



KANSAS CORPORATION COMMISSION 1061723  
OIL & GAS CONSERVATION DIVISION

Form ACO-1  
June 2009  
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: \_\_\_\_\_

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  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_  
 Commingled    Permit #: \_\_\_\_\_  
 Dual Completion    Permit #: \_\_\_\_\_  
 SWD    Permit #: \_\_\_\_\_  
 ENHR    Permit #: \_\_\_\_\_  
 GSW    Permit #: \_\_\_\_\_

<u>07/27/2011</u>	<u>08/02/2011</u>	<u>08/03/2011</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-195-22721-00-00

Spot Description: \_\_\_\_\_  
SW NE NE SE Sec. 1 Twp. 14 S. R. 21  East  West  
2303 Feet from  North /  South Line of Section  
360 Feet from  East /  West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE     NW     SE     SW

County: Trego

Lease Name: Luea Well #: 4

Field Name: Kroeger South

Producing Formation: None

Elevation: Ground: 2252 Kelly Bushing: 2260

Total Depth: 4000 Plug Back Total Depth: \_\_\_\_\_

Amount of Surface Pipe Set and Cemented at: 221 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: 16000 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**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_  
 Confidential Release Date: \_\_\_\_\_  
 Wireline Log Received  
 Geologist Report Received  
 UIC Distribution  
ALT  I  II  III Approved by: Deanna Garriso Date: 08/31/2011



1061723

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Luea Well #: 4  
 Sec. 1 Twp. 14 S. R. 21  East  West County: Trego

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: <b>Attached</b>	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum Attached Attached Attached
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CASING RECORD <input checked="" 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
Surface Pipe	12.25	8.625	23	220.99	Common	150	2% Gel & 3% CC

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	-			

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	
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 (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls. Gas-Oil Ratio Gravity

<b>DISPOSITION OF GAS:</b> <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<b>METHOD OF COMPLETION:</b> <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 (Specify) _____	<b>PRODUCTION INTERVAL:</b> _____ _____
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Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Luea 4
Doc ID	1061723

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Neutron/Density

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Luea 4
Doc ID	1061723

Tops

Name	Top	Datum
Top Anhydrite	1575'	+686
Base Anhydrite	1619'	+642
Topeka	3270'	-1009
Heebner	3508'	-1247
Toronto	3527'	-1266
LKC	3546'	-1285
BKC	3793'	-1532
Marmaton	3857'	-1596
Arbuckle	3904'	-1643

# QUALITY OILWELL CEMENTING, INC.

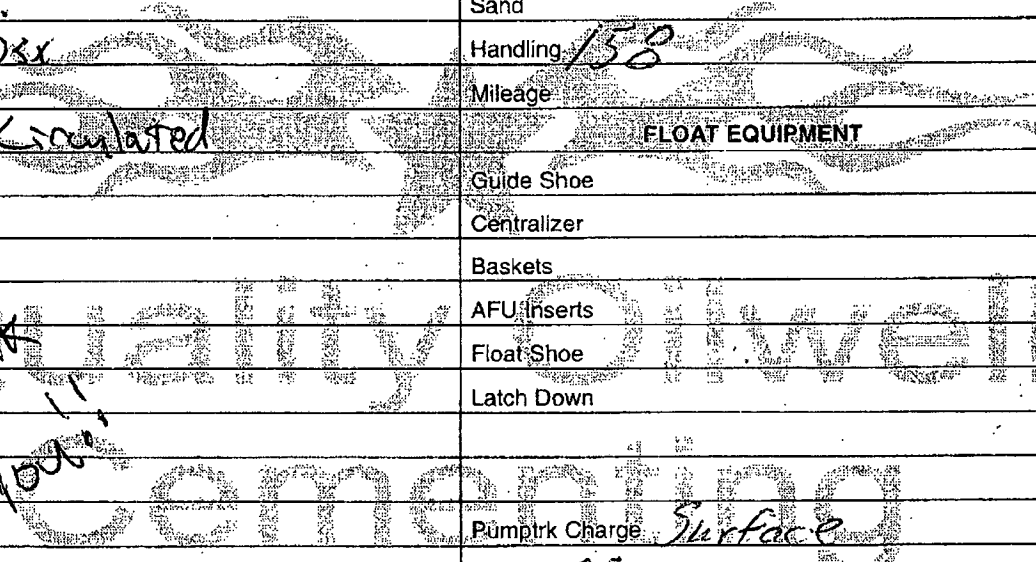
Phone 785-483-2025  
Cell 785-324-1041

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

No. 5255

Date	Sec.	Twp.	Range	County	State	On Location	Finish
7/27/11	1	14	21	Trego	KS		6:15 PM
Lease <i>Lupa</i>	Well No. <i>4</i>		Location <i>Ellis, S to Victoria Rd, 2W, 1/2 S, W1/4</i>				
Contractor <i>Discovery Drilling Rig #3</i>				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.			
Type Job <i>Surface</i>				Charge To <i>Downing-Nelson Oil Co. Inc.</i>			
Hole Size <i>12 1/4"</i>	T.D. <i>221'</i>		Cement Amount Ordered <i>150 Sx Com 3% CC 2% gel</i>				
Csg. <i>8 5/8" 23#</i>	Depth <i>221'</i>		Cement Amount Ordered				
Tbg. Size	Depth		Street				
Tool	Depth		City State				
Cement Left in Csg. <i>18'</i>	Shoe Joint		The above was done to satisfaction and supervision of owner agent or contractor.				
Meas Line	Displace <i>13 Bbls.</i>		Cement Amount Ordered				
EQUIPMENT							
Pumptrk <i>9</i>	No.	Cementer Helper <i>Paul</i>	Common <i>150</i>				
Bulktrk <i>14</i>	No.	Driver <i>Matt</i>	Poz. Mix				
Bulktrk <i>pv</i>	No.	Driver <i>Cisco</i>	Gel. <i>3</i>				
JOB SERVICES & REMARKS							
Remarks:			Hulls				
Rat Hole			Salt				
Mouse Hole			Flowseal				
Centralizers			Kol-Seal				
Baskets			Mud CLR 48				
D/V or Port Collar			CFL-117 or CD110 CAF 38				
<i>Est. Circ.</i>			Sand				
<i>Mix 150 Sx</i>			Handling <i>150</i>				
<i>Displace</i>			Mileage				
<i>Cement Circulated</i>			FLOAT EQUIPMENT				
			Guide Shoe				
			Centralizer				
			Baskets				
			AFU Inserts				
			Float Shoe				
			Latch Down				
			Pumptrk Charge <i>Surface</i>				
			Mileage <i>25</i>				
			Tax				
			Discount				
			Total Charge				
Signature <i>John Smith</i>							

*Thank You!!*



# ALLIED CEMENTING CO.. LLC 035802

REMIT TO P.O. BOX 31  
RUSSELL, KANSAS 67665

SERVICE POINT:  
Russell, KS

DATE <u>8-3-11</u>	SEC. <u>1</u>	TWP. <u>14</u>	RANGE <u>21</u>	CALLED OUT	ON LOCATION	JOB START <u>5:00PM</u>	JOB FINISH <u>5:30PM</u>
LEASE <u>Lucas</u>	WELL# <u>4</u>	LOCATION <u>Ellis 3S 2W 1/2S</u>			COUNTY <u>Trego</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)			<u>Winto</u>				

CONTRACTOR Discovery Drilling #3  
 TYPE OF JOB Rotary Plug  
 HOLE SIZE 4" ID 4000  
 CASING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE 4 1/2 DEPTH 3884  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX \_\_\_\_\_ MINIMUM \_\_\_\_\_  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT \_\_\_\_\_  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_  
 DISPLACEMENT \_\_\_\_\_

OWNER \_\_\_\_\_  
 CEMENT AMOUNT ORDERED 245 60/40  
4% Gel  
114# FO  
 COMMON 147 @ 16.25 2388.95  
 POZMIX 98 @ 8.50 833.00  
 GEL 8 @ 21.25 170.00  
 CHLORIDE @ \_\_\_\_\_  
 ASC @ \_\_\_\_\_  
Fl. Sol 61" @ 2.70 164.70  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 HANDLING 257 @ 2.25 569.25  
 MILEAGE 111.14/mi 1113.20  
 TOTAL 5238.90

EQUIPMENT  
 PUMP TRUCK CEMENTER Heath  
 # 409 HELPER Todd  
 BULK TRUCK  
 # 978 DRIVER Walter  
 BULK TRUCK  
 # \_\_\_\_\_ DRIVER \_\_\_\_\_

REMARKS:  
1st @ 3884 25SX  
2nd @ 1600 25SX  
3rd @ 800 100SX  
4th @ 275 40SX  
5th @ 40 10SX  
Rat Hole 30SX  
Mouse Hole 15SX

Thank You!!

CHARGE TO: Downing - Nelson Oil Co Inc  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE  
 DEPTH OF JOB \_\_\_\_\_  
 PUMP TRUCK CHARGE 1250.00  
 EXTRA FOOTAGE @ \_\_\_\_\_  
 MILEAGE 80 @ 7.00 560.00  
 MANIFOLD @ \_\_\_\_\_  
2 1/2" 80 @ 4.00 320.00  
 @ \_\_\_\_\_  
 TOTAL 2130.00

PLUG & FLOAT EQUIPMENT  
Wood Plug @ \_\_\_\_\_ N-C  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 @ \_\_\_\_\_  
 TOTAL \_\_\_\_\_

To Allied Cementing Co., 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.

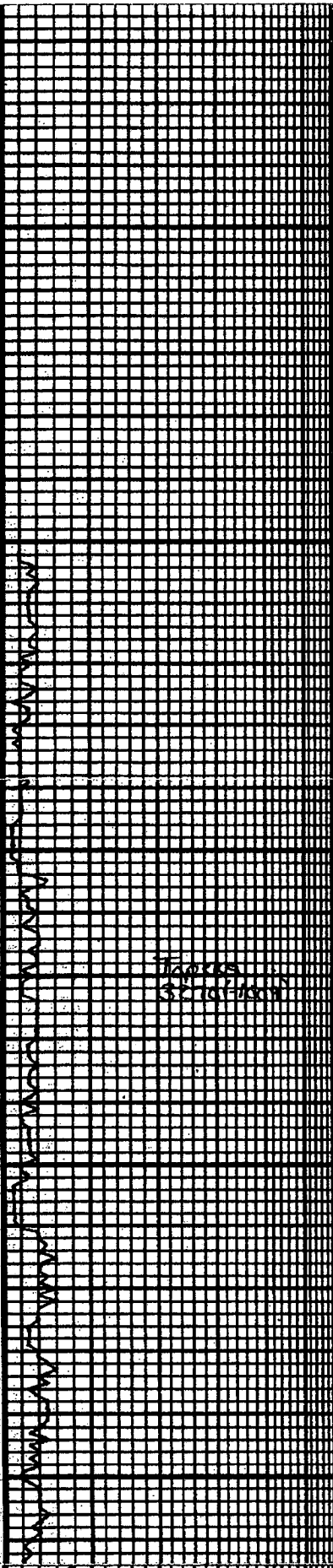
PRINTED NAME GALLEN GASCHLER  
 SIGNATURE [Signature]

SALES TAX (If Any) \_\_\_\_\_  
 TOTAL CHARGES \_\_\_\_\_  
 DISCOUNT 57.50 IF PAID IN 30 DAYS







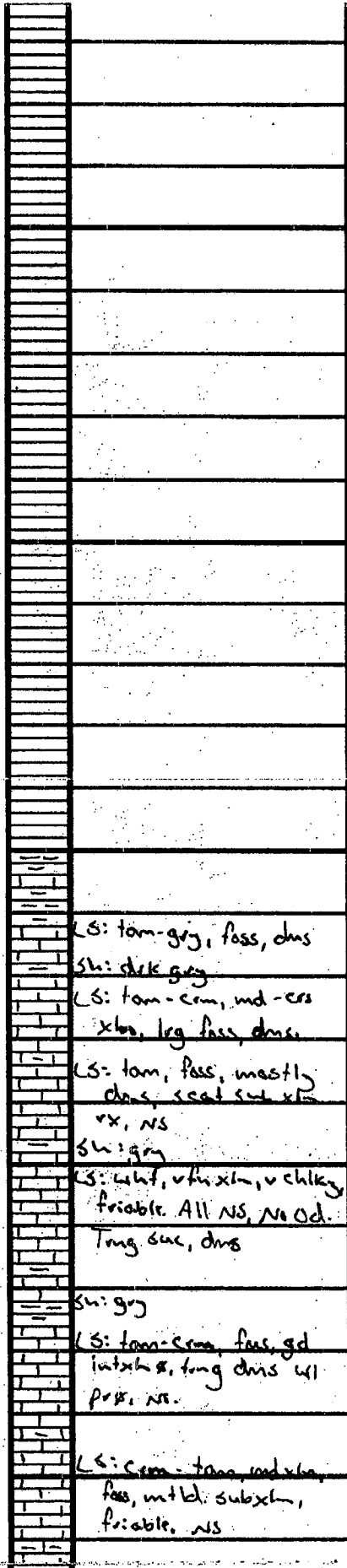


3200

50

3300

50



LS: tan-grg, fass, chns

sl: dk grg

LS: tan-conv, md-ers

xbs, lg fass, chns

LS: tan, fass, mostly chns, scat sub xls

rx, ns

sl: grg

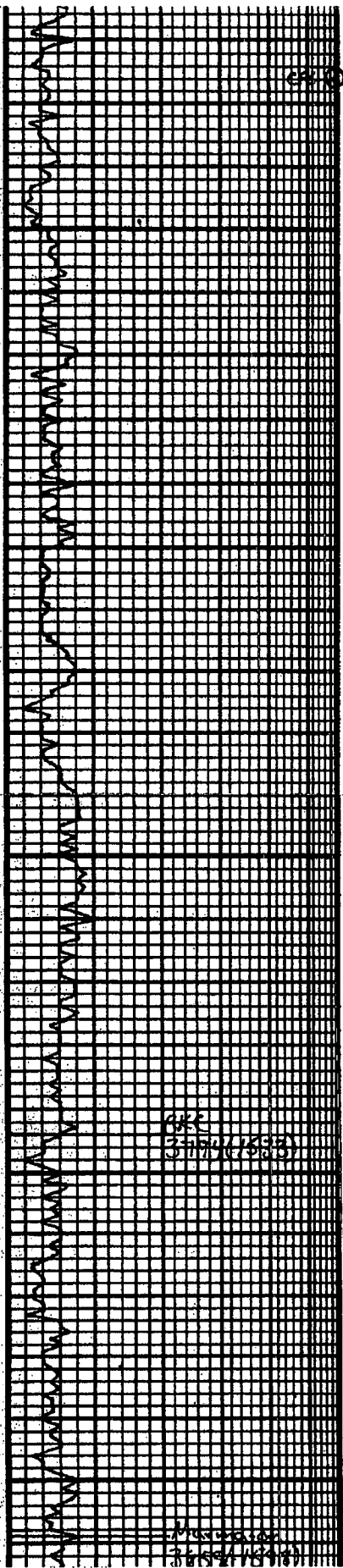
LS: wht, v h xls, v chky friable. All ns, no od.

Tmg suc, chns

sl: grg

LS: tan-conv, fass, gd int xls, tmg chns w/ ppt, ns.

LS: conv-tan, md xls, fass, mtld sub xls, friable, ns.



unit 30

#3

LS: wht, md ccs xln, Fass. Fr-  
ed vng & int Fass, chalk in  
prt. Fr-gd sat str. ul Fr-gd SFO.  
Fr Od. Ferr oil on sup

LS: wht, fu xln, mostly  
chky, scat lt str, NSFO.

Sh: gy  
LS: wht, fu-md xln, scat  
dalam ul fas, fr int xln  
many chky ex. Fr lt brn  
str, rare SFO, lt od. tam  
chta

LS: wht, fu xln, sub xln  
ul tam - wht chta

Sh: Black Carb

Sh: gy  
LS: mostly wht-tan, fu  
xln & chns, 2-3 vx dalam  
fr-gd int xln, gd sat str  
fr SFO, No Od. Fr amt  
tam brn shp chta.

Sh: gy  
LS: tan-whit, fu-md xln, sub  
xln, few Fass ex ul hvy SFO  
in pr ppe, No Od.

Sh: gy  
LS: wht, tan br xln, sub  
xln. Scat ppe, Fass Fral & ul  
lt str, satted SFO, No Od.  
Fr g rns, ppe

Sh: gy  
LS: wht, fu xln, mostly  
chns, sub xln in prt.  
All NS, No Od.

Sh: gy  
LS: wht-crim, fu-mel  
xln, sub xln frag chns,  
NS.

Sh: gy ul brn  
LS: tan-whit, md xln,  
chns.

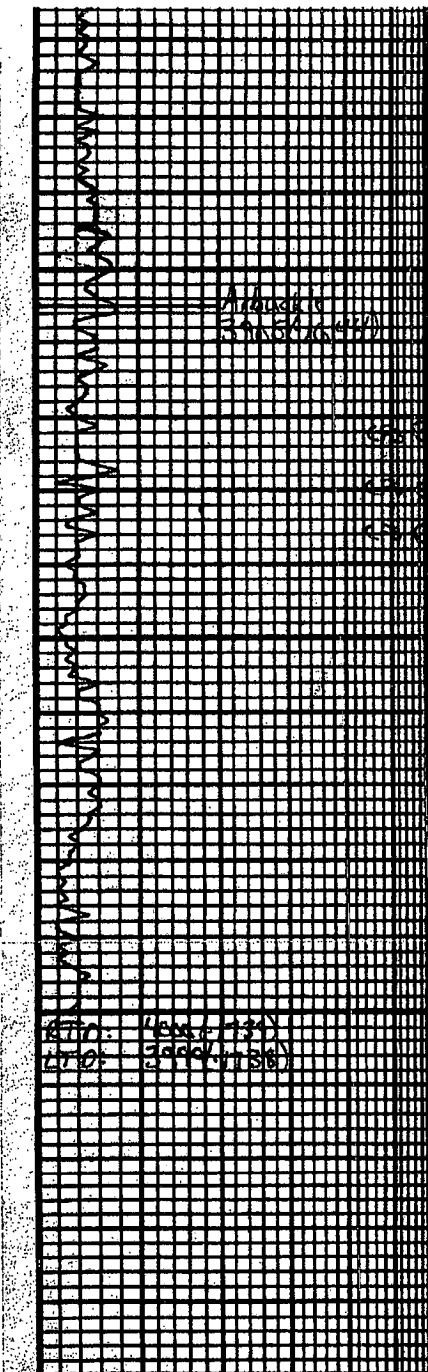
Sh: gy-brn  
LS: tan, md xln, mtlch  
vchns.

Fr amt org chta.

mostly LS. ul pr ppe, omi

1' FO  
114' MCL 80%w  
BHT: 115" Chlcr: 90K

DST #4  
3890-3925  
30-30-30-30  
IFP 24-43  
FFP 47-59



3900

50

4000

DST # 3

# 4

DST # 5

# 6

Top mostly chnt, tan  
 wht, org, sh. Scot suc LS  
 w/ lt. sh. rainbows. Lt. col.  
 Free oil on exp.

Sh: drk grey-blk

Scot fn suc xlm dolo, All  
 NS. Much LS & tan chnt,  
 Fr. Am? Sh.

Dolo: wht, fin-med suc xlm,  
 many beams; ex. Scot med rhom  
 xlm pr. Fin-med rhomboid w/ 3d set  
 of 2 in. li. - bot. sh.

Dolo: wht, fin-med suc xlm.  
 Some fr. int. sh., pr. str.,  
 NSFO, no Od.

Dolo: wht, mostly fin-med  
 suc xlm, 6cat swirl rhomboid  
 Scot fr. int. sh., rare  
 tan str., NSFO, no Od.  
 Rx chky in part.  
 Dolo: wht, fin-med rhom  
 xlm, fine, prog. Rx mostly  
 All brown, no Od.  
 Some dead blk str.

Scot dolo AIA w/lt  
 cl. gr. ss chnt. md grain  
 well sort, sub Ang. Many

Chky ex. Totally  
 brown, No Od.

Mansberg

HP: 1947-1940  
 Rec:  
 60' MCO 65%  
 35' ACM 40%  
 BHT: 114'

DST #5  
 3925-3946  
 30-30-30-30  
 IFF: 17-41  
 FFP: 48-58  
 SIP: 972-894  
 HP: 1958-1997  
 Rec:  
 1' FO  
 99' depth MCO 60%  
 BHT: 123'



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 43925

**DST#: 1**

ATTN: Marc Downing

Test Start: 2011.07.31 @ 04:25:22

## GENERAL INFORMATION:

Formation: **LKC "A"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 06:25:22

Time Test Ended: 10:27:52

Test Type: Conventional Bottom Hole

Tester: Brett Dickinson

Unit No: 47

Interval: **3538.00 ft (KB) To 3570.00 ft (KB) (TVD)**

Reference Elevations: 2260.00 ft (KB)

Total Depth: 3570.00 ft (KB) (TVD)

2252.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6753**

**Outside**

Press@RunDepth: 47.79 psig @ 3542.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.31

End Date:

2011.07.31

Last Calib.: 2011.07.31

Start Time: 04:25:27

End Time:

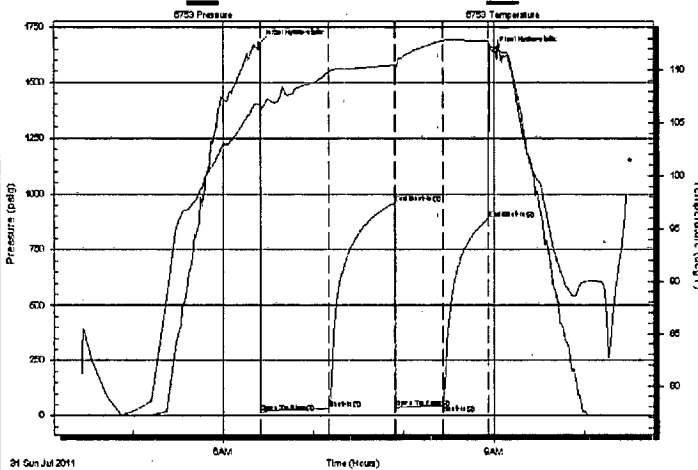
10:27:51

Time On Btm: 2011.07.31 @ 06:24:22

Time Off Btm: 2011.07.31 @ 08:59:22

**TEST COMMENT:** IF-2 3/4in blow  
ISI-No blow  
FF-Very weak surface blow  
FSI-No blow

Pressure vs. Time



## PRESSURE SUMMARY

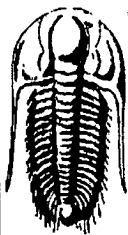
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1674.29	106.73	Initial Hydro-static
1	13.61	105.96	Open To Flow (1)
47	33.51	109.84	Shut-In(1)
90	960.77	110.44	End Shut-In(1)
91	37.69	110.00	Open To Flow (2)
122	47.79	112.76	Shut-In(2)
152	887.77	112.82	End Shut-In(2)
155	1641.98	112.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
65.00	MCW 15%M 85%W	0.64

## Gas Rates

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



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 43925

**DST#: 1**

ATTN: Marc Dow ning

Test Start: 2011.07.31 @ 04:25:22

## 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:

60000 ppm

Viscosity: 73.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.80 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 1000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
65.00	MCW 15%M 85%W	0.638

Total Length: 65.00 ft      Total Volume: 0.638 bbl

Num Fluid Samples: 0

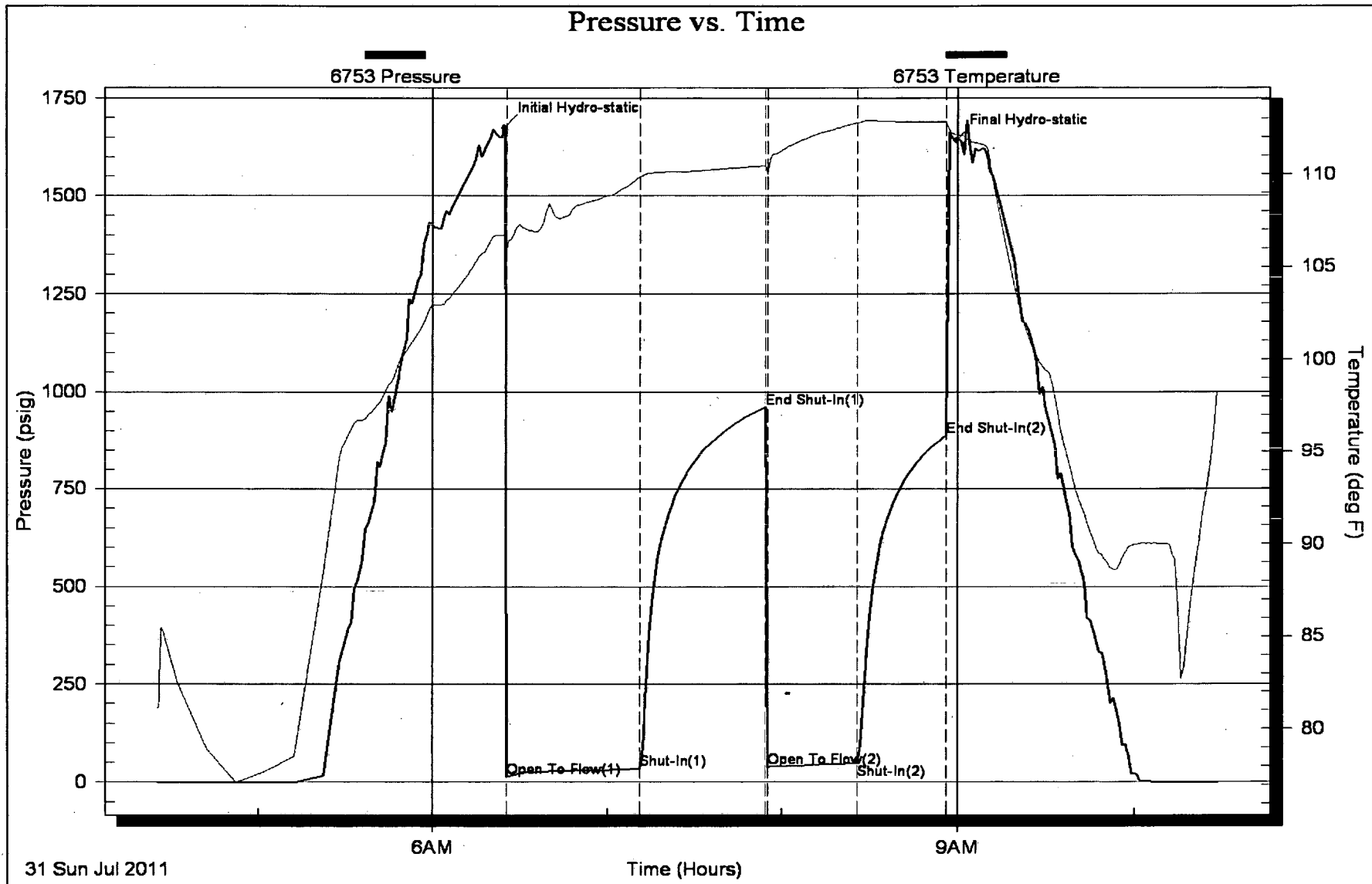
Num Gas Bombs: 0

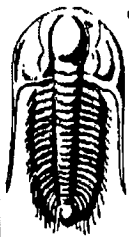
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .10





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 43926

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.07.31 @ 16:25:01

## GENERAL INFORMATION:

Formation: **LKC"C"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 18:45:31

Time Test Ended: 23:26:01

Test Type: Conventional Bottom Hole

Tester: Brett Dickinson

Unit No: 47

Interval: **3567.00 ft (KB) To 3592.00 ft (KB) (TVD)**

Reference Elevations: 2260.00 ft (KB)

Total Depth: 3592.00 ft (KB) (TVD)

2252.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 6753 Outside**

Press@RunDepth: 71.62 psig @ 3571.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.07.31

End Date: 2011.07.31

Last Calib.: 2011.07.31

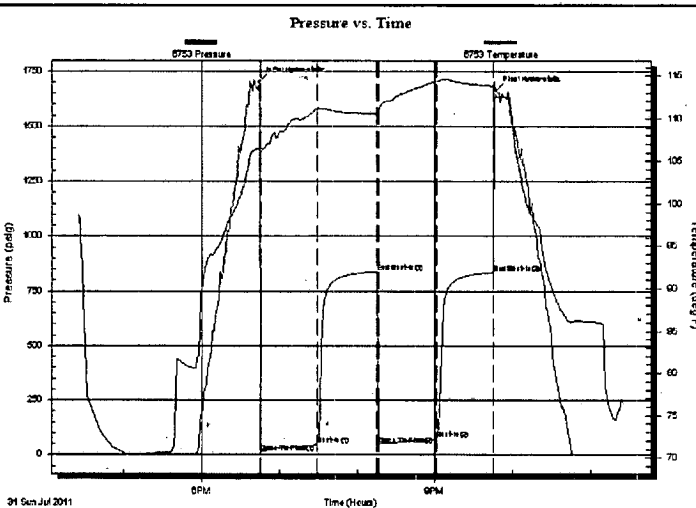
Start Time: 16:25:06

End Time: 23:26:00

Time On Btm: 2011.07.31 @ 18:44:31

Time Off Btm: 2011.07.31 @ 21:47:01

**TEST COMMENT:** IF-3.5in blow  
ISI-No blow  
FF-3in blow  
FSI-No blow



## PRESSURE SUMMARY

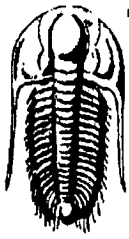
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1702.79	106.48	Initial Hydro-static
1	12.73	105.96	Open To Flow (1)
45	45.07	111.21	Shut-In(1)
91	839.66	110.58	End Shut-In(1)
92	48.37	110.87	Open To Flow (2)
137	71.62	114.37	Shut-In(2)
181	835.58	113.80	End Shut-In(2)
183	1664.61	112.63	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	oilspotted MCW	1.41

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Dow ning-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 43926

**DST#: 2**

ATTN: Marc Dow ning

Test Start: 2011.07.31 @ 16:25:01

**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:	50000 ppm
Viscosity: 48.00 sec/qt	Cushion Volume: bbl		
Water Loss: 7.79 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 1000.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
120.00	oilspotted MCW	1.410

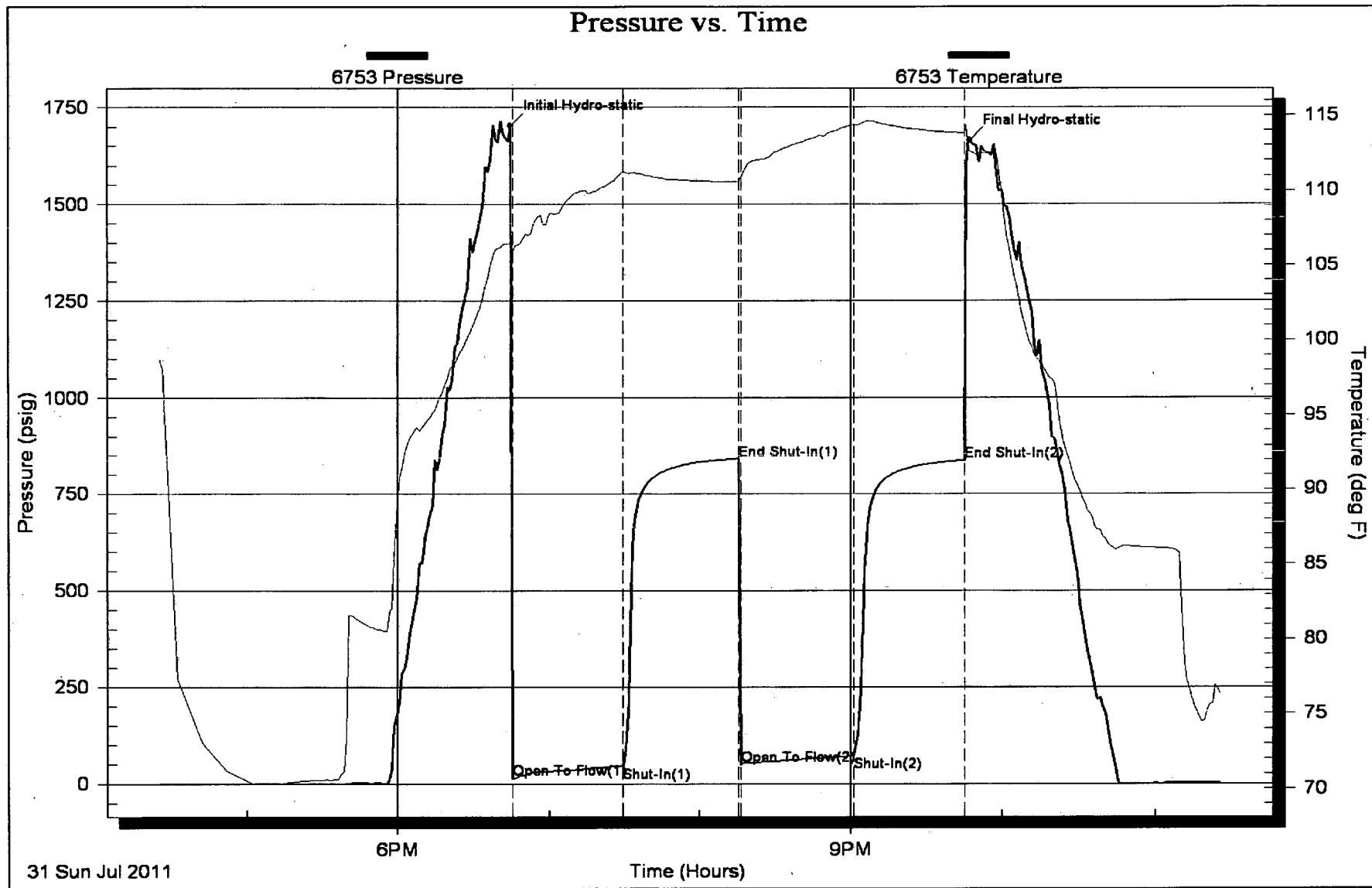
Total Length: 120.00 ft      Total Volume: 1.410 bbl

Num Fluid Samples: 0      Num Gas Bombs: 0      Serial #:

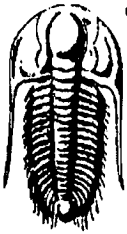
Laboratory Name:      Laboratory Location:

Recovery Comments: RW .15





31 Sun Jul 2011



**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 44277

**DST#: 3**

ATTN: Marc Downing

Test Start: 2011.08.01 @ 06:55:02

## GENERAL INFORMATION:

Formation: **LKC "E"**

Deviated: **No** Whipstock: **ft (KB)**

Time Tool Opened: 09:09:02

Time Test Ended: 13:46:32

Test Type: **Conventional Bottom Hole**

Tester: **Brett Dickinson**

Unit No: **47**

Interval: **3609.00 ft (KB) To 3626.00 ft (KB) (TVD)**

Total Depth: **3626.00 ft (KB) (TVD)**

Hole Diameter: **7.88 inches** Hole Condition: **Fair**

Reference Elevations: **2260.00 ft (KB)**

**2252.00 ft (CF)**

KB to GR/CF: **8.00 ft**

**Serial #: 6753** **Outside**

Press@RunDepth: **67.48 psig @ 3613.00 ft (KB)**

Start Date: **2011.08.01**

End Date: **2011.08.01**

Start Time: **06:55:07**

End Time: **13:46:31**

Capacity: **8000.00 psig**

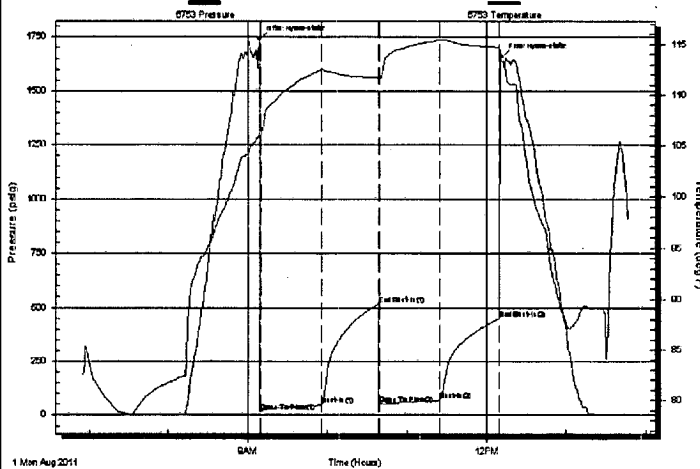
Last Calib.: **2011.08.01**

Time On Btm: **2011.08.01 @ 09:08:32**

Time Off Btm: **2011.08.01 @ 12:12:02**

**TEST COMMENT:** IF-3.75in blow  
ISI-No blow  
FF-3in blow  
FSI-No blow

Pressure vs. Time



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1739.08	106.07	Initial Hydro-static
1	16.00	105.67	Open To Flow (1)
47	46.23	112.55	Shut-In(1)
90	516.11	111.78	End Shut-In(1)
91	51.23	111.85	Open To Flow (2)
136	67.48	115.46	Shut-In(2)
181	449.94	114.74	End Shut-In(2)
184	1657.59	113.38	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
1.00	Free Oil	0.00
114.00	MCW 20%M 80%W	1.33

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Dow ning-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 44277

**DST#: 3**

ATTN: Marc Dow ning

Test Start: 2011.08.01 @ 06:55:02

## 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:

90000 ppm

Viscosity: 60.00 sec/qt

Cushion Volume:

bbl

Water Loss: 7.79 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 3800.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
1.00	Free Oil	0.005
114.00	MCW 20%M 80%W	1.335

Total Length: 115.00 ft      Total Volume: 1.340 bbl

Num Fluid Samples: 0

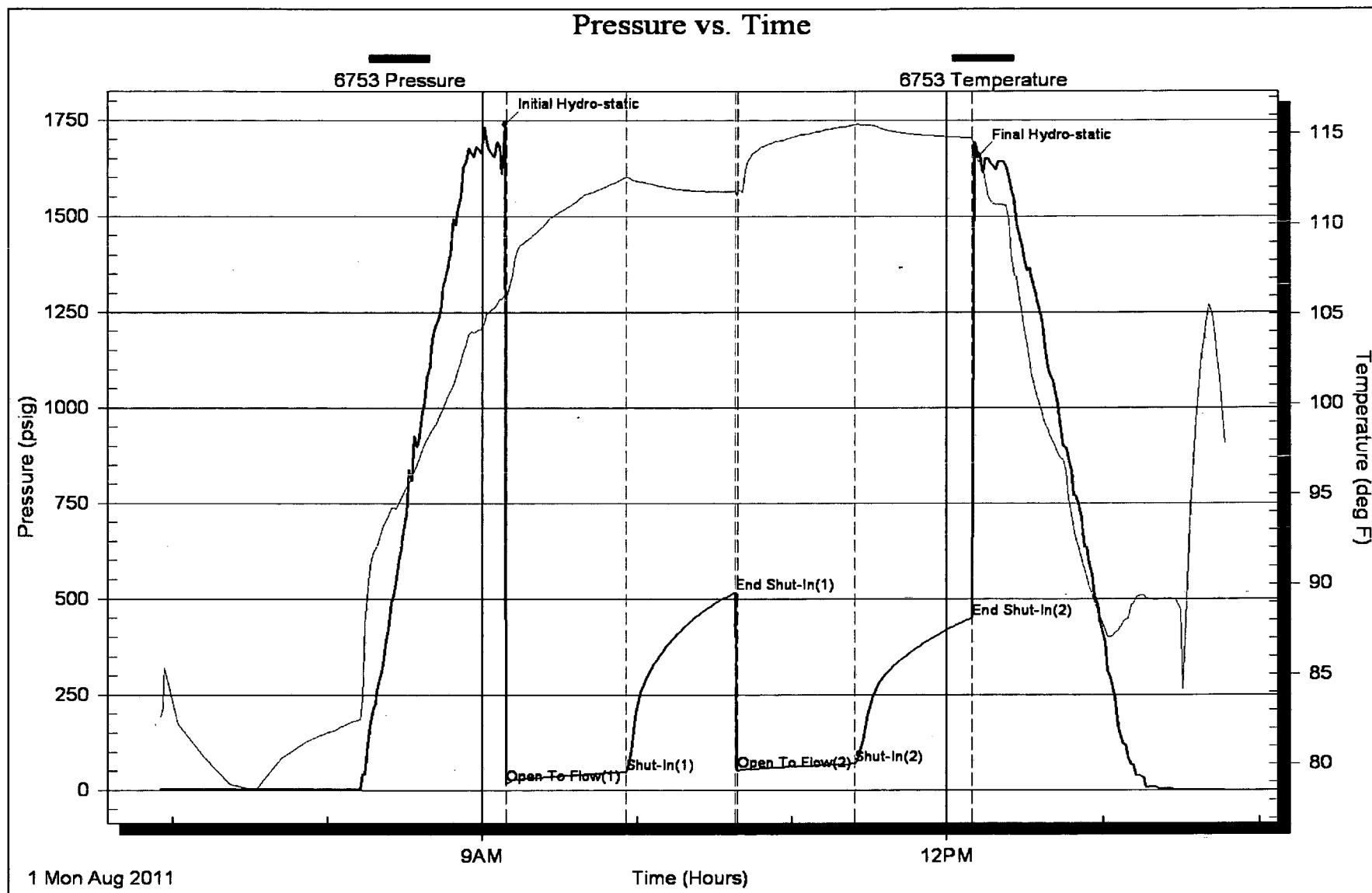
Num Gas Bombs: 0

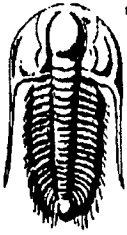
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: RW .06





**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 44278

**DST#: 4**

ATTN: Marc Downing

Test Start: 2011.08.02 @ 20:45:15

## GENERAL INFORMATION:

Formation: **Arb.**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: 23:33:15  
 Time Test Ended: 03:46:15

Test Type: **Conventional Straddle**  
 Tester: **Brett Dickinson**  
 Unit No: **47**

Interval: **3890.00 ft (KB) To 3925.00 ft (KB) (TVD)**  
 Total Depth: **3999.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

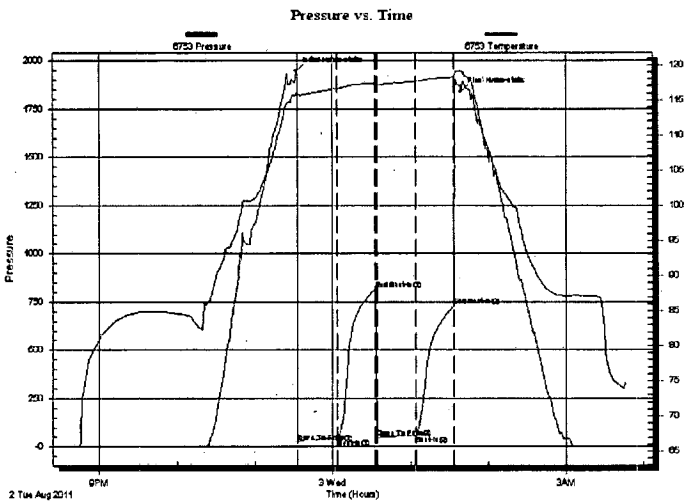
Reference Elevations: **2260.00 ft (KB)**  
**2252.00 ft (CF)**  
 KB to GR/CF: **8.00 ft**

## Serial #: 6753

Press@RunDepth: **59.28 psig @ ft (KB)**  
 Start Date: **2011.08.02** End Date: **2011.08.03**  
 Start Time: **20:45:20** End Time: **03:46:14**

Capacity: **8000.00 psig**  
 Last Calib.: **2011.08.03**  
 Time On Btm: **2011.08.02 @ 23:32:15**  
 Time Off Btm: **2011.08.03 @ 01:39:15**

**TEST COMMENT:** IF-3/4in blow died back to weak surface blow  
 IS-No blow  
 FF-1/2in blow died in 23min  
 FSI-No blow



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1947.06	115.86	Initial Hydro-static
1	24.02	115.57	Open To Flow (1)
32	42.70	116.67	Shut-In(1)
61	817.52	117.43	End Shut-In(1)
62	46.72	117.19	Open To Flow (2)
92	59.28	117.68	Shut-In(2)
121	729.10	118.26	End Shut-In(2)
127	1840.33	119.12	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
35.00	OCM 40%O 60%M	0.22
60.00	MCO 65%O 35%M	0.84

## Gas Rates

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



**TRILOBITE TESTING, INC**

### DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 44278

**DST#: 4**

ATTN: Marc Dow ning

Test Start: 2011.08.02 @ 20:45:15

**GENERAL INFORMATION:**

Formation: **Arb.**  
 Deviated: **No** Whipstock: **ft (KB)**  
 Time Tool Opened: 23:33:15  
 Time Test Ended: 03:46:15

Test Type: **Conventional Straddle**  
 Tester: **Brett Dickinson**  
 Unit No: **47**

Interval: **3890.00 ft (KB) To 3925.00 ft (KB) (TVD)**  
 Total Depth: **3999.00 ft (KB) (TVD)**  
 Hole Diameter: **7.88 inches** Hole Condition: **Fair**

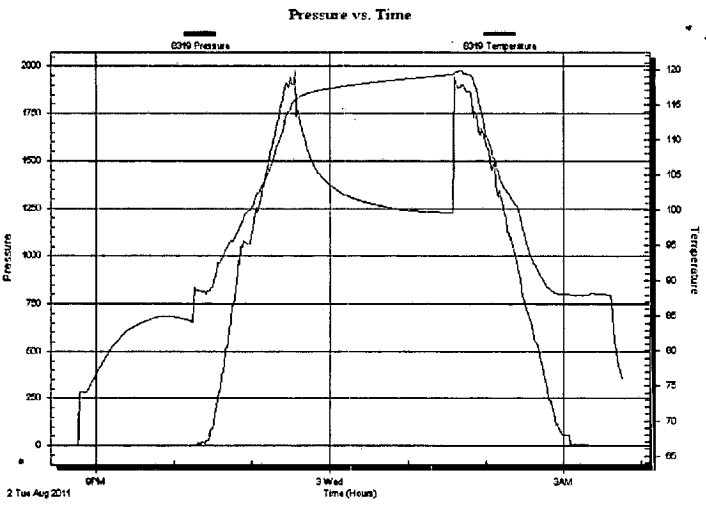
Reference Elevations: **2260.00 ft (KB)**  
**2252.00 ft (CF)**  
 KB to GR/CF: **8.00 ft**

**Serial #: 8319** **Inside**

Press@RunDepth: **psig @ 3891.00 ft (KB)**  
 Start Date: **2011.08.02** End Date: **2011.08.03**  
 Start Time: **20:45:43** End Time: **03:45:37**

Capacity: **8000.00 psig**  
 Last Calib.: **2011.08.03**  
 Time On Btm:  
 Time Off Btm:

**TEST COMMENT:** IF-3/4in blow died back to weak surface blow  
 IS- No blow  
 FF-1/2in blow died in 23min  
 FSI- No blow



**PRESSURE SUMMARY**

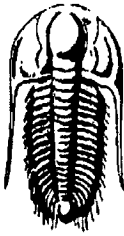
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation

**Recovery**

Length (ft)	Description	Volume (bbl)
35.00	OCM 40%O 60%M	0.22
60.00	MCO 65%O 35%M	0.84

**Gas Rates**

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



**TRILOBITE  
TESTING, INC.**

## DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co. Inc.

**Luea #4**

PO Box 1019  
Hays Ks 67601

**1-14-21, Trego, Ks**

Job Ticket: 44278

**DST#: 4**

ATTN: Marc Downing

Test Start: 2011.08.02 @ 20:45:15

### Mud and Cushion Information

Mud Type: Gel Chem

Mud Weight: 9.00 lb/gal

Viscosity: 48.00 sec/qt

Water Loss: 7.79 in<sup>3</sup>

Resistivity: ohm.m

Salinity: 3000.00 ppm

Filter Cake: inches

Cushion Type:

Cushion Length: ft

Cushion Volume: bbl

Gas Cushion Type:

Gas Cushion Pressure: psig

Oil API:

Water Salinity: deg API

deg API

ppm

### Recovery Information

Recovery Table

Length ft	Description	Volume bbl
35.00	OCM 40%O 60%M	0.218
60.00	MCO 65%O 35%M	0.842

Total Length: 95.00 ft      Total Volume: 1.060 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

