Confidentiality Requested:
☐ Yes ☑ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1201231

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 # 30717
Name: Downing-Nelson Oil Co Inc
Address 1: PO BOX 1019
Address 2:
City: HAYS State: KS Zip: 67601 + ____
Contact Person: Ron Nelson
Phone: (785) 621-2610
CONTRACTOR: License # 31548
Name: Discovery Drilling
Wellsite Geologist: Marc Downing
Purchaser: Coffeyville Resources

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 #:

03/24/2014	03/30/2014	03/31/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-065-24025-00-00
Spot Description:
SW NE SE SE Sec. 4 Twp. 9 S. R. 24 ☐ East ☑ West
974 Feet from ☐ North / ☑ South Line of Section
335 Feet from ☑ East / ☐ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☑ SE ☐ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Graham
Lease Name: Keith Well #: 1-4
Field Name: Holley
Producing Formation: LKC
Elevation: Ground: 2419 Kelly Bushing: 2427
Total Vertical Depth: 4035 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 214 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 2115 Feet
If Alternate II completion, cement circulated from: 0
feet depth to: 2115 w/ 180 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 38000 ppm Fluid volume: 320 bbls
Dewatering method used: Evaporated

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:** NAOMI JAMES **Date:** 07/24/2014

[redacted] 1201231

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Keith Well #: 1-4

Sec. 4 Twp. 9 S. R. 24 ☐ East ☑ West County: Graham

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 ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☐ Yes ☑ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

Micro
Dual Induction
Compansated Neutron / Density

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Top Anydrite	2127'	+300
Base Anydrite	2161'	+266
Topeka	3514'	-1087
Heebner	3731'	-1304
Toronto	3756'	-1329
LKC	3772'	-1345
BKC	3992'	-1565

CASING RECORD ☑ New ☐ 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
Surface Pipe	12.25	8.625	23	214	Common	160	2% Gel & 3% CC
Production Casing	7.875	5.5	14	4033	EA/2	150	

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
___ Perforate ___ Protect Casing ___ Plug Back TD ___ 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 *(Amount and Kind of Material Used)*	Depth
4	3942' - 3948'	250 gallons 20% Mud Acid	3942' - 3948'
4	3922' - 3924'	250 gallons 20% Mud Acid	3922' - 3924'

TUBING RECORD: Size: 2.375 Set At: 3998' Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 06/19/2014

Producing Method: ☐ Flowing ☑ Pumping ☐ Gas Lift ☐ Other *(Explain)* _____

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	2.5	0	68		

DISPOSITION OF GAS:
☐ Vented ☐ Sold ☐ Used on Lease
(If vented, Submit ACO-18.)

METHOD OF COMPLETION:
☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*
☐ Other *(Specify)* _____

PRODUCTION INTERVAL:
_____
_____

Mail to: KCC - Conservation Division, 130 S. Market - Room 2078, Wichita, Kansas 67202

QUALITY OILWELL CEMENTING, INC.

Federal Tax I.D.# 20-2886107

Phone 785-483-2025 Home Office P.O. Box 32 Russell, KS 67665 No. 7092

Cell 785-324-1041

Date	Sec.	Twp.	Range	County	State	On Location	Finish
3-24-14	4	9	24	Graham	KS		7:15 PM

Location Wakeeney N to Redline 7W 4N Winto

Lease Keith Well No. 1-4

Owner

To Quality Oilwell Cementing, Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.

Contractor Discovery #4

Type Job Surface

Hole Size 12 1/4 T.D.

Charge To Downing-Nelson

Csg. 8 5/8 Depth

Street

Tbg. Size Depth

City State

Tool Depth

The above was done to satisfaction and supervision of owner agent or contractor.

Cement Left in Csg. 20' Shoe Joint

Cement Amount Ordered 160 sx 3%cc 2% Gel

Meas Line Displace 12 1/2 bbl

EQUIPMENT

Pumptrk 18 No. Cementer Helper Cody

Bulktrk 19 No. Driver Driver Clayton

Bulktrk PU No. Driver Driver Brett

JOB SERVICES & REMARKS

Remarks:

Rat Hole

Mouse Hole

Centralizers

Baskets

D/V or Port Collar

Cement Circulated!!

Common	160
Poz. Mix	
Gel.	3
Calcium	5
Hulls	
Salt	
Flowseal	
Kol-Seal	
Mud CLR 48	
CFL-117 or CD110 CAF 38	
Sand	
Handling	168
Mileage	
FLOAT EQUIPMENT	
Guide Shoe	
Centralizer	
Baskets	
AFU Inserts	
Float Shoe	
Latch Down	
Pumptrk Charge	Surface
Mileage	38
Tax	
Discount	
Total Charge	

X Signature Mike Spade

JOB LOG — **SWIFT Services, Inc.** — DATE 3-31-14 — PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Downing Nelson	1-4	Kerm	5½ Two Stage	25435

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0200							on location
								TD 4035 SJ 17
								TP 4033 Insert 4015
								DV Top 49 2115 5½ x 14#
								centralizers 1, 3, 5, 7, 9, 41, 48
								Baskets 49
	0300							Start Pipe
	0430							Drop Ball Break Circulation Rotate
	0515	5	12		✓		300	Start Mud flush
		5	20		✓		300	Start KCL Flush
		5	36		✓		200	Start cement 150 sks EA-2
	0552							Drop Plug wash out Pump + Lines
	0553							Start Displacement
		5	45		✓		200	Start Mud
		5	78		✓		300	Start KCL flush
	0615	5	97.9		✓		700/1500	land Plug
								Release Dry
	0620							Drop opening Plug
								Plug RH 30 sks, MH 15 sks
	0640				✓		1300	Open DV
	0642	5	85		✓		200	Start SMD cement 155 sks @ 11.2#/gal
		5	7		✓		200	25 sks @ 14#/gal
								Drop Closing Plug
								wash out Pump + Lines
	0705	5			✓		200	Start Displacement
		5	46		✓		400	Circulate Cement 15 sks to Pit
	0715	5	51.6		✓		500/1500	land Plug
								Release Dry
								wash up Rack Up
	0815							Job Complete
								Thank You
								Josh, Brian, John

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

Po Box 1019
Hays KS 67601

ATTN: Marc Downing

Keith #1-4

4-9s-24w Graham KS

Start Date: 2014.03.28 @ 23:10:00
End Date: 2014.03.29 @ 09:14:00
Job Ticket #: 56095 DST #: 1

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

Printed: 2014.04.02 @ 16:42:12

DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56095 **DST#: 1**

Test Start: 2014.03.28 @ 23:10:00

GENERAL INFORMATION:

Formation: **LKC "C-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 04:58:30
Time Test Ended: 09:14:00

Test Type: Conventional Bottom Hole (Initial)
Tester: Cody Bloedorn
Unit No: 73

Interval: 3782.00 ft (KB) To 3825.00 ft (KB) (TVD)
Total Depth: 3825.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

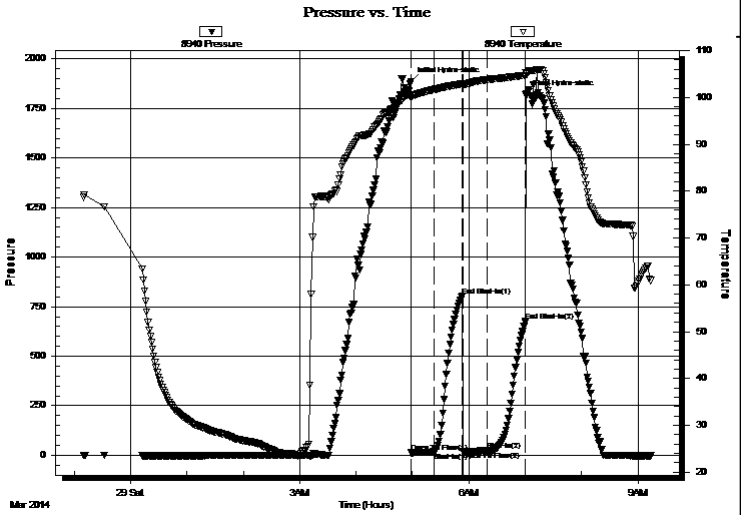
Reference Elevations: 2424.00 ft (KB)
2416.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8940 **Outside**

Press@RunDepth: 22.90 psig @ 3818.00 ft (KB)
Start Date: 2014.03.28 End Date: 2014.03.29
Start Time: 23:10:05 End Time: 09:14:00

Capacity: 8000.00 psig
Last Calib.: 2014.03.29
Time On Btm: 2014.03.29 @ 04:58:15
Time Off Btm: 2014.03.29 @ 07:00:45

TEST COMMENT: 30 - IF- 3/4" blow
30 - ISI- No return
30 - FF- No blow
30 - FSI- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1886.49	100.55	Initial Hydro-static
1	12.96	99.93	Open To Flow (1)
25	16.98	101.68	Shut-In(1)
55	804.14	102.90	End Shut-In(1)
56	18.25	102.60	Open To Flow (2)
82	22.90	103.81	Shut-In(2)
122	676.29	104.74	End Shut-In(2)
123	1817.66	105.22	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud - Show of oil, 100%M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

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Hole Diameter: 7.88 inches Hole Condition: Fair

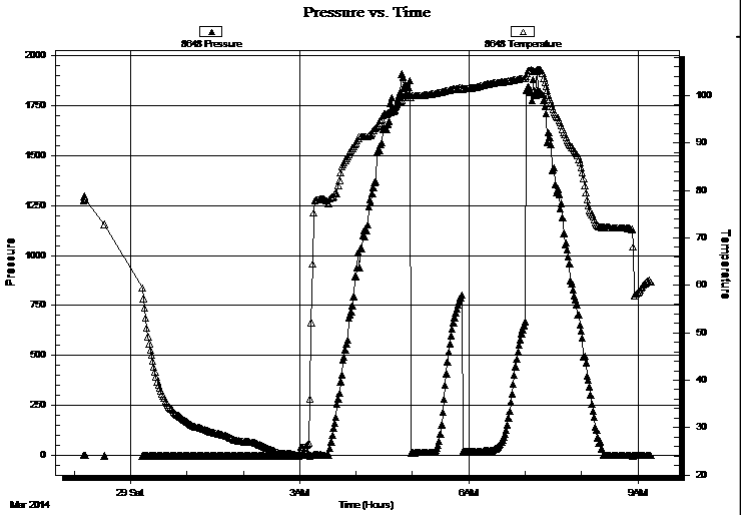
Reference Elevations: 2424.00 ft (KB)
2416.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8648 **Inside**

Press@RunDepth: psig @ 3818.00 ft (KB)
Start Date: 2014.03.28 End Date: 2014.03.29
Start Time: 23:10:05 End Time: 09:14:00

Capacity: 8000.00 psig
Last Calib.: 2014.03.29
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF- 3/4" blow
30 - ISI- No return
30 - FF- No blow
30 - FSI- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
10.00	Mud - Show of oil, 100%M	0.05

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56095 **DST#: 1**

Test Start: 2014.03.28 @ 23:10:00

Tool Information

Drill Pipe:	Length:	3757.00 ft	Diameter:	3.80 inches	Volume:	52.70 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:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	Weight to Pull Loose:		55000.00 lb
					Total Volume:	52.85 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		26.00 ft					String Weight:	Initial	51000.00 lb
Depth to Top Packer:		3782.00 ft						Final	51000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		43.00 ft							
Tool Length:		64.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3762.00		
Shut In Tool	5.00			3767.00		
Hydraulic tool	5.00			3772.00		
Packer	5.00			3777.00	21.00	Bottom Of Top Packer
Packer	5.00			3782.00		
Stubb	1.00			3783.00		
Perforations	2.00			3785.00		
Change Over Sub	1.00			3786.00		
Drill Pipe	31.00			3817.00		
Change Over Sub	1.00			3818.00		
Recorder	0.00	8648	Inside	3818.00		
Recorder	0.00	8940	Outside	3818.00		
Perforations	4.00			3822.00		
Bullnose	3.00			3825.00	43.00	Bottom Packers & Anchor
Total Tool Length:	**64.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56095 **DST#: 1**

Test Start: 2014.03.28 @ 23:10:00

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:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.50 inches				

Recovery Information

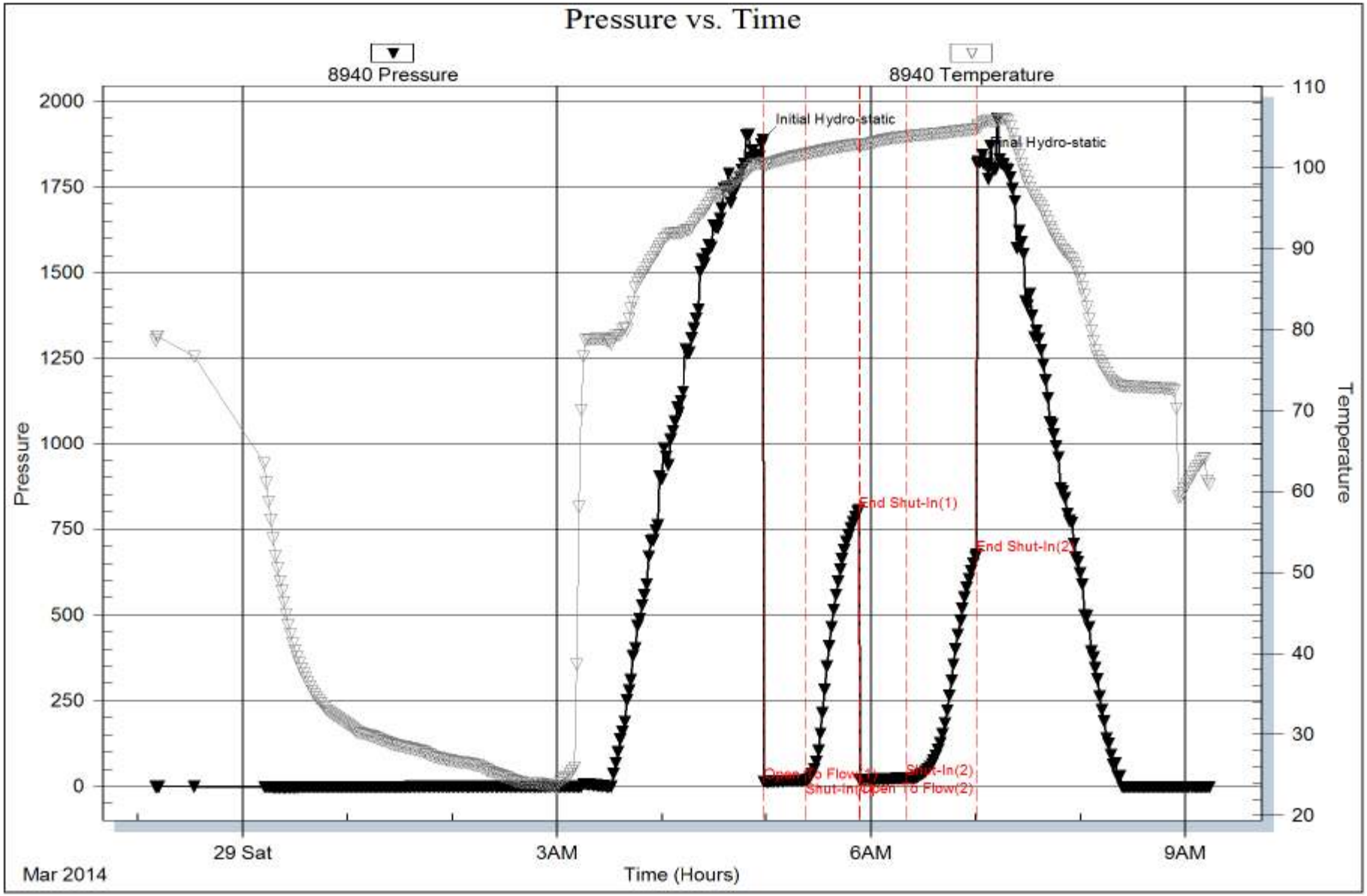
Recovery Table

Length ft	Description	Volume bbl
10.00	Mud - Show of oil, 100%M	0.049

Total Length: 10.00 ft Total Volume: 0.049 bbl

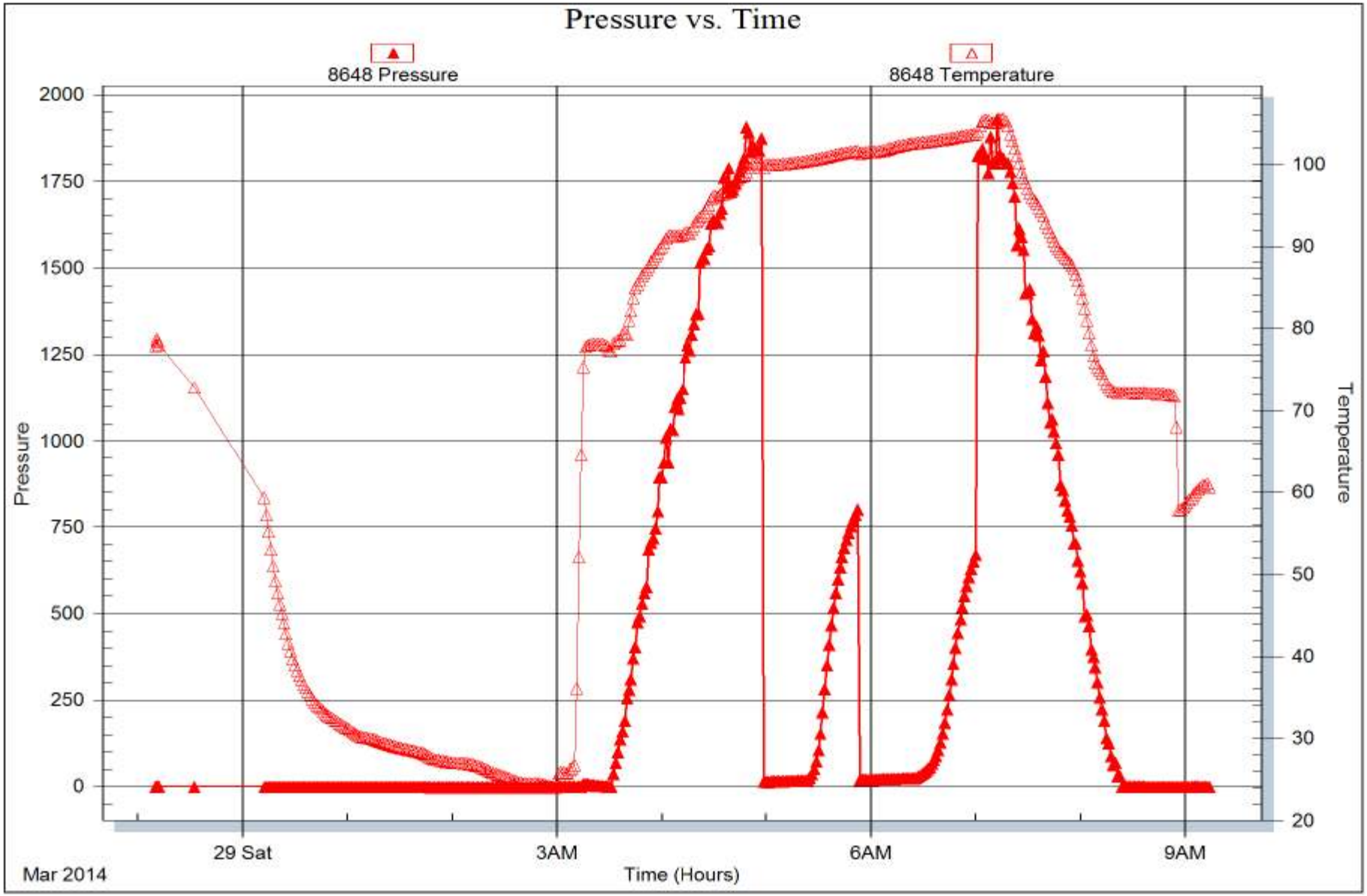
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8940 **Outside** Dow ning-Nelson Oil CO Inc Keith #1-4 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56095 Printed: 2014.04.02 @ 16:42:14

Serial #: 8648 **Inside** Dow ning-Nelson Oil CO Inc Keith #1-4 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56095 Printed: 2014.04.02 @ 16:42:15

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

Po Box 1019
Hays KS 67601

ATTN: Marc Downing

Keith #1-4

4-9s-24w Graham KS

Start Date: 2014.03.29 @ 21:59:00
End Date: 2014.03.30 @ 03:22:30
Job Ticket #: 56096 DST #: 2

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

Printed: 2014.04.02 @ 16:41:27

DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56096 **DST#: 2**

Test Start: 2014.03.29 @ 21:59:00

GENERAL INFORMATION:

Formation: **LKC "I"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 23:42:15
Time Test Ended: 03:22:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Cody Bloedorn
Unit No: 73

Interval: 3902.00 ft (KB) To 3922.00 ft (KB) (TVD)
Total Depth: 3922.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

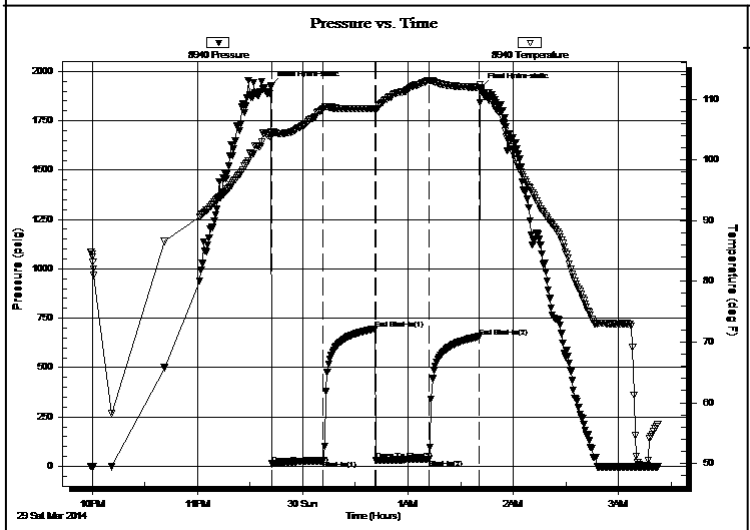
Reference Elevations: 2424.00 ft (KB)
2416.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8940 **Outside**

Press@RunDepth: 36.53 psig @ 3905.00 ft (KB)
Start Date: 2014.03.29 End Date: 2014.03.30
Start Time: 21:59:05 End Time: 03:22:29

Capacity: 8000.00 psig
Last Calib.: 2014.03.30
Time On Btm: 2014.03.29 @ 23:42:00
Time Off Btm: 2014.03.30 @ 01:41:30

TEST COMMENT: 30 - IF- 1" blow
30 - ISI- No return
30 - FF- 1" blow
30 - FSI- No return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1926.29	104.59	Initial Hydro-static
1	12.51	103.95	Open To Flow (1)
30	28.77	108.36	Shut-In(1)
60	696.29	108.41	End Shut-In(1)
60	29.44	108.32	Open To Flow (2)
90	36.53	113.08	Shut-In(2)
119	656.63	111.93	End Shut-In(2)
120	1915.98	111.40	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	VOSMW, 2%O, 40%M, 58%W	0.07

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56096 **DST#: 2**

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2416.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8648 **Inside**

Press@RunDepth: psig @ 3905.00 ft (KB)
Start Date: 2014.03.29 End Date: 2014.03.30
Start Time: 21:59:05 End Time: 03:22:29

Capacity: 8000.00 psig
Last Calib.: 2014.03.30
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF- 1" blow
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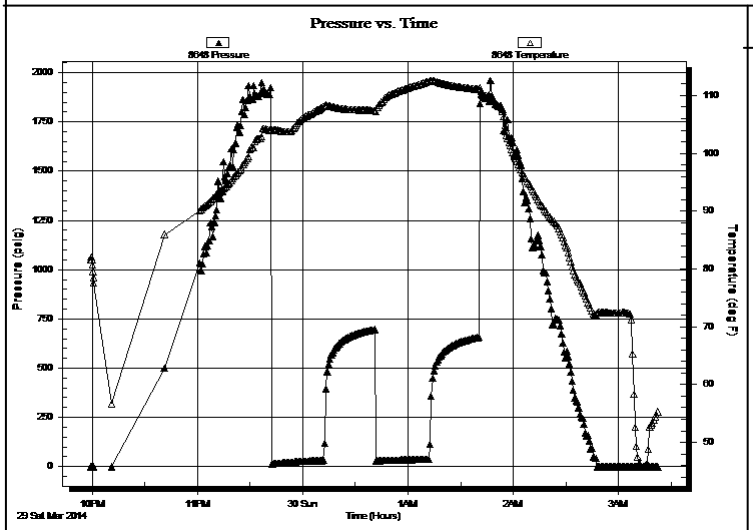
30 - FSI- No return



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
15.00	VOSMW, 2%O, 40%M, 58%W	0.07

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56096 **DST#: 2**

Test Start: 2014.03.29 @ 21:59:00

Tool Information

Drill Pipe:	Length:	3881.00 ft	Diameter:	3.80 inches	Volume:	54.44 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:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	Weight to Pull Loose:		62000.00 lb
					Total Volume:	54.59 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		30.00 ft					String Weight:	Initial	58000.00 lb
Depth to Top Packer:		3902.00 ft						Final	58000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		20.00 ft							
Tool Length:		41.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3882.00		
Shut In Tool	5.00			3887.00		
Hydraulic tool	5.00			3892.00		
Packer	5.00			3897.00	21.00	Bottom Of Top Packer
Packer	5.00			3902.00		
Stubb	1.00			3903.00		
Perforations	2.00			3905.00		
Recorder	0.00	8648	Inside	3905.00		
Recorder	0.00	8940	Outside	3905.00		
Perforations	14.00			3919.00		
Bullnose	3.00			3922.00	20.00	Bottom Packers & Anchor
Total Tool Length:	**41.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil CO Inc

Po Box 1019
Hays KS 67601

ATTN: Marc Dow ning

4-9s-24w Graham KS

Keith #1-4

Job Ticket: 56096 **DST#: 2**

Test Start: 2014.03.29 @ 21:59:00

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:	36000 ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	4000.00 ppm				
Filter Cake:	1.50 inches				

Recovery Information

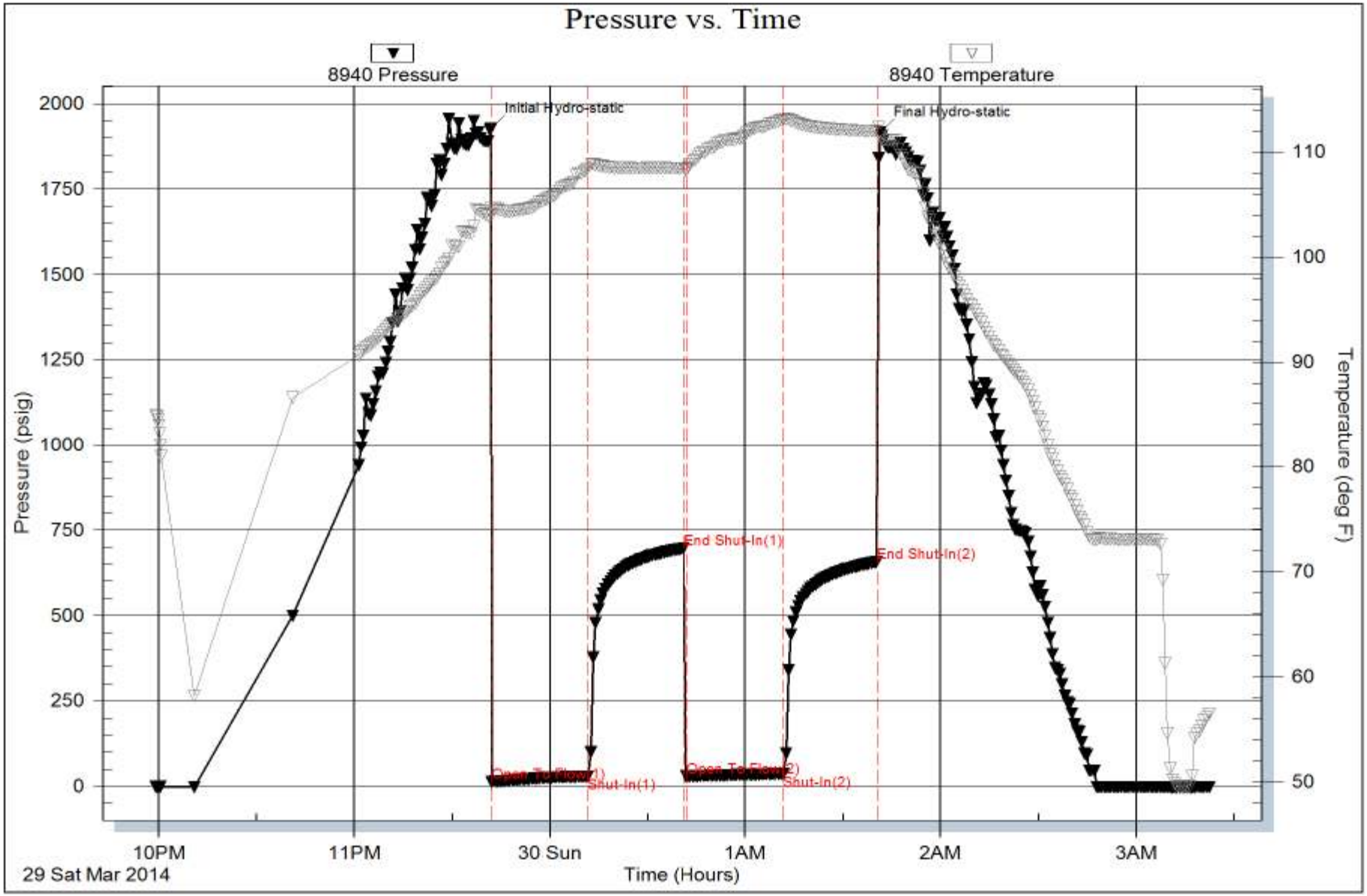
Recovery Table

Length ft	Description	Volume bbl
15.00	VOSMW, 2%O, 40%M, 58%W	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

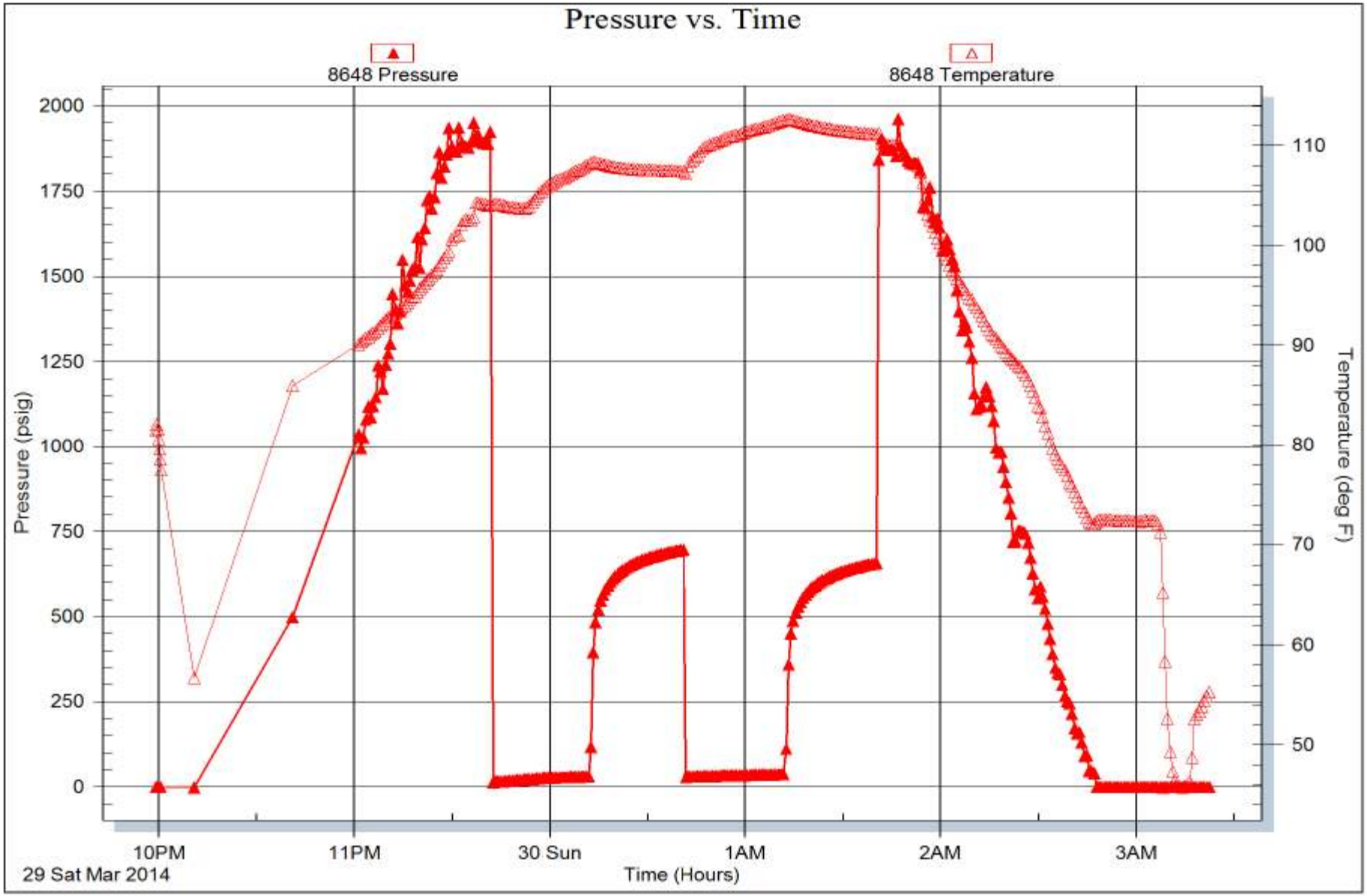
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments: .26 @ 51 Degrees = 36,000 Chlorides

Serial #: 8940 **Outside** Dow ning-Nelson Oil CO Inc Keith #1-4 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 56096 Printed: 2014.04.02 @ 16:41:29

Serial #: 8648 **Inside** Dow ning-Nelson Oil CO Inc Keith #1-4 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 56096 Printed: 2014.04.02 @ 16:41:29

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 56095

Well Name & No. Keith 1-4 Test No. 1 Date 3-28-14

Company ~~[illegible]~~ Downing - Nelson Oil Co Inc Elevation 2424 KB 2416 GL

Address Po Box 1019, Hays KS, 67601

Co. Rep / Geo. Marc Downing Rig Discovery #4

Location: Sec. 4 Twp. 9s Rge. 24w Co. Graham State KS

Interval Tested 3782 - 3825 Zone Tested LKC "C-D"

Anchor Length 43' Drill Pipe Run 3757 Mud Wt. 8.7

Top Packer Depth 3777 Drill Collars Run 30 Vis 60

Bottom Packer Depth 3782 Wt. Pipe Run — WL 8

Total Depth 3825 Chlorides 500 ppm System LCM 1½

Blow Description IF- 3/4" blow

ISI- No return

FF- No blow

FSI- No return

Rec 10	Feet of Mud show of oil	%gas	%oil	%water	100	%mud
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 10' BHT 104° Gravity — API RW — @ — F Chlorides — ppm

(A) Initial Hydrostatic	1886	☒ Test	1150	T-On Location	2244
(B) First Initial Flow	12	☐ Jars		T-Started	2310
(C) First Final Flow	16	☐ Safety Joint		T-Open	0453
(D) Initial Shut-In	804	☐ Circ Sub		T-Pulled	0653
(E) Second Initial Flow	18	☒ Hourly Standby	1h 100	T-Out	0914
(F) Second Final Flow	22	☒ Mileage	127 RT 196.85	Comments	
(G) Final Shut-In	676	☐ Sampler			
(H) Final Hydrostatic	1817	☐ Straddle		☐ Ruined Shale Packer	
		☐ Shale Packer		☐ Ruined Packer	
Initial Open	30	☐ Extra Packer		☐ Extra Copies	
Initial Shut-In	30	☐ Extra Recorder		Sub Total	0
Final Flow	30	☐ Day Standby		Total	1446.85
Final Shut-In	30	☐ Accessibility		MP/DST Disc't	
		Sub Total	1446.85		

Approved By _____ Our Representative Cody Bla

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 56096

Well Name & No. Keith 1-4 Test No. 2 Date 3-29-14

Company Downing - Nelson Oil Co Inc Elevation 2424 KB 2416 GL

Address Po Box 7019, Hays KS, 67601

Co. Rep / Geo. Marc Downing Rig Discovery #4

Location: Sec. 4 Twp. 9s Rge. 24w Co. Graham State KS

Interval Tested 3902-3922 Zone Tested LKC "I"

Anchor Length 20' Drill Pipe Run 3881' Mud Wt. 9.4

Top Packer Depth 3897 Drill Collars Run 30' Vis 55

Bottom Packer Depth 3902 Wt. Pipe Run — WL 8

Total Depth 3922 Chlorides 4,000 ppm System LCM 1/2 —

Blow Description IF- 1" blow

ISI- No return

FF- 1" blow

FSI- No return

Rec 15	Feet of VSOMW	%gas 2	%oil 58	%water 40	%mud	
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 15 BHT 111° Gravity — API RW .26 @ 91 °F Chlorides 36000 ppm

(A) Initial Hydrostatic 1926

(B) First Initial Flow 12

(C) First Final Flow 28

(D) Initial Shut-In 696

(E) Second Initial Flow 29

(F) Second Final Flow 36

(G) Final Shut-In 656

(H) Final Hydrostatic 1915

Initial Open 30

Initial Shut-In 30

Final Flow 30

Final Shut-In 30

- [x] Test 1150
- [ ] Jars
- [ ] Safety Joint
- [ ] Circ Sub
- [ ] Hourly Standby
- [x] Mileage 127RT x2 393.70
- [ ] Sampler
- [ ] Straddle
- [ ] Shale Packer
- [ ] Extra Packer
- [ ] Extra Recorder
- [ ] Day Standby
- [ ] Accessibility

Sub Total 1543.70

T-On Location 2151

T-Started 2159

T-Open 2343

T-Pulled 0143

T-Out 0324

Comments Loaded tools @ 3-30-14 8:30pm

- [ ] Ruined Shale Packer
- [ ] Ruined Packer
- [ ] Extra Copies

Sub Total 0

Total 1543.70

MP/DST Disc't

Approved By Our Representative Cody Black

Marc A. Downing Consulting Petroleum Geologist	Geologic Report Drilling Time and Sample Log

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

Lease **Keith** No. **1-4**

API # **15-065-24025-0000**

Field **Holley**

Location **974' FSL & 335' FEL**

Sec. **4** Twp. **9s** Rge. **24w**

County **Graham** State **Kansas**

Elevation
KB 2427
DF 2425
GL 2419

Casing Record
Surface 8 5/8" @ 214'
Production 5 1/2" @ 4034'

Electrical Surveys
CNL/CDL, DIL, MEL

Formation	Sample tops	Log Tops	Datum	Struct Comp
Top Anhydrite	2122	2127	+300	+6
Base Anhydrite	2157	2161	+266	+7
Topeka	3509	3514	-1087	+4
Heebner	3725	3731	-1304	+2
Toronto	3749	3756	-1329	+2
LKC	3765	3772	-1345	FL
BKC	3986	3992	-1565	-3
Total Depth	4035	4034	-1607	

Reference Well For Structural Comparison DNOCI
Keith #1 SE SE SE Sec. 4-9s-24w

Drilling Contractor	Discovery Drilling, Rig #4		
Commenced	3-24-14	Completed	3-30-14
Samples Saved From	3700	To	RTD
Drilling Time Kept From	3400	To	RTD
Samples Examined From	3700	To	RTD
Geological Supervision From	3400	To	RTD

Summary and Recommendations

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

Respectfully Submitted,

Marc A. Downing