

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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Remit To: Hurricane Services, Inc.
 250 N. Water, Suite 200
 Wichita, KS 67202
 316-303-9515

Customer:
 PALOMINO PETROLEUM INC
 4924 SE 84TH ST
 NEWTON, KS 67114-8827

Invoice Date: 4/13/2022
 Invoice #: 0360146
 Lease Name: North By Northwest
 Well #: 1
 County: Logan, Ks
 Job Number: WP2672
 District: Oakley

Date/Description	HRS/QTY	Rate	Total
Surface	0.000	0.000	0.00
H-325	200.000	20.700	4,140.00
Heavy Eq Mileage	40.000	4.000	160.00
Light Eq Mileage	40.000	2.000	80.00
Ton Mileage	386.000	1.500	579.00
Depth Charge 0'-500'	1.000	920.000	920.00
Cement Blending & Mixing	200.000	1.288	257.60
Service Supervisor	1.000	253.000	253.00

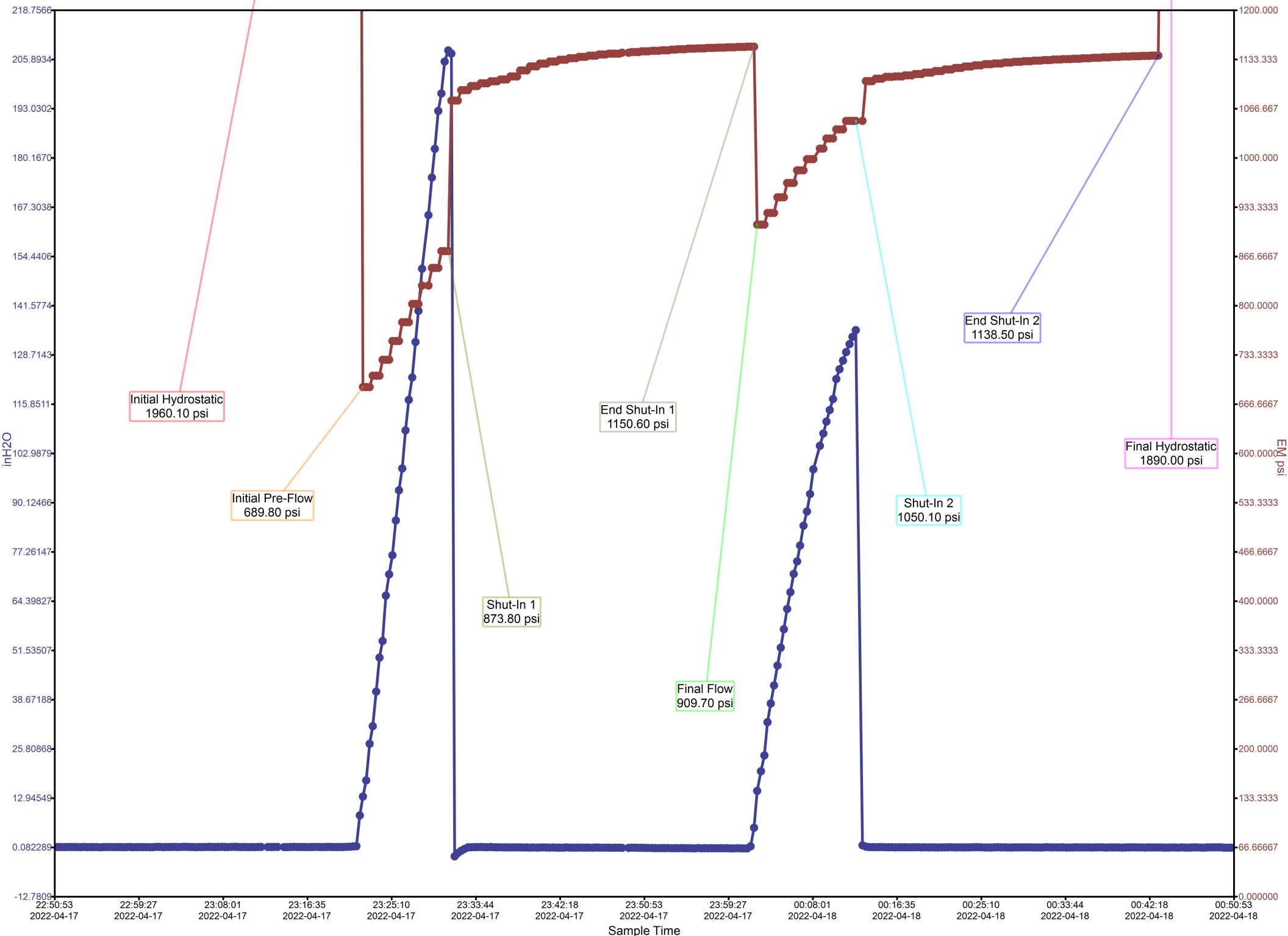
Total 6,389.60

TERMS: Net 30 days. Interest may be charged on past due invoice at rate of 1 ½% per month or maximum allowed by applicable state or federal laws. HSI has right to revoke any discounts applied in arriving at net invoice price if invoice is past due. If revoked, full invoice price without discount plus additional sales tax, as applicable, is due immediately and subject to interest charges. Customer agrees to pay all collection costs directly or indirectly incurred by HSI in the event HSI engages a third party to pursue collection of past due invoice.

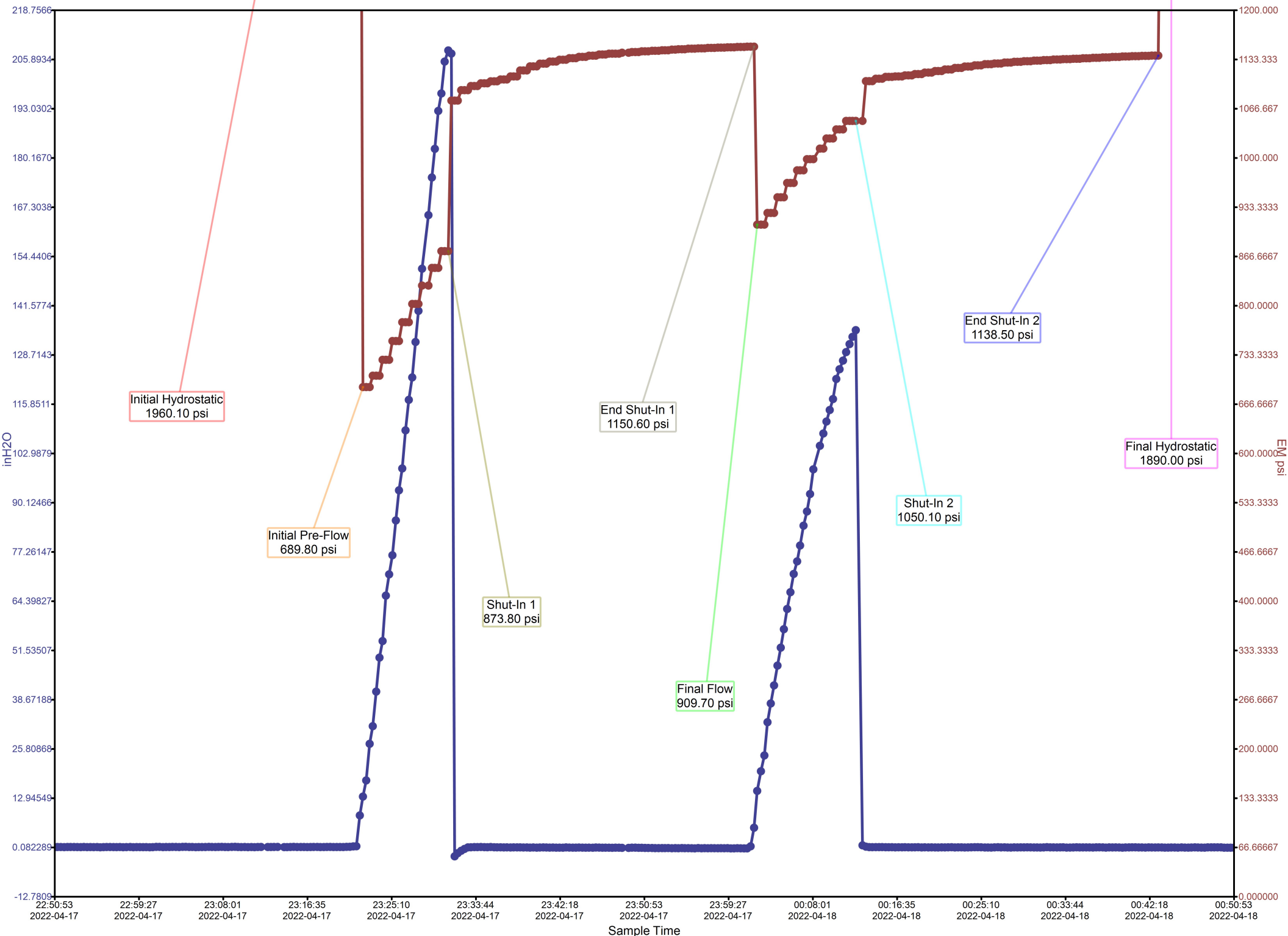
SALES TAX: Services performed on oil, gas and water wells in Kansas are subject to sales tax, with certain exceptions. HSI relies on the well information provided by the customer in identifying whether the services performed on wells qualify for exemption.

WE APPRECIATE YOUR BUSINESS!

Palomino Petroleum - North by Northwest 1 - DST #1



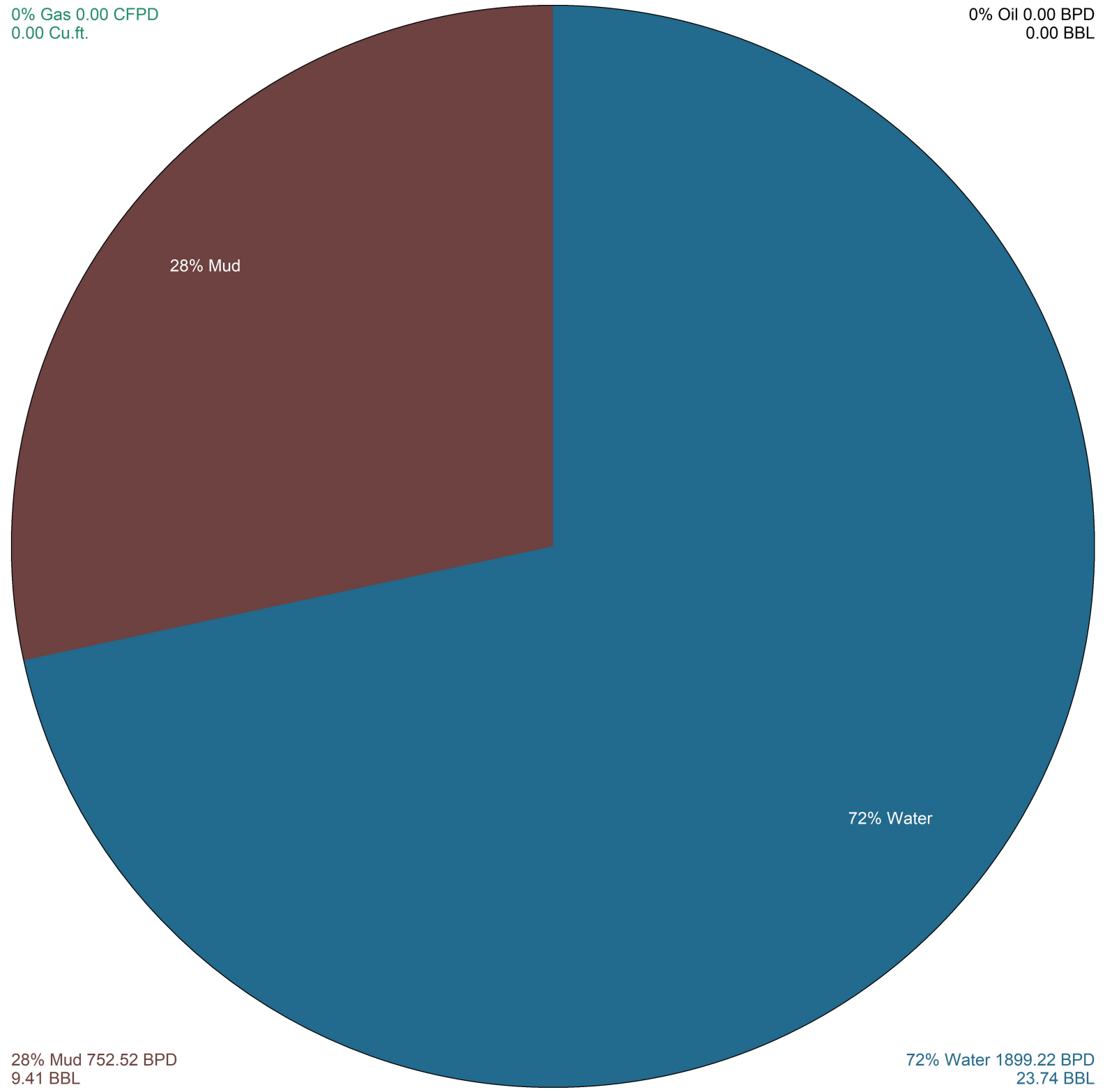
Palomino Petroleum - North by Northwest 1 - DST #1



Calculated Recovery Analysis - Palomino Petroleum - North by Northwest 1 - DST #1

0% Gas 0.00 CFPD
0.00 Cu.ft.

0% Oil 0.00 BPD
0.00 BBL



28% Mud

72% Water

28% Mud 752.52 BPD
9.41 BBL

72% Water 1899.22 BPD
23.74 BBL



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum

18-14s-35w Logan Ks

North By Northwest#2

Job Ticket: 68777

DST#: 1

ATTN: Ryan Seib

Test Start: 2022.04.17 @ 20:52:46

GENERAL INFORMATION:

Formation: **Toronto- Lansing A-C**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:23:46

Time Test Ended: 03:48:16

Test Type: Conventional Bottom Hole (Initial)

Tester: Brandon Turley

Unit No: 79

Interval: 3930.00 ft (KB) To 4110.00 ft (KB) (TVD)

Reference Elevations: 3213.00 ft (KB)

Total Depth: 4110.00 ft (KB) (TVD)

3203.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8674 Outside

Press@RunDepth: 1074.38 psig @ 3931.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.17

End Date:

2022.04.18

Last Calib.:

2022.04.18

Start Time: 20:52:51

End Time:

03:48:15

Time On Btm:

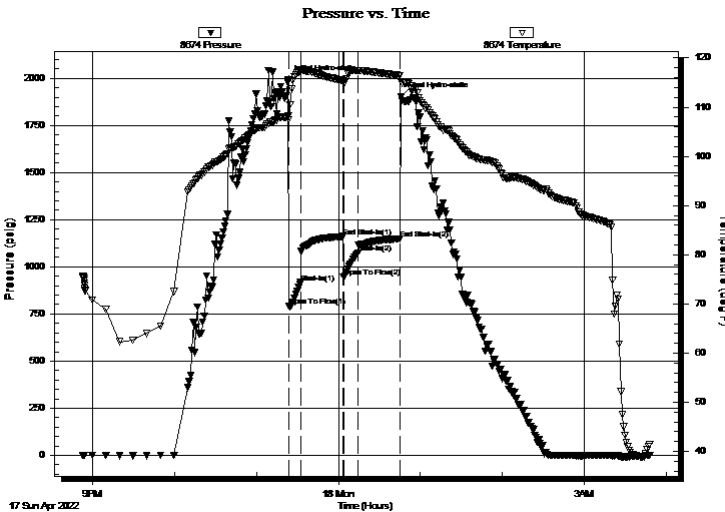
2022.04.17 @ 23:23:16

Time Off Btm:

2022.04.18 @ 00:45:46

TEST COMMENT: IF: BOB 207"
IS: No return.
FF: BOB in 1 min. 135"
FS: No return. 10-30-10-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.85	108.17	Initial Hydro-static
1	790.63	107.49	Open To Flow (1)
9	916.83	117.29	Shut-In(1)
40	1160.49	115.46	End Shut-In(1)
41	946.29	115.28	Open To Flow (2)
51	1074.38	117.40	Shut-In(2)
82	1148.68	116.44	End Shut-In(2)
83	1900.93	115.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1638.00	mcw 90%w 10%m	20.79
315.00	nw 50%w 50%m	4.42
378.00	w cm 10%w 90%m	5.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

18-14s-35w Logan Ks

North By Northwest#2

Job Ticket: 68777

DST#: 1

ATTN: Ryan Seib

Test Start: 2022.04.17 @ 20:52:46

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.20 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1638.00	mcw 90%w 10%m	20.791
315.00	mw 50%w 50%m	4.419
378.00	w cm 10%w 90%m	5.302

Total Length: 2331.00 ft Total Volume: 30.512 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

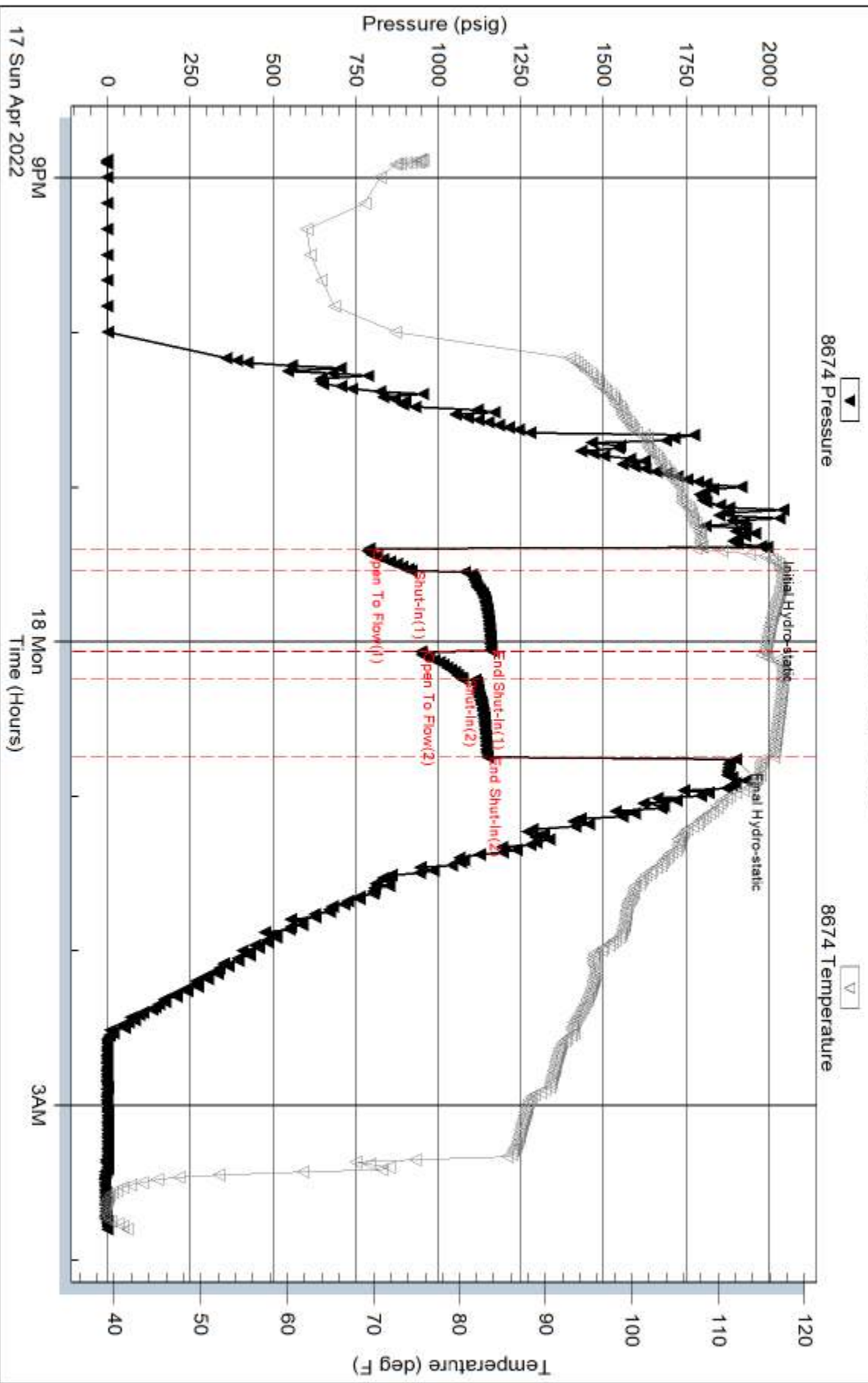
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .47@46=22000

Pressure vs. Time



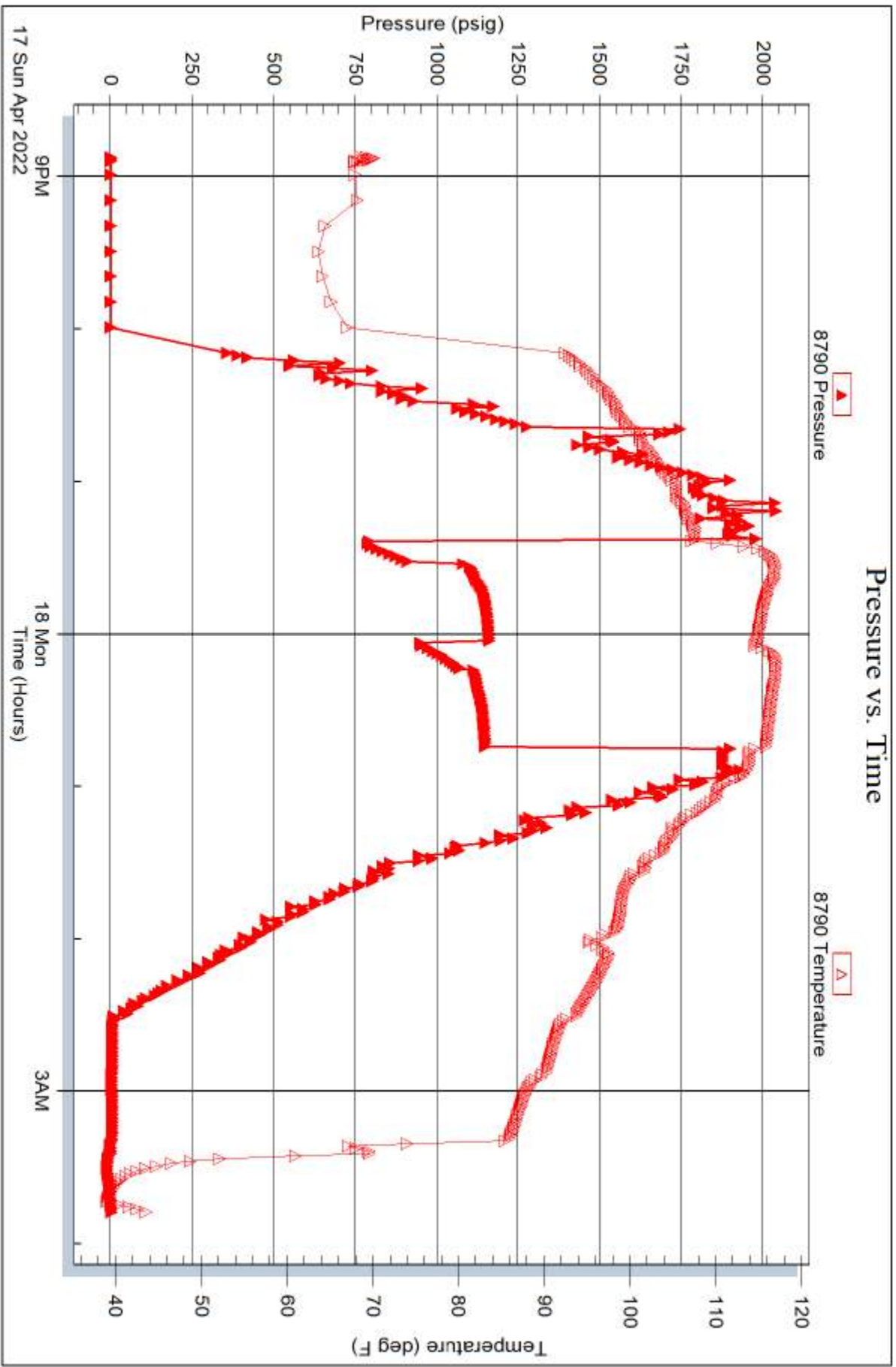
Serial #: 8790

Inside

Palomino Petroleum

North By Northw es.#2

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68777

Printed: 2022.04.18 @ 08:57:57



DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE 84th St
Newton, KS 67114

ATTN: Ryan Seib

18-14s-35w Logan,KS

North By Northwest #1

Start Date: 2022.04.17 @ 20:52:46

End Date: 2022.04.18 @ 03:48:16

Job Ticket #: 68777 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.04.26 @ 11:57:45

Palomino Petroleum

North By Northwest #1

18-14s-35w Logan,KS

DST # 1

Toronto - LKC A - C

2022.04.17



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Palomino Petroleum
 4924 SE 84th St
 New ton, KS 67114
 ATTN: Ryan Seib

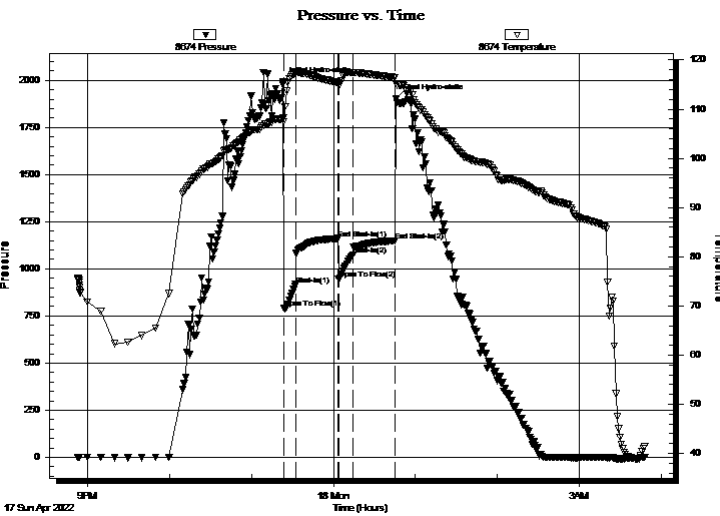
North By Northwest #1
18-14s-35w Logan,KS
 Job Ticket: 68777 **DST#: 1**
 Test Start: 2022.04.17 @ 20:52:46

GENERAL INFORMATION:

Formation: **Toronto - LKC A - C**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 23:23:46
 Time Test Ended: 03:48:16
 Interval: **3930.00 ft (KB) To 4110.00 ft (KB) (TVD)**
 Total Depth: 4110.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Initial)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 3213.00 ft (KB)
 3203.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 1074.38 psig @ 3931.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.17 End Date: 2022.04.18 Last Calib.: 2022.04.18
 Start Time: 20:52:51 End Time: 03:48:15 Time On Btm: 2022.04.17 @ 23:23:16
 Time Off Btm: 2022.04.18 @ 00:45:46

TEST COMMENT: IF: BOB 207"
 IS: No return.
 FF: BOB in 1 min. 135"
 FS: No return. 10-30-10-30



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1993.85	108.17	Initial Hydro-static
1	790.63	107.49	Open To Flow (1)
9	916.83	117.29	Shut-In(1)
40	1160.49	115.46	End Shut-In(1)
41	946.29	115.28	Open To Flow (2)
51	1074.38	117.40	Shut-In(2)
82	1148.68	116.44	End Shut-In(2)
83	1900.93	115.21	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1638.00	mcw 90%w 10%m	20.79
315.00	nw 50%w 50%m	4.42
378.00	w cm 10%w 90%m	5.30

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

ATTN: Ryan Seib

Job Ticket: 68777

DST#: 1

Test Start: 2022.04.17 @ 20:52:46

Tool Information

Drill Pipe:	Length: 3678.00 ft	Diameter: 3.80 inches	Volume: 51.59 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 85000.00 lb
			<u>Total Volume: 52.77 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	17.00 ft			String Weight: Initial 60000.00 lb
Depth to Top Packer:	3930.00 ft			Final 75000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	180.00 ft			
Tool Length:	209.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	3902.00	
Shut In Tool	5.00			3907.00	
Hydraulic tool	5.00			3912.00	
Jars	5.00			3917.00	
EM Tool	2.00			3919.00	
Safety Joint	2.00			3921.00	
Packer	5.00			3926.00	29.00 Bottom Of Top Packer
Packer	4.00			3930.00	
Stubb	1.00			3931.00	
Recorder	0.00	8790	Inside	3931.00	
Recorder	0.00	8674	Outside	3931.00	
Perforations	15.00			3946.00	
Change Over Sub	1.00			3947.00	
Drill Pipe	159.00			4106.00	
Change Over Sub	1.00			4107.00	
Bullnose	3.00			4110.00	180.00 Bottom Packers & Anchor
Total Tool Length:	209.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

Job Ticket: 68777

DST#: 1

ATTN: Ryan Seib

Test Start: 2022.04.17 @ 20:52:46

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

22000 ppm

Viscosity: 57.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1638.00	mcw 90%w 10%m	20.791
315.00	mw 50%w 50%m	4.419
378.00	w cm 10%w 90%m	5.302

Total Length: 2331.00 ft Total Volume: 30.512 bbl

Num Fluid Samples: 0

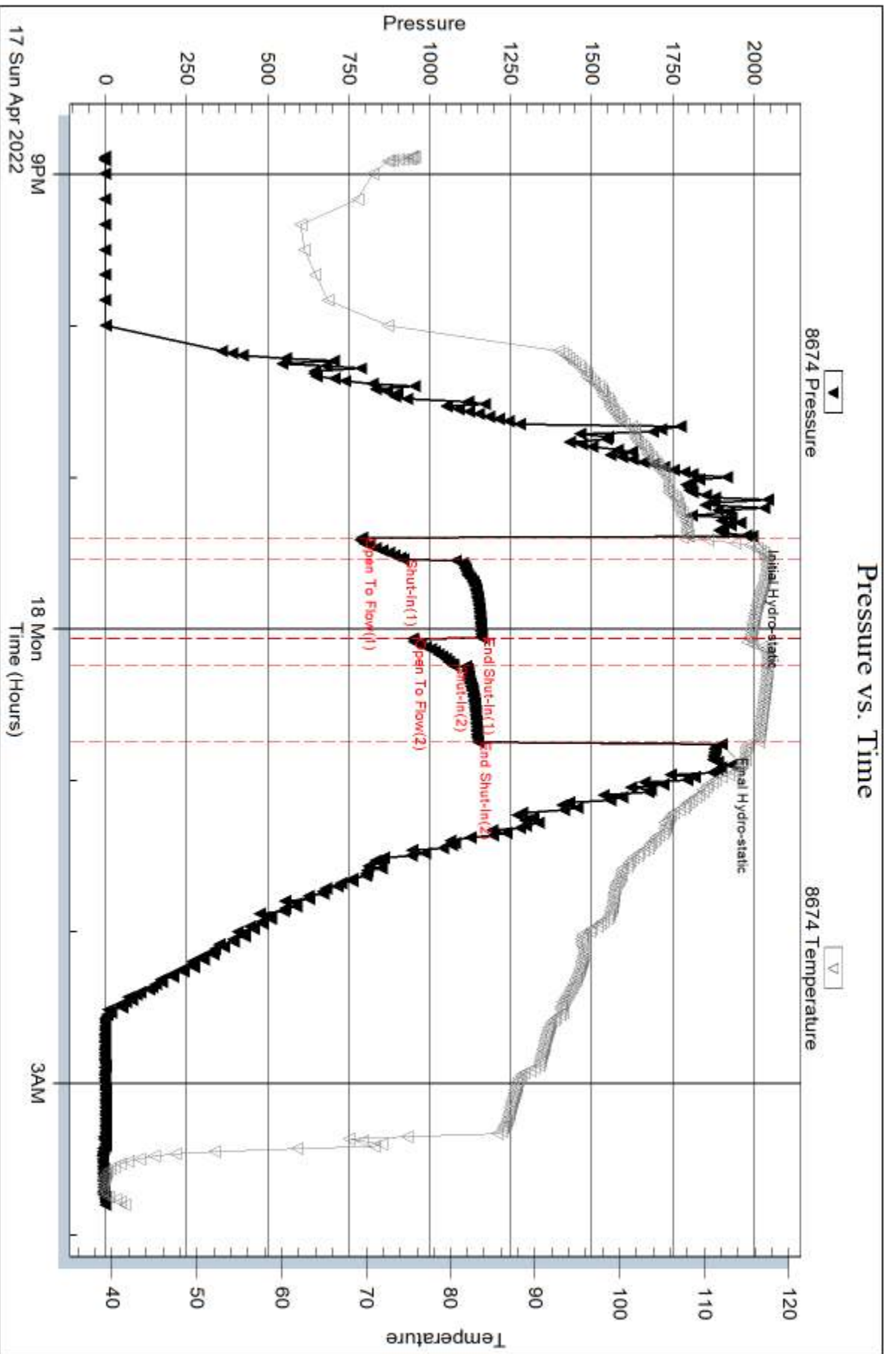
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: .47@46=22000



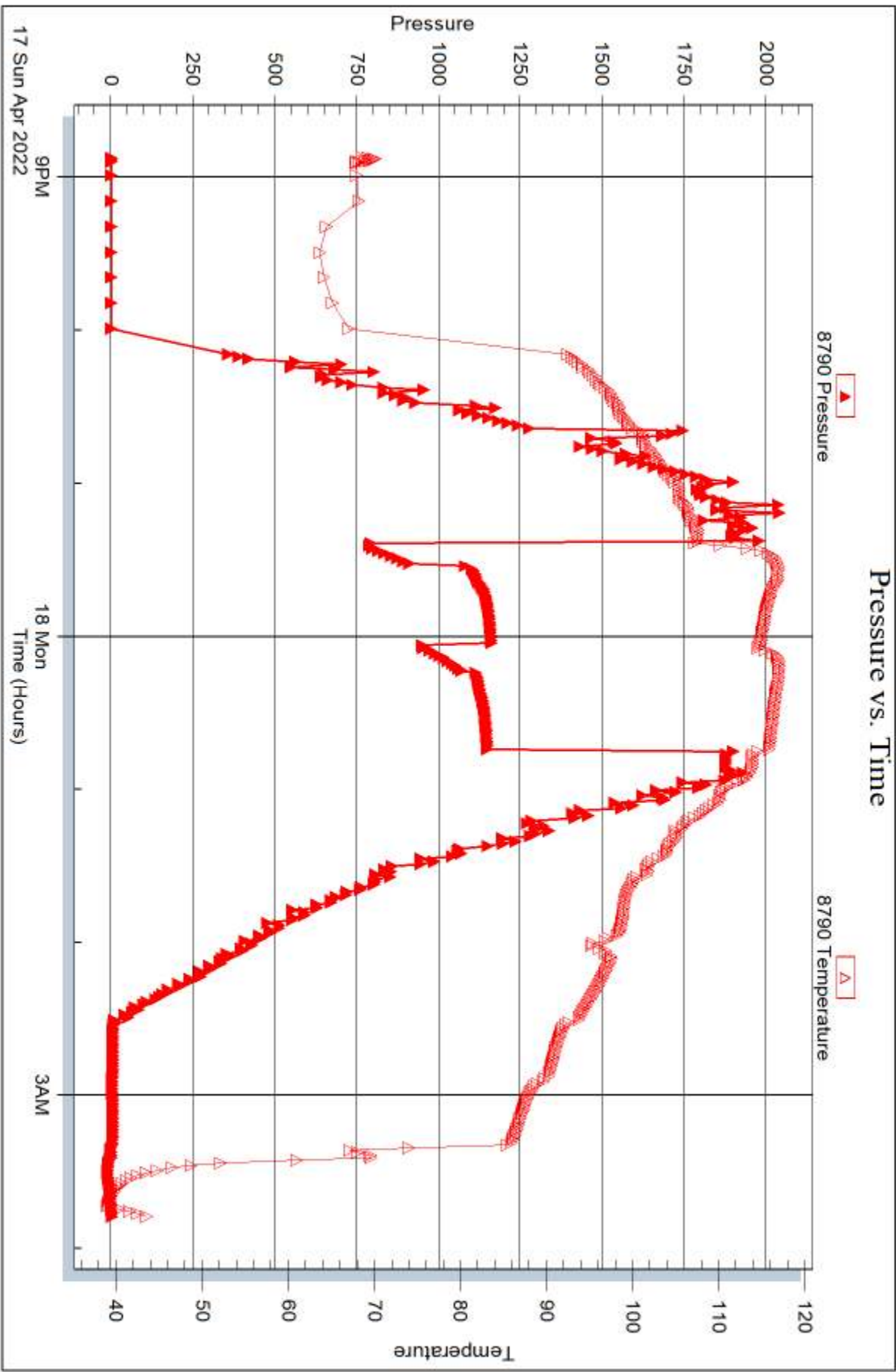
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan, KS

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 68777

Printed: 2022.04.26 @ 11:57:46



DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE 84th St
Newton, KS 67114

ATTN: Ryan Seib

18-14s-35w Logan,KS

North By Northwest #1

Start Date: 2022.04.18 @ 20:51:45

End Date: 2022.04.19 @ 03:21:15

Job Ticket #: 68778 DST #: 2

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

Printed: 2022.04.26 @ 11:56:39

Palomino Petroleum

North By Northwest #1

18-14s-35w Logan,KS

DST # 2

LKC J

2022.04.18



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Palomino Petroleum
 4924 SE 84th St
 New ton, KS 67114
 ATTN: Ryan Seib

North By Northwest #1
18-14s-35w Logan,KS
 Job Ticket: 68778 **DST#: 2**
 Test Start: 2022.04.18 @ 20:51:45

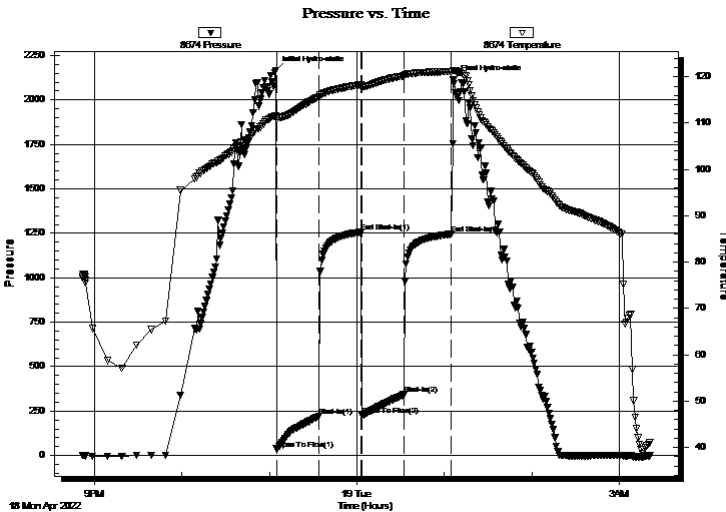
GENERAL INFORMATION:

Formation: **LKC J**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Reset)
 Time Tool Opened: 23:04:45 Tester: Brandon Turley
 Time Test Ended: 03:21:15 Unit No: 79
 Interval: **4240.00 ft (KB) To 4280.00 ft (KB) (TVD)** Reference Elevations: 3213.00 ft (KB)
 Total Depth: 4280.00 ft (KB) (TVD) 3203.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 10.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 342.90 psig @ 4241.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.18 End Date: 2022.04.19 Last Calib.: 2022.04.19
 Start Time: 20:51:50 End Time: 03:21:14 Time On Btm: 2022.04.18 @ 23:04:15
 Time Off Btm: 2022.04.19 @ 01:06:15

TEST COMMENT: IF: BOB in 10 mins. 23
 IS: No return.
 FF: BOB in 12 mins. 21
 FS: No return. 30-30-30-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.90	111.62	Initial Hydro-static
1	38.14	110.86	Open To Flow (1)
30	219.67	115.69	Shut-In(1)
59	1255.96	118.26	End Shut-In(1)
59	225.06	117.54	Open To Flow (2)
88	342.90	120.18	Shut-In(2)
121	1244.77	121.07	End Shut-In(2)
122	2113.35	121.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	water 100%w	2.23
252.00	mcw 90%w 10%m	3.53
146.00	w cm 20%w 80%m	2.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

ATTN: Ryan Seib

Job Ticket: 68778

DST#: 2

Test Start: 2022.04.18 @ 20:51:45

Tool Information

Drill Pipe:	Length: 3995.00 ft	Diameter: 3.80 inches	Volume: 56.04 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:	30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose:	75000.00 lb
			<u>Total Volume: 57.22 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial	64000.00 lb
Depth to Top Packer:	4240.00 ft			Final	66000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	40.00 ft				
Tool Length:	69.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4212.00	
Shut In Tool	5.00			4217.00	
Hydraulic tool	5.00			4222.00	
Jars	5.00			4227.00	
EM Tool	2.00			4229.00	
Safety Joint	2.00			4231.00	
Packer	5.00			4236.00	29.00 Bottom Of Top Packer
Packer	4.00			4240.00	
Stubb	1.00			4241.00	
Recorder	0.00	8790	Inside	4241.00	
Recorder	0.00	8674	Outside	4241.00	
Perforations	2.00			4243.00	
Change Over Sub	1.00			4244.00	
Drill Pipe	32.00			4276.00	
Change Over Sub	1.00			4277.00	
Bullnose	3.00			4280.00	40.00 Bottom Packers & Anchor
Total Tool Length:	69.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

North By Northwest #1
18-14s-35w Logan,KS
Job Ticket: 68778 **DST#: 2**
Test Start: 2022.04.18 @ 20:51:45

Mud and Cushion Information

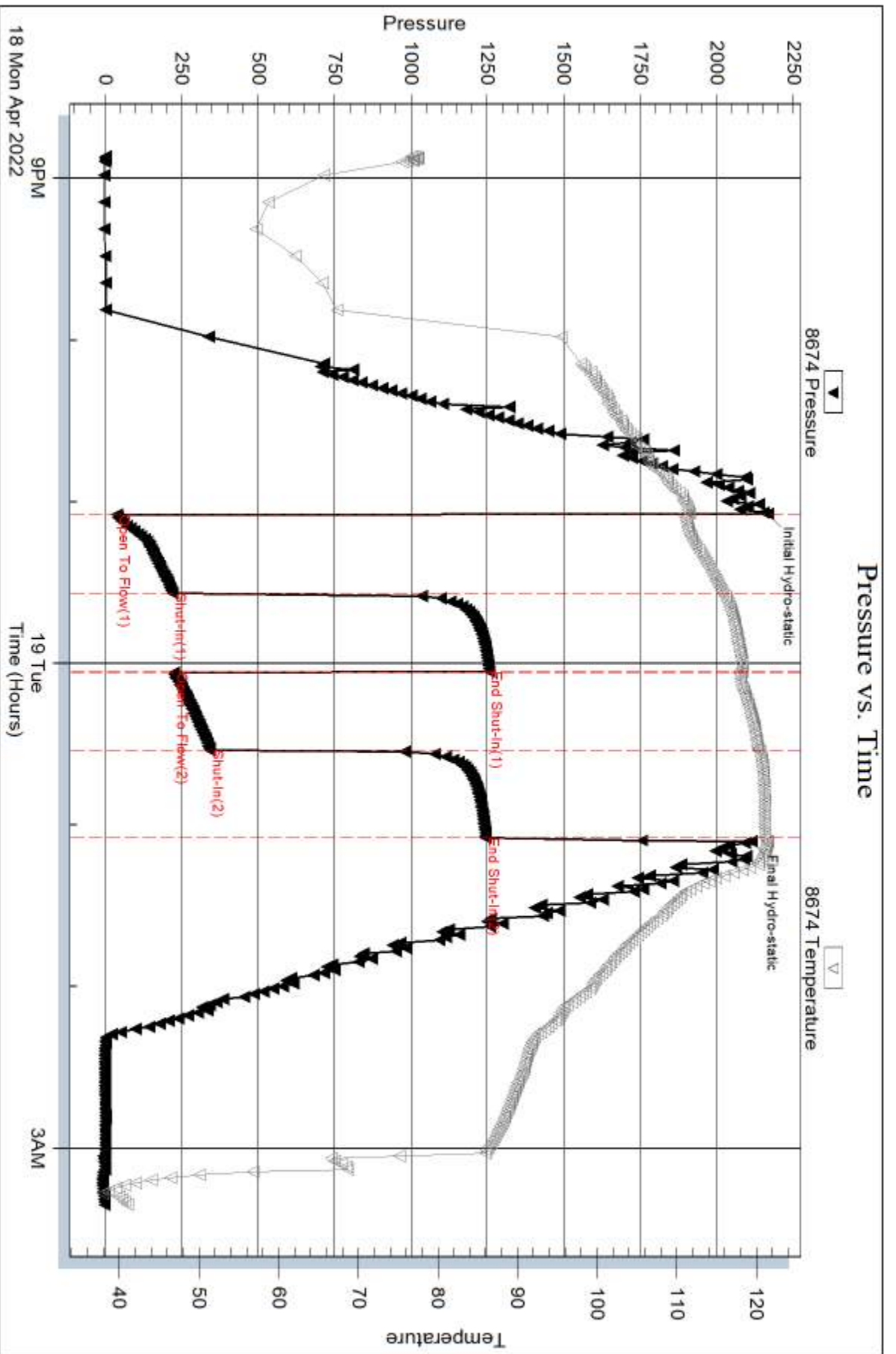
Mud Type: Gel Chem	Cushion Type:	Oil API: 0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity: 25000 ppm
Viscosity: 71.00 sec/qt	Cushion Volume: bbl	
Water Loss: 8.78 in ³	Gas Cushion Type:	
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig	
Salinity: 4000.00 ppm		
Filter Cake: 1.00 inches		

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	water 100%w	2.232
252.00	mcw 90%w 10%m	3.535
146.00	w cm 20%w 80%m	2.048

Total Length: 713.00 ft Total Volume: 7.815 bbl
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: .55@35=25000



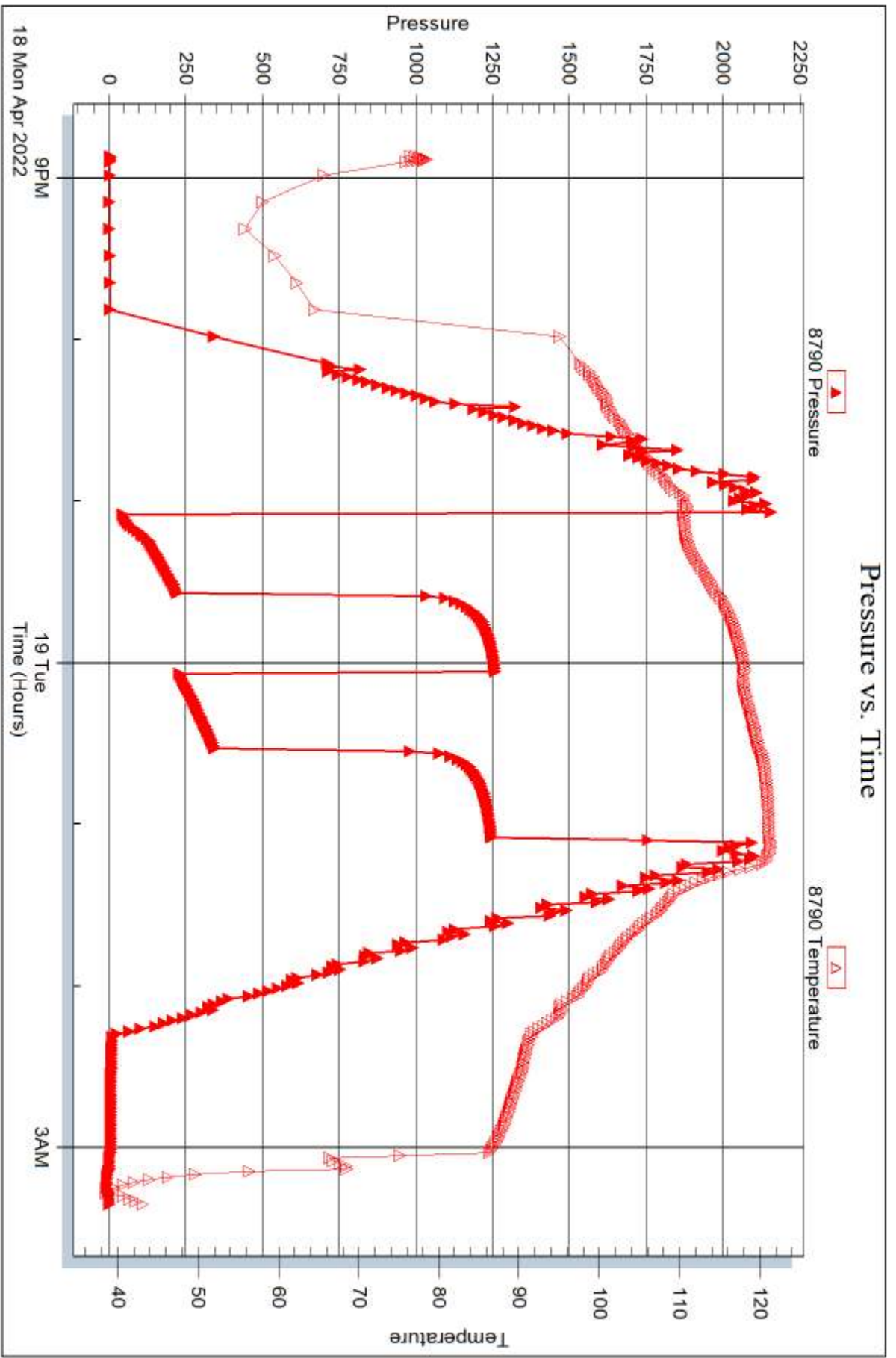
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan, KS

DST Test Number: 2





DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE 84th St
Newton, KS 67114

ATTN: Ryan Seib

18-14s-35w Logan,KS

North By Northwest #1

Start Date: 2022.04.20 @ 02:03:02

End Date: 2022.04.20 @ 08:52:02

Job Ticket #: 68779 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.04.26 @ 11:55:47

Palomino Petroleum

North By Northwest #1

18-14s-35w Logan,KS

DST # 3

Marmaton

2022.04.20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

North By Northwest #1
18-14s-35w Logan,KS
Job Ticket: 68779 **DST#: 3**
Test Start: 2022.04.20 @ 02:03:02

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:25:32
Time Test Ended: 08:52:02
Interval: **4373.00 ft (KB) To 4480.00 ft (KB) (TVD)**
Total Depth: 4480.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 3213.00 ft (KB)
3203.00 ft (CF)
KB to GR/CF: 10.00 ft

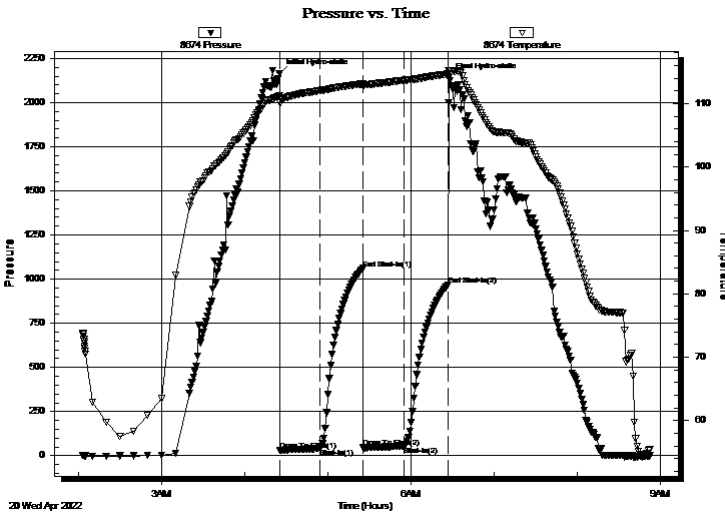
Serial #: 8674

Outside

Press@RunDepth: 53.69 psig @ 4374.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.04.20 End Date: 2022.04.20 Last Calib.: 2022.04.20
Start Time: 02:03:07 End Time: 08:52:01 Time On Btm: 2022.04.20 @ 04:25:02
Time Off Btm: 2022.04.20 @ 06:27:32

TEST COMMENT: IF: 1/2" blow built to 1 1/2"
IS: No return.
FF: Surface blow built to 3/4"
FS: No return. 30s

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.15	111.31	Initial Hydro-static
1	30.43	110.06	Open To Flow (1)
29	41.04	112.07	Shut-In(1)
60	1060.31	113.14	End Shut-In(1)
61	45.07	112.82	Open To Flow (2)
90	53.69	113.68	Shut-In(2)
122	966.58	114.69	End Shut-In(2)
123	2142.50	115.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	ocm 30%o 70%m	0.31
2.00	free oil 100%o	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

ATTN: Ryan Seib

Job Ticket: 68779

DST#: 3

Test Start: 2022.04.20 @ 02:03:02

Tool Information

Drill Pipe:	Length: 4120.00 ft	Diameter: 3.80 inches	Volume: 57.79 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 75000.00 lb
			<u>Total Volume: 58.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	16.00 ft			String Weight: Initial 64000.00 lb
Depth to Top Packer:	4373.00 ft			Final 64000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	107.00 ft			
Tool Length:	136.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4345.00	
Shut In Tool	5.00			4350.00	
Hydraulic tool	5.00			4355.00	
Jars	5.00			4360.00	
EM Tool	2.00			4362.00	
Safety Joint	2.00			4364.00	
Packer	5.00			4369.00	29.00 Bottom Of Top Packer
Packer	4.00			4373.00	
Stubb	1.00			4374.00	
Recorder	0.00	8790	Inside	4374.00	
Recorder	0.00	8674	Outside	4374.00	
Perforations	7.00			4381.00	
Change Over Sub	1.00			4382.00	
Drill Pipe	94.00			4476.00	
Change Over Sub	1.00			4477.00	
Bullnose	3.00			4480.00	107.00 Bottom Packers & Anchor
Total Tool Length:	136.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

Job Ticket: 68779

DST#: 3

ATTN: Ryan Seib

Test Start: 2022.04.20 @ 02:03:02

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
63.00	ocm 30%o 70%m	0.310
2.00	free oil 100%o	0.010

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

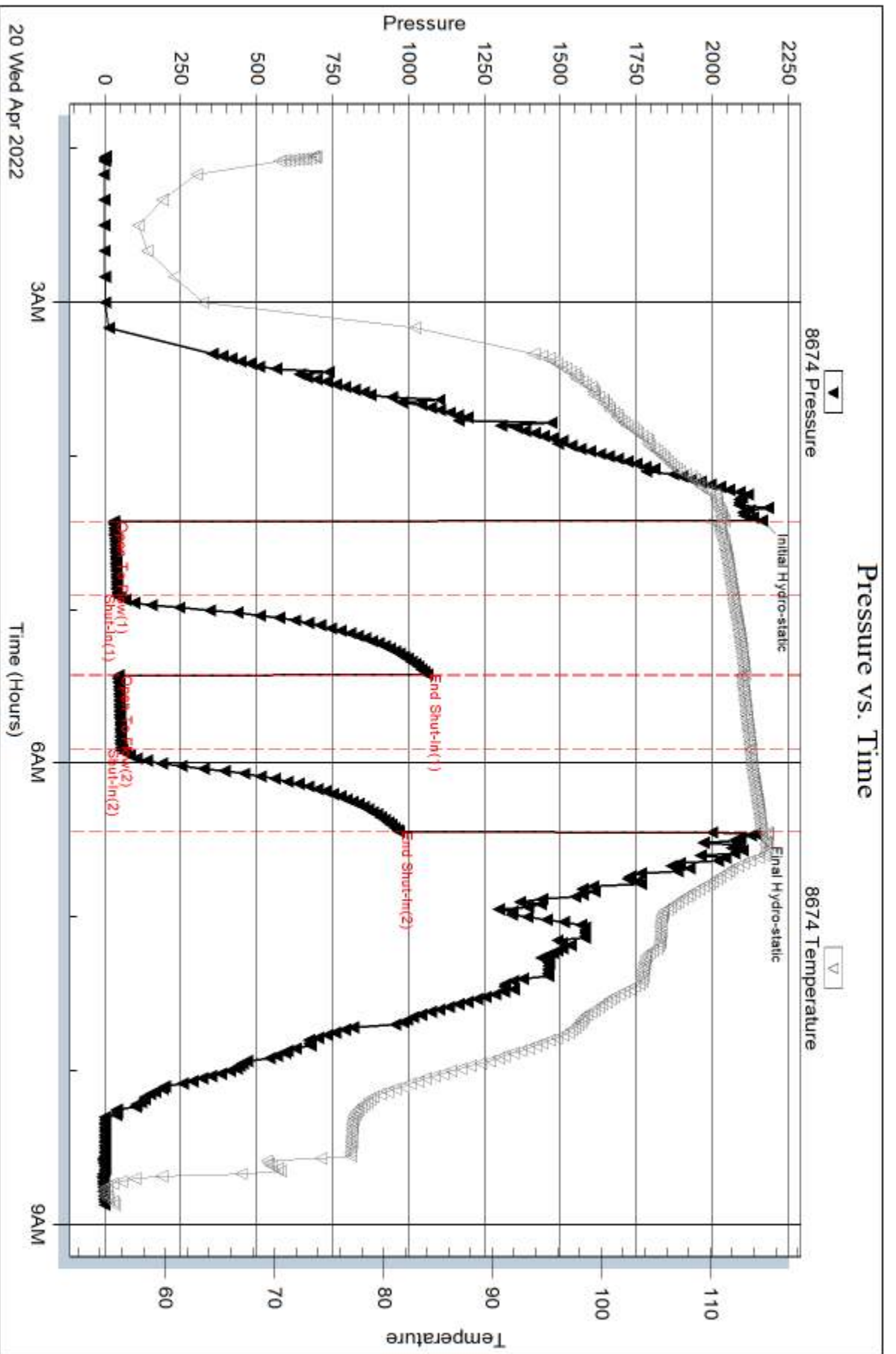
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



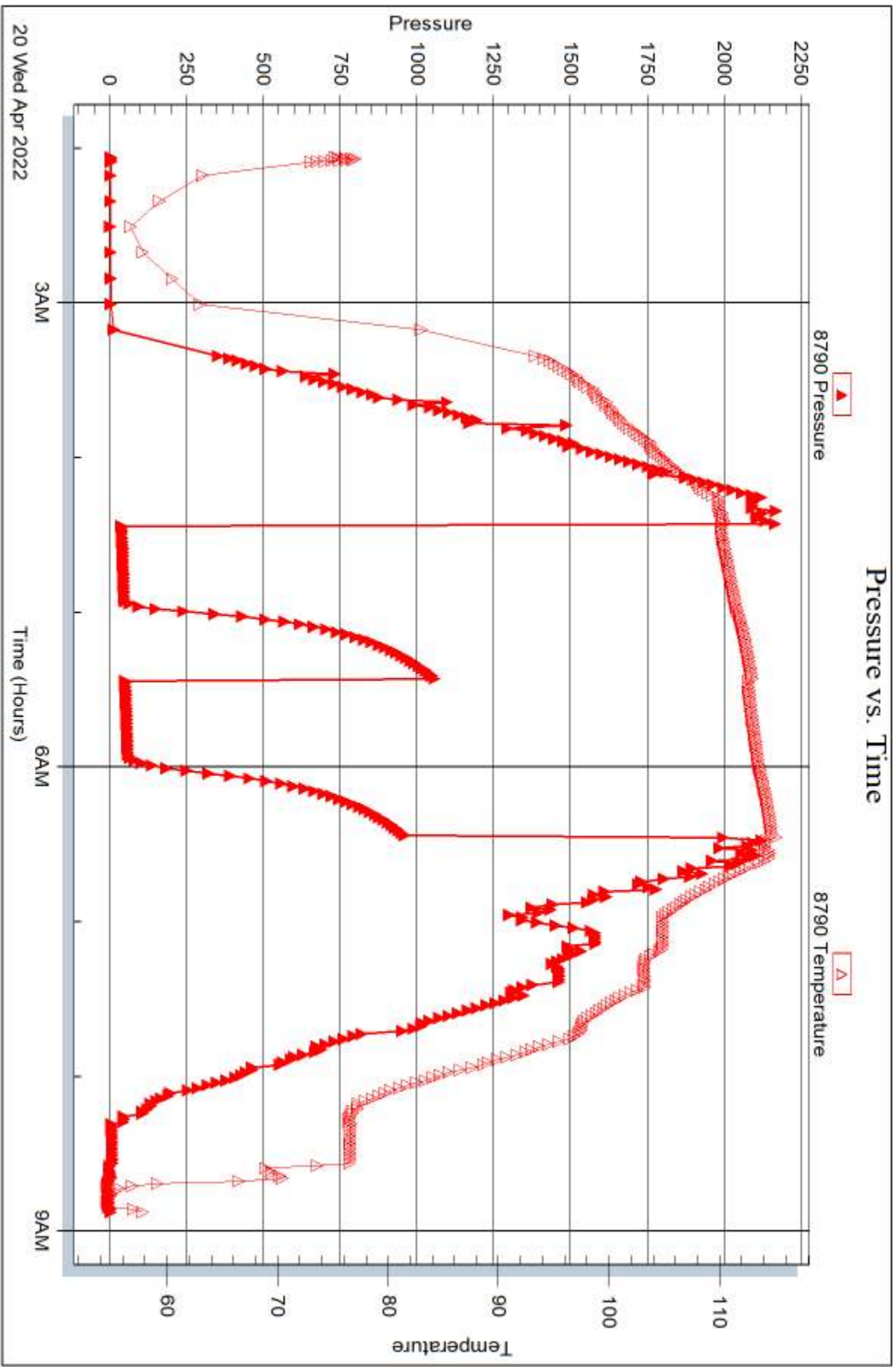
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan, KS

DST Test Number: 3



20 Wed Apr 2022

3AM

6AM

9AM

Time (Hours)

Trilobite Testing, Inc

Ref. No: 68779

Printed: 2022.04.26 @ 11:55:48



DRILL STEM TEST REPORT

Prepared For: **Palomino Petroleum**

4924 SE 84th St
Newton, KS 67114

ATTN: Ryan Seib

18-14s-35w Logan,KS

North By Northwest #1

Start Date: 2022.04.21 @ 08:21:49

End Date: 2022.04.21 @ 15:36:19

Job Ticket #: 68780 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2022.04.26 @ 11:55:16

Palomino Petroleum

North By Northwest #1

18-14s-35w Logan,KS

DST # 4

Pawnee Ft Scott

2022.04.21



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

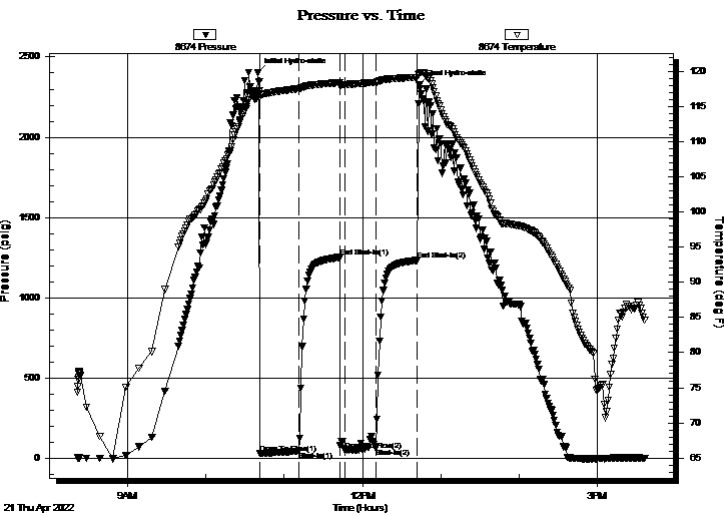
North By Northwest #1
18-14s-35w Logan,KS
Job Ticket: 68780 **DST#: 4**
Test Start: 2022.04.21 @ 08:21:49

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 10:41:19
Time Test Ended: 15:36:19
Interval: **4475.00 ft (KB) To 4570.00 ft (KB) (TVD)**
Total Depth: 4900.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 3213.00 ft (KB)
3203.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8674 Outside
Press@RunDepth: 64.66 psig @ 4476.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.04.21 End Date: 2022.04.21 Last Calib.: 2022.04.21
Start Time: 08:21:54 End Time: 15:36:18 Time On Btm: 2022.04.21 @ 10:39:49
Time Off Btm: 2022.04.21 @ 12:43:19

TEST COMMENT: IF: 1/2" blow built to 2"
IS: No return.
FF: Surface blow built to 1/2"
FS: No return. 30s



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2400.24	117.14	Initial Hydro-static
2	29.27	116.26	Open To Flow (1)
31	44.02	117.54	Shut-In(1)
63	1251.85	118.41	End Shut-In(1)
67	52.17	118.10	Open To Flow (2)
90	64.66	118.46	Shut-In(2)
122	1233.17	119.17	End Shut-In(2)
124	2325.62	119.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	mud 100% m	0.34

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan,KS

ATTN: Ryan Seib

Job Ticket: 68780

DST#: 4

Test Start: 2022.04.21 @ 08:21:49

Tool Information

Drill Pipe:	Length: 4216.00 ft	Diameter: 3.80 inches	Volume: 59.14 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: 30000.00 lb
Drill Collar:	Length: 240.00 ft	Diameter: 2.25 inches	Volume: 1.18 bbl	Weight to Pull Loose: 90000.00 lb
			<u>Total Volume: 60.32 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 78000.00 lb
Depth to Top Packer:	4475.00 ft			Final 78000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	425.00 ft			
Tool Length:	455.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Stubb	1.00		Fluid	4446.00	
Shut In Tool	5.00			4451.00	
Hydraulic tool	5.00			4456.00	
Jars	5.00			4461.00	
EM Tool	3.00			4464.00	
Safety Joint	2.00			4466.00	
Packer	5.00			4471.00	30.00 Bottom Of Top Packer
Packer	4.00			4475.00	
Stubb	1.00			4476.00	
Recorder	0.00	8790	Inside	4476.00	
Recorder	0.00	8674	Outside	4476.00	
Perforations	5.00			4481.00	
Change Over Sub	1.00			4482.00	
Drill Pipe	63.00			4545.00	
Change Over Sub	1.00			4546.00	
Perforations	19.00			4565.00	
Blank Off Sub	1.00			4566.00	
Packer - Shale	4.00			4570.00	
Stubb	1.00			4571.00	
Perforations	7.00			4578.00	
Recorder	0.00	8524	Below	4578.00	
Change Over Sub	1.00			4579.00	
Drill Pipe	317.00			4896.00	
Change Over Sub	1.00			4897.00	
Bullnose	3.00			4900.00	425.00 Bottom Packers & Anchor

Total Tool Length: 455.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

North By Northwest #1
18-14s-35w Logan,KS
Job Ticket: 68780 **DST#: 4**
Test Start: 2022.04.21 @ 08:21:49

Mud and Cushion Information

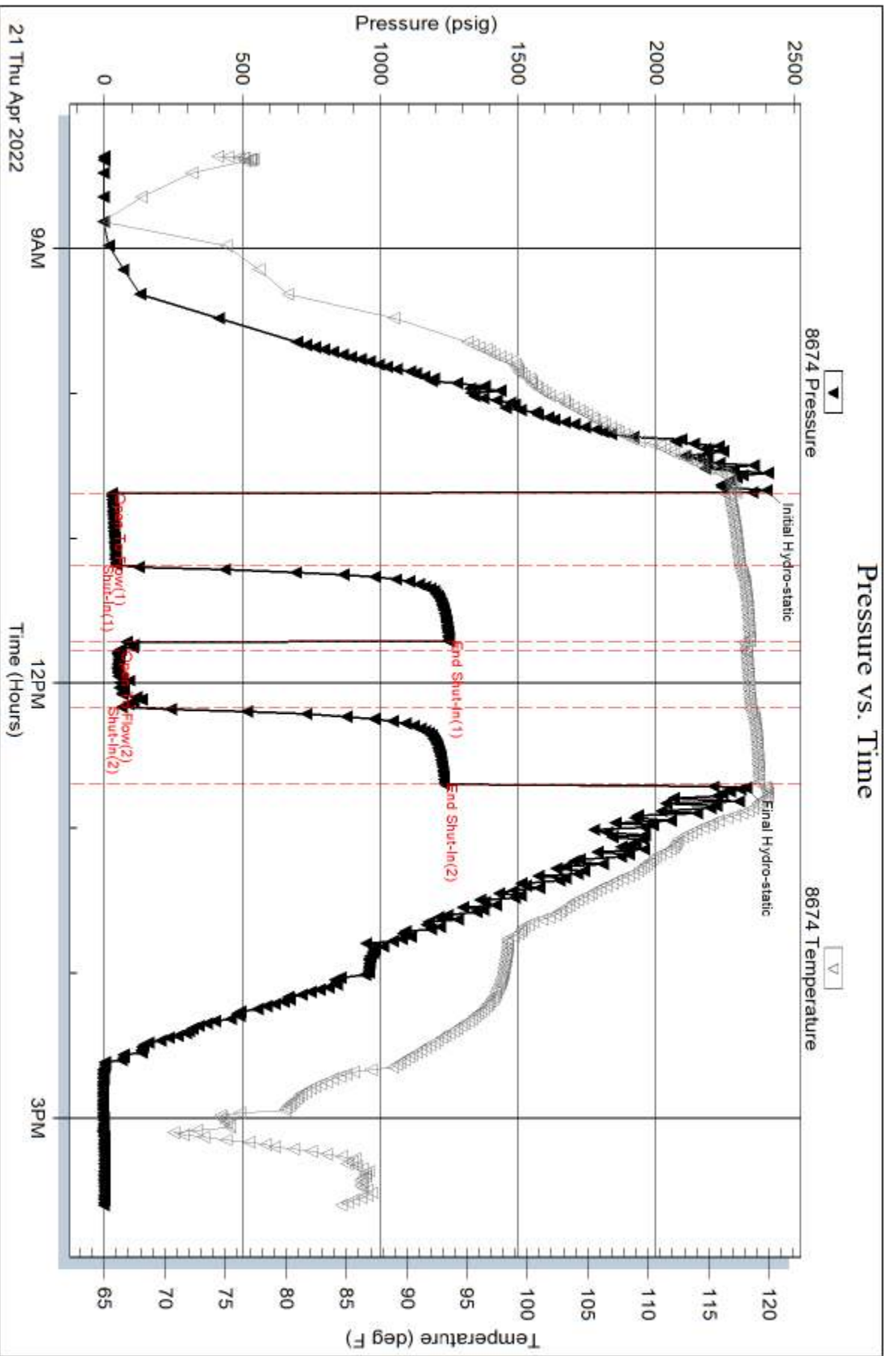
Mud Type: Gel Chem	Cushion Type:	Oil API:	0 deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	0 ppm
Viscosity: 53.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.79 in ³	Gas Cushion Type:		
Resistivity: 0.00 ohm.m	Gas Cushion Pressure: psig		
Salinity: 4400.00 ppm			
Filter Cake: 1.00 inches			

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	mud 100% m	0.344

Total Length: 70.00 ft Total Volume: 0.344 bbl
 Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
 Laboratory Name: Laboratory Location:
 Recovery Comments:



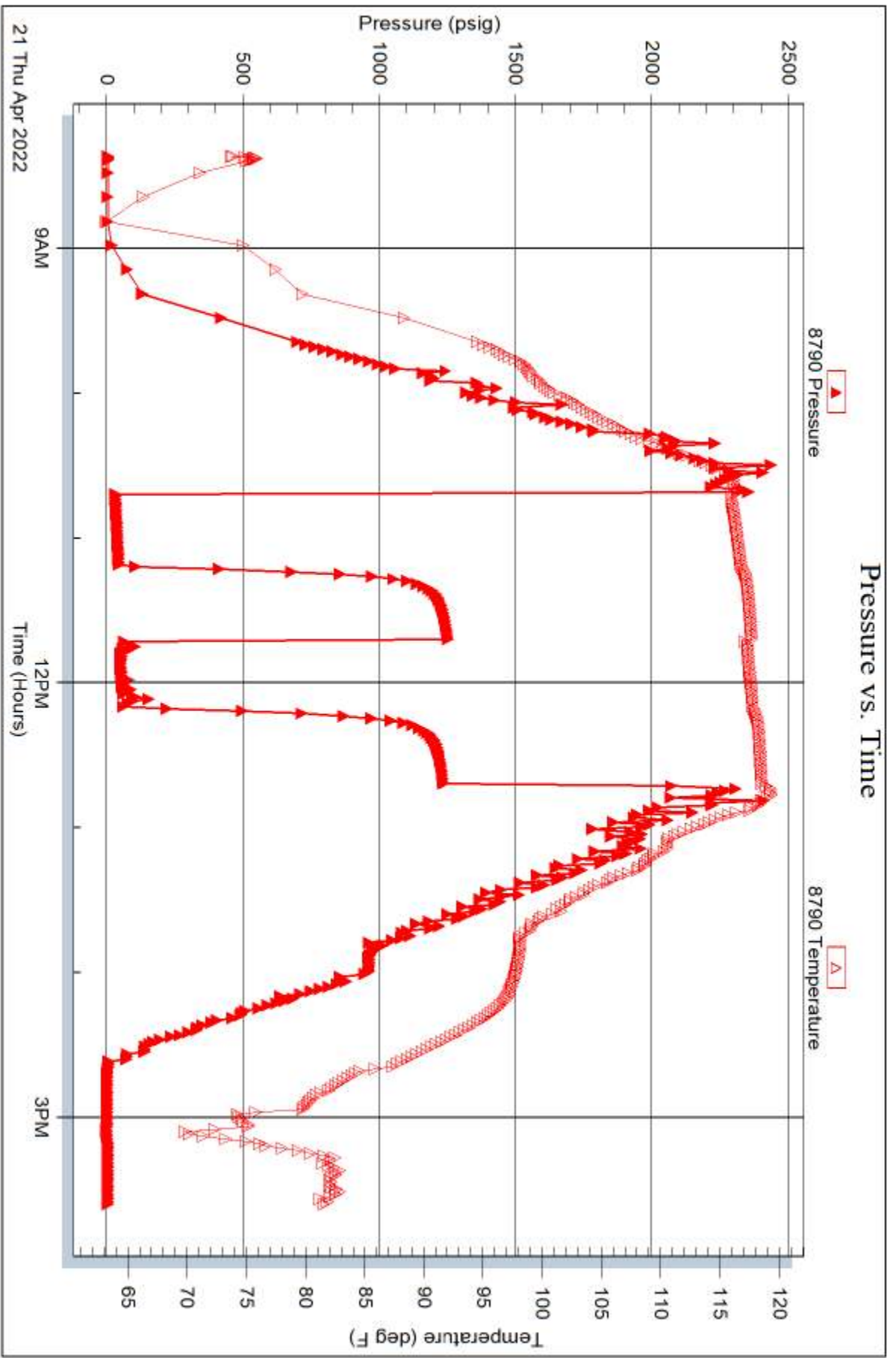
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan, KS

DST Test Number: 4

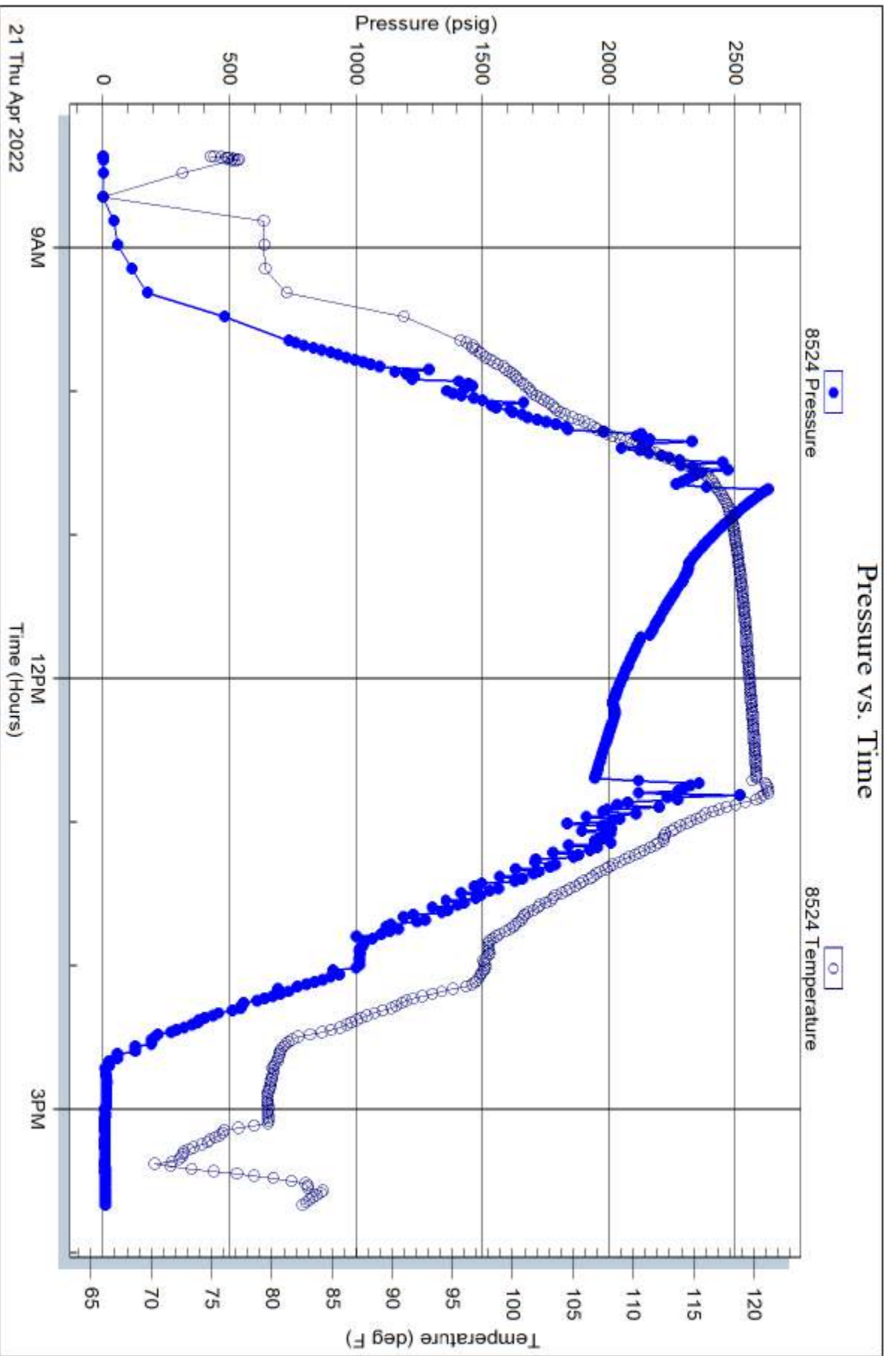


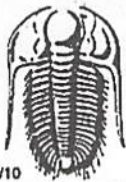
Serial #: 8524

Below (Str Rattenho Petroleum

18-14s-35w Logan,KS

DST Test Number: 4





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68777

Well Name & No. North by Northwest #2 Test No. 1 Date 4-17-22
 Company Pg/omino Petroleum Elevation 3213 KB 3203 GL
 Address _____
 Co. Rep / Geo. Ryan Seib Rig Murfin 21
 Location: Sec. 18 Twp 14S Rge. 35W Co. Logan State KS

Interval Tested 3930 4110 Zone Tested Toonoto - Lansing A-C
 Anchor Length 180 Drill Pipe Run 3678 Mud Wt. 9.2
 Top Packer Depth 3925 Drill Collars Run 240 Vis 57
 Bottom Packer Depth 3930 Wt. Pipe Run — WL 7.2
 Total Depth 4110 Chlorides 3000 ppm System LCM 3

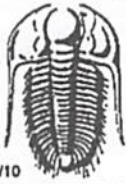
Blow Description ±F: BOB 207"
IS: No return.
FF: BOB in 1 min. 135"
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>378</u>	<u>wcm</u>		<u>10</u>	<u>90</u>	
<u>315</u>	<u>wm</u>		<u>50</u>	<u>50</u>	
<u>1638</u>	<u>mcw</u>		<u>90</u>	<u>10</u>	
_____	_____				
_____	_____				

Rec Total 2331 BHT 116 Gravity — API RW .47 @ 46 °F Chlorides 22,000 ppm

(A) Initial Hydrostatic <u>1993</u>	<input checked="" type="checkbox"/> Test 1950	T-On Location <u>19:36</u>
(B) First Initial Flow <u>790</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>20:52</u>
(C) First Final Flow <u>916</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>23:23</u>
(D) Initial Shut-In <u>1160</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>00:43</u>
(E) Second Initial Flow <u>946</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>3:48</u>
(F) Second Final Flow <u>1074</u>	<input checked="" type="checkbox"/> Mileage <u>120</u> - 180	Comments _____
(G) Final Shut-In <u>1148</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1900</u>	<input type="checkbox"/> Straddle	<input checked="" type="checkbox"/> EM Tool
Initial Open <u>10</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Shale Packer
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>10</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total <u>0</u>
	<input type="checkbox"/> Accessibility	Total <u>2430</u>
	Sub Total <u>2430</u>	MP/DST Disc'l _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **68778**

Well Name & No. North by Northwest #2 Test No. 2 Date 4-18-22
 Company Palomino Petroleum Elevation 3213 KB 3203 GL
 Address _____
 Co. Rep / Geo. Ryan Seib Rig Murfin 21
 Location: Sec. 18 Twp 14S Rge. 35W Co. Logan State KS

Interval Tested 4240 4280 Zone Tested Lansing J
 Anchor Length 40 Drill Pipe Run 3995 Mud Wt. 9.2
 Top Packer Depth 4235 Drill Collars Run 240 Vis 71
 Bottom Packer Depth 4240 Wt. Pipe Run _____ WL 8.8
 Total Depth 4280 Chlorides 4000 ppm System LCM 2

Blow Description ±F: BoB in 10 mins. 23"
ES: No return.
EF: BoB in 12 mins. 21"
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>146</u>	<u>wcm</u>		<u>20</u>	<u>80</u>	
<u>252</u>	<u>MCW</u>		<u>90</u>	<u>10</u>	
<u>315</u>	<u>water</u>		<u>100</u>		
____	____				
____	____				

Rec Total 713 BHT 121 Gravity _____ API RW .55 @ 35 °F Chlorides 25,000 ppm

(A) Initial Hydrostatic 2165 Test 1950 T-On Location 20:00
 (B) First Initial Flow 38 Jars 300 T-Started 22:51
 (C) First Final Flow 219 Safety Joint T-Open 1:04
 (D) Initial Shut-In 1255 Circ Sub NIC T-Pulled 3:04
 (E) Second Initial Flow 225 Hourly Standby T-Out 5:22
 (F) Second Final Flow 342 Mileage 120 - 180 Comments Short tripped
 (G) Final Shut-In 1244 Sampler _____
 (H) Final Hydrostatic 2113 Straddle _____

Initial Open 30 EM Tool _____
 Initial Shut-In 30 Ruined Shale Packer _____
 Final Flow 30 Ruined Packer 335
 Final Shut-In 30 Extra Copies _____
 Sub Total 335
 Total 2765
 Sub Total 2430 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

NO. **68779**

Well Name & No. North by Northwest #1 Test No. 3 Date 4-19-22
 Company Palomino Petroleum Elevation 3213 KB 3203 GL
 Address _____
 Co. Rep / Geo. Ryan Seib Rig Murfin 21
 Location: Sec. 18 Twp 14S Rge. 35W Co. Logan State KS

Interval Tested 4373 4480 Zone Tested Morrison
 Anchor Length _____ 107 Drill Pipe Run 4120 Mud Wt. 9.0
 Top Packer Depth _____ 4368 Drill Collars Run 240 Vis 62
 Bottom Packer Depth _____ 4373 Wt. Pipe Run _____ WL 8.0
 Total Depth _____ 4480 Chlorides 4600 ppm System LCM 1
 Blow Description #F! 1/2 blow built to 1 1/2.
FS: No return.
FF: Surface blow built to 3/4.
FS: No return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>2</u>	<u>Free oil</u>	<u>100</u>			
<u>63</u>	<u>ocm</u>	<u>30</u>		<u>70</u>	
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Rec Total 65 BHT 114 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2163</u>	<input checked="" type="checkbox"/> Test 1950	T-On Location <u>23:10</u>
(B) First Initial Flow <u>30</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>2:03</u>
(C) First Final Flow <u>41</u>	<input checked="" type="checkbox"/> Safety Joint _____	T-Open <u>4:25</u>
(D) Initial Shut-In <u>1060</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>6:25</u>
(E) Second Initial Flow <u>45</u>	<input checked="" type="checkbox"/> Hourly Standby _____	T-Out <u>8:53</u>
(F) Second Final Flow <u>53</u>	<input checked="" type="checkbox"/> Mileage <u>120 - 180</u>	Comments <u>short trip</u>
(G) Final Shut-In <u>966</u>	<input type="checkbox"/> Sampler _____	
(H) Final Hydrostatic <u>2142</u>	<input type="checkbox"/> Straddle _____	<input checked="" type="checkbox"/> EM Tool <u>-350</u>
Initial Open <u>30</u>	<input type="checkbox"/> Shale Packer _____	<input type="checkbox"/> Ruined Shale Packer _____
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer _____	<input type="checkbox"/> Ruined Packer _____
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	<input type="checkbox"/> Extra Copies _____
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby _____	Sub Total <u>-350</u>
	<input type="checkbox"/> Accessibility _____	Total <u>2080</u>
	Sub Total <u>2430</u>	MP/DST Disc't _____

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 68780

Well Name & No. North by Northwest #1 Test No. 4 Date 4-21-22
 Company Palomino Petroleum Elevation 3213 KB 3203 GL
 Address _____
 Co. Rep / Geo. Ryan Seib Rig Murkin 21
 Location: Sec. 18 Twp 14S Rge. 35W Co. Logan State KS

Interval Tested 4475 4990 Zone Tested Pawnee Ft Scott
 Anchor Length _____ 95 Drill Pipe Run 4216 Mud Wt. 9.4
 Top Packer Depth _____ 4475 Drill Collars Run 240 Vls 53
 Bottom Packer Depth _____ 4990 Wt. Pipe Run _____ WL 8.8
 Total Depth _____ 4900 Chlorides 4400 ppm System LCM 4

Blow Description IF: 1/2 blow built to 2.
IS: No return.
FF: surface blow built to 1/2.
FS: No return.

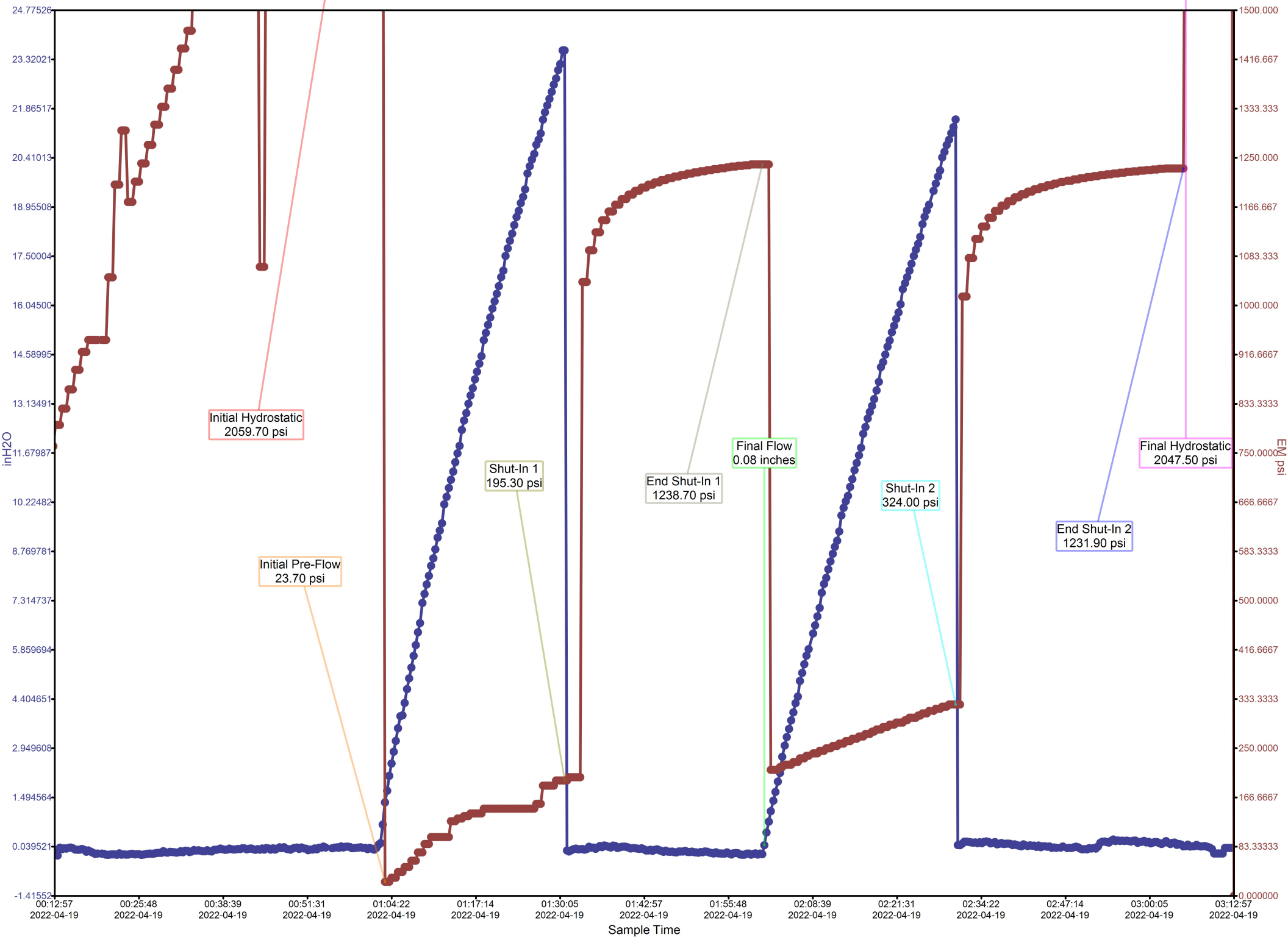
Rec	Feet of	%gas	%oil	%water	%mud
<u>70</u>	<u>mud</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 70 BHT 119 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2400</u>	<input checked="" type="checkbox"/> Test 1950	T-On Location <u>6:00</u>
(B) First Initial Flow <u>29</u>	<input checked="" type="checkbox"/> Jars 300	T-Started <u>8:21</u>
(C) First Final Flow <u>44</u>	<input checked="" type="checkbox"/> Safety Joint	T-Open <u>10:40</u>
(D) Initial Shut-In <u>1251</u>	<input checked="" type="checkbox"/> Circ Sub <u>NIL</u>	T-Pulled <u>12:40</u>
(E) Second Initial Flow <u>52</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>13:47</u>
(F) Second Final Flow <u>64</u>	<input checked="" type="checkbox"/> Mileage <u>120</u> 180	Comments _____
(G) Final Shut-In <u>1233</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2325</u>	<input checked="" type="checkbox"/> Straddle 600	<input checked="" type="checkbox"/> EM Tool
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer 250	<input checked="" type="checkbox"/> Ruined Shale Packer 365
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder	<input type="checkbox"/> Extra Copies
Final Shut-In <u>30</u>	<input type="checkbox"/> Day Standby	Sub Total 365
	<input type="checkbox"/> Accessibility	Total 3645
	Sub Total 3280	MP/DST Disc't _____

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

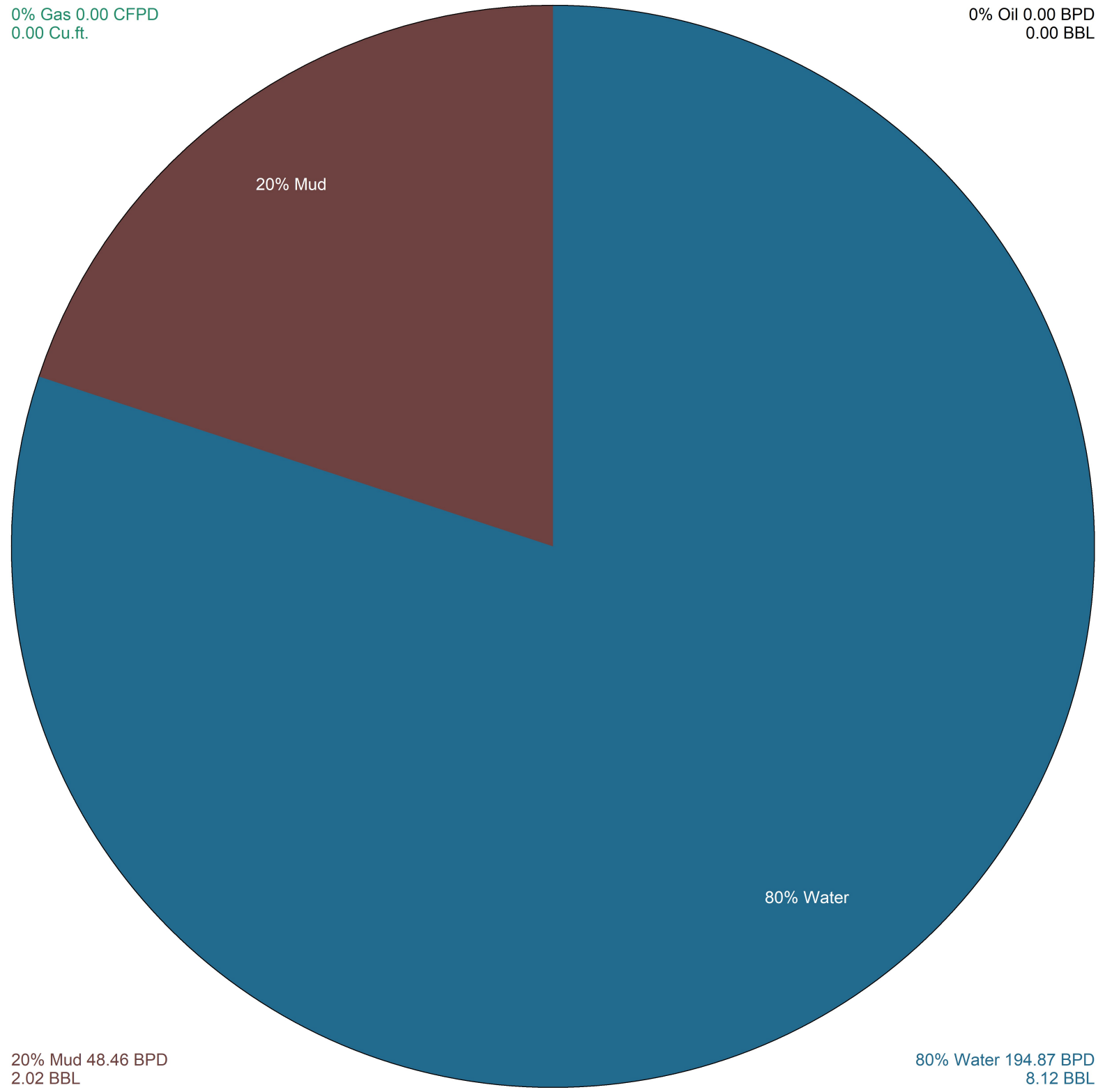
Palomino Petroleum - North by Northwest 1 - DST #2



Calculated Recovery Analysis - Palomino Petroleum - North by Northwest 1 - DST #2

0% Gas 0.00 CFPD
0.00 Cu.ft.

0% Oil 0.00 BPD
0.00 BBL



20% Mud

80% Water

20% Mud 48.46 BPD
2.02 BBL

80% Water 194.87 BPD
8.12 BBL



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

North By Northwest #1
18-14s-35w Logan Ks
Job Ticket: 68778 **DST#: 2**
Test Start: 2022.04.18 @ 20:51:45

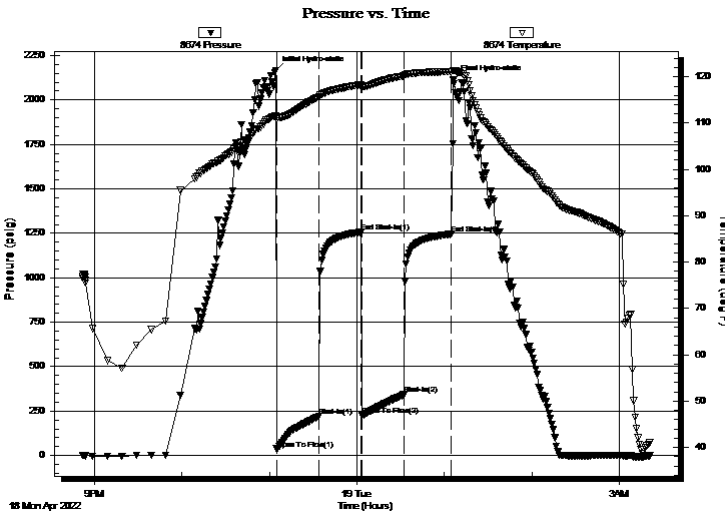
GENERAL INFORMATION:

Formation: **Lansing J**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:04:45
Time Test Ended: 03:21:15
Interval: **4240.00 ft (KB) To 4280.00 ft (KB) (TVD)**
Total Depth: 4280.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good
Test Type: Conventional Bottom Hole (Reset)
Tester: Brandon Turley
Unit No: 79
Reference Elevations: 3213.00 ft (KB)
3203.00 ft (CF)
KB to GR/CF: 10.00 ft

Serial #: 8674 Outside
Press@RunDepth: 342.90 psig @ 4241.00 ft (KB) Capacity: 8000.00 psig
Start Date: 2022.04.18 End Date: 2022.04.19 Last Calib.: 2022.04.19
Start Time: 20:51:50 End Time: 03:21:14 Time On Btm: 2022.04.18 @ 23:04:15
Time Off Btm: 2022.04.19 @ 01:06:15

TEST COMMENT: IF: BOB in 10 mins. 23
IS: No return.
FF: BOB in 12 mins. 21
FS: No return. 30-30-30-30

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2165.90	111.62	Initial Hydro-static
1	38.14	110.86	Open To Flow (1)
30	219.67	115.69	Shut-In(1)
59	1255.96	118.26	End Shut-In(1)
59	225.06	117.54	Open To Flow (2)
88	342.90	120.18	Shut-In(2)
121	1244.77	121.07	End Shut-In(2)
122	2113.35	121.38	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
315.00	water 100%w	2.23
252.00	mcw 90%w 10%m	3.53
146.00	w cm 20%w 80%m	2.05

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan Ks

Job Ticket: 68778

DST#: 2

ATTN: Ryan Seib

Test Start: 2022.04.18 @ 20:51:45

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

25000 ppm

Viscosity: 71.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
315.00	water 100%w	2.232
252.00	mcw 90%w 10%m	3.535
146.00	w cm 20%w 80%m	2.048

Total Length: 713.00 ft Total Volume: 7.815 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

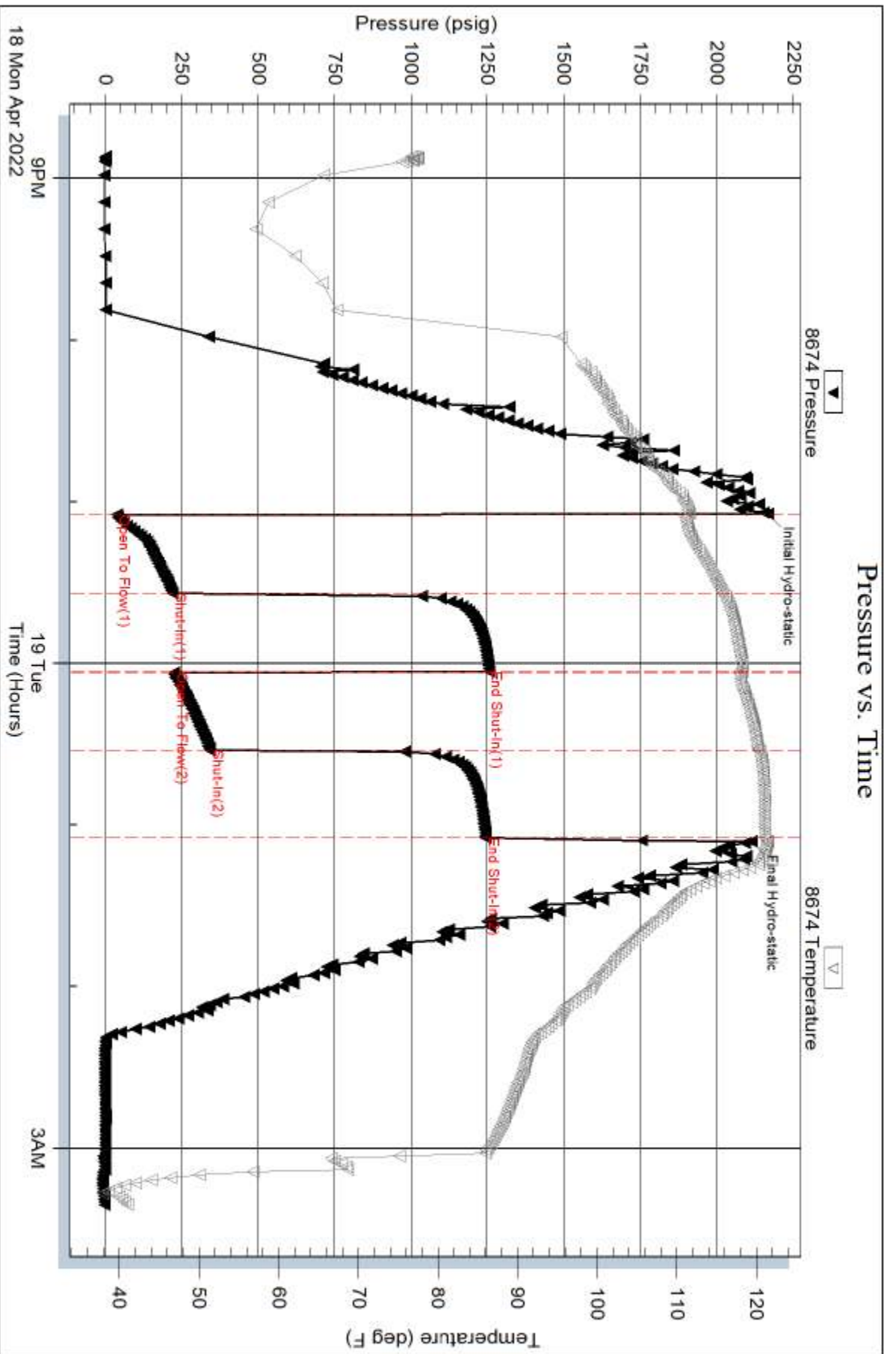
Recovery Comments: .55@35=25000

Serial #: 8674

Outside Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 2



Trilobe Testing, Inc

Ref. No: 68778

Printed: 2022.04.19 @ 08:47:36

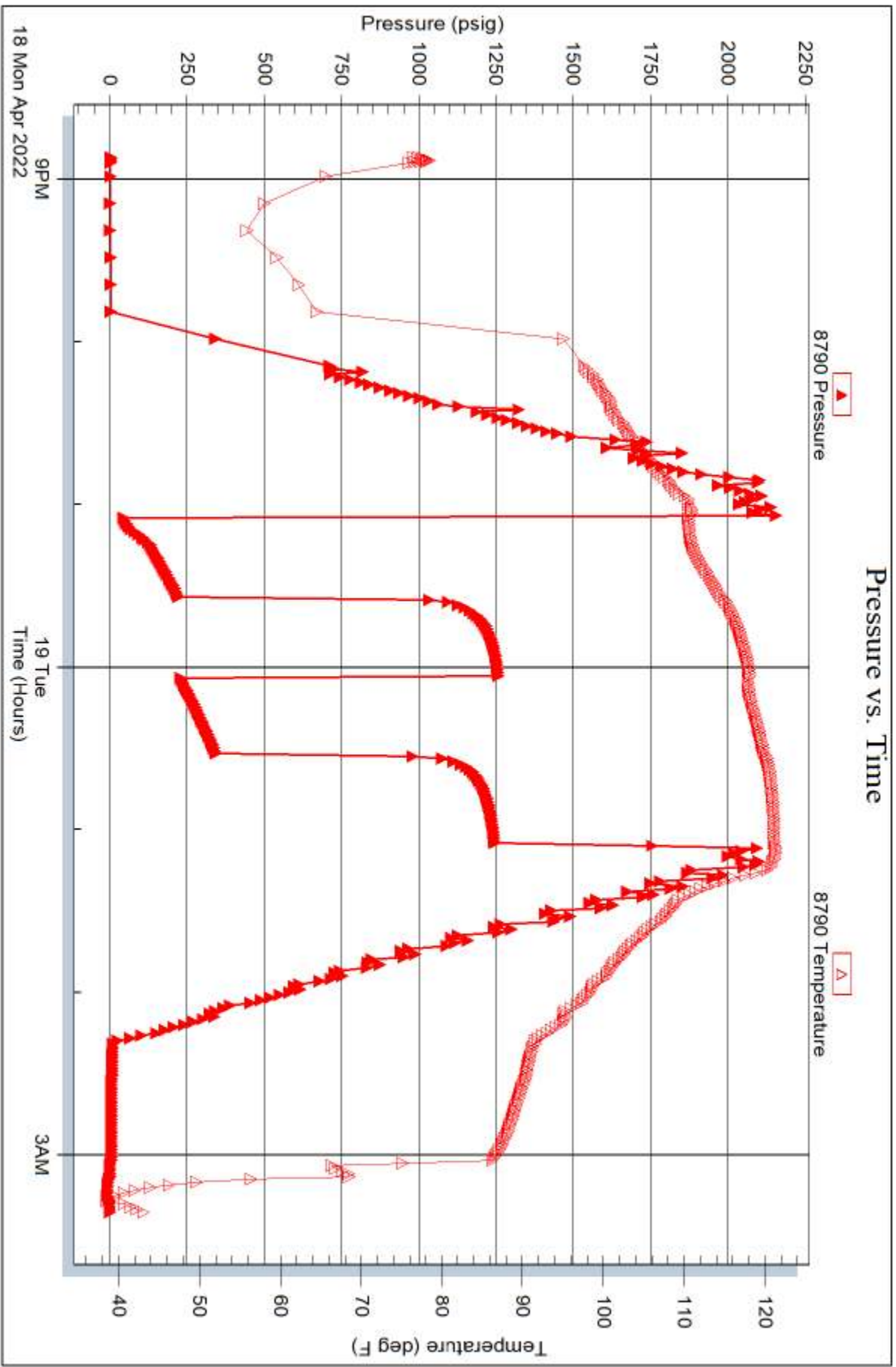
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 68778

Printed: 2022.04.19 @ 08:47:36



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum

4924 SE 84th St
New ton, KS 67114

ATTN: Ryan Seib

North By Northwest #1

18-14s-35w Logan Ks

Job Ticket: 68779

DST#: 3

Test Start: 2022.04.20 @ 02:03:02

GENERAL INFORMATION:

Formation: **Marmaton**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:25:32

Time Test Ended: 08:52:02

Test Type: Conventional Bottom Hole (Reset)

Tester: Brandon Turley

Unit No: 79

Interval: 4373.00 ft (KB) To 4480.00 ft (KB) (TVD)

Reference Elevations: 3213.00 ft (KB)

Total Depth: 4480.00 ft (KB) (TVD)

3203.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 10.00 ft

Serial #: 8674 Outside

Press@RunDepth: 53.69 psig @ 4374.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2022.04.20

End Date:

2022.04.20

Last Calib.:

2022.04.20

Start Time: 02:03:07

End Time:

08:52:01

Time On Btm:

2022.04.20 @ 04:25:02

Time Off Btm:

2022.04.20 @ 06:27:32

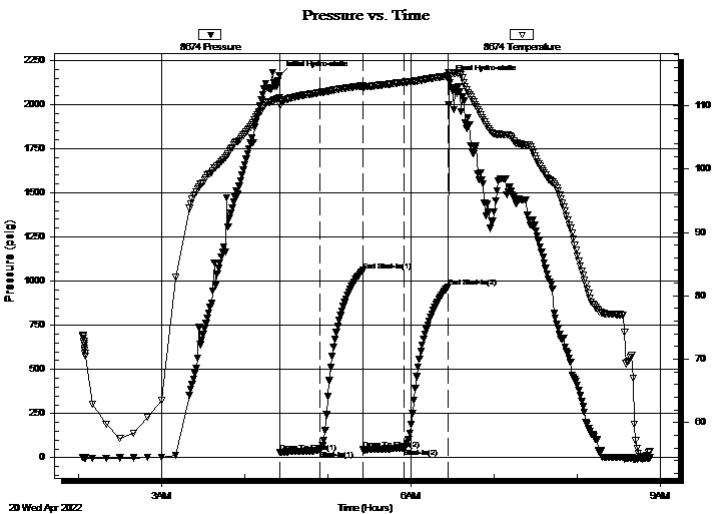
TEST COMMENT: IF: 1/2 blow built to 1 1/2.

IS: No return.

FF: Surface blow built to 3/4.

FS: No return. 30s

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2163.15	111.31	Initial Hydro-static
1	30.43	110.06	Open To Flow (1)
29	41.04	112.07	Shut-In(1)
60	1060.31	113.14	End Shut-In(1)
61	45.07	112.82	Open To Flow (2)
90	53.69	113.68	Shut-In(2)
122	966.58	114.69	End Shut-In(2)
123	2142.50	115.25	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	ocm 30%o 70%m	0.31
2.00	free oil 100%o	0.01

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan Ks

Job Ticket: 68779

DST#: 3

ATTN: Ryan Seib

Test Start: 2022.04.20 @ 02:03:02

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
63.00	ocm 30%o 70%m	0.310
2.00	free oil 100%o	0.010

Total Length: 65.00 ft Total Volume: 0.320 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

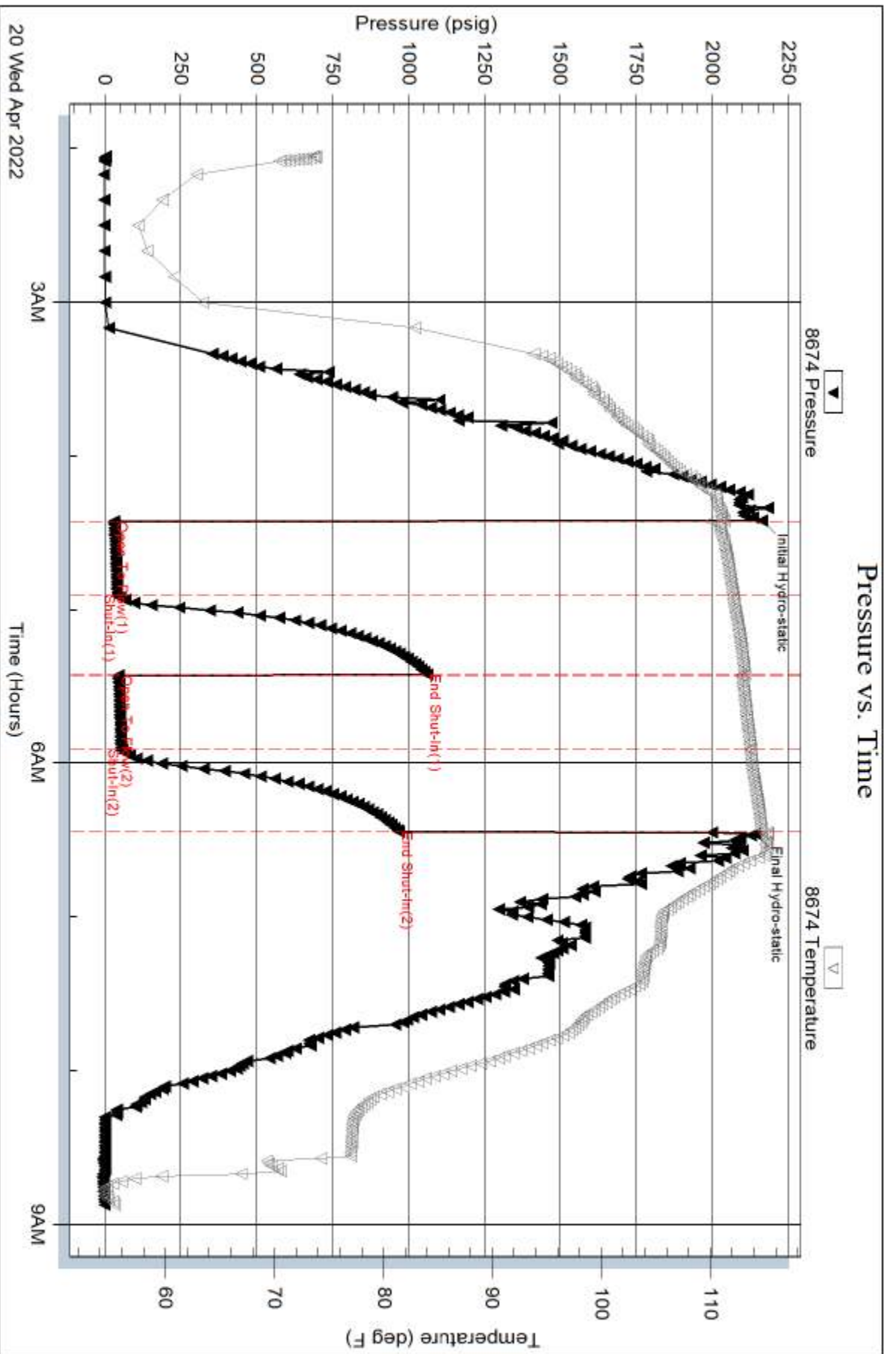
Recovery Comments:

Serial #: 8674

Outside Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 68779

Printed: 2022.04.20 @ 10:00:23

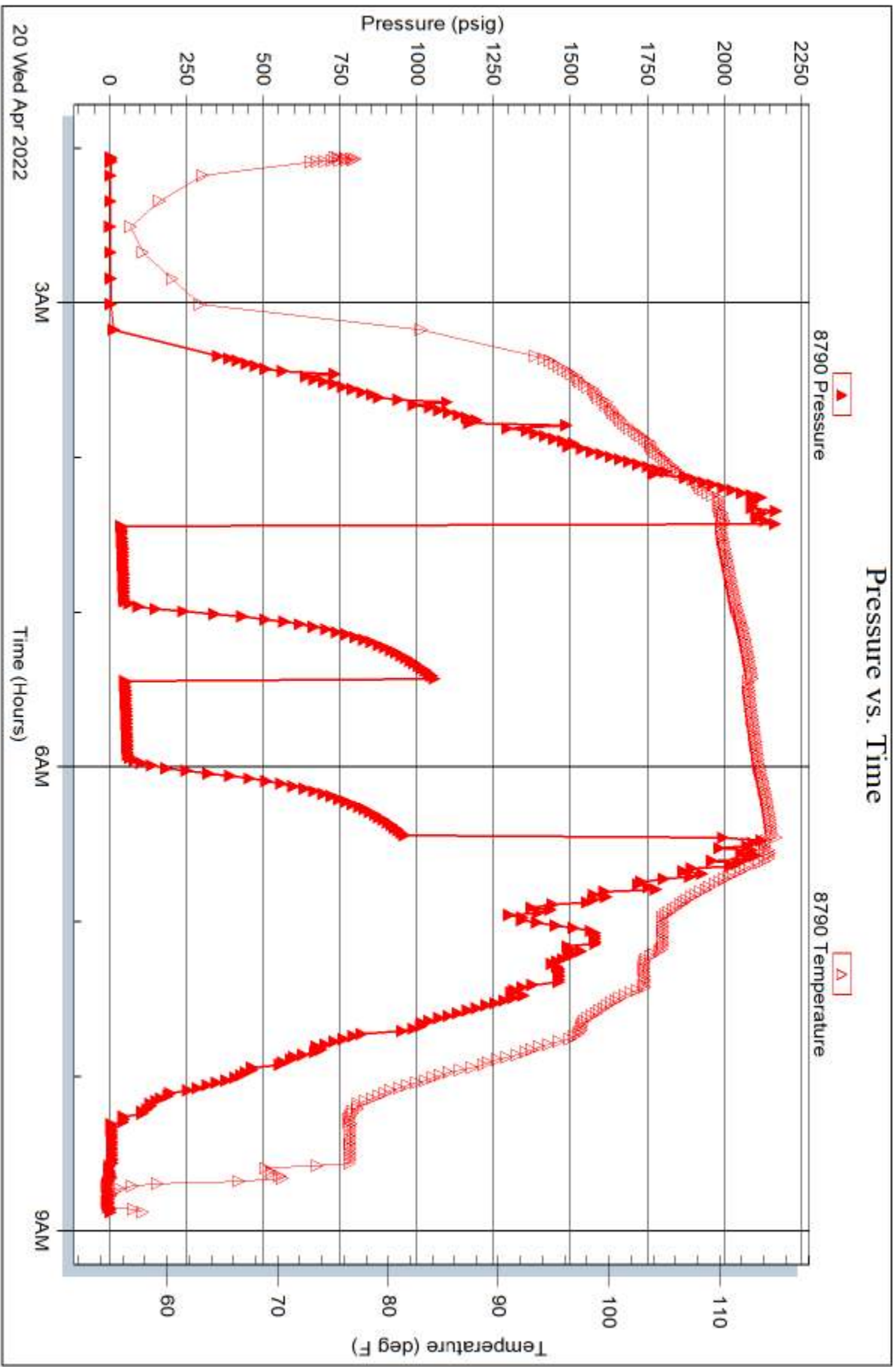
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 3

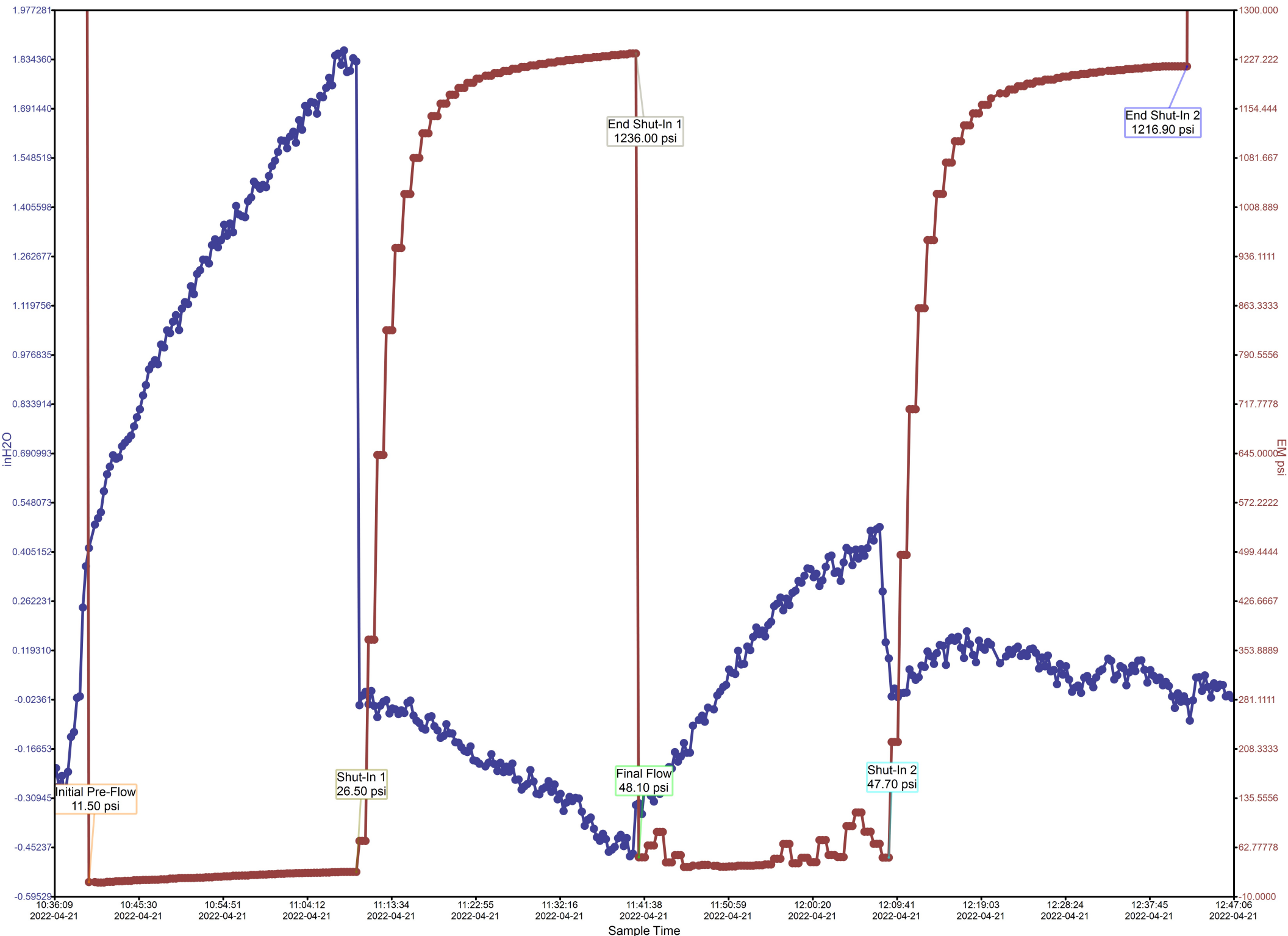


Tribble Testing, Inc

Ref. No: 68779

Printed: 2022.04.20 @ 10:00:23

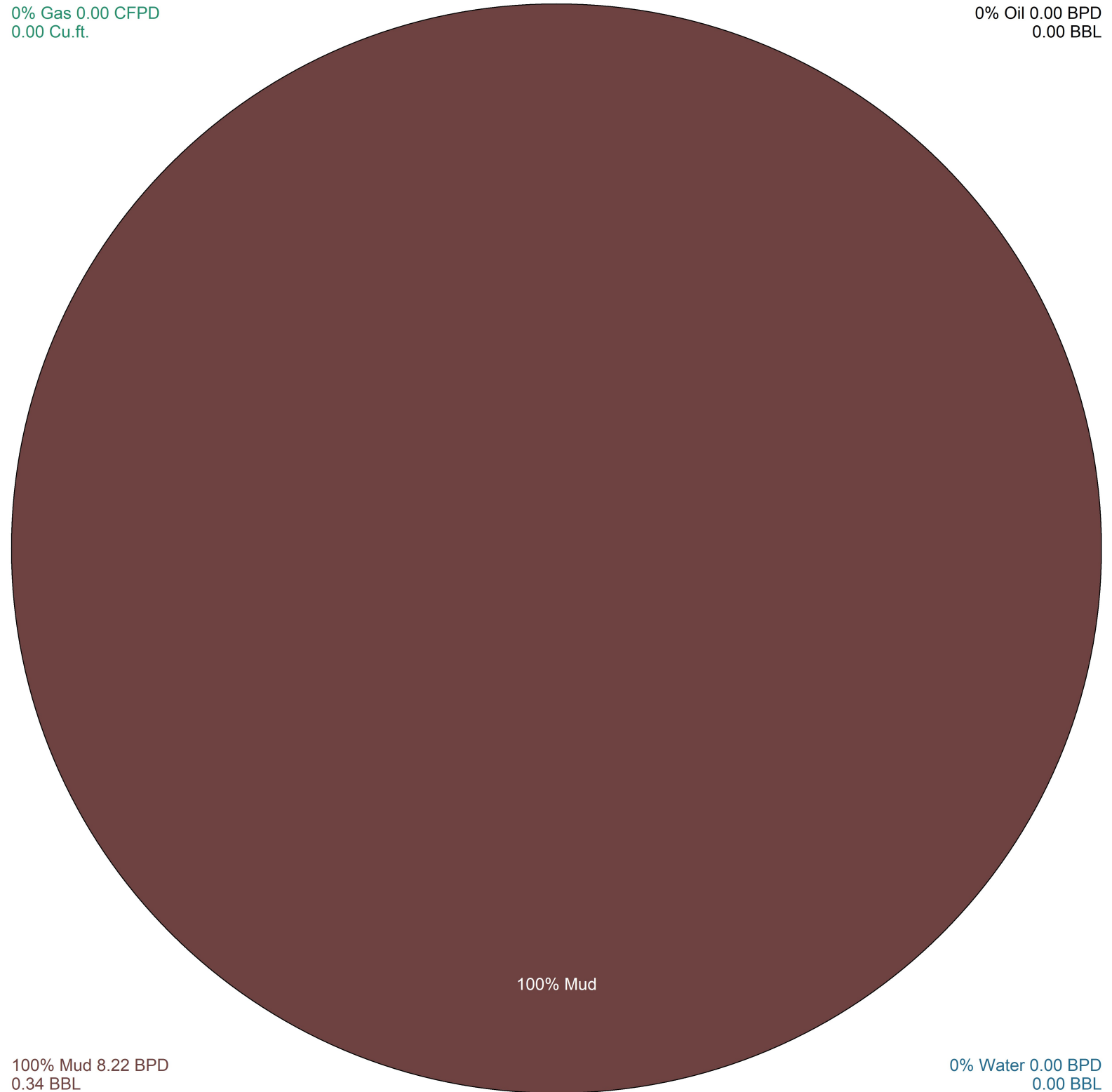
Palomino Petroleum - North by Northwest 1 - DST #4



Calculated Recovery Analysis - Palomino Petroleum - North by Northwest 1 - DST #4

0% Gas 0.00 CFPD
0.00 Cu.ft.

0% Oil 0.00 BPD
0.00 BBL



100% Mud

100% Mud 8.22 BPD
0.34 BBL

0% Water 0.00 BPD
0.00 BBL



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

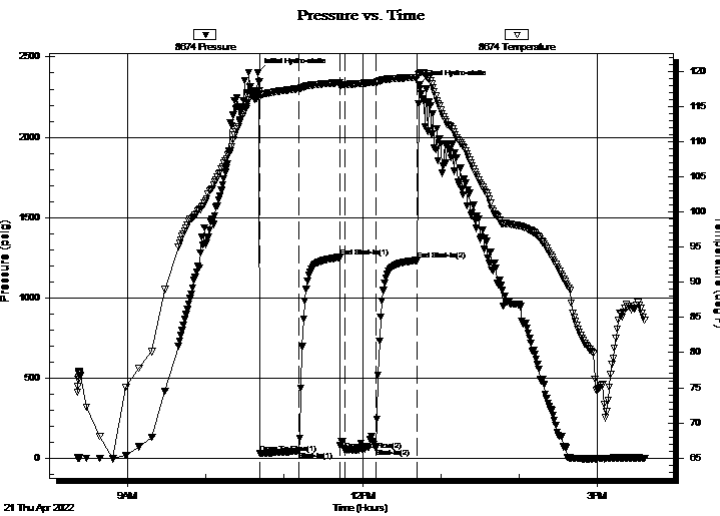
North By Northwest #1
18-14s-35w Logan Ks
Job Ticket: 68780 **DST#: 4**
Test Start: 2022.04.21 @ 08:21:49

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:41:19
 Time Test Ended: 15:36:19
 Interval: **4475.00 ft (KB) To 4570.00 ft (KB) (TVD)**
 Total Depth: 4900.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 3213.00 ft (KB)
 3203.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8674 Outside
 Press@RunDepth: 64.66 psig @ 4476.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.21 End Date: 2022.04.21 Last Calib.: 2022.04.21
 Start Time: 08:21:54 End Time: 15:36:18 Time On Btm: 2022.04.21 @ 10:39:49
 Time Off Btm: 2022.04.21 @ 12:43:19

TEST COMMENT: IF: 1/2 blow built to 2.
 IS: No return.
 FF: Surface blow built to 1/2.
 FS: No return. 30s



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2400.24	117.14	Initial Hydro-static
2	29.27	116.26	Open To Flow (1)
31	44.02	117.54	Shut-In(1)
63	1251.85	118.41	End Shut-In(1)
67	52.17	118.10	Open To Flow (2)
90	64.66	118.46	Shut-In(2)
122	1233.17	119.17	End Shut-In(2)
124	2325.62	119.71	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
70.00	mud 100% m	0.34

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Palomino Petroleum
4924 SE 84th St
New ton, KS 67114
ATTN: Ryan Seib

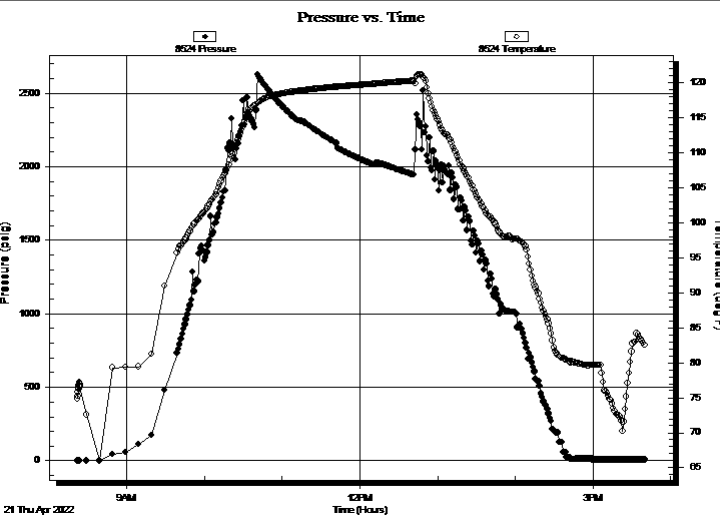
North By Northwest #1
18-14s-35w Logan Ks
Job Ticket: 68780 **DST#: 4**
Test Start: 2022.04.21 @ 08:21:49

GENERAL INFORMATION:

Formation: **Pawnee Ft Scott**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 10:41:19
 Time Test Ended: 15:36:19
 Interval: **4475.00 ft (KB) To 4570.00 ft (KB) (TVD)**
 Total Depth: 4900.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Brandon Turley
 Unit No: 79
 Reference Elevations: 3213.00 ft (KB)
 3203.00 ft (CF)
 KB to GR/CF: 10.00 ft

Serial #: 8524 Below (Straddle)
 Press@RunDepth: psig @ 4578.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2022.04.21 End Date: 2022.04.21 Last Calib.: 2022.04.21
 Start Time: 08:21:59 End Time: 15:39:53 Time On Btm:
 Time Off Btm:

TEST COMMENT: IF: 1/2 blow built to 2.
 IS: No return.
 FF: Surface blow built to 1/2.
 FS: No return. 30s



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
70.00	mud 100% m	0.34

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Palomino Petroleum

North By Northwest #1

4924 SE 84th St
New ton, KS 67114

18-14s-35w Logan Ks

Job Ticket: 68780

DST#: 4

ATTN: Ryan Seib

Test Start: 2022.04.21 @ 08:21:49

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

0 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

0 ppm

Viscosity: 53.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4400.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
70.00	mud 100% m	0.344

Total Length: 70.00 ft Total Volume: 0.344 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

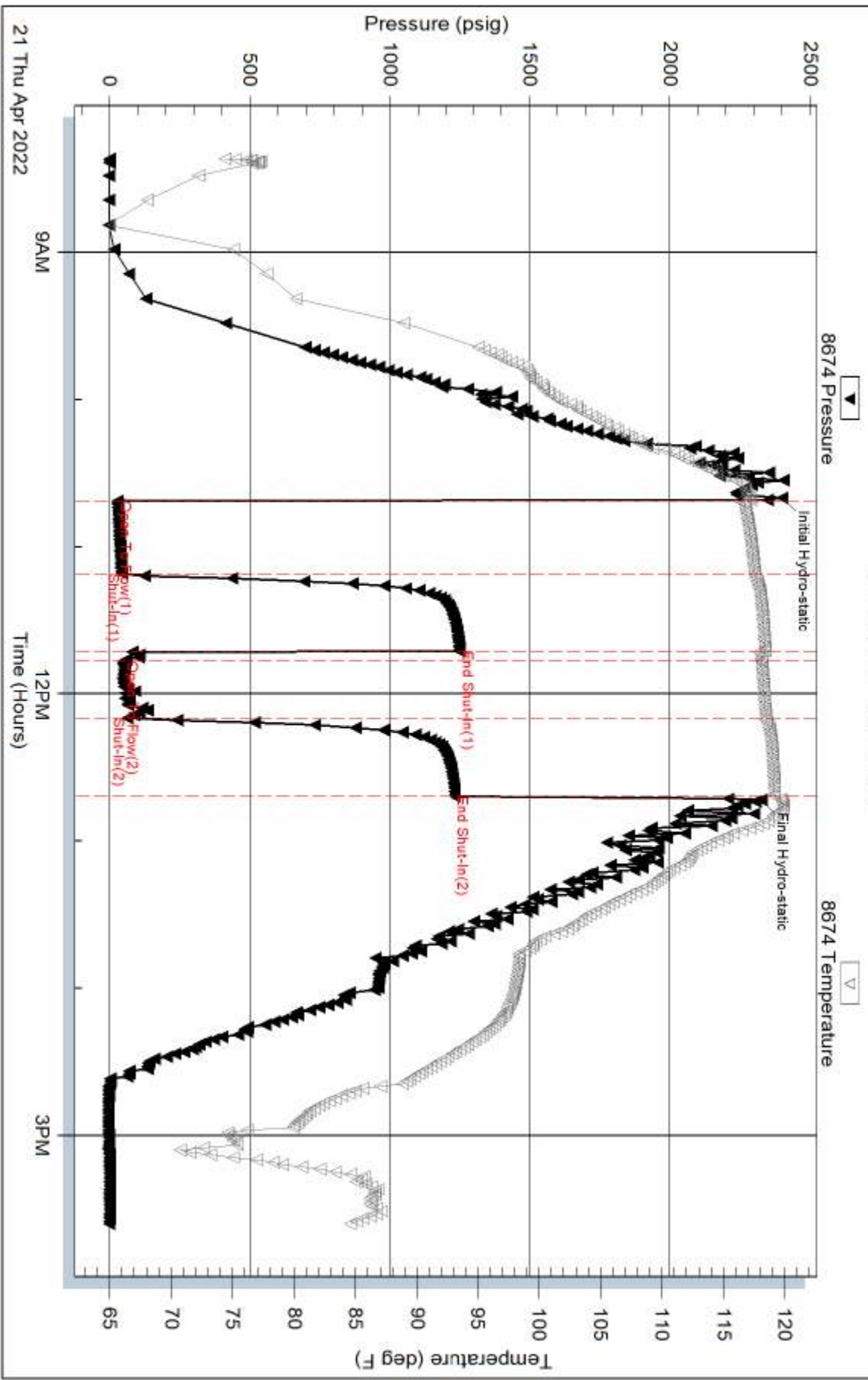
Serial #: 8674

Outside Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 4

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 68780

Printed: 2022.04.21 @ 15:48:53

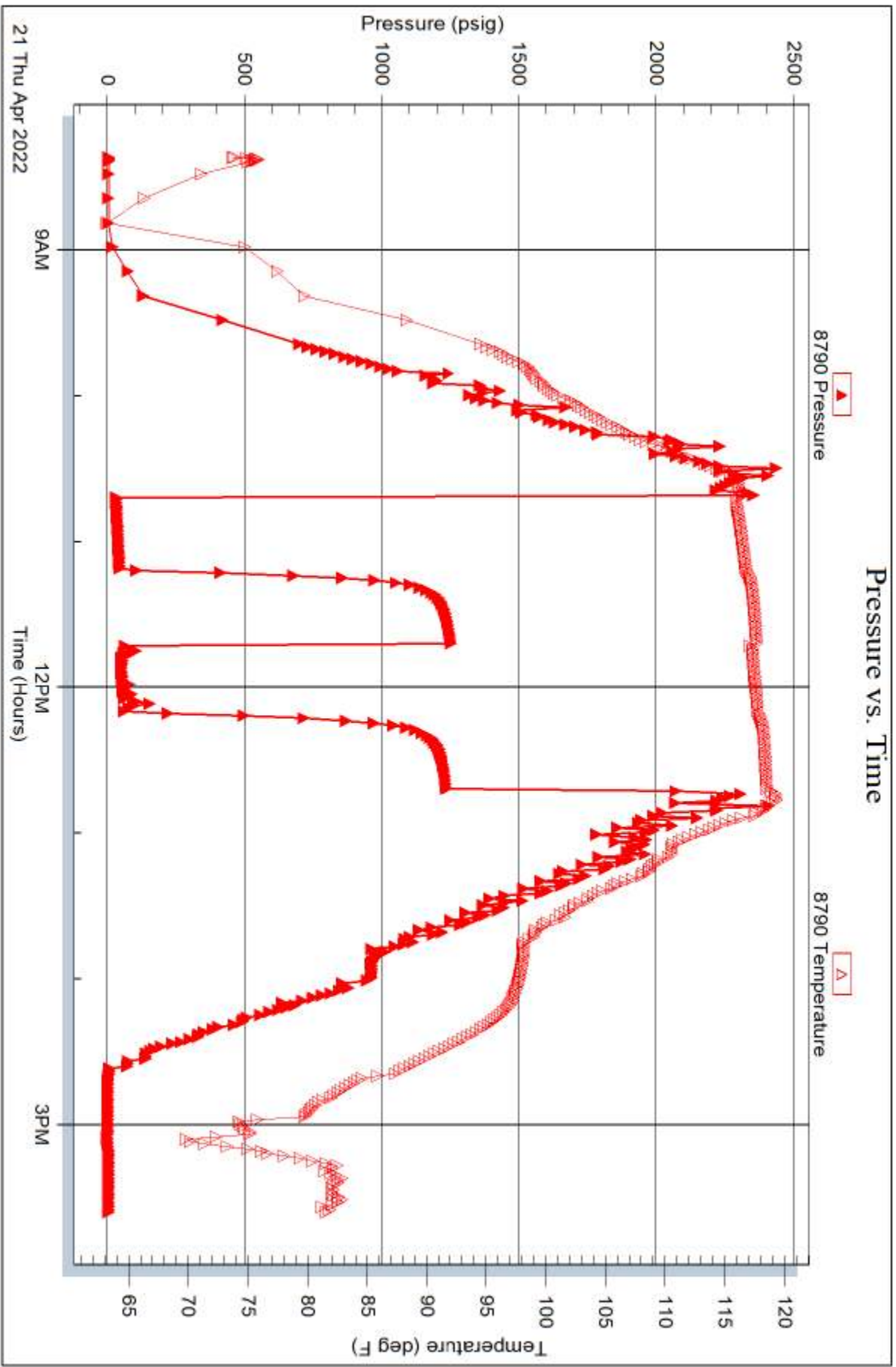
Serial #: 8790

Inside

Palomino Petroleum

18-14s-35w Logan Ks

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68780

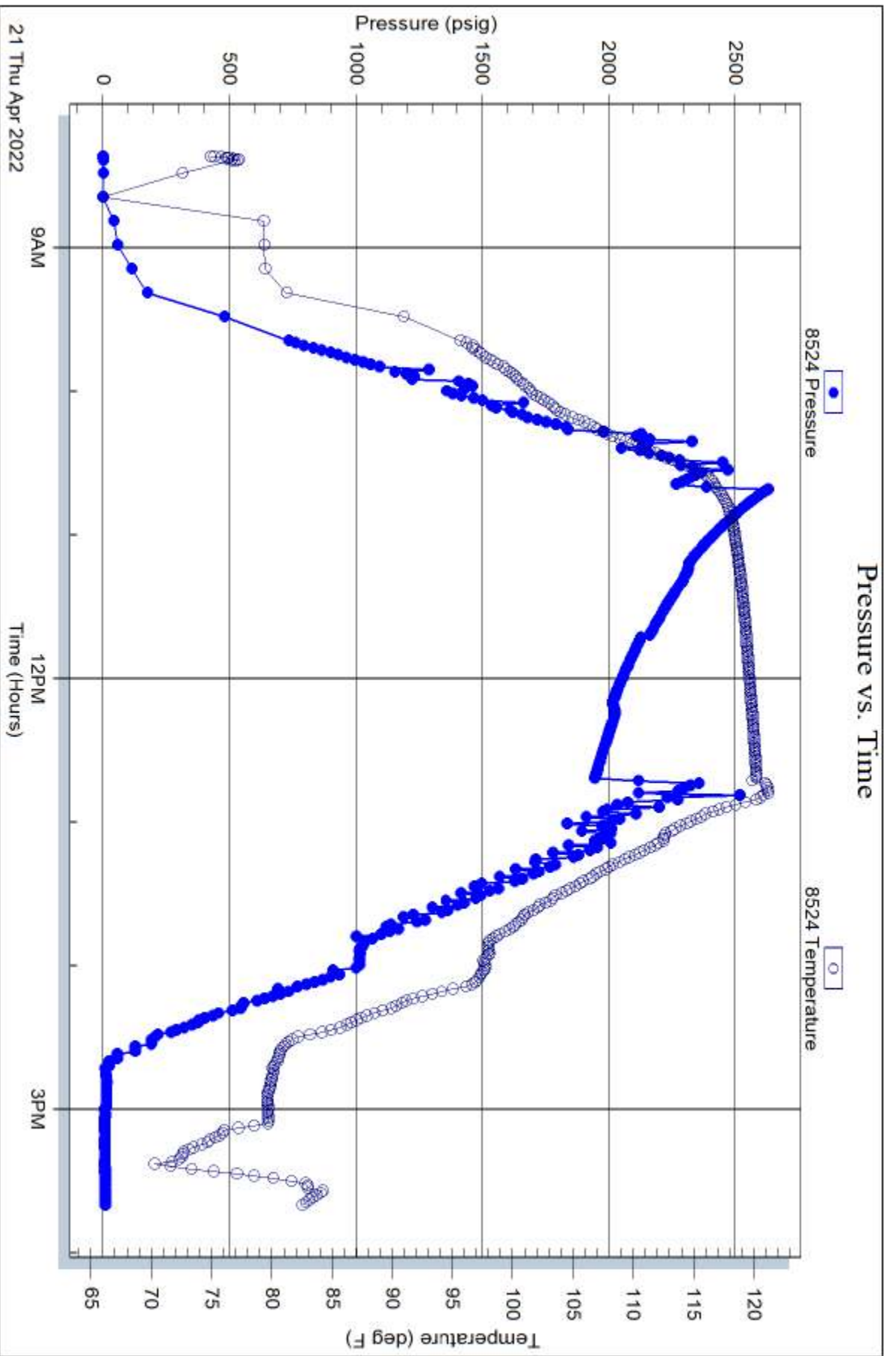
Printed: 2022.04.21 @ 15:48:53

Serial #: 8524

Below (Str Rattenho Petroleum

18-14s-35w Logan Ks

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 68780

Printed: 2022.04.21 @ 15:48:53