



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1192409
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

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 SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- 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 ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

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
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1192409

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

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				

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 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)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

Date of First, Resumed Production, SWD or ENHR: _____ Producing Method: Flowing Pumping Gas Lift Other *(Explain)* _____

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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hillman 2-18
Doc ID	1192409

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Neutron/Density

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025
Cell 785-324-1041

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

No. 7065

Date	2-11-14	Sec.	18	Twp.	11	Range	24	County	Trego	State	KS	On Location		Finish	2:15 P.M.				
Location								Wakeeny N to E Rd 7W 2N 1W Sint											
Lease	Hillman			Well No.	2-18			Owner											
Contractor	Discovery #1			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.							
Type Job	Surface			Charge To								Downing-Nelson							
Hole Size	12 1/4			T.D.	220			Street								State			
Csg.	8 5/8			Depth	200			City								State			
Tbg. Size				Depth				The above was done to satisfaction and supervision of owner agent or contractor.											
Tool				Depth				Cement Amount Ordered								150 3% cc 2% Gel			
Cement Left in Csg.	20'			Shoe Joint				Meas Line								Displace 12 3/4 bbl			
EQUIPMENT								Common								150			
Pumptrk	18	No.		Cementer				Poz. Mix											
				Helper	Cody			Gel.								3			
Bulktrk	14	No.		Driver	Chad			Calcium								5			
				Driver	Brett			Hulls											
JOB SERVICES & REMARKS								Salt											
Remarks:				Flowseal															
Rat Hole				Kol-Seal															
Mouse Hole				Mud CLR 48															
Centralizers				CFL-117 or CD110 CAF 38															
Baskets				Sand															
D/V or Port Collar				Handling								158							
								Mileage											
Cement								FLOAT EQUIPMENT											
Circulated!!								Guide Shoe											
								Centralizer											
								Baskets											
								AFU Inserts											
								Float Shoe											
								Latch Down											
								Pumptrk Charge								Surface			
								Mileage								38			
								Tax											
								Discount											
								Total Charge											
Signature								Coff Maffell											

SWIFT Services, Inc.

DATE Feb 14 PAGE NO. 1

JOB LOG

CUSTOMER Downing & Nelson WELL NO. 2-18 LEASE Hillman JOB TYPE concrete long string TICKET NO. 25862

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
								225 sk SMD cement w/ 1/4" Floccle 150 sk SA-2 cement w/ 1/4" Floccle 5 1/2" x 14" casing 95 joints RTD 3941 LTD 3944 set @ 3993.29 DV tool @ 51 1950' Controlizers 1, 3.5, 8, 10, 12, 14, 50 Bank 1, 51 sk @ 21.13' 3972.16 inset
	1635							on loc TRK 114
	1640							start 5 1/2" x 14" casing in well Drop ball - circulate
	1835	3 1/2	12				200	Pump 500 gal mud flush
		3 1/2	20				200	Pump 20 bbl KCL flush
	1850	5 1/4	36				200	Mix SA-2 cement 150 sk @ 153 ppg Drop 1st stage plug wash out pipe & line
	1905	5 3/4					200	Displace 1st stage plug
		5 3/4	90				750	
	1925	5 3/4	97				1500	Land 1st stage plug Release pressure to truck - dried up
	1930							Drop bomb
	1940		20				1400	Open DV tool - pump 20 bbl KCL flush shut in casing
	2000		7					Plug RH - MA 30 sks - 20 sk
	2005	5 3/4	100				200	Mix SMD cement 175 sk @ 148 ppg Drop 2nd stage plug 13.2 ppg 19.0 ppg
	2033	5 3/4					0	Displace plug
		5 3/4	40				400	→ cement to surface ← } 30 sk to pit
		5 3/4	46				650	
	2045	5 3/4	48				1500	Land plug - close DV tool Release pressure to truck - dried up wash truck Rack up job complete
	2050							
	2120							Work Jared, Phil & Blake



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Hillman #2-18

18-11s-24w Trego,KS

Start Date: 2014.02.14 @ 23:25:00

End Date: 2014.02.15 @ 06:16:00

Job Ticket #: 56104 DST #: 1

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

Printed: 2014.02.19 @ 14:14:43



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56104

DST#: 1

ATTN: Marc Dow ning

Test Start: 2014.02.14 @ 23:25:00

GENERAL INFORMATION:

Formation: **LCK C&D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:27:20

Time Test Ended: 06:16:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Tate Lang

Unit No: 49

Interval: 3728.00 ft (KB) To 3775.00 ft (KB) (TVD)

Reference Elevations: 2373.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2365.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8898

Outside

Press@RunDepth: 130.72 psig @ 3738.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.14

End Date:

2014.02.15

Last Calib.:

2014.02.15

Start Time: 23:25:01

End Time:

06:16:00

Time On Btm:

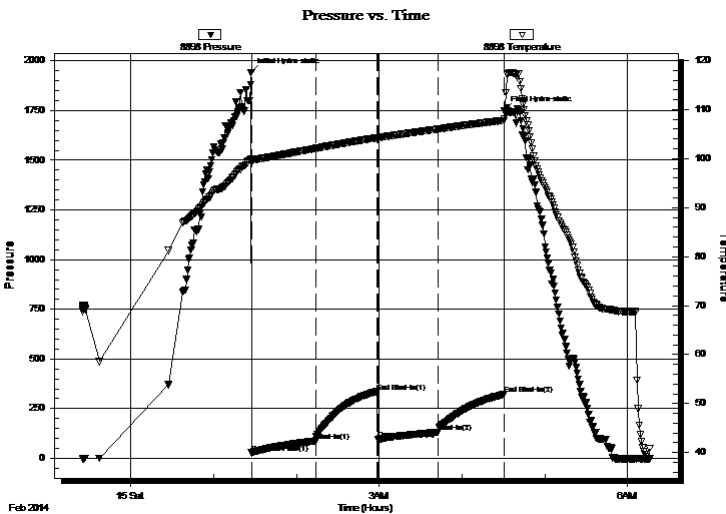
2014.02.15 @ 01:27:10

Time Off Btm:

2014.02.15 @ 04:30:39

TEST COMMENT: B.O.B. In 30 mins
Dead no blow back
Strong blow built to 10"
Dead no blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1942.25	100.00	Initial Hydro-static
1	27.60	99.19	Open To Flow (1)
47	87.87	102.06	Shut-In(1)
92	334.72	104.26	End Shut-In(1)
92	95.02	104.23	Open To Flow (2)
136	130.72	106.02	Shut-In(2)
183	321.57	107.78	End Shut-In(2)
184	1750.91	108.11	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
230.00	5%M 95%W	2.95

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56104

DST#: 1

ATTN: Marc Downing

Test Start: 2014.02.14 @ 23:25:00

Tool Information

Drill Pipe:	Length: 3693.00 ft	Diameter: 3.80 inches	Volume: 51.80 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: 60000.00 lb
			<u>Total Volume: 51.95 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3728.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	47.00 ft			
Tool Length:	67.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3713.00	
Hydraulic tool	5.00			3718.00	
Packer	5.00			3723.00	20.00 Bottom Of Top Packer
Packer	5.00			3728.00	
Stubb	1.00			3729.00	
Perforations	9.00			3738.00	
Recorder	0.00	8897	Inside	3738.00	
Recorder	0.00	8898	Outside	3738.00	
Change Over Sub	1.00			3739.00	
Drill Pipe	32.00			3771.00	
Change Over Sub	1.00			3772.00	
Bullnose	3.00			3775.00	47.00 Bottom Packers & Anchor

Total Tool Length: 67.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56104

DST#: 1

ATTN: Marc Downing

Test Start: 2014.02.14 @ 23:25:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

65000 ppm

Viscosity: 51.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 2000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
230.00	5%M 95%W	2.953

Total Length: 230.00 ft Total Volume: 2.953 bbl

Num Fluid Samples: 0

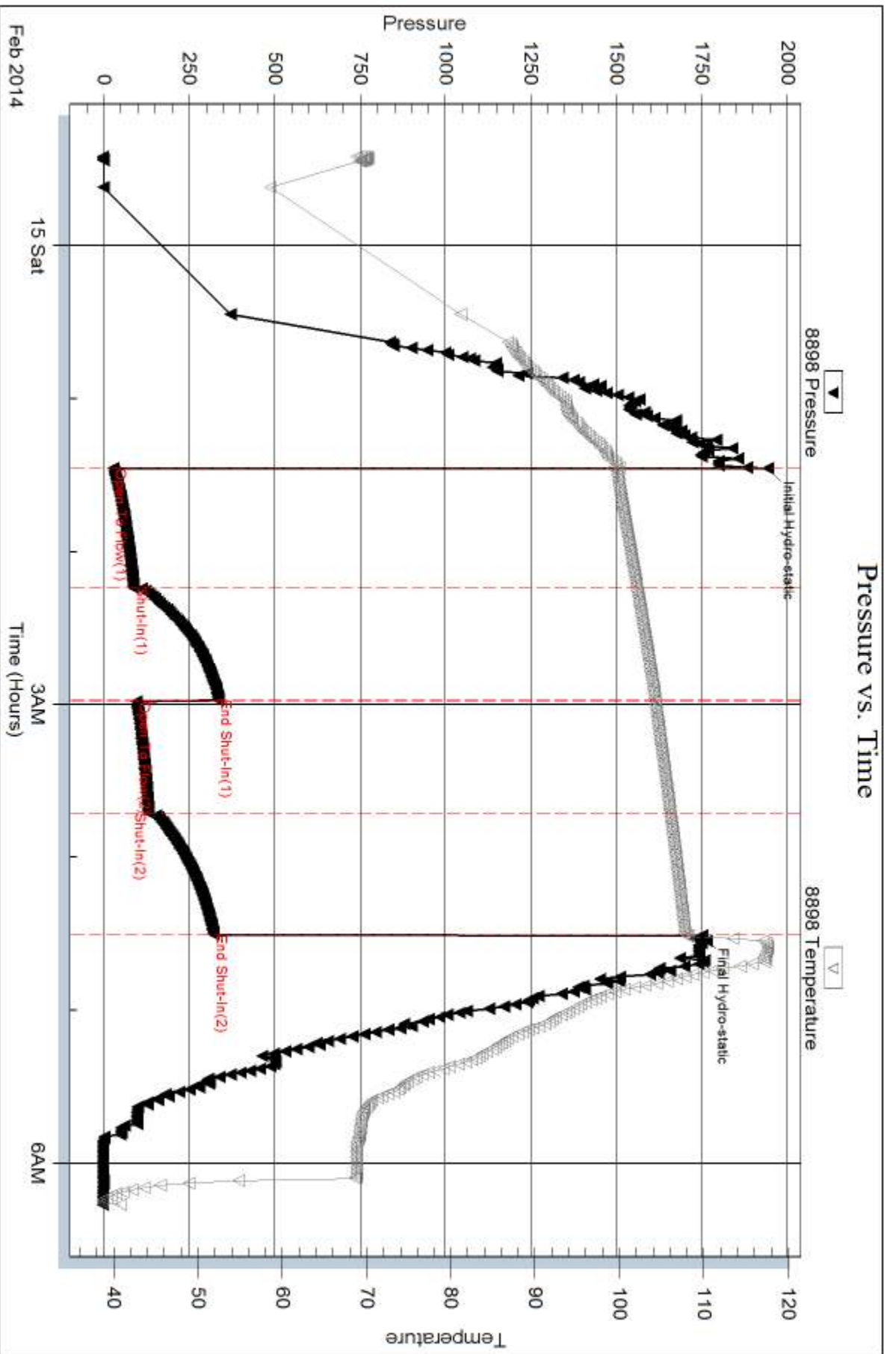
Num Gas Bombs: 0

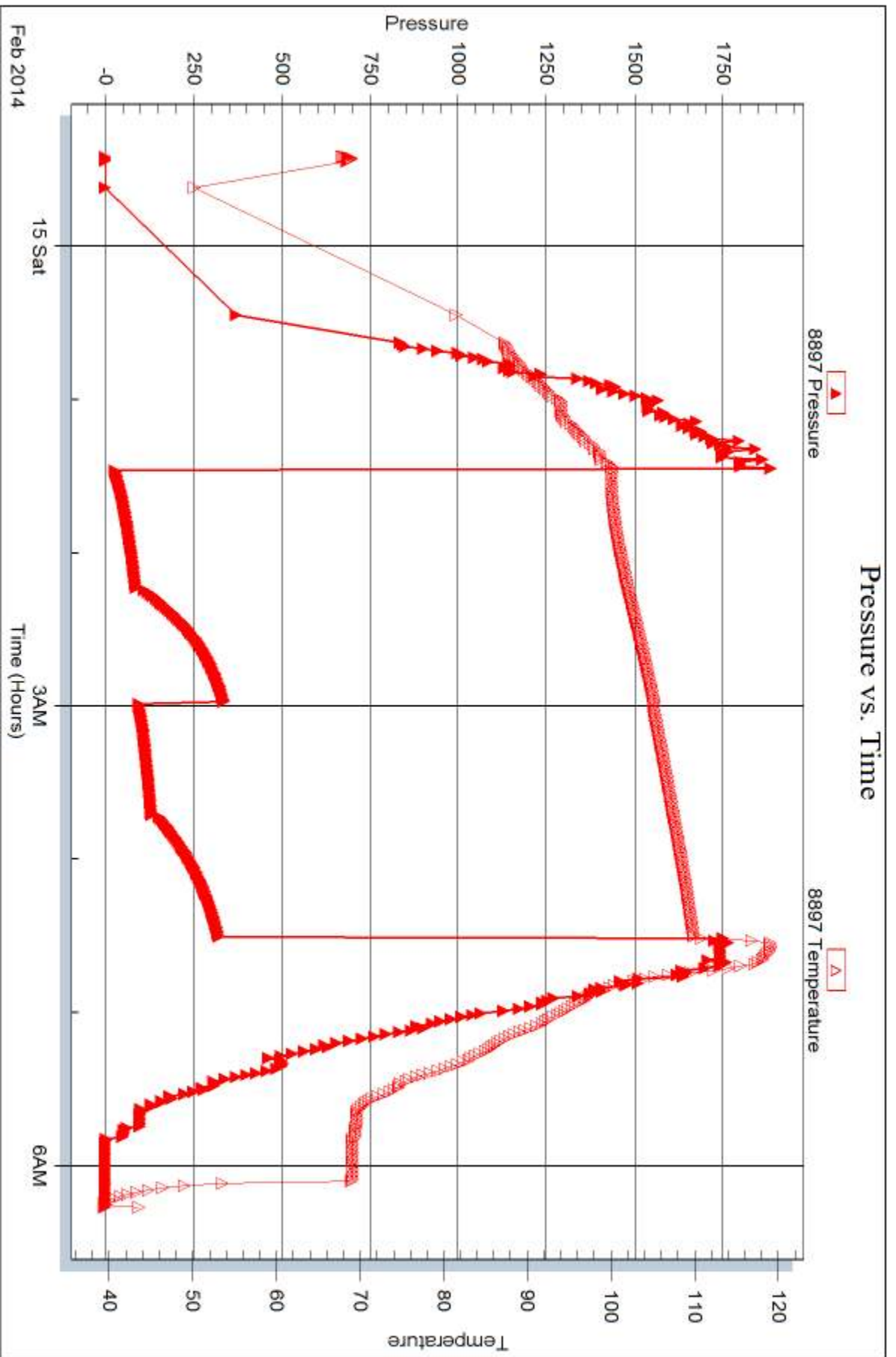
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Hillman #2-18

18-11s-24w Trego,KS

Start Date: 2014.02.15 @ 18:00:00

End Date: 2014.02.16 @ 00:34:00

Job Ticket #: 56105 DST #: 2

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

Printed: 2014.02.19 @ 14:14:19



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56105

DST#: 2

ATTN: Marc Dow ning

Test Start: 2014.02.15 @ 18:00:00

GENERAL INFORMATION:

Formation: **LKC H-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 19:48:40

Time Test Ended: 00:34:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Tate Lang

Unit No: 49

Interval: 3825.00 ft (KB) To 3898.00 ft (KB) (TVD)

Reference Elevations: 2373.00 ft (KB)

Total Depth: 3775.00 ft (KB) (TVD)

2365.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 8.00 ft

Serial #: 8898 Outside

Press@RunDepth: 41.30 psig @ 3830.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.02.15

End Date:

2014.02.16

Last Calib.:

2014.02.16

Start Time: 18:00:01

End Time:

00:34:00

Time On Btm:

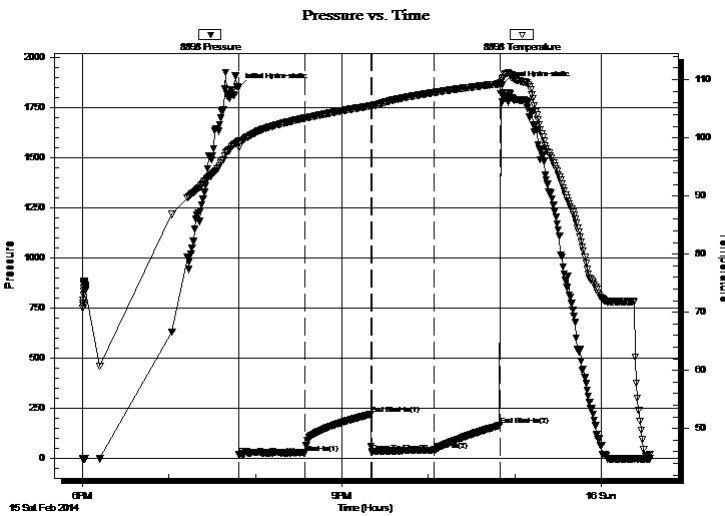
2014.02.15 @ 19:48:20

Time Off Btm:

2014.02.15 @ 22:51:20

TEST COMMENT: Fair blow built to 4"
Dead no blow back
B.O.B. In 1 min
Weak surface blow died in 20 mins

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1850.57	99.45	Initial Hydro-static
1	17.63	99.00	Open To Flow (1)
46	27.49	103.36	Shut-In(1)
92	219.40	105.50	End Shut-In(1)
93	31.84	105.51	Open To Flow (2)
136	41.30	107.79	Shut-In(2)
182	163.76	109.29	End Shut-In(2)
183	1861.59	110.15	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	410 GIP	0.00
110.00	5%G 15%O 80%M	1.27

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56105

DST#: 2

ATTN: Marc Downing

Test Start: 2014.02.15 @ 18:00:00

Tool Information

Drill Pipe:	Length: 3790.00 ft	Diameter: 3.80 inches	Volume: 53.16 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: 50000.00 lb
			<u>Total Volume: 53.31 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 45000.00 lb
Depth to Top Packer:	3825.00 ft			Final 45000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	73.00 ft			
Tool Length:	93.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3810.00	
Hydraulic tool	5.00			3815.00	
Packer	5.00			3820.00	20.00 Bottom Of Top Packer
Packer	5.00			3825.00	
Stubb	1.00			3826.00	
Perforations	4.00			3830.00	
Recorder	0.00	8897	Inside	3830.00	
Recorder	0.00	8898	Outside	3830.00	
Change Over Sub	1.00			3831.00	
Drill Pipe	63.00			3894.00	
Change Over Sub	1.00			3895.00	
Bullnose	3.00			3898.00	73.00 Bottom Packers & Anchor

Total Tool Length: 93.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56105

DST#: 2

ATTN: Marc Downing

Test Start: 2014.02.15 @ 18:00:00

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: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
0.00	410 GIP	0.000
110.00	5%G 15%O 80%M	1.270

Total Length: 110.00 ft Total Volume: 1.270 bbl

Num Fluid Samples: 0

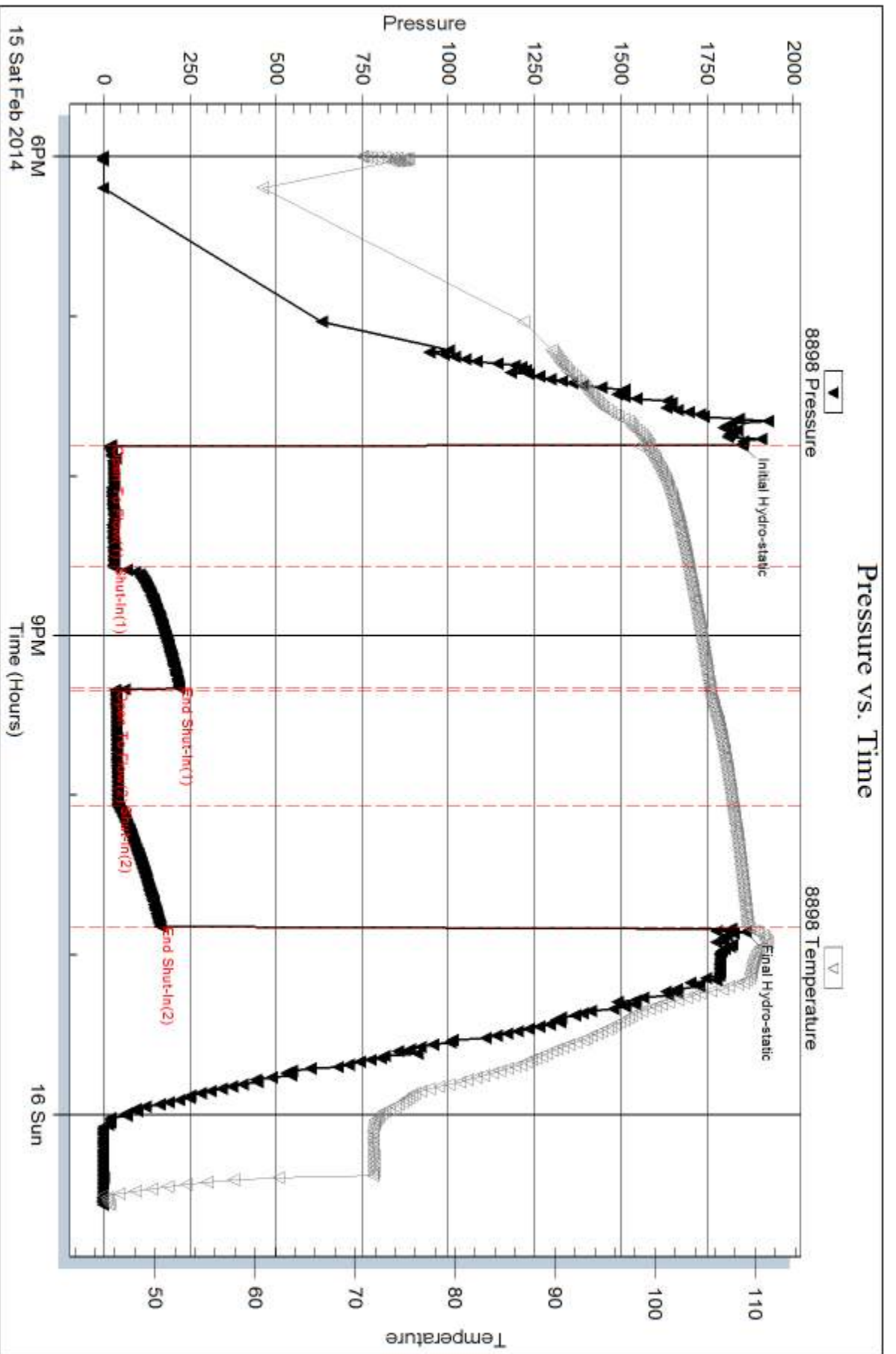
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



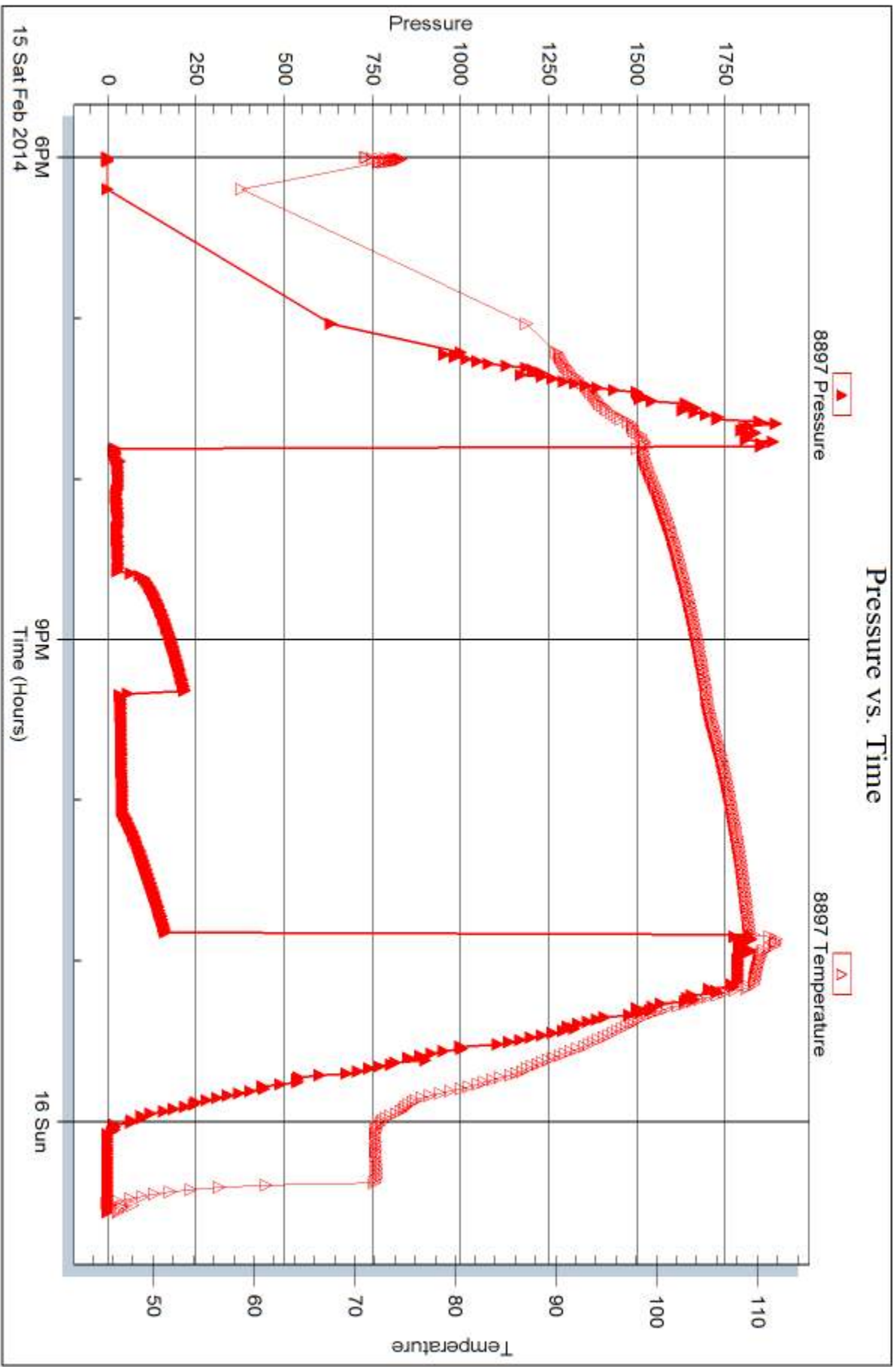
Serial #: 8897

Inside

Dow nng Nelson Oil Co Inc

Hillman #2-18

DST Test Number: 2



Tribble Testing, Inc

Ref. No: 56105

Printed: 2014.02.19 @ 14:14:22



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Hillman #2-18

18-11s-24w Trego,KS

Start Date: 2014.02.16 @ 07:32:45

End Date: 2014.02.16 @ 11:09:55

Job Ticket #: 56106 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.02.19 @ 14:13:56



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56106

DST#: 3

ATTN: Marc Downing

Test Start: 2014.02.16 @ 07:32:45

Tool Information

Drill Pipe:	Length: 3852.00 ft	Diameter: 3.80 inches	Volume: 54.03 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:	50000.00 lb
			<u>Total Volume: 54.18 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial	45000.00 lb
Depth to Top Packer:	3887.00 ft			Final	46000.00 lb
Depth to Bottom Packer:	ft				
Interval between Packers:	35.00 ft				
Tool Length:	55.00 ft				
Number of Packers:	2	Diameter: 6.75 inches			
Tool Comments:					

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3872.00	
Hydraulic tool	5.00			3877.00	
Packer	5.00			3882.00	20.00 Bottom Of Top Packer
Packer	5.00			3887.00	
Stubb	1.00			3888.00	
Recorder	0.00	8897	Inside	3888.00	
Recorder	0.00	8898	Outside	3888.00	
pERforations	31.00			3919.00	
Bullnose	3.00			3922.00	35.00 Bottom Packers & Anchor
Total Tool Length:	55.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56106

DST#: 3

ATTN: Marc Downing

Test Start: 2014.02.16 @ 07:32:45

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: 7.98 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
230.00	100%M	2.953

Total Length: 230.00 ft Total Volume: 2.953 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

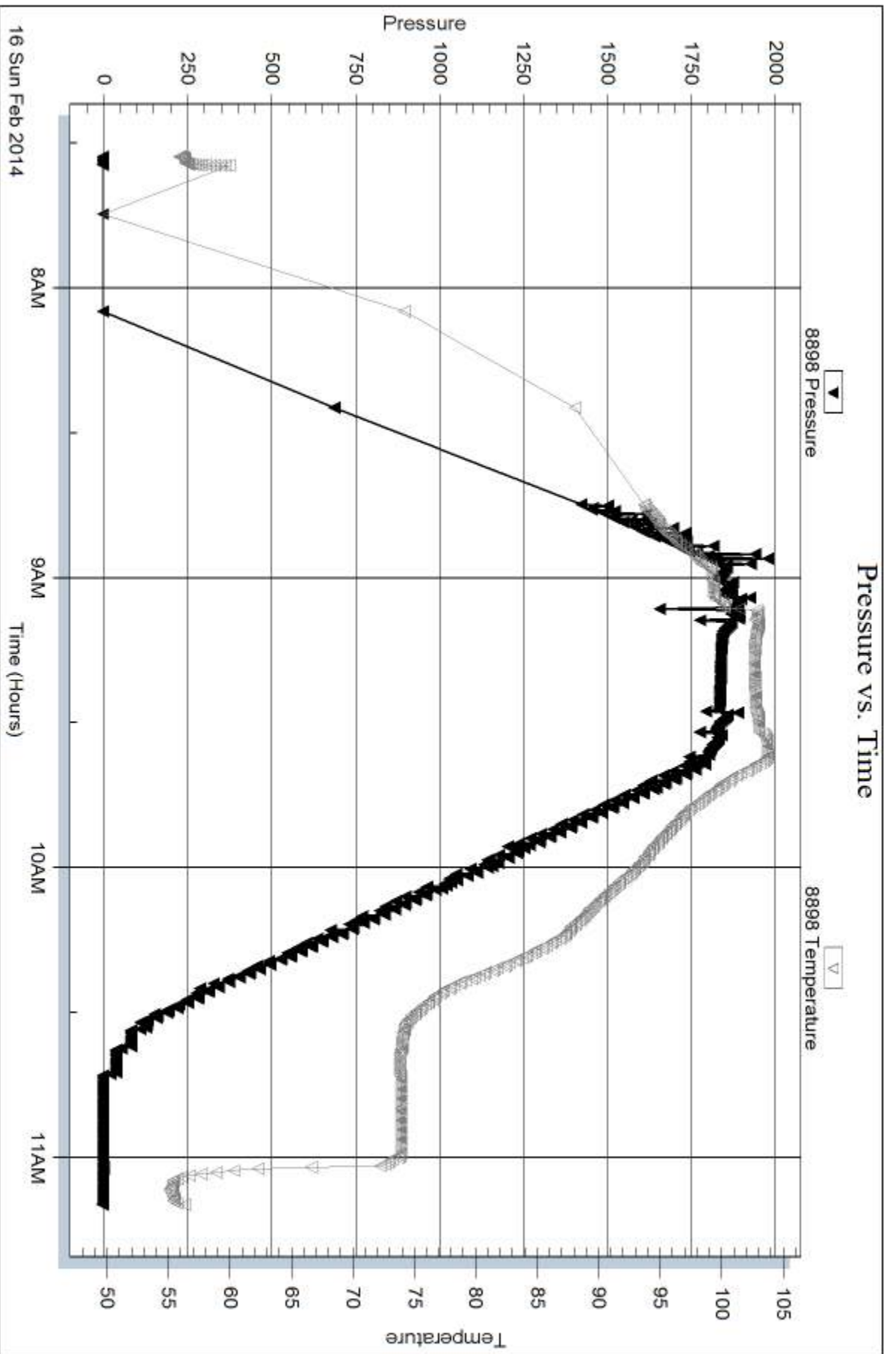
Recovery Comments:

Serial #: 8898

Outside Dow n ing Nelson Oil Co Inc

Hillman #2-18

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 56106

Printed: 2014.02.19 @ 14:13:58

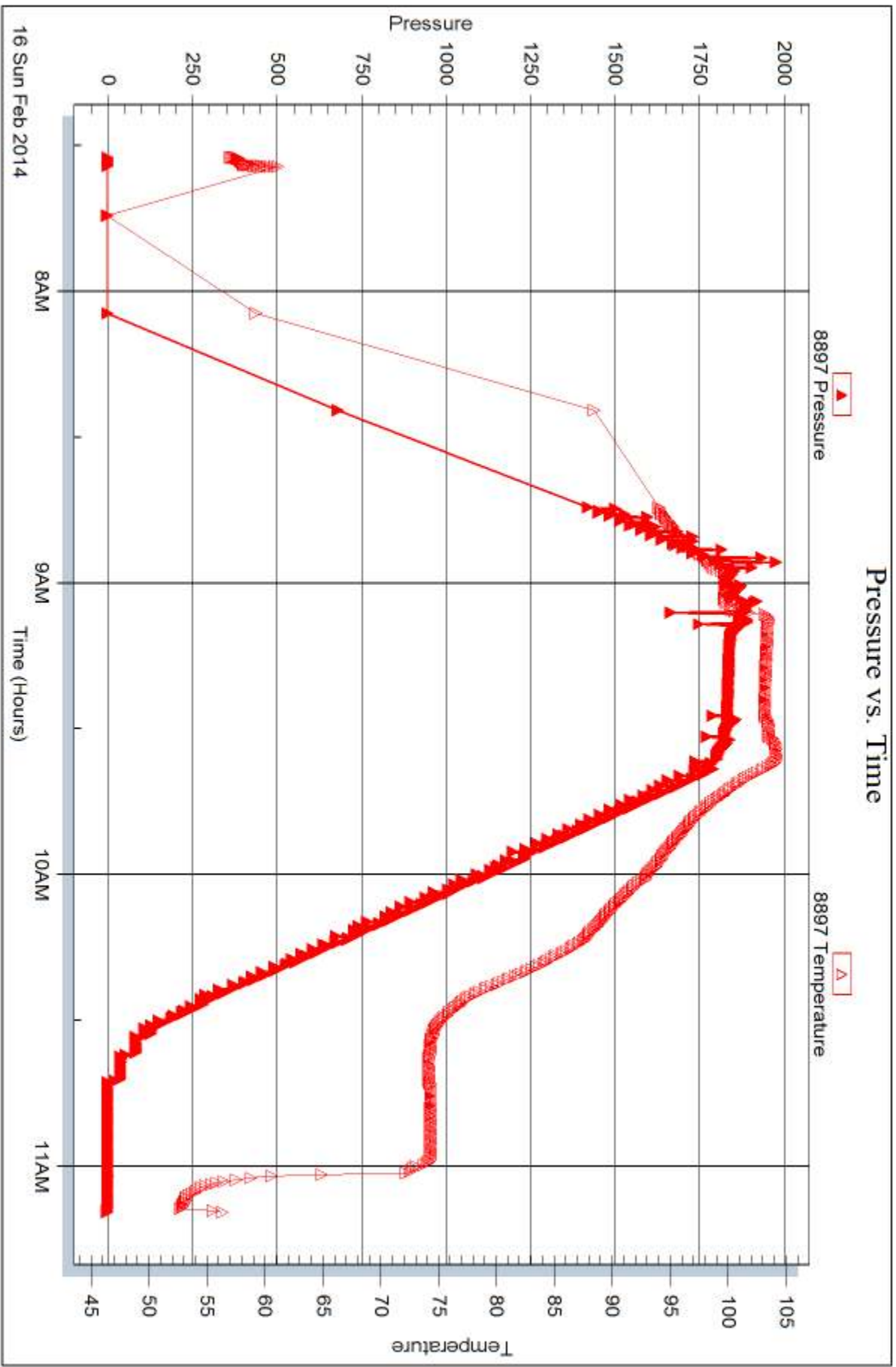
Serial #: 8897

Inside

Dow n ing Nelson Oil Co Inc

Hillman #2-18

DST Test Number: 3



Tribble Testing, Inc

Ref. No: 56106

Printed: 2014.02.19 @ 14:13:58



DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Marc Downing

Hillman #2-18

18-11s-24w Trego,KS

Start Date: 2014.02.17 @ 02:29:00

End Date: 2014.02.17 @ 09:07:39

Job Ticket #: 56107 DST #: 4

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

Printed: 2014.02.19 @ 14:13:19



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56107

DST#: 4

ATTN: Marc Dow ning

Test Start: 2014.02.17 @ 02:29:00

GENERAL INFORMATION:

Formation: **K**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 04:15:10
 Time Test Ended: 09:07:39
 Interval: **3895.00 ft (KB) To 3991.00 ft (KB) (TVD)**
 Total Depth: 3991.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Good
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Tate Lang
 Unit No: 49
 Reference Elevations: 2373.00 ft (KB)
 2365.00 ft (CF)
 KB to GR/CF: 8.00 ft

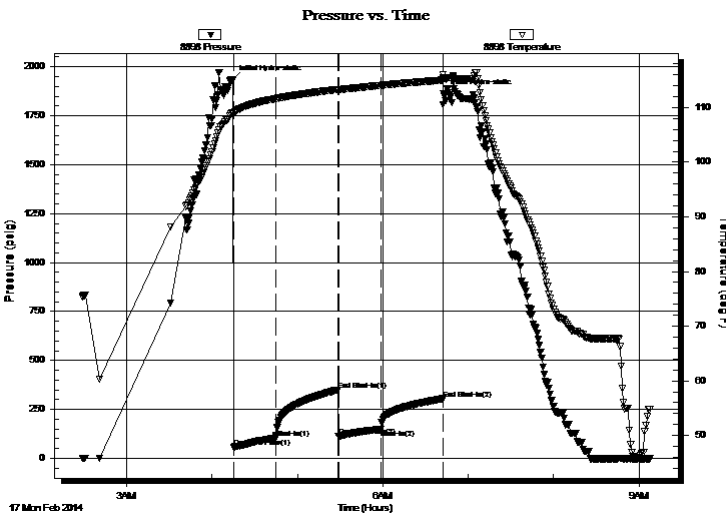
Serial #: 8898

Outside

Press@RunDepth: 148.61 psig @ 3923.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.02.17 End Date: 2014.02.17 Last Calib.: 2014.02.17
 Start Time: 02:29:01 End Time: 09:07:40 Time On Btm: 2014.02.17 @ 04:14:10
 Time Off Btm: 2014.02.17 @ 06:42:40

TEST COMMENT: B.O.B. in 8 mins
 Weak surface blow
 B.O.B. in 15 mins
 Weak surface blow

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1932.68	109.07	Initial Hydro-static
1	56.09	109.00	Open To Flow (1)
31	104.01	111.63	Shut-In(1)
75	349.48	113.30	End Shut-In(1)
75	113.08	113.26	Open To Flow (2)
105	148.61	114.04	Shut-In(2)
149	304.02	115.03	End Shut-In(2)
149	1862.24	115.49	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
120.00	10%M 85%W 5%M	1.41
60.00	90%M 10%O	0.84
10.00	5%G 95%O	0.14
0.00	110 GIP	0.00

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56107

DST#: 4

ATTN: Marc Downing

Test Start: 2014.02.17 @ 02:29:00

Tool Information

Drill Pipe:	Length: 3853.00 ft	Diameter: 3.80 inches	Volume: 54.05 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: 250000.0 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 54.20 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	8.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3895.00 ft			Final 51000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	96.00 ft			
Tool Length:	116.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			3880.00	
Hydraulic tool	5.00			3885.00	
Packer	5.00			3890.00	20.00 Bottom Of Top Packer
Packer	5.00			3895.00	
Stubb	1.00			3896.00	
Perforations	27.00			3923.00	
Recorder	0.00	8897	Inside	3923.00	
Recorder	0.00	8898	Outside	3923.00	
Change Over Sub	1.00			3924.00	
Drill Pipe	63.00			3987.00	
Change Over Sub	1.00			3988.00	
Bullnose	3.00			3991.00	96.00 Bottom Packers & Anchor

Total Tool Length: 116.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing Nelson Oil Co Inc

18-11s-24w Trego,KS

PO Box 1019
Hays, KS 67601

Hillman #2-18

Job Ticket: 56107

DST#: 4

ATTN: Marc Downing

Test Start: 2014.02.17 @ 02:29:00

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: 54.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.99 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3000.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	10%M 85%W 5%M	1.410
60.00	90%M 10%O	0.842
10.00	5%G 95%O	0.140
0.00	110 GIP	0.000

Total Length: 190.00 ft

Total Volume: 2.392 bbl

Num Fluid Samples: 0

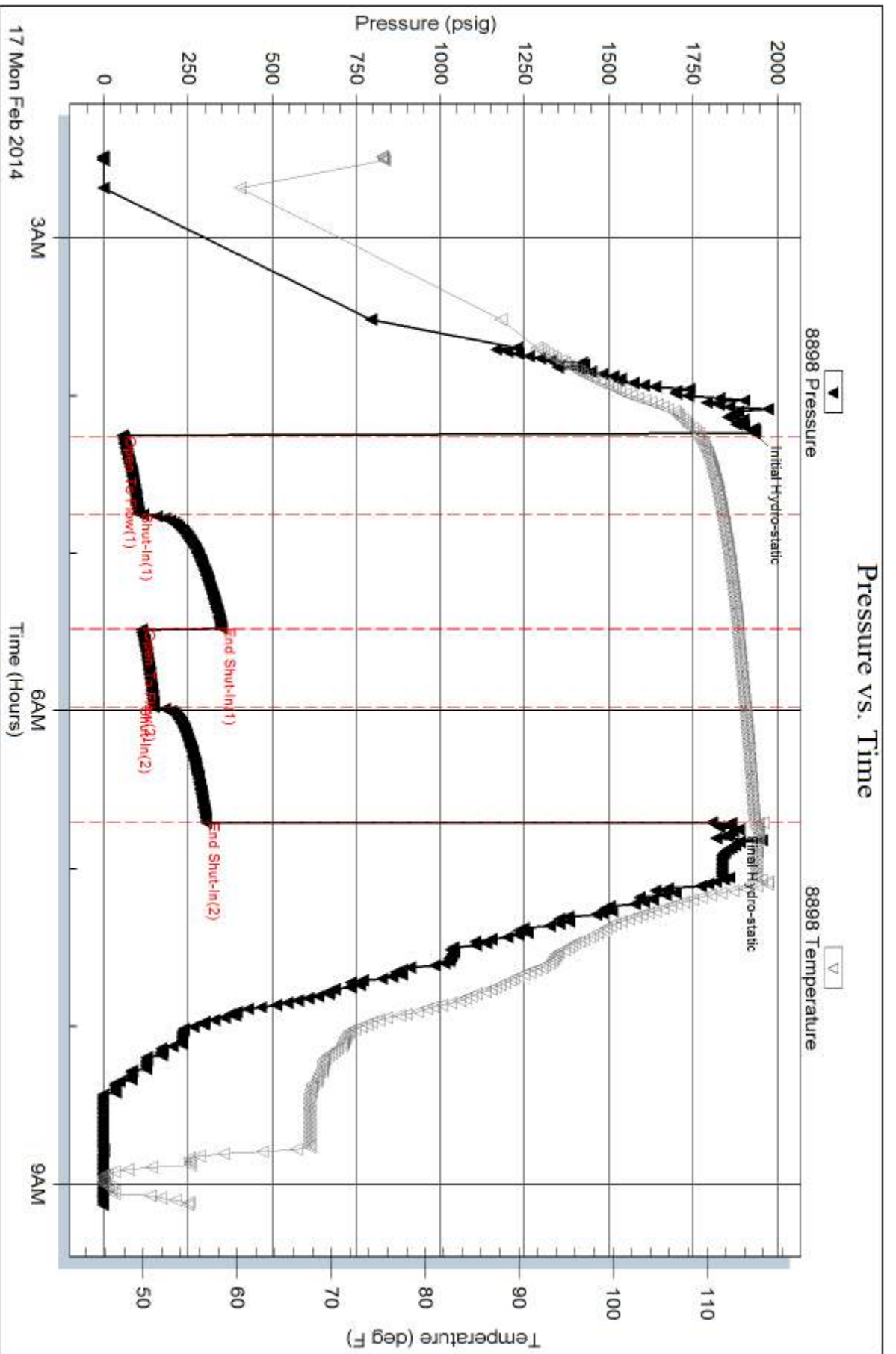
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



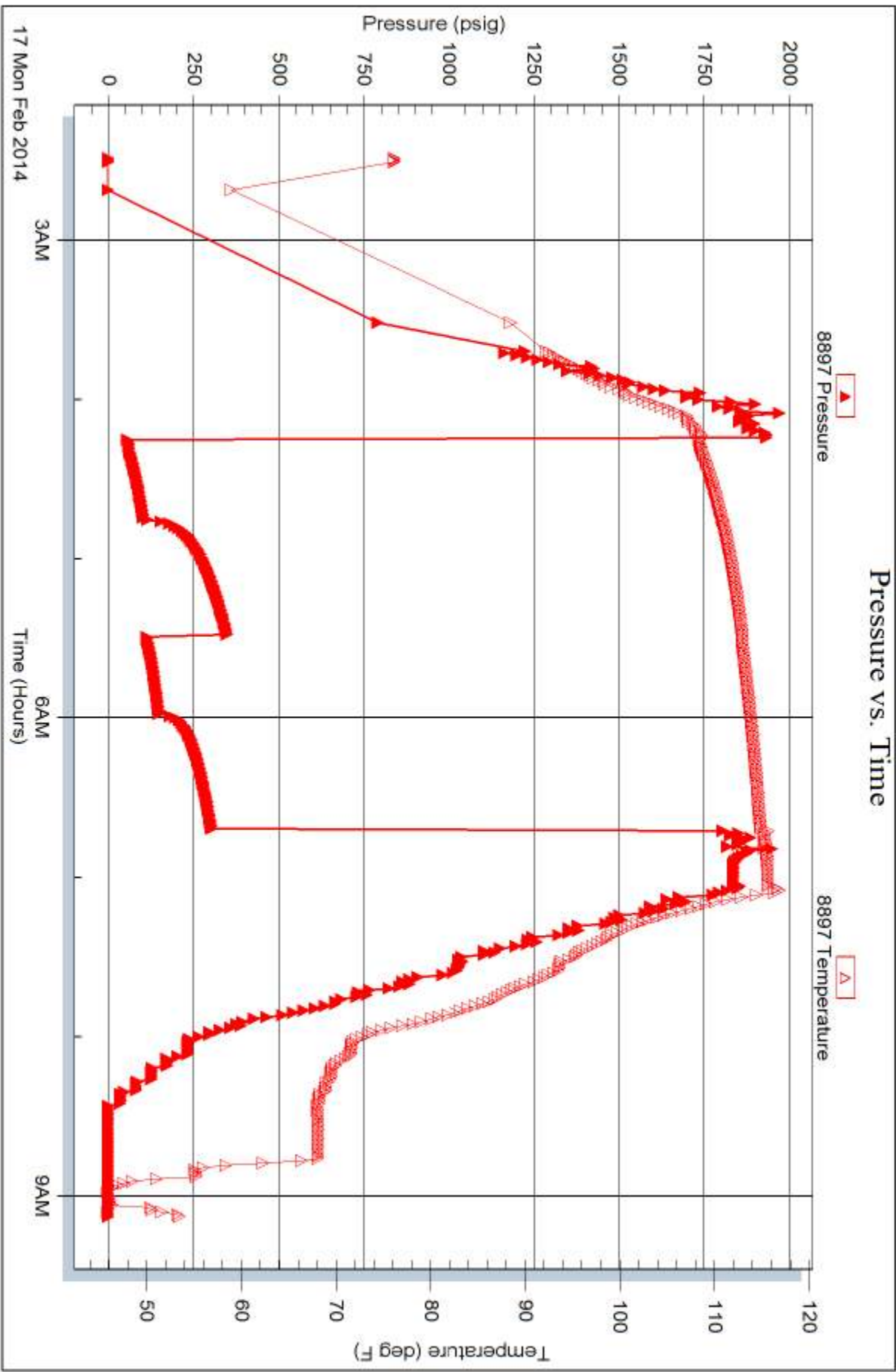
Serial #: 8897

Inside

Dow nng Nelson Oil Co Inc

Hillman #2-18

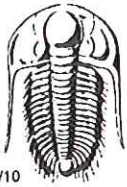
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 56107

Printed: 2014.02.19 @ 14:13:21



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56104

Well Name & No. Hillman # 2-18 Test No. 1 Date 2/14/14 / 2/15/14
 Company Downing Nelson Oil Company Elevation 2373 KB 2365 GL
 Address PO Box 1019 Hays, KS 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #1
 Location: Sec. 18 Twp. 11S Rge. 24W Co. Trego State KS

Interval Tested 3728 3775 Zone Tested LKC CFD
 Anchor Length 47 Drill Pipe Run 3693 Mud Wt. 8.7
 Top Packer Depth 3724 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3728 Wt. Pipe Run 0 WL 8.0
 Total Depth 3775 Chlorides 2000 ppm System LCM 2#

Blow Description B.O.D. IN 30 mins
Dead up blow back
Strong blow built to 10in
Dead no blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>230</u>	Feet of <u>SMCW</u>	%gas	%oil <u>95</u>	%water <u>5</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

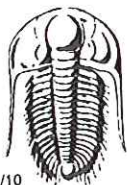
Rec Total 230 BHT 108 Gravity 204 @ 40 ° F Chlorides 6500 ppm
 Test 1150 T-On Location 22:15
 Jars T-Started 23:25
 Safety Joint T-Open 01:28
 Circ Sub T-Pulled 04:28
 Hourly Standby T-Out 06:16
 Mileage 94 R/T 145.70
 Sampler
 Straddle
 Shale Packer
 Extra Packer
 Extra Recorder
 Day Standby
 Accessibility

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

Sub Total 1295.70

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56105

Well Name & No. Hillman #2-18 Test No. 2 Date 2-15-14
 Company Downing Nelson Oil Company Elevation 2373 KB 2365 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Mark Downing Rig Discovery #1
 Location: Sec. 18 Twp. T15 Rge. 24W Co. Trego State KS

Interval Tested 3825 3898 Zone Tested LHC H-5
 Anchor Length 73 Drill Pipe Run 3790 Mud Wt. 8.9
 Top Packer Depth 3821 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3825 Wt. Pipe Run 0 WL 8.0
 Total Depth 3898 Chlorides 4000 ppm System LCM 2#

Blow Description Fair blow built to 4in
Lead, no blowback
B.O.B. In 1min
Weak surface blow died in 20 mins

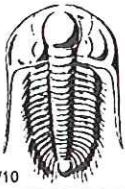
Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>410 GIP</u>	<u>100</u>			
<u>110</u>	<u>60CM</u>	<u>5</u>	<u>15</u>		<u>80</u>
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud
		%gas	%oil	%water	%mud

Rec Total 100 BHT 110 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1851 Test 1150 T-On Location 17:15
 (B) First Initial Flow 18 Jars _____ T-Started 18:00
 (C) First Final Flow 27 Safety Joint _____ T-Open 19:48
 (D) Initial Shut-In 219 Circ Sub _____ T-Pulled 22:48
 (E) Second Initial Flow 32 Hourly Standby _____ T-Out 00:33
 (F) Second Final Flow 41 Mileage 94 R/T 145.70 Comments _____
 (G) Final Shut-In 164 Sampler _____
 (H) Final Hydrostatic 1862 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____

Initial Open 45 Extra Packer _____ Sub Total 0
 Initial Shut-In 45 Extra Recorder _____ Total 1295.70
 Final Flow 45 Day Standby _____ MP/DST Disc't _____
 Final Shut-In 45 Accessibility _____
 Sub Total 1295.70

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56106

4/10

Well Name & No. Hillman #2-18 Test No. 3 Date 2-16-14
 Company Downing Nelson Oil Company Elevation 2373 KB 2365 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Mac Downing Rig Discovery #1
 Location: Sec. 18 Twp. 11S Rge. 24W Co. Trego State KS

Interval Tested 3887 3922 Zone Tested LKC "K"
 Anchor Length 35 Drill Pipe Run 3852 Mud Wt. 8.9
 Top Packer Depth 3883 Drill Collars Run 30 Vis 51
 Bottom Packer Depth 3887 Wt. Pipe Run 0 WL 8.0
 Total Depth 3922 Chlorides 4000 ppm System LCM 2"

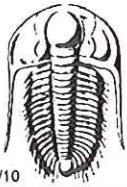
Blow Description Packer Failure

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>230</u>	Feet of <u>mud</u>				<u>100</u>
Rec	Feet of				
Rec	Feet of				
Rec	Feet of				

Rec Total 230 BHT _____ Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic Test 950 T-On Location 07:00
 (B) First Initial Flow Jars _____ T-Started 07:32
 (C) First Final Flow Safety Joint _____ T-Open 09:08
 (D) Initial Shut-In Circ Sub _____ T-Pulled 09:20
 (E) Second Initial Flow Hourly Standby _____ T-Out 11:08
 (F) Second Final Flow Mileage 94 K/T 145.70 Comments _____
 (G) Final Shut-In Sampler _____
 (H) Final Hydrostatic Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open _____ Sub Total 0
 Initial Shut-In _____ Extra Recorder _____ Total 1095.70
 Final Flow NA Day Standby _____ MP/DST Disc't _____
 Final Shut-In _____ Accessibility _____
 Sub Total 1095.70

Approved By _____ Our Representative [Signature]
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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 56107

Well Name & No. Hillman #2-18 Test No. 4 Date 2-7-14
 Company Downing Nelson Oil Company Elevation 2373 KB 2365 GL
 Address PO Box 1019 Hays KS 67601
 Co. Rep / Geo. Mark Downing Rig Discovery #1
 Location: Sec. 18 Twp. 71S Rge. 24W Co. Trego State KS

Interval Tested 3895 3991 Zone Tested K
 Anchor Length 96 Drill Pipe Run 3853 Mud Wt. 9.0
 Top Packer Depth 3891 Drill Collars Run 38 Vis 54
 Bottom Packer Depth 3895 3991 Wt. Pipe Run 0 WL 8.0
 Total Depth 3991 Chlorides 3000 ppm System LCM 1 1/2"

Blow Description B.O.B. IN 8 min
Weak surface blow
B.O.B. IN 5 min
Weak surface blow

Rec	Feet of	%gas	%oil	%water	%mud
<u>0</u>	<u>110 GFP</u>	<u>100</u>			
<u>10</u>	<u>60</u>	<u>5</u>	<u>95</u>		
<u>60</u>	<u>OCM</u>		<u>10</u>		<u>90</u>
<u>120</u>	<u>OCMW</u>		<u>5</u>	<u>85</u>	<u>10</u>
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 190 BHT 115 Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1933 Test 1150 T-On Location 01:10
 (B) First Initial Flow 56 Jars _____ T-Started 02:29
 (C) First Final Flow 104 Safety Joint _____ T-Open 04:15
 (D) Initial Shut-In 349 Circ Sub _____ T-Pulled 06:45
 (E) Second Initial Flow 113 Hourly Standby _____ T-Out 09:07
 (F) Second Final Flow 149 Mileage 94 1/4 Comments _____
 (G) Final Shut-In 364 Sampler _____
 (H) Final Hydrostatic 1862 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Initial Open 30 Extra Recorder _____ Sub Total 0
 Initial Shut-In 45 Day Standby _____ Total 1150
 Final Flow 30 Accessibility _____ MP/DST Disc't _____
 Final Shut-In 45 Sub Total 1150

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.

Marc A. Downing		Geologic Report	
Consulting Petroleum Geologist		Drilling Time and Sample Log	
Operator Downing-Nelson Oil Co., Inc.		KB Elevation 2362	DF 2360
Lease Hillman No. 2-18		GL 2354	
API # 15-195-22913-0000		Casing Record Surface	
Field Scanlon		8' 5/8" @ 220'	
Location 585' FNL & 1175' FEL		Production 5 1/2" @ 3993'	
Sec. 18 Twp. 11s Rge. 24w		Electrical Surveys	
County Trego State Kansas		CNDL, DIL, MEL, Sonic	
Formation	Sample tops	Log Tops	Datum
Top Anhydrite	1975	1975	+387
Base Anhydrite	2017	2017	+345
Top Anhydrite	1975	1975	-10
Base Anhydrite	2017	2017	-11
Topeka	3452	3452	-1090
Heebner	3671	3673	-1311
Toronto	3692	3694	-1332
LKC	3709	3711	-1349
BKC	3940	3942	-1580
Total Depth	3991	3994	-1632
Reference Well For Structural Comparison Hillman #1		N-B Company SE NW NE	
		Sec. 18-11s-24w	

Drilling Contractor	Discovery Drilling, Rig #1	
Commenced	2-11-14	Completed 2-17-14
Samples Saved From	3650	To RTD
Drilling Time Kept From	3400	To RTD
Samples Examined From	3650	To RTD
Geological Supervision From	3400	To RTD

Summary and Recommendations

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

Respectfully Submitted,

Marc A. Downing

