



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1182798
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: _____

1182798

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 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				

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: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Date of First, Resumed Production, SWD or ENHR.	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> <input type="checkbox"/> Other <i>(Specify)</i> _____ <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Befort 2-12
Doc ID	1182798

Tops

Name	Top	Datum
Top Anhydrite	1447'	+735
Base Anhydrite	1489'	+639
Topeka	3182'	-1000
Heebner	3430'	-1248
Toronto	3448'	-1266
LKC	3476'	-1294
BKC	3710'	-1528
Arbuckle	3823'	-1641

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Befort 2-12
Doc ID	1182798

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3827'-3830'	250 Gallons 20% Mud Acid	3606'-3010'
4	3606'-3610'	250 Gallons 20% Mud Acid	3523'-3525'
4	3546'-3548'	500 Gallons 20% Mud Acid	3509'-3512'
4	3253'-3525'	1000 Gallons 15% NE Acid	3509'-3512'
4	3509'-3512'	250 Gallons 20% Mud Acid	3606'-3610'
4	3450'-3455'		

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. 7519

Date	Sec.	Twp.	Range	County	State	On Location	Finish
9-27-13	12	14	19	Ellis	KS		10:15PM
Lease				Well No.		Owner	
Befort				2-12		To Quality Oilwell Cementing, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Contractor				Type Job		Charge To	
Discovery #3				Surface		Downing-Nelson	
Hole Size		T.D.		Depth		Street	
12 1/4		223'		222 1/2'			
Csg.		Depth		City		State	
4 5/8							
Tbg. Size		Depth		The above was done to satisfaction and supervision of owner agent or contractor.			
Tool		Depth		Cement Amount Ordered			
				150 3#2			
Cement Left in Csg.		Shoe Joint					
20'							
Meas Line		Displace					
		13 bbl					
EQUIPMENT				Common			
				150			
Pumptrk		No.		Cementer		Poz. Mix	
5				Helper			
				Nick			
Bulktrk		No.		Driver		Gel.	
19				David		3	
Bulktrk		No.		Driver		Calcium	
pu				Brett		5	
JOB SERVICES & REMARKS				Hulls			
Remarks:				Salt			
Rat Hole				Flowseal			
Mouse Hole				Kol-Seal			
Centralizers				Mud CLR 48			
Baskets				CFL-117 or CD110 CAF 38			
D/V or Port Collar				Sand			
				Handling			
				158			
				Mileage			
FLOAT EQUIPMENT							
				Guide Shoe			
				Centralizer			
				Baskets			
				AFU Inserts			
				Float Shoe			
				Latch Down			
				Pumptrk Charge			
				Surface			
				Mileage			
				3			
				Tax			
				Discount			
				Total Charge			
Signature							
[Signature]							

Cement

Circulated!!
Quality Oilwell
Cementing

JOB LOG

SWIFT Services, Inc.

DATE 10-4-13 PAGE NO. 1

CUSTOMER Dawning Nelson WELL NO. 2-12 LEASE Be Port JOB TYPE Cement Longstring TICKET NO. 25113

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1540							To 3895
	1640					14 1/4	5 1/2	On location - FE - Rig LD DC. Start 5 1/2" casing to 3894 - 14 1/4" Insert Float Shoe w/ Fill up LD. Baffle - SJ - 20.75' = 3873 = 99 1/2 BBL Cant # 1-3-5-7-9-11-58 Cant Bskt. #59 On end Port Collar #59 Collar @ 1429' Fill-up ball 5 Jts out
	1745							Fin run casing - Top - 1/2" Jt Down CIR casing / Rotate Fin cir Plug RH - 30 SKS cont Pump 500gal Mud flush Pump 20 BBL KCL flush Start 145 SKS EHL cont Fin cont Washout Pump Head - Drop Plug
		9 8 7	75					350 Start Plug Displ 400 Caught LIFT - slowly clear rate 750 Plug Down - Hold - Release & Hold 1500 washing & Backup
	1930	6						Job Complete
	2000							

[Signature]
Dan J. Jones
& Craig

JOB LOG

SWIFT Services, Inc.

DATE 11-4-13 PAGE NO. 1

CUSTOMER *Downing & Nelson* WELL NO. *2-12* LEASE *Bofort* JOB TYPE *Cut Port Celler* TICKET NO. *25181*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	10:15					2 3/8	5 1/2	DN loc. P.T. + 2 SKS SAND.
	10:45							Set up TRK to cut P.C @ 1423'
								RBP @ 3090' Tbg @ 2969'
	11:15							Circulate oil out of Hble
						50	300	40 BBI for Returns to Tank
			70					Fin cip clean
	12:00 / 12:10		10			0	300	Spot 2 SKS Sand @ 2969'
	12:30							Plug top to P.C
		3				300	1000	Test closed - OK - open P.C - inj Ret
								Hook to tbg
		3	5			300	C	Start 5 BBI fresh H2O
		3				300		Start sand emul @ 11.2 #/gal
		3	10			800		Have returns to pit
		3	70			300		cut cip @ 125 SKS
		3	10			300		Turn in 25 SKS @ 13 1/2 gal
		3	4 1/2					Fin cut - Displ 4 1/2 BBI H2O
								Fin Displ
						C	1000	close P.C + test - OK
								Run 5 Jts
		3	20				200	Rec-out 2 flags clean
	14:20							Rig run tbg to Plug, - Washup P.T
								Wash sand off RBP @ 3090'
	15:00		30					Fin washing sand off RBP
								Pack up P.T.
								Job Complete

[Signature]
[Signature]



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson/ Marc Dow

Befort #2-12

12-14s-19w Ellis,KS

Start Date: 2013.10.01 @ 04:47:07

End Date: 2013.10.01 @ 11:53:52

Job Ticket #: 52435 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.04 @ 15:10:05



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 52435

DST#: 1

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 04:47:07

GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:15:37

Time Test Ended: 11:53:52

Test Type: Conventional Bottom Hole (Initial)

Tester: Chris Staats

Unit No: 47

Interval: 3377.00 ft (KB) To 3413.00 ft (KB) (TVD)

Reference Elevations: 2181.00 ft (KB)

Total Depth: 3413.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8676 Outside

Press @ Run Depth: 50.41 psig @ 3378.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.01 End Date: 2013.10.01

Last Calib.: 2013.10.01

Start Time: 04:47:12 End Time: 11:53:51

Time On Btm: 2013.10.01 @ 07:12:52

Time Off Btm: 2013.10.01 @ 10:16:07

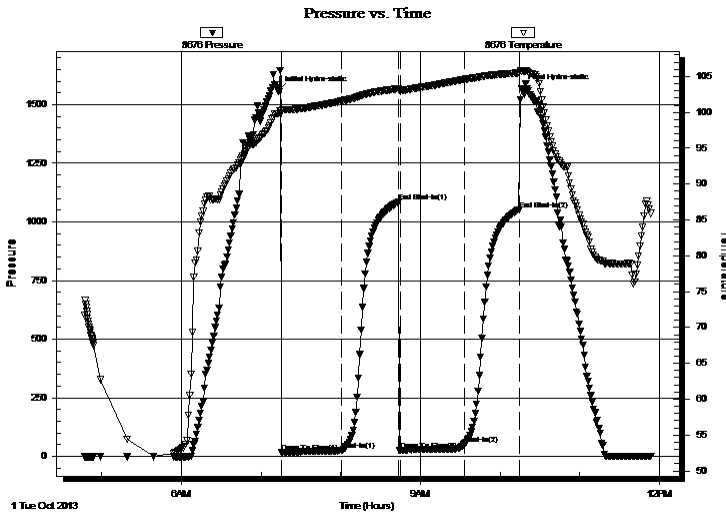
TEST COMMENT: IF: Weak blow 3 1/4"

IS: No blow back

FF: Weak blow 2"

FS: No blow back

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1560.15	99.84	Initial Hydro-static
3	16.19	100.23	Open To Flow (1)
48	25.36	101.56	Shut-In(1)
91	1084.07	103.30	End Shut-In(1)
92	26.57	102.99	Open To Flow (2)
140	50.41	104.58	Shut-In(2)
182	1052.72	105.51	End Shut-In(2)
184	1569.21	105.77	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	W,M With Oil Spots 15%w ater 85% mud	0.56

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 52435

DST#: 1

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 04:47:07

Tool Information

Drill Pipe:	Length: 3359.00 ft	Diameter: 3.80 inches	Volume: 47.12 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 60000.00 lb
			<u>Total Volume: 47.12 bbl</u>	Tool Chased 2.00 ft
Drill Pipe Above KB:	3.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3377.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3357.00	
Shut In Tool	5.00			3362.00	
Hydraulic tool	5.00			3367.00	
Packer	5.00			3372.00	21.00 Bottom Of Top Packer
Packer	5.00			3377.00	
Stubb	1.00			3378.00	
Recorder	0.00	8676	Outside	3378.00	
Recorder	0.00	6773	Outside	3378.00	
Perforations	32.00			3410.00	
Bullnose	3.00			3413.00	36.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



TRILOBITE
TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 52435

DST#: 1

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 04:47:07

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

5500 ppm

Viscosity: 85.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
40.00	W,M With Oil Spots 15%water 85%mud	0.561

Total Length: 40.00 ft Total Volume: 0.561 bbl

Num Fluid Samples: 0

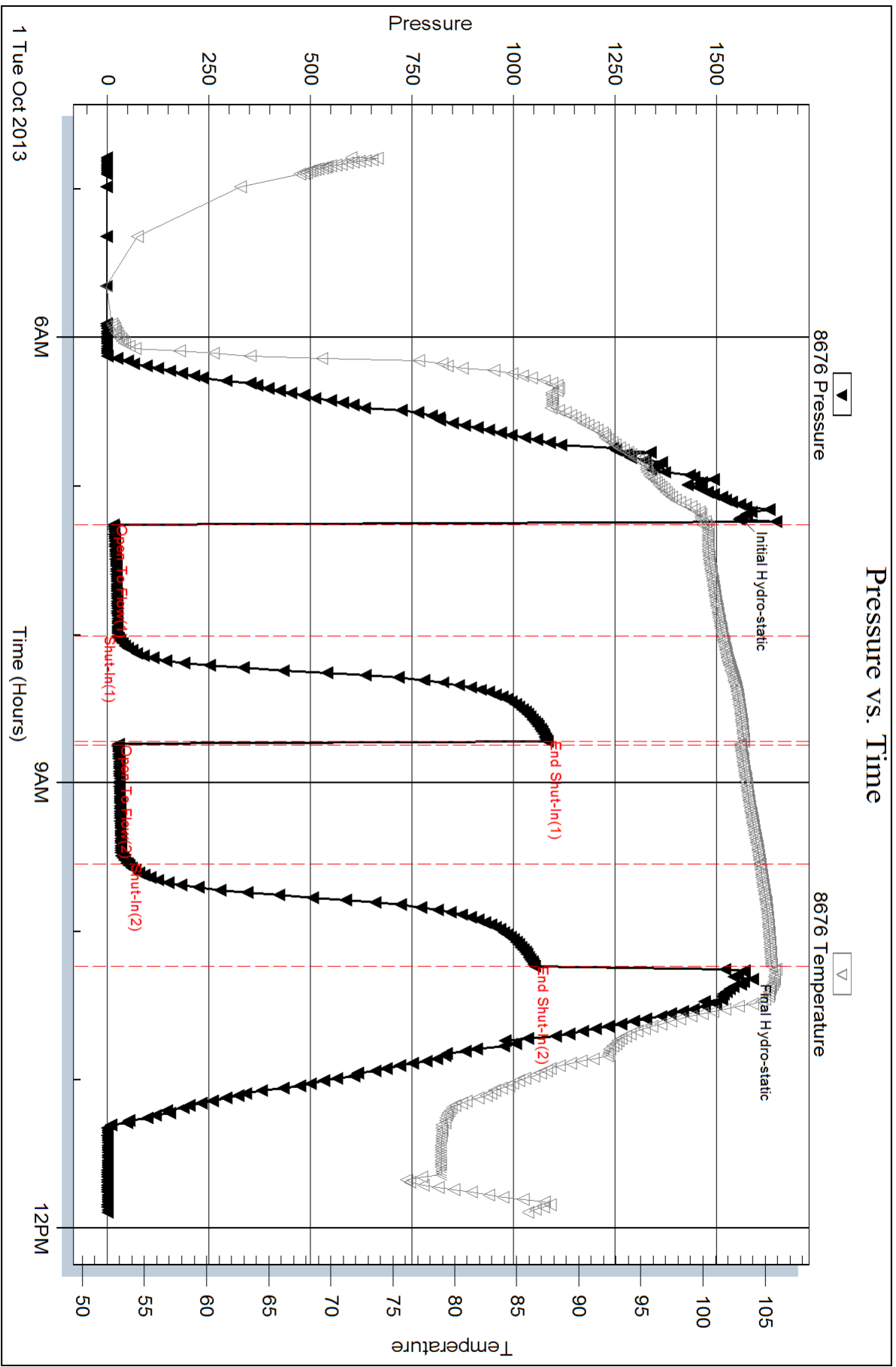
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



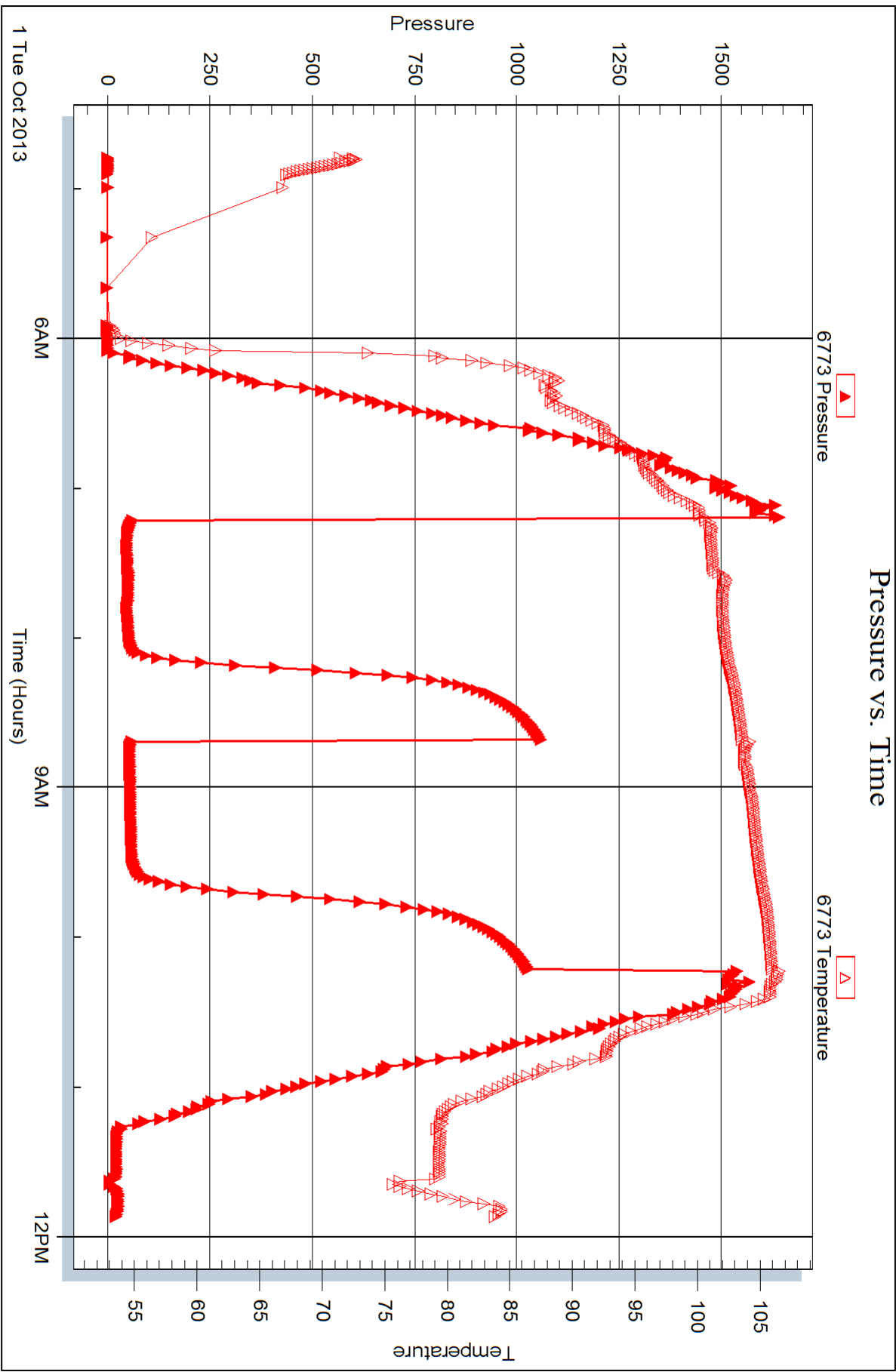
Serial #: 6773

Outside

Dow nting-Nelson Oil Co Inc

Before#2-12

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 52435

Printed: 2013.10.04 @ 15:10:07



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson/ Marc Dow

Befort #2-12

12-14s-19w Ellis,KS

Start Date: 2013.10.01 @ 18:08:31

End Date: 2013.10.02 @ 01:23:31

Job Ticket #: 52436 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.04 @ 15:09:40



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 52436

DST#: 2

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 18:08:31

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:28:01

Time Test Ended: 01:23:31

Test Type: Conventional Bottom Hole (Reset)

Tester: Chris Staats

Unit No: 47

Interval: 3426.00 ft (KB) To 3462.00 ft (KB) (TVD)

Reference Elevations: 2181.00 ft (KB)

Total Depth: 3462.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8676 Outside

Press @ RunDepth: 66.49 psig @ 3427.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.01 End Date: 2013.10.02

Last Calib.: 2013.10.02

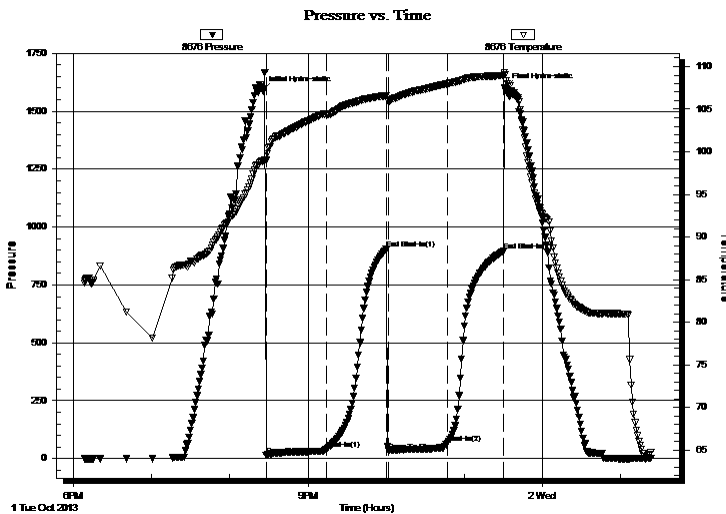
Start Time: 18:08:36 End Time: 01:23:30

Time On Btm: 2013.10.01 @ 20:25:16

Time Off Btm: 2013.10.01 @ 23:31:01

TEST COMMENT: IF: Strong blow BOB 17 min
IS: No blow back
FF: Strong blow BOB 1 min
FS: Weak blow back 1"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1590.81	98.88	Initial Hydro-static
3	16.02	99.04	Open To Flow (1)
49	39.11	104.35	Shut-In(1)
95	905.02	106.57	End Shut-In(1)
97	33.33	105.87	Open To Flow (2)
142	66.49	107.98	Shut-In(2)
185	895.36	108.93	End Shut-In(2)
186	1600.98	109.03	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	Oil 100%	0.28
60.00	O,G,M 5%oil 10%gas 85%mud	0.84

Gas Rates

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

* Recovery from multiple tests



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 52436

DST#: 2

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 18:08:31

Tool Information

Drill Pipe:	Length: 3420.00 ft	Diameter: 3.80 inches	Volume: 47.97 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 62000.00 lb
			<u>Total Volume: 47.97 bbl</u>	Tool Chased 1.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3426.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	36.00 ft			
Tool Length:	57.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		
Tool Comments:				

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3406.00	
Shut In Tool	5.00			3411.00	
Hydraulic tool	5.00			3416.00	
Packer	5.00			3421.00	21.00 Bottom Of Top Packer
Packer	5.00			3426.00	
Stubb	1.00			3427.00	
Recorder	0.00	8676	Outside	3427.00	
Recorder	0.00	6773	Outside	3427.00	
Perforations	32.00			3459.00	
Bullnose	3.00			3462.00	36.00 Bottom Packers & Anchor
Total Tool Length:	57.00				



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Befort #2-12

Job Ticket: 52436

DST#: 2

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.01 @ 18:08:31

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

30 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 62.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.93 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: 0.02 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	Oil 100%	0.281
60.00	O,G,M 5%oil 10%gas 85%mud	0.842

Total Length: 80.00 ft Total Volume: 1.123 bbl

Num Fluid Samples: 0

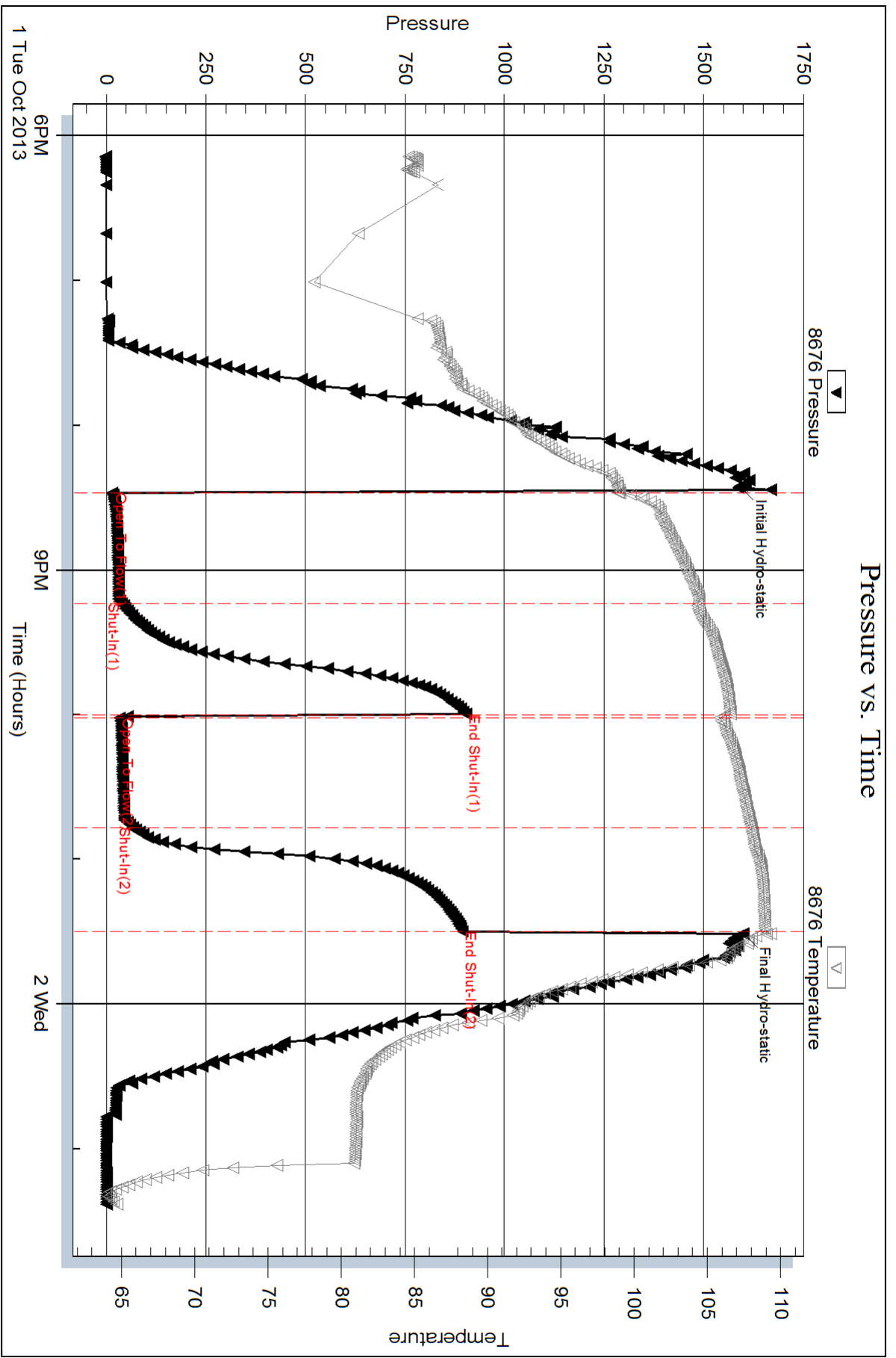
Num Gas Bombs: 0

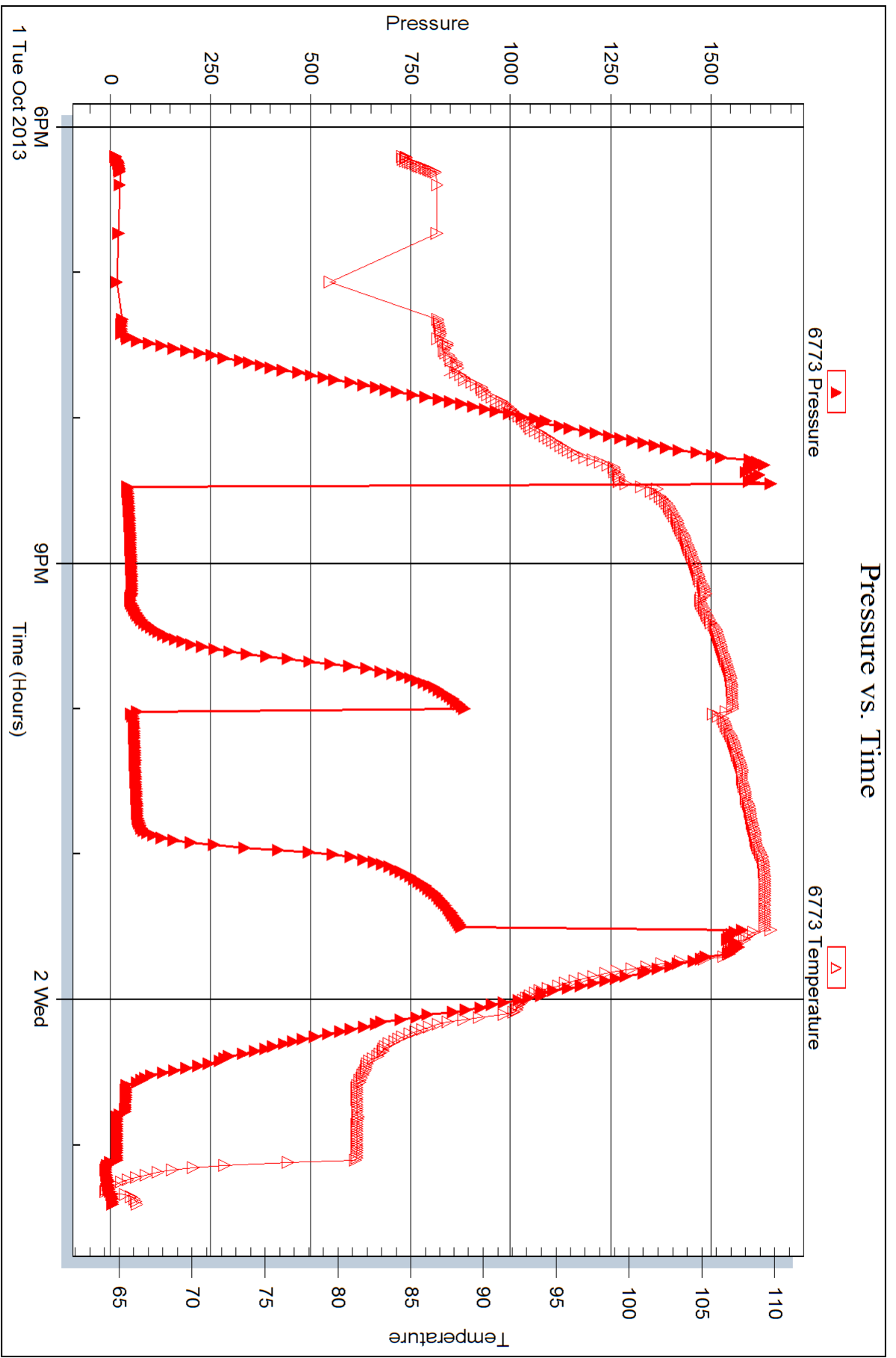
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson/ Marc Dow

Befort #2-12

12-14s-19w Ellis,KS

Start Date: 2013.10.02 @ 09:45:29

End Date: 2013.10.02 @ 15:07:53

Job Ticket #: 54821 DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.04 @ 15:09:11



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 54821

DST#: 3

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.02 @ 09:45:29

GENERAL INFORMATION:

Formation: **LKC C-D**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 11:30:24

Time Test Ended: 15:07:53

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: 3479.00 ft (KB) To 3535.00 ft (KB) (TVD)

Reference Elevations: 2181.00 ft (KB)

Total Depth: 3535.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8369 Outside

Press @ Run Depth: 23.95 psig @ 3481.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.02

End Date:

2013.10.02

Last Calib.:

2013.10.02

Start Time: 09:45:29

End Time:

15:07:53

Time On Btm:

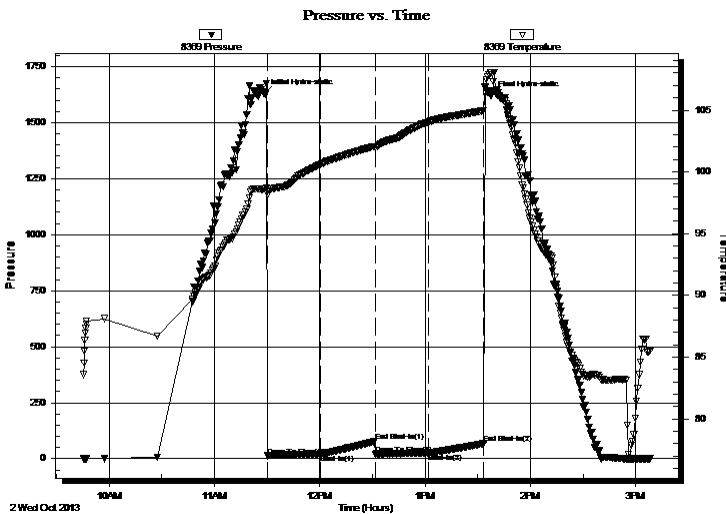
2013.10.02 @ 11:28:39

Time Off Btm:

2013.10.02 @ 13:37:39

TEST COMMENT: 30-IFP-w k bl thru-out
30-ISIP-no bl
30-FFP-w k bl thru-out 1 1/2" to 2" bl
30-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1627.58	98.62	Initial Hydro-static
2	13.36	98.17	Open To Flow (1)
32	20.87	100.60	Shut-In(1)
63	78.55	102.07	End Shut-In(1)
64	18.62	102.04	Open To Flow (2)
94	23.95	104.02	Shut-In(2)
125	67.95	104.97	End Shut-In(2)
129	1619.63	108.04	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
0.00	110'GIP	0.00
10.00	O&GCM 10%G10%O80%M	0.14

* Recovery from multiple tests

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 54821

DST#: 3

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.02 @ 09:45:29

Tool Information

Drill Pipe:	Length: 3481.00 ft	Diameter: 3.80 inches	Volume: 48.83 bbl	Tool Weight: 2200.00 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 48.83 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	23.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3479.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	56.00 ft			
Tool Length:	77.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3459.00	
Shut In Tool	5.00			3464.00	
Hydraulic tool	5.00			3469.00	
Packer	5.00			3474.00	21.00 Bottom Of Top Packer
Packer	5.00			3479.00	
Stubb	1.00			3480.00	
Perforations	1.00			3481.00	
Recorder	0.00	8369	Outside	3481.00	
Recorder	0.00	8700	Outside	3481.00	
Blank Spacing	33.00			3514.00	
Perforations	18.00			3532.00	
Bullnose	3.00			3535.00	56.00 Bottom Packers & Anchor

Total Tool Length: 77.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Befort #2-12

Job Ticket: 54821

DST#: 3

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.02 @ 09:45:29

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 59.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.74 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 bbbl
0.00	110'GIP	0.000
10.00	O&GCM 10%G10%O80%M	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

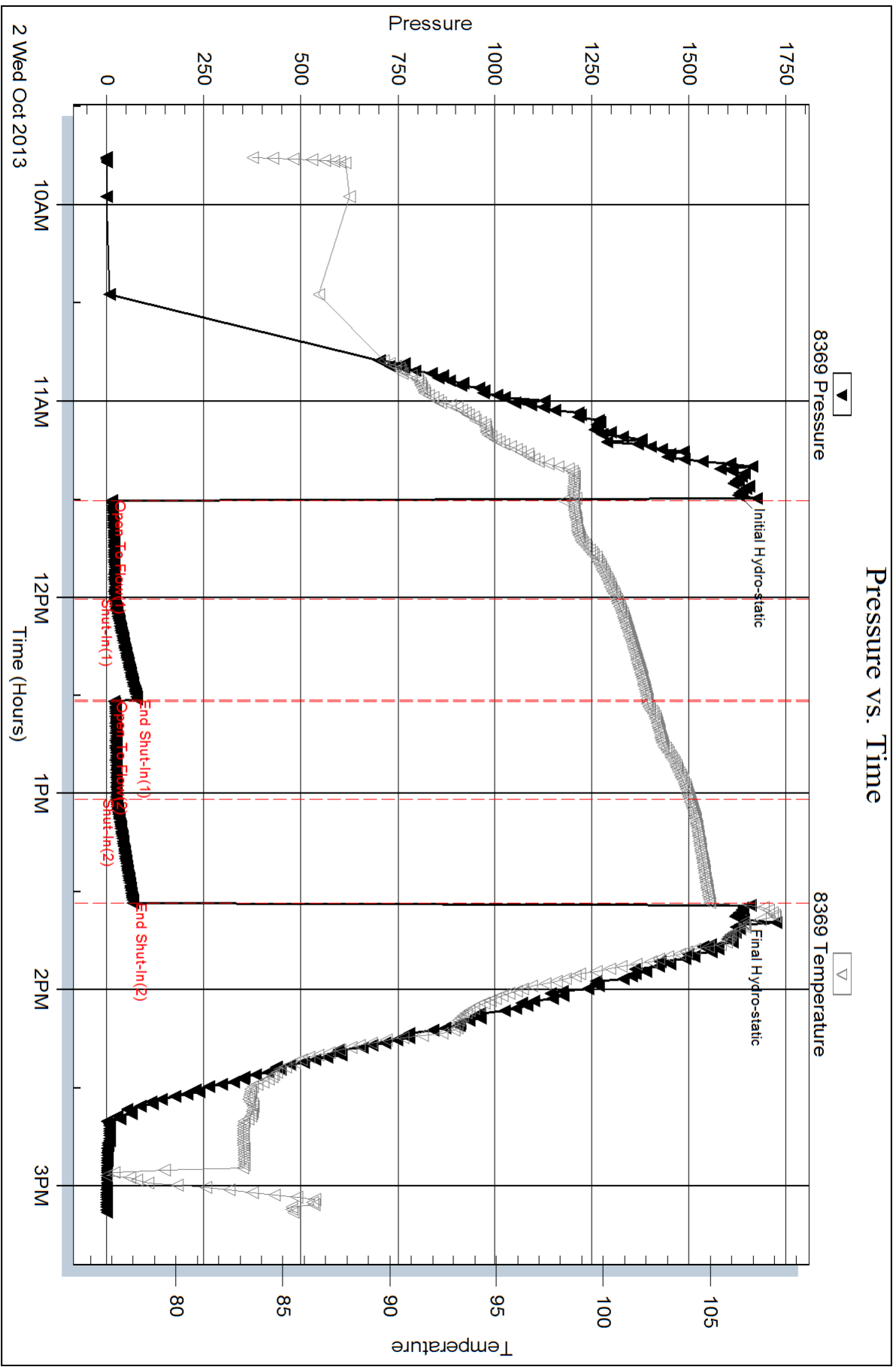
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

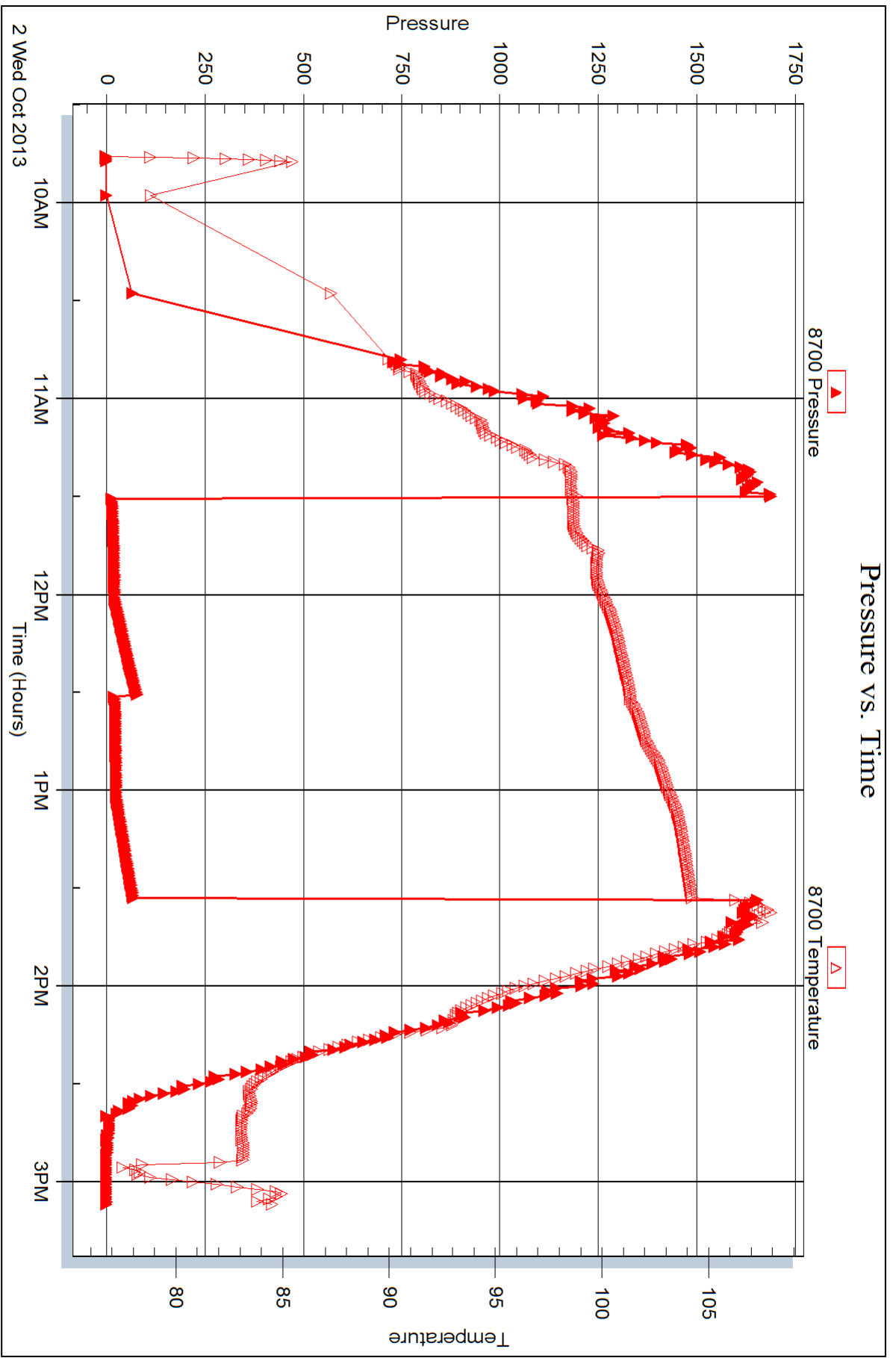


Serial #: 8700

Outside Dow nting-Nelson Oil Co Inc

Before#2-12

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 54821

Printed: 2013.10.04 @ 15:09:13



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Ron Nelson/ Marc Dow

Befort #2-12

12-14s-19w Ellis,KS

Start Date: 2013.10.03 @ 02:40:28

End Date: 2013.10.03 @ 09:17:52

Job Ticket #: 54822 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2013.10.04 @ 15:07:51



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

ATTN: Ron Nelson/ Marc Dow

Job Ticket: 54822

DST#: 4

Test Start: 2013.10.03 @ 02:40:28

GENERAL INFORMATION:

Formation: **LKC H-I**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 04:34:23

Time Test Ended: 09:17:52

Test Type: Conventional Bottom Hole (Reset)

Tester: Ray Schwager

Unit No: 70

Interval: 3585.00 ft (KB) To 3642.00 ft (KB) (TVD)

Reference Elevations: 2181.00 ft (KB)

Total Depth: 3642.00 ft (KB) (TVD)

2173.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8369 Outside

Press @ Run Depth: 48.61 psig @ 3587.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2013.10.03

End Date:

2013.10.03

Last Calib.: 2013.10.03

Start Time: 02:40:28

End Time:

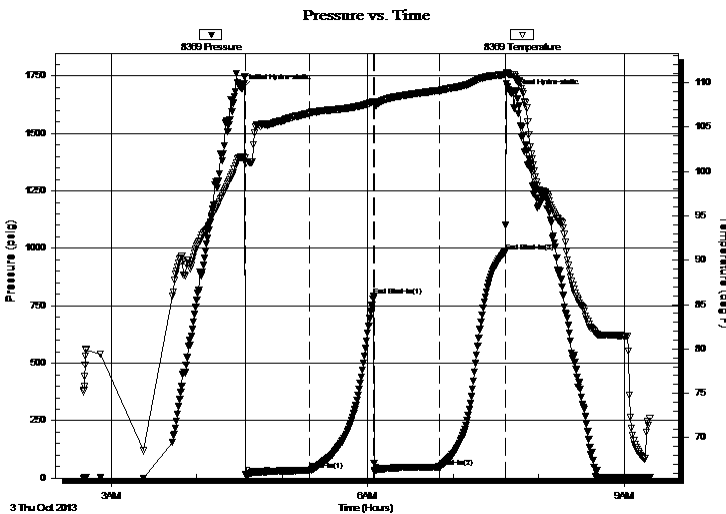
09:17:52

Time On Btm: 2013.10.03 @ 04:32:08

Time Off Btm: 2013.10.03 @ 07:40:52

TEST COMMENT: 45-IFP-w k to a gd bl 1/2" to 6 1/2" bl
45-ISIP-no bl
45-FFP-strg bl thru-out
45-FSIP-no bl

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1695.05	101.58	Initial Hydro-static
3	14.69	100.93	Open To Flow (1)
48	34.42	106.55	Shut-In(1)
92	793.24	107.80	End Shut-In(1)
93	29.08	107.44	Open To Flow (2)
138	48.61	109.11	Shut-In(2)
185	986.15	110.89	End Shut-In(2)
189	1675.21	110.89	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
60.00	GMO 30%G30%M40%O	0.84
30.00	O&GCM 10%G10%O80%M	0.42
0.00	775'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

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 54822

DST#: 4

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.03 @ 02:40:28

Tool Information

Drill Pipe:	Length: 3577.00 ft	Diameter: 3.80 inches	Volume: 50.18 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: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 65000.00 lb
			<u>Total Volume: 50.18 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	13.00 ft			String Weight: Initial 54000.00 lb
Depth to Top Packer:	3585.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	57.00 ft			
Tool Length:	78.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Change Over Sub	1.00			3565.00	
Shut In Tool	5.00			3570.00	
Hydraulic tool	5.00			3575.00	
Packer	5.00			3580.00	21.00 Bottom Of Top Packer
Packer	5.00			3585.00	
Stubb	1.00			3586.00	
Perforations	1.00			3587.00	
Recorder	0.00	8369	Outside	3587.00	
Recorder	0.00	8700	Outside	3587.00	
Blank Spacing	33.00			3620.00	
Perforations	19.00			3639.00	
Bullnose	3.00			3642.00	57.00 Bottom Packers & Anchor

Total Tool Length: 78.00



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

12-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

Before #2-12

Job Ticket: 54822

DST#: 4

ATTN: Ron Nelson/ Marc Dow

Test Start: 2013.10.03 @ 02:40:28

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 8.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.76 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 bbbl
60.00	GMO 30%G30%M40%O	0.842
30.00	O&GCM 10%G10%O80%M	0.421
0.00	775'GIP	0.000

Total Length: 90.00 ft Total Volume: 1.263 bbl

Num Fluid Samples: 0

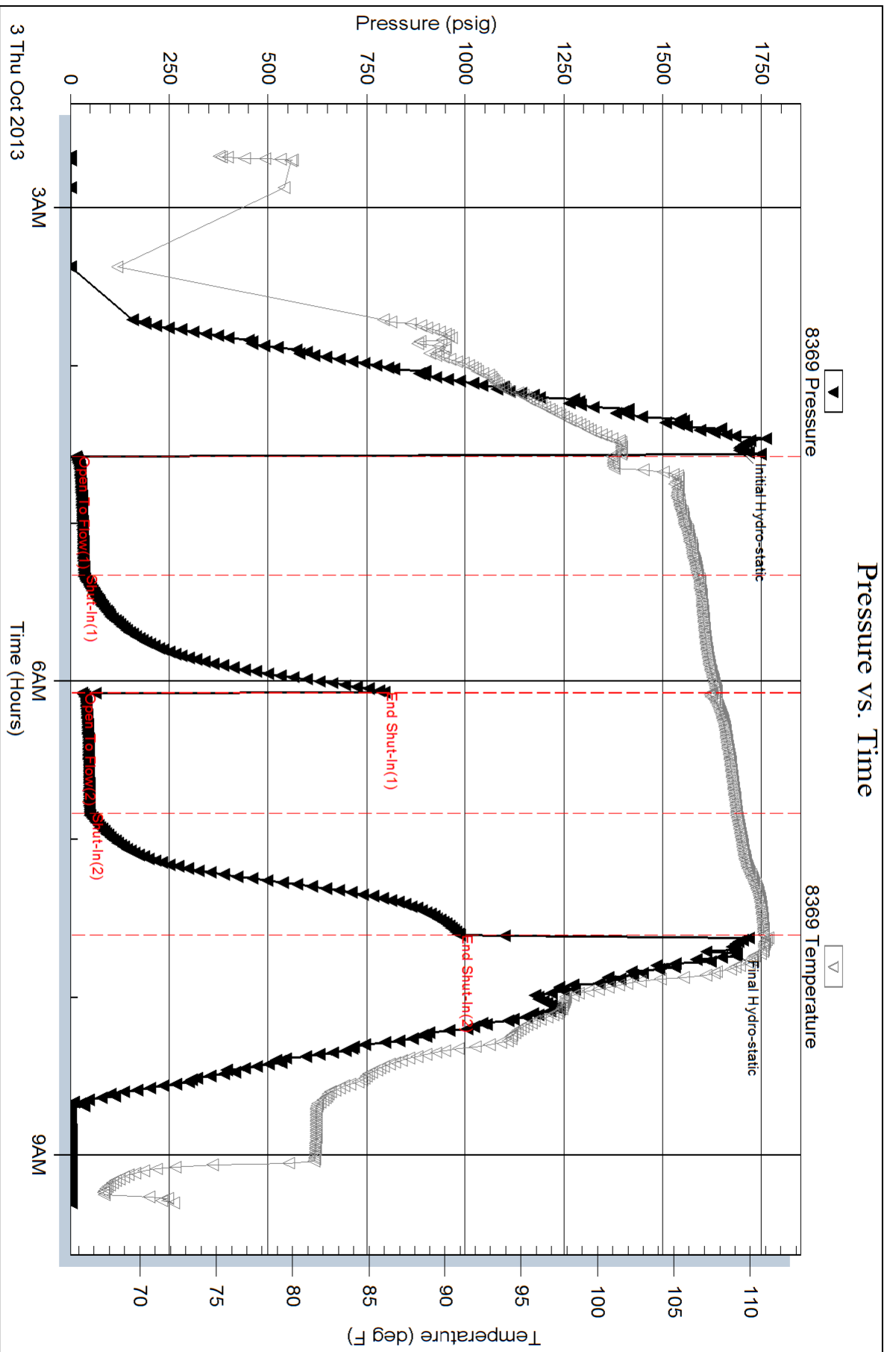
Num Gas Bombs: 0

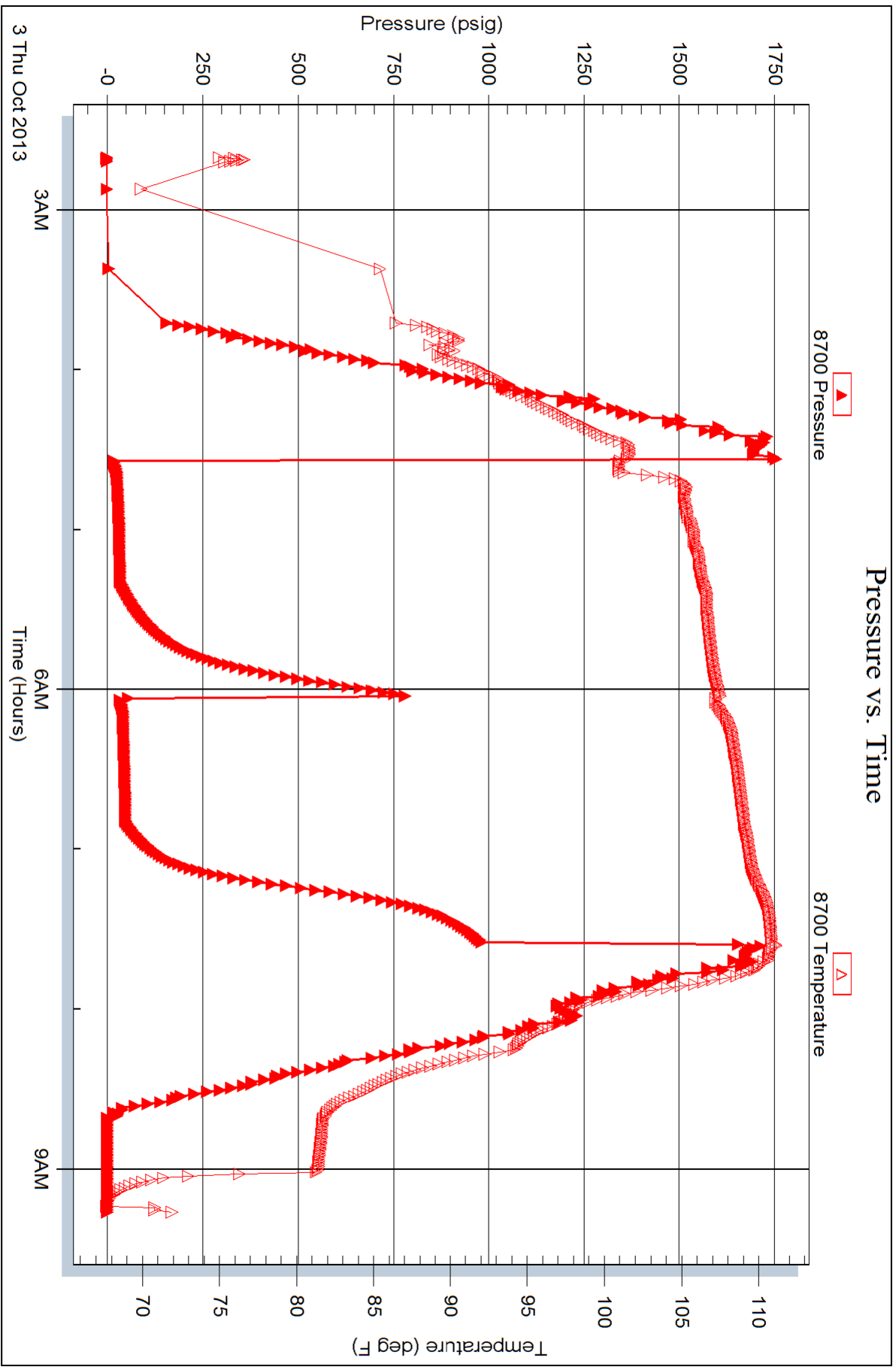
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:







TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 52435

Well Name & No. BeFort # 2-12 Test No. 1 Date 10-1-13
 Company Downing - Nelson oil co INC Elevation 2181 KB 2173 GL
 Address PO box 1019 111 west 10th street Hays KS 67601
 Co. Rep / Geo. Ron Nelson / Marc Downing Rig Discovery #3
 Location: Sec. 12 Twp. 14 Rge. 19 Co. Ellis State KS

Interval Tested 3377 - 3413 Zone Tested Plottsmouth
 Anchor Length 36' Drill Pipe Run 3359 Mud Wt. 8.5
 Top Packer Depth 3372 Drill Collars Run 0 Vis 8.5
 Bottom Packer Depth 3377 Wt. Pipe Run 0 WL 8.0
 Total Depth 3413 Chlorides 500 ppm System LCM 2.5#

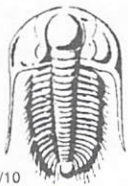
Blow Description IF: weak blow 3 1/4"
ISI: ~~weak blow 3 1/4"~~ No blow back
FF: weak blow 2"
FSI: NO blow back

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>40'</u>	Feet of <u>W, M with oil spots</u>	%gas	%oil <u>15</u>	%water <u>85</u>	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 40' BHT 102 Gravity - API RW 96 @ 87 ° F Chlorides 5500 ppm
 (A) Initial Hydrostatic 1560 Test 1150 T-On Location 4:30
 (B) First Initial Flow 16 Jars _____ T-Started _____
 (C) First Final Flow 25 Safety Joint _____ T-Open _____
 (D) Initial Shut-In 1084 Circ Sub _____ T-Pulled # 10:15
 (E) Second Initial Flow 26 Hourly Standby _____ T-Out 11:50
 (F) Second Final Flow 50 Mileage 20 miles 27.90 Comments _____
 (G) Final Shut-In 1052 Sampler _____
 (H) Final Hydrostatic 1569 Straddle _____ Ruined Shale Packer _____
 Shale Packer _____ Ruined Packer _____
 Extra Packer _____ Extra Copies _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____

Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Sub Total 1177.90
 Total 1177.90
 MP/DST Disc't _____
 Approved By _____ Our Representative Chris [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. 52436

4/10

Well Name & No. BCFort #2-12 Test No. 2 Date 10-1-73
 Company Downing - Nelson Oil Co INC Elevation 2181 KB 2173 GL
 Address Po box 1019 111 West 10th Street Hays KS 67601
 Co. Rep / Geo. Ron Nelson / Marc Downing Rig Discovery #3
 Location: Sec. 12 Twp. 14 Rge. 19 Co. Ellis State KS

Interval Tested 3426 - 3462 Zone Tested Toronto
 Anchor Length 36' Drill Pipe Run 3420 Mud Wt. 8.6
 Top Packer Depth 3421 Drill Collars Run 0 Vis 62
 Bottom Packer Depth 3426 Wt. Pipe Run 0 WL 8.0
 Total Depth 3462 Chlorides 1000 ppm System LCM 2#

Blow Description IF: Strong blow BOB 17 min
ISL: NO blow back
FF: Strong blow BOB 1 min
FSL: Weak blow back 1"

Rec	Feet of	%gas	%oil	%water	%mud
Rec <u>20'</u>	Feet of <u>Clean oil</u>	%gas <u>100</u>	%oil	%water	%mud
Rec <u>60'</u>	Feet of <u>0.6 M</u>	<u>10</u> %gas	<u>5</u> %oil	%water <u>85</u>	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud
Rec _____	Feet of _____	%gas	%oil	%water	%mud

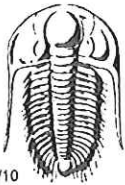
Rec Total 80' BHT 110 Gravity 30 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1590 Test 1150 T-On Location 17:50
 (B) First Initial Flow 16 Jars _____ T-Started 18:08
 (C) First Final Flow 39 Safety Joint _____ T-Open 20:28
 (D) Initial Shut-In 905 Circ Sub _____ T-Pulled 23:30
 (E) Second Initial Flow 33 Hourly Standby _____ T-Out 1:15
 (F) Second Final Flow 66 Mileage 27.90 Comments _____
 (G) Final Shut-In 895 Sampler _____
 (H) Final Hydrostatic 1600 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 45
 Initial Shut-In 45
 Final Flow 45
 Final Shut-In 45
 Extra Recorder _____
 Extra Packer _____
 Day Standby _____
 Accessibility _____
 Sub Total 1177.90
 Sub Total 1177.90
 Total 1177.90
 MP/DST Disc't _____

Approved By _____ Our Representative Chris Stout

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. 54821

Well Name & No. Befort #2-12 Test No. 3 Date 10-2-13
 Company Downing-Nelson Oil Co Inc Elevation 2181 KB 2173 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery 1193
 Location: Sec. 12 Twp. 14^s Rge. 19^w Co. ELLIS State Ks

Interval Tested 3479-3535 Zone Tested LKC C-0
 Anchor Length 56 Drill Pipe Run 3481 Mud Wt. 8.4
 Top Packer Depth 3474 Drill Collars Run 30 Vis 59
 Bottom Packer Depth 3479 Wt. Pipe Run - WL 8.8
 Total Depth 3535 Chlorides 4000 ppm System LCM 1 1/2 #

Blow Description IFP - Weak surface Blow thru-out
ISIP - NO Blow
FFP - Weak Blow thru-out 1 1/2" To 2" Blow
FSTIP - NO Blow

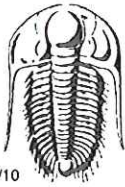
Rec	Feet of	%gas	%oil	%water	%mud
<u>110</u>	<u>GIP</u>				
<u>10</u>	<u>0+6CM</u>	<u>10</u>	<u>10</u>	<u>80</u>	

Rec Total 10 BHT 104 Gravity - API RW - @ - °F Chlorides - ppm

(A) Initial Hydrostatic <u>1627</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0905</u>
(B) First Initial Flow <u>13</u>	<input type="checkbox"/> Jars	T-Started <u>0945</u>
(C) First Final Flow <u>20</u>	<input type="checkbox"/> Safety Joint	T-Open <u>1130</u>
(D) Initial Shut-In <u>78</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>1330</u>
(E) Second Initial Flow <u>18</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1507</u>
(F) Second Final Flow <u>23</u>	<input checked="" type="checkbox"/> Mileage <u>18RT</u> 27.90	Comments
(G) Final Shut-In <u>67</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1619</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>30</u>	<input type="checkbox"/> Day Standby	Total <u>1177.90</u>
Final Shut-In <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1177.90</u>	

Approved By _____ Our Representative RAY SCHWAB *Thank you*

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. 54822

Well Name & No. Befort #2-12 Test No. 4 Date 10-3-13
 Company Downing-Nelson Oil Co Inc Elevation 2181 KB 2123 GL
 Address PO Box 1019 Hays, Ks 67601
 Co. Rep / Geo. MARC Downing Rig Discovery rig 3
 Location: Sec. 12 Twp. 14^s Rge. 19^w Co. ELLIS State K

Interval Tested 3585-3642 Zone Tested LKC H-I
 Anchor Length 57 Drill Pipe Run 3577 Mud Wt. 8.3
 Top Packer Depth 3580 Drill Collars Run 30 Vis 52
 Bottom Packer Depth 3585 Wt. Pipe Run - WL 8.8
 Total Depth 3642 Chlorides 4000 ppm System LCM 1 1/2 #
 Blow Description IFP - Weak To A Good Blow 1/2" To 6 1/2" Blow
ISTP - NO Blow
FFP - STRONG Blow Thru-out

Rec	Feet of	%gas	%oil	%water	%mud
<u>775</u>	<u>GIP</u>				
<u>30</u>	<u>0+6CM</u>	<u>10</u>	<u>10</u>	<u>80</u>	
<u>60</u>	<u>6MO</u>	<u>30</u>	<u>40</u>	<u>30</u>	

Rec Total 90 BHT 110 Gravity - API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 1695 Test 1150 T-On Location 0215
 (B) First Initial Flow 14 Jars - T-Started 0240
 (C) First Final Flow 34 Safety Joint - T-Open 0435
 (D) Initial Shut-In 793 Circ Sub - T-Pulled 0735
 (E) Second Initial Flow 29 Hourly Standby - T-Out 0917
 (F) Second Final Flow 48 Mileage 18RT 55.80 Comments Loaded Tool 10-4-13
 (G) Final Shut-In 986 Sampler - 10:30 AM
 (H) Final Hydrostatic 1675 Straddle - Ruined Shale Packer -
 Shale Packer - Ruined Packer -
 Extra Packer - Extra Copies -
 Initial Open 45 Extra Recorder - Sub Total 800
 Initial Shut-In 45 Day Standby - Total 2005.80
 Final Flow 45 Accessibility 1d 1.25h MP/DST Disc't -
 Final Shut-In 45 Sub Total 1205.80

Approved By _____ Our Representative Ray Schwager Thank you
 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 Downing
Consulting Petroleum Geologist
1411 Washington Circle
Hays, KS 67601
Phone: 620-428-1356 (cell) 785-621-2286

GEOLOGIC REPORT LOG

COMPANY **Downing-Nelson Oil Co., Inc.**

WELL **Befort # 2-12**

FIELD

LOCATION **880' FSL + 400' FUL**

SEC. **12** TWP. **14s** RGE. **19w**

COUNTY **Ellis**

STATE **Kansas**

OPERATOR **DMOCI**
CONTRACTOR **Discovery Drilling, Rig # 3**
COMM. **10-4-13**

CASING RECORD
SURF: **8 5/8" @ 222'** PROD: **5 1/2" @ 3894'**
TOTAL DEPTH DRILLERS: **3895'**
TOTAL DEPTH LOG: **3896'**

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Tapcha	3192	3192	-1000	+8
Heegner	3430	3430	-1249	+8
Taranto	3449	3449	-1266	+10
LKC	3477	3476	-1294	+10
BMC	3708	3710	-1529	+2
Arbuckle	3823	3823	-1641	+5
Top Anhydrite		1447	+735	
Base Anhydrite		1489	+639	

REFERENCE WELL FOR STRUCTURE **DMOCI**
Befort # 1-12 636' FSL + 1520' FUL Sec. 12-14s-19w



PRODUCTION **LKC + Taranto**
ELEVATION **KB 2182**
DF **GI 2174**
KB

Drilling Measured From: **3158** To: **T0**
Drilling Time From: **3158** To: **T0**
Samples Examined From: **3158** To: **T0**
Geological Supervision From: **3100** To: **Total Depth**
Wellsite Geologist: **Marc Downing**
Electrical Surveys: **Nabors**
CNC/CDL

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Tapcha	3192	3192	-1000	+8
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Befort # 1-12 636' FSL + 1520' FUL Sec. 12-14s-19w

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	PSIP/Time	IHP-FHP	RECOVERY

REMARKS AND RECOMMENDATIONS

REMARKS	

OIL SHOWS	

SAMPLE DESCRIPTIONS	

LITHOLOGY	



DEPTH	FORMATION	REMARKS
3100		Sh: dk. gr.
3200		LS: wht, md xls, w/ fass. Scat vng + pps, chalky in prt, ns. fr. and gr. sh. int. beds
3300		LS: wht, fr. md xls. Mostly chalky, scat gl. pps, All ns.
3400		Sh: gr
3500		LS: wht, md xls, w/ fass. pps + fite. Trng scat vng + w/ chalky or, ns.
3600		LS: tom. wht, md xls, scat fass + gr. chlo. Same vngs, mostly sub xls - chalky, w/ fite in prt.
3700		LS: wht - tom, md xls, v w/ fite, v chalky, All ns. Scat tom. gr. chlo.
3800		Sh: dk. gr
3900		LS: wht, vfr. mic xls, pps + dms.

DEPTH	FORMATION	REMARKS
3100		Sh: dk. gr.
3200		LS: wht, md xls, w/ fass. Scat vng + pps, chalky in prt, ns. fr. and gr. sh. int. beds
3300		LS: wht, fr. md xls. Mostly chalky, scat gl. pps, All ns.
3400		Sh: gr
3500		LS: wht, md xls, w/ fass. pps + fite. Trng scat vng + w/ chalky or, ns.
3600		LS: tom. wht, md xls, scat fass + gr. chlo. Same vngs, mostly sub xls - chalky, w/ fite in prt.
3700		LS: wht - tom, md xls, v w/ fite, v chalky, All ns. Scat tom. gr. chlo.
3800		Sh: dk. gr
3900		LS: wht, vfr. mic xls, pps + dms.

REMARKS: 45' 45-45-45 Rec: 45' 45-45-45
3377-3413 Rec: 45' 45-45-45
I.F.-8 3/4" blow Rec: 45' 45-45-45
F.F.-2" blow Rec: 45' 45-45-45
I.F.A. 16-25 Rec: 45' 45-45-45
S.P.A. 1094-1052 Rec: 45' 45-45-45
H.P. 1560-1509 Rec: 45' 45-45-45

Marc Downing