1099401

KANSAS CORPORATION COMMISSION
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: Alan Downing
Purchaser:

Designate Type of Completion:

- [x] New Well
- [ ] Re-Entry
- [ ] Workover

- [ ] Oil
- [ ] WSW
- [ ] SWD
- [ ] SIOW
- [ ] Gas
- [x] 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 #:

10/01/2012	10/07/2012	10/08/2012
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-195-22809-00-00
Spot Description:
SE - NE - NE - NE Sec. 31 Twp. 12 S. R. 21 [ ] East [x] West
600 Feet from [x] North / [ ] South Line of Section
270 Feet from [x] East / [ ] West Line of Section
Footages Calculated from Nearest Outside Section Corner:
[x] NE [ ] NW [ ] SE [ ] SW
County: Trego
Lease Name: Hillman-Dubach Well #: 1-31
Field Name: Wildcat
Producing Formation: None
Elevation: Ground: 2275 Kelly Bushing: 2283
Total Depth: 4048 Plug Back Total Depth: ____
Amount of Surface Pipe Set and Cemented at: 219 Feet
Multiple Stage Cementing Collar Used? [ ] Yes [x] 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: 19000 ppm Fluid volume: 400 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:
- [x] Wireline Log Received
- [x] Geologist Report Received
- [ ] UIC Distribution

ALT [ ] I [x] II [ ] III Approved by: Deanna Garrison Date: 10/31/2012

Side Two

1099401

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Hillman-Dubach Well #: 1-31

Sec. 31 Twp. 12 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 ☑ 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:
Attached

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

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used
Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface Pipe	12.25	8.625	23	219	Common	150	2% Gel & 3% CC

ADDITIONAL CEMENTING / SQUEEZE RECORD

Purpose: ___ Perforate ___ Protect Casing ___ Plug Back TD ___ Plug Off Zone	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
	-			
	-			

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

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

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

PRODUCTION INTERVAL:

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

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hillman-Dubach 1-31
Doc ID	1099401

All Electric Logs Run

Mixeo
Sonic
Dual Induction
Compensated Density/Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Hillman-Dubach 1-31
Doc ID	1099401

Tops

Name	Top	Datum
Top Anhydrite	1704'	+579
Base Anhydrite	1748'	+535
Topeka	3328'	-1045
Heebner	3550'	-1267
Toronton	3571'	-1288
LKC	3583'	-1300
BKC	3820'	-1537
Marmaton	3903'	-1620
Charokee Shale	3942'	-1659
Arbuckle	4050'	-1737

QUALITY OILWELL CEMENTING, INC.

Phone 785-483-2025
Cell 785-324-1041
Home Office P.O. Box 32 Russell, KS 67665

No. 748

Date	Sec.	Twp.	Range	County	State	On Location	Finish
10-1-12	31	12	21	trego	KS		700 pm

Lease | Well No. 1-31 | Location Ogallah 1S 1W to 370 N to KHo 1W S into

Contractor Discovery Rig 3		Owner	
Type Job Surface		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.	
Hole Size 12¼	T.D. 224	Charge To ~~Dreiling Oil~~	
Csg. 8 5/8	Depth 220	Street Downing - Nelson Oil CO Inc	
Tbg. Size	Depth	City	State
Tool	Depth	The above was done to satisfaction and supervision of owner agent or contractor.	
Cement Left in Csg.	Shoe Joint	Cement Amount Ordered 150 3%cc 2%gel	
Meas Line	Displace 12.3/4 BBL		

EQUIPMENT

	No.		
Pumptrk 5	No.	Cementer / Helper	Matt
Bulktrk 14	No.	Driver / Driver	Brett
Bulktrk pu	No.	Driver / Driver	Cody

JOB SERVICES & REMARKS

Remarks:	Common	
Rat Hole	Poz. Mix	
Mouse Hole	Gel.	
Centralizers	Calcium	
Baskets	Hulls	
D/V or Port Collar	Salt	
	Flowseal	
	Kol-Seal	
	Mud CLR 48	
	CFL-117 or CD110 CAF 38	
	Sand	
Lease Hillman - Dubach	Handling	
Cement did Circulate	Mileage	
	FLOAT EQUIPMENT	
	Guide Shoe	
	Centralizer	
	Baskets	
	AFU Inserts	
	Float Shoe	
	Latch Down	
	Pumptrk Charge	
	Mileage	
	Tax	
	Discount	
	Total Charge	

X Signature Alan [signature]

ALLIED OIL & GAS SERVICES, LLC 056550

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

SERVICE POINT: Russell KS

DATE 10-8-12	SEC. 31	TWP. 12	RANGE 21	CALLED OUT	ON LOCATION	JOB START 12:30AM	JOB FINISH 1:00AM
LEASE Hillman-Dubach	WELL # 1-31		LOCATION I-70 + Riga 15 West 1W 1N			COUNTY Trego	STATE KS
OLD OR NEW (Circle one)			1W Sinto				

CONTRACTOR Discovery #3
TYPE OF JOB PTA
HOLE SIZE 7 7/8 T.D. 4048'
CASING SIZE DEPTH
TUBING SIZE ~~4½~~ DEPTH ~~4220~~
DRILL PIPE 4½ DEPTH 4000
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.
DISPLACEMENT

OWNER

CEMENT
AMOUNT ORDERED 245 sks 60/40 4% gel
¼ #Flo

EQUIPMENT

PUMP TRUCK CEMENTER Robert Y 2
417 HELPER Woody O 2
BULK TRUCK
410 DRIVER Walter K 3
BULK TRUCK
DRIVER

COMMON	150	@ 17.90	2685.00
POZMIX	95	@ 9.35	888.25
GEL	9	@ 23.40	210.60
CHLORIDE		@	
ASC		@	
Flo-seal 62.5 #'s 2%		@ 2.97	185.63
HANDLING 264.17 sk		@ 2.48	655.13
MILEAGE 276.1543 t/m		2.60	718.01
		TOTAL	5342.62

REMARKS:

p1 25sks @ 4000
p2 25sks @ 1725
p3 100sks @ 925
p4 40sks @ 270
p5 10sks @ 40
30sks @ Rat hole
15sks @ Mouse hole

SERVICE

DEPTH OF JOB	4000'		
PUMP TRUCK CHARGE	1250.00		
EXTRA FOOTAGE		@	
MILEAGE 25 HVMI		@ 7.70	192.50
MANIFOLD		@	
25 LVMI		@ 4.40	110.00
		@	
		TOTAL	1552.50

CHARGE TO: Downing - Nelson
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

8 7/8 Wooden plug		@ 107.64	107.64
		@	
		@	
		@	
		@	
		TOTAL	107.64

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.

PRINTED NAME GALEN GASCHLER

SIGNATURE Galen Gaschler

SALES TAX (If Any) 446.18
TOTAL CHARGES 7002.76
DISCOUNT 1628.14 IF PAID IN 30 DAYS
Net 5374.62 BS 10-9
before tax

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

Hillman-Dubach #1-31

31-12s-21w Trego,KS

Start Date: 2012.10.05 @ 13:29:15
End Date: 2012.10.05 @ 19:43:45
Job Ticket #: 47941 DST #: 1

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

Printed: 2012.10.09 @ 11:38:54

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Dow ning

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47941 **DST#: 1**

Test Start: 2012.10.05 @ 13:29:15

GENERAL INFORMATION:

Formation: **LKC "A-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:41:15
Time Test Ended: 19:43:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Rash
Unit No: 38

Interval: 3578.00 ft (KB) To 3654.00 ft (KB) (TVD)
Total Depth: 3654.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

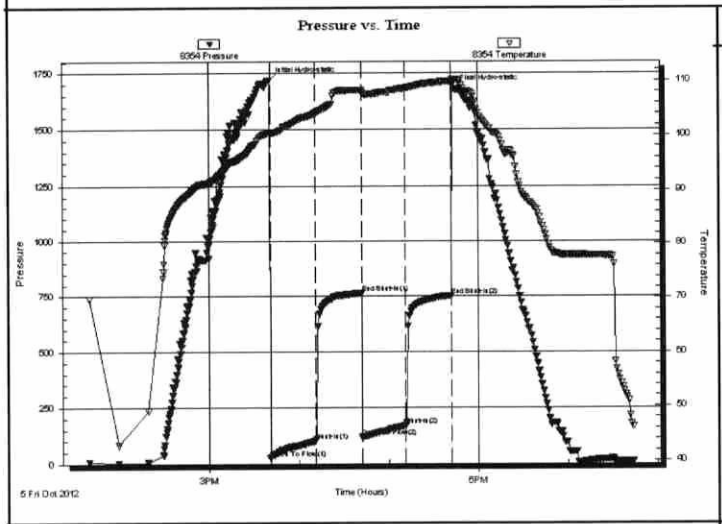
Reference Elevations: 2283.00 ft (KB)
2275.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: 169.85 psig @ 3646.00 ft (KB)
Start Date: 2012.10.05 End Date: 2012.10.05
Start Time: 13:39:15 End Time: 19:43:45

Capacity: 8000.00 psig
Last Calib.: 2012.10.05
Time On Btm: 2012.10.05 @ 15:40:45
Time Off Btm: 2012.10.05 @ 17:43:45

TEST COMMENT: IF-Fair building blow . BOB in 16 minutes 30 seconds.
ISI-No Return.
FF-Fair building blow . BOB in 20 minutes.
FSI-No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1717.58	100.45	Initial Hydro-static
1	23.81	100.18	Open To Flow (1)
31	102.62	104.02	Shut-In(1)
61	764.79	108.28	End Shut-In(1)
62	119.02	107.85	Open To Flow (2)
91	169.85	108.59	Shut-In(2)
121	753.16	109.84	End Shut-In(2)
123	1678.36	110.18	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
330.00	85%Water/15%Mud	4.36

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Dow ning

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47941 **DST#: 1**

Test Start: 2012.10.05 @ 13:29:15

GENERAL INFORMATION:

Formation: **LKC "A-D"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:41:15
Time Test Ended: 19:43:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Dustin Rash
Unit No: 38

Interval: 3578.00 ft (KB) To 3654.00 ft (KB) (TVD)
Total Depth: 3654.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

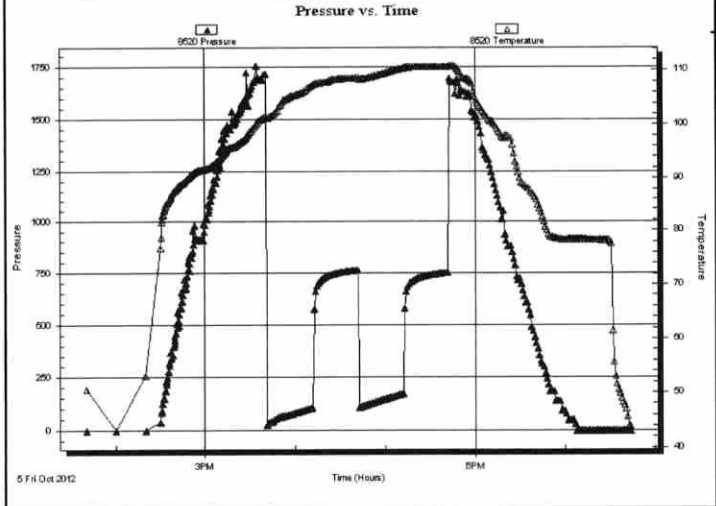
Reference Elevations: 2283.00 ft (KB)
2275.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8520 **Outside**

Press@RunDepth: psig @ 3646.00 ft (KB)
Start Date: 2012.10.05 End Date: 2012.10.05
Start Time: 13:40:15 End Time: 19:44:15

Capacity: 8000.00 psig
Last Calib.: 2012.10.05
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Fair building blow . BOB in 16 minutes 30 seconds.
ISI-No Return.
FF-Fair building blow . BOB in 20 minutes.
FSI-No Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
330.00	85%Water/15%Mud	4.36

Gas Rates

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

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

TOOL DIAGRAM

Downing-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47941 **DST#: 1**

Test Start: 2012.10.05 @ 13:29:15

Tool Information

Drill Pipe:	Length:	3551.00 ft	Diameter:	3.80 inches	Volume:	49.81 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	
					Total Volume:	49.96 bbl	

Drill Pipe Above KB:	23.00 ft
Depth to Top Packer:	3578.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	76.00 ft
Tool Length:	96.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	2000.00 lb
Weight set on Packer:	24000.00 lb
Weight to Pull Loose:	5000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	58000.00 lb
Final	60000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3559.00		
Shut In Tool	5.00			3564.00		
Hydraulic tool	5.00			3569.00		
Packer	5.00			3574.00	20.00	Bottom Of Top Packer
Packer	4.00			3578.00		
Stubb	1.00			3579.00		
Perforations	3.00			3582.00		
Change Over Sub	1.00			3583.00		
Drill Pipe	62.00			3645.00		
Change Over Sub	1.00			3646.00		
Recorder	0.00	8354	Inside	3646.00		
Recorder	0.00	8520	Outside	3646.00		
Perforations	5.00			3651.00		
Bullnose	3.00			3654.00	76.00	Bottom Packers & Anchor
Total Tool Length:	**96.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Dow ning

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47941 **DST#: 1**

Test Start: 2012.10.05 @ 13:29:15

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:	16000 ppm
Viscosity:	56.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.59 in³	Gas Cushion Type:			
Resistivity:	0.72 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	800.00 ppm				
Filter Cake:	inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
330.00	85%Water/15%Mud	4.356

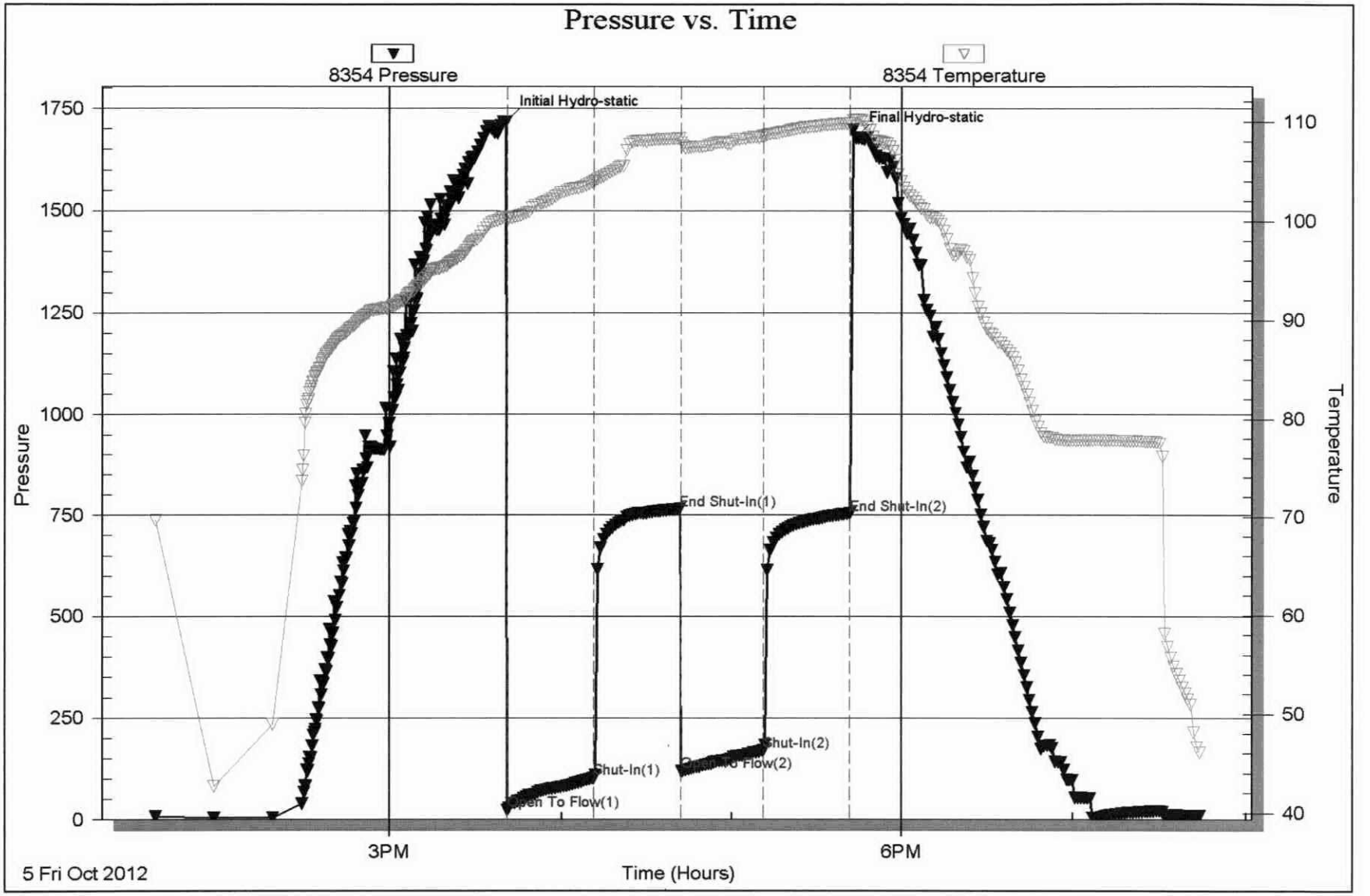
Total Length: 330.00 ft Total Volume: 4.356 bbl

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

Laboratory Name: Laboratory Location:

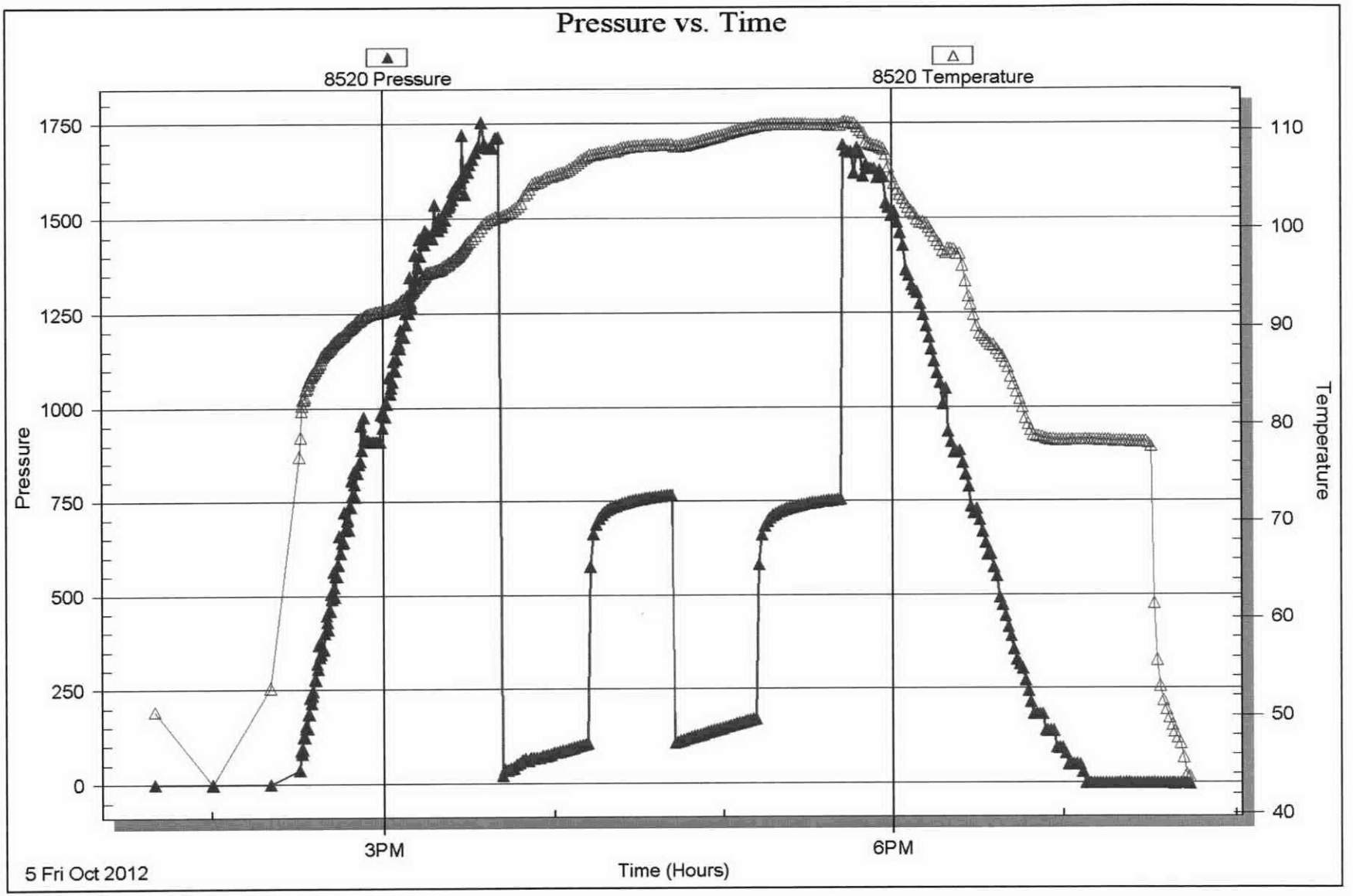
Recovery Comments:

Serial #: 8354 **Inside** Dow ning-Nelson Oil Co., Inc. Hillman-Dubach #1-31 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 47941 Printed: 2012.10.09 @ 11:38:59

Serial #: 8520 **Outside** Dow ning-Nelson Oil Co., Inc. Hillman-Dubach #1-31 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 47941 Printed: 2012.10.09 @ 11:39:00

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

Hillman-Dubach #1-31

31-12s-21w Trego,KS

Start Date: 2012.10.07 @ 11:19:15
End Date: 2012.10.07 @ 17:59:15
Job Ticket #: 47942 DST #: 2

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

Printed: 2012.10.09 @ 11:38:11

DRILL STEM TEST REPORT

Dow ning-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Dow ning

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47942 **DST#: 2**

Test Start: 2012.10.07 @ 11:19:15

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:17:25
Time Test Ended: 17:59:15

Test Type: Conventional Straddle (Initial)
Tester: Dustin Rash
Unit No: 38

Interval: 3910.00 ft (KB) To 3934.00 ft (KB) (TVD)
Total Depth: 4048.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

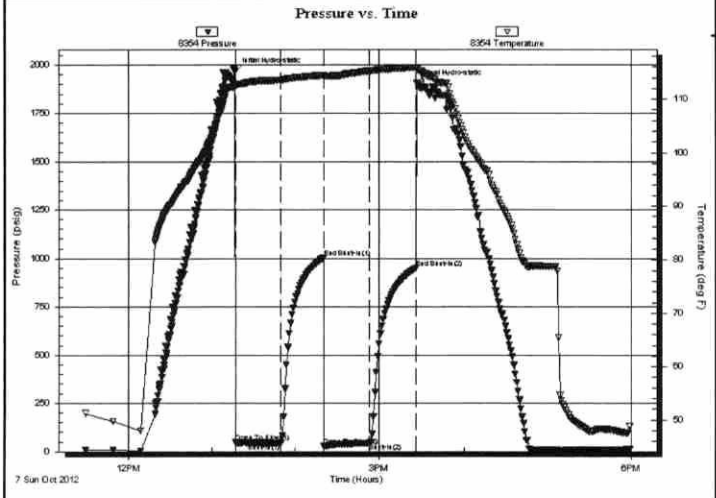
Reference Elevations: 2283.00 ft (KB)
2275.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8354 **Inside**

Press@RunDepth: 42.15 psig @ 3911.00 ft (KB)
Start Date: 2012.10.07 End Date: 2012.10.07
Start Time: 11:29:15 End Time: 17:59:15

Capacity: 8000.00 psig
Last Calib.: 2012.10.07
Time On Btm: 2012.10.07 @ 13:17:05
Time Off Btm: 2012.10.07 @ 15:26:45

TEST COMMENT: IF-Very w eak building blow . Built to 1 1/2 inches.
ISI-No Return.
FF-Very w eak surface blow throughout.
FSI-No Return.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1967.23	112.96	Initial Hydro-static
1	48.18	112.55	Open To Flow (1)
33	44.33	113.56	Shut-In(1)
64	1003.81	114.50	End Shut-In(1)
64	28.22	114.29	Open To Flow (2)
96	42.15	115.27	Shut-In(2)
129	951.63	115.91	End Shut-In(2)
130	1904.18	115.63	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
20.00	5%Water/95%Mud	0.10

Gas Rates

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

DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Downing-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47942 **DST#: 2**

Test Start: 2012.10.07 @ 11:19:15

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:17:25
Time Test Ended: 17:59:15

Test Type: Conventional Straddle (Initial)
Tester: Dustin Rash
Unit No: 38

Interval: 3910.00 ft (KB) To 3934.00 ft (KB) (TVD)
Total Depth: 4048.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

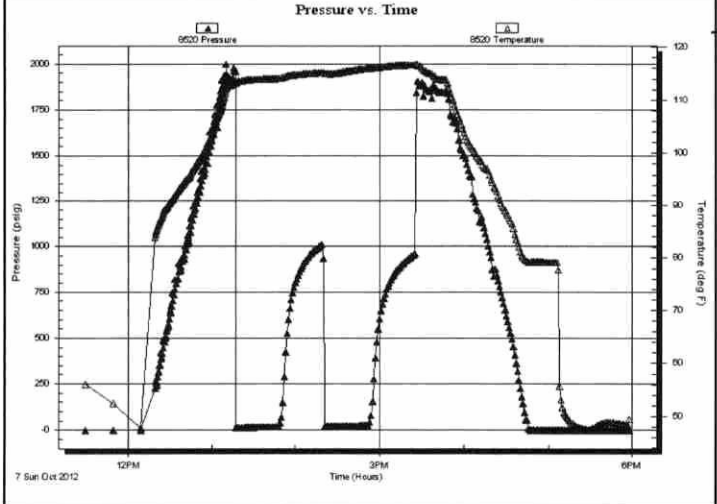
Reference Elevations: 2283.00 ft (KB)
2275.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8520 **Outside**

Press@RunDepth: psig @ 3911.00 ft (KB)
Start Date: 2012.10.07 End Date: 2012.10.07
Start Time: 11:29:30 End Time: 17:58:30

Capacity: 8000.00 psig
Last Calib.: 2012.10.07
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Very weak building blow. Built to 1 1/2 inches.
ISI-No Return.
FF-Very weak surface blow throughout.
FSI-No Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	5%Water/95%Mud	0.10

Gas Rates

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

DRILL STEM TEST REPORT

Downing-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47942 **DST#: 2**

Test Start: 2012.10.07 @ 11:19:15

GENERAL INFORMATION:

Formation: **Marmaton**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 13:17:25
Time Test Ended: 17:59:15

Test Type: Conventional Straddle (Initial)
Tester: Dustin Rash
Unit No: 38

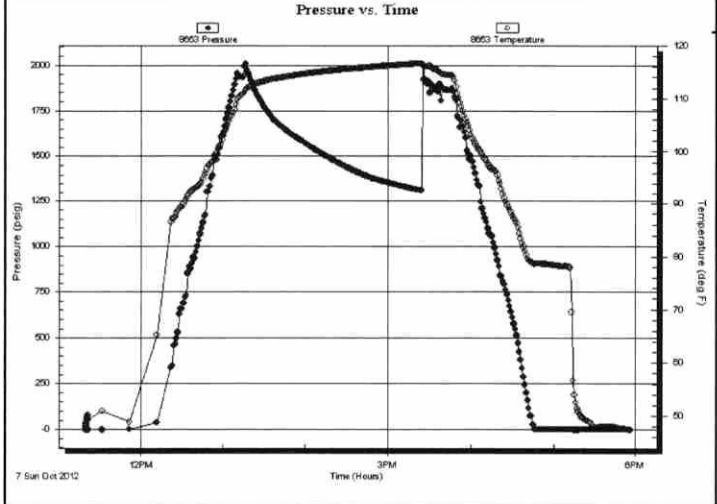
Interval: 3910.00 ft (KB) To 3934.00 ft (KB) (TVD)
Total Depth: 4048.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2283.00 ft (KB)
2275.00 ft (CF)
KB to GR/CF: 8.00 ft

Serial #: 8653 **Below (Straddle)**
Press@RunDepth: psig @ 3951.00 ft (KB)
Start Date: 2012.10.07 End Date: 2012.10.07
Start Time: 11:19:46 End Time: 17:56:15

Capacity: 8000.00 psig
Last Calib.: 2012.10.07
Time On Btm:
Time Off Btm:

TEST COMMENT: IF-Very weak building blow . Built to 1 1/2 inches.
ISI-No Return.
FF-Very weak surface blow throughout.
FSI-No Return.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
20.00	5%Water/95%Mud	0.10

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Dow ning

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47942 **DST#: 2**

Test Start: 2012.10.07 @ 11:19:15

Tool Information

Drill Pipe:	Length:	3869.00 ft	Diameter:	3.80 inches	Volume:	54.27 bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	2.70 inches	Volume:	0.00 bbl	
Drill Collar:	Length:	30.00 ft	Diameter:	2.25 inches	Volume:	0.15 bbl	
					Total Volume:	54.42 bbl	

Drill Pipe Above KB:	9.00 ft
Depth to Top Packer:	3910.00 ft
Depth to Bottom Packer:	3932.00 ft
Interval betw een Packers:	22.00 ft
Tool Length:	160.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:	3000.00 lb
Weight set on Packer:	30000.00 lb
Weight to Pull Loose:	5000.00 lb
Tool Chased	0.00 ft
String Weight: Initial	60000.00 lb
Final	60000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Change Over Sub	1.00			3891.00		
Shut In Tool	5.00			3896.00		
Hydraulic tool	5.00			3901.00		
Packer	5.00			3906.00	20.00	Bottom Of Top Packer
Packer	4.00			3910.00		
Stubb	1.00			3911.00		
Recorder	0.00	8354	Inside	3911.00		
Recorder	0.00	8520	Outside	3911.00		
Perforations	20.00			3931.00		
Blank Off Sub	1.00			3932.00	22.00	Tool Interval
Packer	4.00			3936.00		
Stubb	1.00			3937.00		
Perforations	13.00			3950.00		
Change Over Sub	1.00			3951.00		
Recorder	0.00	8653	Below	3951.00		
Drill Pipe	95.00			4046.00		
Change Over Sub	1.00			4047.00		
Bullnose	3.00			4050.00	118.00	Bottom Packers & Anchor
Total Tool Length:	**160.00**					

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

FLUID SUMMARY

Downing-Nelson Oil Co., Inc.

P.O. Box 1019
Hays, KS 67601

ATTN: Al Downing

31-12s-21w Trego,KS

Hillman-Dubach #1-31

Job Ticket: 47942 **DST#: 2**

Test Start: 2012.10.07 @ 11:19:15

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:	53.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	7.99 in³	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
20.00	5%Water/95%Mud	0.098

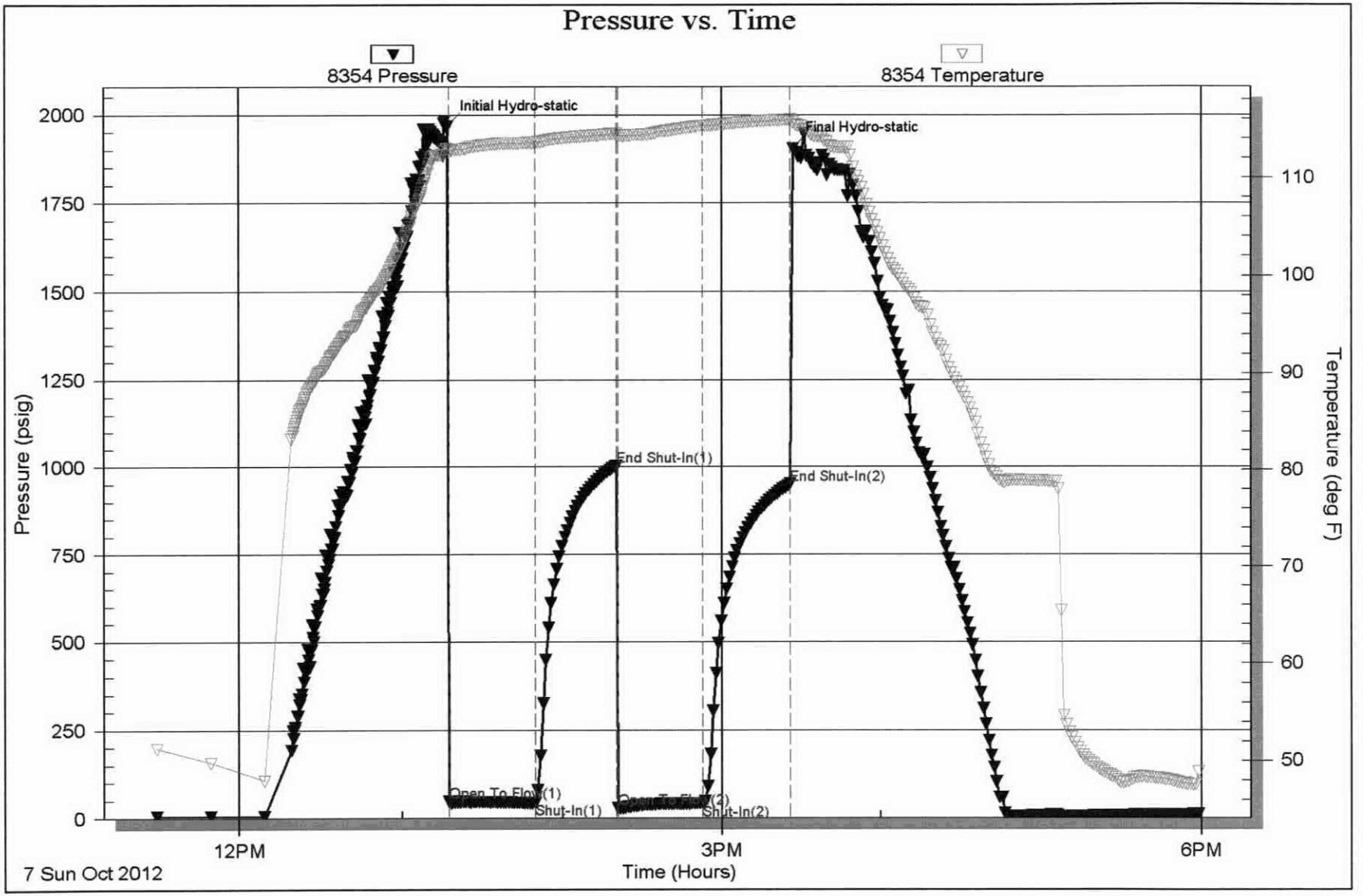
Total Length: 20.00 ft Total Volume: 0.098 bbl

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

Laboratory Name: Laboratory Location:

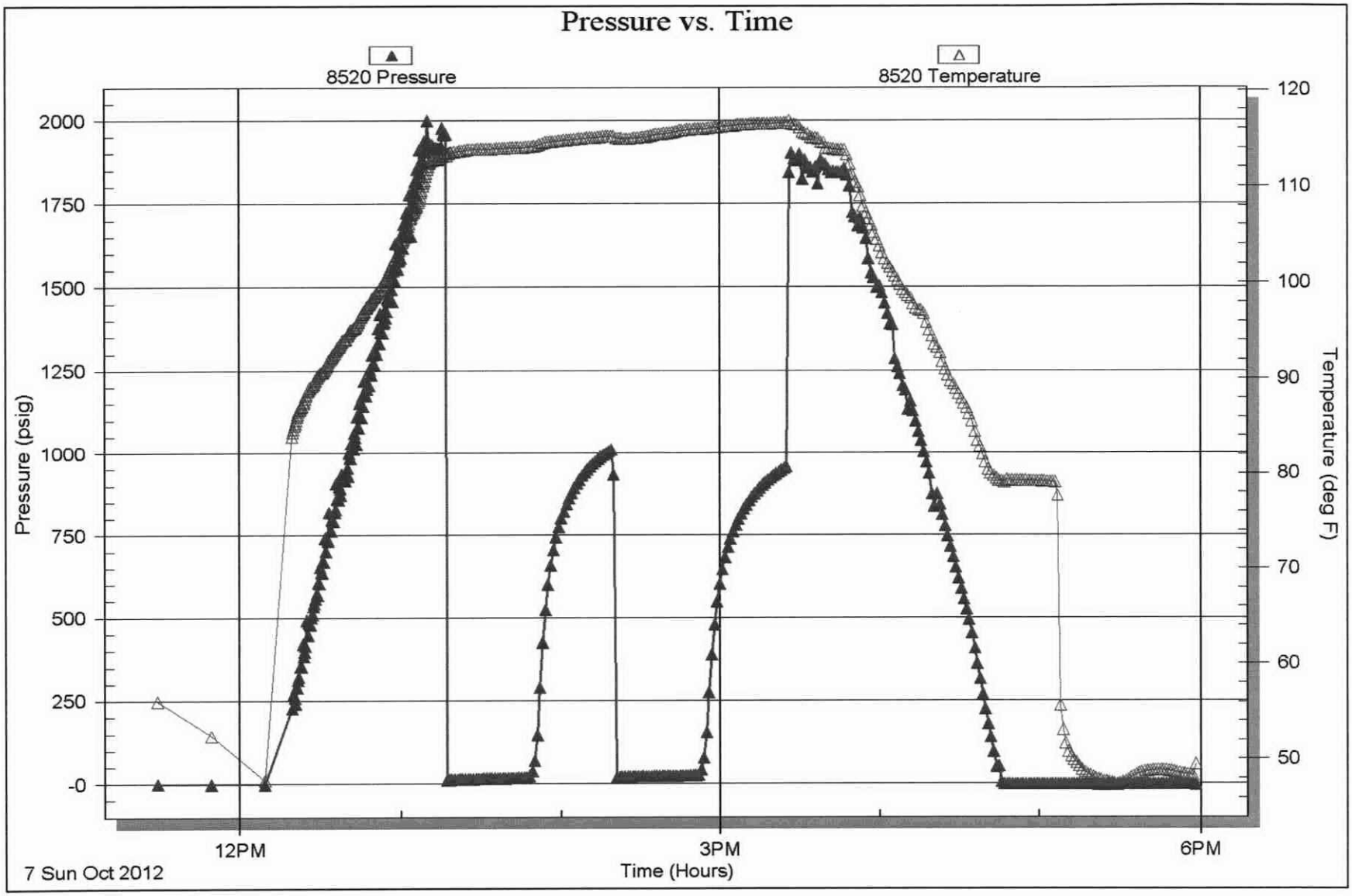
Recovery Comments:

Serial #: 8354 **Inside** Dow ning-Nelson Oil Co., Inc. Hillman-Dubach #1-31 DST Test Number: 2



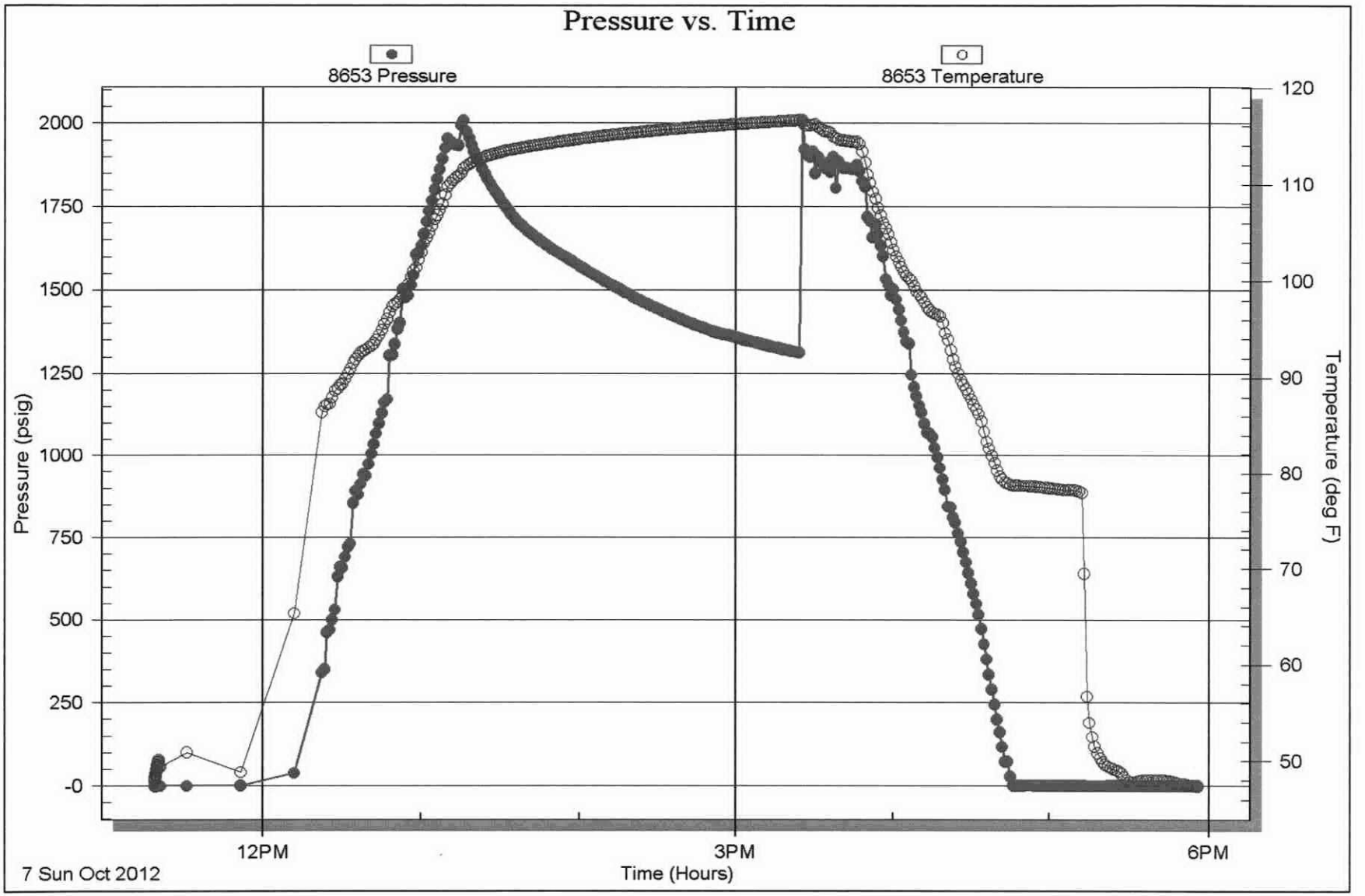
Trilobite Testing, Inc Ref. No: 47942 Printed: 2012.10.09 @ 11:38:16

Serial #: 8520 **Outside** Dow ning-Nelson Oil Co., Inc. Hillman-Dubach #1-31 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 47942 Printed: 2012.10.09 @ 11:38:16

Serial #: 8653 Below (Straddle) Trabing-Nelson Oil Co., Inc. Hillman-Dubach #1-31 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 47942 Printed: 2012.10.09 @ 11:38:17

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 47941

Well Name & No. Hillman-Duback #1-31 Test No. 1 Date 10-5-12

Company Downing-Nelson Oil Co., Inc. Elevation 2283 KB 2275 GL

Address P.O. Box 1019 Hays, KS 67601

Co. Rep / Geo. Al Downing Rig Discovery 3

Location: Sec. 31 Twp. 12S Rge. 21W Co. Trego State KS

Interval Tested 3578-3654 Zone Tested LKC "A-D"

Anchor Length 76' Drill Pipe Run 3551 Mud Wt. 8.7

Top Packer Depth 3573 Drill Collars Run 29.70 Vis 56

Bottom Packer Depth 3578 Wt. Pipe Run 0 WL 7.6

Total Depth 3654 Chlorides 800 ppm System LCM 2#

Blow Description IF- Fair building blow, BOB in 16 minutes 30 seconds.
ISI- No Return.
FF- Fair building blow, BOB in 20 minutes.
FSI- No Return.

Rec	330	Feet of	Muddy Water	%gas	%oil	85	%water	15 %mud
Rec		Feet of		%gas	%oil		%water	%mud
Rec		Feet of		%gas	%oil		%water	%mud
Rec		Feet of		%gas	%oil		%water	%mud
Rec		Feet of		%gas	%oil		%water	%mud

Rec Total 330 BHT 110 Gravity ____ API RW .719 @ 40 °F Chlorides 16000 ppm

(A) Initial Hydrostatic 1718
(B) First Initial Flow 24
(C) First Final Flow 103
(D) Initial Shut-In 765
(E) Second Initial Flow 119
(F) Second Final Flow 170
(G) Final Shut-In 753
(H) Final Hydrostatic 1678

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

- ☑ Test
- ☐ Jars
- ☐ Safety Joint
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 26X2 80.60
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☐ Day Standby
- ☐ Accessibility

Sub Total 1230.60

T-On Location 1130
T-Started 1345
T-Open 1541
T-Pulled 1745
T-Out 1945

Comments Batt-1329

- ☐ Ruined Shale Packer
- ☐ Ruined Packer
- ☐ Extra Copies

Sub Total 0

Total 1230.60

MP/DST Disc't

Approved By ____ Our Representative ____

TRILOBITE TESTING INC.

P.O. Box 1733 • Hays, Kansas 67601

4/10

Test Ticket

NO. 47942

Well Name & No. Hillman-Dubach #1-31 Test No. 2 Date 10-7-12

Company Downing-Nelson Oil Co., Inc. Elevation 2283 KB 2275 GL

Address P.O. Box 1019 Hays, KS 67601

Co. Rep / Geo. Al Downing Rig Discovery 3

Location: Sec. 31 Twp. 12S Rge. 21W Co. Trego State KS

Interval Tested 3910-3934 Zone Tested Marmaton

Anchor Length 24' 114' TP Drill Pipe Run 3869 Mud Wt. 9.0

Top Packer Depth 3905 Drill Collars Run 29.70 Vis 53

Bottom Packer Depth 3910 3934 SP Wt. Pipe Run 0 WL 8.0

Total Depth 4048 Chlorides 1000 ppm System LCM 1½ #

Blow Description IF- Very weak building blow, Built to 1½ inches.
ISI- No Return.
FF- Very weak surface blow throughout.
FSI- No Return.

Rec 20	Feet of Watery Mud	%gas	%oil 5	%water 95	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	
Rec	Feet of	%gas	%oil	%water	%mud	

Rec Total 20 BHT Gravity API RW N/A @ °F Chlorides ppm

(A) Initial Hydrostatic 1967	☑ Test 1150	T-On Location 1030	
(B) First Initial Flow 48	☐ Jars	T-Started 1200	
(C) First Final Flow 44	☐ Safety Joint	T-Open 1318	
(D) Initial Shut-In 1004	☐ Circ Sub	T-Pulled 1525	
(E) Second Initial Flow 28	☐ Hourly Standby	T-Out 1800	
(F) Second Final Flow 42	☑ Mileage 26X2 80.60	Comments Batt- 1119	
(G) Final Shut-In 952	☐ Sampler		
(H) Final Hydrostatic 1904	☑ Straddle 600	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 30	☐ Extra Recorder	Sub Total 491.67	
Final Flow 30	☑ Day Standby	Total 2322.27	
Final Shut-In 30	☐ Accessibility	MP/DST Disc't	
	Sub Total 1830.60		

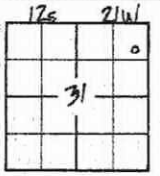
Approved By Our Representative

Marc Downing

Consulting Petroleum Geologist
1411 Washington Circle
Hays, Ks 67601
Phone: 620-428-1356 (cell) 785-621-2286

GEOLOGIC REPORT LOG

COMPANY Downing-Nelson Oil Co., Inc.
WELL Hillman-Dubach
FIELD Wildcat
LOCATION 600'FNL - 270'FEL
SEC. 31 TWP. 12s RGE. 21w
COUNTY Trego
STATE Kansas



PRODUCTION Dry

ELEVATION KB 2283
DF
GL 2275
Drilling Measured From: 2283 KB

Samples Saved From 3500 To: TD
Drilling Time From 3250 To: TD
Samples Examined From: 3500 To: TD
Geological Supervision From 3300 To Total Depth
Wellsite Geologist Alan Downing
Electrical Surveys Nabors
CNL/CDL - microlog
Sonic - Dual Induction

OPERATOR DNOCI
CONTRACTOR Discovery Drlg. Rig #3
COMM: 10-1-12 COMP: 10-7-12

CASING RECORD
SURF: 8 5/8" - 217 PROD: -
TOTAL DEPTH DRILLERS: 4048
TOTAL DEPTH LOG: 4048

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
Anhydrite	1703	1704	+579	-9
Base	1750	1748	+535	-3
Topeka	3330	3328	-1045	+3
Heebner	3550	3550	-1267	+5
Toronto	3572	3571	-1288	+4
Lansing	3584	3583	-1300	+4
BKC	3823	3820	-1537	+5
Marmaton	3803	3903	-1626	+5
Cherokee Shale	3942	3942	-1659	+4
Arbuckle	4021	4020	-1737	-16

REFERENCE WELL FOR STRUCTURE
Isom-Wells Schoenthaler #1
NW-NW-NW Sec 32-12s-21w Trego Co., Ks

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHP-FHP	RECOVERY
1	3578 - 3654	24#/30' 113	765#/30'	119-170#/30'	753#/30'	1718#/1668#	330' NW
2	3910 - 3934	28#/30"	42#/30" 1003	44-48/30"	951#/30	1967/1904	20' mud w/ oil spks

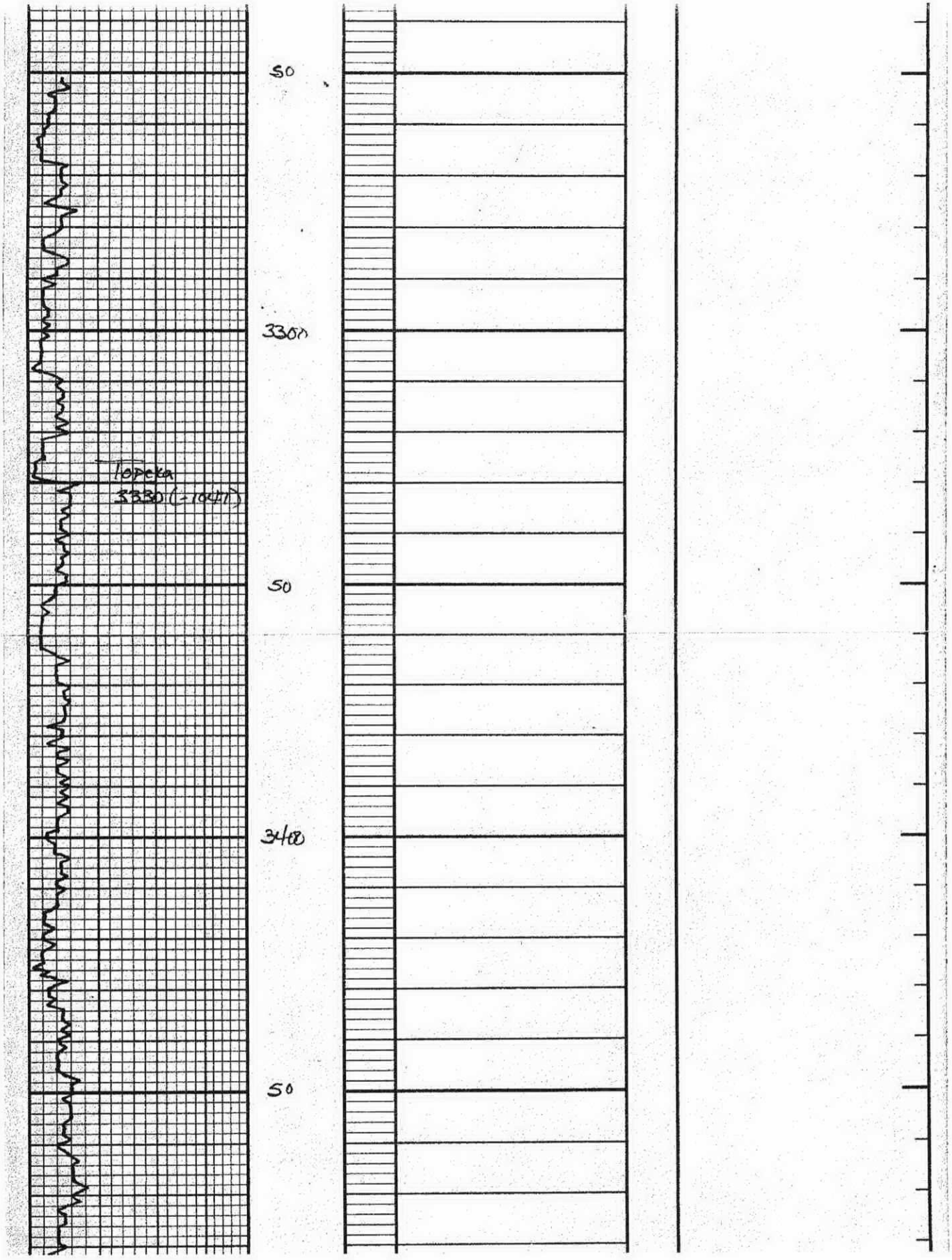
REMARKS AND RECOMMENDATIONS

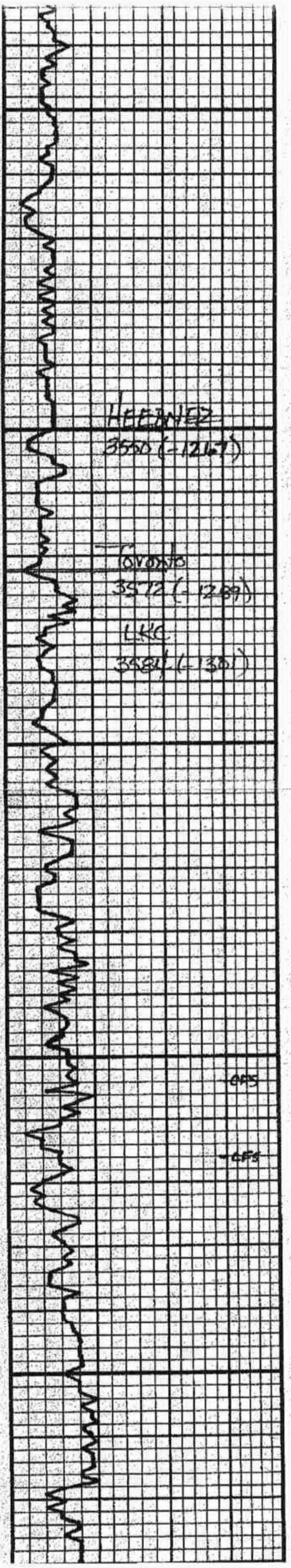
Due to no show of Negative drillstem tests.

Arbuckle fell out of Bed — Plug Away.

LEGEND

DRILLING TIME IN MINUTES PER FOOT Rate of Penetration Decreases 5″ 10″ 15″	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS


50
3300
Topeka
3330 (-1041')
50
3400
50



3500

50

Sh: Black- Carb
Ls: wht fxn v. dsE

Sh: grn- Brown

Ls: Tan fxn w gd pp ø w gd sat stn- ft odor - some total Brn- Blk sat. - Hvy oil

Vis 56
Wt 8.7
WL 7.6
Lcm 2#

DST #1
3578 - 3654
30-30 - 30 - 30
Rec: 330' mW
IHP: 1718#
IFP: 24-103#
FFP: 119-170#
SIP: 765-753#
FHP: 1678#

DST #1

Ls: wht fxn w fr.-gd intra + ool ø w lt. fr. SFO few pcs Brn sat stn v. ft. odor.

Ls: Tan fxn w [illegible] tan [illegible] w No show - sl cherty

3600

Sh: grn- Brown Black

Ls: Tan - Lt. Tan fxn v. ool w fr. SFO in good - v. gd ool ø v. faint odor

Sh: Brown

Ls: Tan - lt. Brn fxn w fr ppø w gd SFO - fr. odor -

Ls: Brn gd SFO some total Black sat. fn fr. PP - ø

50

Ls: wht f. subxln 1-2 pcs w sl ool ø mostly all v. chky NSFO - No odor

Ls: wht fxn w fr ool ø NSFO, v chky - to subxln

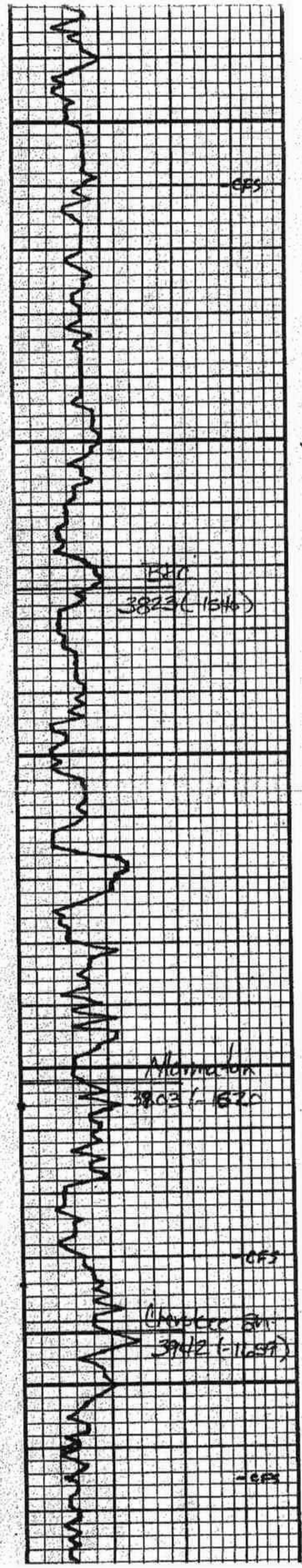
Ls: wht - Lt. Tan fxn w gd ool ø w 1-2 pcs w v. spt. SFO No odor.

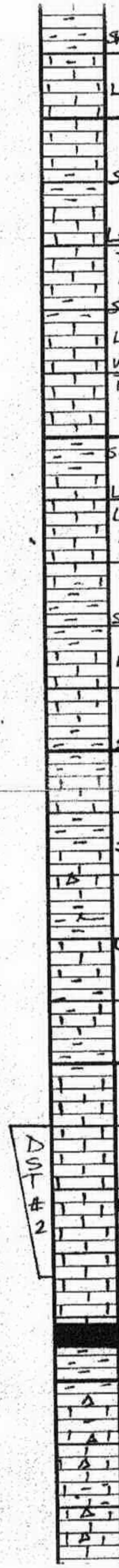
Ls: wht f-vfxn all v. dsE w [illegible] tan - off wht [illegible] all Ns.

3700

Sh: v. lt. grn - Red

Ls: Tan fxn w poor intxln ø 1-2 pcs lt. stn NSFO No odor [illegible]





50

3800

60

3900

50

Tan - sft wht Achert

Sh: gry

LS: Tan. Lt. tan f-subxln v. chky in pt w/ scatt ool - occ ϕ NSFO - No odor.

Sh: gry - Brown - Red

LS: Tan Lt Tan fxn w/ v. scatt ppϕ v. spt. stn NSFO No odor.

Sh: Gry

LS: wht f-xn - subxln chky w/ v. spt stn - few oolicd Px w/ fr ϕ - No show) tite

Sh: v. dark gry

LS: wht f-subxn w/ poor intxϕ Lots wht chky inclusions - No show - No odor -

Sh: Red - Brown - gry -

LS: wht Lt. Tan fxn some sft chky LS.

Sh: Red - Brown

LS: Tan fxn dse - scatt ool.

Sh: gry - Red w/ wht fxn LS: + orange Achert throughout

LS: Tan fxn w/ Red-orange Achert -

LS: Tan - Lt. Tan fxn w/ v. tite intxϕ v. spt. stn NSFO - No odor w/ multi-colored Achert

LS: Tan f-vfxn w/ some fr. intxϕ sft. dolomitic LS. w/ spt Lt. stn NSFO - No odor w/ much Red - yellow - Tan - Achert all dse

Sh: Black - carb

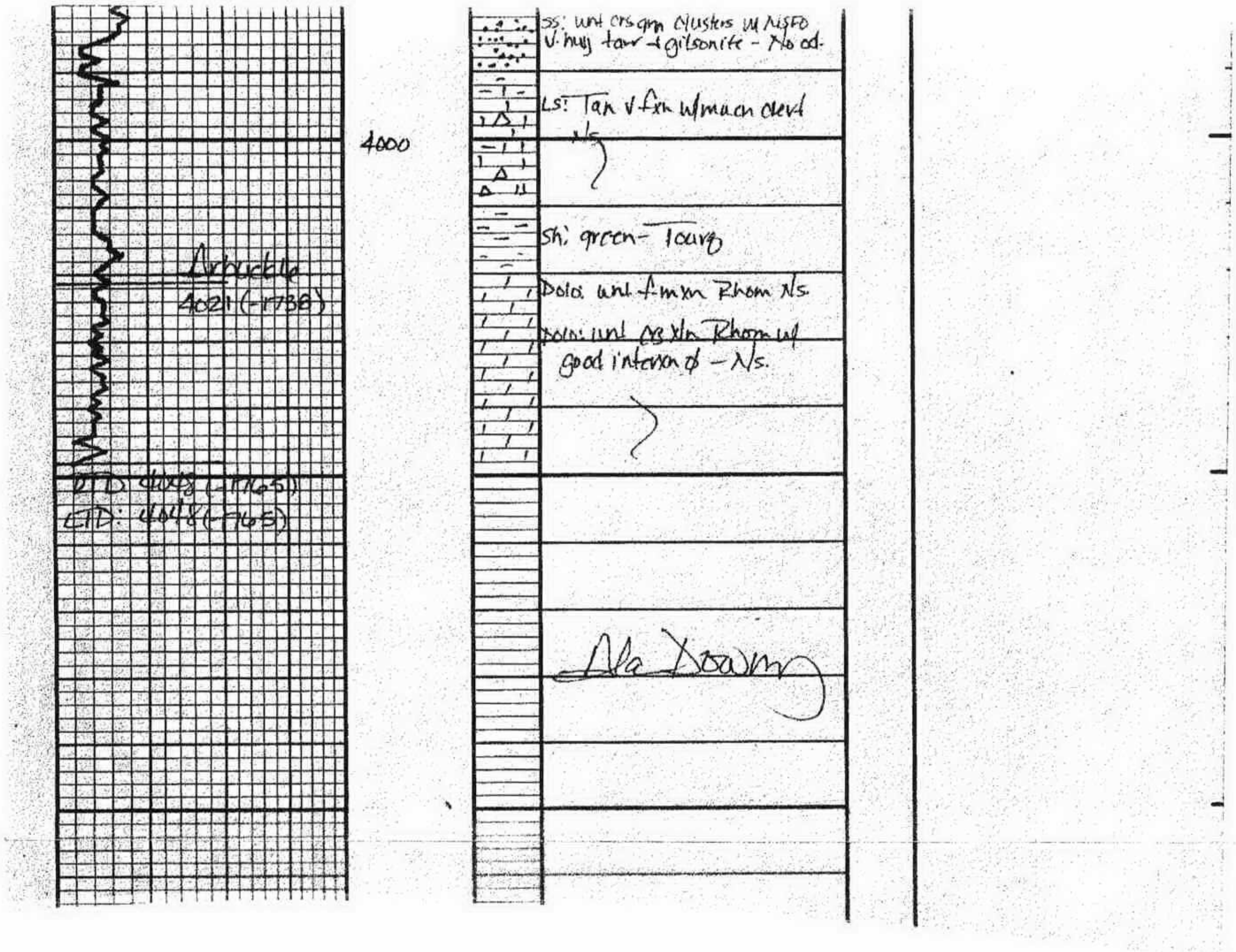
LS: Tan fxn w/ much intbed tan Achert scatt stn in Edge chrt - NSFO - No odor

Congl. Wash Red w/ much Achert as above NS - sft. edge stn.

DST #2
3910 - 3934

Rec: 20' mud w/ oilspts

IHP: 1967#
IFP: 48-44#
FFP: 28-42#
SIP: 1003-951#
FHP: 1904#


4000
Arbuckle
4021 (-1738)
LTD: 4048 (-1765)
SS: wht crs grn clusters w/ NSFO
V. hvy tar + gilsonite - No od.
LS: Tan v.fxn w/ much chert
N/s
Sh: green - Tourq
Dolo: wht f-mxn Rhom N/s.
Dolo: wht crs xln Rhom w/
good interxn ϕ - N/s.