Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1218669

Form ACO-1
August 2013
Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # 30717
Name: Downing-Nelson Oil Co Inc
Address 1: PO BOX 1019
Address 2:
City: HAYS State: KS Zip: 67601 + ____
Contact Person: Ron Nelson
Phone: (785) 621-2610
CONTRACTOR: License # 34541
Name: Ninnescah Drilling LLC
Wellsite Geologist: Ron Nelson
Purchaser:

Designate Type of Completion:
☑ New Well ☐ Re-Entry ☐ Workover

☑ Oil ☐ WSW ☐ SWD ☐ SIOW
☐ Gas ☐ D&A ☐ ENHR ☐ SIGW
☐ OG ☐ GSW ☐ Temp. Abd.
☐ CM *(Coal Bed Methane)*
☐ Cathodic ☐ Other *(Core, Expl., etc.)*:

If Workover/Re-entry: Old Well Info as follows:
Operator:
Well Name:
Original Comp. Date: Original Total Depth:

☐ Deepening ☐ Re-perf. ☐ Conv. to ENHR ☐ Conv. to SWD
☐ Plug Back ☐ Conv. to GSW ☐ Conv. to Producer

☐ Commingled Permit #:
☐ Dual Completion Permit #:
☐ SWD Permit #:
☐ ENHR Permit #:
☐ GSW Permit #:

07/09/2014	07/18/2014	07/19/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-023-21394-00-00
Spot Description:
SE - SE - SW - SW Sec. 24 Twp. 5 S. R. 37 ☐ East ☑ West
300 Feet from ☐ North / ☑ South Line of Section
1050 Feet from ☐ East / ☑ West Line of Section
Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW
GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Cheyenne
Lease Name: Kramer Unit Well #: 1-24
Field Name: Wildcat
Producing Formation: Pawnee
Elevation: Ground: 3276 Kelly Bushing: 3289
Total Vertical Depth: 5129 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 469 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 3003 Feet
If Alternate II completion, cement circulated from: 3003
feet depth to: 0 w/ 300 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

☑ **Confidentiality Requested**
Date: 10/01/2014
☑ **Confidential Release Date:** 09/30/2016
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 10/02/2014

[redacted] 1218669

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Kramer Unit Well #: 1-24

Sec. 24 Twp. 5 S. R. 37 ☐ East ☑ West County: Cheyenne

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

Drill Stem Tests Taken ☑ Yes ☐ No
(Attach Additional Sheets)

Samples Sent to Geological Survey ☑ Yes ☐ No

Cores Taken ☐ Yes ☑ No

Electric Log Run ☑ Yes ☐ No

List All E. Logs Run:

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	469	Common	300	2% Gel & 3% CC
Production Casing	7.875	5.5	14	5133	EA2	200	

ADDITIONAL CEMENTING / SQUEEZE RECORD

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

Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? ☐ Yes ☐ No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record *(Amount and Kind of Material Used)*	Depth
4	4561' - 4566'		

TUBING RECORD: Size: 2.3750 Set At: 4920' Packer At: Liner Run: ☐ Yes ☑ No

Date of First, Resumed Production, SWD or ENHR. 09/04/2014

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

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
	50				0			

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:
_____
_____

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 1-24
Doc ID	1218669

All Electric Logs Run

Micro
Sonic
Dual Induction
Compensated Density Neutron

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 1-24
Doc ID	1218669

Tops

Name	Top	Datum
Top Anhydrite	3000'	+289
Base Anhydrite	3034'	+255
Heebner	4118'	-829
LKC	4177'	-883
BKC	4452'	-1163
Pawnee	4558'	-1269
Fort Scott	4612'	-1333
Cherokee Shale	4644'	-1355
Mississippi	4868'	-1579

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 1-24
Doc ID	1218669

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface Pipe	12.25	8.625	23	469	Common	300	2% Gel & 3% CC
Production Casing	7.875	5.5	14	5133	EA2	200	

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co.**

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

Kramer Unit #1-24

24-5s-37w Cheyenne,KS

Start Date: 2014.07.14 @ 23:43:00

End Date: 2014.07.15 @ 07:53:30

Job Ticket #: 58455 DST #: 1

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

Printed: 2014.07.18 @ 09:25:10

DRILL STEM TEST REPORT

Downing Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58455 **DST#: 1**

Test Start: 2014.07.14 @ 23:43:00

GENERAL INFORMATION:

Formation: **LKC - 'I'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:10:15
Time Test Ended: 07:53:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #54

Interval: 4308.00 ft (KB) To 4365.00 ft (KB) (TVD)
Total Depth: 4365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

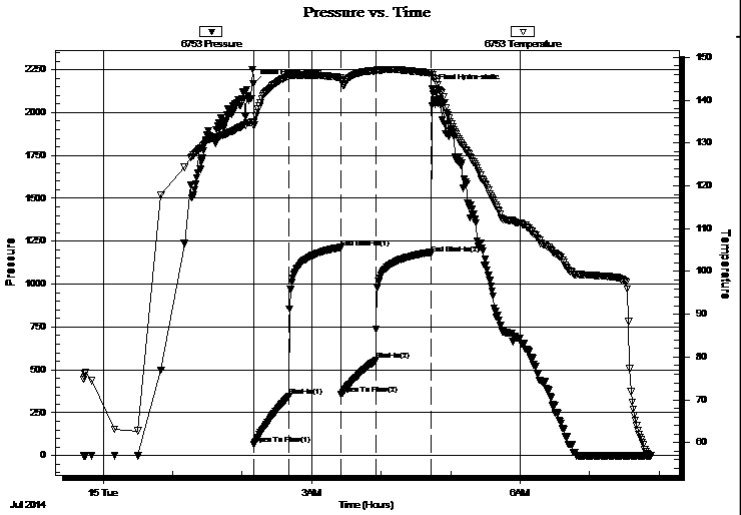
Reference Elevations: 3289.00 ft (KB)
3280.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6753 **Inside**

Press@RunDepth: 556.35 psig @ 4309.00 ft (KB)
Start Date: 2014.07.14 End Date: 2014.07.15
Start Time: 23:43:05 End Time: 07:53:29

Capacity: 8000.00 psig
Last Calib.: 2014.07.15
Time On Btm: 2014.07.15 @ 02:10:00
Time Off Btm: 2014.07.15 @ 04:44:15

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 2 min.
45 - ISI - Return built to bottom of the bucket in 12 mins.
30 - FF - Surface blow built to bottom of the bucket in 3 mins.
45 - FSI - Return built to bottom of the bucket in 12 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2169.33	134.89	Initial Hydro-static
1	64.27	134.09	Open To Flow (1)
31	345.13	145.62	Shut-In(1)
76	1209.63	145.28	End Shut-In(1)
76	358.43	144.83	Open To Flow (2)
106	556.35	146.84	Shut-In(2)
154	1177.68	146.34	End Shut-In(2)
155	2137.33	146.05	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
819.00	GOCM - 15G - 20M - 65o	11.49
645.00	GO - 25G - 75o	9.05

Gas Rates

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

DRILL STEM TEST REPORT

Downing Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58455 **DST#: 1**

Test Start: 2014.07.14 @ 23:43:00

GENERAL INFORMATION:

Formation: **LKC - 'I'**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 02:10:15
Time Test Ended: 07:53:30

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #54

Interval: 4308.00 ft (KB) To 4365.00 ft (KB) (TVD)
Total Depth: 4365.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

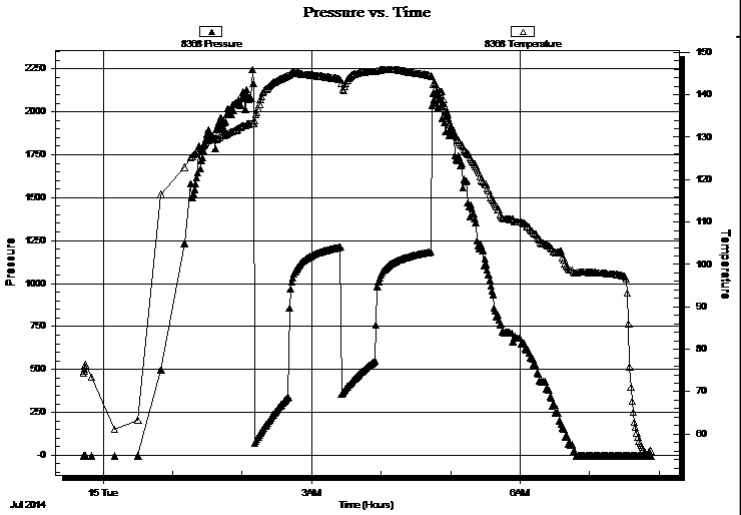
Reference Elevations: 3289.00 ft (KB)
3280.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8368 **Outside**

Press@RunDepth: psig @ 4309.00 ft (KB)
Start Date: 2014.07.14 End Date: 2014.07.15
Start Time: 23:43:05 End Time: 07:53:29

Capacity: 8000.00 psig
Last Calib.: 2014.07.15
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 2 min.
45 - ISI - Return built to bottom of the bucket in 12 mins.
30 - FF - Surface blow built to bottom of the bucket in 3 mins.
45 - FSI - Return built to bottom of the bucket in 12 mins.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
819.00	GOCM - 15G - 20M - 65o	11.49
645.00	GO - 25G - 75o	9.05

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58455 **DST#: 1**

Test Start: 2014.07.14 @ 23:43:00

Tool Information

Drill Pipe:	Length:	4297.86 ft	Diameter:	3.80	inches	Volume:	60.29	bbl	
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00	inches	Volume:	0.00	bbl	
Drill Collar:	Length:	0.00 ft	Diameter:	2.25	inches	Volume:	0.00	bbl	
						Total Volume:	60.29	bbl	

Drill Pipe Above KB:	8.86 ft
Depth to Top Packer:	4308.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	57.00 ft
Tool Length:	76.00 ft
Number of Packers:	2 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		70000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	56000.00 lb
	Final	66000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4294.00		
Hydraulic tool	5.00			4299.00		
Packer	4.00			4303.00	19.00	Bottom Of Top Packer
Packer	5.00			4308.00		
Stubb	1.00			4309.00		
Recorder	0.00	8368	Outside	4309.00		
Recorder	0.00	6753	Inside	4309.00		
Perforations	19.00			4328.00		
Change Over Sub	1.00			4329.00		
Drill Pipe	31.00			4360.00		
Change Over Sub	1.00			4361.00		
Bullnose	4.00			4365.00	57.00	Bottom Packers & Anchor
Total Tool Length:	**76.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58455 **DST#: 1**

Test Start: 2014.07.14 @ 23:43:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	33 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	47.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
819.00	GOCM - 15G - 20M - 65o	11.488
645.00	GO - 25G - 75o	9.048

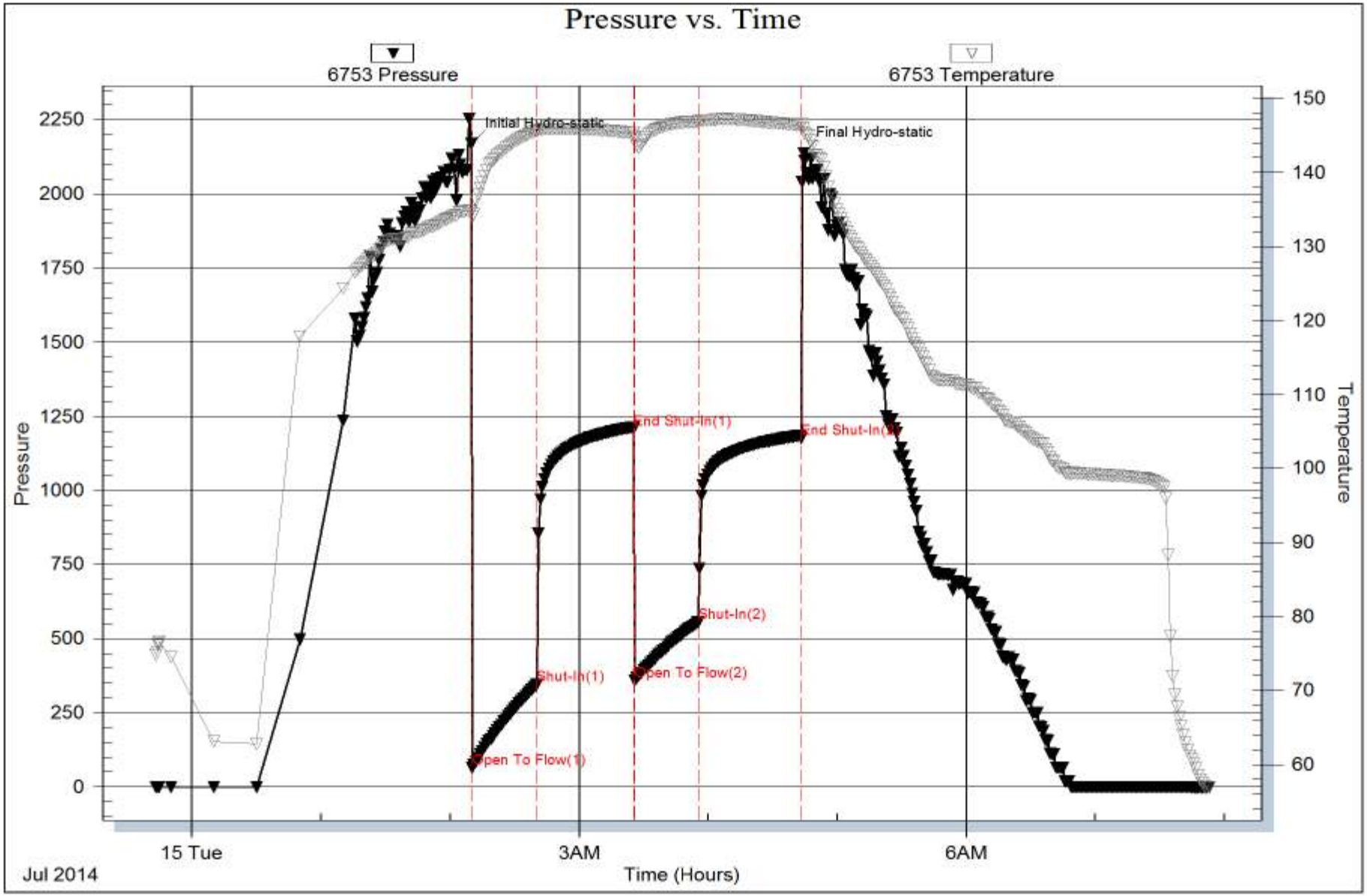
Total Length: 1464.00 ft Total Volume: 20.536 bbl

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

Laboratory Name: Laboratory Location:

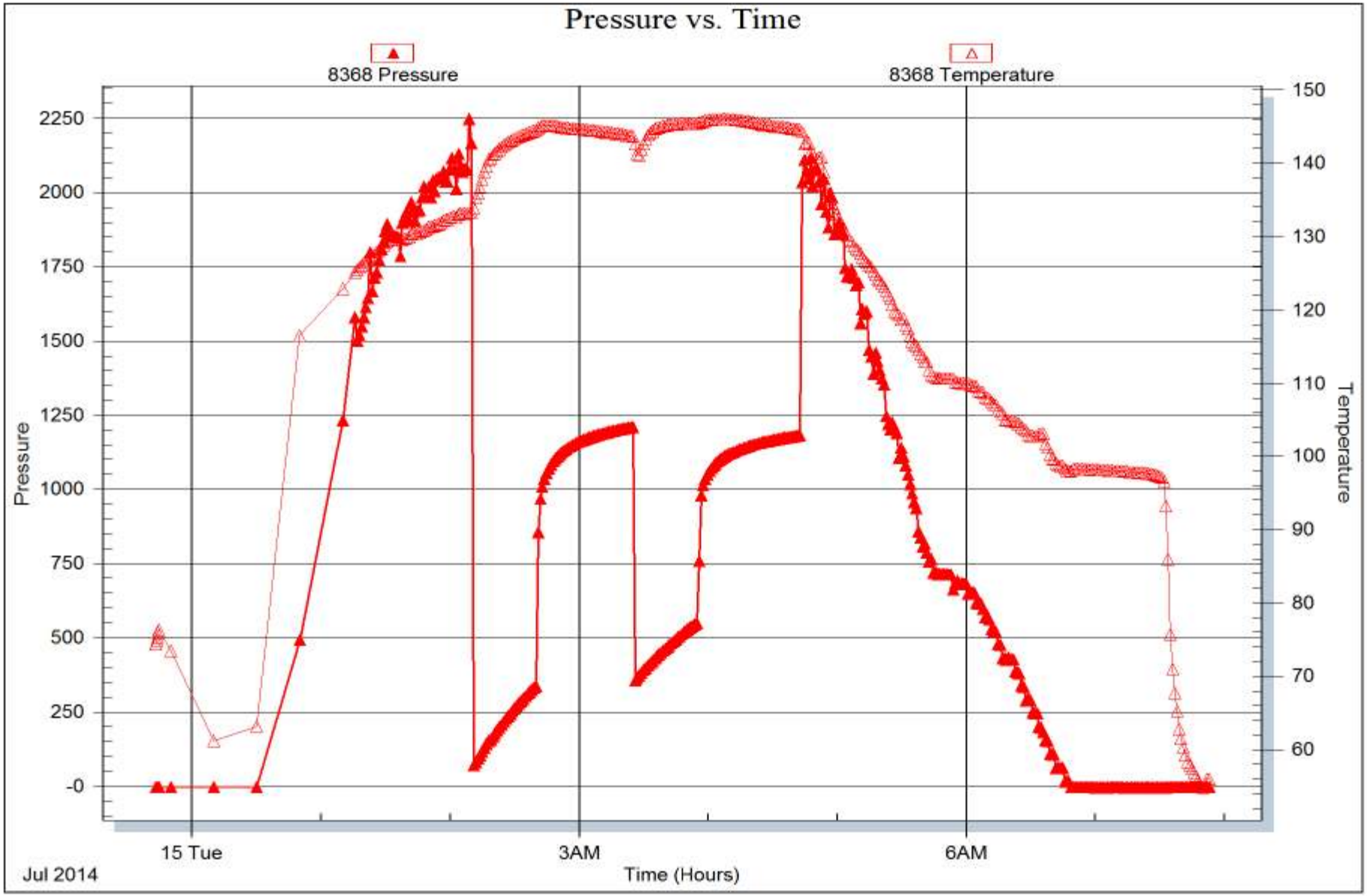
Recovery Comments:

Serial #: 6753 **Inside** Downing Nelson Oil Co. Kramer Unit #1-24 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 58455 Printed: 2014.07.18 @ 09:25:11

Serial #: 8368 **Outside** Dow ning Nelson Oil Co. Kramer Unit #1-24 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 58455 Printed: 2014.07.18 @ 09:25:14

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Prepared For: **Downing Nelson Oil Co.**

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

Kramer Unit #1-24

24-5s-37w Cheyenne,KS

Start Date: 2014.07.16 @ 03:33:00

End Date: 2014.07.16 @ 13:43:25

Job Ticket #: 58456 DST #: 2

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

Printed: 2014.07.18 @ 09:24:01

DRILL STEM TEST REPORT

Downing Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58456 **DST#: 2**

Test Start: 2014.07.16 @ 03:33:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:34:40
Time Test Ended: 13:43:25

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #54

Interval: 4526.00 ft (KB) To 4570.00 ft (KB) (TVD)
Total Depth: 4570.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

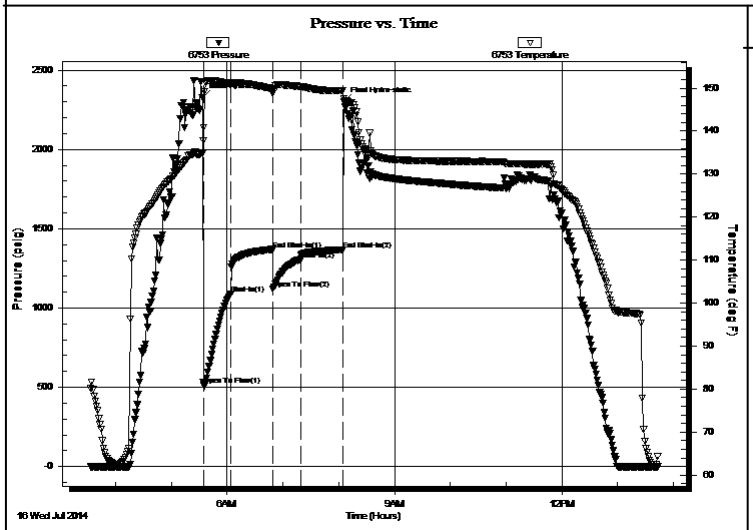
Reference Elevations: 3289.00 ft (KB)
3280.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 6753 **Inside**

Press@RunDepth: 1306.90 psig @ 4527.00 ft (KB)
Start Date: 2014.07.16 End Date: 2014.07.16
Start Time: 03:33:05 End Time: 13:43:24

Capacity: 8000.00 psig
Last Calib.: 2014.07.16
Time On Btm: 2014.07.16 @ 05:33:35
Time Off Btm: 2014.07.16 @ 08:05:35

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 1 min.
45 - ISI - Retrun built to bottom of the bucket in 5 mins. with gas to surface
30 - FF - Surface blow built to bottom of the bucket in 1 min.
45 - FSI - Return built to bottom of the bucket in 4 mins.



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2326.87	134.91	Initial Hydro-static
2	514.13	140.84	Open To Flow (1)
30	1086.75	151.05	Shut-In(1)
76	1369.22	149.80	End Shut-In(1)
76	1120.07	149.23	Open To Flow (2)
106	1306.90	150.32	Shut-In(2)
152	1366.89	149.37	End Shut-In(2)
152	2300.29	147.54	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
3820.00	GWCO - 25G - 70o - 5W	53.58

Gas Rates

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

DRILL STEM TEST REPORT

Downing Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58456 **DST#: 2**

Test Start: 2014.07.16 @ 03:33:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:34:40
Time Test Ended: 13:43:25

Test Type: Conventional Bottom Hole (Initial)
Tester: Royal Fisher
Unit No: #54

Interval: 4526.00 ft (KB) To 4570.00 ft (KB) (TVD)
Total Depth: 4570.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Good

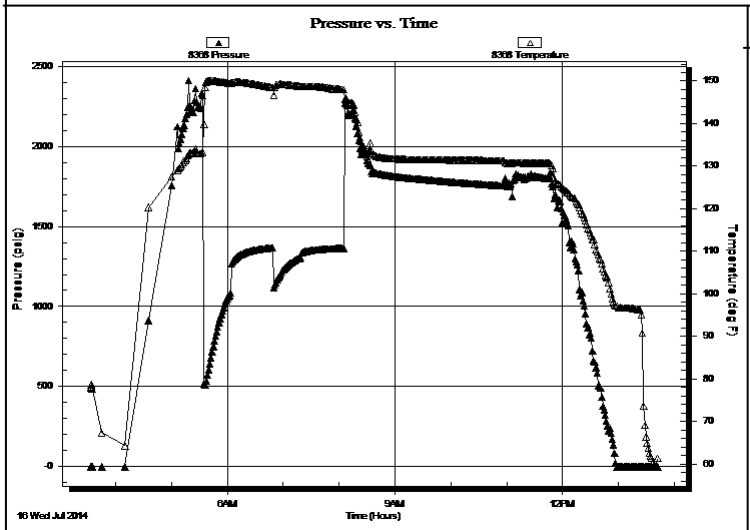
Reference Elevations: 3289.00 ft (KB)
3280.00 ft (CF)
KB to GR/CF: 9.00 ft

Serial #: 8368 **Outside**

Press@RunDepth: psig @ 4527.00 ft (KB)
Start Date: 2014.07.16 End Date: 2014.07.16
Start Time: 03:33:05 End Time: 13:43:15

Capacity: 8000.00 psig
Last Calib.: 2014.07.16
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF - Surface blow built to bottom of the bucket in 1 min.
45 - ISI - Retrun built to bottom of the bucket in 5 mins. with gas to surface
30 - FF - Surface blow built to bottom of the bucket in 1 min.
45 - FSI - Return built to bottom of the bucket in 4 mins.



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
3820.00	GWCO - 25G - 70o - 5W	53.58

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58456 **DST#: 2**

Test Start: 2014.07.16 @ 03:33:00

Tool Information

Drill Pipe:	Length:	4519.39 ft	Diameter:	3.80 inches	Volume:	63.40 bbl	Tool Weight:		2500.00 lb
Heavy Wt. Pipe:	Length:	0.00 ft	Diameter:	0.00 inches	Volume:	0.00 bbl	Weight set on Packer:		25000.00 lb
Drill Collar:	Length:	0.00 ft	Diameter:	2.25 inches	Volume:	0.00 bbl	Weight to Pull Loose:		74000.00 lb
					Total Volume:	63.40 bbl	Tool Chased		0.00 ft
Drill Pipe Above KB:		12.39 ft					String Weight:	Initial	57000.00 lb
Depth to Top Packer:		4526.00 ft						Final	70000.00 lb
Depth to Bottom Packer:		ft							
Interval betw een Packers:		44.00 ft							
Tool Length:		63.00 ft							
Number of Packers:		2	Diameter:	6.75 inches					

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4512.00		
Hydraulic tool	5.00			4517.00		
Packer	4.00			4521.00	19.00	Bottom Of Top Packer
Packer	5.00			4526.00		
Stubb	1.00			4527.00		
Recorder	0.00	8368	Outside	4527.00		
Recorder	0.00	6753	Inside	4527.00		
Perforations	6.00			4533.00		
Change Over Sub	1.00			4534.00		
Drill Pipe	31.00			4565.00		
Change Over Sub	1.00			4566.00		
Bullnose	4.00			4570.00	44.00	Bottom Packers & Anchor
Total Tool Length:	**63.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning Nelson Oil Co.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne,KS

Kramer Unit #1-24

Job Ticket: 58456 **DST#: 2**

Test Start: 2014.07.16 @ 03:33:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	36 deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	60.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	8.98 in³	Gas Cushion Type:			
Resistivity:	0.00 ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
3820.00	GWCO - 25G - 70o - 5W	53.585

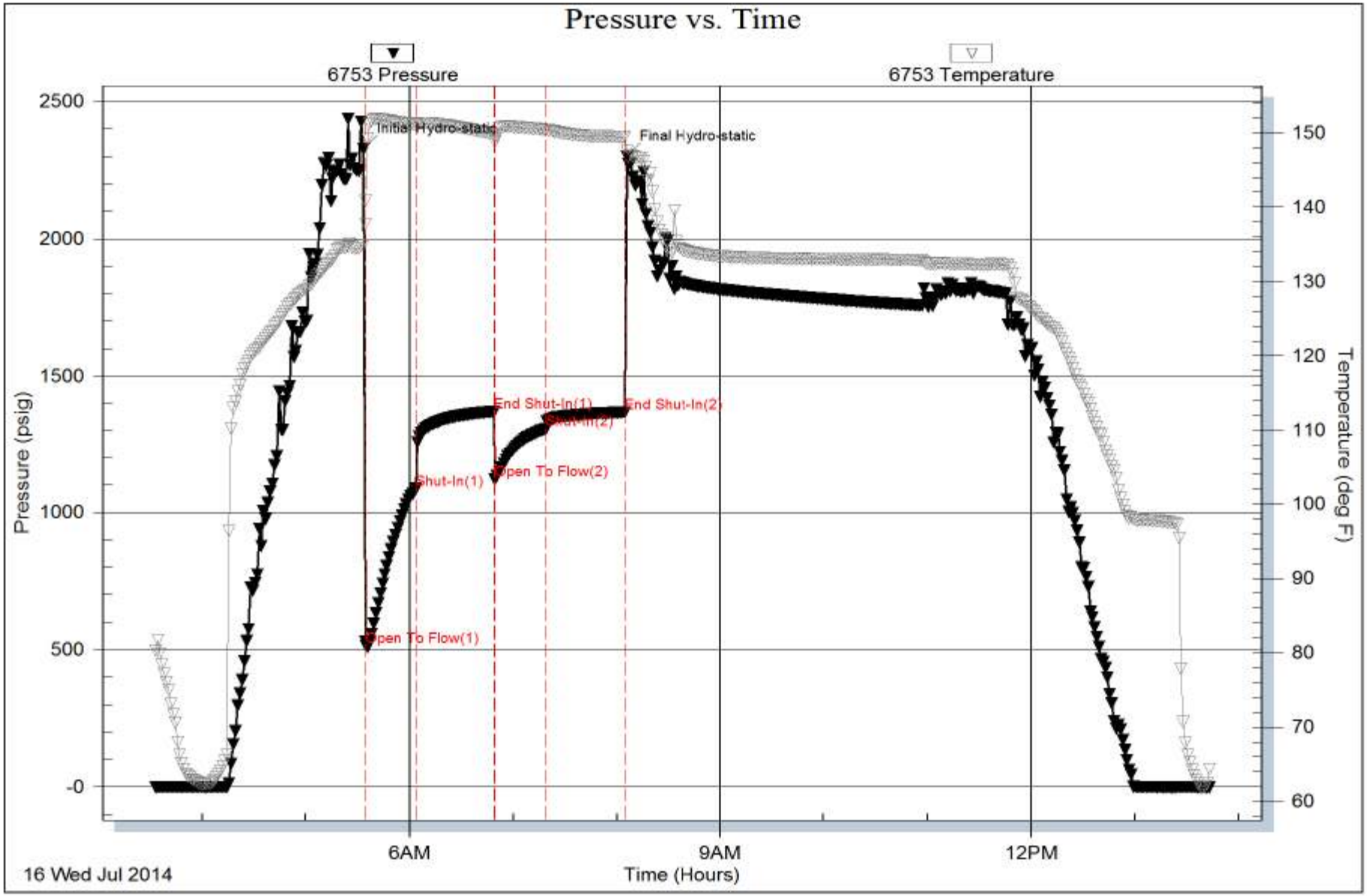
Total Length: 3820.00 ft Total Volume: 53.585 bbl

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

Laboratory Name: Laboratory Location:

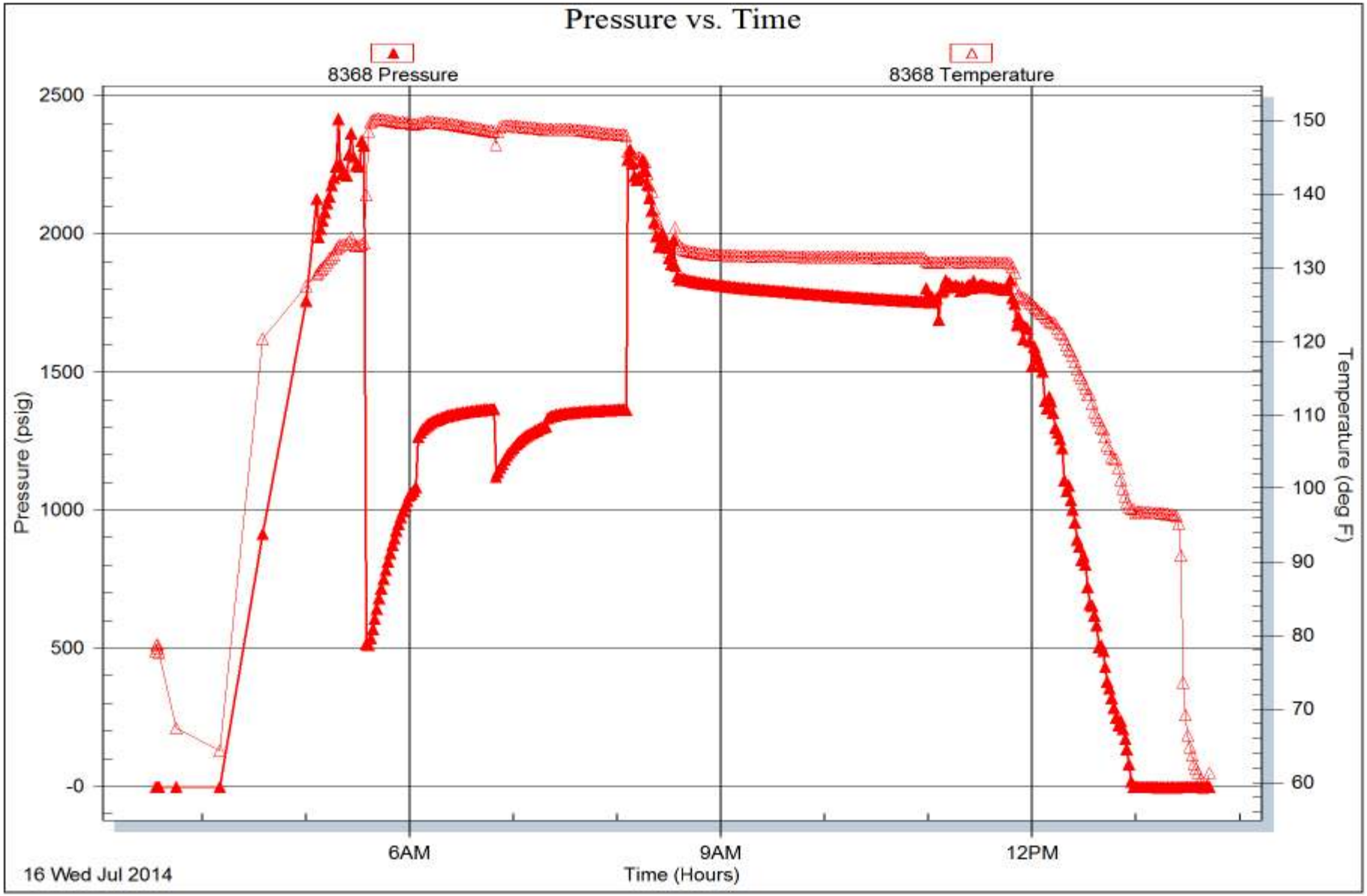
Recovery Comments:

Serial #: 6753 **Inside** Dow ning Nelson Oil Co. Kramer Unit #1-24 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 58456 Printed: 2014.07.18 @ 09:24:02

Serial #: 8368 **Outside** Dow ning Nelson Oil Co. Kramer Unit #1-24 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 58456 Printed: 2014.07.18 @ 09:24:03

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 58455

Well Name & No. Kramer Unit #1-24 Test No. 1 Date 7-14-14

Company Downing Nelson Oil Co. Elevation 3289 KB 3280 GL

Address P.O. Box 109 Hays KS 67601

Co. Rep / Geo. Ron Nelson Rig Ninnescah

Location: Sec. 24 Twp. 5S Rge. 37W Co. Cheyenne State KS

Interval Tested 4308 - 4365 Zone Tested LKC-I'

Anchor Length 57' Drill Pipe Run 4297.86 Mud Wt. 9.1

Top Packer Depth 4303 Drill Collars Run 0 Vis 47

Bottom Packer Depth 4308 Wt. Pipe Run 0 WL 10

Total Depth 4365 Chlorides 500 ppm System LCM 2#

Blow Description IF - Surface blow built to bottom of bucket in 2 min.
ISI - Return built to bottom of bucket in 12 mins.
FF - Surface blow built to bottom of the bucket in 3 min.
FSI - Return built to bottom of bucket in 12 mins.

Rec 645'	Feet of Gassy Oil	25 %gas	75 %oil	%water		%mud
Rec 819'	Feet of GOCM	15 %gas	65 %oil	%water	20	%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud
Rec	Feet of	%gas	%oil	%water		%mud

Rec Total 1464 BHT 146°F Gravity 33@60° API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2169	☑ Test 1250	T-On Location 10:15pm	
(B) First Initial Flow 64	☐ Jars	T-Started 11:43pm	
(C) First Final Flow 345	☐ Safety Joint	T-Open 2:10 am	
(D) Initial Shut-In 1209	☑ Circ Sub N/C	T-Pulled 4:40am	
(E) Second Initial Flow 358	☐ Hourly Standby	T-Out 7:43am	
(F) Second Final Flow 556	☑ Mileage 120 R/T 186	Comments	
(G) Final Shut-In 1177	☐ Sampler		
(H) Final Hydrostatic 2137	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 45	☐ Extra Recorder	Sub Total 0	
Final Flow 30	☐ Day Standby	Total 1436	
Final Shut-In 45	☐ Accessibility	MP/DST Disc't	
	Sub Total 1436		

Approved By Our Representative Ron Nelson

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 58456

Well Name & No. Kramer Unit #1-24 Test No. 2 Date 7-16-14

Company Downing Nelson Oil Co. Elevation 3289 KB 3280 GL

Address P.O. Box 1019 Hays KS 67601

Co. Rep / Geo. Ron Nelson Rig Ninnescah

Location: Sec. 24 Twp. 5S Rge. 37 W Co. Cheyenne State KS

Interval Tested 4526-4570 Zone Tested Pawnee

Anchor Length 44' Drill Pipe Run 4519.39 Mud Wt. 9.2

Top Packer Depth 4521 Drill Collars Run 0 Vis 60

Bottom Packer Depth 4526 Wt. Pipe Run 0 WL 9

Total Depth 4570 Chlorides 500 ppm System LCM 1#

Blow Description IF - Surface blow built to bottom of the bucket in 1 min.
ISI - Return built to bottom of the bucket in 5 mins. W/GTS
FF - Surface blow built to bottom of the bucket in 1 min
FSI - Return built to bottom of bucket in 4 mins.

Rec 3,820	Feet of GWCO	25 %gas	70 %oil	5 %water	%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 3,820' BHT 149°F Gravity 36 @ 60°F API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2326	☑ Test 1250	T-On Location 3:00am	
(B) First Initial Flow 574	☐ Jars	T-Started 3:33am	
(C) First Final Flow 1,086	☐ Safety Joint	T-Open 5:34am	
(D) Initial Shut-In 1369	☑ Circ Sub Dropped bar 50	T-Pulled 8:04am	
(E) Second Initial Flow 1120	☑ Hourly Standby 2¼ hrs .25h	T-Out 1:44pm	
(F) Second Final Flow 1306	☑ Mileage 120 R/T 372	Comments Waited on truck from 8:30 to 10:45am. Picked up tool 7-17-14 5:00-5#	
(G) Final Shut-In 1366	☐ Sampler		
(H) Final Hydrostatic 2300	☐ Straddle	☐ Ruined Shale Packer	
	☐ Shale Packer	☐ Ruined Packer	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 45	☐ Extra Recorder	Sub Total 800	
Final Flow 30	☐ Day Standby 1d 3.25h	Total 2497	
Final Shut-In 45	☐ Accessibility	MP/DST Disc't	
	Sub Total 1697		

Approved By Our Representative Ryan Justice

ALLIED OIL & GAS SERVICES, LLC 063468

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley

DATE 7-10-14	SEC. 24	TWP. 5	RANGE 37	CALLED OUT	ON LOCATION 5:30 Am	JOB START 6:00 pm	JOB FINISH 6:30 Am
LEASE Kramer unit	WELL # 1-24		LOCATION Brewster 22N 3E			COUNTY Cheyenne	STATE KS
OLD OR NEW (Circle one)			3.7s 1/4 E. S into				

CONTRACTOR Pinnacle
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 480
CASING SIZE 8 5/8 DEPTH 479'
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 28.5

EQUIPMENT

PUMP TRUCK # 431 CEMENTER Andrew Forslund
HELPER Adam Fipse
BULK TRUCK # 818 DRIVER John (TJ)
BULK TRUCK # DRIVER

REMARKS:

Cement Did circulate

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

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
SIGNATURE Richard A. Young

OWNER Same

CEMENT
AMOUNT ORDERED 300 sks com 3% cc 2% gel

COMMON	300 sks	@ 12.90	5220.00
POZMIX		@	
GEL	5 sks	@ 1.25	562.50
CHLORIDE	8 sks	@ 1.10	930.60
ASC		@	
		@	
Material Total		@	6,713.00
(2067.84 | 30%)		@	
		@	
		@	
		@	
		@	
HANDLING	324.7 cu/ft	@ 2.48	804.51
MILEAGE	2.25 ton/mile 14480 ton		3848.00
		TOTAL	

SERVICE

DEPTH OF JOB	479'		
PUMP TRUCK CHARGE			1512.25
EXTRA FOOTAGE		@	
MILEAGE	30 miles	@ 2.50	539.00
MANIFOLD	head	@	225.00
Light vehicle		@ 45.00	308.00
		@	
(1,886.25 | 30%)		TOTAL	6,287.25

PLUG & FLOAT EQUIPMENT

	@	
	@	
	@	
	@	
	@	
	TOTAL	

SALES TAX (If Any)
TOTAL CHARGES 13,180.56
DISCOUNT 3,954.16 (30%) IF PAID IN 30 DAYS
9,226.39 Net.

JOB LOG

SWIFT Services, Inc.

DATE 7-18-14 | PAGE NO. 1

CUSTOMER	WELL NO.	LEASE	JOB TYPE	TICKET NO.
Downing - Nelson Oil	1-24	Kramer Unit	5½" 2-Stage Longstring	26297

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	2330							On Location
	0130							Start 5½" Casing In Well
								TD - 5134 Set @ 4982
								TP - 4982 5½" 15.5
								ST - 42'
								Centralizers - 1,3,5,7,9,11,14,15,16,17,46,69,94
								Cmt Bskts - 18,47,70,95
								D.V. @ 3003' Top Jt # 47
	0400							Drop Ball - Circulate
	0440	6	12		✓		500	Pump 500 gal Mudflush
	0442	6	20		✓		500	Pump 20 bbls KCL - Flush
	0450	5	48		✓		300	Mix Cmt - 200 sks EA2 @ 15.5 ppg
	0500							Wash Out Pump - Lines
	0500							Release 1st Stage DV Latch Down Plug
	0502	6½	0		✓			Displace Plug
	0520	6	117.6				1500	Plug Down - Pse Up Latch In Plug
	0523						OK	Release Pse - Held
	0525							Drop DV Opening Plug
	0600				✓		1200	Open DV Tool - Circulate
	0630	6	20		✓		350	Pump 20 bbls KCL - Flush
	0635		7-5					Plug RH (30 sks) MH (20 sks)
	0645	4½	166		✓		200	Mix Cmt - 300 sks SMD @ 11.2 ppg
	0720							Wash Out Pump - Lines
	0720							Release DV Closing Plug
	0725	6	0		✓			Displace Plug
	0737	5	71.5				1750	Plug Down - Pse Up Close DV Tool
	0740						OK	Release Pse - Held
								Circulated 25 sks Cmt to Pit
								Wash Truck
	0830							Job Complete
								Thank You
								Wayne, Doug, Rob, John

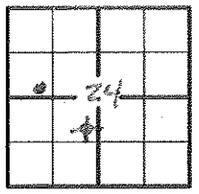
RON NELSON

CONSULTING PETROLEUM GEOLOGIST
3322 LINCOLN DRIVE
HAYS, KANSAS 67601
PHONE: 785-628-3449

GEOLOGIC REPORT LOG

COMPANY Downing-Nelson Oil Co Inc

WELL Kramer Unit #1-24
FIELD WILDCAT
LOCATION 1088' FWL 317' FSL
SEC. 24 TWP. 5S RGE. 37W
COUNTY CHEYENNE
STATE KANSAS



PRODUCTION Pawnee-LKC

ELEVATION KB 3299'
DF
GL 3276'

Drilling Measured From: KB

Samples Saved From 3800 To: TD
Drilling Time From 3500 To: TD
Samples Examined From: 4050 To: TD
Geological Supervision From 4050 To Total Depth
Wellsite Geologist Ron Nelson
Electrical Surveys Nabors - Dual Ind; Density-Neutron; Micro; Sonic

OPERATOR DNOCI
CONTRACTOR Nunnescah Drilling
COMM: 7-9-14 COMP: 7-18-14

CASING RECORD

SURF: 8 5/8" @ PROD: 5½" @ 5133'
TOTAL DEPTH DRILLERS: 5129'
TOTAL DEPTH LOG 5134'

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
TOP ANHYDRITE		3006	+289	-1
BASE ANHYDRITE		3034	+255	NA
HEEBNER	4115	4118	-819	-6
LKC	4168	4172	-873	-4
BKC	4419	4422	-1123	-2
PAWNEE	4555	4558	-1259	-3
FT. SCOTT	4607	4612	-1313	-8
CHEROKEE SHALE	4640	4644	-1345	-7
MISSISSIPPI	4862	4868	-1569	NA

REFERENCE WELL FOR STRUCTURE Thunderbird Drilling's Eggers 'C' #1 - Dry Hole @ SE-NW Sec. 25

DAILY PENETRATION		BIT RECORD						
DATE	DEPTH	NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS

FORMATION	INTERVAL	DESCRIPTION OF SHOW	LOG ANALYSIS O	LOG ANALYSIS S W

DRILL STEM TESTS

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	IHH–FHH	RECOVERY

REMARKS AND RECOMMENDATIONS NOT AS HIGH AS SEISMIC INDICATES BUT HAS Great Development

Ron Nelson

LEGEND

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

REMARKS

OIL SHOWS

SAMPLE DESCRIPTIONS

LITHOLOGY

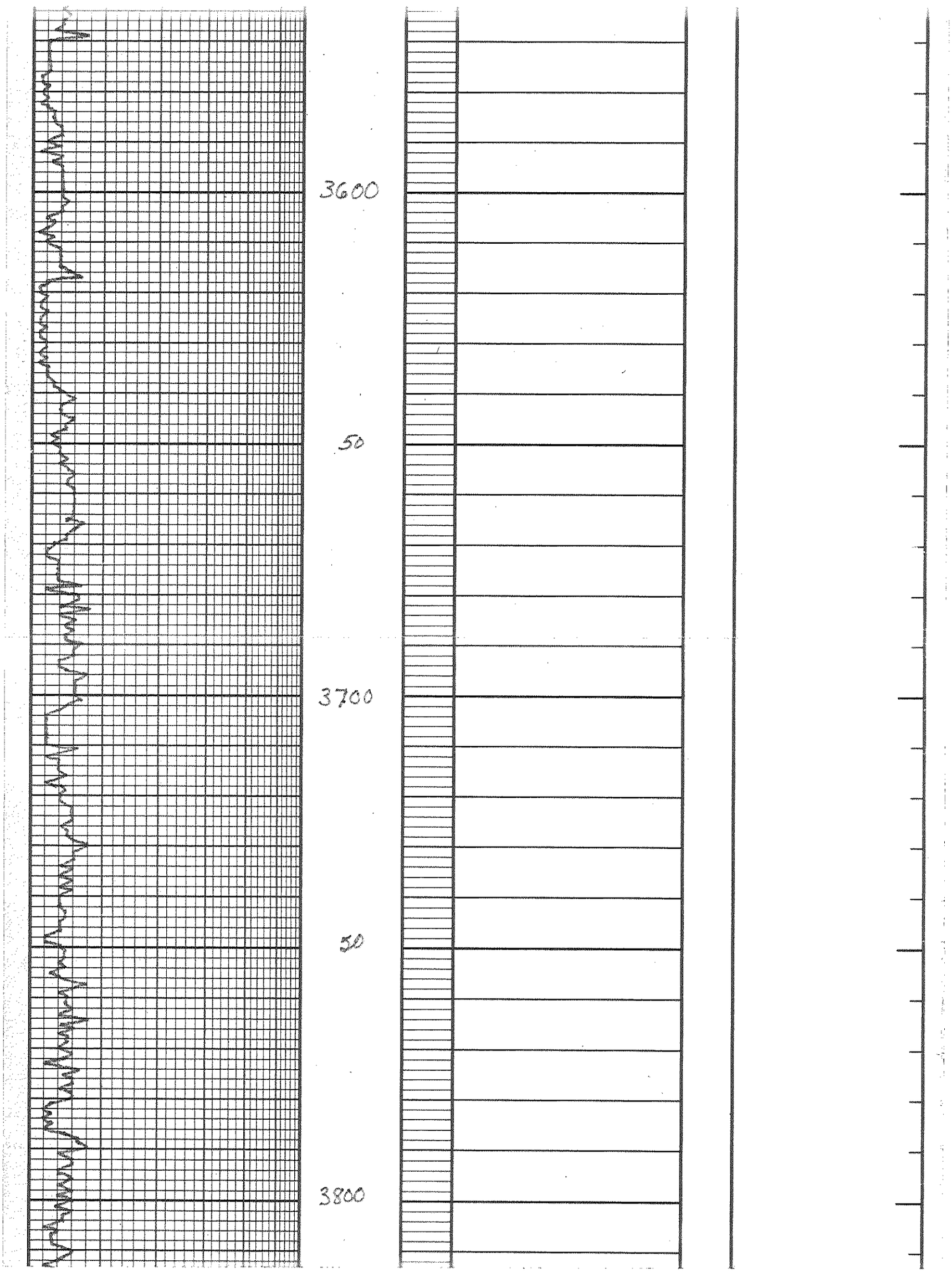
DEPTH 3500

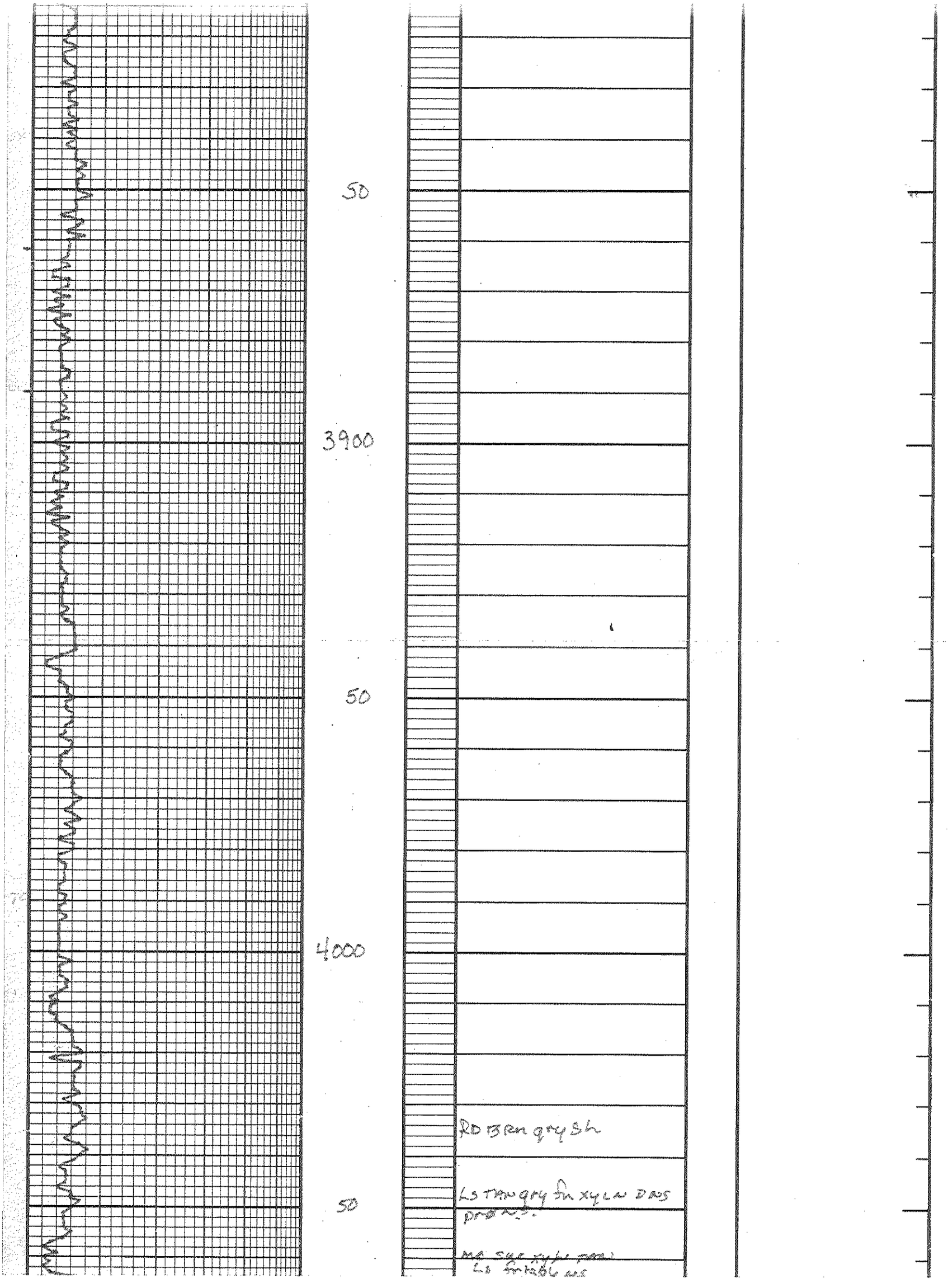
50

DRILLING TIME IN MINUTES PER FOOT
Rate of Penetration Decreases

5" 10" 15" 20" 25"

NELSON-8


3600
50
3700
50
3800


50
3900
50
4000
RD BRN gry SH
LS TAN gry SH XYL LN DAS
50

4100

50

4200

50

4300

lmg fr xylm dns pcs

Sh blk carb

dns tan - gry vfm xyln
cs no appears

ls aa sm clay

Sh blk carb

Dkbrn tan-gry mic xyln
vpre ls.

Sh dk gry mky buc

a/abdnt gry ao dk gry sh

ls tan. fn-coss, mod fm
xyln w/ fr pcs buc dd gls
stn. NSFO ao od

Sh ao brn

wh-tan dns ls, pr ixy/lx.
abdnt dd gils stn NSFO
ao od

Sh gry brn

sm blue, red
dns tan-wh cs

ls tan fn xyl cem pre
ms. w/ sh gry
lam & silt

a/aa ns gry Brnish
Dk gry & gry ls

ls wh-tan fn-vfn xyln
1-2 w/ mne blk streaky stn

NSFO. sm gns, no od pcs
than mic xyln dns
sl mky blk carb

w/ dn brn - tan cg strgrs
ns.

Dk gry Brnish
ls wh-tan fn xyln-vfn

xyln dns pr ixy/lx ns
than 1-2 pcs sctd pp bit/cs
VSSFO. no od. Hdm sctd spks
vbfg brecc

Sh s gry Brn

dns tan-gry ls wh xyln
pre ms.

ls tan-wh md xyln fn-gd
ap. sub/r to w/ ns

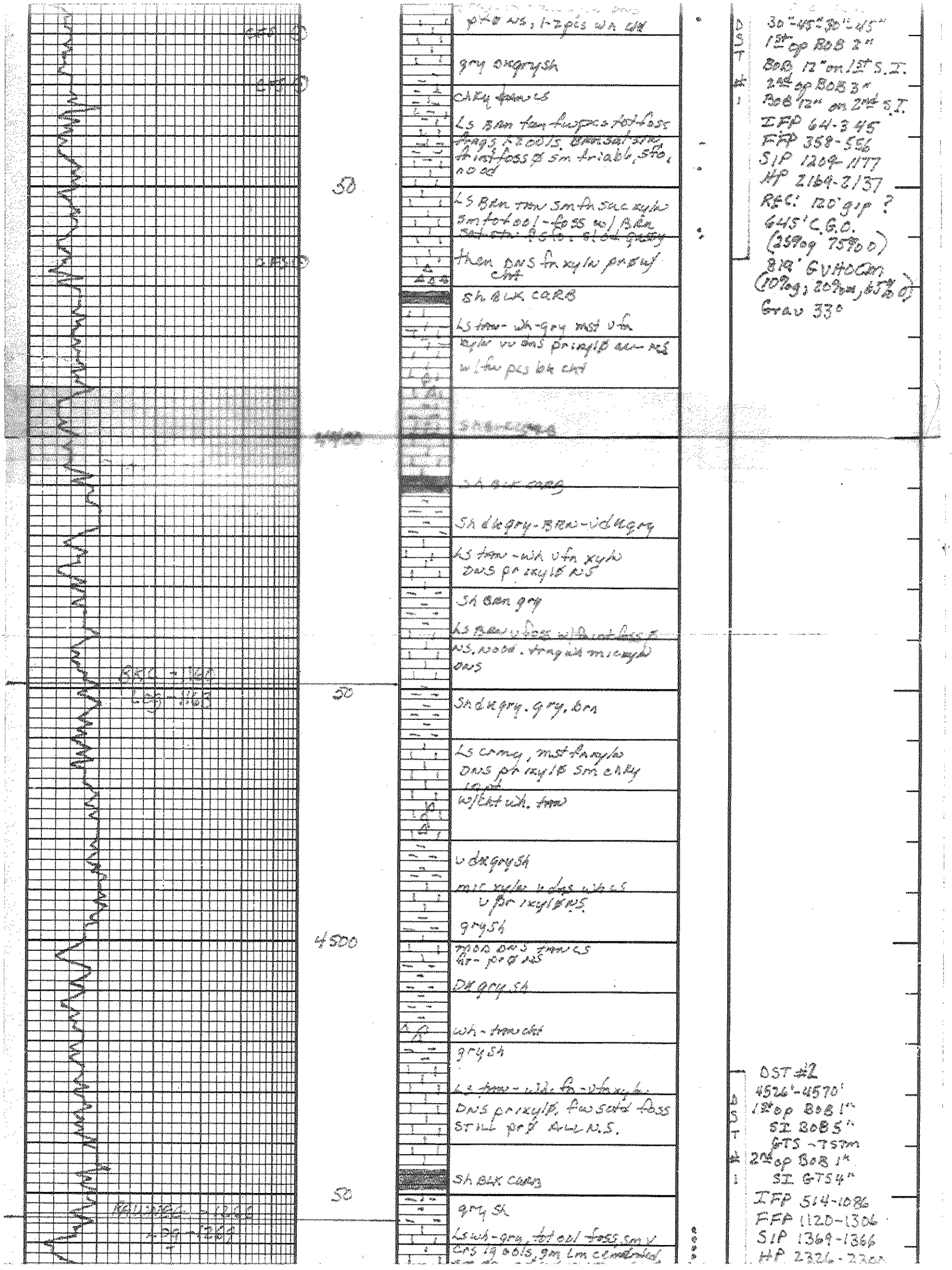
frng dns upre mic xyln
ns.

Sh brn gry gry
sl blk carb

ls wh-tan, sm fn-vfn xyln
w/ pr int xyln streaky blk
stn, sm gls, 1-2 pcs w/ SSFO

frng blk tarry no od

DST #1


50
4500
50
50
DST #1
30"-45"-30"-45"
1st op BOB 2"
BOB 12" on 15" S.I.
2nd op BOB 3"
BOB 12" on 2nd S.I.
IFP 64-345
FFP 358-556
SIP 1209-1177
HP 2164-2137
REC: 120' gip ?
645' C.G.O.
(3590g 7500)
BHT 6 UHOCAM
(10°g; 20hr, 45°C)
Grav 33°
DST #2
4526'-4570'
1st op BOB 1"
SI BOB 5"
GTS - 75m
2nd op BOB 1"
SI GTS 4"
IFP 514-1086
FFP 1120-1306
SIP 1369-1366
HP 2326-2320

4600

FT SCOTT 1348
KOG 1553

ATTACKED STRIKE 1351
MARMATON

50

4700

50

4800

gy/tn/ gy sh - rare lst interbd

DNS wh-tan vfn xln lses pr BNS

SH BLK carb

LS tan-tn-m os uc xln-fn-pn lam/bd by NS sm bioclastic

abdnt gry sh

LS wh-tan, ma-fn xln, sm f-vc v pr p. Sm pp & scat int xln BNS, ALL NS

SH BLK carb

DK GRY

LS wh-BRN, sm s/foss-ool w/scat intracl & NS.

Tan wh-tan micrxln vv DNS no app BNS w/ nuclei

SH BLK carb

SHS gry dk gry blky

V DNS micxln tan vcs pores

SHS gry blk-dk gry tr

DNS tan vcs pr BNS.

SS clrs, fr wh-clr mod gr w/ sm pp, sm gry clay lams

SS clrs fr clr - fr wh BRN mod srtd

abdnt SS clrs. mod gr subrnd fr sorted well cmtd, mst f.le. pr int gr p, sm clr, pr wh lmy, sm BRN shly

SLTS NS w/ RR BRN SH

SS clrs gr w/m. gr wh tan clr chtz xln & nod pyr

abdnt blk brn-DK gry w/ wh lmy cs - lmy ss argill clay, f.le NS pr-mod p

abdnt SH RD BRN DK gry

DNS wh cs pr BNS

abdnt SH dk gry. RD BRN, grn blk carb

w/ sm wh lmy cs clasts sltst. pcly. dirty w/ lm mat pyr. dns, mic-fn xln pcs NO BNS.

SLTS RD BRN gry grn

dk gry

ANC GTS SH 3820
3820' grassy blk w/ scat stands of 69 oil

50

4900

50

5000

50

Dir Test

Sh sa

Sh sa w/ dk gry

ss w/ sh sa w/ sh sa w/ ss

ss dk sh, lmy mxl, wkss
pr intgrn/brzs.

ss pr gry sh w/ lmy glauc
ls, mo sac xyls ls.
Mkr w/ sh sa ss xyls dol

Bm w/ sh sac xyls dols
sm w/ sh sa, occ ss
w/ coq ls

Sm dolo sh, sm glauc ss
sm sh stgs

Loss bmc Fo mxls
ls

Dk gry sh w/ sm occ
Sm ls

Suc xyls, fn. dolm ls, fr
pp & mpl ø's

Ls aa w/ sh s gry, sm

Ss aa w/ int bd ls stgs

Ss aa w/ int bd ls stgs

Dns stmac-wk ls w/ chd
& dolm ls pbds.

Mdly ls & dolm ls stgs occ
dns pkst ms.

Sh stgs & dns suc
ls sm th xyls ps

Dns fxmc

Ls stgs loss fo int dosp
ms

Ls wk-mod dns pr xyls ps
ms.

Dss, sm L-ed wkss

5100

5200

RTD -1840
LTD -1845

Stark Sh

Cong

Sh

Lm Dolan

5" 10" 15" 20" 25" DRILLING TIME Minutes/Foot — Rate of Penetration Decreases	DEPTH	LITHOLOGY	SAMPLE DESCRIPTIONS	OIL SHOWS	REMARKS
			Spec Sh		
			as a		
			as more dy stones		
			w grey & brn sh		
			grey brn sh		
			Dolo Brn-tan mi md sucrosic some vugs & vis.		

OPERATOR DNOC,I
LEASE Kramer Unit #1-24 IP PN-LKC
ELEVATION 3289' GL RTD 5129'

LOCATION 317' FSL & 1085' FWL
SEC 24 TWP 5S RNG 37W
COUNTY CHEYENNE STATE KANSAS