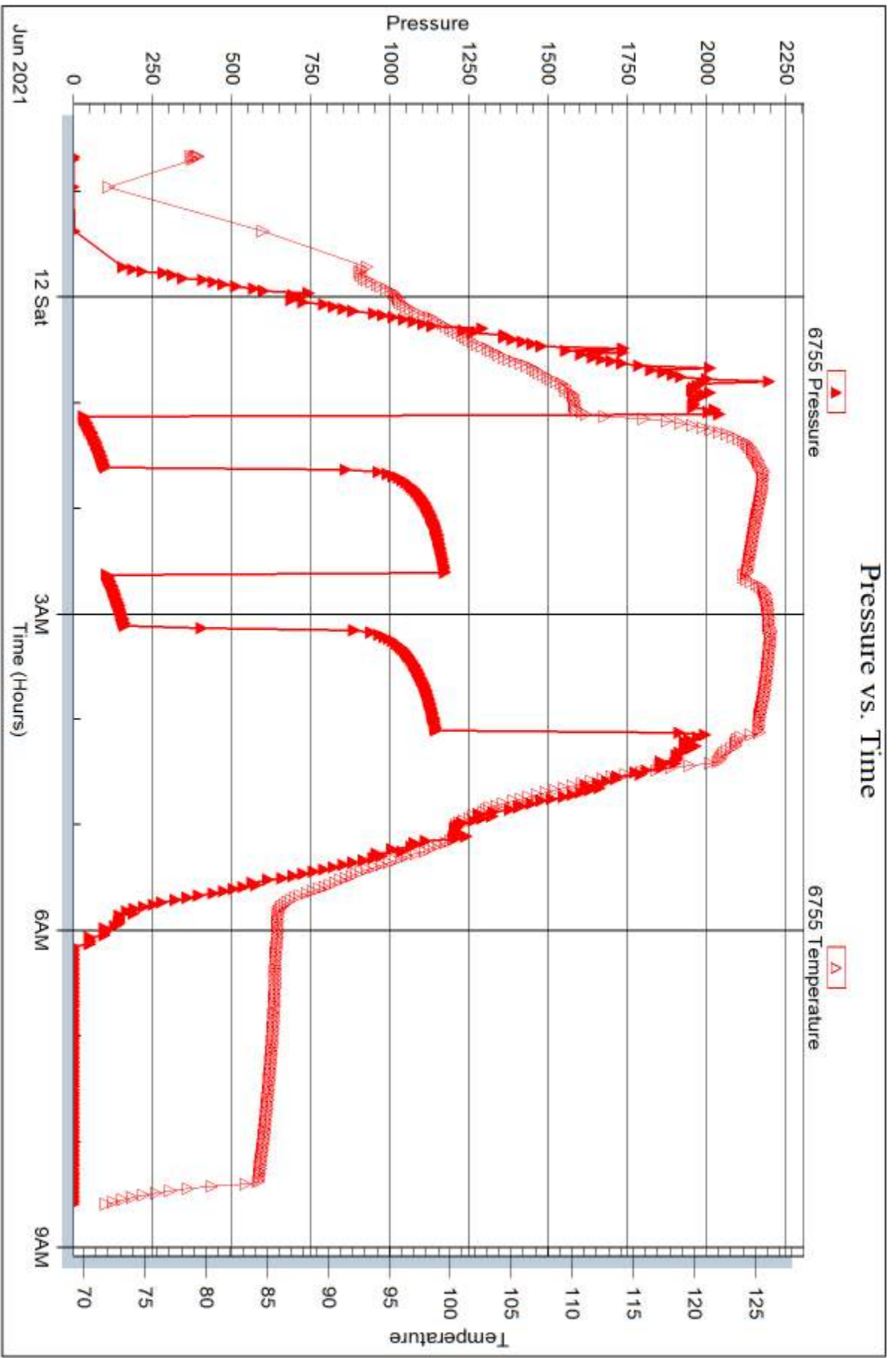
Serial #: 6755

Inside

Dow nng-Nelson Oil Co

Velma Unit #1-14

DST Test Number: 4





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601-1019

ATTN: Marc Downing

### **Velma Unit #1-14**

### **14-12-21w Ellis,KS**

Start Date: 2021.06.13 @ 02:15:17

End Date: 2021.06.13 @ 12:29:04

Job Ticket #: 61771                      DST #: 5

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

Printed: 2021.06.15 @ 13:40:02



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co  
 PO Box 1019  
 Hays, KS 67601-1019  
 ATTN: Marc Dow ning

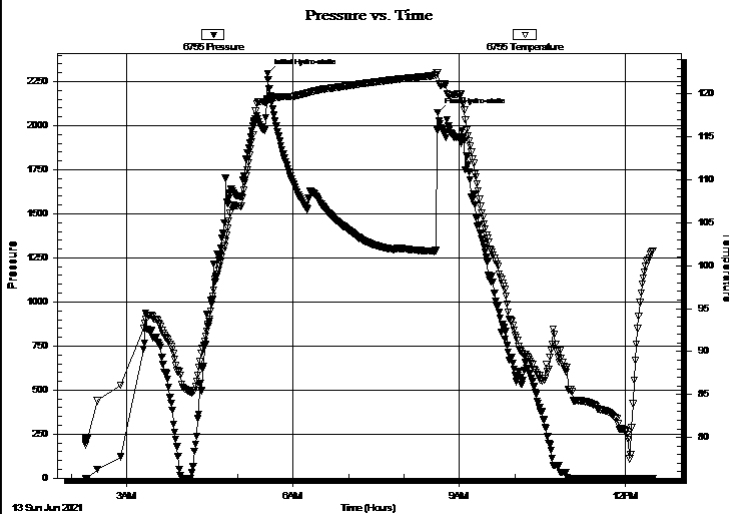
**14-12-21w Ellis,KS**  
**Velma Unit #1-14**  
 Job Ticket: 61771 **DST#: 5**  
 Test Start: 2021.06.13 @ 02:15:17

## GENERAL INFORMATION:

Formation: **Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened:  
 Time Test Ended: 12:29:04  
 Interval: **3850.00 ft (KB) To 3966.00 ft (KB) (TVD)**  
 Total Depth: 3834.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Straddle (Reset)  
 Tester: Kevin Webster  
 Unit No: 72  
 Reference Elevations: 2356.00 ft (KB)  
 2348.00 ft (CF)  
 KB to GR/CF: 8.00 ft

**Serial #: 6755 Inside**  
 Press@RunDepth: psig @ 3852.00 ft (KB) Capacity: psig  
 Start Date: 2021.06.13 End Date: 2021.06.13 Last Calib.: 2021.06.13  
 Start Time: 02:15:18 End Time: 12:29:04 Time On Btm: 2021.06.13 @ 05:32:19  
 Time Off Btm: 2021.06.13 @ 08:36:19

**TEST COMMENT:** IF-BOB in 39 min  
 IS- No blow back  
 FF- BOB in 43 min  
 IS- No blow back All recorders mistakenly placed under the straddle packer



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2297.05	119.29	Initial Hydro-static
184	2074.79	122.51	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
63.00	100% oil	0.60
189.00	MCO 65% oil 35% mud	2.58

## Gas Rates

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

\* Recovery from multiple tests





**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co  
 PO Box 1019  
 Hays, KS 67601-1019  
 ATTN: Marc Dow ning

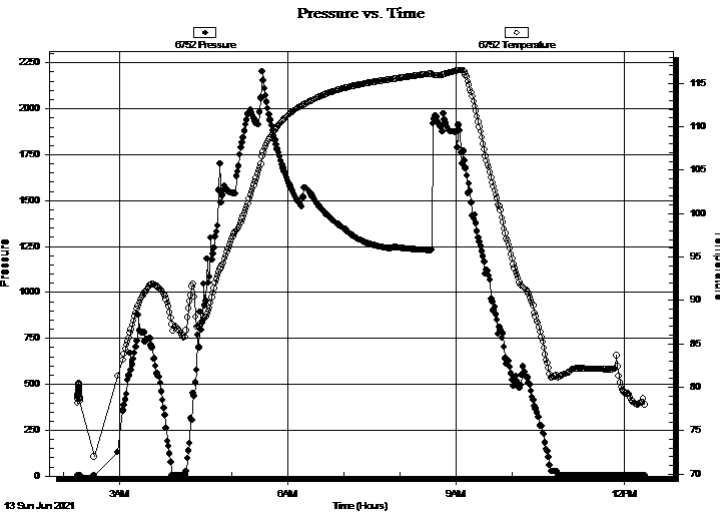
**14-12-21w Ellis,KS**  
**Velma Unit #1-14**  
 Job Ticket: 61771 **DST#: 5**  
 Test Start: 2021.06.13 @ 02:15:17

## GENERAL INFORMATION:

Formation: **Marmaton**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Straddle (Reset)  
 Time Tool Opened:  
 Tester: Kevin Webster  
 Time Test Ended: 12:29:04  
 Unit No: 72  
 Interval: **3850.00 ft (KB) To 3966.00 ft (KB) (TVD)**  
 Reference Elevations: 2356.00 ft (KB)  
 Total Depth: 3834.00 ft (KB) (TVD)  
 2348.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

**Serial #: 6752 Below (Straddle)**  
 Press@RunDepth: psig @ 4098.00 ft (KB) Capacity: psig  
 Start Date: 2021.06.13 End Date: 2021.06.13 Last Calib.: 1899.12.30  
 Start Time: 02:15:31 End Time: 12:22:17 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF-BOB in 39 min  
 IS- No blow back  
 FF- BOB in 43 min  
 IS- No blow back All recorders mistakenly placed under the straddle packer



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

Recovery		
Length (ft)	Description	Volume (bbl)
63.00	100% oil	0.60
189.00	MCO 65% oil 35% mud	2.58

\* Recovery from multiple tests

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





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61771

**DST#: 5**

ATTN: Marc Dow ning

Test Start: 2021.06.13 @ 02:15:17

## Tool Information

Drill Pipe:	Length: 3821.00 ft	Diameter: 3.75 inches	Volume: 52.20 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 70000.00 lb
			<u>Total Volume: 52.35 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	20.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3850.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	3965.00 ft			
Interval betw een Packers:	115.00 ft			
Tool Length:	291.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments: Recorders ran in the w rong place

## Tool Description

**Length (ft) Serial No. Position Depth (ft) Accum. Lengths**

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3836.00	
Hydraulic tool	5.00			3841.00	
Packer	5.00			3846.00	19.00 Bottom Of Top Packer
Packer	4.00			3850.00	
Stubb	1.00			3851.00	
Change Over Sub	1.00			3852.00	
Recorder	0.00	8365	Inside	3852.00	
Recorder	0.00	6755	Inside	3852.00	
Drill Pipe	95.00			3947.00	
Change Over Sub	1.00			3948.00	
Perforations	17.00			3965.00	115.00 Tool Interval
Packer	4.00			3969.00	
Stubb	1.00			3970.00	
Blank Off Sub	1.00			3971.00	
Change Over Sub	1.00			3972.00	
Drill Pipe	125.00			4097.00	
Change Over Sub	1.00			4098.00	
Recorder	0.00	6752	Below	4098.00	
Perforations	21.00			4119.00	
Bullnose	3.00			4122.00	157.00 Bottom Packers & Anchor

**Total Tool Length: 291.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

## FLUID SUMMARY

Dow ning-Nelson Oil Co

**14-12-21w Ellis,KS**

PO Box 1019  
Hays, KS 67601-1019

**Velma Unit #1-14**

Job Ticket: 61771

**DST#: 5**

ATTN: Marc Dow ning

Test Start: 2021.06.13 @ 02:15:17

### 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: 56.00 sec/qt

Cushion Volume:

bbf

Water Loss: 9.37 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

### Recovery Information

Recovery Table

Length ft	Description	Volume bbf
63.00	100% oil	0.598
189.00	MCO 65% oil 35% mud	2.582

Total Length: 252.00 ft      Total Volume: 3.180 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: 2 1/2 # LCM

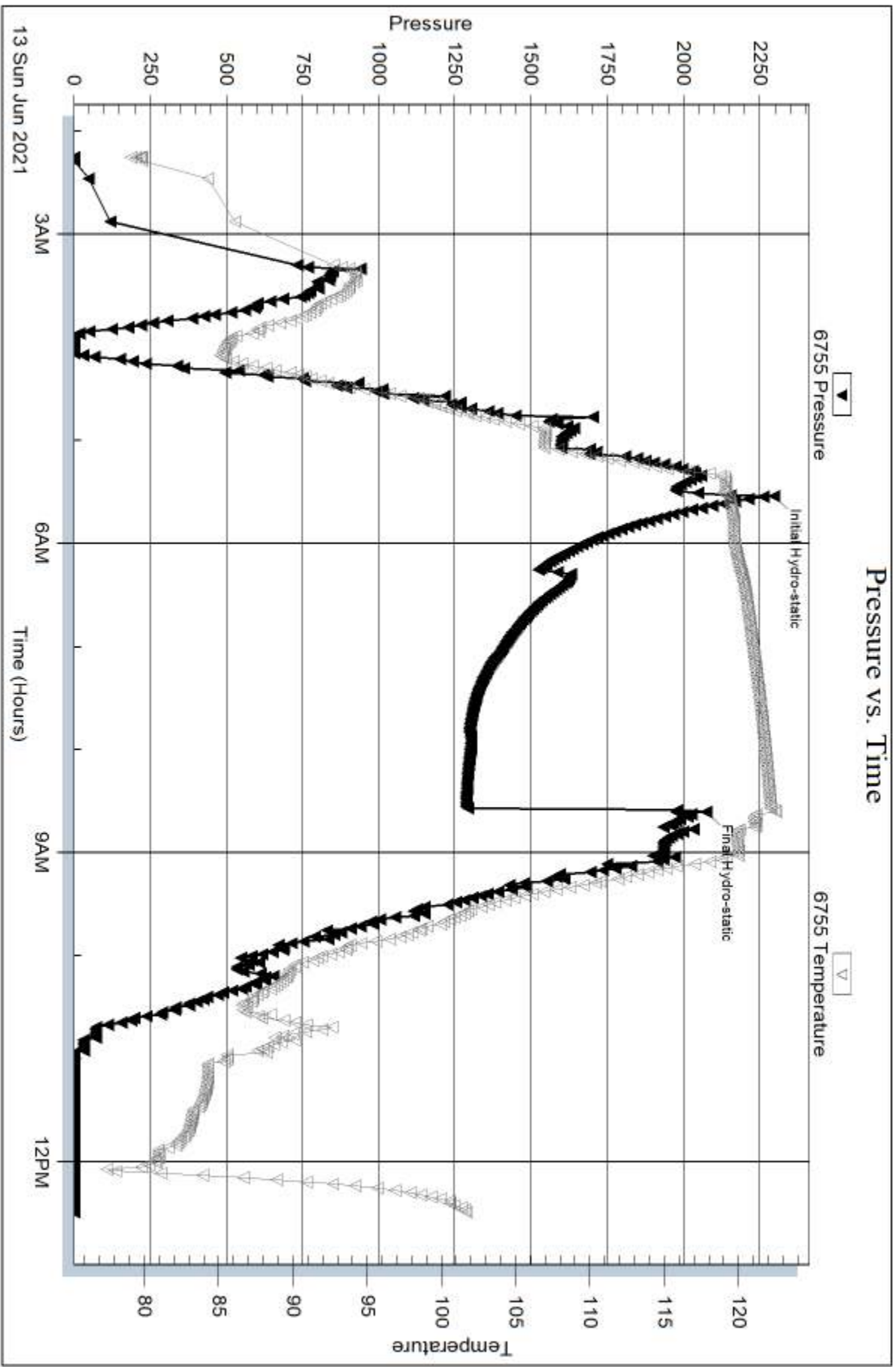
Serial #: 6755

Inside

Dow n/g-Nelson Oil Co

Velma Unit #1-14

DST Test Number: 5



Trilobite Testing, Inc

Ref. No: 61771

Printed: 2021.06.15 @ 13:40:14

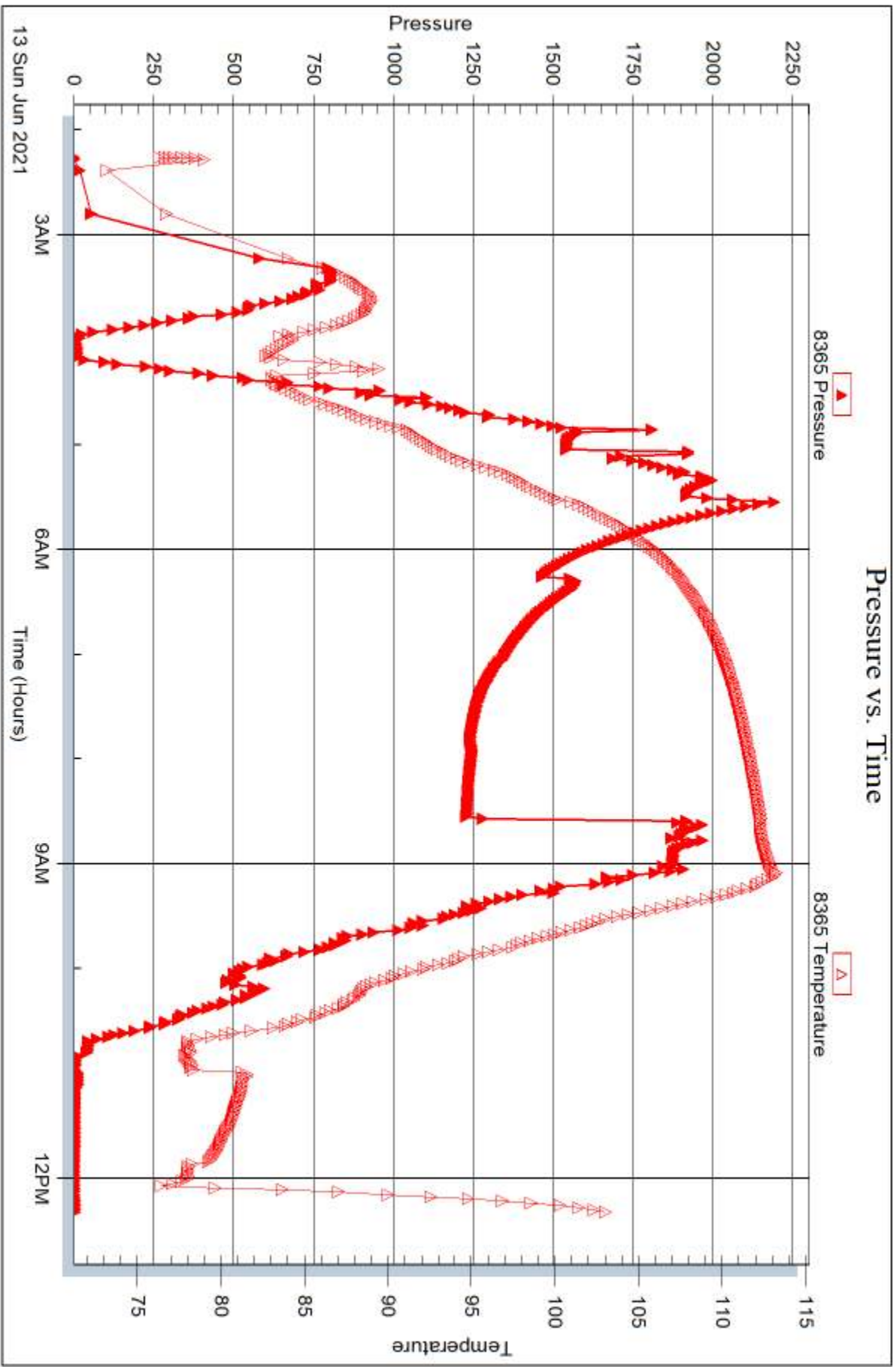
Serial #: 8365

Inside

Dow nrg-Nelson Oil Co

Velma Unit #1-14

DST Test Number: 5

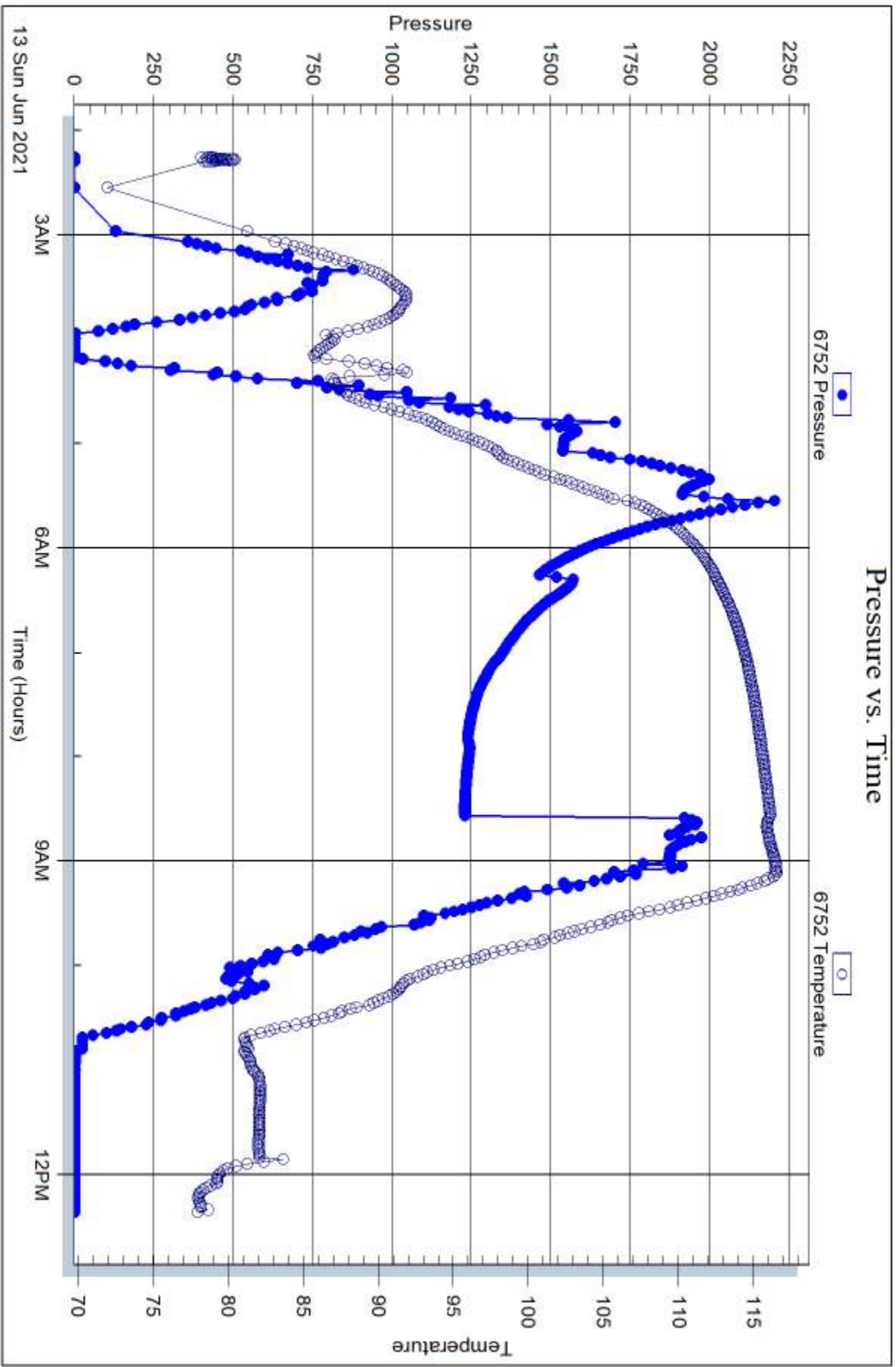


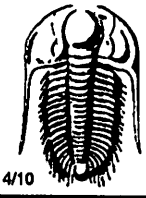
Serial #: 6752

Below (Str-Rd)@jng-Nelson Oil Co

Veina Unit #1-14

DST Test Number: 5





# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61767 26217

Well Name & No. Velma Unit 1-14 Test No. 1 Date 6/9/21  
 Company Downing-Nelson oil company Elevation 2356 KB 2348 GL  
 Address P.O. Box 1019 Hays, KS 67601-1019  
 Co. Rep / Geo. Marc Downing Rig Discovery #2  
 Location: Sec. 14 Twp. 12 Rge. 21 W Co. Trego State KS

Interval Tested 3795 - 3834 Zone Tested LKC I & J  
 Anchor Length 39' Drill Pipe Run 37.55 Mud Wt. 9.3  
 Top Packer Depth 3790 Drill Collars Run 30 Vis 50  
 Bottom Packer Depth 3795 Wt. Pipe Run 0 WL 8  
 Total Depth 3834 Chlorides 4000 ppm System LCM 74 #

Blow Description IF - weak surface blow during 9 min  
FST - 14 @ blow back  
EF - No blow  
FST - No blow back

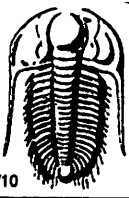
Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>VSOCM</u>		<u>1</u>	<u>99</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1913  Test 1200 T-On Location 19:35  
 (B) First Initial Flow 41  Jars \_\_\_\_\_ T-Started 17:24  
 (C) First Final Flow 40  Safety Joint \_\_\_\_\_ T-Open 17:41  
 (D) Initial Shut-In 813  Circ Sub \_\_\_\_\_ T-Pulled 19:41  
 (E) Second Initial Flow 44  Hourly Standby 2.5h 250 T-Out 22:06  
 (F) Second Final Flow 40  Mileage 46rt 57.50 Comments Said they would be on bank @ 10:45  
 (G) Final Shut-In 787  Sampler \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 (H) Final Hydrostatic 1796  Straddle \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Packer \_\_\_\_\_ Sub Total 0  
 Extra Recorder \_\_\_\_\_ Total 1507.50  
 Day Standby \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Accessibility \_\_\_\_\_  
 Sub Total 1507.50

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

Approved By \_\_\_\_\_ Our Representative Kevin Webster  
 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

NO. 61768

Well Name & No. Velma unit 1-14 Test No. 2 Date 6/10/21  
 Company Downing Nelson Oil Company Inc Elevation 2356 KB 2348 GL  
 Address PO Box 1019 Hays, KS 67601-1019  
 Co. Rep / Geo. Marc Downing Rig Discovery #2  
 Location: Sec. 14 Twp. 12 Rge. 21w Co. Trego State KS

Interval Tested 3998 - 4024 Zone Tested Albuckle  
 Anchor Length 26' Drill Pipe Run 3976 Mud Wt. 9.2  
 Top Packer Depth 3993 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 3998 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4024 Chlorides 5000 ppm System LCM 1/2 #

Blow Description IF - weak surface blow died in 17 min  
~~ISF - NO blow back~~  
PF - weak surface blow died in 4 min Flushed tool  
FSI - NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
10	VSOCM		1		99

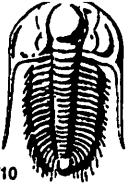
Rec Total \_\_\_\_\_ BHT 116 Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2058  Test 1300 T-On Location 19:05  
 (B) First Initial Flow 14  Jars \_\_\_\_\_ T-Started 15:19  
 (C) First Final Flow 18  Safety Joint \_\_\_\_\_ T-Open 18:02  
 (D) Initial Shut-In 42  Circ Sub \_\_\_\_\_ T-Pulled 20:02  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 22:26  
 (F) Second Final Flow 24  Mileage 57.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 40  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1892  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1357.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1357.50

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

Approved By \_\_\_\_\_ Our Representative Kevin Webster

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

NO. 61769

Well Name & No. Velma unit 1-14 Test No. 3 Date 6/11/21  
 Company Downing-Nelson oil company Inc Elevation 2356 KB 2348 GL  
 Address PO Box 1019 Hays, KS 67601-1019  
 Co. Rep / Geo. Marc Downing Rig DISCOVERY #2  
 Location: Sec. 14 Twp. 12 Rge. 21W Co. Trego State KS

Interval Tested 4023-4049 Zone Tested Arbuckle  
 Anchor Length 26' Drill Pipe Run 4006 Mud Wt. 9.2  
 Top Packer Depth 4018 Drill Collars Run 30 Vis 51  
 Bottom Packer Depth 4023 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4049 Chlorides 5000 ppm System LCM 1/2

Blow Description IF- Weak surface blow built to 3.5"  
FSI- NO blow back  
FF<sup>Foot</sup> Weak surface blow built to 3.5"  
FSI- NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>			<u>100</u>		
<u>60</u>	<u>at 1000 Mud cut oil</u>	<u>55</u>		<u>45</u>	

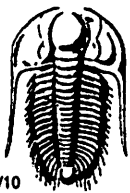
Rec Total \_\_\_\_\_ BHT \_\_\_\_\_ Gravity 39 <sup>95</sup> API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2036  Test 1300 T-On Location 06:15  
 (B) First Initial Flow 36  Jars \_\_\_\_\_ T-Started 06:27  
 (C) First Final Flow 43  Safety Joint \_\_\_\_\_ T-Open 09:20  
 (D) Initial Shut-In 1069  Circ Sub \_\_\_\_\_ T-Pulled 12:20  
 (E) Second Initial Flow 68  Hourly Standby \_\_\_\_\_ T-Out 015:15  
 (F) Second Final Flow 46  Mileage 57.50 Comments \_\_\_\_\_  
 (G) Final Shut-In 1004  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1960  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Sub Total 0  
 Day Standby \_\_\_\_\_ Total 1357.50  
 Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1357.50

Approved By \_\_\_\_\_ Our Representative Kevin Webster

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61770

Well Name & No. Velma unit 1-14 Test No. 4 Date 6/11/21  
 Company Downing-Nelson oil company Inc Elevation 2356 KB 2348 GL  
 Address PO BOX 1019 Hays, KS 67601-1019  
 Co. Rep / Geo. Mark Downing Rig Discovery #2  
 Location: Sec. 14 Twp. 12 Rge. 21W Co. Trego State KS

Interval Tested 4048-4063 Zone Tested Arbuckle  
 Anchor Length 15' Drill Pipe Run 4006 Mud Wt. 9.4  
 Top Packer Depth 4043 Drill Collars Run 30 Vis 56  
 Bottom Packer Depth 4048 Wt. Pipe Run 0 WL 8.8  
 Total Depth 4063 Chlorides 5000 ppm System LCM 3 1/2 #

Blow Description IF - Building blow built to 18"  
ISF - No blow back  
FF - Building blow built to 15"  
FSI - No blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>34</u>			<u>100</u>		
<u>180</u>			<u>10</u>	<u>60</u>	<u>30</u>

Rec Total 214 BHT 126 Gravity 37@62°F API RW .983@ 66 °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2092  
 (B) First Initial Flow 28  
 (C) First Final Flow 102  
 (D) Initial Shut-In 1173  
 (E) Second Initial Flow 108  
 (F) Second Final Flow 165  
 (G) Final Shut-In 1144  
 (H) Final Hydrostatic 1966

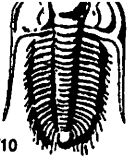
Test 1300  
 Jars \_\_\_\_\_  
 Safety Joint \_\_\_\_\_  
 Circ Sub \_\_\_\_\_  
 Hourly Standby \_\_\_\_\_  
 Mileage 57.50  
 Sampler \_\_\_\_\_  
 Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

T-On Location 22:30  
 T-Started 22:40  
 T-Open 01:02  
 T-Pulled 04:02  
 T-Out \_\_\_\_\_  
 Comments \_\_\_\_\_  
 Ruined Shale Packer \_\_\_\_\_  
 Ruined Packer \_\_\_\_\_  
 Extra Copies \_\_\_\_\_  
 Sub Total 0  
 Total 1357.50  
 MP/DST Disc't \_\_\_\_\_

Initial Open 30  
 Initial Shut-In 60  
 Final Flow 30  
 Final Shut-In 60

Sub Total 1357.50  
 Approved By \_\_\_\_\_ Our Representative Kevin Webster

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# TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

## Test Ticket

NO. 61771

Well Name & No. Velma Unit 1-14 Test No. 5 Date 6/13/21  
 Company Dawning Nelson Elevation 2356 KB 2348 GL  
 Address PO Box 1019 Hays, KS 67601-1019  
 Co. Rep / Geo. Marc Dawning Rig Discovery #2  
 Location: Sec. 14 Twp. 12 Rge. 21 W Co. Trego State KS

Interval Tested 3950 - 3966 Zone Tested Marmaton  
 Anchor Length 116 Drill Pipe Run 38 @ 21 Mud Wt. 9.3  
 Top Packer Depth 3845 Drill Collars Run 30 Vis 56  
 Bottom Packer Depth 3966 Wt. Pipe Run 0 WL 9.4  
 Total Depth 4118 Chlorides 4000 ppm System LCM 2 1/2 #

Blow Description IF - Building blow, bob in 39 min  
ISI - NO blow back  
FF - WSB built to @ bob in 43 min  
FSE - NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
<u>63'</u>	<u>oil</u>		<u>100</u>		
<u>189</u>	<u>Mud cut oil</u>		<u>65</u>	<u>35</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 252 BHT \_\_\_\_\_ Gravity 37 @ 95° API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 2297  Test 1050 no formation data T-On Location 23.45  
 (B) First Initial Flow \_\_\_\_\_  Jars \_\_\_\_\_ T-Started 02:15  
 (C) First Final Flow \_\_\_\_\_  Safety Joint \_\_\_\_\_ T-Open 05:32  
 (D) Initial Shut-In \_\_\_\_\_  Circ Sub \_\_\_\_\_ T-Pulled 08:32  
 (E) Second Initial Flow \_\_\_\_\_  Hourly Standby \_\_\_\_\_ T-Out \_\_\_\_\_  
 (F) Second Final Flow \_\_\_\_\_  Mileage 57.50 Comments \_\_\_\_\_  
 (G) Final Shut-In \_\_\_\_\_  Sampler \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 (H) Final Hydrostatic 2074  Straddle 600  Ruined Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Packer \_\_\_\_\_ Sub Total \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_ Total \_\_\_\_\_  
 Day Standby \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Accessibility \_\_\_\_\_ Sub Total \_\_\_\_\_

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

Approved By \_\_\_\_\_ Our Representative Kevin Webster

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**Marc A. Downing**  
**Consulting Petroleum Geologist**

**Geologic Report**  
**Drilling Time and Sample Log**

**Operator** **Downing-Nelson Oil Co., Inc.**  
**Lease** **Velma Unit** **No. 1-14**  
**API #** **15-195-23122-0000**  
**Field** **Cotton East**  
**Location** **140' FNL & 2195' FEL**  
**Sec.** **14** **Twp.** **12s** **Rge.** **21w**  
**County** **Trego** **State** **Kansas**

**Elevation**  
**KB** 2354  
**DF** 2352  
**GL** 2346

**Casing Record Surface**  
**8 5/8" @ 224'**  
**Production**  
**5 1/2" @ 4117'**

**Electrical Surveys**  
**CNDL, DIL**  
**MEL, Sonic**

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	1747	1748	+606	+5
Base Anhydrite	1802	1801	+553	+2
Topeka	3394	3393	-1039	+1
Heebner	3610	3610	-1256	+1
Toronto	3637	3636	-1282	+1
LKC	3651	3651	-1297	-3
BKC	3879	3879	-1525	+2
Marmaton	3946	3946	-1592	+6
Arbuckle	3991	3992	-1638	+26
Total Depth	4118	4119	-1765	

**Discovery Drilling, Rig #2**

Commenced	6-6-21	Completed	6-12-21
Samples Saved From	3350	To	RTD
Drilling Time Kept From	3250	To	RTD
Samples Examined From	3350	To	RTD
Geological Supervision From	3350	To	RTD

Reference Well For Structural Comparison: **Beren Corporation - Henrietta #1**  
 SW SE Sec. 11-12s-21w

Respectfully Submitted,  
 Marc A. Downing

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

**ROCK TYPES**  
 Carbon Sh shale, red  
 Lmsst (w/?) shale, gry  
 Chl vari Dolprtm

**ACCESSORIES**  
 DST Int  
 DST alt  
 Core  
 Tail pipe

**OTHER SYMBOLS**  
 Daily Report  
 Digital Photo  
 Document  
 Folder  
 Link  
 Vertical Log File  
 Horizontal Log File  
 Core Log File  
 Drill Cuttings Rpt

**MINERAL**  
 Chert, dark  
 Varicolored chert  
 Chert White

**OIL SHOWS**  
 Even Stn  
 Spotted Stn 50 - 75 %  
 Spotted Stn 25 - 50 %  
 Spotted Stn 1 - 25 %  
 Gas in Oil  
 Diesel Oil  
 Fluorescence

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

**DST**  
 DST Int  
 DST alt  
 Core  
 Tail pipe

**STINGER**  
 Dolomite  
 Limestone  
 Sandstone

**STRIPLOG**  
 Printed by GEOstrip V.C Striplog version 4.0.8.16 (www.grsi.ca)

**Geological Descriptions**

**Comment**

**Oil Shows**

**Lithology**

**DST**

**Curve Track #1**

**ROP (min/h)**  
**Gamma (API)**

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