



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

Spud Date or Recompletion Date      Date Reached TD      Completion Date or Recompletion Date

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

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total 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**

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1070998

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**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  Yes  No  
*(Attach Additional Sheets)*

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No

Electric Log Submitted Electronically  Yes  No  
*(If no, Submit Copy)*

List All E. Logs Run:

Log Formation (Top), Depth and Datum  Sample  
Name Top Datum

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

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				

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

TUBING RECORD: Size: \_\_\_\_\_ Set At: \_\_\_\_\_ Packer At: \_\_\_\_\_ Liner Run:  Yes  No

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

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

DISPOSITION OF GAS:	METHOD OF COMPLETION:	PRODUCTION INTERVAL:
<input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	<input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	_____ _____

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Pfannenstiel 1-12
Doc ID	1070998

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Density/ Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Pfannenstiel 1-12
Doc ID	1070998

Tops

Name	Top	Datum
Top Anhydrite	1416'	+743
Bade Anhydrite	1464'	+695
Topeka	3172'	-1013
Heebner	3418'	-1259
Toronto	3436'	-1277
LKC	3465'	-1306
BKC	3692'	-1533
Arbuckle	3840'	-1681



### DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	INH-FPH	RECOVERY

REMARKS AND RECOMMENDATIONS *Lensing structurally high, poor development*  
*Artuckle very low to production, had thick cong. section.*  
*Decision made to plug + Abandon*

7515

### LEGEND

- Anhydrite
- Salt
- Sandstone
- Shale
- Carb sh
- Limestone
- Ool. Lime
- Chert
- Dolomite

REMARKS						
	OIL SHOWS					
	SAMPLE DESCRIPTIONS					
LITHOLOGY						
DEPTH						
DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases						

LOG 7710

3000

50

3100

50

3200

Sh: grey

LS: tan - brn, md xln, v fess,  
pss. fr oint ggy sh

Sh: ggy

LS: Stone ALA, tang wht,  
fm and xln, fr oint fess,

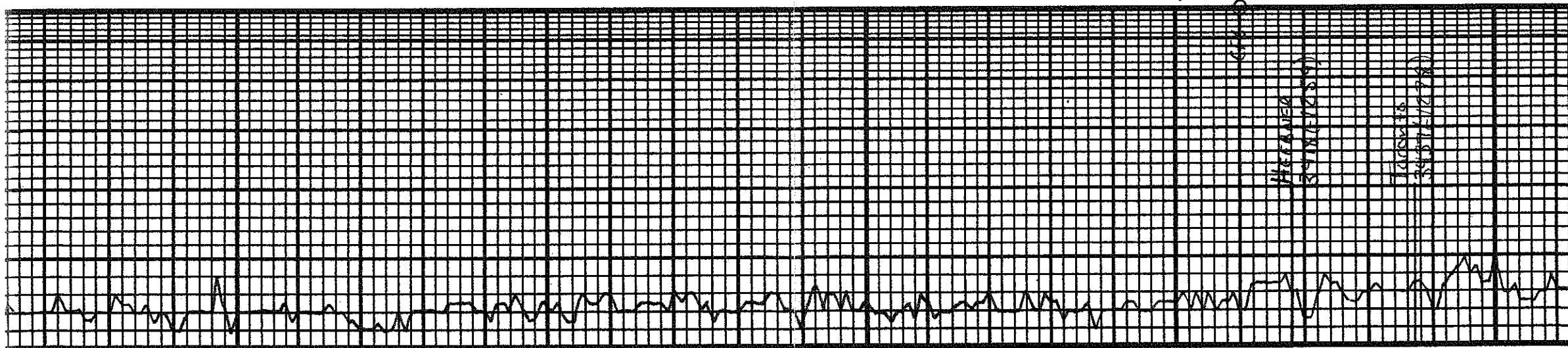
pss

Sh: ggy

LS: wht, fm and xln, few smt  
fess, mostly subsh - chky

TRAVEL  
31:20 (10:00)





50	<p>tong dms.</p> <p>Sh: gry</p> <p>LS: tom - brn, vfn xln, vobns</p> <p>wt NO visib, v tite.</p> <p>LS: wht, fm-md xln, fess</p> <p>sm fess, subxln - cmkly</p> <p>LS: tom, fm xln, tong vobns</p> <p>wt NO visib, scat gry</p> <p>fess chtd.</p> <p>Sh: gry</p> <p>LS: wht, md xln, fess, mtd in pr, subxln - cmkly, NS.</p> <p>Sh: Black Coats</p> <p>LS: wht - tom, fm - md xln, pr, tite</p> <p>Sh: gry</p> <p>LS: wht - tom, md xln, fess, sltly mtd pr, fess cmkly</p> <p>Sh: gry</p> <p>LS: wht, fm - vfn xln, mostly pr &amp; tite, scat</p> <p>gry - blk fess cnts. All NS</p> <p>Sh: gry</p> <p>LS: wht, mostly fess &amp; dms, 1-2 prs wt pr 40 MD str, NS pr, fat od.</p> <p>Sh: Black Coats</p> <p>LS: tom - wht, fm - md xln, dms</p> <p>Sh: gry</p> <p>LS: wht, md xln, v fess, fr int</p> <p>fess, chalky. All AK</p> <p>LS: AIA tong tite &amp; dms, pr</p> <p>Sh: gry</p> <p>LS: wht, fm - md xln, scat</p> <p>gry fess chtd, pr, NS.</p> <p>LS: wht, fm - md xln, fess, 3-4 pr, wt fr - g d int fess &amp; sm wings</p> <p>gd 11 brn scat str wt fr - gd str, ggy in pr. Fr Aunt chkg or fr Od.</p> <p>LS: wht - lt tom, fm - vfn xln, pr &amp; dms. Scat</p> <p>wt. tom chtd.</p> <p>Sh: Black Coats</p> <p>Sh: gry - lt gry</p> <p>LS: wht, md xln, fess, wt few dltom prs. Fr int xln &amp; wt scat prs. Fr brn str wt scatted SFO fat od.</p> <p>Sh: gry, tong brn - red</p>
3300	
50	
3400	
50	

DST # 1

DST # 4

RECEIVED  
STATION

RECEIVED  
STATION

Vis: 48 wt: 8.9

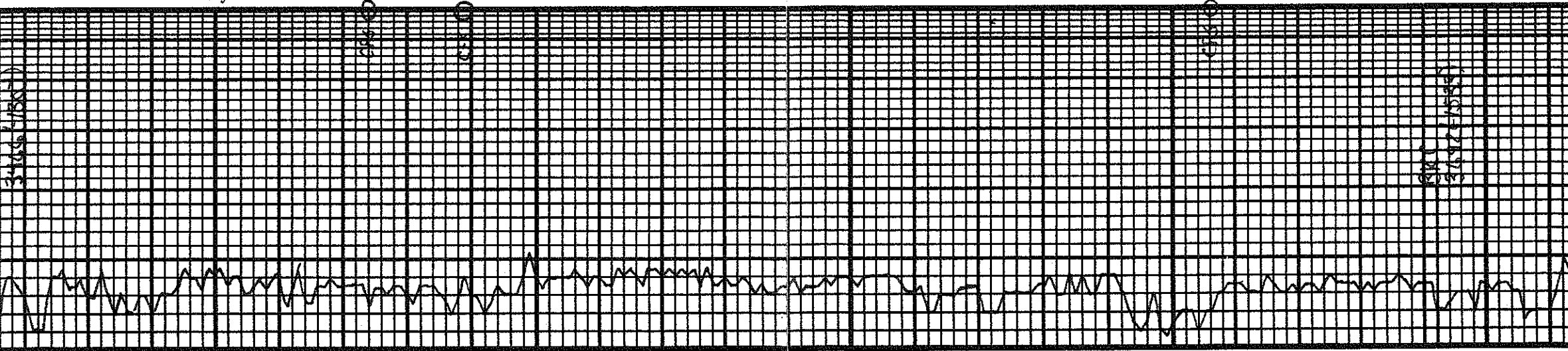
DST # 1  
3879-3410  
45-45-45-45  
I.F. - 2 1/2" black  
F.F. - 2" black  
I.F.P: 14.32  
F.F.P: 80.39  
S.I.P: 1105-1064  
W.P: 1631-1606  
Rec:

50' mm 60% w  
BHT: 102° color: 73K

DST # 2  
3500-3524  
45-45-30-30  
I.F.P: 17-19  
F.F.P: 19-20  
S.I.P: 623-524  
W.P: 1714-1657  
Rec:  
26' mud  
BHT: 102°

DST # 4  
3413-3443  
45-45-45-45





3500	OS #2	LS: whit v. fine xln, v. dms. Sh: gy	LS: whit, fine und xln, mostly dms. Scat w/ fr-gd sfo, many barren ex, fr-gd Od. Slt free on exp.	Sh: lt gy w/ brn, gummy LS: whit, fine und xln, sub xln in pr intxln + ppx, rare sfo, no Od	LS: whit - lt tan, fine und xln, fass fr intxln w/ all emblyng. Felt brn-stn w/ spid sfo, high	LS: tan-wht, med. cns xln, oal w/ fass. Fr-gd int oal w/ all emblyng. Scat sfo, fr sfo, fat No Od	Sh: gy LS: tan, fine und xln, sub xln in pr intxln, many barren	LS: Tan-wht, fine v. fine xln, per w/ scat fass. R. dms. w/ No Shew.	Sh: dk gy	Sh: gy - lt gy, sly gummy	LS: whit, fine xln, few small fass, sly dms. pr intxln + ppx. Scat fr brn-stn w/ spid sfo, fat Od. Tite.	LS: Tan-wht, fine w/ No viss, scat fass.	Sh: gy LS: Whit, fine und xln, lt brn sly in pr intxln, rare sfo, lt Od.	LS: whit - tan, v fass, mostly tite w/ scat fr yng. Fr-gd sfo w/ blk oil filled w/ sly sly by fr Od. Free oil on exp.	LS: whit, total fr-gd sfo, fr Ant sly ex. Fr Ant oal ex w/ gd sfo + sat w/ fr-gd sfo, many barren ex, fr-gd Od. Slt free on exp.	LS: whit, fine v. fine xln, scat oal All ppx. NS.	Sh: gy	LS: whit, fine v. fine xln, few siml fass + oal. All v. dms w/ No viss, NS.	Sh: red. brn	LS: tan-wht, ind xln, sly w/ whld. Sh: brn-red	LS: tan. 1.1.1. 1.1.1. 1.1.1. 1.1.1.
3600	OS #3	Vis: 48 wt: 89 OST #3 3573-3656 90-45-45-45 Total d. d. w/ sfo LS: 6" blow F.F. - 5" blow I.F.P. 19-75 F.P.P. 90-103 S.P.P. 671-647 H.P. 1754-1749	Rec: 60' vsoem 2/ oil 120' mu 50% w BHT: 107' Chlor: 13K																		

F.F. - 1 1/2" blow  
I.F.P. 20-25  
F.P.P. 29-34  
S.P.P. 94-86.5  
H.P. 1736-1712  
Rec: 45' vsoem 1 1/2 oil  
BHT: 104'



# ALLIED CEMENTING CO., LLC. 038201

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
Russell Ks.

DATE <u>11-29-2011</u>	SEC. <u>12</u>	TWP. <u>14 S</u>	RANGE <u>19 W</u>	CALLED OUT	ON LOCATION	JOB START <u>7:30 PM</u>	JOB FINISH <u>8:00 PM</u>
LEASE <u>FANNENSTIEL</u>	WELL# <u>1-12</u>	LOCATION <u>Hay's Golf Course Rd. 1/2 W 1/4</u>	COUNTY <u>ELLIS</u>	STATE <u>KANSAS</u>			
OLD OR NEW (Circle one)		<u>Y A S 1/4 W EXT D</u>					

CONTRACTOR <u>Discovery Dalg. Rig #4</u>	OWNER
TYPE OF JOB <u>Cement Surface</u>	CEMENT
HOLE SIZE <u>12 1/4</u>	T.D. <u>223'</u>
CASING SIZE <u>8 5/8</u>	DEPTH <u>223'</u>
TUBING SIZE	DEPTH
DRILL PIPE	DEPTH
TOOL	DEPTH
PRES. MAX <u>250 #</u>	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG. <u>15'</u>	
PERFS.	
DISPLACEMENT <u>13 1/4 BBL</u>	

AMOUNT ORDERED <u>150 sx Com.</u>	
<u>290 GEL</u>	
<u>320 CC</u>	
COMMON <u>150</u>	@ <u>16.25</u> <u>2437.50</u>
POZMIX	@
GEL <u>3</u>	@ <u>21.25</u> <u>63.75</u>
CHLORIDE <u>5</u>	@ <u>58.20</u> <u>291.00</u>
ASC	@
HANDLING <u>158</u>	@ <u>2.25</u> <u>355.50</u>
MILEAGE <u>158/11/46</u>	<u>884.24</u>
TOTAL	<u>3981.99</u>

EQUIPMENT

PUMP TRUCK CEMENTER <u>Glenn</u>
# <u>409</u> HELPER <u>Woody</u>
BULK TRUCK
# <u>410</u> DRIVER <u>Tony</u>
BULK TRUCK
# DRIVER

REMARKS:  
Ran 5 new JTS of 8 5/8 23# CSG  
Set @ Receive Circulation  
Cement w/ 150 sx com 322, Displace  
1 BBL H<sub>2</sub>O & Shot in @ 250 #.

Cement DID NOT CIRCULATE TO SURFACE. THANKS

CHARGE TO: Downing & Nelson  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

SERVICE

DEPTH OF JOB	
PUMP TRUCK CHARGE	<u>1125.00</u>
EXTRA FOOTAGE	@
MILEAGE HV <u>48</u>	@ <u>7.00</u> <u>336.00</u>
MANIFOLD	@
<u>LN 48</u>	@ <u>4.00</u> <u>192.00</u>
TOTAL	<u>1653.00</u>

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
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 GALEN PASCHER  
SIGNATURE Galen Pascher

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES 5634.99  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

**Pfannenstiel #1-12**

**12-14s-19w Ellis,KS**

Start Date: 2011.12.03 @ 10:08:30

End Date: 2011.12.03 @ 17:10:00

Job Ticket #: 44219                      DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.12.13 @ 16:13:46



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44219

**DST#: 1**

ATTN: Marc Downing

Test Start: 2011.12.03 @ 10:08:30

## GENERAL INFORMATION:

Formation: **Plattsmouth**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 12:23:00

Time Test Ended: 17:10:00

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3379.00 ft (KB) To 3410.00 ft (KB) (TVD)**

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3410.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 38.12 psig @ 3382.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.03

End Date: 2011.12.03

Last Calib.: 2011.12.03

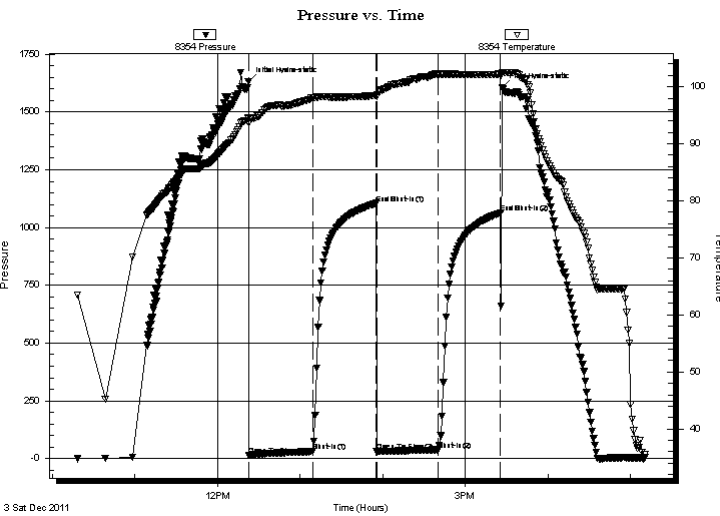
Start Time: 10:18:30

End Time: 17:10:00

Time On Btm: 2011.12.03 @ 12:22:30

Time Off Btm: 2011.12.03 @ 15:26:30

**TEST COMMENT:** IF-Very weak building blow . Built to 2 & 1/2 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 2 inches.  
FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1631.39	94.58	Initial Hydro-static
1	13.83	93.73	Open To Flow (1)
47	31.61	98.08	Shut-In(1)
93	1104.78	98.44	End Shut-In(1)
93	29.59	98.26	Open To Flow (2)
138	38.12	102.24	Shut-In(2)
183	1063.60	102.22	End Shut-In(2)
184	1605.75	102.53	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
50.00	50%Water/50%Mud	0.42

## Gas Rates

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



# TRILOBITE TESTING, INC

## DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

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Total Depth: 3410.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8520      Outside**

Press @RunDepth:                      psig @ 3382.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.03

End Date: 2011.12.03

Last Calib.: 2011.12.03

Start Time: 10:18:45

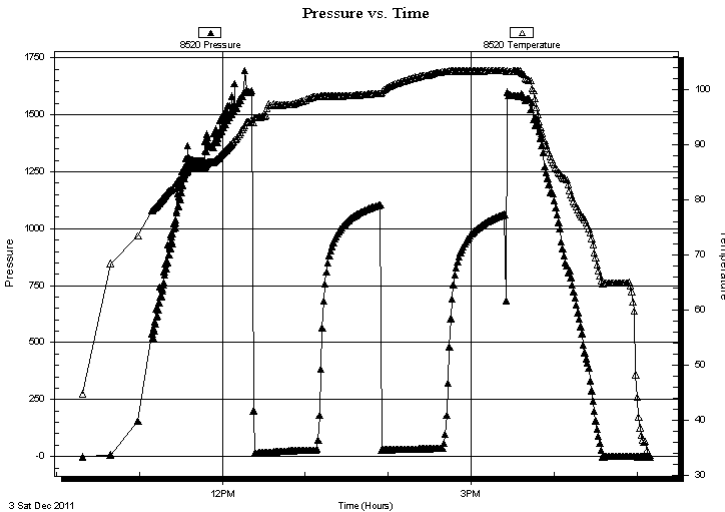
End Time: 17:09:45

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Very weak building blow . Built to 2 & 1/2 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 2 inches.  
FS-No Return.

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
50.00	50%Water/50%Mud	0.42

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44219

**DST#: 1**

ATTN: Marc Downing

Test Start: 2011.12.03 @ 10:08:30

## Tool Information

Drill Pipe:	Length: 3359.00 ft	Diameter: 3.80 inches	Volume: 47.12 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 47.27 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	31.00 ft			String Weight: Initial 40000.00 lb
Depth to Top Packer:	3379.00 ft			Final 40000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	31.00 ft			
Tool Length:	51.00 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			3360.00	
Shut In Tool	5.00			3365.00	
Hydraulic tool	5.00			3370.00	
Packer	5.00			3375.00	20.00 Bottom Of Top Packer
Packer	4.00			3379.00	
Stubb	1.00			3380.00	
Perforations	2.00			3382.00	
Recorder	0.00	8354	Inside	3382.00	
Recorder	0.00	8520	Outside	3382.00	
Perforations	25.00			3407.00	
Bullnose	3.00			3410.00	31.00 Bottom Packers & Anchor

**Total Tool Length: 51.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44219

**DST#: 1**

ATTN: Marc Downing

Test Start: 2011.12.03 @ 10:08:30

## 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:

73000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.95 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 0.25 ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
50.00	50%Water/50%Mud	0.419

Total Length: 50.00 ft      Total Volume: 0.419 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

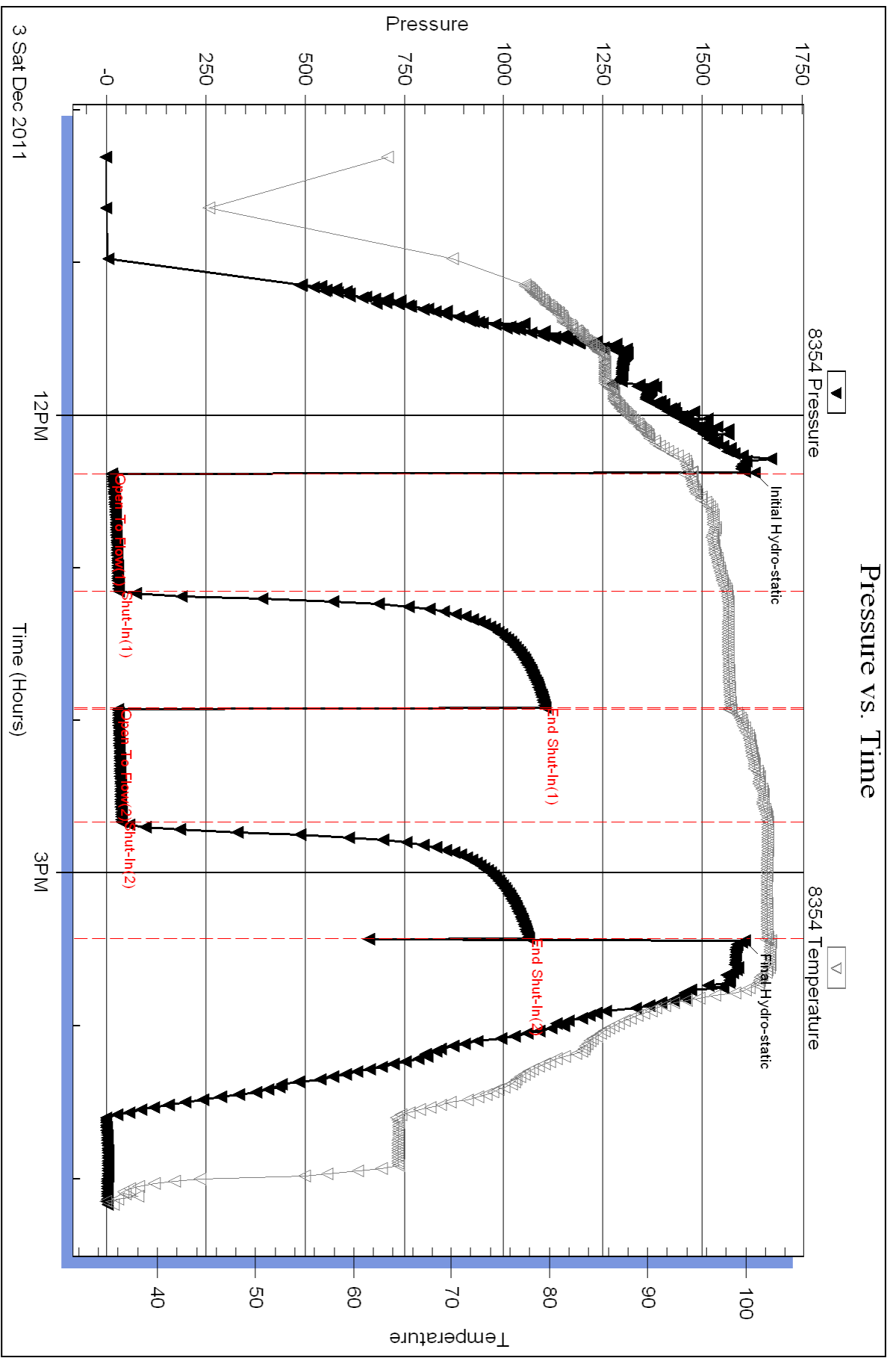
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



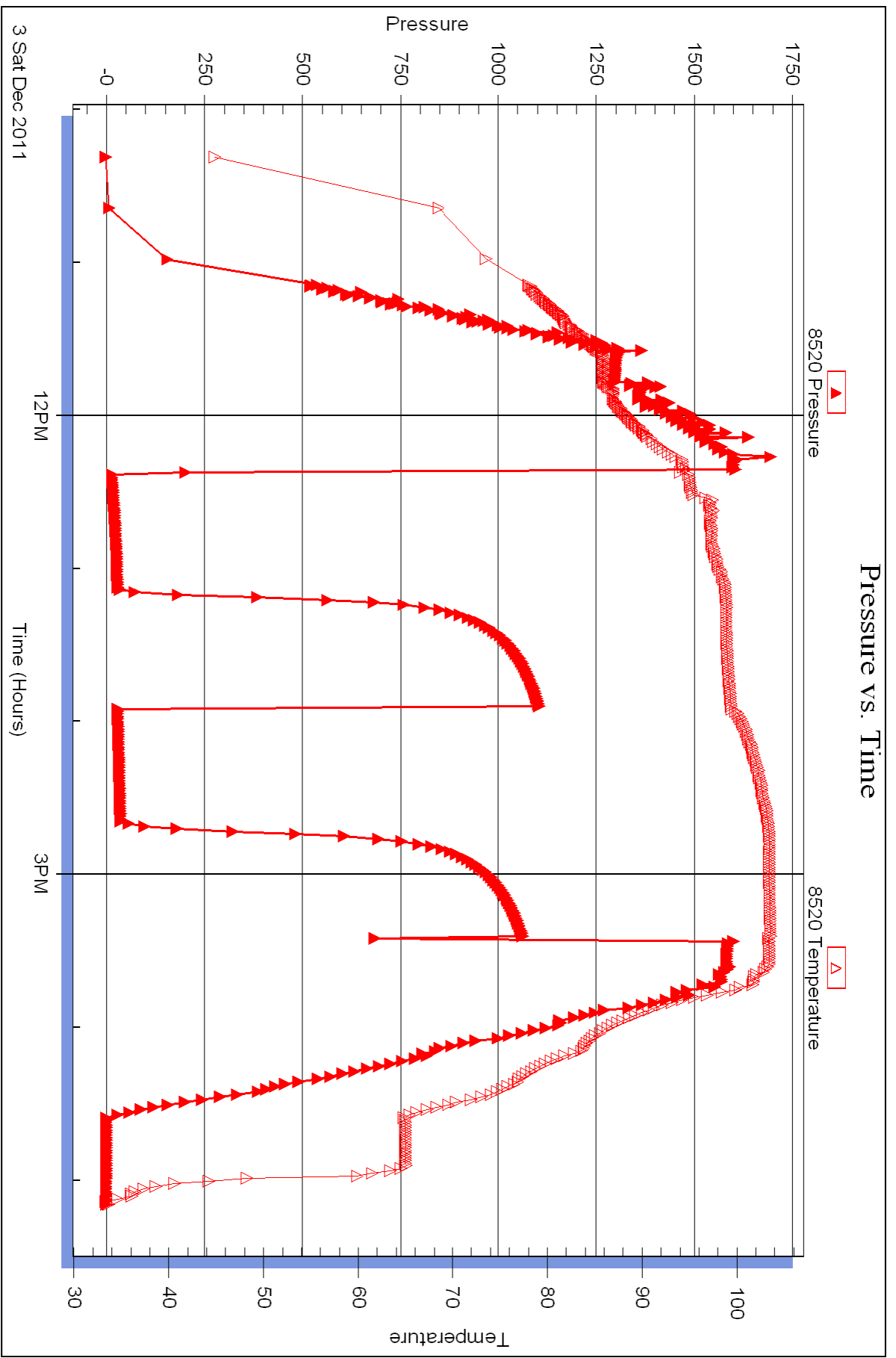


Serial #: 8520

Outside Dow nung-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 1



Triobite Testing, Inc

Ref. No: 44219

Printed: 2011.12.13 @ 16:13:49



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

**Pfannenstiel #1-12**

**12-14s-19w Ellis,KS**

Start Date: 2011.12.04 @ 05:12:30

End Date: 2011.12.04 @ 11:28:30

Job Ticket #: 44220                      DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.12.13 @ 16:13:03



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44220

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.12.04 @ 05:12:30

## GENERAL INFORMATION:

Formation: **LKC "D"**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:03:50

Time Test Ended: 11:28:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3500.00 ft (KB) To 3524.00 ft (KB) (TVD)**

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3524.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8354**

**Inside**

Press @ Run Depth: 19.93 psig @ 3501.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.04

End Date:

2011.12.04

Last Calib.:

2011.12.04

Start Time: 05:22:30

End Time:

11:28:30

Time On Btm:

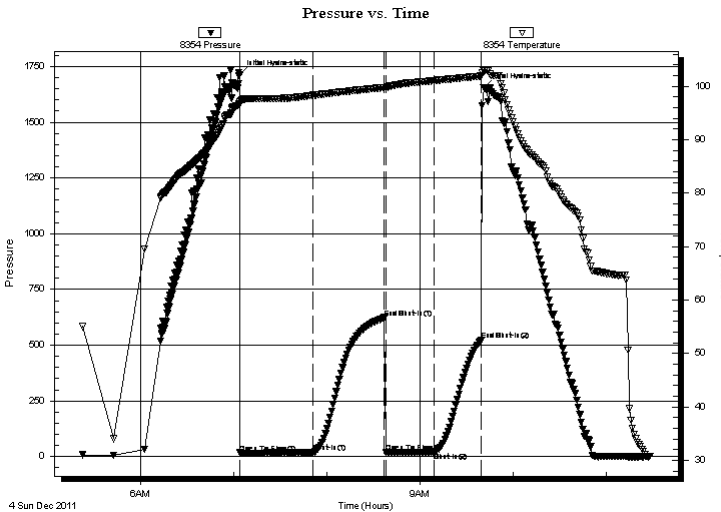
2011.12.04 @ 07:03:40

Time Off Btm:

2011.12.04 @ 09:41:00

**TEST COMMENT:** IF-Very weak building blow. Built to 1 & 1/4 inch. Died to 1/2 inch.  
IS-No Return.  
FF-Very weak surface blow. Died @ 18 minutes.  
FS-No Return.

## PRESSURE SUMMARY



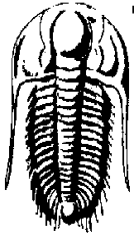
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1714.19	97.08	Initial Hydro-static
1	16.71	96.52	Open To Flow (1)
48	17.87	98.30	Shut-In(1)
94	623.27	99.75	End Shut-In(1)
95	18.76	99.70	Open To Flow (2)
126	19.93	101.02	Shut-In(2)
156	524.18	101.88	End Shut-In(2)
158	1656.59	102.81	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
20.00	100%Mud	0.10

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

12-14s-19w Ellis, KS

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44220

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.12.04 @ 05:12:30

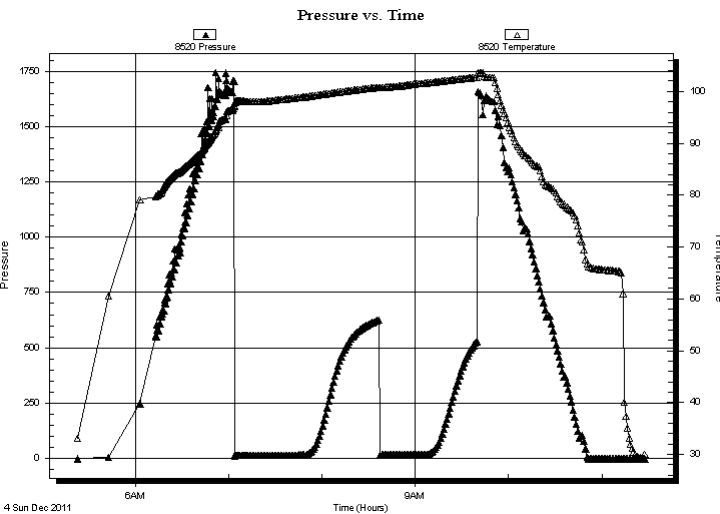
### GENERAL INFORMATION:

Formation: **LKC "D"**  
 Deviated: No Whipstock: ft (KB)  
 Test Type: Conventional Bottom Hole (Initial)  
 Time Tool Opened: 07:03:50  
 Tester: Dustin Rash  
 Time Test Ended: 11:28:30  
 Unit No: 38  
**Interval: 3500.00 ft (KB) To 3524.00 ft (KB) (TVD)**  
 Reference Elevations: 2159.00 ft (KB)  
 Total Depth: 3524.00 ft (KB) (TVD)  
 2151.00 ft (CF)  
 Hole Diameter: 7.88 inches  
 Hole Condition: Fair  
 KB to GR/CF: 8.00 ft

**Serial #: 8520 Outside**

Press @ Run Depth:	psig @ 3501.00 ft (KB)	Capacity:	8000.00 psig
Start Date:	2011.12.04	End Date:	2011.12.04
Start Time:	05:23:00	End Time:	11:28:00
		Last Calib.:	2011.12.04
		Time On Btm:	
		Time Off Btm:	

**TEST COMMENT:** IF-Very weak building blow. Built to 1 & 1/4 inch. Died to 1/2 inch.  
 IS-No Return.  
 FF-Very weak surface blow. Died @ 18 minutes.  
 FS-No Return.



### PRESSURE SUMMARY

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

### Recovery

Length (ft)	Description	Volume (bbl)
20.00	100%Mud	0.10

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44220

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.12.04 @ 05:12:30

## Tool Information

Drill Pipe:	Length: 3454.00 ft	Diameter: 3.80 inches	Volume: 48.45 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 25000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 5000.00 lb
			<u>Total Volume: 48.60 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	5.00 ft			String Weight: Initial 46000.00 lb
Depth to Top Packer:	3500.00 ft			Final 46000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	24.00 ft			
Tool Length:	44.00 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			3481.00	
Shut In Tool	5.00			3486.00	
Hydraulic tool	5.00			3491.00	
Packer	5.00			3496.00	20.00 Bottom Of Top Packer
Packer	4.00			3500.00	
Stubb	1.00			3501.00	
Recorder	0.00	8354	Inside	3501.00	
Recorder	0.00	8520	Outside	3501.00	
Perforations	20.00			3521.00	
Bullnose	3.00			3524.00	24.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>44.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44220

**DST#: 2**

ATTN: Marc Downing

Test Start: 2011.12.04 @ 05:12:30

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.96 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 4000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
20.00	100%Mud	0.098

Total Length: 20.00 ft      Total Volume: 0.098 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8354

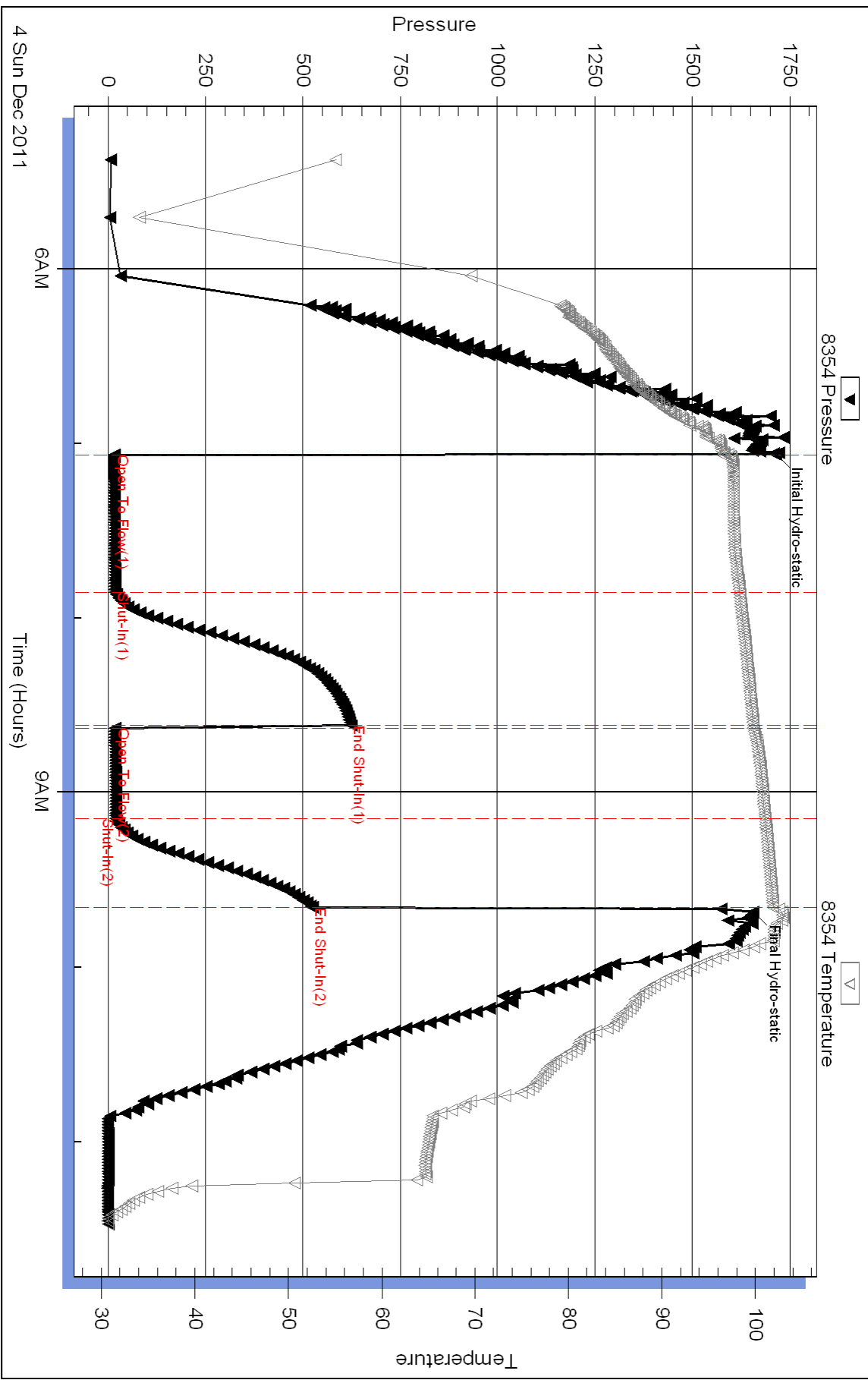
Inside

Dow nings-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 2

### Pressure vs. Time



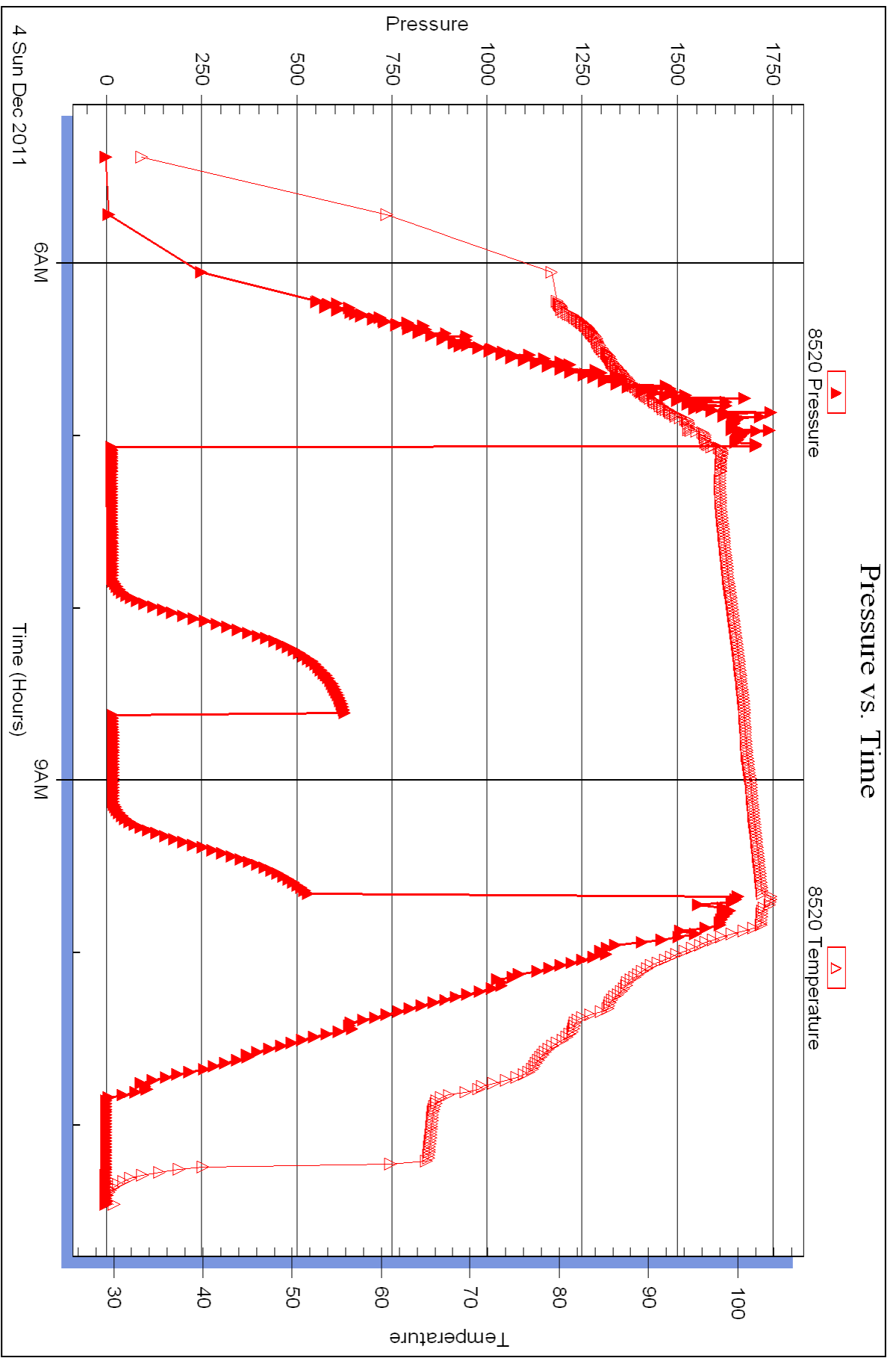


Serial #: 8520

Outside Dow nung-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 2



Triobite Testing, Inc

Ref. No: 44220

Printed: 2011.12.13 @ 16:13:06



## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

**Pfannenstiel #1-12**

**12-14s-19w Ellis,KS**

Start Date: 2011.12.05 @ 03:00:15

End Date: 2011.12.05 @ 11:58:15

Job Ticket #: 44241                      DST #: 3

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.12.13 @ 16:12:15



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

ATTN: Marc Downing

Job Ticket: 44241

**DST#: 3**

Test Start: 2011.12.05 @ 03:00:15

## GENERAL INFORMATION:

Formation: **LKC "H-K"**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 05:19:45  
 Time Test Ended: 11:58:15  
 Interval: **3573.00 ft (KB) To 3656.00 ft (KB) (TVD)**  
 Total Depth: 3656.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Fair  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Dustin Rash  
 Unit No: 38  
 Reference Elevations: 2159.00 ft (KB)  
 2151.00 ft (CF)  
 KB to GR/CF: 8.00 ft

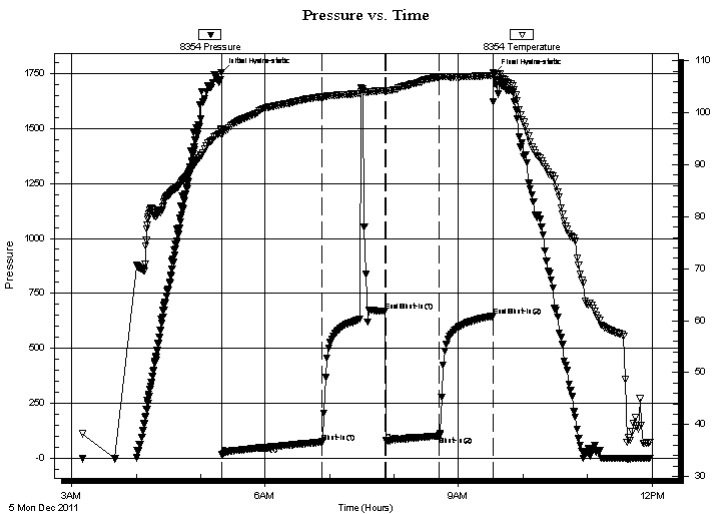
## Serial #: 8354

Inside

Press @ Run Depth: 102.77 psig @ 3643.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2011.12.05 End Date: 2011.12.05 Last Calib.: 2011.12.05  
 Start Time: 03:10:15 End Time: 11:58:15 Time On Btm: 2011.12.05 @ 05:19:15  
 Time Off Btm: 2011.12.05 @ 09:32:45

**TEST COMMENT:** IF-Very weak building blow. Built to 6 inches.  
 IS-Weak return. Built to 1 inch. Tool torqued up on shut in.  
 FF-Very weak building blow. Built to 5 inches.  
 FS-No Return.

## PRESSURE SUMMARY



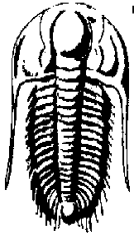
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1753.97	96.88	Initial Hydro-static
1	18.94	95.71	Open To Flow (1)
94	75.03	103.07	Shut-In(1)
153	670.67	104.32	End Shut-In(1)
154	80.11	104.20	Open To Flow (2)
203	102.77	106.93	Shut-In(2)
253	646.62	107.23	End Shut-In(2)
254	1749.24	107.49	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	50%Water/50%Mud	1.40
60.00	2%Oil/98%Mud	0.84

## Gas Rates

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



**TRILOBITE**  
**TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

ATTN: Marc Downing

Job Ticket: 44241

**DST#: 3**

Test Start: 2011.12.05 @ 03:00:15

## GENERAL INFORMATION:

Formation: **LKC "H-K"**

Deviated: No Whipstock:                      ft (KB)

Time Tool Opened: 05:19:45

Time Test Ended: 11:58:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3573.00 ft (KB) To 3656.00 ft (KB) (TVD)**

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3656.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8520 Outside**

Press@RunDepth:                      psig @ 3643.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.05 End Date: 2011.12.05

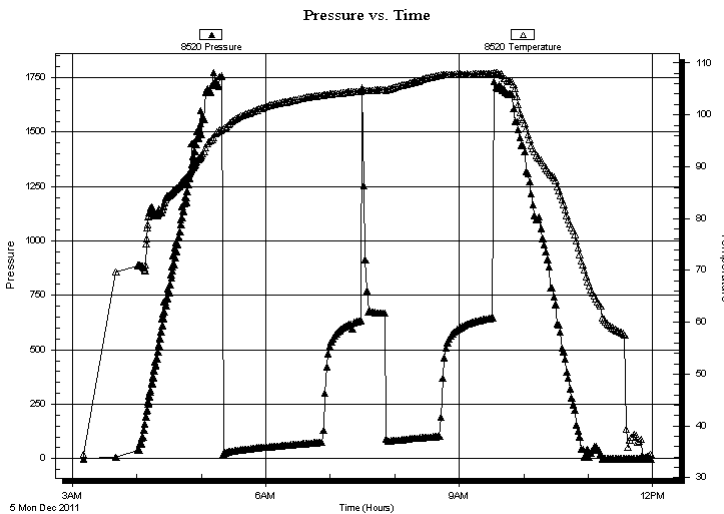
Last Calib.: 2011.12.05

Start Time: 03:10:30 End Time: 11:58:00

Time On Btm:

Time Off Btm:

**TEST COMMENT:** IF-Very weak building blow. Built to 6 inches.  
IS-Weak return. Built to 1 inch. Tool torqued up on shut in.  
FF-Very weak building blow. Built to 5 inches.  
FS-No Return.



## PRESSURE SUMMARY

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

## Recovery

Length (ft)	Description	Volume (bbl)
120.00	50%Water/50%Mud	1.40
60.00	2%Oil/98%Mud	0.84

## Gas Rates

	Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)
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**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44241

**DST#: 3**

ATTN: Marc Downing

Test Start: 2011.12.05 @ 03:00:15

## Tool Information

Drill Pipe:	Length: 3552.00 ft	Diameter: 3.80 inches	Volume: 49.83 bbl	Tool Weight: 2000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 31.00 ft	Diameter: 2.25 inches	Volume: 0.15 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 49.98 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 48000.00 lb
Depth to Top Packer:	3573.00 ft			Final 48000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	83.00 ft			
Tool Length:	103.00 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			3554.00	
Shut In Tool	5.00			3559.00	
Hydraulic tool	5.00			3564.00	
Packer	5.00			3569.00	20.00 Bottom Of Top Packer
Packer	4.00			3573.00	
Stubb	1.00			3574.00	
Perforations	5.00			3579.00	
Change Over Sub	1.00			3580.00	
Drill Pipe	62.00			3642.00	
Change Over Sub	1.00			3643.00	
Recorder	0.00	8354	Inside	3643.00	
Recorder	0.00	8520	Outside	3643.00	
Perforations	10.00			3653.00	
Bullnose	3.00			3656.00	83.00 Bottom Packers & Anchor

**Total Tool Length: 103.00**



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44241

**DST#: 3**

ATTN: Marc Downing

Test Start: 2011.12.05 @ 03:00:15

## 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:

13000 ppm

Viscosity: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 7.97 in<sup>3</sup>

Gas Cushion Type:

Resistivity: 1.20 ohm.m

Gas Cushion Pressure:

psig

Salinity: 5000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbbl
120.00	50%Water/50%Mud	1.401
60.00	2%Oil/98%Mud	0.842

Total Length: 180.00 ft      Total Volume: 2.243 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: Tool torqued up hard on first shut in.

Serial #: 8354

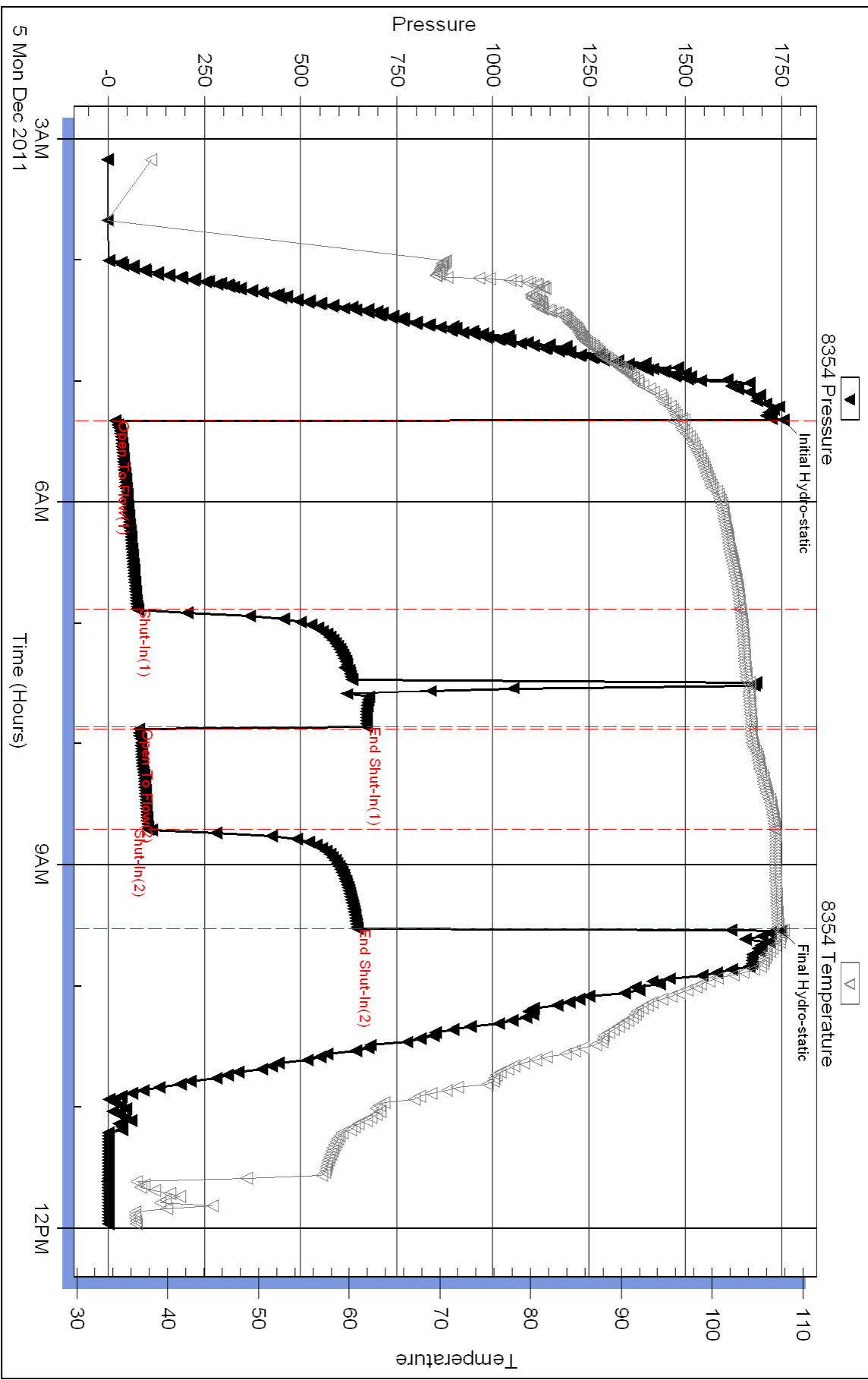
Inside

Dow nung-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 3

### Pressure vs. Time



Triobite Testing, Inc

Ref. No: 44241

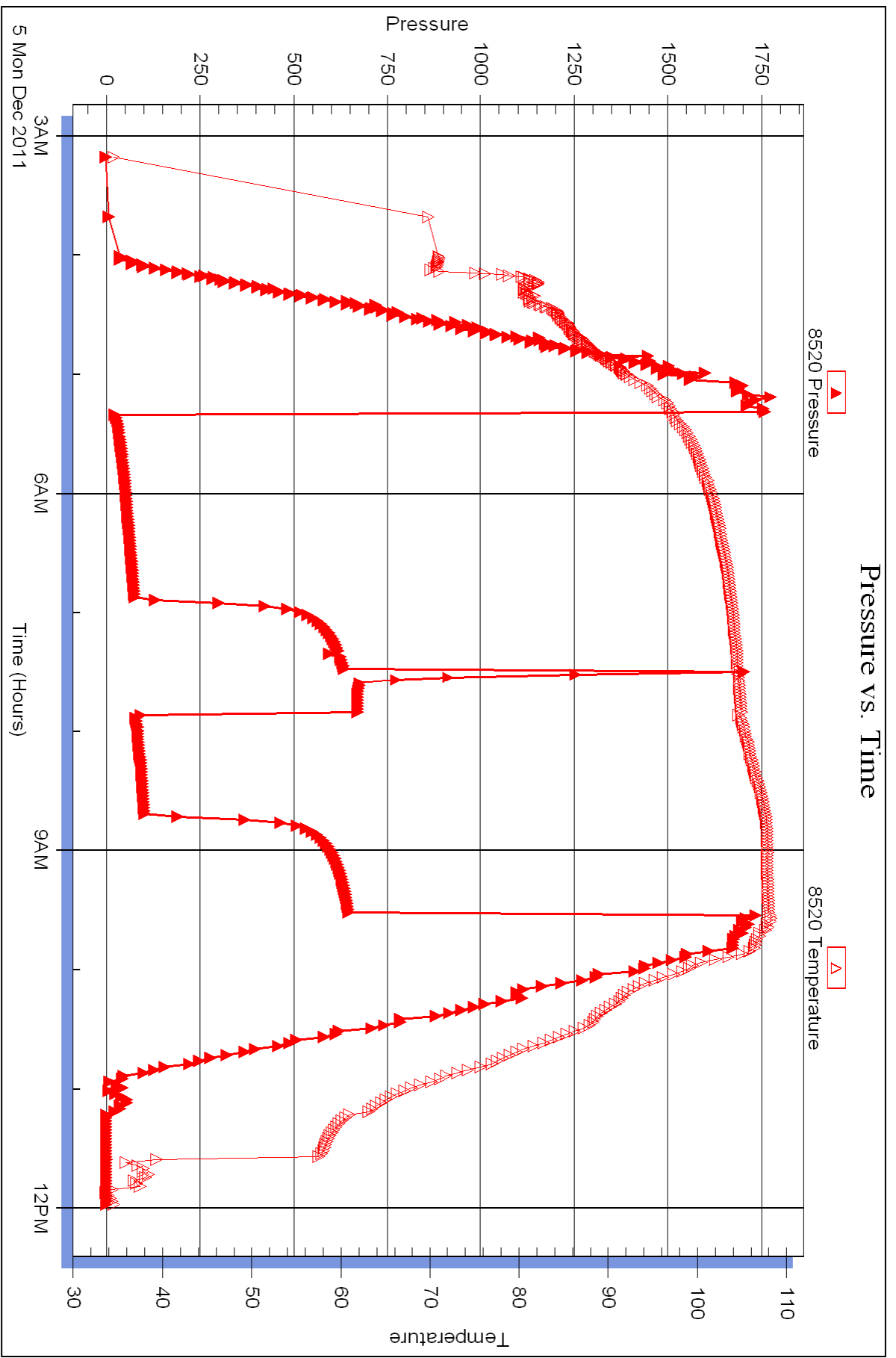
Printed: 2011.12.13 @ 16:12:17

Serial #: 8520

Outside Dow nging-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 3



Triobite Testing, Inc

Ref. No: 44241

Printed: 2011.12.13 @ 16:12:17





## DRILL STEM TEST REPORT

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

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

**Pfannenstiel #1-12**

**12-14s-19w Ellis,KS**

Start Date: 2011.12.06 @ 13:34:15

End Date: 2011.12.06 @ 20:40:15

Job Ticket #: 44222                      DST #: 4

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

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

Printed: 2011.12.13 @ 16:08:36



**TRILOBITE TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

ATTN: Marc Downing

Job Ticket: 44222

**DST#: 4**

Test Start: 2011.12.06 @ 13:34:15

## GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:19:35

Time Test Ended: 20:40:15

Test Type: Conventional Straddle (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3413.00 ft (KB) To 3443.00 ft (KB) (TVD)**

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3894.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8354 Inside**

Press @ Run Depth: 33.54 psig @ 3414.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.06

End Date: 2011.12.06

Last Calib.: 2011.12.06

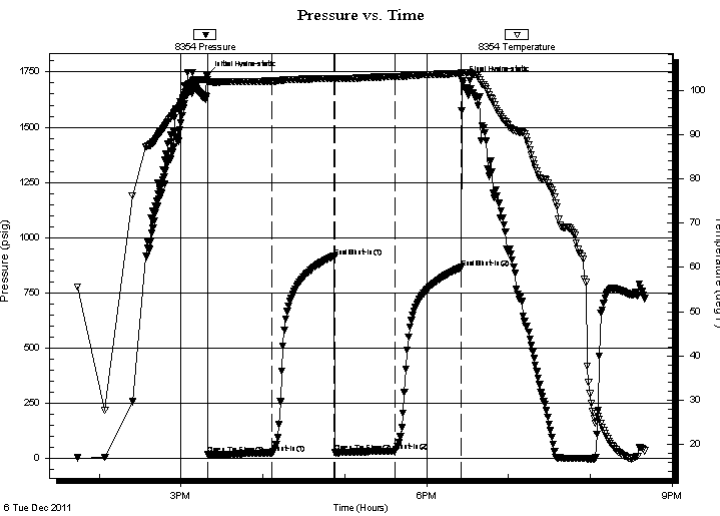
Start Time: 13:44:15

End Time: 20:40:15

Time On Btm: 2011.12.06 @ 15:19:25

Time Off Btm: 2011.12.06 @ 18:26:15

**TEST COMMENT:** IF-Very weak building blow . Built to 4 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 1 & 1/2 inches. Died to 1 inch.  
FS-No Return.



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1736.17	102.35	Initial Hydro-static
1	20.12	101.70	Open To Flow (1)
48	25.43	102.05	Shut-In(1)
93	913.98	102.66	End Shut-In(1)
94	28.87	102.43	Open To Flow (2)
138	33.54	103.03	Shut-In(2)
186	864.90	103.71	End Shut-In(2)
187	1712.36	104.00	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
45.00	1%Oil/99%Mud	0.63

## Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

PO Box 1019  
Hays, KS 67601

ATTN: Marc Downing

**12-14s-19w Ellis,KS**

**Pfannenstiel #1-12**

Job Ticket: 44222

**DST#: 4**

Test Start: 2011.12.06 @ 13:34:15

**GENERAL INFORMATION:**

Formation: **Topeka**

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

Time Tool Opened: 15:19:35

Time Test Ended: 20:40:15

**Interval: 3413.00 ft (KB) To 3443.00 ft (KB) (TVD)**

Total Depth: 3894.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Fair

Test Type: Conventional Straddle (Initial)

Tester: Dustin Rash

Unit No: 38

Reference Elevations: 2159.00 ft (KB)

2151.00 ft (CF)

KB to GR/CF: 8.00 ft

**Serial #: 8520 Outside**

Press @RunDepth: psig @ 3414.00 ft (KB)

Start Date: 2011.12.06

End Date: 2011.12.06

Start Time: 13:44:45

End Time: 20:39:45

Capacity: 8000.00 psig

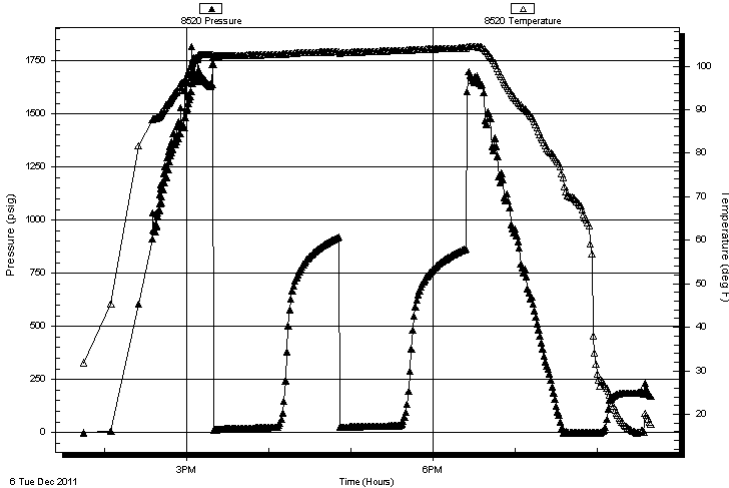
Last Calib.: 2011.12.06

Time On Btm

Time Off Btm

**TEST COMMENT:** IF-Very weak building blow . Built to 4 inches.  
 IS-No Return.  
 FF-Very weak building blow . Built to 1 & 1/2 inches. Died to 1 inch.  
 FS-No Return.

Pressure vs. Time



**PRESSURE SUMMARY**

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

**Recovery**

Length (ft)	Description	Volume (bbl)
45.00	1%Oil/99%Mud	0.63

**Gas Rates**

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



**TRILOBITE  
TESTING, INC**

## DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44222

**DST#: 4**

ATTN: Marc Downing

Test Start: 2011.12.06 @ 13:34:15

### GENERAL INFORMATION:

Formation: **Topeka**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 15:19:35

Time Test Ended: 20:40:15

Test Type: Conventional Straddle (Initial)

Tester: Dustin Rash

Unit No: 38

**Interval: 3413.00 ft (KB) To 3443.00 ft (KB) (TVD)**

Reference Elevations: 2159.00 ft (KB)

Total Depth: 3894.00 ft (KB) (TVD)

2151.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Fair

KB to GR/CF: 8.00 ft

**Serial #: 8653 Below (Straddle)**

Press @ Run Depth: psig @ 3448.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2011.12.06

End Date: 2011.12.06

Last Calib.: 2011.12.06

Start Time: 13:44:45

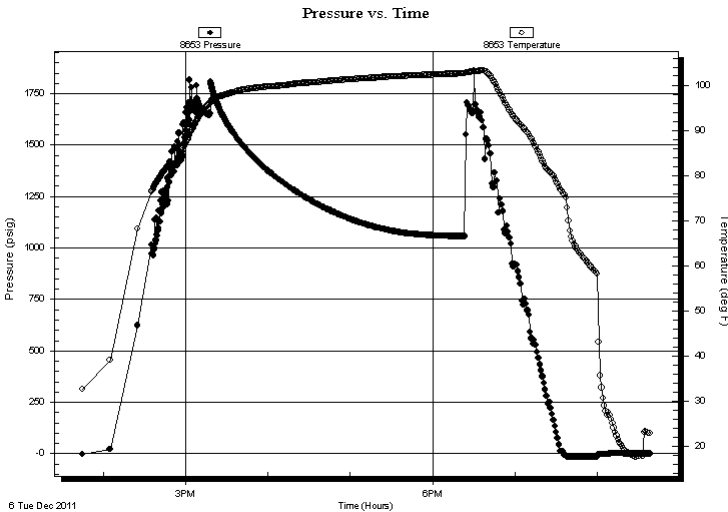
End Time: 20:38:15

Time On Btm

Time Off Btm

**TEST COMMENT:** IF-Very weak building blow . Built to 4 inches.  
IS-No Return.  
FF-Very weak building blow . Built to 1 & 1/2 inches. Died to 1 inch.  
FS-No Return.

### PRESSURE SUMMARY



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

### Recovery

Length (ft)	Description	Volume (bbl)
45.00	1%Oil/99%Mud	0.63

### Gas Rates

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



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**TOOL DIAGRAM**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis, KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44222

**DST#: 4**

ATTN: Marc Downing

Test Start: 2011.12.06 @ 13:34:15

## Tool Information

Drill Pipe:	Length: 3423.00 ft	Diameter: 3.80 inches	Volume: 48.02 bbl	Tool Weight: 3000.00 lb
Heavy Wt. Pipe:	Length: 0.00 ft	Diameter: 2.70 inches	Volume: 0.00 bbl	Weight set on Packer: 28000.00 lb
Drill Collar:	Length: 0.00 ft	Diameter: 2.25 inches	Volume: 0.00 bbl	Weight to Pull Loose: 10000.00 lb
			<u>Total Volume: 48.02 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	30.00 ft			String Weight: Initial 58000.00 lb
Depth to Top Packer:	3413.00 ft			Final 58000.00 lb
Depth to Bottom Packer:	3443.00 ft			
Interval between Packers:	30.00 ft			
Tool Length:	504.00 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			3394.00	
Shut In Tool	5.00			3399.00	
Hydraulic tool	5.00			3404.00	
Packer	5.00			3409.00	20.00 Bottom Of Top Packer
Packer	4.00			3413.00	
Stubb	1.00			3414.00	
Recorder	0.00	8354	Inside	3414.00	
Recorder	0.00	8520	Outside	3414.00	
Perforations	25.00			3439.00	
Blank Off Sub	1.00			3440.00	
Blank Spacing	3.00			3443.00	30.00 Tool Interval
Packer	2.00			3445.00	
Stubb	1.00			3446.00	
Perforations	1.00			3447.00	
Change Over Sub	1.00			3448.00	
Recorder	0.00	8653	Below	3448.00	
Drill Pipe	353.00			3801.00	
Drill Collar	90.00			3891.00	
Change Over Sub	1.00			3892.00	
Perforations	2.00			3894.00	
Bullnose	3.00			3897.00	454.00 Bottom Packers & Anchor
<b>Total Tool Length:</b>	<b>504.00</b>				



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

Downing-Nelson Oil Co., Inc.

**12-14s-19w Ellis,KS**

PO Box 1019  
Hays, KS 67601

**Pfannenstiel #1-12**

Job Ticket: 44222

**DST#: 4**

ATTN: Marc Downing

Test Start: 2011.12.06 @ 13:34:15

## 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: 48.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 8.78 in<sup>3</sup>

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: 6000.00 ppm

Filter Cake: inches

## Recovery Information

Recovery Table

Length ft	Description	Volume bbl
45.00	1%Oil/99%Mud	0.631

Total Length: 45.00 ft      Total Volume: 0.631 bbl

Num Fluid Samples: 0

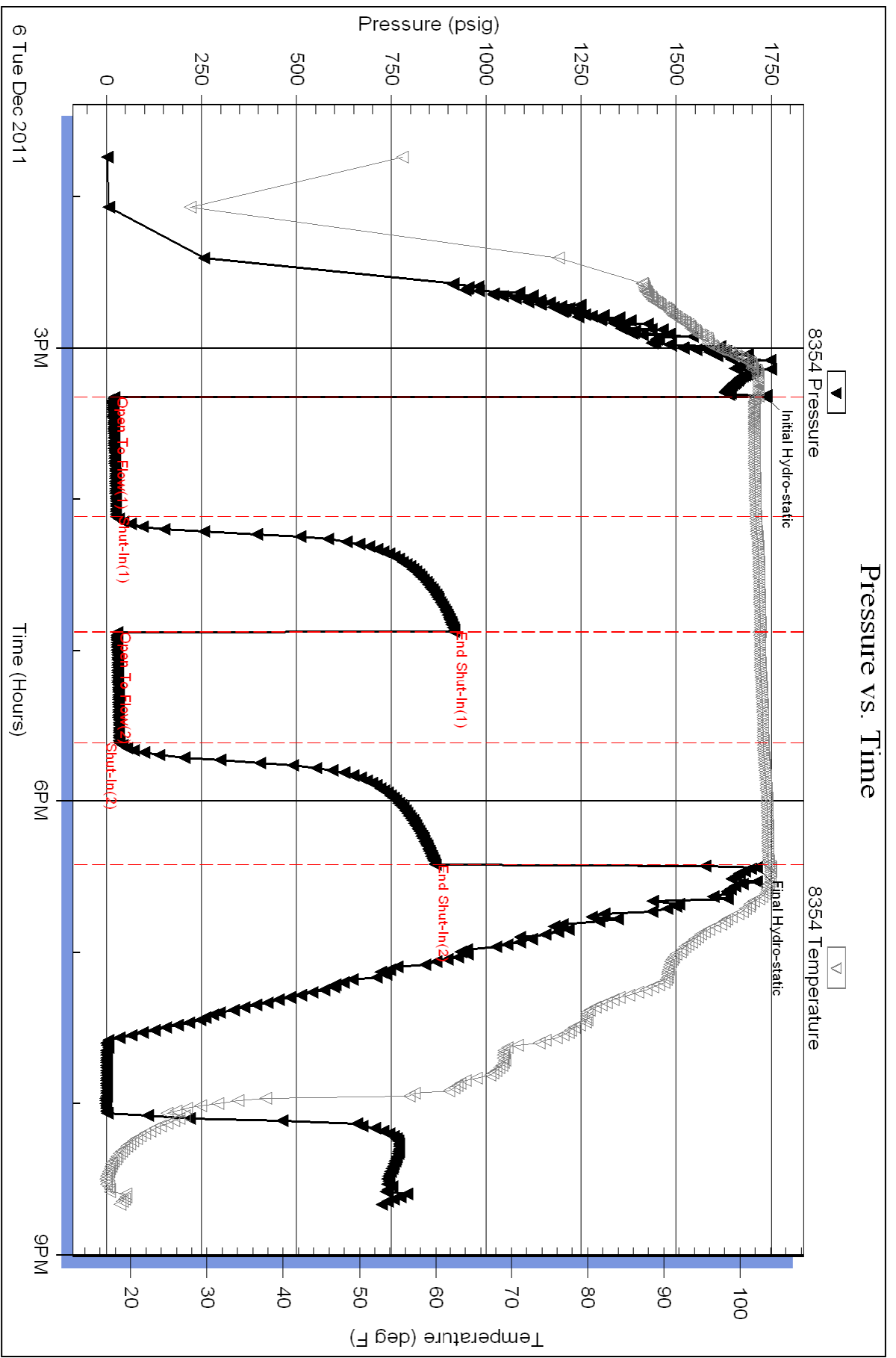
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

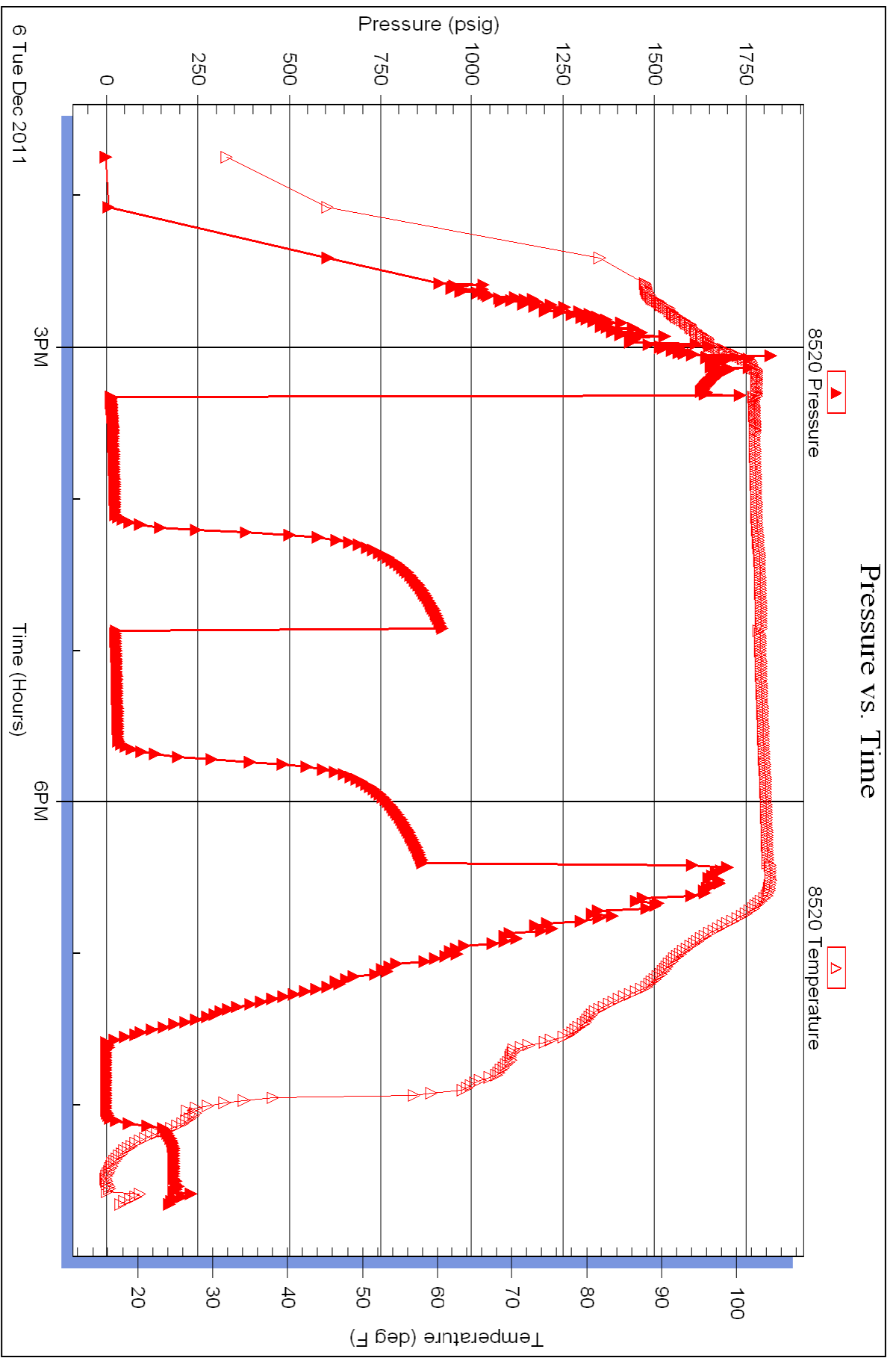


Serial #: 8520

Outside Dow nung-Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 4



Triobite Testing, Inc

Ref. No: 44222

Printed: 2011.12.13 @ 16:08:40

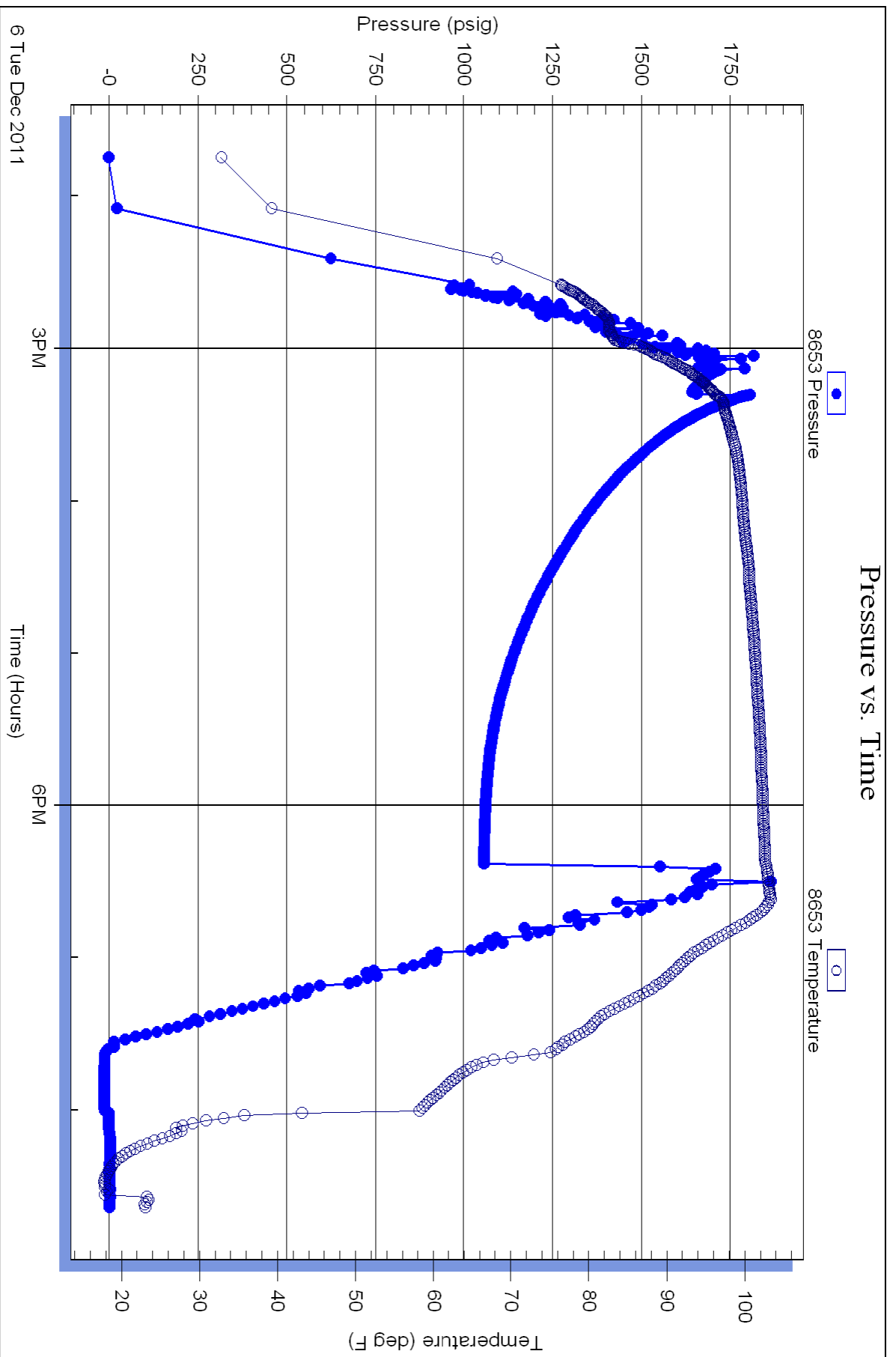


Serial #: 8653

Below (Straburg) - Nelson Oil Co., Inc.

Pfannenstiel #1-12

DST Test Number: 4





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
DEC 13 2011

## Test Ticket

NO. 44219

4/10

BY: \_\_\_\_\_

Well Name & No. Plannersiel #1-12 Test No. 2 Date 12-3-11  
 Company Downing-Nelson Oil Co., Inc. Elevation 2159 KB 2151 GL  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Mark Downing Rig Discovery 3  
 Location: Sec. 12 Twp. 14S Rge. 19W Co. Ellis State KS

Interval Tested 3379 3410 Zone Tested Plattsmouth  
 Anchor Length 31' Drill Pipe Run 3359 Mud Wt. 8.9  
 Top Packer Depth 3374 Drill Collars Run 31.54 Vis 48  
 Bottom Packer Depth 3379 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3410 Chlorides 4000 ppm System LCM 2#

Blow Description IF - Very weak building blow. Built to 2 1/2 inches.  
IST - No Return.  
FF - Very weak building blow. Built to 2 inches.  
FST - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>50</u>	<u>Muddy Water</u>		<u>50</u>		<u>50</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 50 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW 1253 @ 31 °F Chlorides 73000 ppm

(A) Initial Hydrostatic 1631  Test 1125 T-On Location 0830  
 (B) First Initial Flow 14  Jars \_\_\_\_\_ T-Started 1015  
 (C) First Final Flow 32  Safety Joint \_\_\_\_\_ T-Open 1224  
 (D) Initial Shut-In 1105  Circ Sub \_\_\_\_\_ T-Pulled 1525  
 (E) Second Initial Flow 30  Hourly Standby \_\_\_\_\_ T-Out 1715  
 (F) Second Final Flow 38  Mileage 4x2 11:20 Comments BWT-1008  
 (G) Final Shut-In 1064  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1606  Straddle \_\_\_\_\_  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 45  
 Final Shut-In 45  
 Sub Total 1136.20  
 Total 1136.20  
 MP/DST Disc't \_\_\_\_\_  
 Our Representative D. Rash





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
DEC 13 2011

## Test Ticket

NO. 44220

BY: \_\_\_\_\_

Well Name & No. Prannenstiel #1-12 Test No. 2 Date 12-4-11  
 Company Downing-Nelson Oil Co., Inc. Elevation 2159 KB 2151 GL  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Marc Downing Rig Discovery 3  
 Location: Sec. 12 Twp. 14S Rge. 19W Co. Ellis State KS

Interval Tested 3500-3524 Zone Tested LKC "D"  
 Anchor Length 24' Drill Pipe Run 34.54 Mud Wt. 8.9  
 Top Packer Depth 3495 Drill Collars Run 31.54 Vis 48  
 Bottom Packer Depth 3500 Wt. Pipe Run 0 WL 8.0  
 Total Depth 3524 Chlorides 4000 ppm System LCM 2#  
 Blow Description IF - Very weak budding flow. Burst to 1 1/4 inch. Died to 1/2 inch.  
FSI - No Return.  
FF - Very weak surface flow. Died @ 18 minutes.  
FSI - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>20</u>	<u>Mud</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 20 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

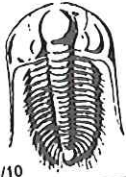
(A) Initial Hydrostatic 1714  Test 1125 T-On Location 0345  
 (B) First Initial Flow 17  Jars \_\_\_\_\_ T-Started 0515  
 (C) First Final Flow 18  Safety Joint \_\_\_\_\_ T-Open 0705  
 (D) Initial Shut-In 623  Circ Sub \_\_\_\_\_ T-Pulled 0935  
 (E) Second Initial Flow 19  Hourly Standby \_\_\_\_\_ T-Out 1130  
 (F) Second Final Flow 20  Mileage 4X2 11.20 Comments Best-0512  
 (G) Final Shut-In 524  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1657  Straddle \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Extra Recorder \_\_\_\_\_  
 Day Standby \_\_\_\_\_  
 Accessibility \_\_\_\_\_

Initial Open 45  
 Initial Shut-In 45  
 Final Flow 30  
 Final Shut-In 30

Sub Total 1136.20 Total 1136.20  
 MP/DST Disc't \_\_\_\_\_

Approved By \_\_\_\_\_ Our Representative D. Rash  
 TriLOBITE TESTING INC. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the use of its equipment, or its statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
DEC 13 2011

Test Ticket

NO. 44221

BY: \_\_\_\_\_

Well Name & No. Pfannerstiel #1-12 Test No. 3 Date 12-5-11  
 Company Downing-Nelson Oil Co., Inc. Elevation 2159 KB 2151 GL  
 Address P.O. Box 1019 Hays, KS 67601 Rig Discovery 3  
 Co. Rep / Geo. Marc Downing Rge. 19W Co. Ellis State KS  
 Location: Sec. 12 Twp. 14S

Interval Tested 3573-3656 Zone Tested LKC "H-K" Mud Wt. 8.9  
 Anchor Length 83' Drill Pipe Run 3552 Vis 48  
 Top Packer Depth ~~3551~~ 3568 Drill Collars Run 31.54 WL 8.0  
 Bottom Packer Depth ~~3556~~ 3573 Wt. Pipe Run 0 LCM 2#  
 Total Depth 3656 Chlorides 5000 ppm System

Blow Description VF - Very weak building blow, Built to 6 inches,  
VF - Weak return, Built to 1 inch. Tool fouled up on shut-in,  
FF - Very weak building blow, Built to 5 inches,

FST - No Return,  
 Rec 60 Feet of USOCM %gas 2 %oil %water 98 %mud  
 Rec 120 Feet of Muddy Water %gas %oil 50 %water 50 %mud  
 Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water %mud  
 Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water %mud  
 Rec \_\_\_\_\_ Feet of \_\_\_\_\_ %gas %oil %water %mud

Rec Total 180 BHT \_\_\_\_\_ Gravity 1125 API RW 120 @ 20 °F Chlorides 13000 PF  
 (A) Initial Hydrostatic 1754  Test  
 (B) First Initial Flow 19  Jars  
 (C) First Final Flow 75  Safety Joint  
 (D) Initial Shut-In 671  Circ Sub  
 (E) Second Initial Flow 80  Hourly Standby 1/2 hr 50  
 (F) Second Final Flow 103  Mileage 4x2 11.20  
 (G) Final Shut-In 647  Sampler  
 (H) Final Hydrostatic 1749  Straddle  
 Shale Packer  
 Extra Packer  
 Extra Recorder  
 Day Standby  
 Accessibility

Initial Open ~~45~~ 90  Ruined Shale Packer  
 Initial Shut-In 45  Ruined Packer  
 Final Flow 45  Extra Copies  
 Final Shut-In 45 Sub Total 0  
 Total 1161.20  
 MP/DST Disc't \_\_\_\_\_  
 Our Representative D. Rash

Approved By \_\_\_\_\_  
 Trilobite Testing Inc. shall not be liable for damaged of any kind of the property or personnel of the one for whom a test is made, or for any loss suffered or sustained, directly or indirectly, through the statements or opinion concerning the results of any test, tools lost or damaged in the hole shall be paid for at cost by the party for whom the test is made.





# TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

RECEIVED  
DEC 13 2011

## Test Ticket

NO. 44222

4/10

BY:

Well Name & No. Pfannenstiel # 1-12 Test No. 4 Date 12-6-11  
 Company Downing-Nelson Oil Co, Inc. Elevation 2159 KB 2151 GL  
 Address P.O. Box 1019 Hays, KS 67601  
 Co. Rep / Geo. Male Downing Rig Discovery 3  
 Location: Sec. 12 Twp. 14S. Rge. 19W. Co. Ellis State KS

Interval Tested 3413-3443 Zone Tested Toman  
 Anchor Length 30' 451' TP Drill Pipe Run \_\_\_\_\_ Mud Wt. 8.9  
 Top Packer Depth 3408 Drill Collars Run 93 Vis 48  
 Bottom Packer Depth 3413 3443 SP Wt. Pipe Run 0 WL 8.8  
 Total Depth 3894 Chlorides 6000 ppm System LCM 1.5#

Blow Description IF - Very weak building blow. Bust to 4 inches.  
ISF - No Return.  
FF - Very weak building blow. Bust to 1 1/2 inches. Died off to track.  
FST - No Return.

Rec	Feet of	%gas	%oil	%water	%mud
<u>45</u>	<u>Mud w/ Oil Specs</u>		<u>1</u>		<u>99</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 45 BHT \_\_\_\_\_ Gravity \_\_\_\_\_ API RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm

(A) Initial Hydrostatic 1736  Test 1125' T-On Location 1200  
 (B) First Initial Flow 20  Jars \_\_\_\_\_ T-Started 1315  
 (C) First Final Flow 25  Safety Joint \_\_\_\_\_ T-Open 1520  
 (D) Initial Shut-In 914  Circ Sub \_\_\_\_\_ T-Pulled 1825  
 (E) Second Initial Flow 29  Hourly Standby \_\_\_\_\_ T-Out 2040  
 (F) Second Final Flow 34  Mileage ERT 11.20 Comments Bart-1334  
 (G) Final Shut-In 865  Sampler \_\_\_\_\_  
 (H) Final Hydrostatic 1712  Straddle 600'  Ruined Shale Packer \_\_\_\_\_  
 Shale Packer \_\_\_\_\_  Ruined Packer \_\_\_\_\_

Initial Open 45  Extra Packer \_\_\_\_\_  Extra Copies \_\_\_\_\_  
 Initial Shut-In 45  Extra Recorder \_\_\_\_\_ Sub Total 0  
 Final Flow 45  Day Standby \_\_\_\_\_ Total 1736.20  
 Final Shut-In 45  Accessibility \_\_\_\_\_ MP/DST Disc't \_\_\_\_\_  
 Sub Total 1736.20

Approved By \_\_\_\_\_ Our Representative D. Rak

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# ALLIED CEMENTING CO., LLC. 035181

Federal Tax I.D.# 20-5975804

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

SERVICE POINT:  
RUSSELL

DATE <u>12-7-11</u>	SEC <u>12</u>	TWP. <u>14S</u>	RANGE <u>19W</u>	CALLED OUT	ON LOCATION	JOB START <u>7AM</u>	JOB FINISH <u>8PM</u>
LEASE <u>HANNENSTIEL</u>	WELL # <u>1-12</u>	LOCATION <u>HAYS - 1 W. ON GOLF COURSE Rd</u>			COUNTY <u>ELLI'S</u>	STATE <u>KS</u>	
OLD OR NEW (Circle one)		<u>1/2 S. - 1 WEST THEN WEST &amp; SOUTH</u>					

CONTRACTOR <u>add3</u>	OWNER <u>INTO</u>
TYPE OF JOB <u>PTA</u>	
HOLE SIZE <u>7 7/8</u>	T.D. <u>3850</u>
CASING SIZE <u>8 3/8</u>	DEPTH <u>212</u>
TUBING SIZE	DEPTH
DRILL PIPE <u>4 1/2</u>	DEPTH <u>3850</u>
TOOL	DEPTH
PRES. MAX	MINIMUM
MEAS. LINE	SHOE JOINT
CEMENT LEFT IN CSG.	
PERFS.	
DISPLACEMENT	

CEMENT		
AMOUNT ORDERED <u>245</u>		
COMMON <u>245</u>	@ <u>16.25</u>	<u>3981.25</u>
POZMIX	@	
GEL <u>9</u>	@ <u>21.25</u>	<u>191.25</u>
CHLORIDE	@	
ASC	@	
<u>FLO-SEAL 65</u>	@ <u>2.70</u>	<u>175.5</u>
	@	
	@	
	@	
	@	
	@	
HANDLING <u>256.5</u>	@ <u>2.25</u>	<u>577.13</u>
MILEAGE <u>35 x 256.5 x .11</u>		<u>987.35</u>
		<u>TOTAL 5912.48</u>

**EQUIPMENT**

PUMP TRUCK	CEMENTER <u>Bob Smith</u>
# <u>409</u>	HELPER <u>Todd</u>
BULK TRUCK	
# <u>473</u>	DRIVER <u>MaXxide Cody</u>
BULK TRUCK	
#	DRIVER

**REMARKS:**

<u>P1 - 3850 Ft 25 SK</u>
<u>P2 - 1441 Ft 25 SK</u>
<u>P3 - 700 Ft 100 SK</u>
<u>P4 - 272 Ft 40 SK</u>
<u>P5 - 40 Ft 10 SK</u>
<u>RAT - 30 SK</u>
<u>mouse - 15 SK</u>

**SERVICE**

DEPTH OF JOB <u>3850 FT</u>		
PUMP TRUCK CHARGE		<u>1250.00</u>
EXTRA FOOTAGE	@	
MILEAGE <u>35</u>	@ <u>7.00</u>	<u>245.00</u>
MANIFOLD	@	
<u>Ld V mileage 35</u>	@ <u>4.00</u>	<u>140.00</u>
<u>WTTM 3</u>	@ <u>300</u>	<u>900.00</u>
		<u>TOTAL 2535.00</u>

CHARGE TO: DOWNING NELSON  
STREET \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**PLUG & FLOAT EQUIPMENT**

<u>1 wooden PLUG</u>	@ <u>92.00</u>	<u>92.00</u>
	@	
	@	
	@	
	@	
		<u>TOTAL 92.00</u>

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.

SALES TAX (If Any) \_\_\_\_\_  
TOTAL CHARGES 8539.48  
DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

PRINTED NAME GAVEN GASCHER  
SIGNATURE Gaven Gascher