CORRECTION #1

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1259349

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 #:

07/22/2014	07/30/2014	08/01/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-023-21404-00-00
Spot Description:
S2 - SW - SW - SW Sec. 24 Twp. 5 S. R. 37 ☐ East ☑ West
50 Feet from ☐ North / ☑ South Line of Section
330 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 #: 2-24
Field Name: Wildcat
Producing Formation: LKC
Elevation: Ground: 3311 Kelly Bushing: 3324
Total Vertical Depth: 4950 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 300 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 3085 Feet
If Alternate II completion, cement circulated from: 3085
feet depth to: 0 w/ 300 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 18000 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:** 07/28/2015

CORRECTION #1
Page Two

[redacted]

1259349

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Kramer Unit Well #: 2-24

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: Attached Top: Attached Datum: 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	478	Common	300	2% Gel & 3% CC
Production Casing	7.875	5.5	14	4941	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	4401' - 4406'	500 gallons 20% Mud Acid	4401' - 4406'
		1500 gallons 20% NE	4401' - 4406'

TUBING RECORD: Size: 2.375 Set At: 4872' 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 2-24
Doc ID	1259349

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 2-24
Doc ID	1259349

Tops

Name	Top	Datum
Top Anhydrite	3037'	+287
Base Anhydrite	3074'	+250
Heebner	4155'	-831
LKC	4209'	-885
BKC	4493'	-1169
Pawnee	4604'	-1280
Fort Scott	4662'	-1338
Cherokee Shale	4686'	-1362
Mississippi	4916'	-1592

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 2-24
Doc ID	1259349

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	478	Common	300	2% Gel & 3% CC
Production Casing	7.875	5.5	14	4941	EA2	200	

Summary of Changes

Lease Name and Number: Kramer Unit 2-24

API/Permit #: 15-023-21404-00-00

Doc ID: 1259349

Correction Number: 1

Approved By: NAOMI JAMES

Field Name	Previous Value	New Value
Approved Date	10/02/2014	07/28/2015
Date of First or Resumed Production or SWD or Enhr	09/16/2014	09/04/2014
Save Link	../../kcc/detail/operatorEditDetail.cfm?docID=1218672	../../kcc/detail/operatorEditDetail.cfm?docID=1259349

Confidentiality Requested:
☑ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1218672

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

CONFIDENTIAL

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

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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 #:

07/22/2014	07/30/2014	08/01/2014
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

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330 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 #: 2-24
Field Name: Wildcat
Producing Formation: LKC
Elevation: Ground: 3311 Kelly Bushing: 3324
Total Vertical Depth: 4950 Plug Back Total Depth:
Amount of Surface Pipe Set and Cemented at: 300 Feet
Multiple Stage Cementing Collar Used? ☑ Yes ☐ No
If yes, show depth set: 3085 Feet
If Alternate II completion, cement circulated from: 3085
feet depth to: 0 w/ 300 sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)

Chloride content: 18000 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:**
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
ALT ☑ I ☐ II ☐ III **Approved by:** NAOMI JAMES **Date:** 10/02/2014

Operator Name: Downing-Nelson Oil Co Inc Lease Name: Kramer Unit Well #: 2-24

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

Geologist Report / Mud Logs ☐ Yes ☐ No

List All E. Logs Run:
Attached

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

Name: Attached Top: Attached Datum: 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
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Production Casing	7.875	5.5	14	4941	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	-			
	-			

1. Did you perform a hydraulic fracturing treatment on this well? ☐ Yes ☑ No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? ☐ Yes ☐ No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/ Injection: 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)*

PRODUCTION INTERVAL:

Top	Bottom

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
4					500 gallons 20% Mud Acid
					1500 gallons 20% NE

TUBING RECORD: Size: 2.375 Set At: 4872' Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 2-24
Doc ID	1218672

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 2-24
Doc ID	1218672

Tops

Name	Top	Datum
Top Anhydrite	3037'	+287
Base Anhydrite	3074'	+250
Heebner	4155'	-831
LKC	4209'	-885
BKC	4493'	-1169
Pawnee	4604'	-1280
Fort Scott	4662'	-1338
Cherokee Shale	4686'	-1362
Mississippi	4916'	-1592

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 2-24
Doc ID	1218672

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	4401' - 4406'	500 gallons 20% Mud Acid	4401' - 4406'
		1500 gallons 20% NE	4401' - 4406'

Form	ACO1 - Well Completion
Operator	Downing-Nelson Oil Co Inc
Well Name	Kramer Unit 2-24
Doc ID	1218672

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	478	Common	300	2% Gel & 3% CC
Production Casing	7.875	5.5	14	4941	EA2	200	

ALLIED OIL & GAS SERVICES, LLC

063265

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley, KS

DATE	SEC.	TWP.	RANGE	CALLED OUT	ON LOCATION	JOB START	JOB FINISH
7-23-14	24	5S	37W		12:00AM	1:00AM	1:30AM

LEASE	WELL #	LOCATION	COUNTY	STATE
Kramer unit	2-24	Brewster N to Rd 6 3W 3 1/2 S E into	Cheyenne	KS

OLD OR NEW (Circle one): NEW (circled)

CONTRACTOR Minnesota #101
TYPE OF JOB Surface
HOLE SIZE 12 1/4 T.D. 478
CASING SIZE 8 5/8 DEPTH 476
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 15'
PERFS.
DISPLACEMENT 29.3 bbl

OWNER Same

CEMENT

AMOUNT ORDERED 300sks com 3%cc 2%gel

		@		
COMMON	300sks	@	17.90	5,370.00
POZMIX		@		
GEL	564#	@	1.05	592.20
CHLORIDE	846#	@	1.10	930.60
ASC		@		
Material Total		@		6,892.80
(2068.84/30%)		@		
HANDLING	324.4 cuft	@	2.48	804.51
MILEAGE	14.1 ton x 55 x 2.75			2132.62
			TOTAL	

EQUIPMENT

PUMP TRUCK # 522 CEMENTER Kelly Gabel
HELPER Wayne McGaughy
BULK TRUCK # 890-241 DRIVER Juan T (Two)
BULK TRUCK # DRIVER

REMARKS:

rigged up
mixed cement
displaced with water
shut in.

cement did circulate
Thank You
Kelly & crew

SERVICE

		@		
DEPTH OF JOB				476'
PUMP TRUCK CHARGE				1512.35
EXTRA FOOTAGE		@		
MILEAGE	Mi HV 55	@	7.70	423.50
MANIFOLD		@		
	Mi LV 55	@	4.40	242.00
		@		
(1534.46/30%)			TOTAL	5,114.88

CHARGE TO: Downing-Nelson
STREET
CITY STATE ZIP

PLUG & FLOAT EQUIPMENT

	@		
	@		
	@		
	@		
	@		
	@		
		TOTAL	

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

SALES TAX (If Any)
TOTAL CHARGES 12,007.68
DISCOUNT 3602.30(30%) IF PAID IN 30 DAYS
8,405.37 Net

PRINTED NAME

SIGNATURE [signature]

JOB LOG — SWIFT Services, Inc.

DATE 7-31-14 | PAGE NO. 1

CUSTOMER	WELL NO. #	LEASE	JOB TYPE	TICKET NO.
Downing + Nelson	2-24	Kraemer Unit	2-Stage	26736

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS T	PUMPS C	PRESSURE (PSI) TUBING	PRESSURE (PSI) CASING	DESCRIPTION OF OPERATION AND MATERIALS
	0145							on location
								RTD 7950' LTD 7954'
								5½" x 15.5# x 4941' x 42'
								Cent 1, 3, 6, 10, 15, 42, 43
								Bask 2, 43, 44
								DV 44 @ 3087'
	0300							Start FE
	0500							Break Circ
	0600	5	0				250	Start Preflushes 500 gal Mud Flush 20 bbl KCL Flush
		5	32/0				250	Start 15A-2 Cement
	0615		48					End Cement
								Wash Pmp + L
								Drop D Plug
	0625	6	0				250	Start Displacement water
		5	50				300	Mud
	0645		116.5				500/1400	Land Plug
								Release Pressure
								Float Held
								Drop Opening Plug
	0650	2	7/4					Plug RH MH 30/50 sks SMD
	0654						1400	Open DV
	0700	5	0				200	Start KCL Flush 20 bbl
		5	20/0				200	Start 305 sks SMD Cement
	0746		170					End Cement
								Drop Closing Plug
	0745	6	0				200	Start Displacement
		5	140				250	Circ Cement
	0800		73.5				650/1400	Land Plug
								Release Pressure
								DV Closed
								circ 50 sks To Pit
								Thank You
								Nick, David S, Craig + Preston

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

Kramer Unit #2-24

24-5s-37w Cheyenne KS

Start Date: 2014.07.27 @ 06:55:00
End Date: 2014.07.27 @ 13:40:15
Job Ticket #: 56949 DST #: 1

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.02 @ 14:08:04

DRILL STEM TEST REPORT

Downing - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56949 **DST#: 1**

Test Start: 2014.07.27 @ 06:55:00

GENERAL INFORMATION:

Formation: **LKC "I - J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:50:30
Time Test Ended: 13:40:15

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 57

Interval: 4361.00 ft (KB) To 4405.00 ft (KB) (TVD)
Total Depth: 4405.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

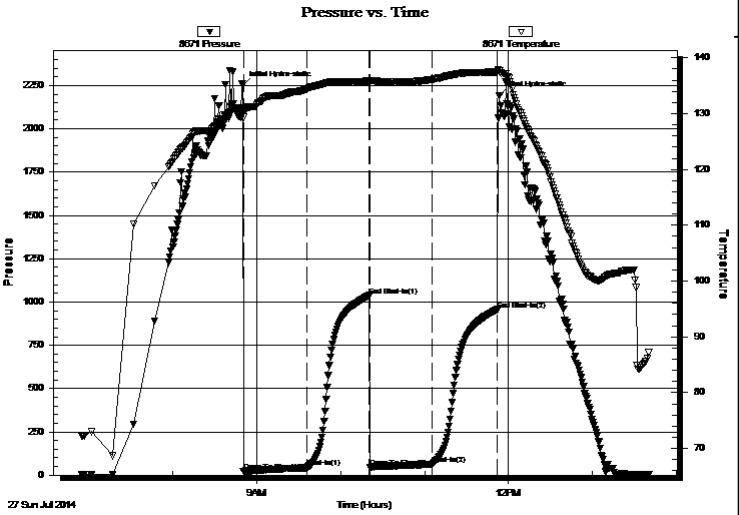
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8671 **Inside**

Press@RunDepth: 62.31 psig @ 4362.00 ft (KB)
Start Date: 2014.07.27 End Date: 2014.07.27
Start Time: 06:55:05 End Time: 13:40:14

Capacity: 8000.00 psig
Last Calib.: 2014.07.27
Time On Btm: 2014.07.27 @ 08:50:15
Time Off Btm: 2014.07.27 @ 11:53:30

TEST COMMENT: 45 - IF: Blow built to 10 1/4"
45 - ISI: No blow back
45 - FF: Blow built to 9 1/4"
45 - FSI: No blow back



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2249.49	130.71	Initial Hydro-static
1	22.98	129.39	Open To Flow (1)
46	43.27	134.36	Shut-In(1)
91	1037.65	135.83	End Shut-In(1)
91	42.78	135.71	Open To Flow (2)
136	62.31	136.11	Shut-In(2)
182	956.35	137.47	End Shut-In(2)
184	2193.35	137.68	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
63.00	GMO 43%o, 37%m, 20%g	0.88
47.00	GOCM 65%m, 20%o, 15%g	0.66
0.00	GIP = 140'	0.00

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56949 **DST#: 1**

Test Start: 2014.07.27 @ 06:55:00

GENERAL INFORMATION:

Formation: **LKC "I - J"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 08:50:30
Time Test Ended: 13:40:15

Test Type: Conventional Bottom Hole (Initial)
Tester: James Winder
Unit No: 57

Interval: 4361.00 ft (KB) To 4405.00 ft (KB) (TVD)
Total Depth: 4405.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

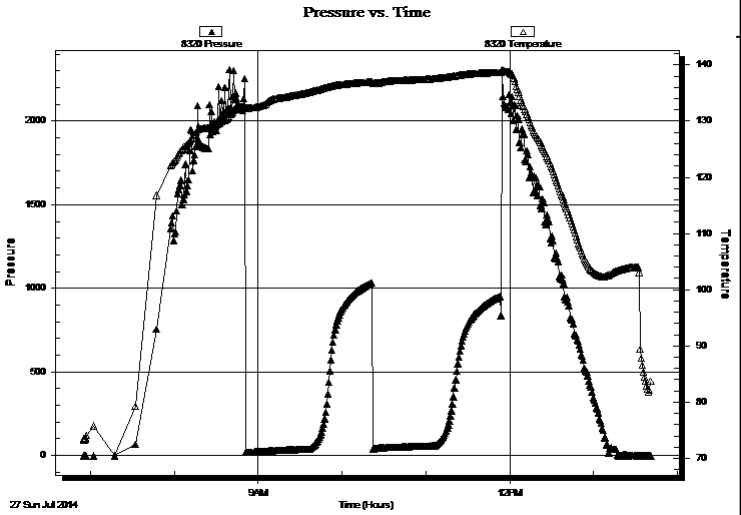
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8320 **Outside**

Press@RunDepth: psig @ 4362.00 ft (KB)
Start Date: 2014.07.27 End Date: 2014.07.27
Start Time: 06:55:05 End Time: 13:40:59

Capacity: 8000.00 psig
Last Calib.: 2014.07.27
Time On Btm:
Time Off Btm:

TEST COMMENT: 45 - IF: Blow built to 10 1/4"
45 - ISI: No blow back
45 - FF: Blow built to 9 1/4"
45 - FSI: No blow back



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
63.00	GMO 43%o, 37%m, 20%g	0.88
47.00	GOCM 65%m, 20%o, 15%g	0.66
0.00	GIP = 140'	0.00

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56949 **DST#: 1**

Test Start: 2014.07.27 @ 06:55:00

Tool Information

Drill Pipe:	Length:	4361.00 ft	Diameter:	3.80	inches	Volume:	61.17	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:	61.17	bbl	

Drill Pipe Above KB:	20.00 ft
Depth to Top Packer:	4361.00 ft
Depth to Bottom Packer:	ft
Interval betw een Packers:	44.00 ft
Tool Length:	64.00 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:		62000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	53000.00 lb
	Final	53000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4346.00		
Hydraulic tool	5.00			4351.00		
Packer	5.00			4356.00	20.00	Bottom Of Top Packer
Packer	5.00			4361.00		
Stubb	1.00			4362.00		
Recorder	0.00	8671	Inside	4362.00		
Recorder	0.00	8320	Outside	4362.00		
Perforations	7.00			4369.00		
Blank Spacing	33.00			4402.00		
Bullnose	3.00			4405.00	44.00	Bottom Packers & Anchor
Total Tool Length:	**64.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56949 **DST#: 1**

Test Start: 2014.07.27 @ 06:55:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	15.95 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

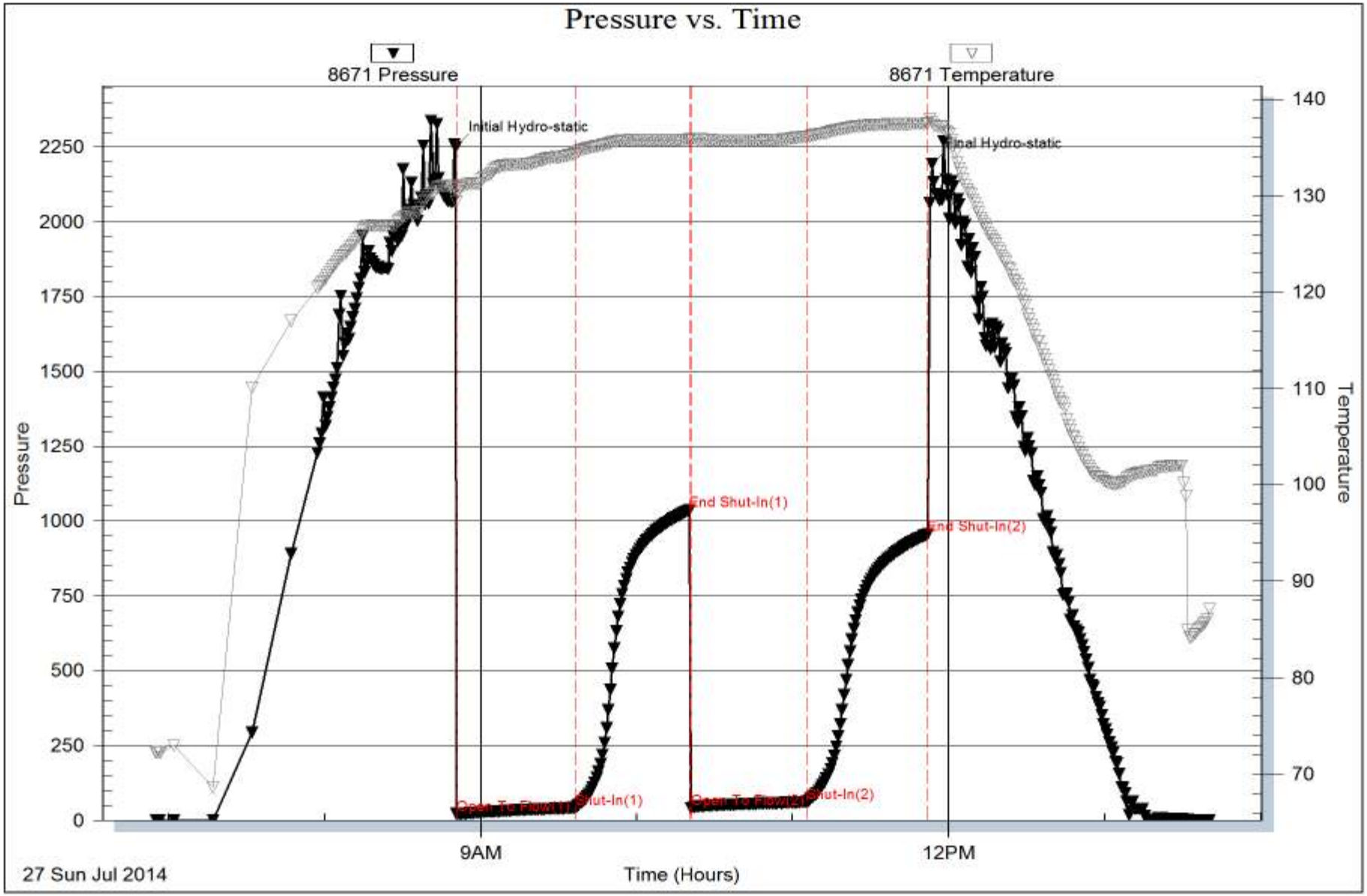
Recovery Table

Length ft	Description	Volume bbl
63.00	GMO 43%o, 37%m, 20%g	0.884
47.00	GOCM 65%m, 20%o, 15%g	0.659
0.00	GIP = 140'	0.000

Total Length: 110.00 ft Total Volume: 1.543 bbl

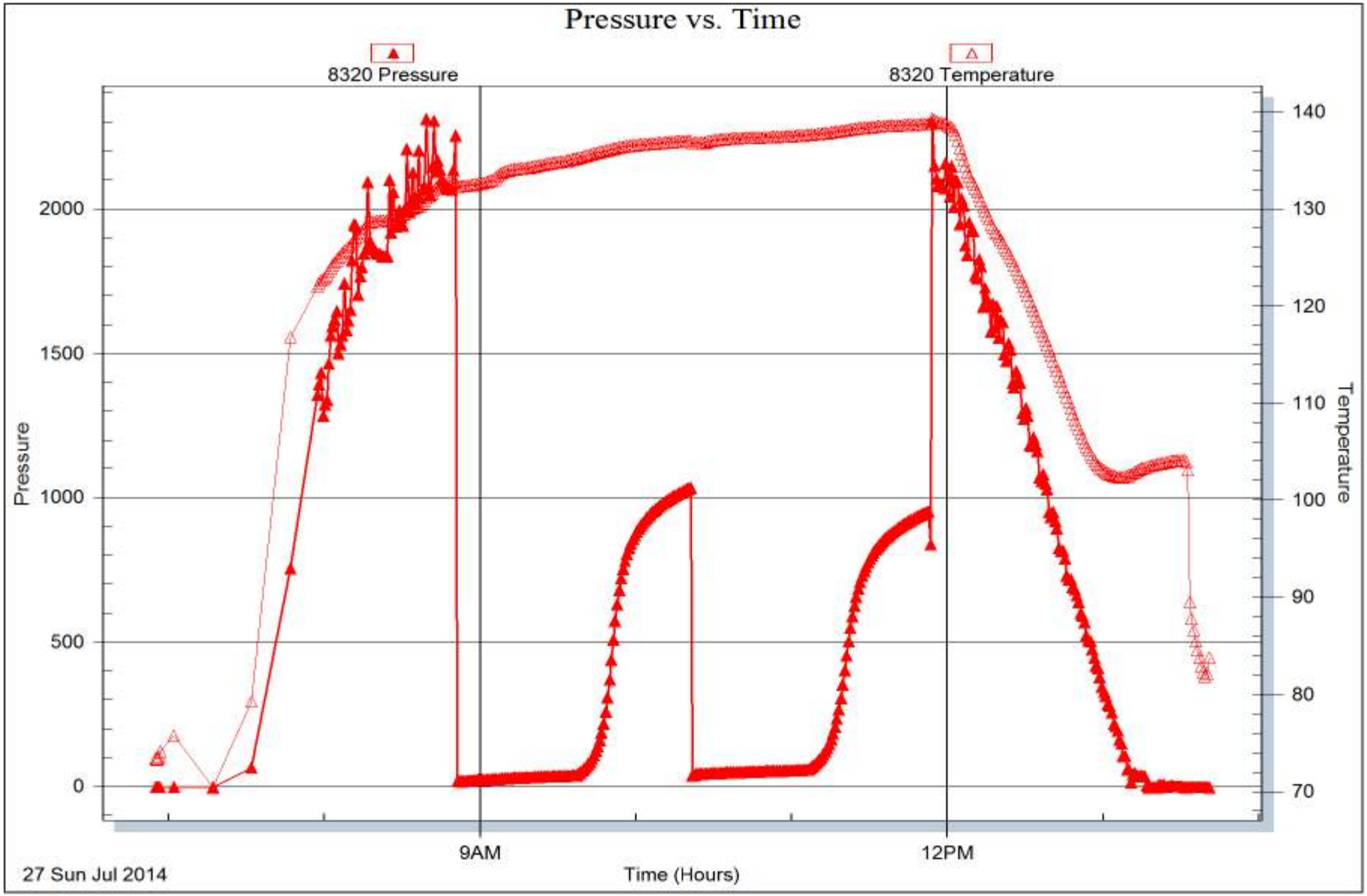
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8671 **Inside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56949 Printed: 2014.08.02 @ 14:08:05

Serial #: 8320 **Outside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 1



Trilobite Testing, Inc Ref. No: 56949 Printed: 2014.08.02 @ 14:08:05

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

Kramer Unit #2-24

24-5s-37w Cheyenne KS

Start Date: 2014.07.27 @ 14:12:00
End Date: 2014.07.27 @ 19:07:45
Job Ticket #: 56950 DST #: 2

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.02 @ 14:06:07

DRILL STEM TEST REPORT

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56950 **DST#: 2**

Test Start: 2014.07.27 @ 14:12:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:57:00
Time Test Ended: 19:07:45

Test Type: Conventional Straddle (Reset)
Tester: James Winder
Unit No: 57

Interval: 4324.00 ft (KB) To 4360.00 ft (KB) (TVD)
Total Depth: 4405.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

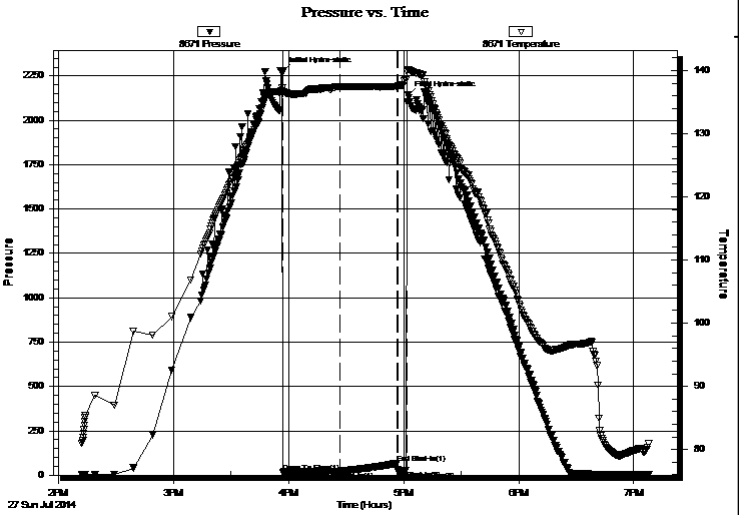
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8671 **Inside**

Press@RunDepth: 20.12 psig @ 4361.00 ft (KB)
Start Date: 2014.07.27 End Date: 2014.07.27
Start Time: 14:12:05 End Time: 19:07:44

Capacity: 8000.00 psig
Last Calib.: 2014.07.27
Time On Btm: 2014.07.27 @ 15:56:45
Time Off Btm: 2014.07.27 @ 17:02:15

TEST COMMENT: 30 - IF: Blow built to almost 1/2"
30 - ISI: No blow back
5 - FF: No blow , flushed tool, No blow
Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2272.66	137.20	Initial Hydro-static
1	17.70	136.30	Open To Flow (1)
30	20.12	137.41	Shut-In(1)
60	66.12	137.42	End Shut-In(1)
61	21.89	137.48	Open To Flow (2)
65	26.55	138.44	Shut-In(2)
66	2141.55	140.17	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 95%m, 3%o, 2%g	0.42

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56950 **DST#: 2**

Test Start: 2014.07.27 @ 14:12:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:57:00
Time Test Ended: 19:07:45

Test Type: Conventional Straddle (Reset)
Tester: James Winder
Unit No: 57

Interval: 4324.00 ft (KB) To 4360.00 ft (KB) (TVD)
Total Depth: 4405.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

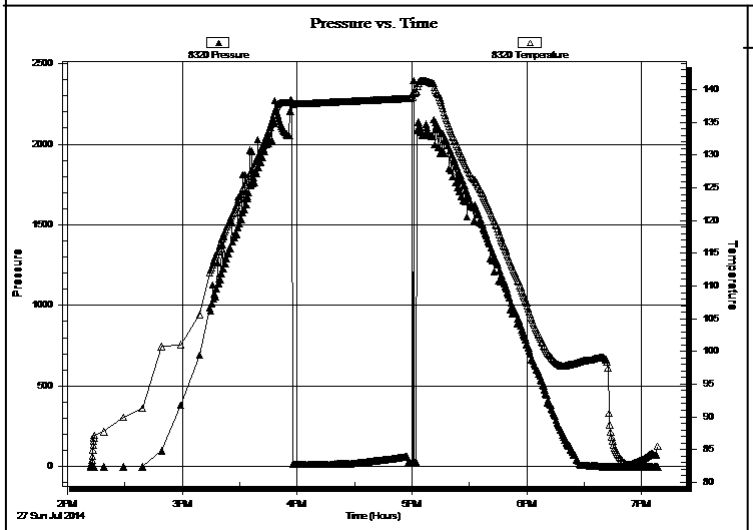
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8320 **Outside**

Press@RunDepth: psig @ 4325.00 ft (KB)
Start Date: 2014.07.27 End Date: 2014.07.27
Start Time: 14:12:05 End Time: 19:08:14

Capacity: 8000.00 psig
Last Calib.: 2014.07.27
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to almost 1/2"
30 - ISI: No blow back
5 - FF: No blow , flushed tool, No blow
Pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 95%m, 3%o, 2%g	0.42

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Downing - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56950 **DST#: 2**

Test Start: 2014.07.27 @ 14:12:00

GENERAL INFORMATION:

Formation: **LKC "H"**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:57:00
Time Test Ended: 19:07:45

Test Type: Conventional Straddle (Reset)
Tester: James Winder
Unit No: 57

Interval: 4324.00 ft (KB) To 4360.00 ft (KB) (TVD)
Total Depth: 4405.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

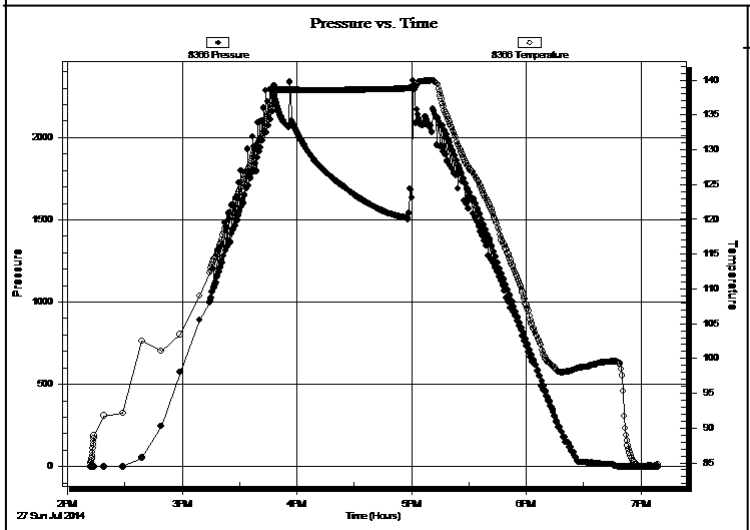
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8366 **Below (Straddle)**

Press@RunDepth: psig @ 4361.00 ft (KB)
Start Date: 2014.07.27 End Date: 2014.07.27
Start Time: 14:12:05 End Time: 19:08:59

Capacity: 8000.00 psig
Last Calib.: 2014.07.27
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to almost 1/2"
30 - ISI: No blow back
5 - FF: No blow , flushed tool, No blow
Pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
30.00	SOCM 95%m, 3%o, 2%g	0.42

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56950 **DST#: 2**

Test Start: 2014.07.27 @ 14:12:00

Tool Information

Drill Pipe:	Length:	4328.00 ft	Diameter:	3.80 inches	Volume:	60.71 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:	60.71 bbl	

Drill Pipe Above KB:	24.00 ft
Depth to Top Packer:	4324.00 ft
Depth to Bottom Packer:	4360.00 ft
Interval betw een Packers:	36.00 ft
Tool Length:	101.00 ft
Number of Packers:	3 Diameter: 6.75 inches

Tool Weight:		2500.00 lb
Weight set on Packer:		25000.00 lb
Weight to Pull Loose:		60000.00 lb
Tool Chased		0.00 ft
String Weight:	Initial	53000.00 lb
	Final	53000.00 lb

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4309.00		
Hydraulic tool	5.00			4314.00		
Packer	5.00			4319.00	20.00	Bottom Of Top Packer
Packer	5.00			4324.00		
Stubb	1.00			4325.00		
Recorder	0.00	6719	Inside	4325.00		
Recorder	0.00	8320	Outside	4325.00		
Perforations	30.00			4355.00		
Blank Off Sub	1.00			4356.00		
Blank Spacing	4.00			4360.00	36.00	Tool Interval
Packer	0.00			4360.00		
Packer - Shale	0.00			4360.00		
Stubb	1.00			4361.00		
Recorder	0.00	8366	Below	4361.00		
Perforations	8.00			4369.00		
Blank Spacing	33.00			4402.00		
Bullnose	3.00			4405.00	45.00	Bottom Packers & Anchor
Total Tool Length:	**101.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 56950 **DST#: 2**

Test Start: 2014.07.27 @ 14:12:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	51.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	15.94 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

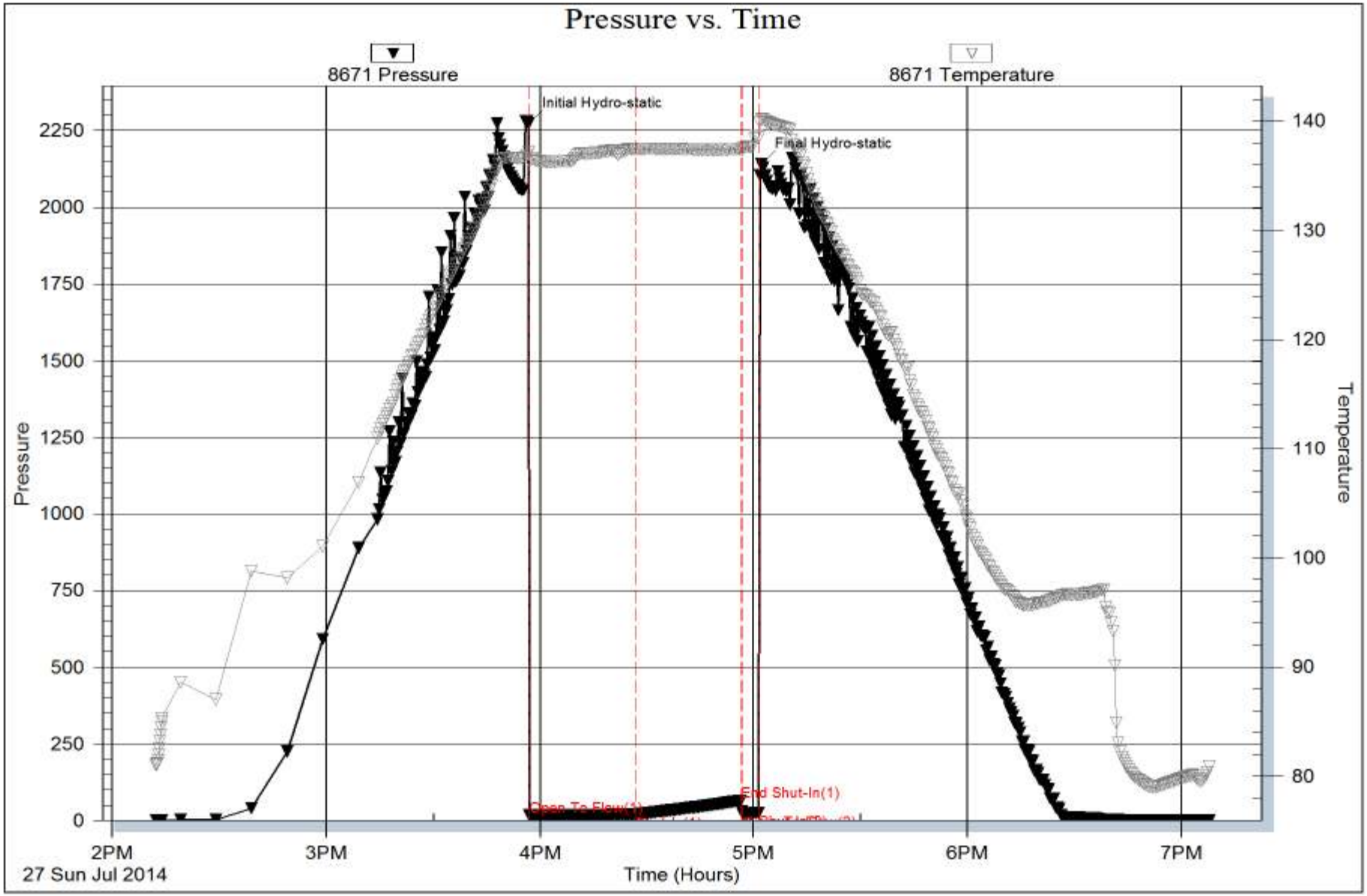
Recovery Table

Length ft	Description	Volume bbl
30.00	SOCM 95%m, 3%o, 2%g	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

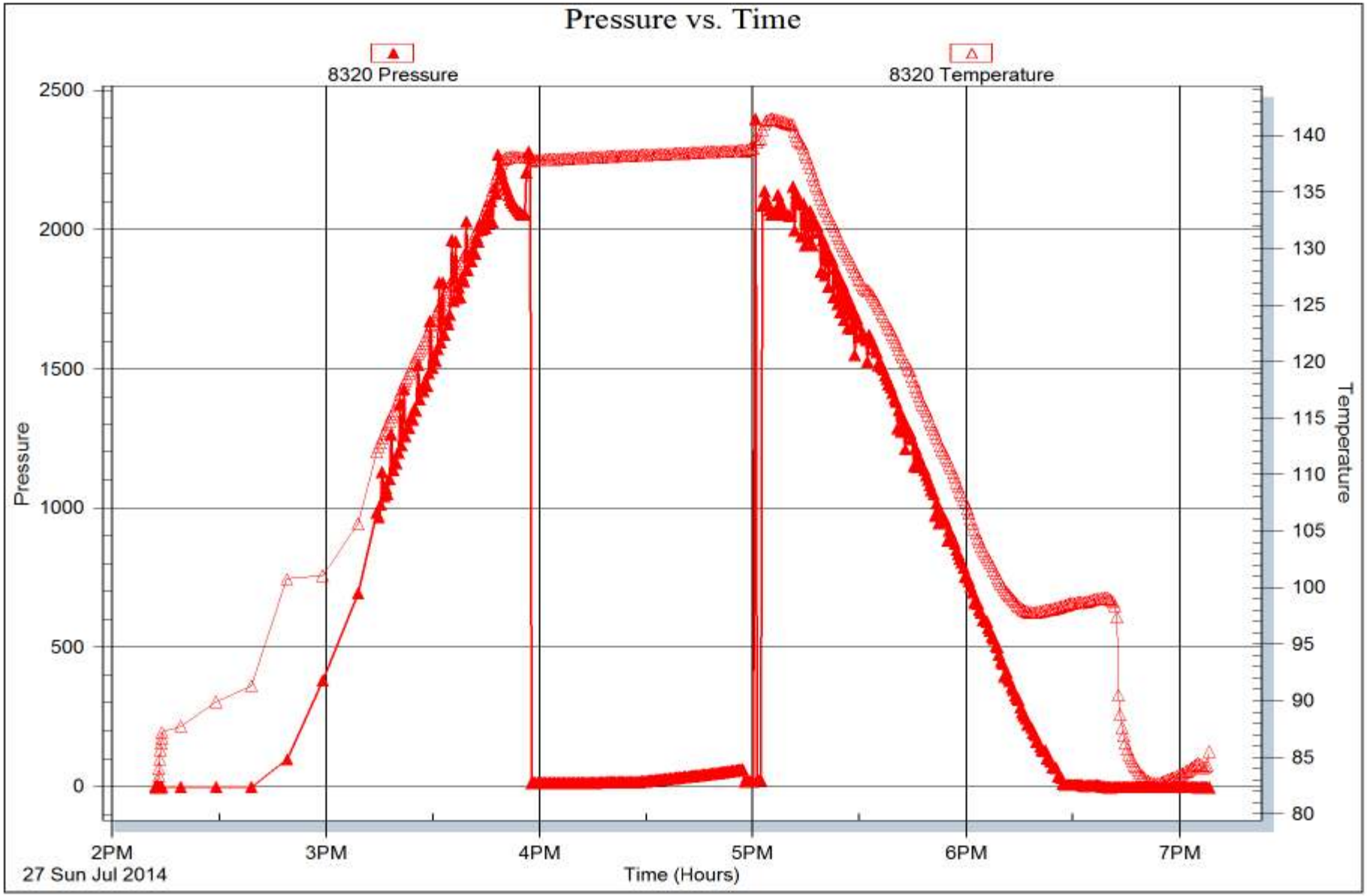
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8671 **Inside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 2



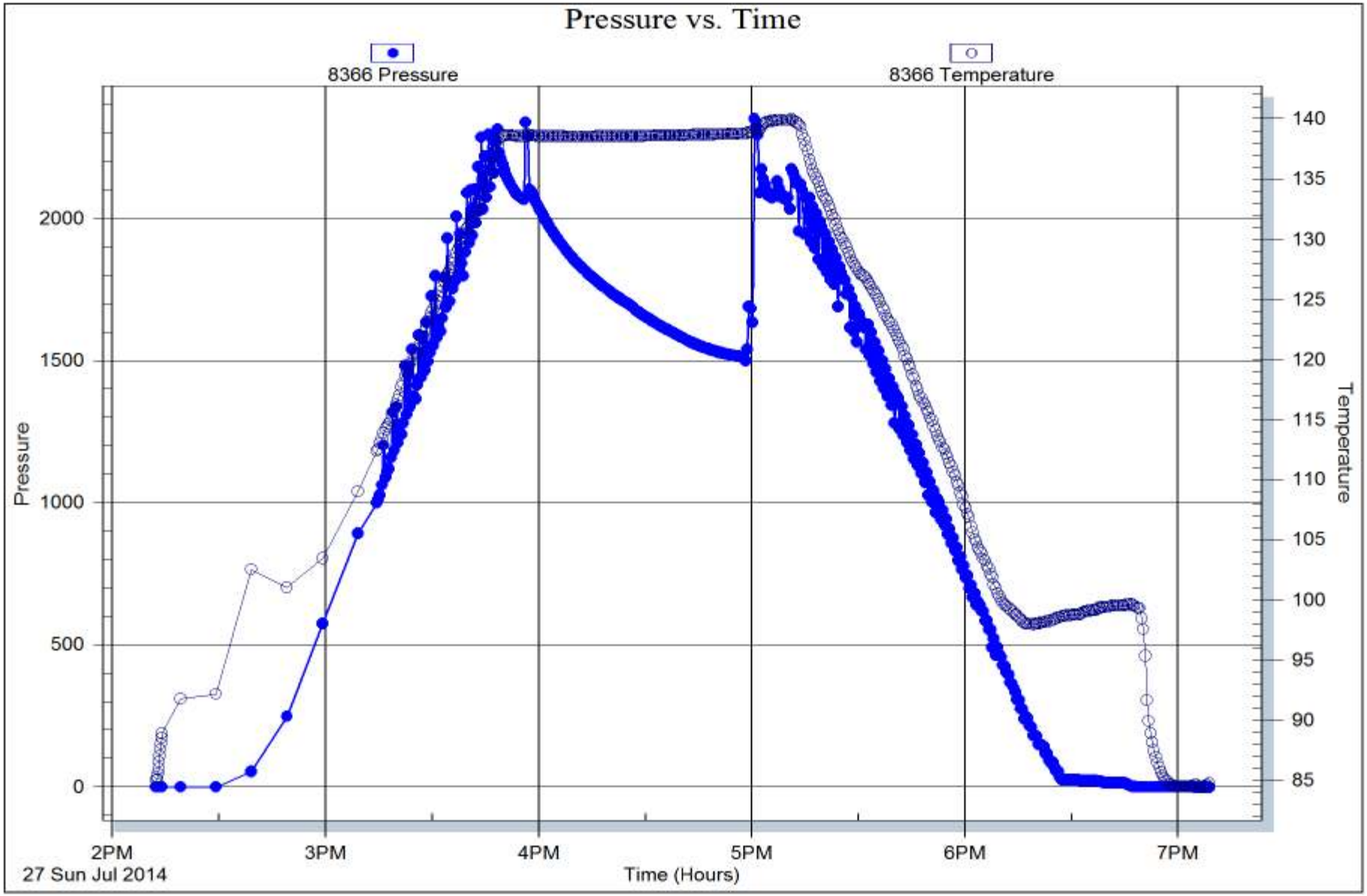
Trilobite Testing, Inc Ref. No: 56950 Printed: 2014.08.02 @ 14:06:09

Serial #: 8320 **Outside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 56950 Printed: 2014.08.02 @ 14:06:09

Serial #: 8366 Below (Straddle) Drilling - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 2



Trilobite Testing, Inc Ref. No: 56950 Printed: 2014.08.02 @ 14:06:09

TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

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

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

Kramer Unit #2-24

24-5s-37w Cheyenne KS

Start Date: 2014.07.28 @ 14:50:00
End Date: 2014.07.28 @ 19:49:30
Job Ticket #: 60051 DST #: 3

Trilobite Testing, Inc
1515 Commerce Parkway Hays, KS 67601
ph: 785-625-4778 fax: 785-625-5620

Printed: 2014.08.02 @ 14:04:14

DRILL STEM TEST REPORT

Downing - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 60051 **DST#: 3**

Test Start: 2014.07.28 @ 14:50:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:54:30
Time Test Ended: 19:49:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 57

Interval: 4580.00 ft (KB) To 4610.00 ft (KB) (TVD)
Total Depth: 4610.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

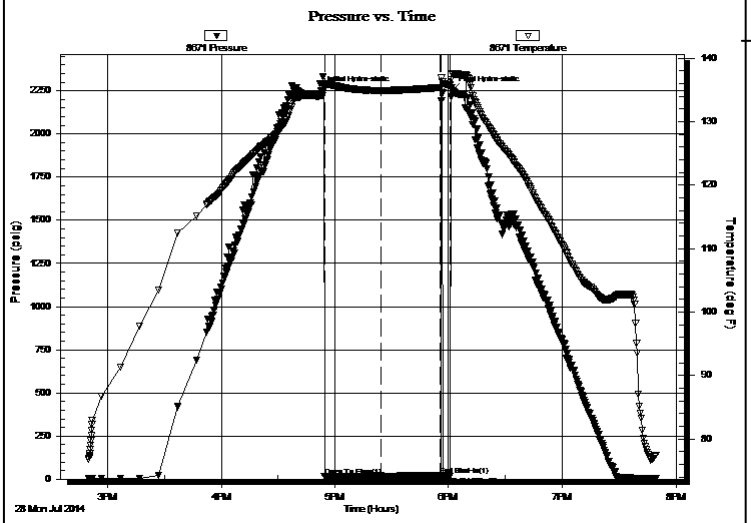
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8671 **Inside**

Press@RunDepth: 18.87 psig @ 4581.00 ft (KB)
Start Date: 2014.07.28 End Date: 2014.07.28
Start Time: 14:50:05 End Time: 19:49:29

Capacity: 8000.00 psig
Last Calib.: 2014.07.28
Time On Btm: 2014.07.28 @ 16:52:45
Time Off Btm: 2014.07.28 @ 18:02:00

TEST COMMENT: 30 - IF: Blow built to 1/8", died back, dead at 15 min.
30 - ISI: No blow back
5 - FF: No blow , flushed tool, no blow
Pulled tool



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2253.33	134.18	Initial Hydro-static
2	14.86	135.33	Open To Flow (1)
32	18.87	134.93	Shut-In(1)
63	21.67	135.40	End Shut-In(1)
64	16.54	135.40	Open To Flow (2)
68	18.31	135.77	Shut-In(2)
70	2252.45	137.62	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.01
0.00	Oil spots in tool	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 60051 **DST#: 3**

Test Start: 2014.07.28 @ 14:50:00

GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 16:54:30
Time Test Ended: 19:49:30

Test Type: Conventional Bottom Hole (Reset)
Tester: James Winder
Unit No: 57

Interval: 4580.00 ft (KB) To 4610.00 ft (KB) (TVD)
Total Depth: 4610.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

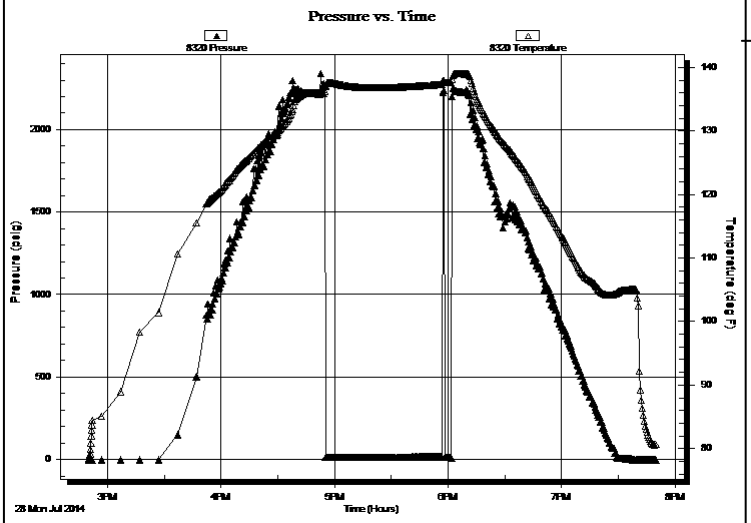
Reference Elevations: 3289.00 ft (KB)
3275.00 ft (CF)
KB to GR/CF: 14.00 ft

Serial #: 8320 **Outside**

Press@RunDepth: psig @ 4581.00 ft (KB)
Start Date: 2014.07.28 End Date: 2014.07.28
Start Time: 14:50:05 End Time: 19:49:44

Capacity: 8000.00 psig
Last Calib.: 2014.07.28
Time On Btm:
Time Off Btm:

TEST COMMENT: 30 - IF: Blow built to 1/8", died back, dead at 15 min.
30 - ISI: No blow back
5 - FF: No blow , flushed tool, no blow
Pulled tool



PRESSURE SUMMARY

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

Recovery

Length (ft)	Description	Volume (bbl)
1.00	Mud 100%	0.01
0.00	Oil spots in tool	0.00

* Recovery from multiple tests

Gas Rates

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

DRILL STEM TEST REPORT

TOOL DIAGRAM

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 60051 **DST#: 3**

Test Start: 2014.07.28 @ 14:50:00

Tool Information

Drill Pipe:	Length:	4584.00 ft	Diameter:	3.80 inches	Volume:	64.30 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:	66000.00 lb
					Total Volume:	64.30 bbl	Tool Chased	0.00 ft
Drill Pipe Above KB:		24.00 ft					String Weight: Initial	53000.00 lb
Depth to Top Packer:		4580.00 ft					Final	53000.00 lb
Depth to Bottom Packer:		ft						
Interval betw een Packers:		30.00 ft						
Tool Length:		50.00 ft						
Number of Packers:		2	Diameter:	6.75 inches				

Tool Comments: tool slid 12' to bottom before open, no mud loss

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths	
Shut In Tool	5.00			4565.00		
Hydraulic tool	5.00			4570.00		
Packer	5.00			4575.00	20.00	Bottom Of Top Packer
Packer	5.00			4580.00		
Stubb	1.00			4581.00		
Recorder	0.00	8671	Inside	4581.00		
Recorder	0.00	8320	Outside	4581.00		
Perforations	26.00			4607.00		
Bullnose	3.00			4610.00	30.00	Bottom Packers & Anchor
Total Tool Length:	**50.00**					

DRILL STEM TEST REPORT

FLUID SUMMARY

Dow ning - Nelson Oil Co., Inc.

PO Box 1019
Hays, KS 67601

ATTN: Ron Nelson

24-5s-37w Cheyenne KS

Kramer Unit #2-24

Job Ticket: 60051 **DST#: 3**

Test Start: 2014.07.28 @ 14:50:00

Mud and Cushion Information

Mud Type:	Gel Chem	Cushion Type:		Oil API:	deg API
Mud Weight:	9.00 lb/gal	Cushion Length:	ft	Water Salinity:	ppm
Viscosity:	55.00 sec/qt	Cushion Volume:	bbl		
Water Loss:	9.98 in³	Gas Cushion Type:			
Resistivity:	ohm.m	Gas Cushion Pressure:	psig		
Salinity:	500.00 ppm				
Filter Cake:	1.00 inches				

Recovery Information

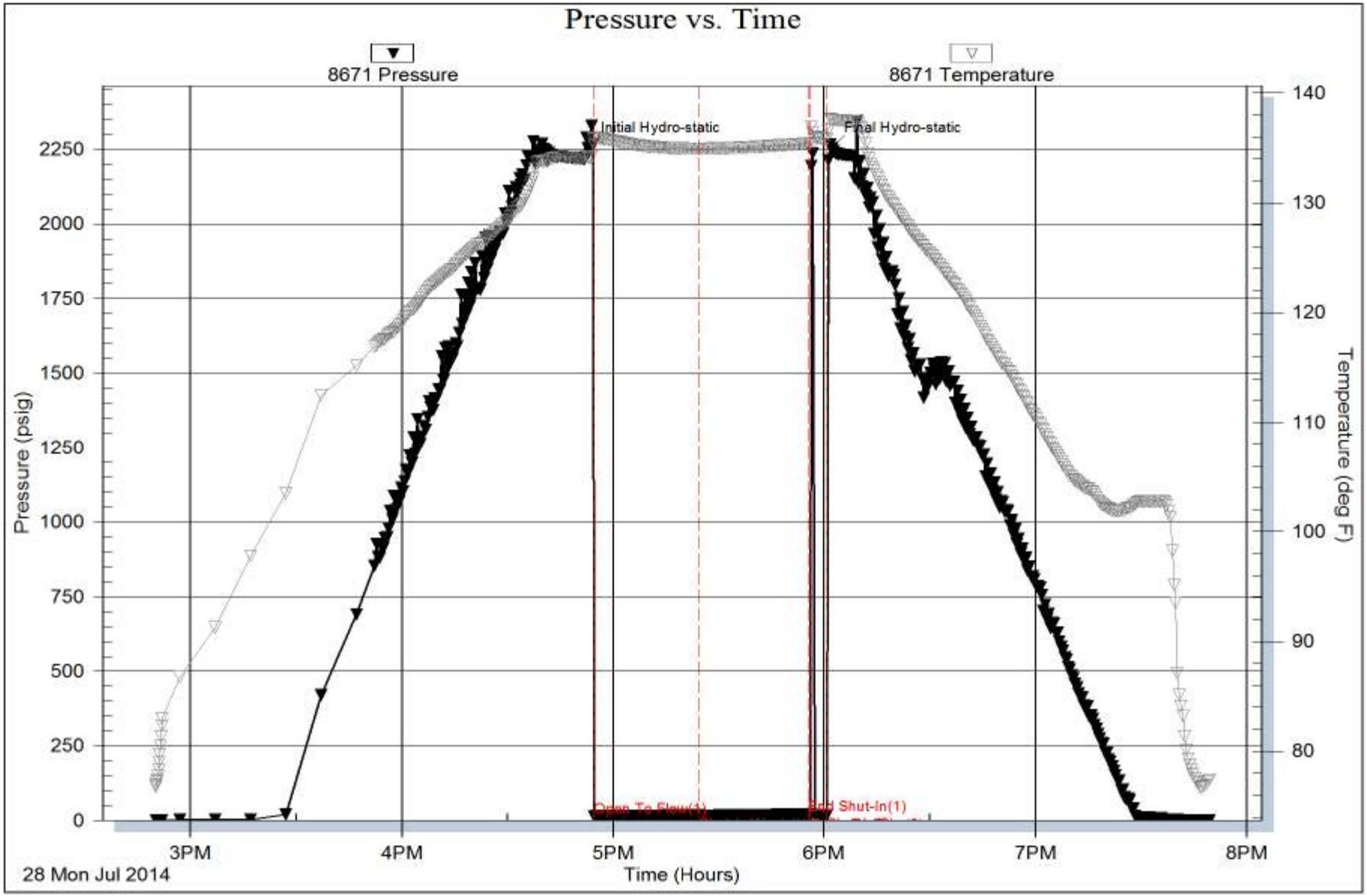
Recovery Table

Length ft	Description	Volume bbl
1.00	Mud 100%	0.014
0.00	Oil spots in tool	0.000

Total Length: 1.00 ft Total Volume: 0.014 bbl

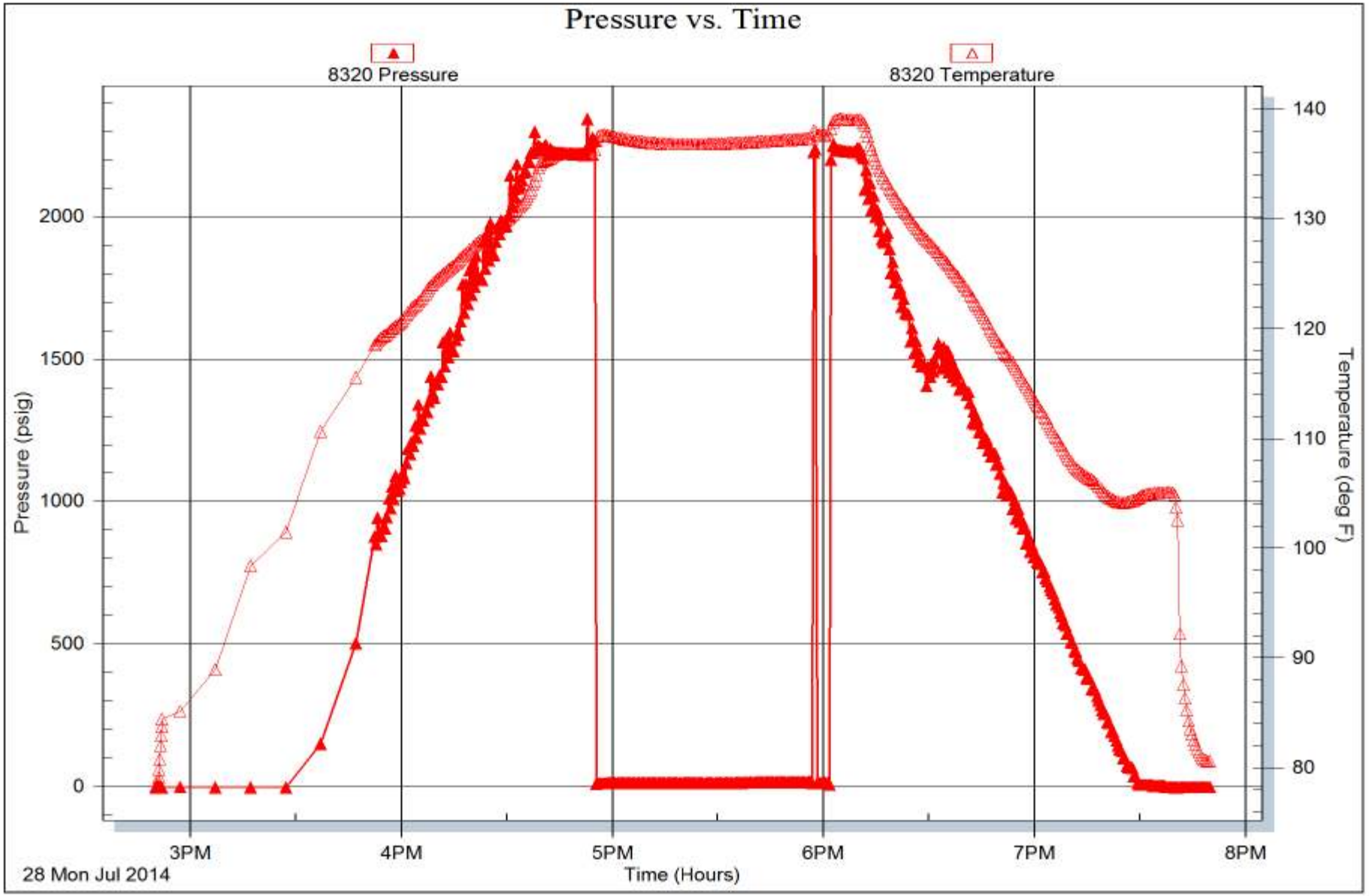
Num Fluid Samples: 0 Num Gas Bombs: 0 Serial #:
Laboratory Name: Laboratory Location:
Recovery Comments:

Serial #: 8671 **Inside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60051 Printed: 2014.08.02 @ 14:04:15

Serial #: 8320 **Outside** Dow ning - Nelson Oil Co., Inc. Kramer Unit #2-24 DST Test Number: 3



Trilobite Testing, Inc Ref. No: 60051 Printed: 2014.08.02 @ 14:04:16

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 56949

Well Name & No. Kramer Unit #2-24 Test No. 1 Date 7-27-14

Company Downing-Nelson Oil Co. Inc Elevation 3289 KB 3275 GL

Address PO Box 1019 Hays KS 67601

Co. Rep / Geo. Ron Nelson Rig Ninnescah #101

Location: Sec. 24 Twp. 5s Rge. 37w Co. Cheyenne State KS

Interval Tested 4361 - 4405 Zone Tested LKC "I-J"

Anchor Length 44 Drill Pipe Run 4361 Mud Wt. 9.0

Top Packer Depth 4356 Drill Collars Run - Vis 51

Bottom Packer Depth 4361 Wt. Pipe Run - WL 16

Total Depth 4405 Chlorides 500 ppm System LCM ~~5~~ -

Blow Description IF: Blow built to 10¼"

ISI: No blowback

FF: Blow built to 9¼"

FSI: No blowback

Rec 47	Feet of GOCM	15 %gas	20 %oil	- %water	65 %mud
Rec 63	Feet of GMO	20 %gas	43 %oil	- %water	37 %mud
Rec	Feet of GIP = 140'	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 110 BHT 138 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2249	☑ Test 1250	T-On Location 6:20
(B) First Initial Flow 23	☐ Jars	T-Started 6:55
(C) First Final Flow 43	☐ Safety Joint	T-Open 8:50
(D) Initial Shut-In 1038	☑ Circ Sub	T-Pulled 11:52
(E) Second Initial Flow 43	☐ Hourly Standby	T-Out 13:40
(F) Second Final Flow 62	☑ Mileage 138RT 201.50	Comments
(G) Final Shut-In 956	☐ Sampler	
(H) Final Hydrostatic 2193	☐ Straddle	☐ 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 1451.50
Final Shut-In 45	☐ Accessibility	MP/DST Disc't
	Sub Total 1451.50	

Approved By ____ Our Representative James Winter

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 56950

Well Name & No. Kramer Unit #2-24 Test No. 2 Date 7-27-14

Company Downing - Nelson Oil Co. Inc Elevation 3289 KB 3275 GL

Address PO Box 1019 Hays, KS 67601

Co. Rep / Geo. Ron Nelson Rig Ninnescah #101

Location: Sec. 24 Twp. 5s Rge. 37w Co. Cheyenne State KS

Interval Tested 4324-4360 Zone Tested LKC "H"

Anchor Length 36 Anchor 45 tail Drill Pipe Run 4328 Mud Wt. 9.0

Top Packer Depth 4319 - 4324 Drill Collars Run - Vis 51

Bottom Packer Depth 4360 Wt. Pipe Run - WL 16

Total Depth 4405 Chlorides 500 ppm System LCM -

Blow Description IF: Blow built to almost ½"

ISI: No blowback

FF: No blow, Flushed tool No blow

Pulled tool

Rec 30	Feet of 50cm	2 %gas	3 %oil	- %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 30 BHT Gravity API RW @ °F Chlorides ppm

(A) Initial Hydrostatic 2273	☑ Test 1250	T-On Location 14:00	
(B) First Initial Flow 18	☐ Jars	T-Started 14:12	
(C) First Final Flow 20	☐ Safety Joint	T-Open 15:57	
(D) Initial Shut-In 66	☐ Circ Sub	T-Pulled 17:01	
(E) Second Initial Flow 22	☐ Hourly Standby	T-Out 19:00	
(F) Second Final Flow 27	☐ Mileage	Comments	
(G) Final Shut-In 8	☐ Sampler		
(H) Final Hydrostatic 2142	☑ Straddle 600	☐ Ruined Shale Packer	
	☐ Shale Packer	☑ Ruined Packer 1 320	
Initial Open 30	☐ Extra Packer	☐ Extra Copies	
Initial Shut-In 30	☐ Extra Recorder	Sub Total 0	
Final Flow 5	☐ Day Standby	Total 2170	
Final Shut-In -	☐ Accessibility	MP/DST Disc't	
	Sub Total 2170		

Approved By Our Representative James Winn

TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

4/10

Test Ticket

NO. 60051

Well Name & No. Kramer Unit #2-24 Test No. 3 Date 7-28-14

Company Downing-Nelson Oil Co. Inc Elevation 3289 KB 3275 GL

Address PO Box 1019 Hays KS 67601

Co. Rep / Geo. Ron Nelson Rig Ninnescah

Location: Sec. 24 Twp. 5s Rge. 37w Co. Cheyenne State KS

Interval Tested 4580 - 4610 Zone Tested Pawnee

Anchor Length 30 Drill Pipe Run 4584 Mud Wt. 9.1

Top Packer Depth 4575 Drill Collars Run - Vis 55

Bottom Packer Depth 4580 Wt. Pipe Run - WL 10

Total Depth 4610 Chlorides 500 ppm System LCM -

Blow Description IF: Blow built to 1/8", died back, dead at 15 min.

ISI: No blowback

FF: No blow, Flushed tool, No blow

Pulled tool

Rec 1	Feet of Mud	%gas	%oil	%water	100	%mud
Rec	Feet of Oil spots in tool	%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 1 BHT 138 Gravity ____ API RW ____ @ ____ °F Chlorides ____ ppm

(A) Initial Hydrostatic 2253

(B) First Initial Flow 15

(C) First Final Flow 19

(D) Initial Shut-In 22

(E) Second Initial Flow 17

(F) Second Final Flow 18

(G) Final Shut-In -

(H) Final Hydrostatic 2252

Initial Open 30

Initial Shut-In 30

Final Flow 5

Final Shut-In -

- ☑ Test 1250
- ☐ Jars
- ☐ Safety Joint
- ☐ Circ Sub
- ☐ Hourly Standby
- ☑ Mileage 130RT X2 403
- ☐ Sampler
- ☐ Straddle
- ☐ Shale Packer
- ☐ Extra Packer
- ☐ Extra Recorder
- ☑ Day Standby Tools loaded 19:30 7-30
- ☐ Accessibility

Sub Total 1653

T-On Location 14:35

T-Started 14:50

T-Open 16:54

T-Pulled 18:00

T-Out 19:45

Comments tool slid 12' to bottom before open - No mud loss

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

Sub Total 800

Total 2453

MP/DST Disc't

Approved By ____ Our Representative James Winkler

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 #24-2
FIELD UNNAMED
LOCATION 50'S & 330'W E/2-SW-SW-SW
SEC 24 TWP. 5S RGE 37W
COUNTY CHEYENNE
STATE KANSAS

PRODUCTION LKC

ELEVATION KB 3324'
DF
GL 3311'
Drilling Measured From: KB

Samples Saved From 3500 To: RTD
Drilling Time From 3500 To: TD
Samples Examined From: 4150 To: TD
Geological Supervision From 4150 To Total Depth
Wellsite Geologist Ron Nelson
Electrical Surveys NABORS - DUAL INDUCTION - MICRO - DENSITY NEUTRON - SONIC

OPERATOR DNOC I
CONTRACTOR Nabors Drilling
COMM: 7-22-14 COMP: 7-30-14

CASING RECORD
SURF: 8 5/8" @ 476' PROD: 5 1/2" @ 4952'
TOTAL DEPTH DRILLERS: 4950'
TOTAL DEPTH LOG 4952'

FORMATION TOPS AND STRUCTURAL POSITION

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
TOP ANHYDRITE		3037	+287	-2
BASE ANHYDRITE		3074	+250	-5
HEEBNER	4152	4156	-831	-2
LKC	4205	4209	-884	-2
BKC	4488	4493	-1165	-6
PAWNEE	4600	4604	-1280	-11
FORT SCOTT	4658	4662	-1338	-5
CHEROKEE SHALE	4687	4686	-1362	-7
MISSISSIPPI	4912	4916	-1592	-13

REFERENCE WELL FOR STRUCTURE DNOC I's Kramer Unit #1
Produced @ 1085' FWL & 317' FSL 24-5-37

DAILY PENETRATION

DATE	DEPTH

BIT RECORD

NO	SIZE	MAKE	TYPE	DEPTH OUT	FEET	HOURS

FORMATION	INTERVAL	DESCRIPTION OF SHOW	LOG ANALYSIS O I S W

DRILL STEM TESTS

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

REMARKS AND RECOMMENDATIONS SMALL LKC TEST - NO PAWNEE DEVELOPMENT/ LOW. Ron Nelson

LEGEND

Dolomite

Chert

Ool.Lime

Limestone

Carb sh

Shale

Sandstone

Salt

Anhydrite

REMARKS

OIL SHOWS

SAMPLE DESCRIPTIONS

LITHOLOGY

DEPTH

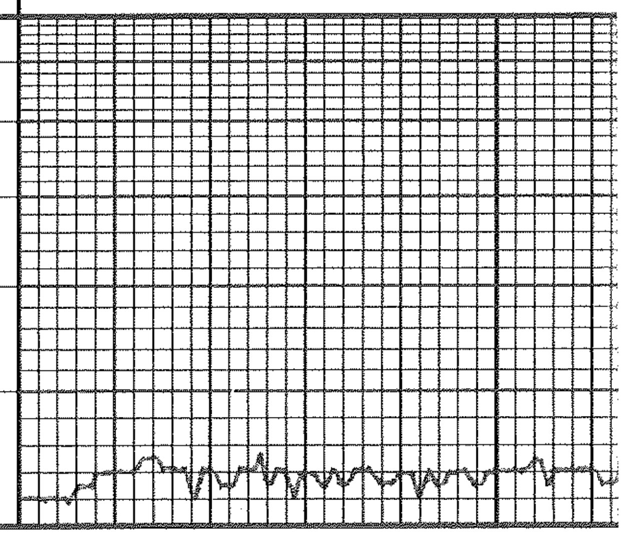
3300

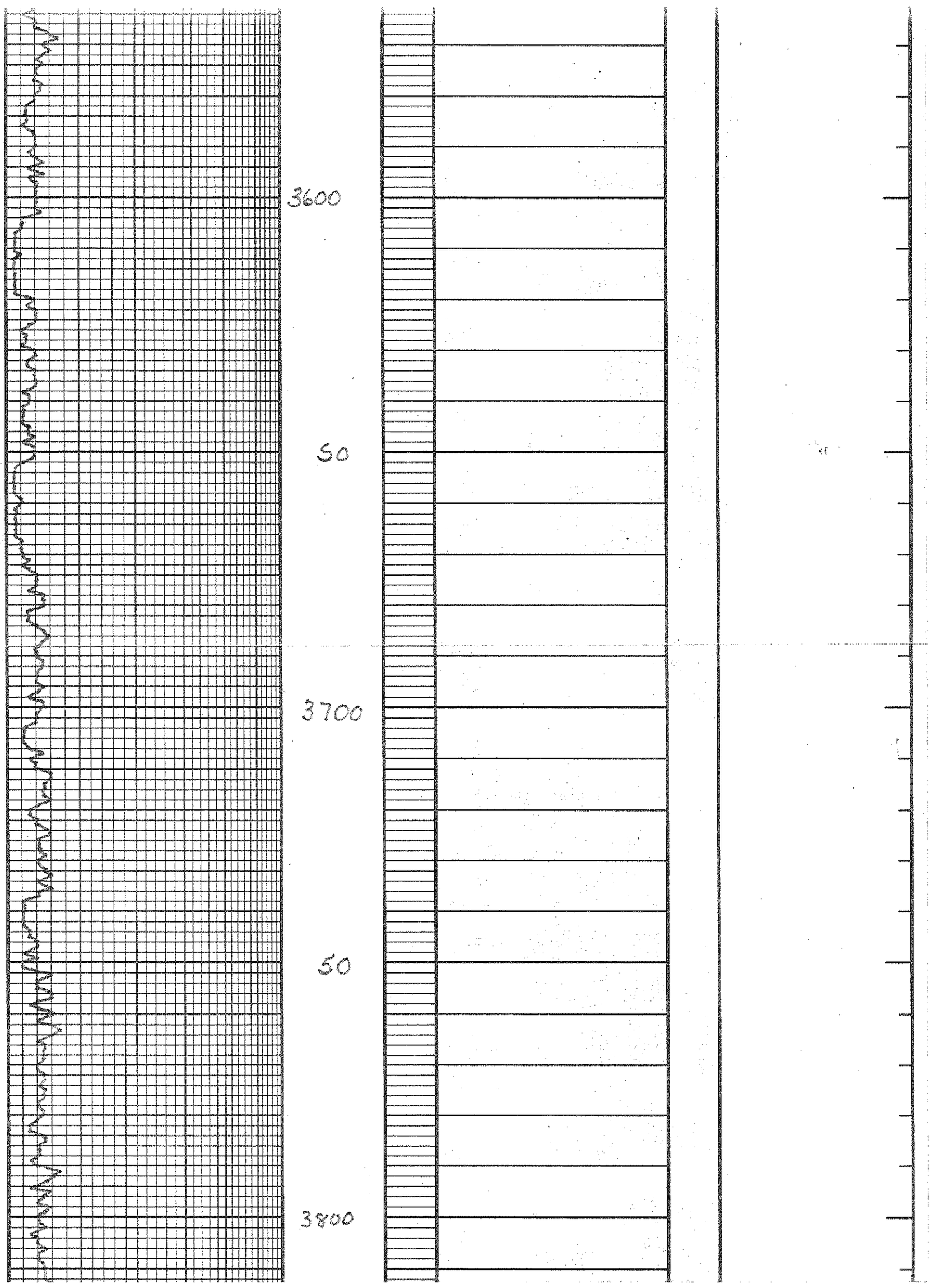
50

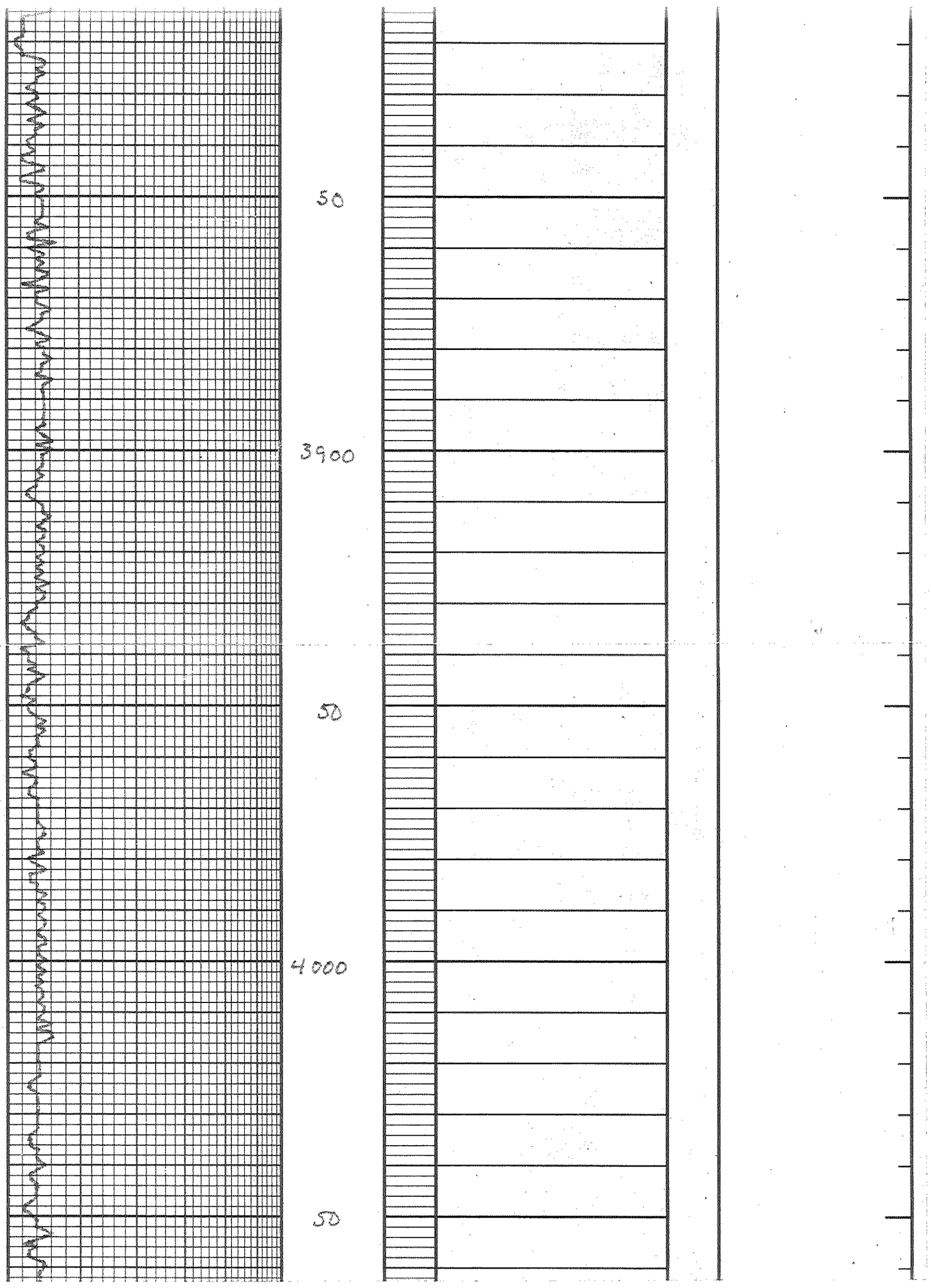
DRILLING TIME IN MINUTES PER FOOT

Rate of Penetration Decreases

5" 10" 15" 20" 25"




3600
50
3700
50
3800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3900
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4000
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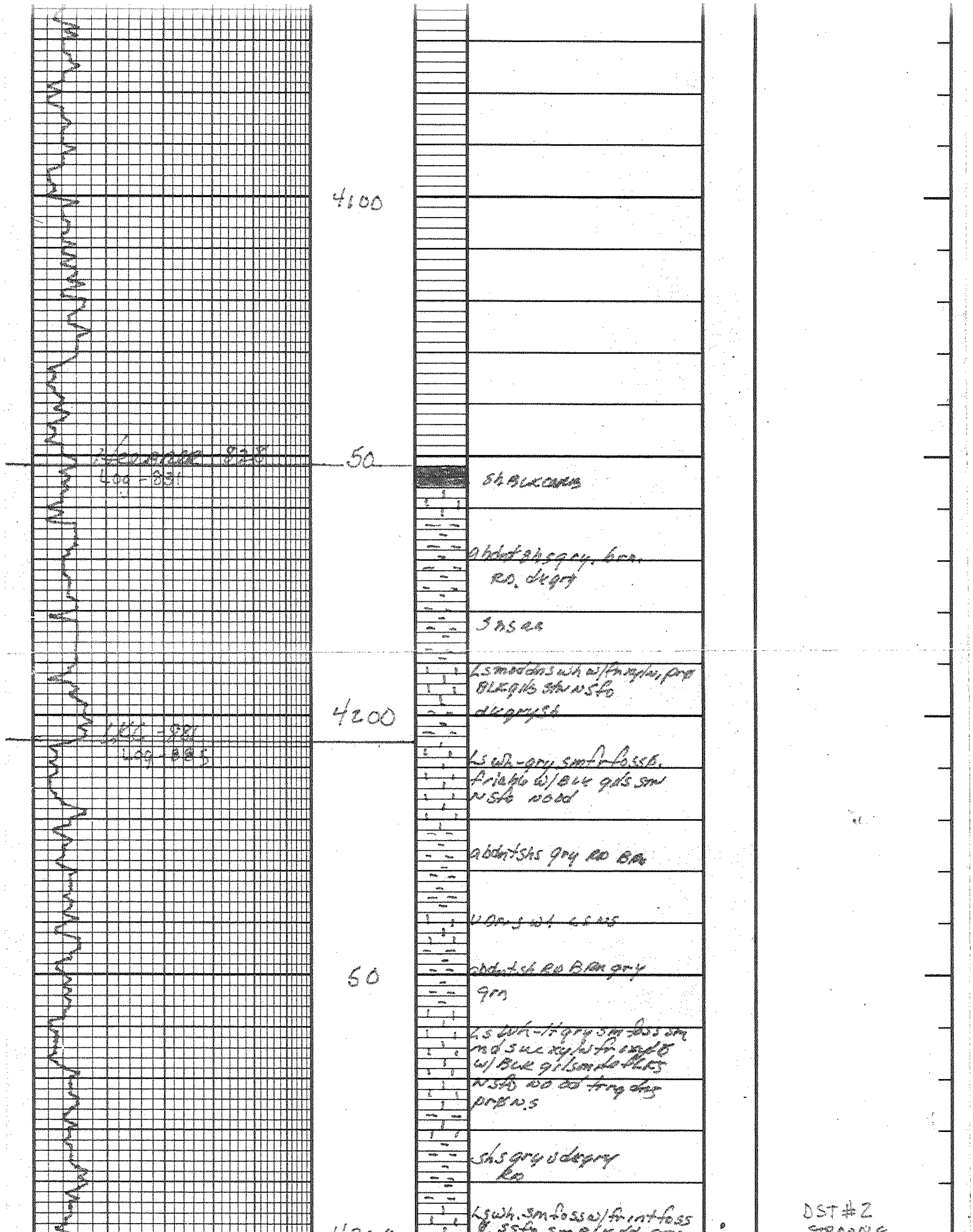
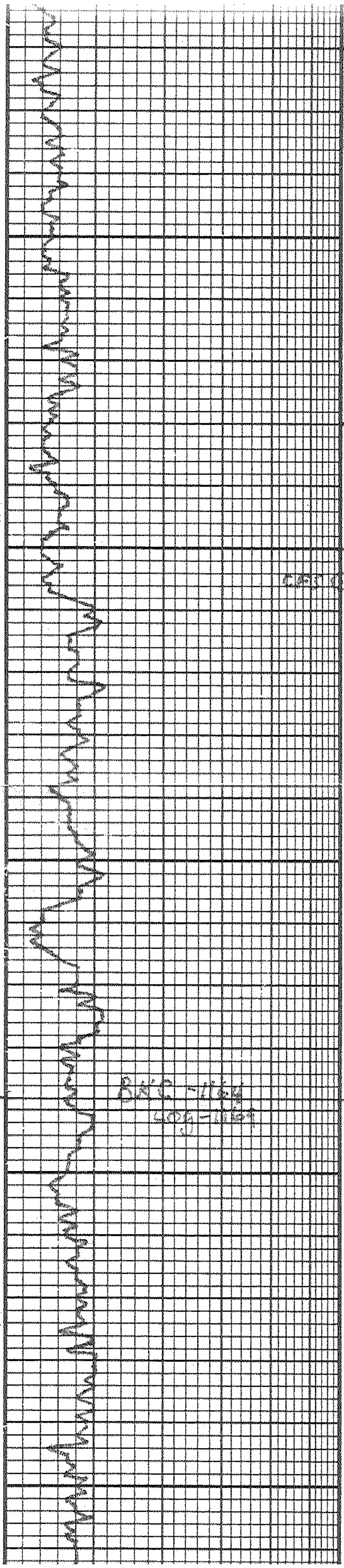

4100
50
Log - 891
Sh Blk carb
4200
Log - 885
abdnt shs gry RD Brn
50
grn
shs gry v dk gry
4300
DST #2
STRADDLE
30"-30"-5"-0"
1st op 1/2" Blow



LS wh sm foss w/ fr int foss NS

trng mottling pr-fr light fn xyln NS

SHS BLK CARB

gry grn RD BRN

LS wh-lt gry sm sctd foss in mo-fn grn LS sm friable sm fn wood, Asph blk hvy, sm spt stn no sat luze trc vugs

micxyln tan vars LS pr φ NS. w/ trc chert

LS tan-brn, sctd foss w/ fr int foss φ, vug stn vuglad, BRN sat stn, sm fr φ thin sm with w/ vugs frac planes fn xyln & more foss LS w/ foss

RD BRN SH, BLK CARB

SHS a.a

gry-tan mottld LS mot fn xyln sctd foss φ mgr pr φ all NS

SH BLK CARB

DK gry BRN

LS tan, trc foss insuc mat trc φ NS.

gry SS

LS gry mottld, sctd foss much sctd sm stn DK stn NSFO wood

gry BRN grn SHS

LS tan-wh fn xyln DNS pr φ NS.

V DNS micxyln tan-gry LS pr φ NS

a.a w/ SHS gry brn

sm vdns brn fn xyln LS pr φ NS

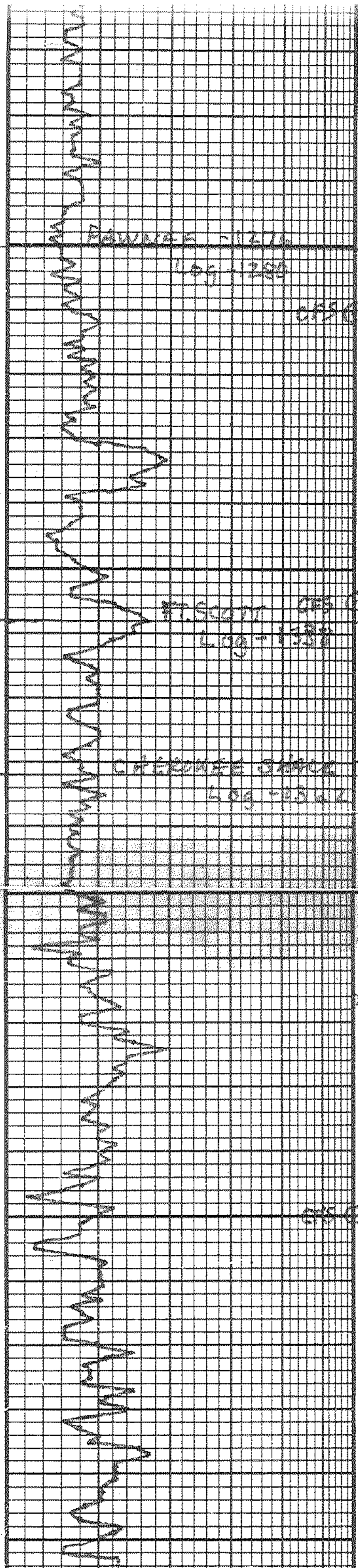
w/ DK gry SHS

tan carg LS, fr ppφ, trc foss NSFO w/ 1-2 pcs brn fn grn SS dolo NS fr φ

DST #2

FFP 22-27
SIP 66-
HP 2273-2143
REC 30' SOCM
29% g, 3% o, 95% m

DST #1
4361'-4405'
1st 45"-45"-45"-45"
1st op 10⅛" BLOW
NO SI BLOW
2nd op 9¼" BLOW
NO SI BLOW
IFP 23-43
FFP 43-62
SIP 1038-956
HP 2249-2193
Rec: 47' GOCM
15% g 20% o 65% m
63' GMO
20% g 43% o 37% m
BHT 138°



DST #3
30"-30"-5"-0"
1st op dead 15"
IFP 15-19
FFP 17-18
SIP 22 -
HP 2253-2252
Rec 1' osm
BHT 138°

DST #3

LS tan-gry mic xyln
dns pr ixyl ø NS.
fw pcs tan - wh cht

Sh Blk carb
dk gry

LS wh 1-2 sl foss in fn mat
[illegible]
v sctd grn LS & frac planes
most dns pr ø

v dns tan-wh micxyln
LS

Blk carb Sh
gry-tan mttld dns LS pr ø
NS

Alternating Blk and gry-brn

LS tan-brn fw sctd foss
in mod dns mo xyln mat
fn-pr int xyl ø NS.

Sh Blk carb w/ pyrt &
wh cht w/ pyrt laces

tan dns [illegible]
fw sctd foss, NS, pr ø
dns

Sh Blk carb

[illegible]

Dns [illegible]
[illegible] Blk carb

[illegible] gry grn w/
1-2 ss clstrs glauc, Slty
NS & LS tan-wh [illegible]

xyln v dns mo[illegible]
NS & fw pcs wht cht w/
pyrt

Cement ss clstrs, wh fn grn
[illegible]
[illegible]
[illegible]

40' cfs - Mly all shs

Dk gry shs & dirty lmy
sm times glauc ss and
NS.

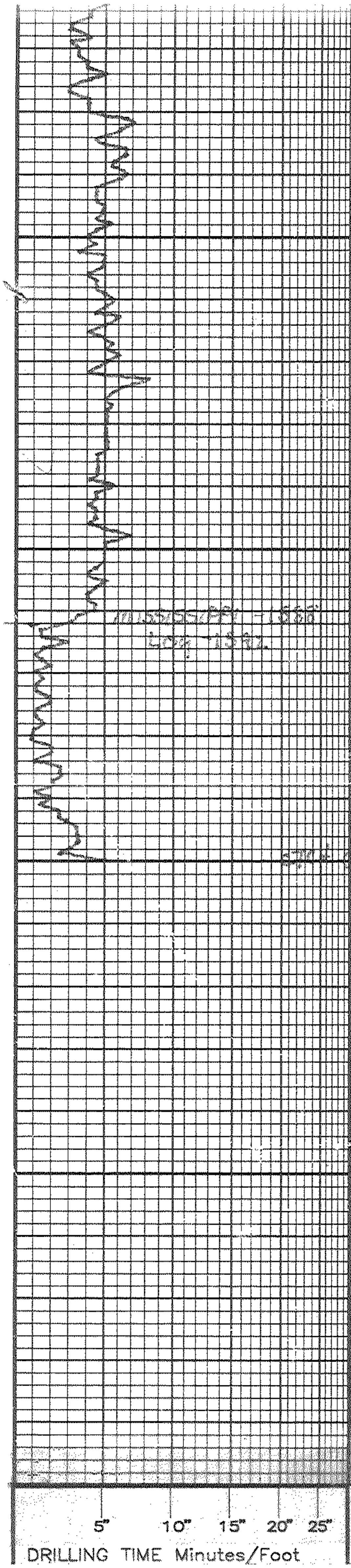
mstly RD & grn Sh

fw ss clstrs aa NS

Shs RD brn

sctd ss clstrs vs Dirty

Mly all Sh var-color



DEPTH	SAMPLE DESCRIPTIONS
	w/ sm ors Marls
	sh S RD Brn gry
	aa w/ 1-2 pcs ors ss
50	mstly all Shag
	aa
	ors fm s/ fossils ns
	aa w/ more sh
	abdnt sh var color aa N.S.
4900	aa
	Lms ors ss c/ fossils ns fw pcs cht
	mst Brn mxyln Sac Dolo, sm fsl ly all N.S.
	Dolo ss aa
	aa N.S.
50	N.S.
	Ron Nelson
5000	

LITHOLOGY	OIL SHOWS	REMARKS

Rate of Penetration Decreases		DGY		SMO	

OPERATOR DNOCI

LEASE Kramer Unit # 2-24 IP LKC

ELEVATION 3324'KB RTD 4450'

LOCATION 50'FSL & 330'FWL

SEC 24 TWP 5S RNG 37W

COUNTY Cheyenne STATE Kansas