



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1212763
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: _____

1212763

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
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DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <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	SDK Unit 1-14
Doc ID	1212763

All Electric Logs Run

Micro
Sonic
Dual Indcution
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	SDK Unit 1-14
Doc ID	1212763

Tops

Name	Top	Datum
Top Anhydrite	1450'	+718
Base Anhydrite	1493'	+675
Topeka	3185'	-1017
Heebner	3433'	-1265
Toronto	3454'	-1286
LKC	3482'	-1314
BKC	3723'	-1555
Arbuckle	3789'	-1621

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	SDK Unit 1-14
Doc ID	1212763

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3806' - 3810'	250 gallons 15% Mud Acid	3806' - 3810'
4	3806' - 3810'	100 gallons 15% Mud Acid	3806' - 3810'
4	3653' - 3657'	150 gallons 20% Mud Acid	3806' - 3810'
4	3631' - 3634'		
4	3525' - 3529'		
4	3515' - 3518'		
4	3505' - 3507'		
4	3455' - 3458'		

ALLIED OIL & GAS SERVICES, LLC 062994

Federal Tax I.D. # 20-8651475

REMIT TO P.O. BOX 93999
SOUTHLAKE, TEXAS 76092

SERVICE POINT:
great Bend

DATE <i>6-3-14</i>	SEC <i>14</i>	TWP <i>14</i>	RANGE <i>19</i>	CALLED OUT <i>2:00 pm</i>	ON LOCATION <i>4:30 pm</i>	JOB START <i>6:30 pm</i>	JOB FINISH <i>7:00 pm</i>
LEASE <i>SDK</i>	WELL # <i>1-14</i>		LOCATION <i>High 5 to mt pleasant</i>		COUNTY <i>Ellis</i>	STATE <i>Ks</i>	
OLD OR <u>NEW</u> (Circle one)			<i>Rd 4w 1/2 N W center</i>				

CONTRACTOR *Discovery #3*
 TYPE OF JOB *subface*
 HOLE SIZE *12 1/2* T.D. *220*
 CASING SIZE *8 5/8 24#* DEPTH *221*
 TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH
 PRES. MAX MINIMUM
 MEAS. LINE SHOE JOINT
 CEMENT LEFT IN CSG. *15'*
 PERFS.
 DISPLACEMENT *H2O 13 BBI*

OWNER *Name*
 CEMENT AMOUNT ORDERED *150 M class A*
31-cc 21-gel
 COMMON *150* @ *17.90* *2,685.00*
 POZMIX @
 GEL *300* @ *1.05* *315.00*
 CHLORIDE *423* @ *1.10* *465.30*
 ASC @
 Material Total @ *3,465.30*
 Disc @ *23%* *797.02*
 Service @
 HANDLING *162.50* @ *2.48* *403.00*
 MILEAGE *741x14x* *2.75* *380.00*

EQUIPMENT
 PUMP TRUCK CEMENTER *Charles Kingon*
 # *398* HELPER *Josh Ellis*
 BULK TRUCK
 # *609-239* DRIVER *Kevin Weighouse*
 BULK TRUCK
 # DRIVER

REMARKS:
Rig ran 221' csg Broke csg
W/ Rig mud pump to sledge
5BBI H2O ahead mix 150 M class A
31-cc 21-gel displace 13BBI H2O
shut down shut dn cement
did circulate

DEPTH OF JOB *220*
 PUMP TRUCK CHARGE *1512.35*
 EXTRA FOOTAGE @
 MILEAGE *Hum 14* @ *7.70* *107.80*
 MANIFOLD @
Hum 14 @ *4.40* *61.60*

CHARGE TO: *Downing Nelson*
 STREET
 CITY STATE ZIP

TOTAL *2,464.65*
 23% *566.87*

PLUG & FLOAT EQUIPMENT
 @
 @
 @
 @
 @
 TOTAL

Thank you!
 To: Allied Oil & Gas Services, LLC.
 You are hereby requested to rent cementing equipment and furnish cementer and helper(s) to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read and understand the "GENERAL TERMS AND CONDITIONS" listed on the reverse side.

SALES TAX (If Any)
 TOTAL CHARGES *5,929.95*
 23% *1,363.89*
 DISCOUNT *4,566.06* IF PAID IN 30 DAYS

PRINTED NAME *KAREN GASCHER*
 SIGNATURE *Karen Gascher*

JOB LOG

SWIFT Services, Inc.

DATE 6-11-14 PAGE NO.

CUSTOMER Downing Nelson WELL NO. 114 LEASE S014 unit JOB TYPE 5 1/2 two stage TICKET NO. 26660

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0200							on location
								TD 3910 55 21
								TP 3905 Insert 3884
								DV TOP 59 1445' 5 1/2 x 14"
								Centralizers 1, 3, 5, 7, 9, 11, 58
								Basket 59
	0330							Start Pipe
	0515							Drop Ball Break Circulation Rotate
	0600	5	12		✓			Start Mud Flush
		5	20		✓			Start KCL Flush
		5	36		✓			Start EA-2 150 sks
	0625							Drop Plug wash out Pump + Lines
	0627	6.5			✓			Start displacement
		6.5	70		✓			Start KCL
	0645	6.5	94.7		✓		700 / 1500	band Plug hold
	0650							Release Dry Drop open Plug
	0650		7/4					Plug AH 30skj MH 15 sks
	0700				✓		1900	Open DV
		5	72		✓			Start SMD 130 sks @ 11.2
		5	7		✓			25 sks @ 14 1/2
		4.5						Drop Plug
		4.5	25		✓		300	Start P.3 placement
	0730		35.2		✓		400 / 1500	Circulate Cement Circulate 20 sks N pit
	0733							land Plug hold close DV
								Release Dry
	0815							Wash up Pack up
								Job complete Thank You

Josh, Brian, Jared



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

SDK Unit #1-14

14-14s-19w Ellis,KS

Start Date: 2014.06.07 @ 02:54:00

End Date: 2014.06.07 @ 10:09:15

Job Ticket #: 54053 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.10 @ 14:25:57



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54053

DST#: 1

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 02:54:00

GENERAL INFORMATION:

Formation: **Toronto**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 05:31:45

Time Test Ended: 10:09:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Cody Bloedorn

Unit No: 73

Interval: 3432.00 ft (KB) To 3472.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3472.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8648

Inside

Press@RunDepth: 48.65 psig @ 3469.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.07

End Date:

2014.06.07

Last Calib.:

2014.06.07

Start Time: 02:54:05

End Time:

10:09:14

Time On Btm:

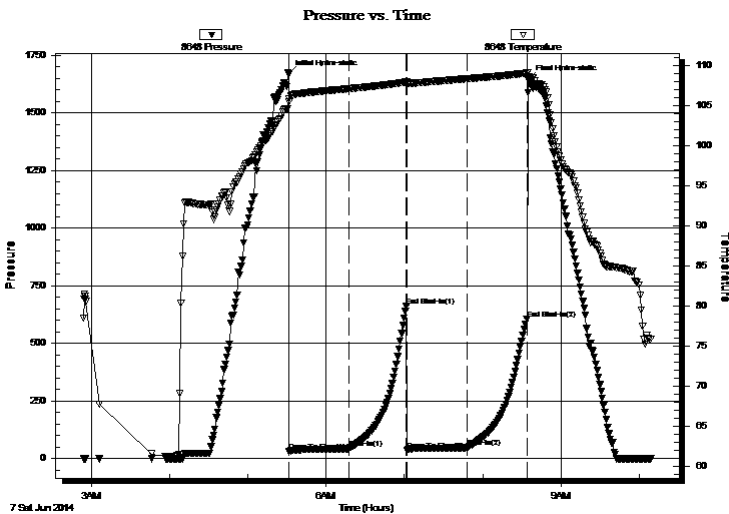
2014.06.07 @ 05:31:30

Time Off Btm:

2014.06.07 @ 08:35:15

TEST COMMENT: 45 - IF- 4" blow
45 - IS- No return
45 - FF- 5.5" blow
45 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1668.49	105.84	Initial Hydro-static
1	31.92	105.50	Open To Flow (1)
46	42.93	107.13	Shut-In(1)
90	662.00	107.97	End Shut-In(1)
91	37.45	107.74	Open To Flow (2)
137	48.65	108.38	Shut-In(2)
183	605.47	109.07	End Shut-In(2)
184	1643.30	108.69	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
40.00	GHOCM, 5%G, 35%O, 60%M	0.29
0.00	93' of G.I.P.	0.00

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

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54053

DST#: 1

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 02:54:00

Tool Information

Drill Pipe:	Length: 3391.00 ft	Diameter: 3.80 inches	Volume: 47.57 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: 80000.00 lb
			<u>Total Volume: 47.72 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	10.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	3432.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	40.00 ft			
Tool Length:	61.00 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			3412.00	
Shut In Tool	5.00			3417.00	
Hydraulic tool	5.00			3422.00	
Packer	5.00			3427.00	21.00 Bottom Of Top Packer
Packer	5.00			3432.00	
Perforations	4.00			3436.00	
Change Over Sub	1.00			3437.00	
Drill Pipe	31.00			3468.00	
Change Over Sub	1.00			3469.00	
Recorder	0.00	8648	Inside	3469.00	
Recorder	0.00	8940	Outside	3469.00	
Bullnose	3.00			3472.00	40.00 Bottom Packers & Anchor

Total Tool Length: 61.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54053

DST#: 1

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 02:54:00

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: 56.00 sec/qt

Cushion Volume:

bbf

Water Loss: 6.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1200.00 ppm

Filter Cake: inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbf
40.00	GHOCM, 5%G, 35%O, 60%M	0.288
0.00	93' of G.I.P.	0.000

Total Length: 40.00 ft Total Volume: 0.288 bbf

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

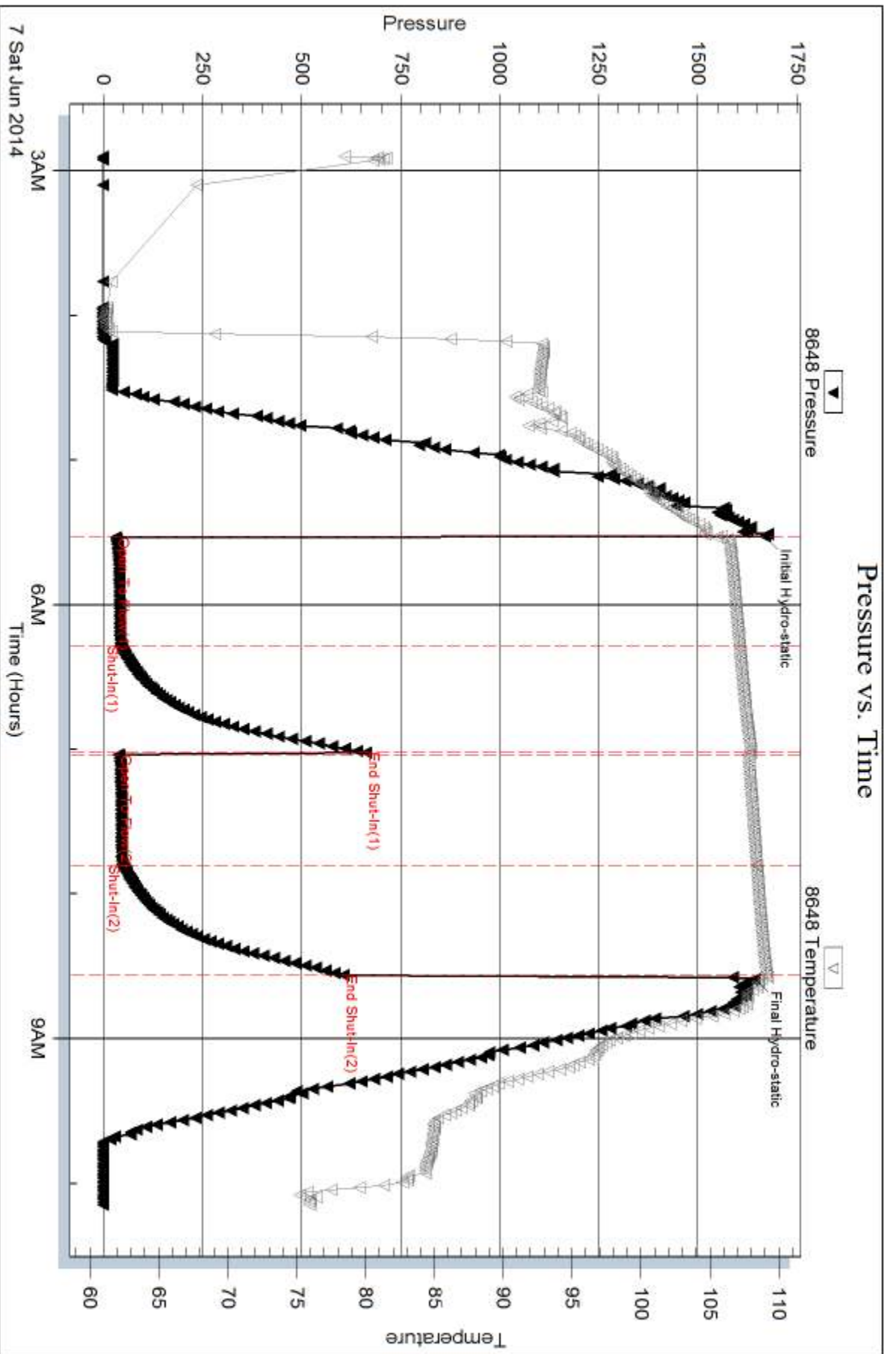
Serial #: 8648

Inside

Dow nng-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 54053

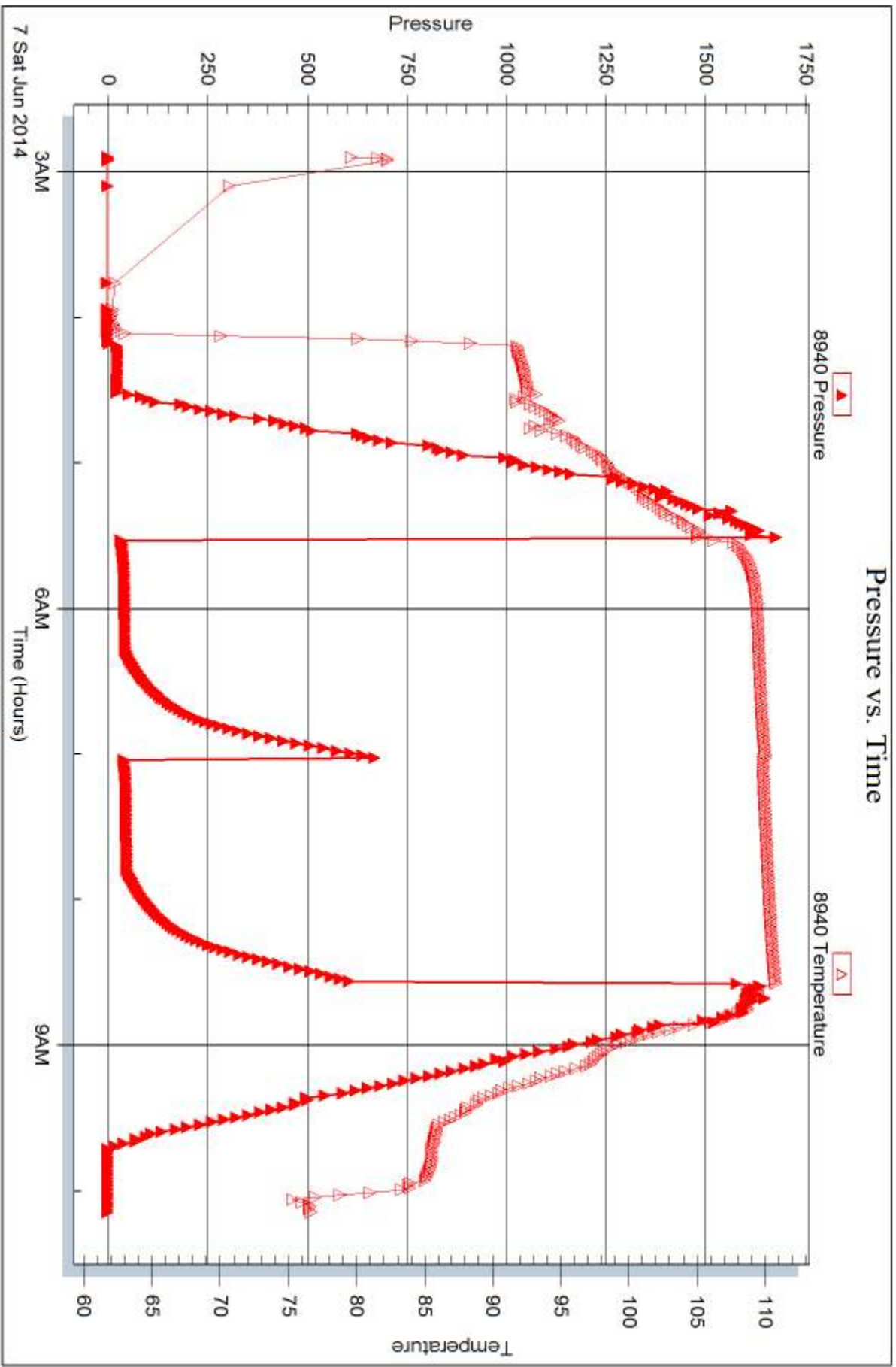
Printed: 2014.06.10 @ 14:25:58

Serial #: 8940

Outside Dow nrg-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 54053

Printed: 2014.06.10 @ 14:25:58



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

SDK Unit #1-14

14-14s-19w Ellis,KS

Start Date: 2014.06.07 @ 17:47:00

End Date: 2014.06.08 @ 00:45:00

Job Ticket #: 54054 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.10 @ 14:25:29



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54054

DST#: 2

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 17:47:00

GENERAL INFORMATION:

Formation: **LKC "C&D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 20:01:15

Time Test Ended: 00:45:00

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 73

Interval: 3498.00 ft (KB) To 3547.00 ft (KB) (TVD)

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3547.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

Serial #: 8648

Inside

Press@RunDepth: 64.37 psig @ 3535.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.06.07

End Date:

2014.06.08

Last Calib.:

2014.06.08

Start Time:

17:47:05

End Time:

00:44:59

Time On Btm:

2014.06.07 @ 20:01:00

Time Off Btm:

2014.06.07 @ 23:00:30

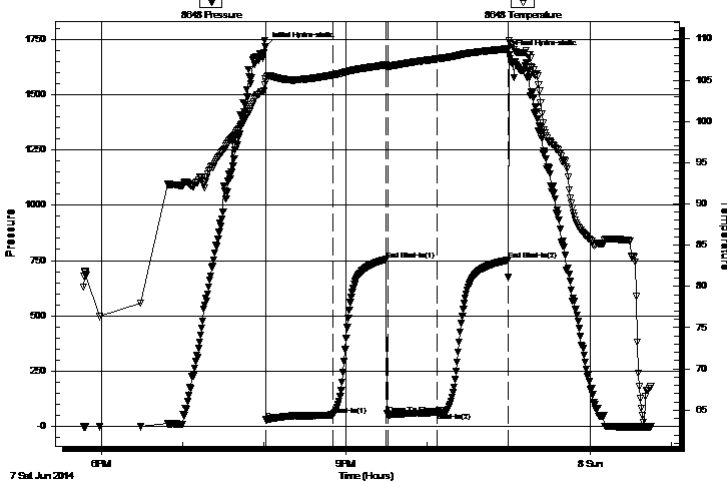
TEST COMMENT: 45 - IF- 2 1/4" blow

45 - IS- No return

45 - FF- 1" blow

45 - FS- No return

Pressure vs. Time



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1715.80	105.18	Initial Hydro-static
1	30.11	104.78	Open To Flow (1)
50	52.93	105.62	Shut-In(1)
89	755.05	106.86	End Shut-In(1)
90	53.75	106.70	Open To Flow (2)
127	64.37	107.59	Shut-In(2)
179	752.13	108.80	End Shut-In(2)
180	1677.99	109.83	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
87.00	GOCM, 5%G, 15%O, 80%M	0.95
0.00	124' of G.I.P.	0.00

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

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54054

DST#: 2

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 17:47:00

Tool Information

Drill Pipe:	Length: 3453.00 ft	Diameter: 3.80 inches	Volume: 48.44 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: 60000.00 lb
			<u>Total Volume: 48.59 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 52000.00 lb
Depth to Top Packer:	3498.00 ft			Final 52000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	49.00 ft			
Tool Length:	70.00 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			3478.00	
Shut In Tool	5.00			3483.00	
Hydraulic tool	5.00			3488.00	
Packer	5.00			3493.00	21.00 Bottom Of Top Packer
Packer	5.00			3498.00	
Perforations	4.00			3502.00	
Change Over Sub	1.00			3503.00	
Drill Pipe	31.00			3534.00	
Change Over Sub	1.00			3535.00	
Recorder	0.00	8648	Inside	3535.00	
Recorder	0.00	8940	Outside	3535.00	
Perforations	9.00			3544.00	
Bullnose	3.00			3547.00	49.00 Bottom Packers & Anchor

Total Tool Length: 70.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54054

DST#: 2

ATTN: Marc Dow ning

Test Start: 2014.06.07 @ 17:47:00

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: bbl

Water Loss: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure: psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
87.00	GOCM, 5%G, 15%O, 80%M	0.947
0.00	124' of G.I.P.	0.000

Total Length: 87.00 ft Total Volume: 0.947 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8648

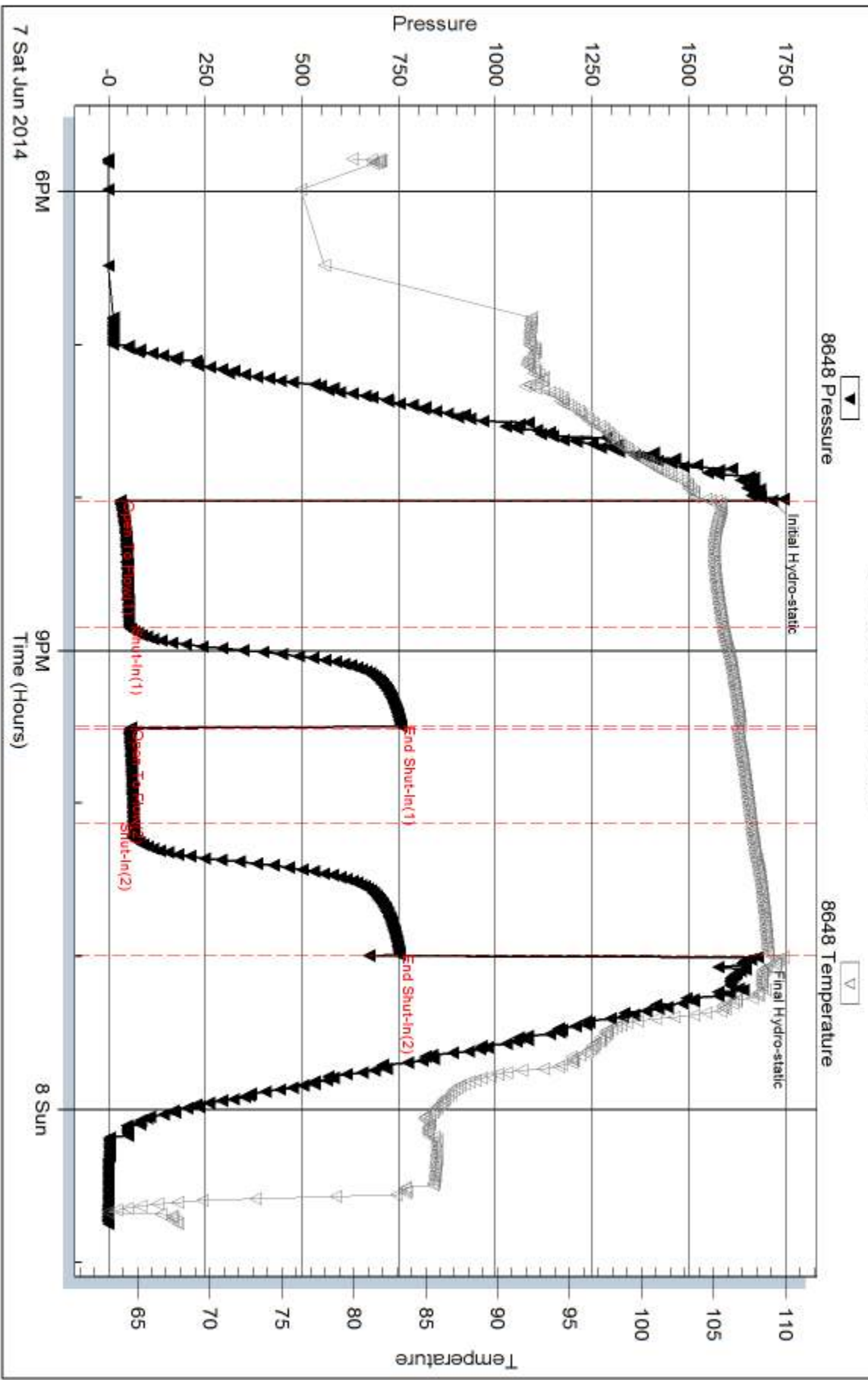
Inside

Dow n/wg-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 2

Pressure vs. Time



Triobite Testing, Inc

Ref. No: 54054

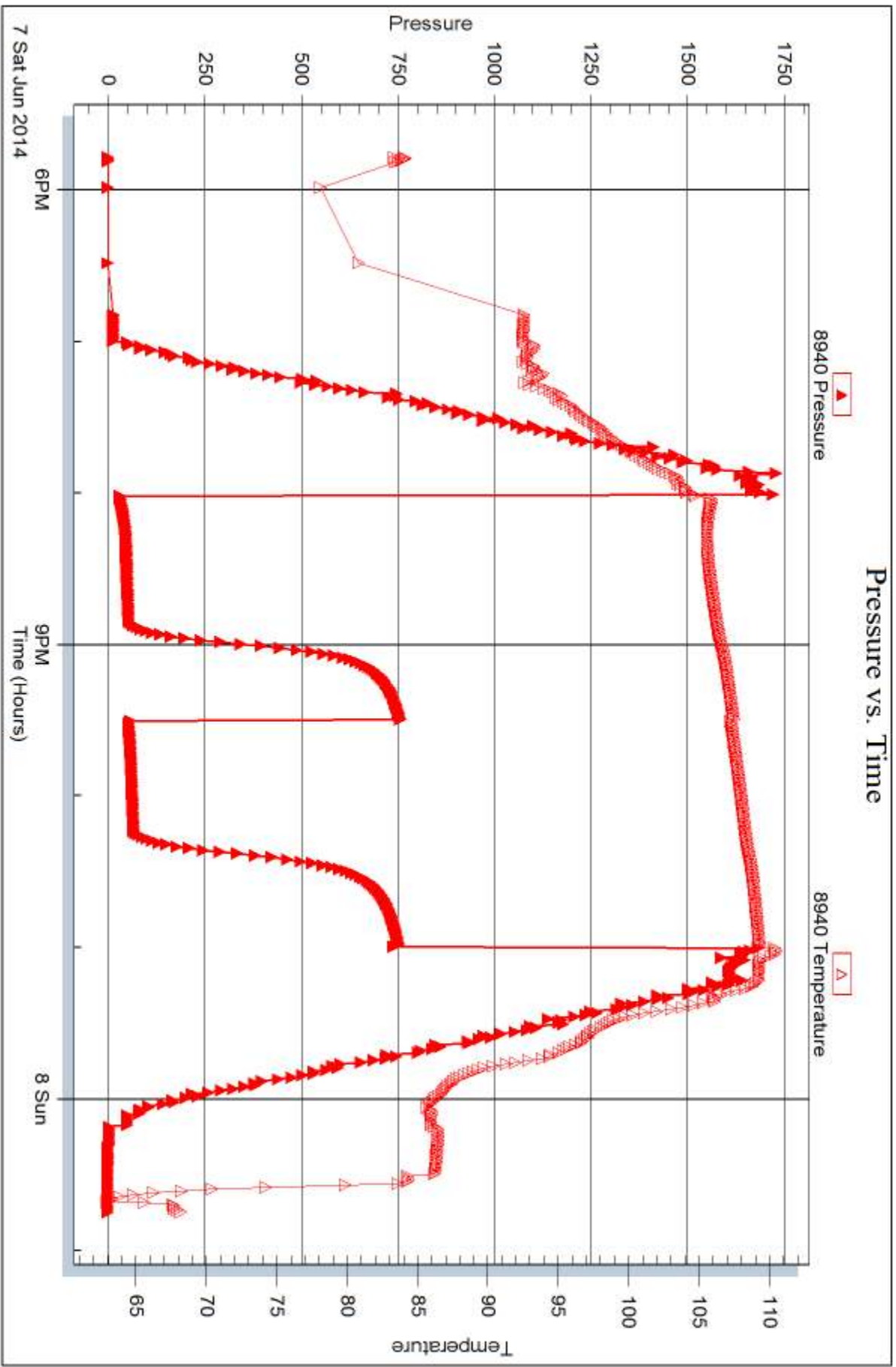
Printed: 2014.06.10 @ 14:25:30

Serial #: 8940

Outside Dow nrg-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 2



Trilobite Testing, Inc

Ref. No: 54054

Printed: 2014.06.10 @ 14:25:30



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

SDK Unit #1-14

14-14s-19w Ellis,KS

Start Date: 2014.06.08 @ 07:08:00

End Date: 2014.06.08 @ 12:32:30

Job Ticket #: 54055 DST #: 3

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

Printed: 2014.06.10 @ 14:25:04



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54055

DST#: 3

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 07:08:00

GENERAL INFORMATION:

Formation: **LKC "E-F"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 09:08:00

Time Test Ended: 12:32:30

Test Type: Conventional Bottom Hole (Reset)

Tester: Cody Bloedorn

Unit No: 73

Interval: 3545.00 ft (KB) To 3569.00 ft (KB) (TVD)

Total Depth: 3569.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2159.00 ft (KB)

2151.00 ft (CF)

KB to GR/CF: 8.00 ft

Serial #: 8648

Inside

Press@RunDepth: 20.97 psig @ 3566.00 ft (KB)

Start Date: 2014.06.08

End Date:

2014.06.08

Start Time: 07:08:05

End Time:

12:32:29

Capacity: 8000.00 psig

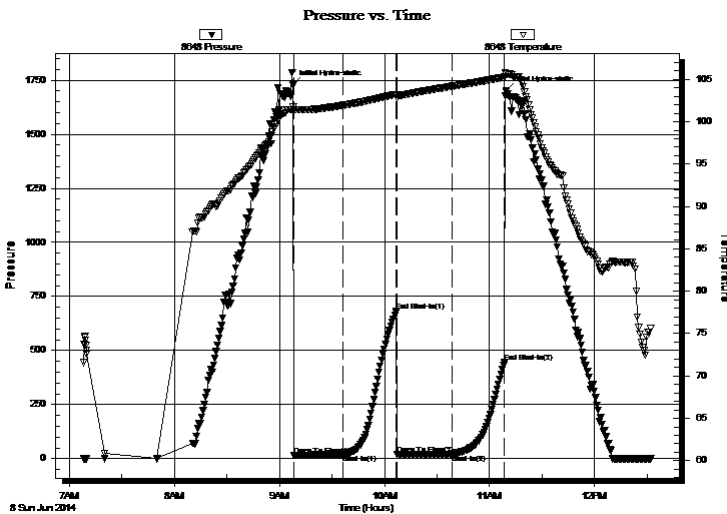
Last Calib.: 2014.06.08

Time On Btm: 2014.06.08 @ 09:07:45

Time Off Btm: 2014.06.08 @ 11:09:15

TEST COMMENT: 30 - IF- 1/2" blow
30 - IS- No return
30 - FF- No blow
30 - FS- No return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1727.69	101.73	Initial Hydro-static
1	15.02	101.17	Open To Flow (1)
29	18.15	101.93	Shut-In(1)
59	681.76	103.23	End Shut-In(1)
60	18.88	102.80	Open To Flow (2)
91	20.97	104.19	Shut-In(2)
121	445.28	105.26	End Shut-In(2)
122	1701.38	105.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
15.00	Mud - Oil spots, 100%M	0.07

* 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

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54055

DST#: 3

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 07:08:00

Tool Information

Drill Pipe:	Length: 3516.00 ft	Diameter: 3.80 inches	Volume: 49.32 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:	58000.00 lb
			<u>Total Volume: 49.47 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	22.00 ft			String Weight: Initial	53000.00 lb
Depth to Top Packer:	3545.00 ft			Final	53000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	24.00 ft				
Tool Length:	45.00 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			3525.00	
Shut In Tool	5.00			3530.00	
Hydraulic tool	5.00			3535.00	
Packer	5.00			3540.00	21.00 Bottom Of Top Packer
Packer	5.00			3545.00	
Perforations	21.00			3566.00	
Recorder	0.00	8648	Inside	3566.00	
Recorder	0.00	8940	Outside	3566.00	
Bullnose	3.00			3569.00	24.00 Bottom Packers & Anchor
Total Tool Length:	45.00				



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54055

DST#: 3

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 07:08:00

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: 7.18 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3600.00 ppm

Filter Cake: 1.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
15.00	Mud - Oil spots, 100%M	0.074

Total Length: 15.00 ft Total Volume: 0.074 bbl

Num Fluid Samples: 0

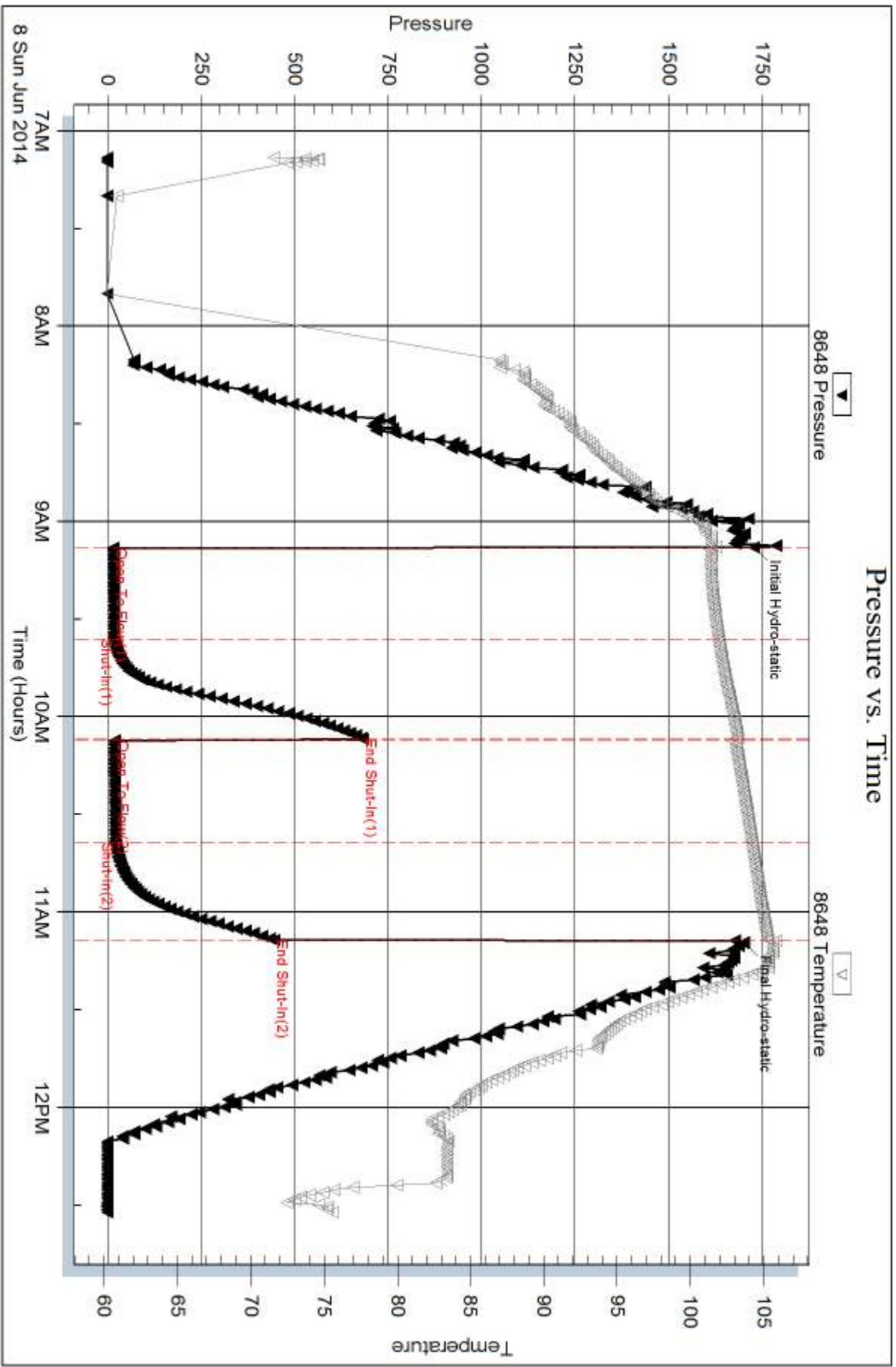
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



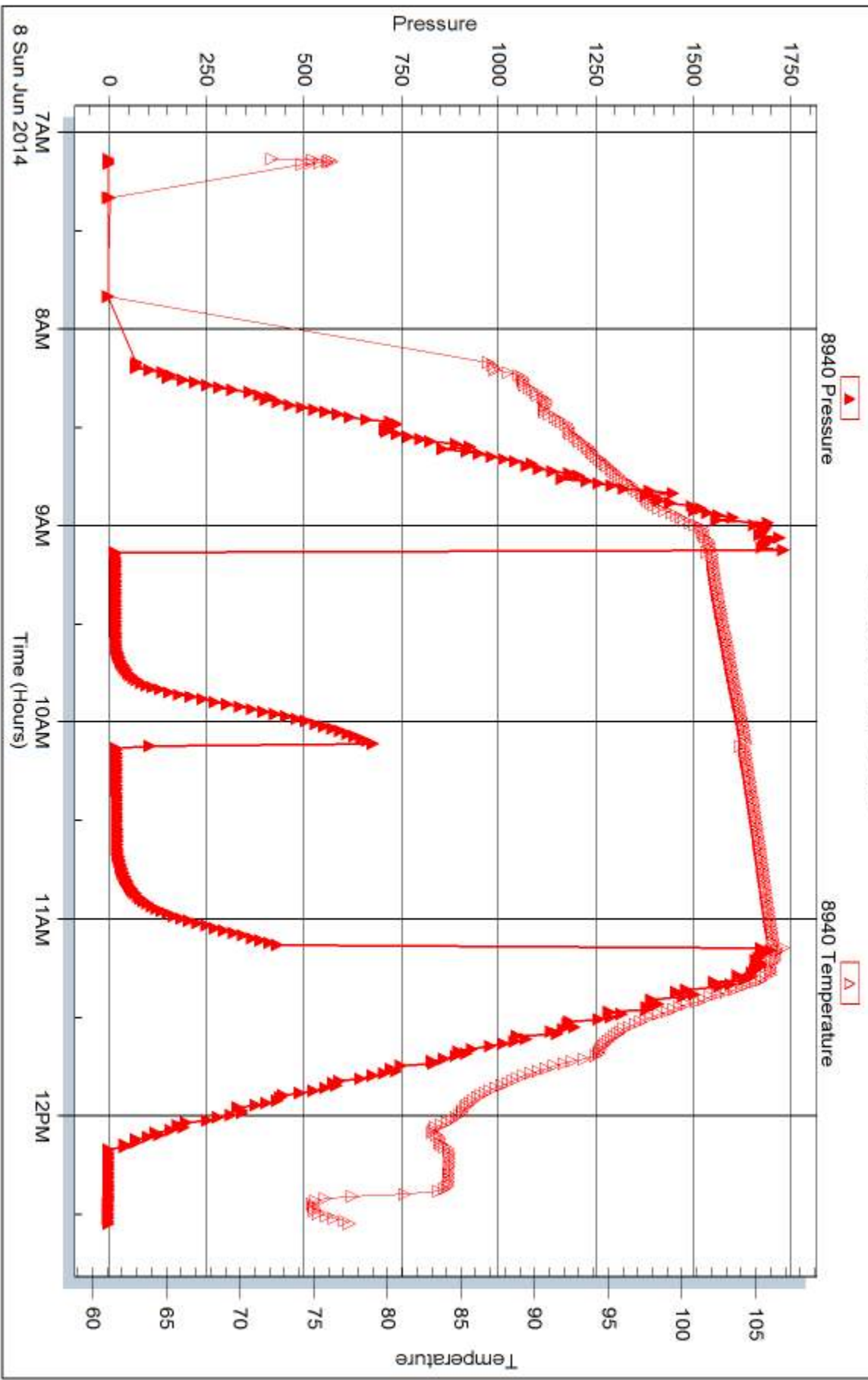
Serial #: 8940

Outside Dow nrg-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 3

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 54055

Printed: 2014.06.10 @ 14:25:05



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

SDK Unit #1-14

14-14s-19w Ellis,KS

Start Date: 2014.06.08 @ 22:00:00

End Date: 2014.06.09 @ 05:10:15

Job Ticket #: 54056 DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.10 @ 14:24:41



TRILOBITE TESTING, INC

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54056

DST#: 4

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 22:00:00

GENERAL INFORMATION:

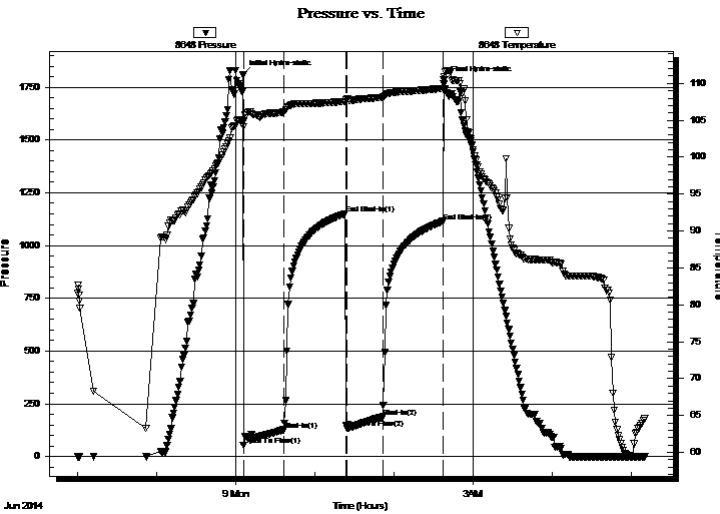
Formation: **LKC "H-J"**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:05:45
 Time Test Ended: 05:10:15
 Interval: **3600.00 ft (KB) To 3669.00 ft (KB) (TVD)**
 Total Depth: 3669.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 73
 Reference Elevations: 2159.00 ft (KB)
 2151.00 ft (CF)
 KB to GR/CF: 8.00 ft

Serial #: 8648

Inside

Press@RunDepth: 188.34 psig @ 3636.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.08 End Date: 2014.06.09 Last Calib.: 2014.06.09
 Start Time: 22:00:05 End Time: 05:10:14 Time On Btm: 2014.06.09 @ 00:05:30
 Time Off Btm: 2014.06.09 @ 02:37:30

TEST COMMENT: 30 - IF- B.O.B. in 3 minutes
 45 - IS- 2 1/4" return
 30 - FF- B.O.B. in 2 minutes
 45 - FS- B.O.B. in 6 minutes, died back to 7" blow



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1808.01	104.76	Initial Hydro-static
1	53.95	104.10	Open To Flow (1)
31	126.90	106.09	Shut-In(1)
78	1150.93	107.57	End Shut-In(1)
79	134.15	107.90	Open To Flow (2)
106	188.34	108.11	Shut-In(2)
152	1114.12	109.32	End Shut-In(2)
152	1783.49	109.90	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GHOCM, 30%G, 30%O, 40%M	0.60
248.00	GHOCM, 20%M, 30%G, 50%O	3.48
124.00	GOCM, 20%O, 30%M, 50%G	1.74
0.00	2728' of G.I.P.	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

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54056

DST#: 4

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 22:00:00

Tool Information

Drill Pipe:	Length: 3579.00 ft	Diameter: 3.80 inches	Volume: 50.20 bbl	Tool Weight:	2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 0.00 inches	Volume: 0.00 bbl	Weight set on Packer:	30000.00 lb
Drill Collar:	Length: 30.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose:	64000.00 lb
			<u>Total Volume: 50.35 bbl</u>	Tool Chased	0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial	52000.00 lb
Depth to Top Packer:	3600.00 ft			Final	56000.00 lb
Depth to Bottom Packer:	ft				
Interval betw een Packers:	69.00 ft				
Tool Length:	90.00 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			3580.00	
Shut In Tool	5.00			3585.00	
Hydraulic tool	5.00			3590.00	
Packer	5.00			3595.00	21.00 Bottom Of Top Packer
Packer	5.00			3600.00	
Perforations	3.00			3603.00	
Change Over Sub	1.00			3604.00	
Drill Pipe	31.00			3635.00	
Change Over Sub	1.00			3636.00	
Recorder	0.00	8648	Inside	3636.00	
Recorder	0.00	8940	Outside	3636.00	
Perforations	30.00			3666.00	
Bullnose	3.00			3669.00	69.00 Bottom Packers & Anchor

Total Tool Length: 90.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54056

DST#: 4

ATTN: Marc Dow ning

Test Start: 2014.06.08 @ 22:00:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

34 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.39 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	GHOCM, 30%G, 30%O, 40%M	0.596
248.00	GHOCM, 20%M, 30%G, 50%O	3.479
124.00	GOCM, 20%O, 30%M, 50%G	1.739
0.00	2728' of G.I.P.	0.000

Total Length: 434.00 ft

Total Volume: 5.814 bbl

Num Fluid Samples: 0

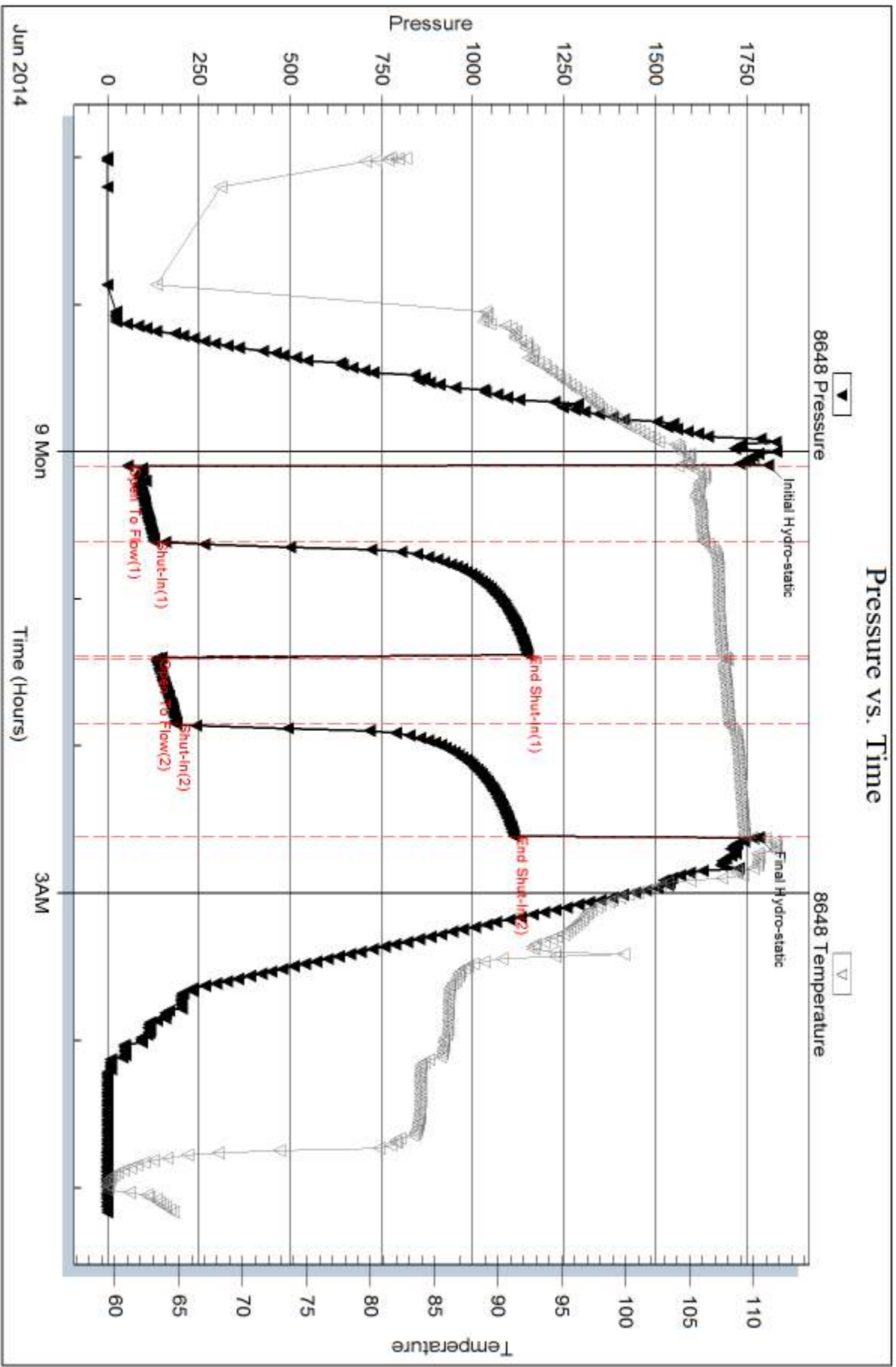
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Gravity: 34 @ 60 Degrees = 34

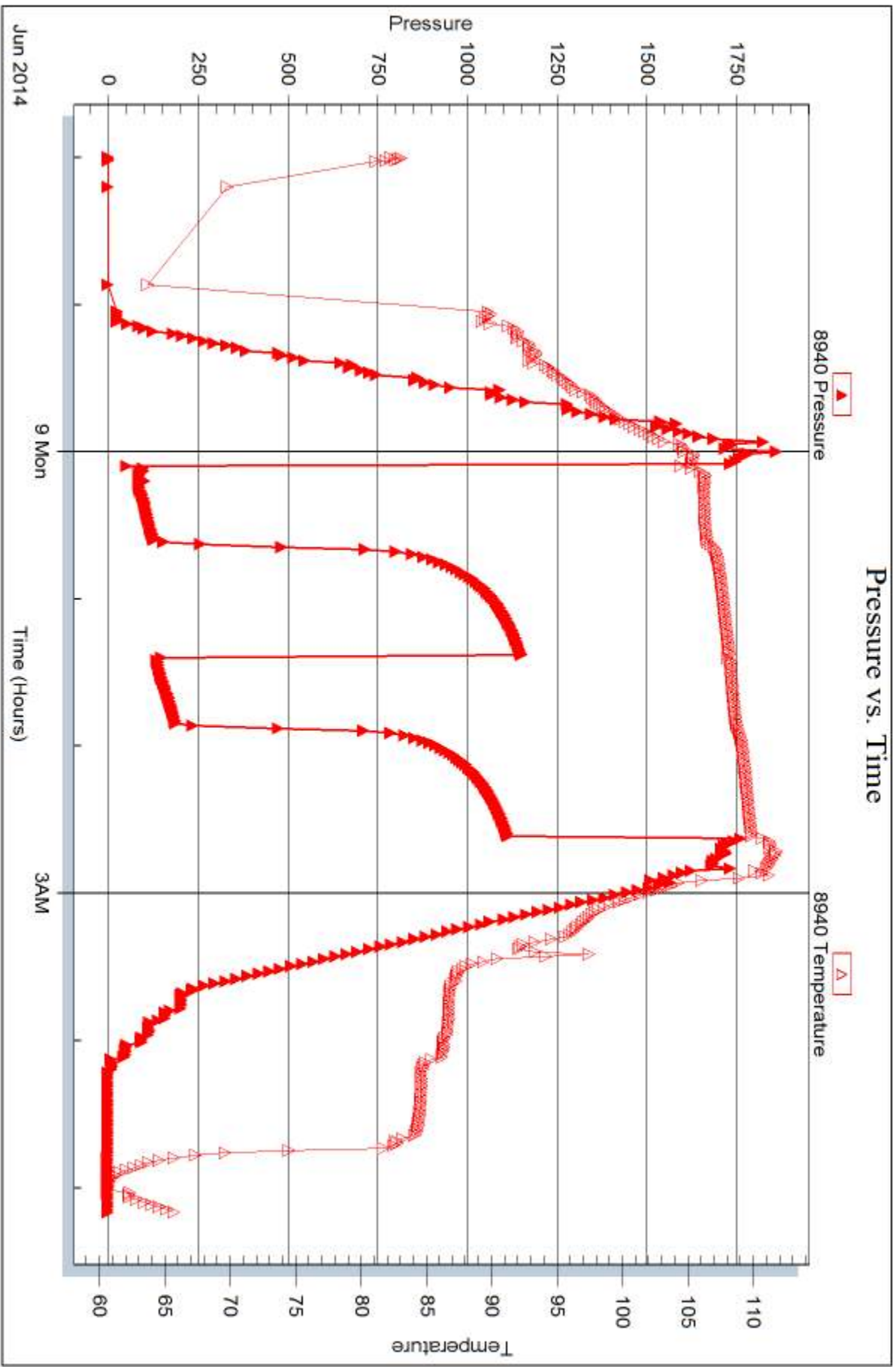


Serial #: 8940

Outside Dow nmg-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 54056

Printed: 2014.06.10 @ 14:24:43



DRILL STEM TEST REPORT

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

PO Box 1019
Hays KS 67601

ATTN: Marc Downing

SDK Unit #1-14

14-14s-19w Ellis,KS

Start Date: 2014.06.09 @ 22:15:00

End Date: 2014.06.10 @ 06:01:30

Job Ticket #: 54057 DST #: 5

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2014.06.10 @ 14:23:56



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54057

DST#: 5

ATTN: Marc Dow ning

Test Start: 2014.06.09 @ 22:15:00

GENERAL INFORMATION:

Formation: **Arbuckle**
 Deviated: No Whipstock: ft (KB)
 Time Tool Opened: 00:36:30
 Time Test Ended: 06:01:30
 Interval: **3766.00 ft (KB) To 3814.00 ft (KB) (TVD)**
 Total Depth: 3814.00 ft (KB) (TVD)
 Hole Diameter: 7.88 inches Hole Condition: Fair
 Test Type: Conventional Bottom Hole (Reset)
 Tester: Cody Bloedorn
 Unit No: 73
 Reference Elevations: 2159.00 ft (KB)
 2151.00 ft (CF)
 KB to GR/CF: 8.00 ft

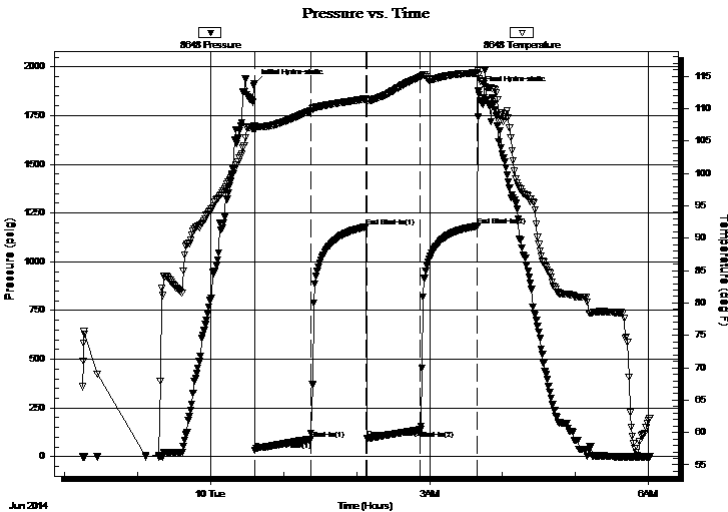
Serial #: 8648

Inside

Press@RunDepth: 137.27 psig @ 3803.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.06.09 End Date: 2014.06.10 Last Calib.: 2014.06.10
 Start Time: 22:15:05 End Time: 06:01:29 Time On Btm: 2014.06.10 @ 00:36:15
 Time Off Btm: 2014.06.10 @ 03:40:15

TEST COMMENT: 45 - IF- B.O.B. in 18 minutes
 45 - IS- Surface return
 45 - FF- B.O.B. in 27 minutes
 45 - FS- 1" return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1913.51	107.37	Initial Hydro-static
1	33.62	106.69	Open To Flow (1)
46	89.98	109.69	Shut-In(1)
92	1178.54	111.50	End Shut-In(1)
93	94.91	111.22	Open To Flow (2)
137	137.27	114.89	Shut-In(2)
183	1182.48	115.52	End Shut-In(2)
184	1878.60	115.20	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
62.00	GHOCM, 10%G, 40%M, 50%O	0.60
248.00	GO, 10%G, 90%O	3.48
35.00	GO, 50%G, 50%O	0.49
0.00	434' of G.I.P.	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

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54057

DST#: 5

ATTN: Marc Dow ning

Test Start: 2014.06.09 @ 22:15:00

Tool Information

Drill Pipe:	Length: 3739.00 ft	Diameter: 3.80 inches	Volume: 52.45 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
			<u>Total Volume: 52.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	24.00 ft			String Weight: Initial 57000.00 lb
Depth to Top Packer:	3766.00 ft			Final 57000.00 lb
Depth to Bottom Packer:	ft			
Interval betw een Packers:	48.00 ft			
Tool Length:	69.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Change Over Sub	1.00			3746.00	
Shut In Tool	5.00			3751.00	
Hydraulic tool	5.00			3756.00	
Packer	5.00			3761.00	21.00 Bottom Of Top Packer
Packer	5.00			3766.00	
Perforations	4.00			3770.00	
Change Over Sub	1.00			3771.00	
Drill Pipe	31.00			3802.00	
Change Over Sub	1.00			3803.00	
Recorder	0.00	8648	Inside	3803.00	
Recorder	0.00	8940	Outside	3803.00	
Perforations	8.00			3811.00	
Bullnose	3.00			3814.00	48.00 Bottom Packers & Anchor

Total Tool Length: 69.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co Inc

14-14s-19w Ellis,KS

PO Box 1019
Hays KS 67601

SDK Unit #1-14

Job Ticket: 54057

DST#: 5

ATTN: Marc Dow ning

Test Start: 2014.06.09 @ 22:15:00

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: 46.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.79 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: 1.50 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
62.00	GHOCM, 10%G, 40%M, 50%O	0.596
248.00	GO, 10%G, 90%O	3.479
35.00	GO, 50%G, 50%O	0.491
0.00	434' of G.I.P.	0.000

Total Length: 345.00 ft

Total Volume: 4.566 bbl

Num Fluid Samples: 0

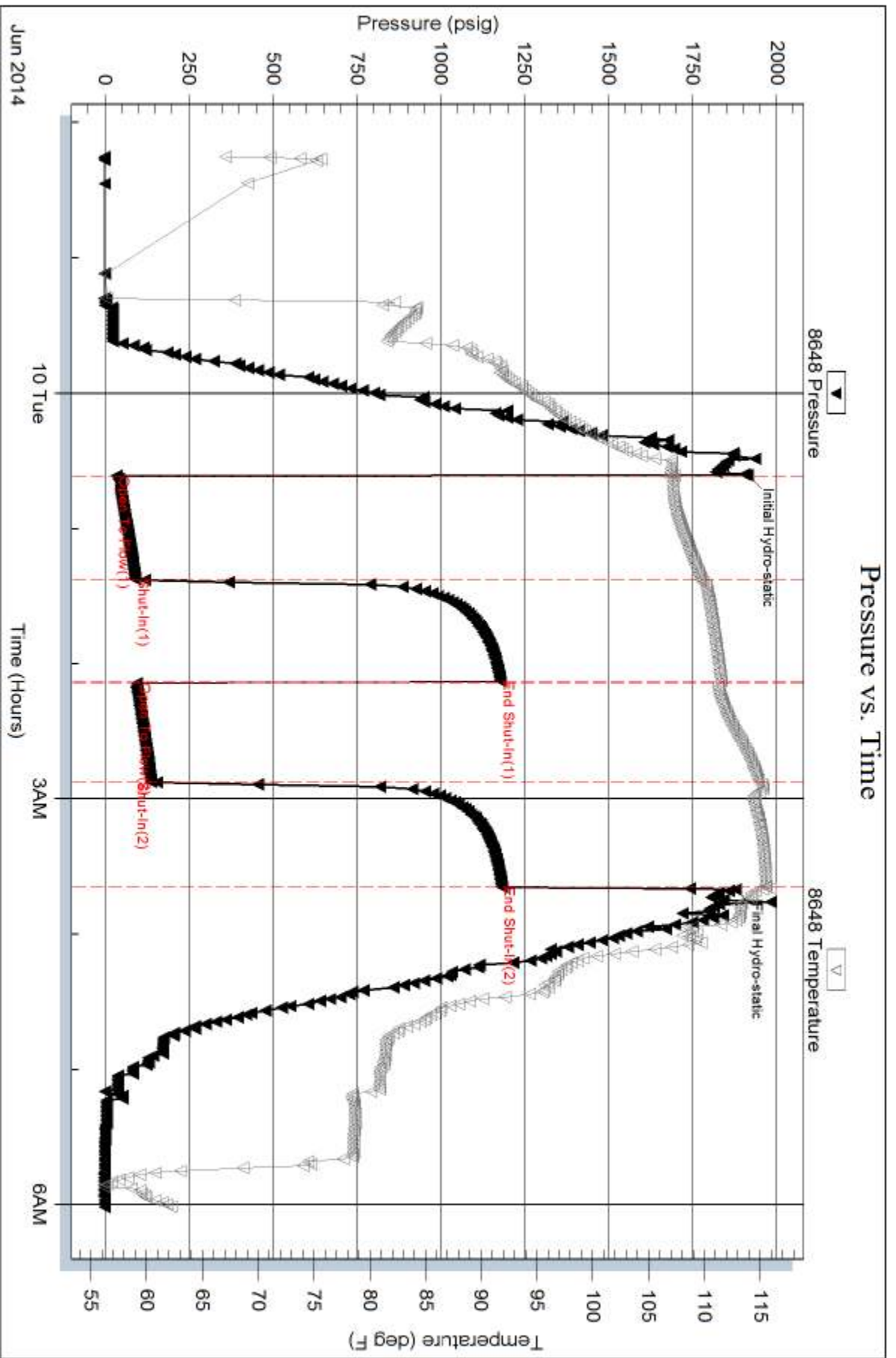
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

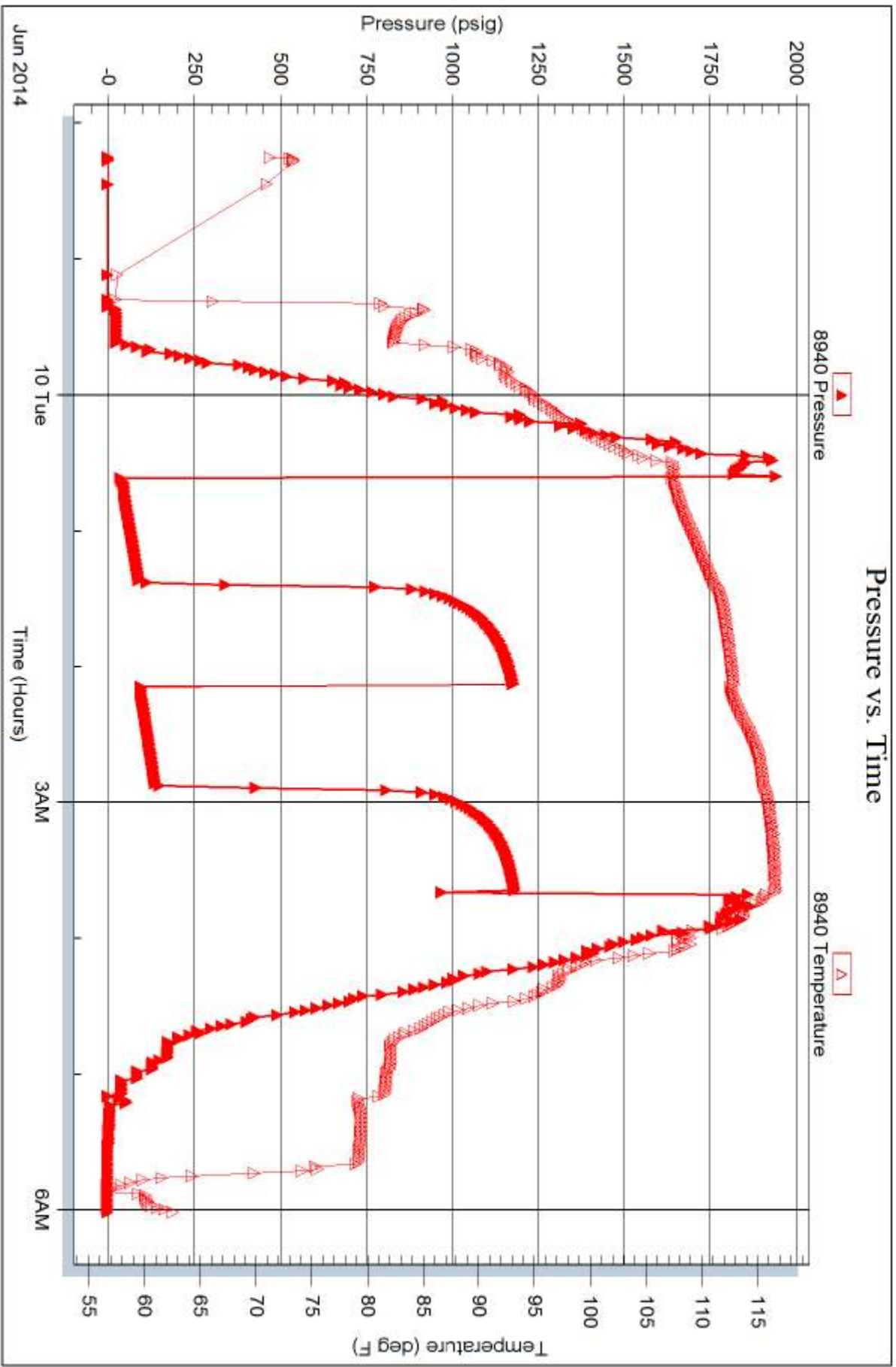


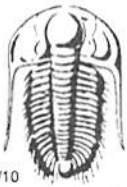
Serial #: 8940

Outside Dow nging-Nelson Oil Co Inc

SDK Unit #1-14

DST Test Number: 5





TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54053

Well Name & No. SDK unit 1-14 Test No. 1 Date 6-7-14
 Company Downing - Nelson Oil Co Inc Elevation 2159 KB 2151 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 14 Twp. 14S Rge. 19W Co. ELLIS State KS

Interval Tested 3432 - 3472 Zone Tested Toronto
 Anchor Length 40' Drill Pipe Run 3391' Mud Wt. 8.7
 Top Packer Depth 3428 Drill Collars Run 30' Vis 56
 Bottom Packer Depth 3432 Wt. Pipe Run — WL 6.8
 Total Depth 3472 Chlorides 1,200 ppm System LCM —
 Blow Description IF - 4" blow
ISI - No return
FF - 5.5" blow
FSI -

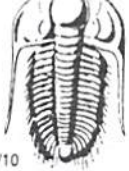
Rec	Feet of	%gas	%oil	%water	%mud
<u>40</u>	<u>6HOC M</u>	<u>5</u>	<u>35</u>	<u>60</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of <u>93' G.I.P.</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 40' BHT 109° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1668</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>0231</u>
(B) First Initial Flow <u>31</u>	<input type="checkbox"/> Jars	T-Started <u>0254</u>
(C) First Final Flow <u>42</u>	<input type="checkbox"/> Safety Joint	T-Open <u>0532</u>
(D) Initial Shut-In <u>662</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>0832</u>
(E) Second Initial Flow <u>37</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>10:10</u>
(F) Second Final Flow <u>48</u>	<input checked="" type="checkbox"/> Mileage <u>18RT</u> <u>27.90</u>	Comments
(G) Final Shut-In <u>605</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1643</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
Initial Open <u>45</u>	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Final Flow <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1177.90</u>
	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1177.90</u>	

Approved By _____ Our Representative Cody B. [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54054

Well Name & No. SDK Unit 1-14 Test No. 2 Date 6-7-14
 Company Downing - Nelson Oil Co INC Elevation 2159 KB 2151 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 14 Twp. 14s Rge. 19w Co. Ellis State KS

Interval Tested 3498-3547 Zone Tested LKC "C&D"
 Anchor Length 49' Drill Pipe Run 3453' Mud Wt. 9.1
 Top Packer Depth 3493 Drill Collars Run 30' Vis 54
 Bottom Packer Depth 3498 Wt. Pipe Run — WL 7.2
 Total Depth 3547 Chlorides 3,600 ppm System LCM 1# 3,600

Blow Description IF - 2.25" blow
ISI - No return
FF - 1" blow
FSI - No return

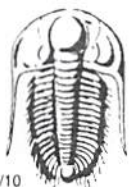
Rec	Feet of	%gas	%oil	%water	%mud
<u>87</u>	<u>60CM</u>	<u>5</u>	<u>15</u>	<u>80</u>	<u>—</u>
Rec	Feet of <u>124' G.I.P.</u>	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 87' BHT 108° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic <u>1715</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>1730</u>
(B) First Initial Flow <u>30</u>	<input type="checkbox"/> Jars	T-Started <u>1747</u>
(C) First Final Flow <u>52</u>	<input type="checkbox"/> Safety Joint	T-Open <u>2001</u>
(D) Initial Shut-In <u>755</u>	<input type="checkbox"/> Circ Sub	T-Pulled <u>2300</u>
(E) Second Initial Flow <u>53</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>1245</u>
(F) Second Final Flow <u>64</u>	<input checked="" type="checkbox"/> Mileage <u>18RT 27.90</u>	Comments
(G) Final Shut-In <u>752</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>1677</u>	<input type="checkbox"/> Straddle	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Shale Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>45</u>	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Extra Copies
Initial Shut-In <u>45</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Final Flow <u>45</u>	<input type="checkbox"/> Day Standby	Total <u>1177.90</u>
Final Shut-In <u>45</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't
	Sub Total <u>1177.90</u>	

Approved By _____ Our Representative Cody B. Boedon

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **54055**

Well Name & No. SDK Unit 1-14 Test No. 3 Date 6-8-14
 Company Downing-Nelson Oil Co INC Elevation 2159 KB 2151 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 14 Twp. 14s Rge. 19w Co. Ellis State KS

Interval Tested 3545-3569 Zone Tested LKC "E & F"
 Anchor Length 24' Drill Pipe Run 3516' Mud Wt. 9.1
 Top Packer Depth 3540 Drill Collars Run 30' Vis 54
 Bottom Packer Depth 3545 Wt. Pipe Run — WL 7.2
 Total Depth 3569 Chlorides 3,600 ppm System LCM 1#

Blow Description IF - 1/2" blow
ISI - No return
FF - No blow
FSI - No return

Rec	Feet of	%gas	%oil	%water	%mud
<u>15</u>	<u>Mud-oil Spots</u>			<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

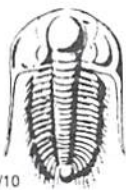
Rec Total 15' BHT 105° Gravity — API RW — @ — °F Chlorides — ppm

(A) Initial Hydrostatic 1727 Test 1150 T-On Location 0650
 (B) First Initial Flow 15 Jars — T-Started 0708
 (C) First Final Flow 18 Safety Joint — T-Open 0908
 (D) Initial Shut-In 681 Circ Sub — T-Pulled 1108
 (E) Second Initial Flow 18 Hourly Standby — T-Out 1233
 (F) Second Final Flow 20 Mileage 18RT 27.90 Comments —
 (G) Final Shut-In 445 Sampler —
 (H) Final Hydrostatic 1701 Straddle —
 Shale Packer —
 Ruined Shale Packer —
 Ruined Packer —
 Extra Packer —
 Extra Copies —

Initial Open 30
 Initial Shut-In 30
 Final Flow 30
 Final Shut-In 30
 Sub Total 1177.90
 Total 1177.90
 MP/DST Disc't —

Approved By _____ Our Representative Cody Blum

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54056

Well Name & No. SDK unit 1-14 Test No. 4 Date 6-8-14
 Company Downing-Nelson oil Co INC Elevation 2159 KB 2151 GL
 Address Po Box 1019 Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 14 Twp. 14S Rge. 19W Co. Ellis State KS

Interval Tested 3600-3669 Zone Tested LKC "H,I,J"
 Anchor Length 69' Drill Pipe Run 3579' Mud Wt. 9.1
 Top Packer Depth 3595 Drill Collars Run 30' Vis 46
 Bottom Packer Depth 3600 Wt. Pipe Run - WL 7.4
 Total Depth 3669 Chlorides 5,000 ppm System LCM 2#

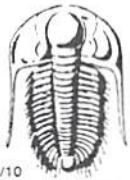
Blow Description IF - B.O.B. in 3 minutes
ISF - 2 1/4" return
FF - B.O.B. in 2 minutes
FSI - B.O.B. in 6 minutes, died back to 7" blow

Rec	Feet of	%gas	%oil	%water	%mud
62	6 HOCM	30	30	40	
248	6 HOCM	30	50	20	
124	6 OCM	50	20	30	
Rec Total	434	BHT 1090	Gravity 34	API RW	@ _____ ° F Chlorides _____ ppm

(A) Initial Hydrostatic 1808 Test 1150 T-On Location 2145
 (B) First Initial Flow 53 Jars _____ T-Started 2200
 (C) First Final Flow 126 Safety Joint _____ T-Open 1207
 (D) Initial Shut-In 1150 Circ Sub _____ T-Pulled 0237
 (E) Second Initial Flow 134 Hourly Standby _____ T-Out 0511
 (F) Second Final Flow 188 Mileage 18RT 27.90 Comments 34@60°
 (G) Final Shut-In 1114 Sampler _____
 (H) Final Hydrostatic 1783 Straddle _____
 Ruined Shale Packer _____
 Ruined Packer _____
 Extra Copies _____
 Initial Open 30 Shale Packer _____
 Initial Shut-In 45 Extra Packer _____
 Final Flow 30 Extra Recorder _____
 Final Shut-In 45 Day Standby _____
 Accessibility _____
 Sub Total 1177.90 MP/DST Disc't _____

Approved By _____ Our Representative Cody B...

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 54057

Well Name & No. SDK Unit 1-14 Test No. 5 Date 6-9-14
 Company Downing - Nelson Oil Co Inc Elevation 2159 KB 2151 GL
 Address Po Box 1019, Hays KS, 67601
 Co. Rep / Geo. Marc Downing Rig Discovery #3
 Location: Sec. 14 Twp. 14S Rge. 19W Co. Ellis State KS

Interval Tested 3766-3814 Zone Tested Arbuckle
 Anchor Length 48' Drill Pipe Run 3739' Mud Wt. 9
 Top Packer Depth 3761 Drill Collars Run 30' Vis 46
 Bottom Packer Depth 3766 Wt. Pipe Run — WL 8.8
 Total Depth 3814 Chlorides 5,000 ppm System LCM 1 1/2#

Blow Description ±F - B.O.B. in 18 minutes
ISI - Surface return
FF - B.O.B. in 27 minutes
FSI - 1" return

Rec	Feet of	%gas	%oil	%water	%mud
<u>62</u>	<u>6 HOCM</u>	<u>10</u>	<u>50</u>	<u>40</u>	
<u>248</u>	<u>60</u>	<u>10</u>	<u>90</u>		
<u>35</u>	<u>60</u>	<u>50</u>	<u>50</u>		
	<u>434' G.I.P.</u>				

Rec Total 345' BHT 115° Gravity — API RW — @ —° F Chlorides — ppm

(A) Initial Hydrostatic <u>1913</u>	<input checked="" type="checkbox"/> Test <u>1150</u>	T-On Location <u>2200</u>
(B) First Initial Flow <u>33</u>	<input type="checkbox"/> Jars <u>—</u>	T-Started <u>2215</u>
(C) First Final Flow <u>89</u>	<input type="checkbox"/> Safety Joint <u>—</u>	T-Open <u>12:39</u>
(D) Initial Shut-In <u>1178</u>	<input type="checkbox"/> Circ Sub <u>—</u>	T-Pulled <u>0340</u>
(E) Second Initial Flow <u>94</u>	<input type="checkbox"/> Hourly Standby <u>—</u>	T-Out <u>0604</u>
(F) Second Final Flow <u>137</u>	<input checked="" type="checkbox"/> Mileage <u>18RT</u> <u>27.90</u>	Comments <u>—</u>
(G) Final Shut-In <u>1182</u>	<input type="checkbox"/> Sampler <u>—</u>	
(H) Final Hydrostatic <u>1878</u>	<input type="checkbox"/> Straddle <u>—</u>	
	<input type="checkbox"/> Shale Packer <u>—</u>	<input type="checkbox"/> Ruined Shale Packer <u>—</u>
	<input type="checkbox"/> Extra Packer <u>—</u>	<input type="checkbox"/> Ruined Packer <u>—</u>
	<input type="checkbox"/> Extra Recorder <u>—</u>	<input type="checkbox"/> Extra Copies <u>—</u>
Initial Open <u>45</u>	<input type="checkbox"/> Day Standby <u>—</u>	Sub Total <u>0</u>
Initial Shut-In <u>45</u>	<input type="checkbox"/> Accessibility <u>—</u>	Total <u>1177.90</u>
Final Flow <u>45</u>		MP/DST Disc't <u>—</u>
Final Shut-In <u>45</u>	Sub Total <u>1177.90</u>	

Approved By _____ Our Representative Cody Blum

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Marc A. Downing Consulting Petroleum Geologist		Geologic Report Drilling Time and Sample Log	
Operator Downing-Nelson Oil Co., Inc.		Elevation KB 2168 DF 2166 GL 2160	
Lease SDK Unit No. 1-14		API # 15-051-26707-0000	
Field Wildcat		Casing Record Surface 8 5/8" @ 222' 5 1/2" @ 3907'	
Location 2475' FNL & 1510' FEL		Electrical Surveys CNDL, DIL, MEL, Sonic	
Sec. 14	Twp. 14s	Rge. 19w	
County Ellis		State Kansas	
Formation	Sample tops	Log Tops	Datum
Top Anhydrite	1452	1450	+718
Base Anhydrite	1490	1493	+675
			-18
			-19
Topeka	3188	3185	-1017
Heebner	3436	3433	-1265
Toronto	3455	3454	-1286
LKC	3486	3482	-1314
BKC	3727	3723	-1555
Arbuckle	3794	3789	-1621
			Not Reached
Total Depth	3910	3907	-1739
Reference Well For Structural Comparison Johnston #2-13 DNOCI 2005' FNL & 795' FWL Sec. 13-14s-19w			

Drilling Contractor	Discovery Drilling, Rig #3	
Commenced	6-3-14	Completed 6-10-14
Samples Saved From	3150	To RTD
Drilling Time Kept From	3050	To RTD
Samples Examined From	3150	To RTD
Geological Supervision From	3050	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 Arbuckle.

Respectfully Submitted,

Marc A. Downing

