



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1203781
OIL & GAS CONSERVATION DIVISION

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 # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

- New Well Re-Entry Workover
- Oil WSW SWD SIOW
- Gas D&A ENHR SIGW
- OG GSW Temp. Abd.
- CM (Coal Bed Methane)
- Cathodic Other (Core, Expl., etc.): _____

If Workover/Re-entry: Old Well Info as follows:

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

- Deepening Re-perf. Conv. to ENHR Conv. to SWD
- Plug Back Conv. to GSW Conv. to Producer
- Commingled Permit #: _____
- Dual Completion Permit #: _____
- SWD Permit #: _____
- ENHR Permit #: _____
- GSW Permit #: _____

Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date
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API No. 15 - _____

Spot Description: _____

_____ - _____ - _____ Sec. _____ Twp. _____ S. R. _____ East West

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

GPS Location: Lat: _____, Long: _____
(e.g. xx.xxxxx) (e.g. -xxx.xxxxx)

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite: _____

Operator Name: _____

Lease Name: _____ License #: _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ East West

County: _____ Permit #: _____

AFFIDAVIT

I am the affiant and I hereby certify that all requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Submitted Electronically

KCC Office Use ONLY

- Confidentiality Requested
Date: _____
- Confidential Release Date: _____
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT I II III Approved by: _____ Date: _____

1203781

Operator Name: _____ Lease Name: _____ Well #: _____

Sec. _____ Twp. _____ S. R. _____ East West County: _____

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 <i>(Attach Additional Sheets)</i>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Electric Log Run	<input type="checkbox"/> Yes <input type="checkbox"/> No			
List All E. Logs Run:				

CASING RECORD <input type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

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 <i>(Amount and Kind of Material Used)</i>	Depth

TUBING RECORD: Size: _____ Set At: _____ Packer At: _____ Liner Run: Yes No

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____ <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Murfin Drilling Co., Inc.
Well Name	Patricia 2-16
Doc ID	1203781

All Electric Logs Run

Dual Induction
Dual Compensated
Microresistivity
Borehole Compensated

Patricia #2-16
 Daily Drilling Report
 Page Two

1/24/14 Depth 4450'. Cut 150'. DT: None. CT: 15¼ hrs. Dev.: 1.1° @ 4450'. **LKC G:** Ls wh-cr, fn xln, dns in pt, scatt patches & pcs with pr xln por and pp pores, Rr sm vugs, subchalky in pt, foss (becomes dense with depth). No Odor, Rr dull fluor, moderate % pcs with patchy brn-dk brn-blk stn with: sli show oily film & sli shows of dk NVL oil & sli shows of brn FO on brk, fair am't of blk resid/gilson stn. **LKC H:** Ls cr-pl gy, vfn-fn xln, mostly dns, widely scatt patches of pr xln por, foss in pt. No Odor, No fluor, widely scatt patches of dk brn-blk spotty stn, Rr show DO on brk, some redis/gilson, NSFO. **LKC I:** Ls wh, fn xln, subchlkly in pt, Rr patches of pr xln por, foss. No Odor, No fluor, low % pcs with patches of dk brn-black spotty stn, Slislow Dk Hvy DO and show of dry dead flakey gilson. **LKC J:** Ls wh-cr, fn xln, abund pcs with pr-fr xln por, scatt pp pores, foss with some foss-mold pores, chalky in pt, foss. No Odor, scatt dull fluor, abund pcs with spotty-patchy to Rr even stn, mix of sli-fr shows of brn gassy FO & dk brn NVL oil, some DO. **DST #3 4291-4450 (LKC G,H,I,J):** 30-60-30-60. IF: Surf blw built to 1". FF: Wk surface throughout. Rec.: 30'OSM (100%M w/ Oil spts). HP: 2136-2036. FP: 17/22, 24/26. SIP: 935-827. BHT: 130°.

1/25/14 Depth 4645'. Cut 195'. DT: None. CT: 13½ hrs. Dev.: None. **Pawnee:** Ls wh, fn xln, packed ool (small) & foss in pt, pr xln por, scatt interool & interfoss pores, Rr sm vugs, pr-gd crush. No Odor, scatt dull fluor, abund spotty-patchy with Rr even lt brn to brn stn, mostly sli shows of oily film, NVL oil & sli gassy FO, Rr pcs with Fr show FO. **DST #4 4599-4645 (Pawnee):** 30-60-60-90. IF: Strong blow BOB in 4 min. ISI: Return blow built to 1½". FF: Strong blow BOB 8 min. FSI: Return blow built to 2". Rec.: 815' total fluid, 721' CO, 94' SMCO (90%O 10%M), gravity 37° API. HP: 2291-2187. FP: 24/126, 135/310. SIP: 1139-1113. BHT: 151°.

1/26/14 RTD: 4850'. Cut 205'. DT: None. CT: 14½ hrs. Dev.: .6° @ 4850'. HC @ 10:00PM 1/25. Pioneer logged 2:45AM to 7:30AM 1/26. LTD: 4845'. Plan to run 5 ½" prod csg

1/27/14 RTD: 4850'. CT: 20½ hrs. Ran 115jts of 15.5# 5 ½" prod csg, set @ 4840'. C.O.W.S. cmt w/450sxs (200OWC, 250CMD). PD @ 11:30PM 1/26. No circ. Rotated 4times & lost circ. Hole stayed full. 30sxs RH, 20sxs MH. RR @ 3:30AM 1/27. FINAL REPORT

MDCI Patricia #2-16 660' FNL 660' FWL Sec. 16-T1S-R37W 3264' KB							MDCI Jones B #1-9 710' FSL 710' FWL Sec. 9-T1S-R37W 3253' KB	
Formation	Sample top	Datum	Ref	Log Top	Datum	Ref	Log Top	Datum
Anhydrite	3213	+51	+6	3212	+52	+7	3208	+45
B/Anhydrite	3248	+16	+3	3245	+19	+6	3240	+13
Neva	3668	-404	+1	3666	-402	+3	3658	-405
Red Eagle	3730	-466	+3	3729	-465	+4	3722	-469
Foraker	3780	-516	Flat	3777	-513	+3	3769	-516
Topeka	4005	-741	+2	4002	-738	+5	3996	-743
Oread	4140	-876	-2	4136	-872	+2	4127	-874
Lansing	4223	-959	+1	4216	-952	+8	4213	-960
Stark	4440	-1176	-1	4436	-1172	+3	4428	-1175
BKC	4498	-1234	-4	4490	-1226	+4	4483	-1230
Pawnee	4620	-1356	-4	4612	-1348	+4	4605	-1352
Cherokee	4704	-1440	-3	4696	-1432	+5	4690	-1457
Mississippi	NR			NR			NR	
RTD	4850	-1586					4835	-1582
LTD				4845	-1581		4833	-1580



PO Box 93999
Southlake, TX 76092

Voice: (817) 546-7282
Fax: (817) 246-3361

INVOICE

Invoice Number: 140897
Invoice Date: Jan 17, 2014
Page: 1

acct Prod - LH

Bill To:
Murfin Drlg. Co., Inc. 250 N. Water STE #300 Wichita, KS 67202

Customer ID	Field Ticket #	Payment Terms	
Murfin	61446	Net 30 Days	
Job Location	Camp Location	Service Date	Due Date
KS1-01	Oakley	Jan 17, 2014	2/16/14

Quantity	Item	Description	Unit Price	Amount
1.00	WELL NAME	Patricia #2-16		
170.00	CEMENT MATERIALS	Class A Common	17.90	3,043.00
6.00	CEMENT MATERIALS	Chloride	64.00	384.00
178.51	CEMENT SERVICE	Cubic Feet Charge	2.48	442.70
823.00	CEMENT SERVICE	Ton Mileage Charge	2.60	2,139.80
1.00	CEMENT SERVICE	Surface	1,512.25	1,512.25
100.00	CEMENT SERVICE	Pump Truck Mileage	7.70	770.00
1.00	CEMENT SERVICE	Swedge Manifold Rental	275.00	275.00
100.00	CEMENT SERVICE	Light Vehicle Mileage	4.40	440.00
1.00	EQUIPMENT OPERATOR	Paul Beaver		
1.00	EQUIPMENT OPERATOR	Tyler Flipse		

OK

Subtotal	9,006.75
Sales Tax	279.30
Total Invoice Amount	9,286.05
Payment/Credit Applied	
TOTAL	9,286.05

ALL PRICES ARE NET, PAYABLE
30 DAYS FOLLOWING DATE OF
INVOICE. 1 1/2% CHARGED
THEREAFTER. IF ACCOUNT IS
CURRENT, TAKE DISCOUNT OF

\$ 3,152.36

ONLY IF PAID ON OR BEFORE

Feb 11, 2014

-3152.36

6133.69

ALLIED OIL & GAS SERVICES, LLC 061446

Federal Tax I.D. # 20-8651475

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

SERVICE POINT: Oakley Ks

DATE <u>1-17-14</u>	SEC. <u>16</u>	TWP. <u>1</u>	RANGE <u>37</u>	CALLED OUT	ON LOCATION <u>4:00 a.m.</u>	JOB START <u>6:00 a.m.</u>	JOB FINISH <u>6:30 p.m.</u>
LEASEE <u>Patricia</u>	WELL # <u>2-16</u>	LOCATION <u>Bird City N to AAE to Rd</u>			COUNTY <u>Cherokee</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)		<u>32 2 1/2 N into</u>					

CONTRACTOR Murfin 25 OWNER Same

TYPE OF JOB Surface
 HOLE SIZE 12 1/4 T.D. 231 CEMENT AMOUNT ORDERED 170 sks Cem 3% CC
 CASING SIZE 8 5/8 DEPTH 231

TUBING SIZE DEPTH
 DRILL PIPE DEPTH
 TOOL DEPTH

PRES. MAX MINIMUM COMMON 170 sks @ 17.90 3043.00
 MEAS. LINE SHOE JOINT POZMIX @

CEMENT LEFT IN CSG. 15' GEL @
 PERFS. CHLORIDE 6 sks @ 64.00 384.00
 DISPLACEMENT 13.76 bbl water ASC @

EQUIPMENT

PUMP TRUCK CEMENTER Paul Beaver
 # 120 HELPER Tyler Flipse
 BULK TRUCK
 # 600 DRIVER Juan 2 (TWS)
 BULK TRUCK
 # DRIVER

HANDLING 178.51 ft³ @ 2.48 442.70
 MILEAGE 8.23 tons @ 100 mi @ 2.60 2139.80
 TOTAL 4009.50

REMARKS:

mix 170 sks Cem 3% CC
Displace w/ water
Cement did circulate
Thank Paul!

SERVICE

DEPTH OF JOB 231'
 PUMP TRUCK CHARGE 15' @ 12.25
 EXTRA FOOTAGE @
 MILEAGE MHV 100 @ 17.70 1770.00
 MANIFOLD Swedge @ 275.00
MILV 100 @ 4.40 440.00

TOTAL 2997.25

CHARGE TO: Murfin Drlg.
 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 9,006.75

PRINTED NAME Raymond Oht

DISCOUNT 3,152.36 IF PAID IN 30 DAYS

SIGNATURE Phil R. M...

5,854.38 Net.



CONSOLIDATED
Oil Well Services, LLC

REMIT TO
Consolidated Oil Well Services, LLC
Dept. 970
P.O. Box 4346
Houston, TX 77210-4346

MAIN OFFICE
P.O. Box 884
Chanute, KS 66720
620/431-9210 • 1-800/467-8676
Fax 620/431-0012

INVOICE

Invoice # 265624

Invoice Date: 01/29/2014 Terms: 10/10/30, n/30 Page 1

MURFIN DRILLING
P.O. BOX 288
RUSSELL KS 67665
() -

PATRICA 2-16
38190
16-18-37W
01-26-2014
KS

USED FOR LC 103

APPROVED [Signature]

Part Number	Description	Qty	Unit Price	Total
1104D	CLASS "A" CEMENT CMD	300.00	27.9200	8376.00
1110A	KOL SEAL (50# BAG)	1000.00	.5600	560.00
1126	OIL WELL CEMENT	200.00	23.7000	4740.00
1107	FLO-SEAL (25#)	150.00	2.9700	445.50
1142A	KCL SUB MB6875 CC3107 (1	2.00	41.1000	82.20
1144G	MUD FLUSH (SALE)	500.00	1.0000	500.00
4104	CEMENT BASKET 5 1/2"	3.00	290.0000	870.00
4136	TURBOLIZER 5 1/2"	15.00	75.7500	1136.25
4159	FLOAT SHOE AFU 5 1/2"	1.00	433.7500	433.75
4310	ROTATING HEAD	1.00	200.0000	200.00
4454	5 1/2" LATCH DOWN PLUG	1.00	567.0000	567.00
4315	ROTATING SCRATCHERS	5.00	94.5000	472.50

Sublet Performed	Description	Total
9996-130	CEMENT MATERIAL DISCOUNT	-1838.32
9995-130	CEMENT EQUIPMENT DISCOUNT	-758.11

Description	Hours	Unit Price	Total
399 SINGLE PUMP	1.00	3175.00	3175.00
399 EQUIPMENT MILEAGE (ONE WAY)	95.00	5.25	498.75
T-129 TON MILEAGE DELIVERY	1.00	1953.68	1953.68
566 TON MILEAGE DELIVERY	1.00	1953.67	1953.67

Amount Due 27462.53 if paid after 02/28/2014

Parts:	18383.20	Freight:	.00	Tax:	1348.41	AR	24716.28
Labor:	.00	Misc:	.00	Total:	24716.28		
Sublt:	-2596.43	Supplies:	.00	Change:	.00		

1C103 Z 6246.0002.1 24,716.28 Cement Prod Log # 2-16

Signed _____ Date _____

BARTLESVILLE, OK 918/338-0808 EL DORADO, KS 316/322-7022 EUREKA, KS 620/583-7664 PONCA CITY, OK 580/762-2303 OAKLEY, KS 785/672-8822 OTTAWA, KS 785/242-4044 THAYER, KS 620/839-5269 GILLETTE, WY 307/686-4914 CUSHING, OK 918/225-2650



265624

TICKET NUMBER 38190

LOCATION Oakley MS

FOREMAN Miles Shaw

Dano Retzloff

PO Box 884, Chanute, KS 66720
620-431-9210 or 800-487-8678

FIELD TICKET & TREATMENT REPORT
CEMENT

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
1-26-14	5406	Patricia # 2-16	10	15	37W	Cherokee
CUSTOMER: <u>Murkin Drilling</u>			Bridgely N 1/2 R 14 E East of rd 2N W.S			
MAILING ADDRESS			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY			STATE	ZIP CODE		
			899	Jordan L		
			S20T29	Cooby R		
			560	Jake H		

JOB TYPE Long String HOLE SIZE 7 7/8" HOLE DEPTH 9150' CASING SIZE & WEIGHT 5 1/2" 15.5#
 CASING DEPTH 9840' DRILL PIPE _____ TUBING _____ OTHER _____
 SLURRY WEIGHT 10.7/198 SLURRY VOL 2.9/1.42 WATER gal/sk _____ CEMENT LEFT in CASING 21.05
 DISPLACEMENT 114 1/2 DISPLACEMENT PSI 1520 MIX PSI 2000 RATE _____

REMARKS: Schedule meeting and rig up on Murkin Drilling rig # 25 float equipment
Turbolizers on sets # 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 38, 56 Baskets on sets # 10, 39, 50
Circulate casing on Sat # 62. Run casing to bottom. Circulate casing. Use pump 566
Water mud flush. 566s water mix 250 sks cement to 1/4 # Fluorad to 1/2 # 200 sks
OWC with 5 # Kolseal. Shut down clear pump lines, release plug, displace 114 1/2 bbls
Water with 1500 psi lift. Plug landed & held @ 2000 psi. Cement did not
circulate.
D. did not circulate on bottom with casing
RH 305sk MH 205sk Thanks Miles & crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
5406	1	PUMP CHARGE	3175.00	3175.00
5406	95	MILEAGE	5.25	498.75
5407A	23.5 tons	Ton material delivered	1.75	3907.35
1104D	300 sks	CMC	27.92	8376.00
110A	100 #	Kolseal	.56	560.00
1126	200 sks	OWC	23.70	4740.00
1107	150 #	Fluorad	2.97	445.50
1142A	2 gal	HCL	41.10	82.20
11446	500 gal	mud flush	1.00	500.00
4104	3	5 1/2" Baskets	290.00	870.00
4136	15	5 1/2" Turbulizers	75.75	1136.25
4159	1	5 1/2" Float Shoe	433.75	433.75
4310	1	Rotating head	200.00	200.00
4454	1	5 1/2" Latch down Plug W	567.00	567.00
4315	5	Rotating scrapers	94.50	472.50
		Subtotal		25964.30
		less 10% discount		25964.30
		Subtotal		23362.97
		SALES TAX		1348.41
		ESTIMATED TOTAL		24711.28

completed

Revin 3737

AUTHORIZATION [Signature] TITLE _____ DATE _____

I acknowledge that the payment terms, unless specifically amended in writing on the front of the form or in the customer's account records, at our office, and conditions of service on the back of this form are in effect for services identified on this form.



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Suite 300
Wichita KS 67202

ATTN: Brad Rine

Patricia #2-16

16-01s-37w Cheyenne,KS

Start Date: 2014.01.21 @ 05:06:00

End Date: 2014.01.21 @ 12:46:15

Job Ticket #: 55160 DST #: 1

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

Printed: 2014.01.27 @ 16:39:13



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water Suite 300
Wichita KS 67202
ATTN: Brad Rine

16-01s-37w Cheyenne,KS

Patricia #2-16

Job Ticket: 55160

DST#: 1

Test Start: 2014.01.21 @ 05:06:00

GENERAL INFORMATION:

Formation: **Foraker**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 07:53:15

Time Test Ended: 12:46:15

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #44

Interval: 3741.00 ft (KB) To 3800.00 ft (KB) (TVD)

Reference Elevations: 3264.00 ft (KB)

Total Depth: 3800.00 ft (KB) (TVD)

3251.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8879

Inside

Press@RunDepth: 14.17 psig @ 3742.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.21

End Date:

2014.01.21

Last Calib.:

2014.01.21

Start Time: 05:06:05

End Time:

12:46:14

Time On Btm:

2014.01.21 @ 07:53:00

Time Off Btm:

2014.01.21 @ 10:55:15

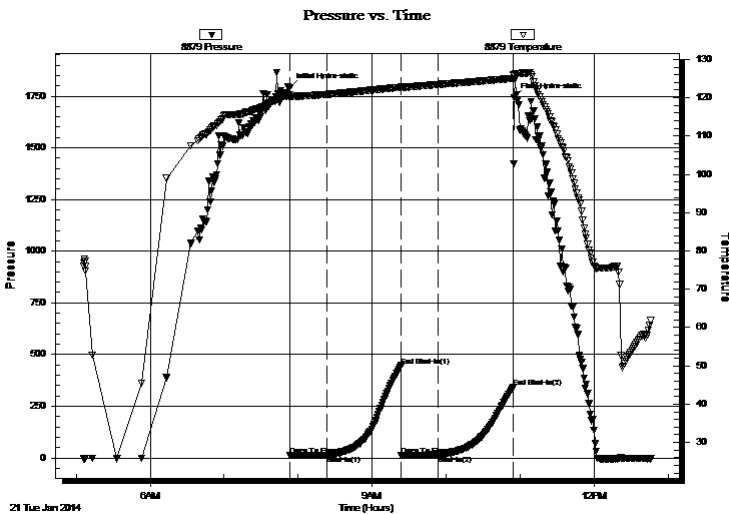
TEST COMMENT: 30 - IF - Surface blow built to 1/4"

60 - ISI - No Return

30 - FF - No surface blow

60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1792.67	120.67	Initial Hydro-static
1	11.71	120.07	Open To Flow (1)
31	12.33	120.88	Shut-In(1)
91	445.74	122.76	End Shut-In(1)
91	12.92	122.52	Open To Flow (2)
121	14.17	123.45	Shut-In(2)
182	342.41	125.03	End Shut-In(2)
183	1741.66	125.81	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
6.00	OCM - 70M - 30o	0.08

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne, KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55160

DST#: 1

ATTN: Brad Rine

Test Start: 2014.01.21 @ 05:06:00

Tool Information

Drill Pipe:	Length: 3735.00 ft	Diameter: 3.80 inches	Volume: 52.39 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: 54000.00 lb
			<u>Total Volume: 52.39 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	21.00 ft			String Weight: Initial 42000.00 lb
Depth to Top Packer:	3741.00 ft			Final 42000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	59.00 ft			
Tool Length:	86.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
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Shut In Tool	5.00			3719.00	
Hydraulic tool	5.00			3724.00	
Jars	5.00			3729.00	
Safety Joint	3.00			3732.00	
Packer	4.00			3736.00	27.00 Bottom Of Top Packer
Packer	5.00			3741.00	
Stubb	1.00			3742.00	
Recorder	0.00	6669	Inside	3742.00	
Recorder	0.00	8879	Inside	3742.00	
Perforations	22.00			3764.00	
Change Over Sub	1.00			3765.00	
Drill Pipe	31.00			3796.00	
Change Over Sub	1.00			3797.00	
Bullnose	3.00			3800.00	59.00 Bottom Packers & Anchor

Total Tool Length: 86.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne,KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55160

DST#: 1

ATTN: Brad Rine

Test Start: 2014.01.21 @ 05:06:00

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: 140.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 5.18 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
6.00	OCM - 70M - 30o	0.084

Total Length: 6.00 ft Total Volume: 0.084 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:

Serial #: 8879

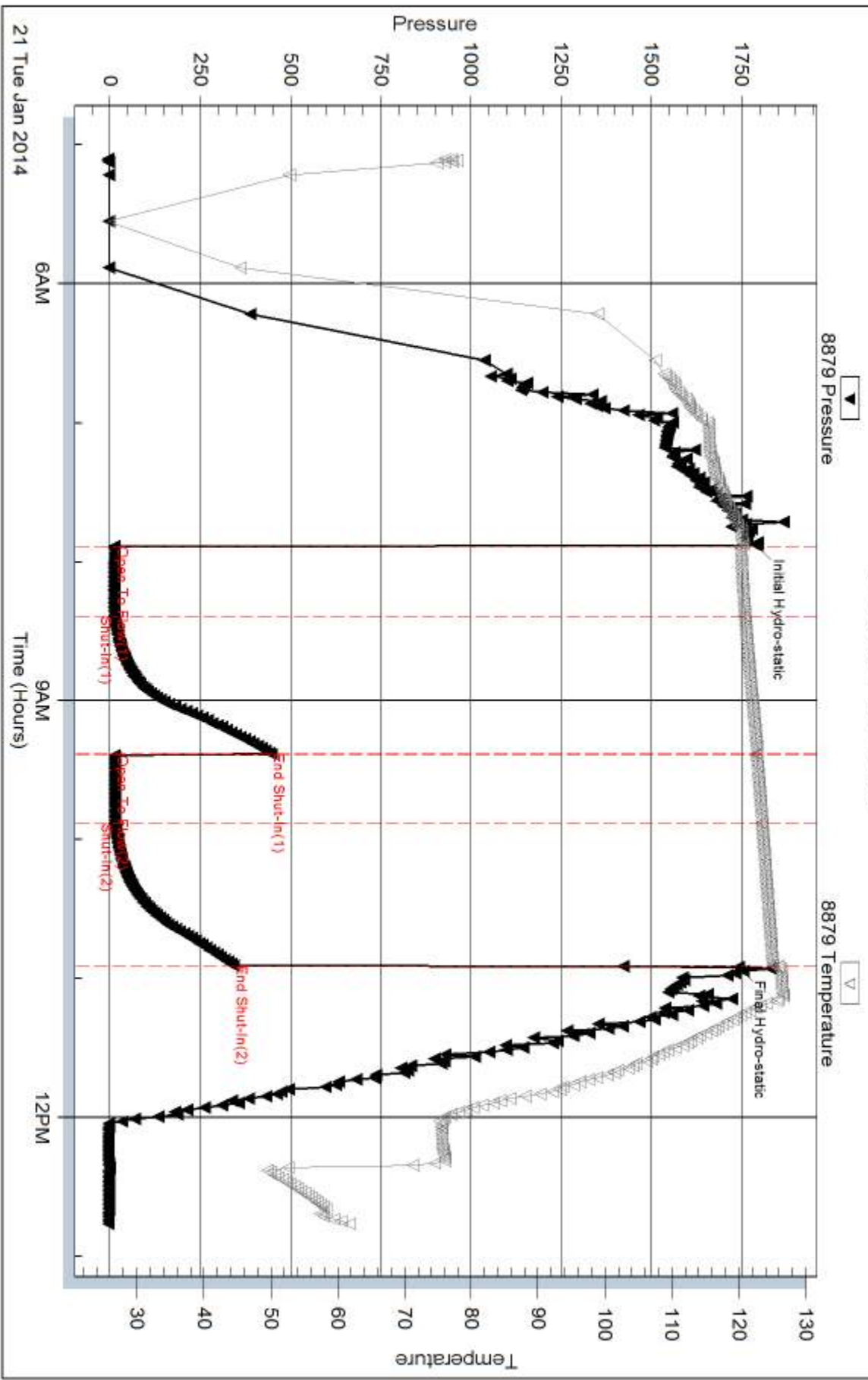
Inside

Murfin Drilling Co., Inc.

Patricia #2-16

DST Test Number: 1

Pressure vs. Time



Trilobite Testing, Inc

Ref. No: 55160

Printed: 2014.01.27 @ 16:39:15

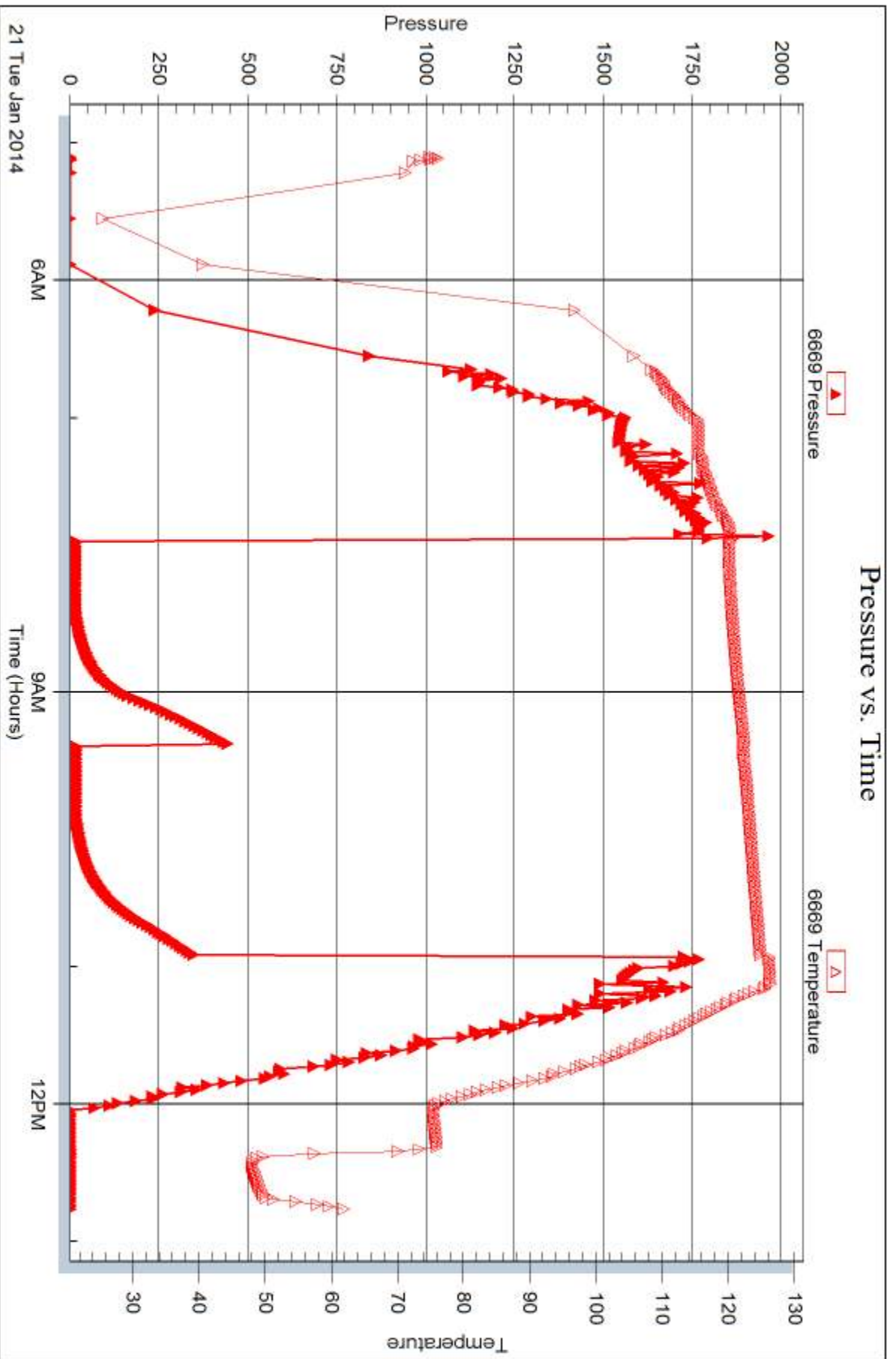
Serial #: 6669

Inside

Murfin Drilling Co., Inc.

Patricia #2-16

DST Test Number: 1



Trilobite Testing, Inc

Ref. No: 55160

Printed: 2014.01.27 @ 16:39:16



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Suite 300
Wichita KS 67202

ATTN: Brad Rine

Patricia #2-16

16-01s-37w Cheyenne,KS

Start Date: 2014.01.22 @ 20:20:00

End Date: 2014.01.23 @ 05:16:30

Job Ticket #: 55161 DST #: 2

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

Printed: 2014.01.27 @ 16:27:48



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water Suite 300
Wichita KS 67202
ATTN: Brad Rine

16-01s-37w Cheyenne,KS

Patricia #2-16

Job Ticket: 55161

DST#: 2

Test Start: 2014.01.22 @ 20:20:00

GENERAL INFORMATION:

Formation: **LKC A-D**
 Deviated: No Whipstock: ft (KB)
 Test Type: Conventional Bottom Hole (Initial)
 Time Tool Opened: 23:49:45 Tester: Royal Fisher
 Time Test Ended: 05:16:30 Unit No: #44
 Interval: **4173.00 ft (KB) To 4300.00 ft (KB) (TVD)** Reference Elevations: 3264.00 ft (KB)
 Total Depth: 4300.00 ft (KB) (TVD) 3251.00 ft (CF)
 Hole Diameter: 7.88 inches Hole Condition: Good KB to GR/CF: 13.00 ft

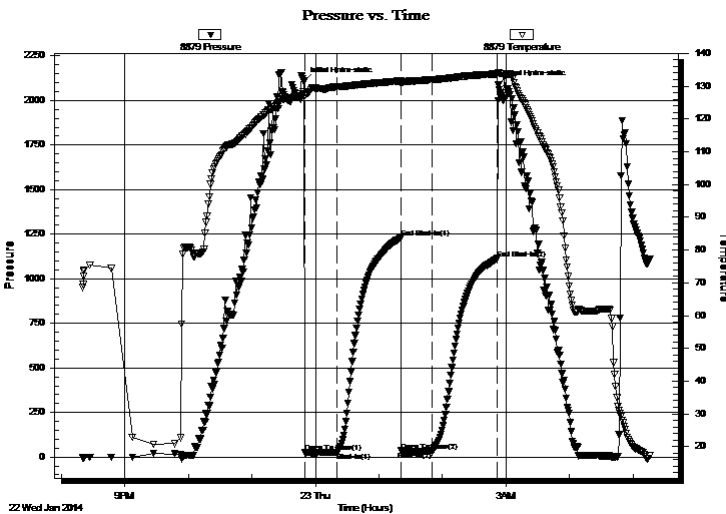
Serial #: 8879

Inside

Press@RunDepth: 34.27 psig @ 4174.00 ft (KB) Capacity: 8000.00 psig
 Start Date: 2014.01.22 End Date: 2014.01.23 Last Calib.: 2014.01.23
 Start Time: 20:20:05 End Time: 05:16:30 Time On Btm: 2014.01.22 @ 23:49:15
 Time Off Btm: 2014.01.23 @ 02:53:00

TEST COMMENT: 30 - IF - Surface blow built to 1/2" then died to a weak surface blow
 60 - ISI - No Return
 30 - FF - Had a weak surface blow
 60 - FSI - No Return

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2104.09	128.16	Initial Hydro-static
1	23.66	127.26	Open To Flow (1)
32	27.33	129.90	Shut-In(1)
92	1229.31	131.59	End Shut-In(1)
92	34.51	130.89	Open To Flow (2)
121	34.27	131.93	Shut-In(2)
183	1113.58	133.74	End Shut-In(2)
184	2087.13	134.13	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
10.00	OCM - 65M - 35o	0.14

Gas Rates

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



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne, KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55161

DST#: 2

ATTN: Brad Rine

Test Start: 2014.01.22 @ 20:20:00

Tool Information

Drill Pipe:	Length: 4152.00 ft	Diameter: 3.80 inches	Volume: 58.24 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: 0.00 inches	Volume: 0.00 bbl	Weight to Pull Loose: 56000.00 lb
			<u>Total Volume: 58.24 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	6.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4173.00 ft			Final 50000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	127.00 ft			
Tool Length:	154.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4151.00	
Hydraulic tool	5.00			4156.00	
Jars	5.00			4161.00	
Safety Joint	3.00			4164.00	
Packer	4.00			4168.00	27.00 Bottom Of Top Packer
Packer	5.00			4173.00	
Stubb	1.00			4174.00	
Recorder	0.00	6669	Inside	4174.00	
Recorder	0.00	8879	Inside	4174.00	
Perforations	28.00			4202.00	
Change Over Sub	1.00			4203.00	
Drill Pipe	93.00			4296.00	
Change Over Sub	1.00			4297.00	
Bullnose	3.00			4300.00	127.00 Bottom Packers & Anchor

Total Tool Length: 154.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne,KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55161

DST#: 2

ATTN: Brad Rine

Test Start: 2014.01.22 @ 20:20:00

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:

bbbl

Water Loss: 5.98 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
10.00	OCM - 65M - 35o	0.140

Total Length: 10.00 ft Total Volume: 0.140 bbl

Num Fluid Samples: 0

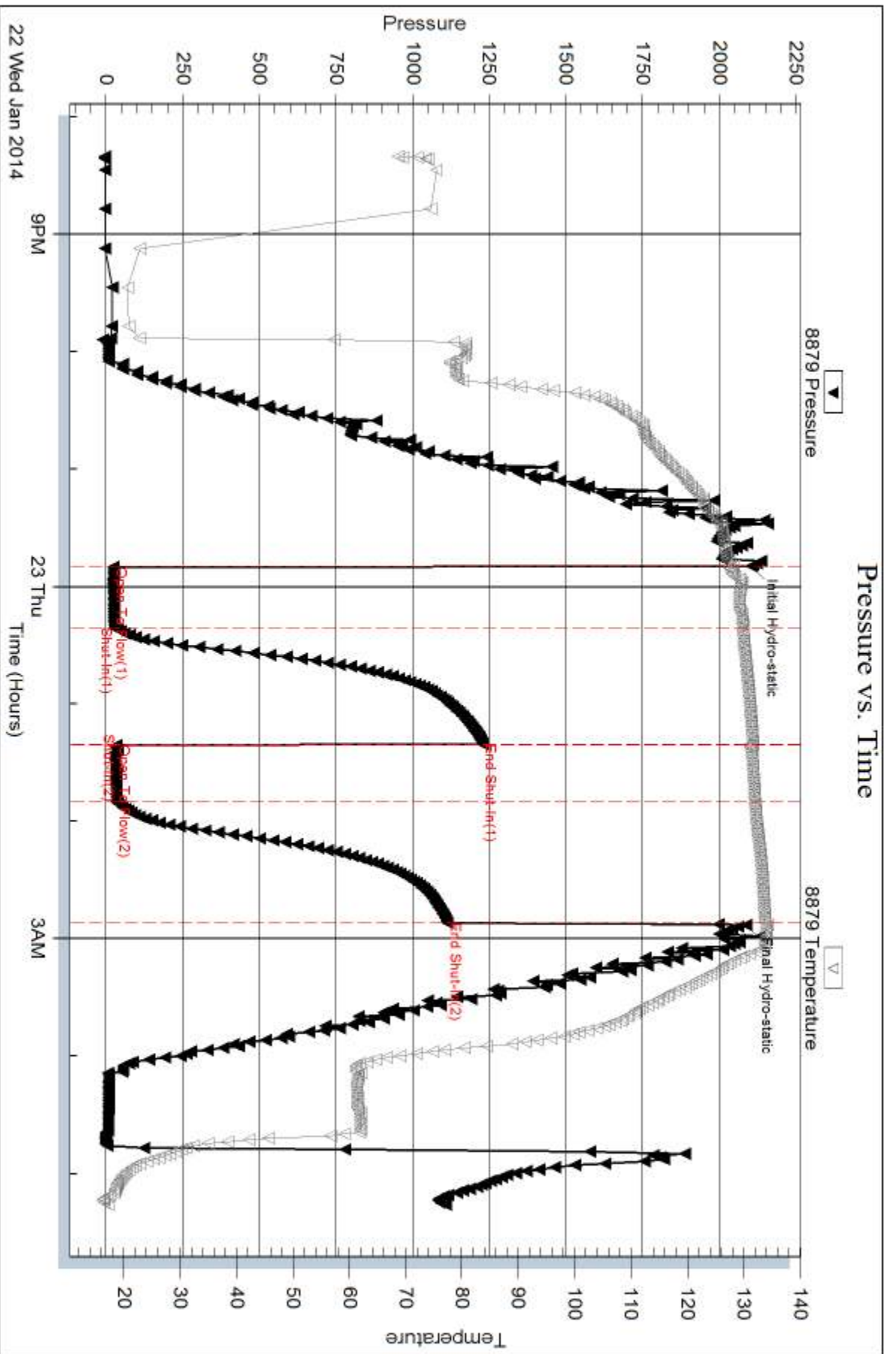
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Suite 300
Wichita KS 67202

ATTN: Brad Rine

Patricia #2-16

16-01s-37w Cheyenne,KS

Start Date: 2014.01.23 @ 20:43:00

End Date: 2014.01.24 @ 06:04:30

Job Ticket #: 55162 DST #: 3

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

Printed: 2014.01.27 @ 16:27:20



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne, KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55162

DST#: 3

ATTN: Brad Rine

Test Start: 2014.01.23 @ 20:43:00

GENERAL INFORMATION:

Formation: **LKC - G-J**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 00:13:00

Time Test Ended: 06:04:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher

Unit No: #44

Interval: 4291.00 ft (KB) To 4450.00 ft (KB) (TVD)

Reference Elevations: 3264.00 ft (KB)

Total Depth: 4450.00 ft (KB) (TVD)

3251.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8879

Inside

Press@RunDepth: 26.05 psig @ 4292.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.23

End Date:

2014.01.24

Last Calib.: 2014.01.24

Start Time: 20:43:05

End Time:

06:04:30

Time On Btm: 2014.01.24 @ 00:12:45

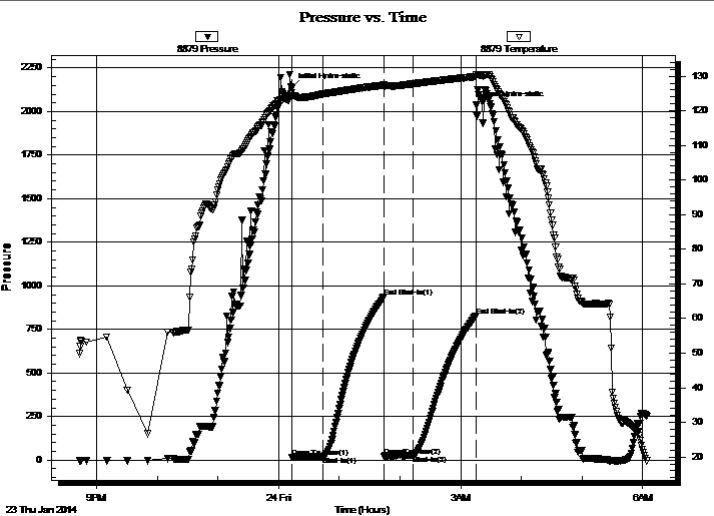
Time Off Btm: 2014.01.24 @ 03:15:30

TEST COMMENT: 30 - IF - Surface blow built to 1"

60 - ISI - No Return

30 - FF - Had a weak surface blow

60 - FSI - No Return



PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2135.82	125.15	Initial Hydro-static
1	17.17	124.35	Open To Flow (1)
31	22.09	124.84	Shut-In(1)
91	934.76	127.39	End Shut-In(1)
92	23.73	126.84	Open To Flow (2)
120	26.05	127.79	Shut-In(2)
182	826.70	129.85	End Shut-In(2)
183	2036.38	130.41	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
30.00	OSM - 100M - oil spots	0.42

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne, KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55162

DST#: 3

ATTN: Brad Rine

Test Start: 2014.01.23 @ 20:43:00

Tool Information

Drill Pipe:	Length: 4275.00 ft	Diameter: 3.80 inches	Volume: 59.97 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: 52000.00 lb
			<u>Total Volume: 59.97 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	11.00 ft			String Weight: Initial 49000.00 lb
Depth to Top Packer:	4291.00 ft			Final 49000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	159.00 ft			
Tool Length:	186.00 ft			
Number of Packers:	2	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4269.00	
Hydraulic tool	5.00			4274.00	
Jars	5.00			4279.00	
Safety Joint	3.00			4282.00	
Packer	4.00			4286.00	27.00 Bottom Of Top Packer
Packer	5.00			4291.00	
Stubb	1.00			4292.00	
Recorder	0.00	6669	Inside	4292.00	
Recorder	0.00	8879	Inside	4292.00	
Perforations	28.00			4320.00	
Change Over Sub	1.00			4321.00	
Drill Pipe	125.00			4446.00	
Change Over Sub	1.00			4447.00	
Bullnose	3.00			4450.00	159.00 Bottom Packers & Anchor

Total Tool Length: 186.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne,KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55162

DST#: 3

ATTN: Brad Rine

Test Start: 2014.01.23 @ 20:43:00

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: 66.00 sec/qt

Cushion Volume:

bbl

Water Loss: 5.19 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 1500.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
30.00	OSM - 100M - oil spots	0.421

Total Length: 30.00 ft Total Volume: 0.421 bbl

Num Fluid Samples: 0

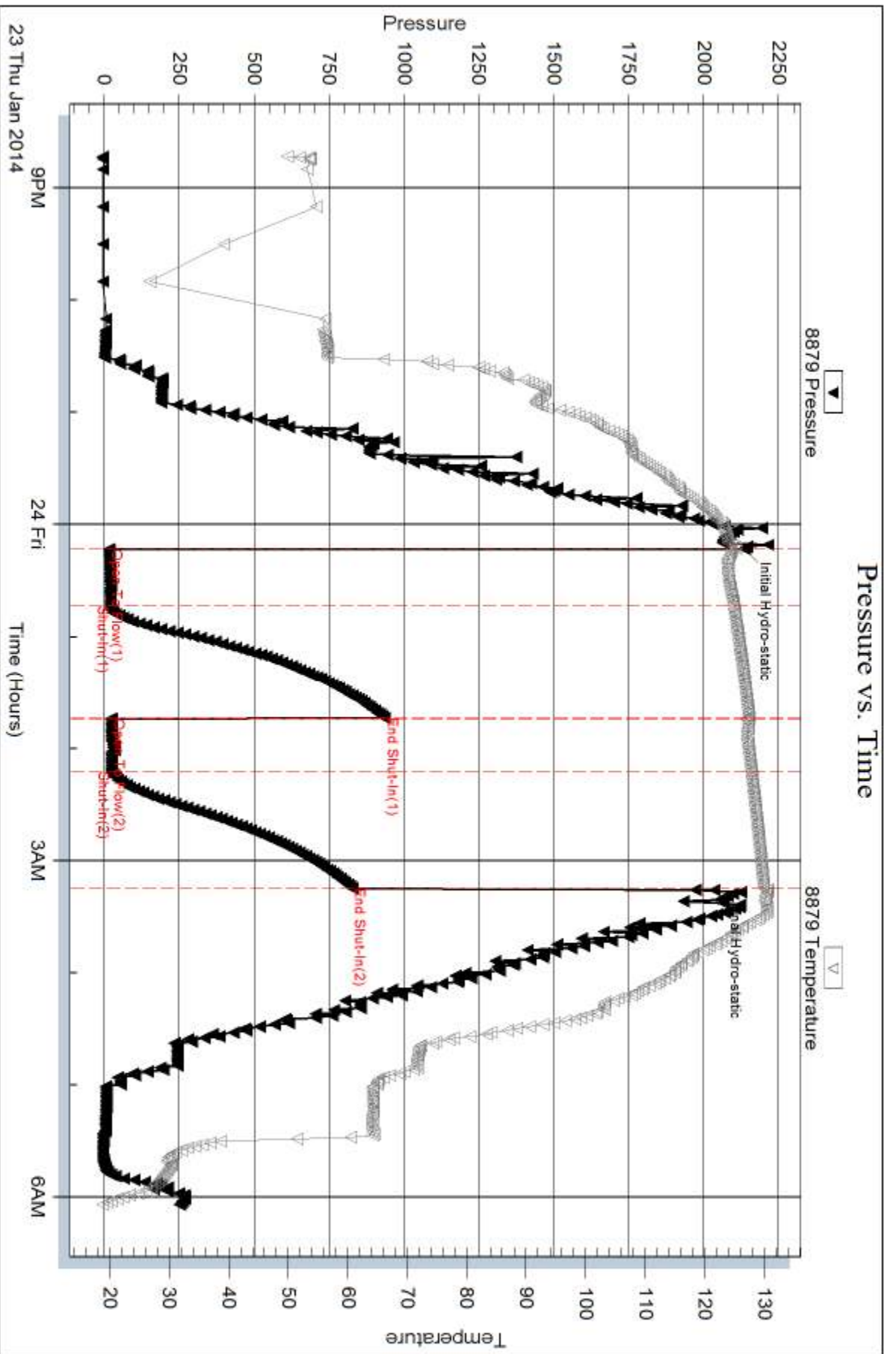
Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



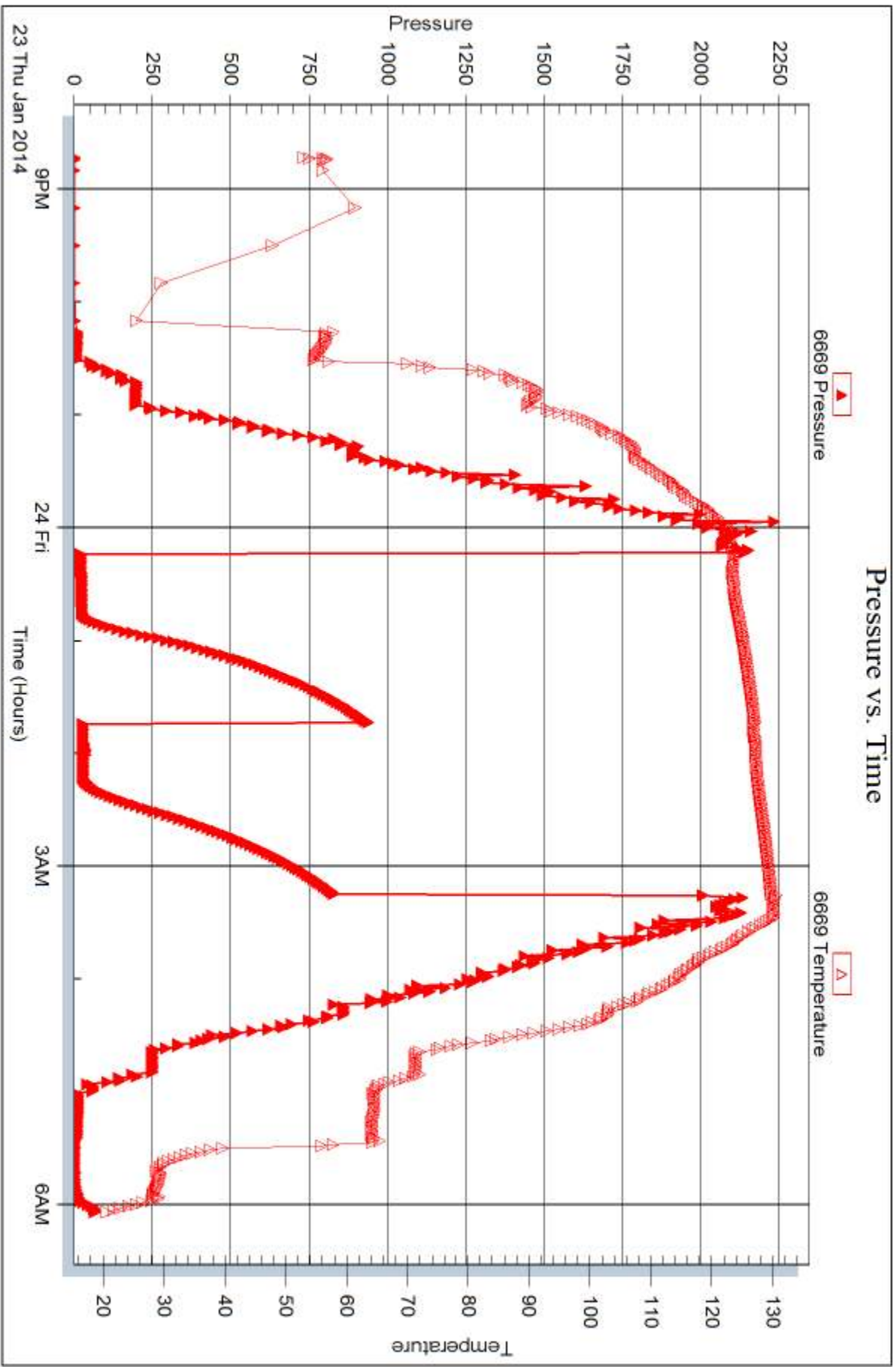
Serial #: 6669

Inside

Murfin Drilling Co., Inc.

Patricia #2-16

DST Test Number: 3



Trilobite Testing, Inc

Ref. No: 55162

Printed: 2014.01.27 @ 16:27:23



DRILL STEM TEST REPORT

Prepared For: **Murfin Drilling Co., Inc.**

250 N. Water Suite 300
Wichita KS 67202

ATTN: Brad Rine

Patricia #2-16

16-01s-37w Cheyenne,KS

Start Date: 2014.01.24 @ 23:34:00

End Date: 2014.01.25 @ 20:42:30

Job Ticket #: 55163 DST #: 4

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

Printed: 2014.01.27 @ 16:19:45



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

Murfin Drilling Co., Inc.
250 N. Water Suite 300
Wichita KS 67202
ATTN: Brad Rine

16-01s-37w Cheyenne,KS

Patricia #2-16

Job Ticket: 55163

DST#: 4

Test Start: 2014.01.24 @ 23:34:00

GENERAL INFORMATION:

Formation: **Pawnee**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 01:56:00

Time Test Ended: 20:42:30

Test Type: Conventional Bottom Hole (Initial)

Tester: Royal Fisher/ Bob Ha

Unit No: #44

Interval: 4599.00 ft (KB) To 4645.00 ft (KB) (TVD)

Reference Elevations: 3264.00 ft (KB)

Total Depth: 4645.00 ft (KB) (TVD)

3251.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Good

KB to GR/CF: 13.00 ft

Serial #: 8879

Inside

Press@RunDepth: 309.91 psig @ 4600.00 ft (KB)

Capacity: 8000.00 psig

Start Date: 2014.01.24

End Date:

2014.01.25

Last Calib.:

2014.01.24

Start Time: 23:34:05

End Time:

08:42:30

Time On Btm:

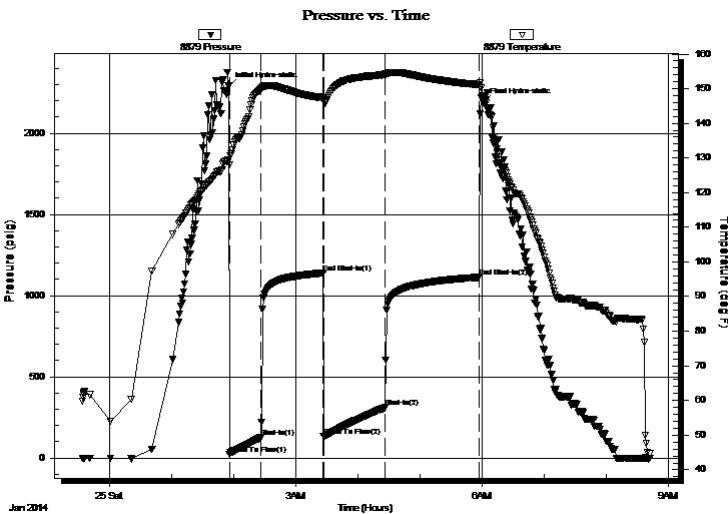
2014.01.25 @ 01:54:45

Time Off Btm:

2014.01.25 @ 06:01:15

TEST COMMENT: 30 - IF - Bottom of the bucket surface blow in 4 min.
60 - ISI - Return built up to 1 1/2"
60 - FF - Bottom of the bucket surface blow in 8 min.
90 - FSI - Return built up to 2"

PRESSURE SUMMARY



Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2291.02	129.52	Initial Hydro-static
1	23.52	127.99	Open To Flow (1)
32	126.34	149.78	Shut-In(1)
92	1138.79	147.32	End Shut-In(1)
92	135.49	146.67	Open To Flow (2)
152	309.91	153.99	Shut-In(2)
243	1112.93	151.09	End Shut-In(2)
247	2187.48	147.48	Final Hydro-static

Recovery

Length (ft)	Description	Volume (bbl)
94.00	S,M,C,O 10%MUD 90%OIL	1.32
721.00	CLEAN OIL 100%	10.11

Gas Rates

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



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne, KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55163

DST#: 4

ATTN: Brad Rine

Test Start: 2014.01.24 @ 23:34:00

Tool Information

Drill Pipe:	Length: 4587.00 ft	Diameter: 3.80 inches	Volume: 64.34 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: 65000.00 lb
			<u>Total Volume: 64.34 bbl</u>	Tool Chased 0.00 ft
Drill Pipe Above KB:	15.00 ft			String Weight: Initial 50000.00 lb
Depth to Top Packer:	4599.00 ft			Final 54000.00 lb
Depth to Bottom Packer:	ft			
Interval between Packers:	46.00 ft			
Tool Length:	73.00 ft			
Number of Packers:	1	Diameter: 6.75 inches		

Tool Comments:

Tool Description

Tool Description	Length (ft)	Serial No.	Position	Depth (ft)	Accum. Lengths
Shut In Tool	5.00			4577.00	
Hydraulic tool	5.00			4582.00	
Jars	5.00			4587.00	
Safety Joint	3.00			4590.00	
Packer	4.00			4594.00	27.00 Bottom Of Top Packer
Packer	5.00			4599.00	
Stubb	1.00			4600.00	
Recorder	0.00	6669	Inside	4600.00	
Recorder	0.00	8879	Inside	4600.00	
Perforations	9.00			4609.00	
Change Over Sub	1.00			4610.00	
Drill Pipe	31.00			4641.00	
Change Over Sub	1.00			4642.00	
Bullnose	3.00			4645.00	46.00 Bottom Packers & Anchor

Total Tool Length: 73.00



**TRILOBITE
TESTING, INC**

DRILL STEM TEST REPORT

FLUID SUMMARY

Murfin Drilling Co., Inc.

16-01s-37w Cheyenne,KS

250 N. Water Suite 300
Wichita KS 67202

Patricia #2-16

Job Ticket: 55163

DST#: 4

ATTN: Brad Rine

Test Start: 2014.01.24 @ 23:34:00

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

37 deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 47.00 sec/qt

Cushion Volume:

bbl

Water Loss: 0.00 in³

Gas Cushion Type:

Resistivity: 0.00 ohm.m

Gas Cushion Pressure:

psig

Salinity: 900.00 ppm

Filter Cake: 2.00 inches

Recovery Information

Recovery Table

Length ft	Description	Volume bbl
94.00	S,M,C,O 10%MUD 90%OIL	1.319
721.00	CLEAN OIL 100%	10.114

Total Length: 815.00 ft Total Volume: 11.433 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

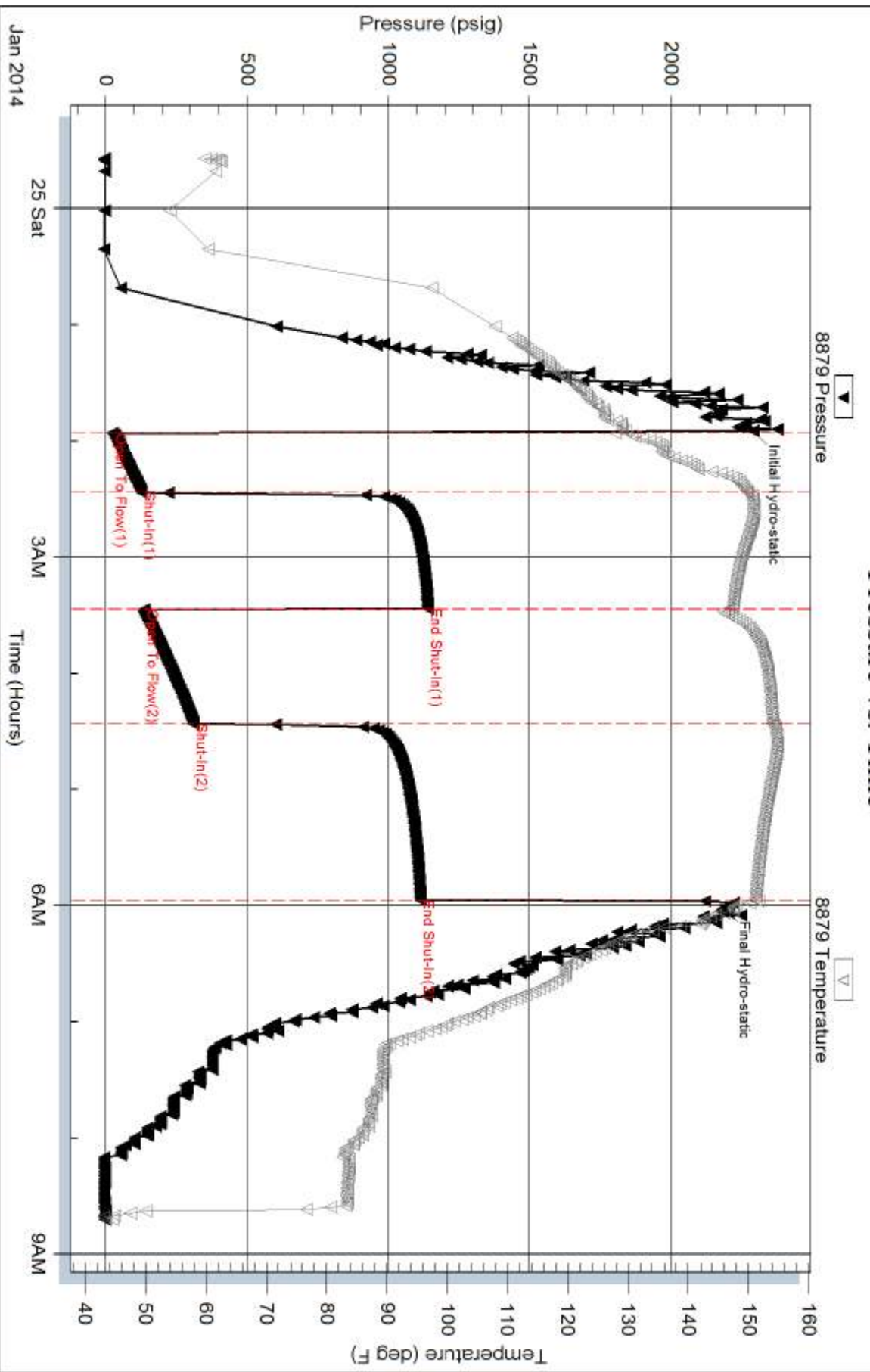
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: OIL GRAVITY = 37 API @ 60 DEG.

Pressure vs. Time



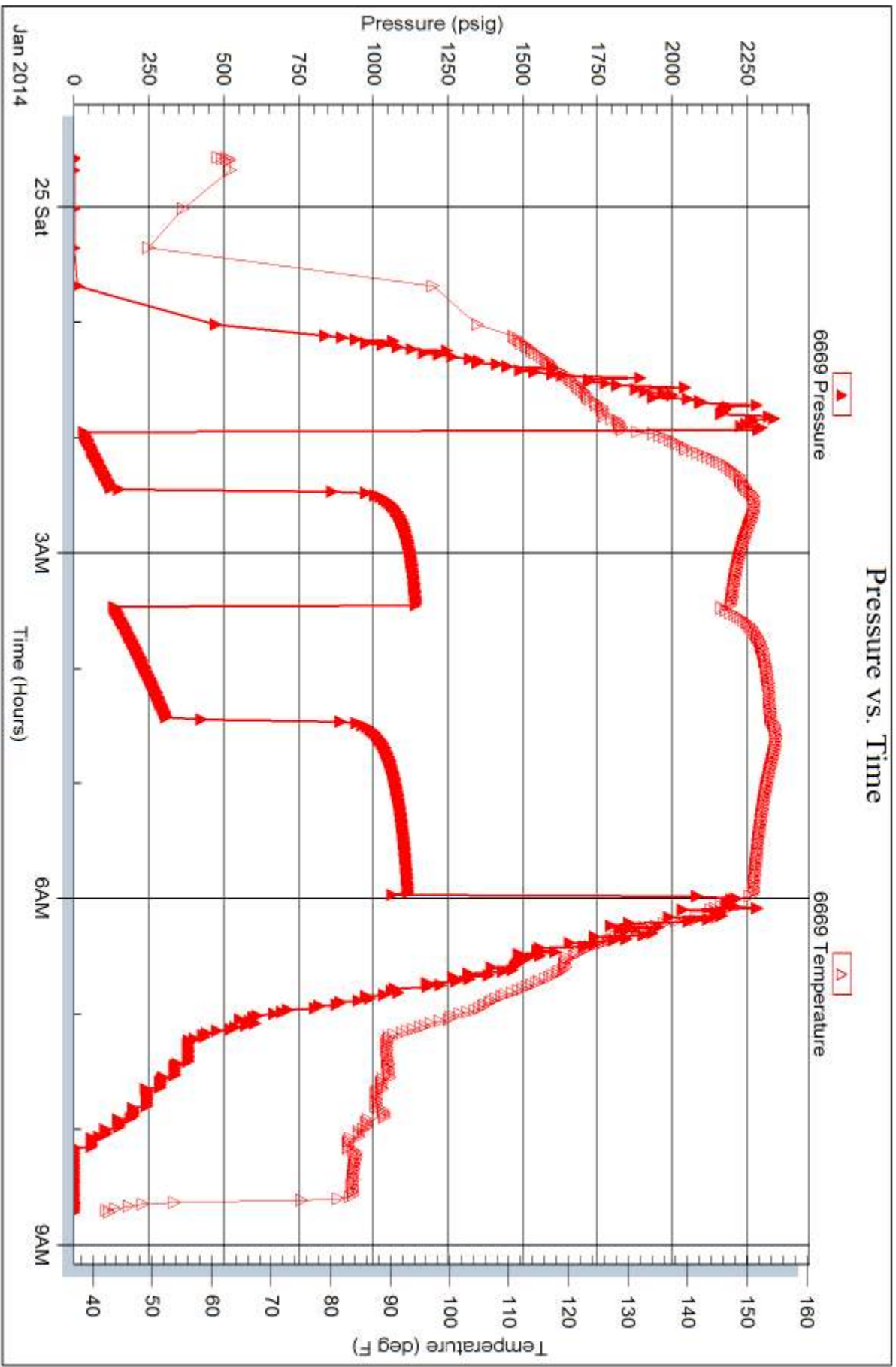
Serial #: 6669

Inside

Murfin Drilling Co., Inc.

Patricia #2-16

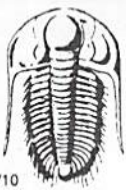
DST Test Number: 4



Trilobite Testing, Inc

Ref. No: 55163

Printed: 2014.01.27 @ 16:19:48



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55160**

Well Name & No. Patricia #2-16 Test No. 1 Date 1-21-14
 Company Murfin Drilling Co, Inc. Elevation 3264 KB 3251 GL
 Address 250 N. Water Suite 300 Wichita, KS 67202
 Co. Rep / Geo. Brad Rine Rig Murfin #25
 Location: Sec. 16 Twp. D S Rge. 37W Co. Cheyenne State KS

Interval Tested 3741-3800 Zone Tested Foreaker
 Anchor Length 59 Drill Pipe Run 3735 Mud Wt. 8.7
 Top Packer Depth 3737 Drill Collars Run 0 Vis 140
 Bottom Packer Depth 3741 Wt. Pipe Run 0 WL 5.2
 Total Depth 3800 Chlorides 500 ppm System LCM 7#

Blow Description IF - Surface blow built to 1/4"
ESI - No Return
FF - No Surface blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>6'</u>	<u>0cm</u>	<u>30</u>		<u>70</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 6' BHT 125F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic 1792 Test 1150 T-On Location 3:54am
 (B) First Initial Flow 11 Jars 250 T-Started 5:06am
 (C) First Final Flow 12 Safety Joint 75 T-Open 7:53am
 (D) Initial Shut-In 445 Circ Sub N/C T-Pulled 10:53am
 (E) Second Initial Flow 12 Hourly Standby _____ T-Out 12:46pm
 (F) Second Final Flow 4 Mileage 160 R/T 248
 (G) Final Shut-In 342 Sampler _____
 (H) Final Hydrostatic 1741 Straddle _____

Ruined Shale Packer _____
 Ruined Packer _____
 Extra Packer _____
 Extra Recorder _____
 Day Standby _____
 Accessibility _____
 Sub Total 1973

Initial Open 30
 Initial Shut-In 60
 Final Flow 30
 Final Shut-In 60

Sub Total 1973

Approved By _____ Our Representative [Signature]

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55161

Well Name & No. Patricia #2-16 Test No. 2 Date 1-22-14
 Company Murfin Drilling Co., Inc. Elevation 3264 KB 3251 GL
 Address 250 N. Water Suite 300 Wichita KS 67202
 Co. Rep / Geo. Brad Rine Rig Murfin #25
 Location: Sec. 16 Twp. 01S Rge. 37W Co. Cheyenne State KS

Interval Tested ~~333~~ 4173 - 4300 Zone Tested Lansing A, B, D
 Anchor Length 127 Drill Pipe Run 4152 Mud Wt. 8.9
 Top Packer Depth ~~4173~~ 4169 Drill Collars Run 0 Vis 55
 Bottom Packer Depth 4173 Wt. Pipe Run 0 WL 6.0
 Total Depth 4300 Chlorides 900 ppm System LCM 7#

Blow Description IF - Surface bbw built to 1/2" then died to weak surface blow
ISI - No Return
FF - Had a weak surface bbw
FSI - No Return

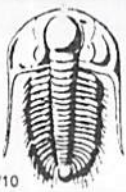
Rec	Feet of	%gas	%oil	%water	%mud
<u>10'</u>	<u>OCM</u>	<u>35</u>		<u>65</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total _____ BHT 133°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2104</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>7:20 pm</u>
(B) First Initial Flow <u>23</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:20 pm</u>
(C) First Final Flow <u>27</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>11:50 pm</u>
(D) Initial Shut-In <u>1229</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>2:50 am</u>
(E) Second Initial Flow <u>34</u>	<input type="checkbox"/> Hourly Standby _____	T-Out <u>5:17 am</u>
(F) Second Final Flow <u>34</u>	<input checked="" type="checkbox"/> Mileage <u>160 R/T</u> 248	Comments _____
(G) Final Shut-In <u>1113</u>	<input type="checkbox"/> Sampler _____	<input type="checkbox"/> Ruined Shale Packer _____
(H) Final Hydrostatic <u>2087</u>	<input type="checkbox"/> Straddle _____	<input type="checkbox"/> Ruined Packer _____
Initial Open <u>30</u>	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Extra Copies _____
Initial Shut-In <u>60</u>	<input type="checkbox"/> Extra Packer _____	Sub Total <u>216.67</u>
Final Flow <u>30</u>	<input type="checkbox"/> Extra Recorder _____	Total <u>2289.67</u>
Final Shut-In <u>60</u>	<input checked="" type="checkbox"/> Day Standby <u>1-Day</u> 1d 6.5h	MP/DST Disc't _____
	<input type="checkbox"/> Accessibility _____	
	Sub Total <u>2073</u>	

Approved By _____ Our Representative Brad Rine

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



TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. **55162**

Well Name & No. Patricia #2-16 Test No. 3 Date 1-23-14
 Company Murfin Drilling Co., Inc. Elevation 3264 KB 3251 GL
 Address 250 N. Water Suite 300 Wichita KS, 67202
 Co. Rep / Geo. Brad Pine Rig Murfin #25
 Location: Sec. 16 Twp. 01S Rge. 37 W Co. Cheyenne State KS

Interval Tested 4291 - 4450 Zone Tested LKC G, H, I, J
 Anchor Length 159' Drill Pipe Run 4275' Mud Wt. 9.4
 Top Packer Depth 4287 Drill Collars Run 0 Vis 660
 Bottom Packer Depth 4291 Wt. Pipe Run 0 WL 5.2
 Total Depth 4450 Chlorides 1500 ppm System LCM 7#
 Blow Description IF - Surface blow built to 1"
ISI - No Return
FF - Surface blow had a weak blow
FSI - No Return

Rec	Feet of	%gas	%oil	%water	%mud
<u>30'</u>	<u>0sm</u>	<u>spots</u>		<u>100</u>	
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud
Rec	Feet of	%gas	%oil	%water	%mud

Rec Total 30' BHT 129°F Gravity _____ API RW _____ @ _____ °F Chlorides _____ ppm

(A) Initial Hydrostatic <u>2135</u>	<input checked="" type="checkbox"/> Test <u>1250</u>	T-On Location <u>7:40pm</u>
(B) First Initial Flow <u>17</u>	<input checked="" type="checkbox"/> Jars <u>250</u>	T-Started <u>8:43pm</u>
(C) First Final Flow <u>22</u>	<input checked="" type="checkbox"/> Safety Joint <u>75</u>	T-Open <u>8:12:13am</u>
(D) Initial Shut-In <u>934</u>	<input checked="" type="checkbox"/> Circ Sub <u>N/C</u>	T-Pulled <u>3:13am</u>
(E) Second Initial Flow <u>23</u>	<input type="checkbox"/> Hourly Standby	T-Out <u>6:05am</u>
(F) Second Final Flow <u>26</u>	<input checked="" type="checkbox"/> Mileage <u>160 R/T</u> 248	Comments _____
(G) Final Shut-In <u>826</u>	<input type="checkbox"/> Sampler	
(H) Final Hydrostatic <u>2036</u>	<input type="checkbox"/> Straddle	
	<input checked="" type="checkbox"/> Shale Packer <u>250</u>	<input type="checkbox"/> Ruined Shale Packer
	<input type="checkbox"/> Extra Packer	<input type="checkbox"/> Ruined Packer
Initial Open <u>30</u>	<input type="checkbox"/> Extra Recorder	Sub Total <u>0</u>
Initial Shut-In <u>60</u>	<input type="checkbox"/> Day Standby	Total <u>2073</u>
Final Flow <u>30</u>	<input type="checkbox"/> Accessibility	MP/DST Disc't _____
Final Shut-In <u>60</u>	Sub Total <u>2073</u>	

Approved By _____ Our Representative Brad Pine

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TRILOBITE TESTING INC.

1515 Commerce Parkway • Hays, Kansas 67601

Test Ticket

NO. 55163

Well Name & No. Patricia #2-16 Test No. 4 Date 1-24-14
 Company Murfin Drilling Co., Inc. Elevation 3264 KB 3251 GL
 Address 250 N. Water Suite 300 Wichita Ks 67202
 Co. Rep / Geo. Brad Rine Rig Murfin #25
 Location: Sec. 16 Twp. 01S Rge. 37W Co. Cheyenne State Ks

Interval Tested 4599-4645 Zone Tested Pawnee
 Anchor Length 46' Drill Pipe Run 4,587 Mud Wt. 9.1
 Top Packer Depth 4595 Drill Collars Run 0 Vis 47
 Bottom Packer Depth 4599 Wt. Pipe Run 0 WL 0
 Total Depth 4645 Chlorides 900 ppm System LCM 7#

Blow Description IF - bottom of the bucket surface blow in 4 min.
ISI - Return built to 1 1/2"
FF - bottom of the bucket surface blow in 8 min.
FSI - Return built to 2"

Rec	Feet of	%gas	%oil	%water	%mud
<u>721</u>	<u>clean oil</u>	<u>100</u>			
<u>94</u>	<u>S, M, C, O</u>	<u>90</u>		<u>10</u>	

Rec Total 815 BHT 151 Gravity 37 API RW - @ - ° F Chlorides - ppm

(A) Initial Hydrostatic 2,291 Test 1250 T-On Location 10:20 pm
 (B) First Initial Flow 24 Jars 250 T-Started 11:34 pm
 (C) First Final Flow 126 Safety Joint 75 T-Open 1:56 am
 (D) Initial Shut-In 4,139 Circ Sub N/C T-Pulled 4:55 am
 (E) Second Initial Flow 135 Hourly Standby _____ T-Out 08:51:00
 (F) Second Final Flow 310 Mileage 1100 R/T 248 Comments _____
 (G) Final Shut-In 1,113 Sampler _____
 (H) Final Hydrostatic 2,187 Straddle _____
 Shale Packer 250 Ruined Shale Packer _____
 Extra Packer _____ Ruined Packer _____
 Extra Recorder _____ Sub Total 0
 Day Standby _____ Total 2073
 Accessibility _____ MP/DST Disc't _____
 Sub Total 2073

Approved By _____ Our Representative [Signature]

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M. Bradford Rine

Consulting Geologist, Licensed and Certified

Scale 1:240 (5"=100') Imperial
Measured Depth Log

Well Name: Patricia #2-16 - Murfin Drilling Company, Inc.
 Location: C - NW - NW, Section 16-01S-37W
 License Number: API: 15-023-21377-00-00 Region: Cheyenne County, Kansas
 Spud Date: January 17, 2014 Drilling Completed: January 26, 2014
 Surface Coordinates: 660' FNL & 660' FWL, Mostly: Wildcat
 Bottom Hole Coordinates: of Section Vertical Wellbore Production Casing Set

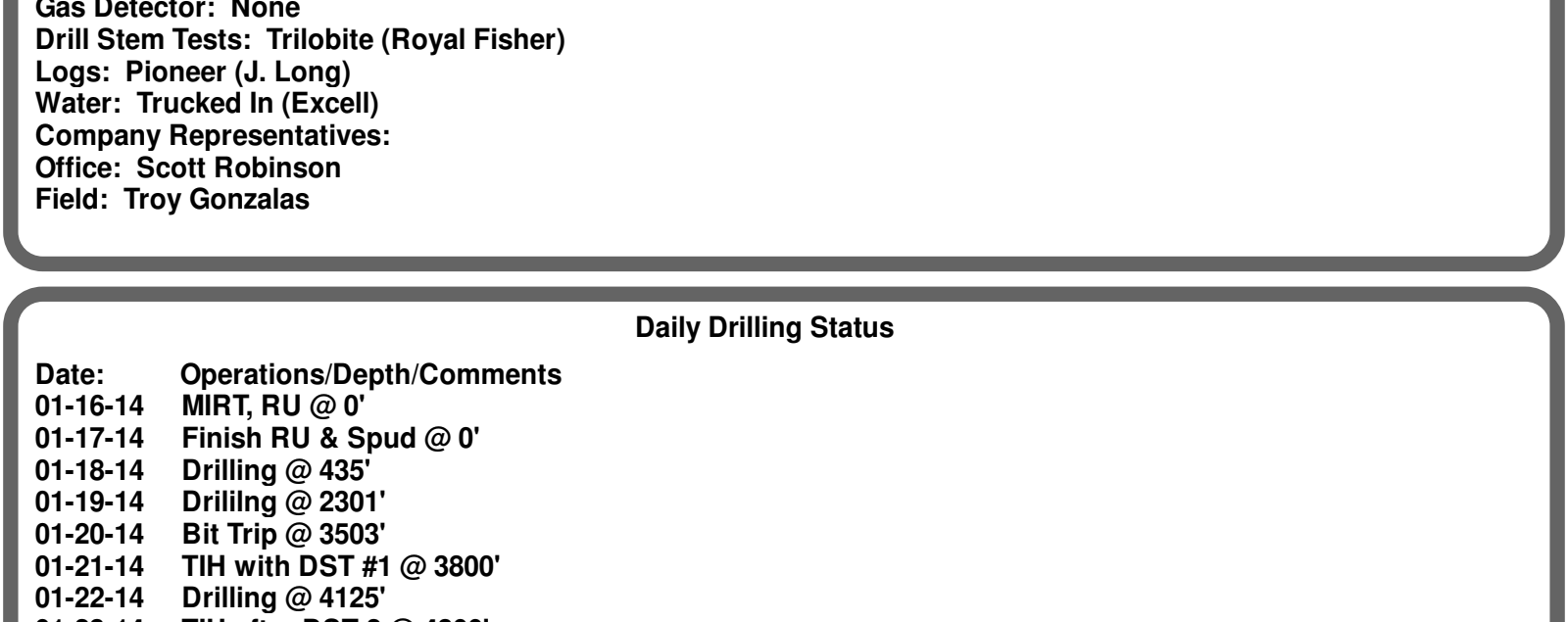
Ground Elevation (ft): 3251 Ft. K.B. Elevation (ft): 3264 Ft.
 Logged Interval (ft): 3570 Ft. To: 4850 Ft. Total Depth (ft): RTD 4850 Ft. LTD 4845 Ft.
 Type of Drilling Fluid: Chemical
 Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

Operator
 Company: Murfin Drilling Company, Inc.
 Address: 250 North Water, Suite #300
 Wichita, Kansas 67202

Geologist
 Name: M. Bradford Rine
 Company: Consulting Geologist, Kansas Lic. #204, Wyo #189, AAPG Cert. #2647
 Address: 100 South Main, Suite #415
 Wichita, Kansas 67202

Remarks
 Based on sample observations, drllc stem test results, and electric log evaluation, it was the decision of the Operator, to set production casing on the "Patricia #2-16", on January 26, 2014.

Respectfully submitted,
 M. Bradford Rine



Murfin Drilling Co., Inc.		Murfin (Well A)				
Patricia #2-16		Jones "B" #1-9				
660' FNL & 660' FWL		710' FSL & 710' FWL				
Sec. 16-01S-37W		Sec. 09-01S-37W		Well A		
3264 Ft. KB		3253 Ft. KB				
Formations	Sample	E-Log	Datum	E-Log	Datum	Comp.
Anhydrite	3213	3212	52	3208	45	7
B/Anhydrite	3248	3245	19	3240	13	6
Neva	3668	3666	-402	3658	-405	3
Red Eagle	3730	3729	-465	3722	-469	4
Foraker	3780	3777	-513	3769	-516	3
Topeka	4005	4001	-737	3996	-743	6
Oread	4140	4136	-872	4127	-874	2
Lansing	4223	4216	-952	4213	-960	8
Stark Sh	4440	4435	-1171	4428	-1175	4
B/Kansas City	4498	4489	-1225	4483	-1230	5
Marmaton	4540	4532	-1268	4523	-1270	2
Pawnee	4620	4612	-1348	4605	-1352	4
Lwr Pawnee	4648	4641	-1377	4634	-1381	4
Cherokee Sh	4686	4678	-1414	4676	-1423	9
Mississippi	4704	4695	-1431	4690	-1437	6
Mississippi	NR			NR		
Total Depth	4850	4845	-1581	4833	-1580	-1

Rig: Murfin #25
Pump: National K-500 6x15
Drawworks: National T-370
Collars: 544' 2-1/4" x 6-1/4"
Drillpipe: 4-1/2" 16.6# XH
Toolpusher: Raymond Bland

Mud: Morgan (Troy Vanpelt, Cade Lines)
Gas Detector: None
Drill Stem Tests: Tribolite (Royal Fisher)
Logs: Pioneer (J. Long)
Water: Trucked In (Excell)
Company Representatives:
Office: Scott Robinson
Field: Troy Gonzales

Daily Drilling Status

Date:	Operations/Depth/Comments
01-16-14	MIRT, RU @ 0'
01-17-14	Finish RU & Spud @ 0'
01-18-14	Drilling @ 435'
01-19-14	Drilling @ 2301'
01-20-14	Bit Trip @ 3503'
01-21-14	TIH with DST #1 @ 3800'
01-22-14	Drilling @ 4125'
01-23-14	TIH after DST 2 @ 4300'
01-24-14	TIH after DST 3 @ 4450'
01-25-14	TOOH with DST 4 @ 4645'
01-26-14	Logging @ 4850'
01-27-14	Ran casing, PD 3:30 am

Casing Record, Bit Record, Deviation Surveys

CASING:
 Conductor: None
 Surface: Ran 5 jts 8-5/8" 23#, set @ 231'. (Allied) Cemented with 170 sx Common, 3%CC. Cement did circulate.

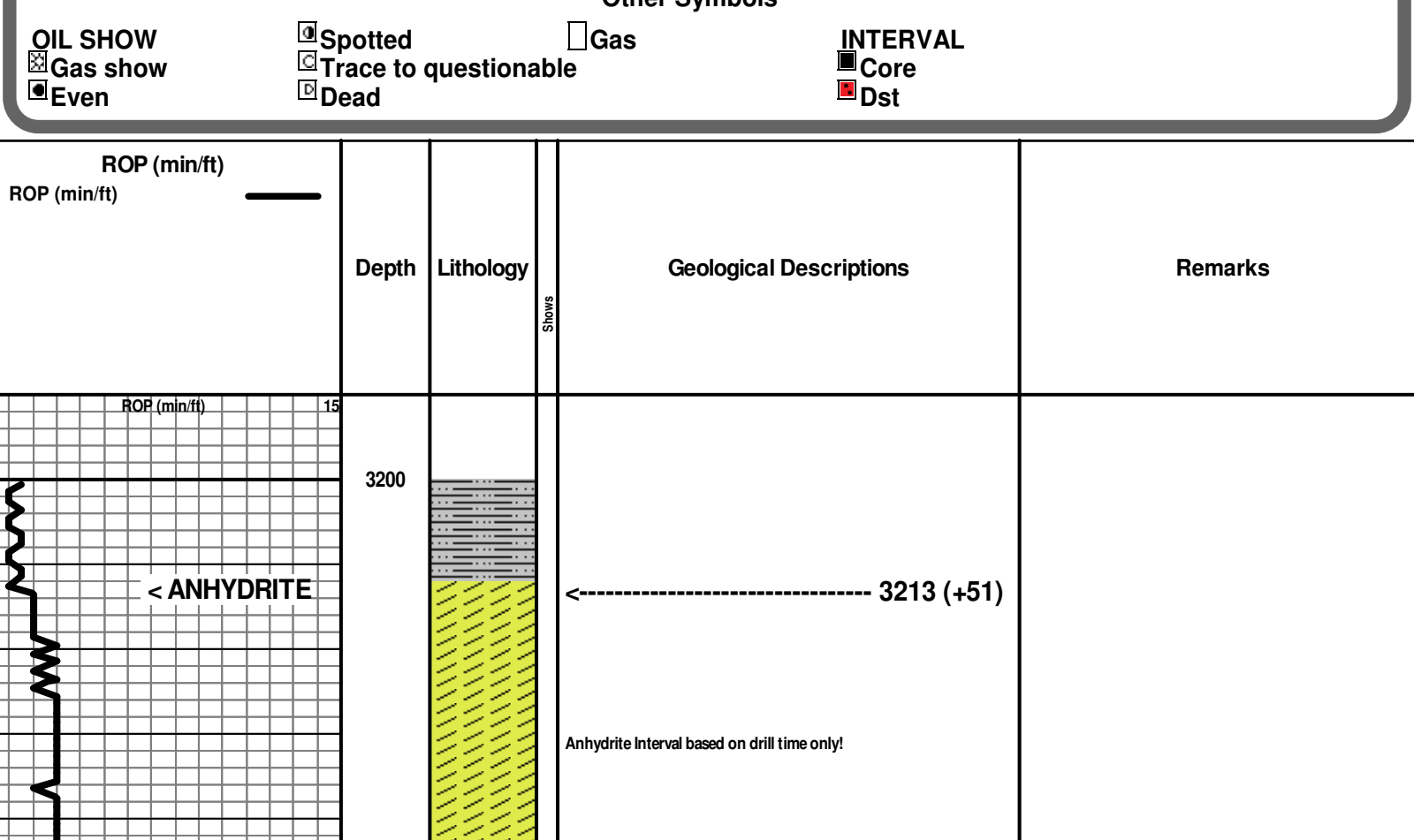
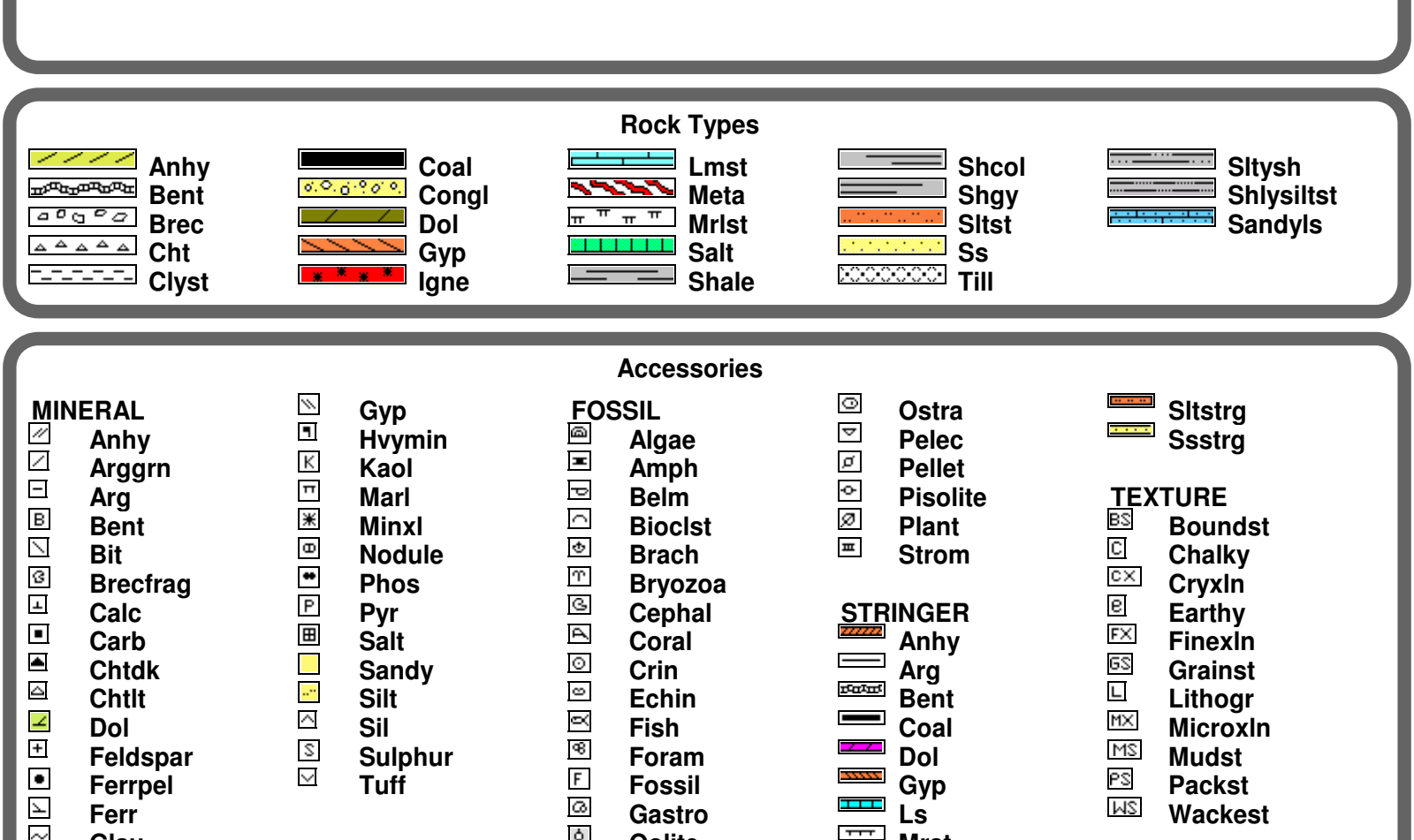
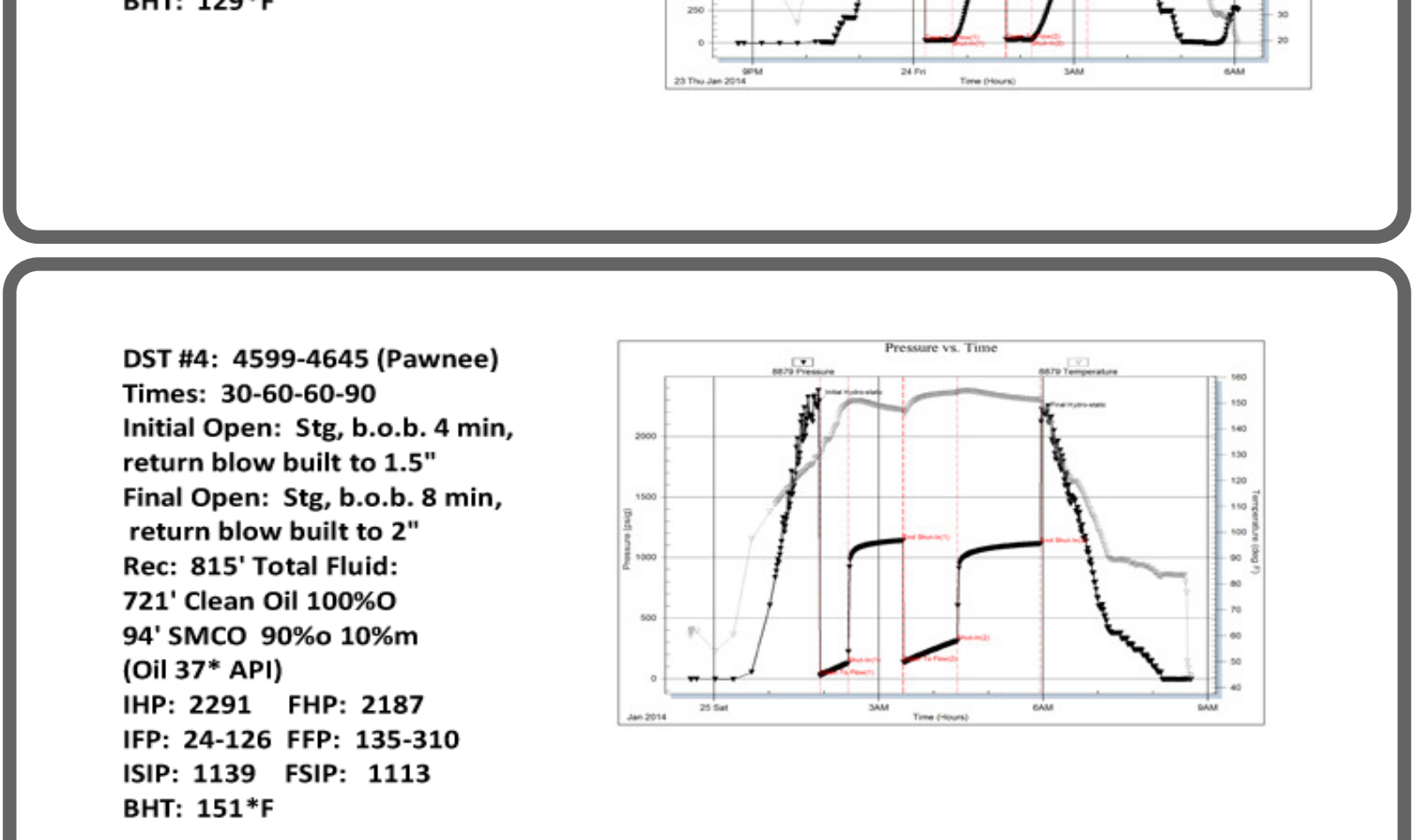
Production:
 Ran 115jts of 15.5# 5 1/2" prod csg, set @ 4840'. (Consolidated) Cement w/450sxs (200OWC, 250CMD). PD @ 11:30PM 1/26. No circ. Rotated 4limes & lost circ. Hole stayed full. 30sxs RH, 20sxs MH. RH @ 3:30AM 1/27/14.

BITS:

No.	Size	HTC	Model	Depth In	Depth Out	Hours
1	12-1/4	HTC	GMS rr	0	231	4
2	7-7/8	HTC	DP506	231	3503	43.5
3	7-7/8	HTC	GX20C	3503	4850	

DEVIATION SURVEYS:

Deviation:	Depth:	Deviation:	Depth:
0.40"	231'	0.60"	2777'
0.80"	746'	0.50"	3503'
0.90"	1255'	1.10"	4300'
1.60"	1762'	6.00"	4850'
0.10"	2270'		



Lithology Legend

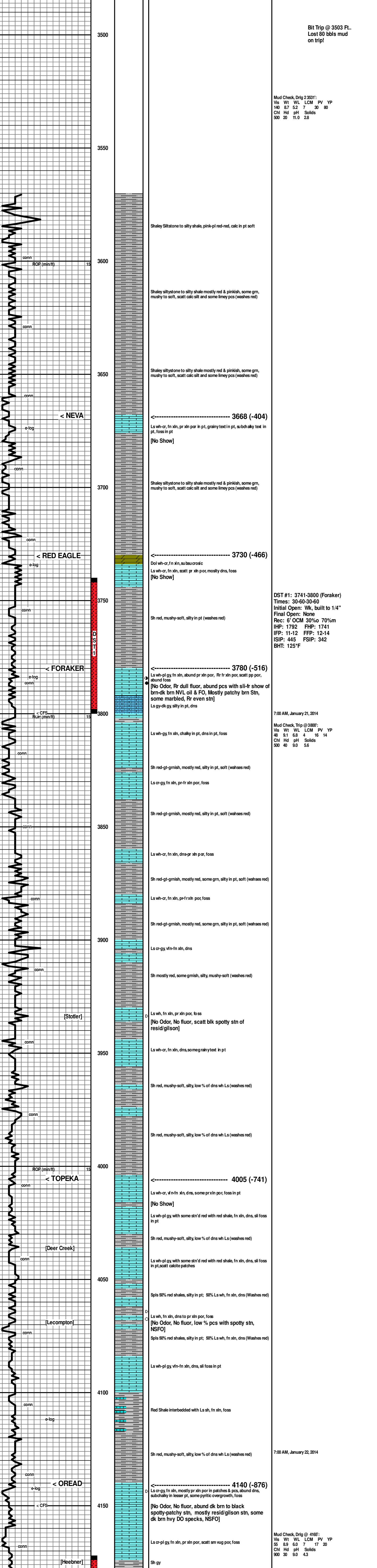
Rock Types	Other Symbols
Anhy	Shcol
Bent	Shgy
Brec	Silst
Cht	Ss
Clyst	Till
Coal	Siltstrg
Congl	Ssstrg
Dol	
Gyp	
Ignre	
Lmst	
Meta	
Mrlst	
Salt	
Shale	

Accessories

Algae	Ostra	Siltstrg
Amph	Pelec	Ssstrg
Belm	Pellet	
Biolist	Pisolite	
Brach	Plant	
Bryozoa	Strom	
Cephal	STRINGER	
Coral	Anhy	
Crin	Arg	
Echin	Bent	
Fish	Coal	
Foram	Dol	
Fossil	Gyp	
Gastro	Ls	
Oolite	Mrst	

Other Symbols

Oil Show	Trace to questionable	Gas	Interval
Even	Dead		Core
			Dst





4223 (-959)

Ls wh-cr, fr sh, mostly dns with scatt patches of pr sh por, v fr pores, fr am vgs, subchaly in pt, foss (becomes dense with depth)
[No Odor, No fluor, in patches of pr sh por have dk brn-bk spotty str, some resid str, sil show of dk brn NVL oil, Trace shows of dk FO in tiny drops on bmk]
Ls wh-cr, fr sh, vfr-in sh, dns, subchaly in pt, all foss
Silstone gy-lan fr gm, rd, gd sort, fr-gd frt, calc cement in pt, shaly in pt
[No Odor, No fluor, in patches of pr sh por have dk brn-bk spotty str, sil-fr show of oily film, sil-fr show of NVL dk oil, sil-fr show of brn FO in some pcs]

DST #2: 4173-4300 (Lansing A,B,D)
Times: 30-60-30-60
Initial Open: Wk, built to 1'2", died back to weak surf
Final Open: Wk surf thruout
Rec: 10' OCM 35% to 65% m
IHP: 2104 FFP: 2087
ISP: 23-27 FFS: 3036
ISIP: 1229 FSIP: 1113
BHT: 133°F

Ls wh-cr, fr sh, no silty pr sh por abund scatt vugs, foss in pt
[No Odor, No fluor, where vuggy (mod % of pcs) dk brn hv stn, mix of hv thick DO-NVL hv dk oil & some dk brn hv FO, sil gassy]

7:00 AM, January 23, 2014

Ls wh-cr, fr sh, subchaly in pt, all foss
Sh mix of red-gy pl gm, silty in pt, foss in pt, soft

Mud Check, Drtg @ 4200:
Vls Wt WL LCM PV YP
55 82 53 7 15
29 14 52 18 26
29 14 52 18 26
1500 30 90 79

Ls wh-cr, fr sh, dns in pt, scatt patches & pcs with pr sh por and pores, fr am vgs, subchaly in pt, foss (becomes dense with depth)
[No Odor, Rr dull fluor, moderate % pcs with patchy brn-bk spotty str, Rr show DO on brk, some redil-gilson, NSFQ]
Ls wh-cr, fr sh, subchaly in pt, Rr patches of pr sh por, foss
[No Odor, No fluor, low % pcs with patches of dk brn-bk spotty str, sil show DO on brk, fair amt of blk resid-gilson str]

DST #3: 4291-4450 (LKC G,H,I,J)
Times: 30-60-30-60
Initial Open: Wk, built to 1"
Final Open: Wk surf thruout
Rec: 30' OCM 100% oil spots
IHP: 2135 FFP: 2036
ISP: 23-26 FFS: 3036
ISIP: 934 FSIP: 826
BHT: 129°F

Ls wh-cr, fr sh, abund pcs with pr sh por, scatt pores, foss with some foss-mold pores, chaly in pt, foss
[No Odor, scatt dull fluor, abund pcs with spotty-patchy to Rr even ft brn to brn str, mix of sil-fr shows of oily film, NVL oil & sil gassy FO, Rr pcs with Fr show FO]

7:00 AM, January 23, 2014

Ls wh-cr, fr sh, dns, subchaly in pt, all foss
[No Show]

Mud Check, Drtg @ 4500:
Vls Wt WL LCM PV YP
47 51 54 7 17 15
35 82 53 18 18
900 30 90 57

Sh red-black, grainy text in pt
Ls wh-cr, fr sh, mostly dns, some chaly, foss, scatt calc patches
[No Show]

4498 (-1234)

Sh gy-grn, some red
Ls wh-cr, fr sh, vfr-in sh, dns, subchaly in pt, gassy red in pt, Rr foss

4540 (-1276)

Sh red-pink-pl pink, mucky to soft, silty in pt (washes red)
Sh mostly red, some gy-grn, soft to subfirm
Ls wh-cr, fr sh, subchaly-chaly in pt, dns in pt, grainy text in pt
Sh and silty shale, calc in pt, gy

DST #4: 4599-4645 (Pawnee)
Times: 30-60-30-60
Initial Open: Wk, built to 1.5"
Final Open: Stg, b.o.b. 8 min, return blow built to 2"
Rec: 815' Total Fluid:
721' Clean Oil 100%
94' SMO 90% to 10%
(Oil 37' API)
IHP: 2291 FFP: 2187
ISP: 24-126 FFS: 155-310
ISIP: 1139 FSIP: 1113
BHT: 151°F

Ls wh-cr, fr sh, packed soil (small) & foss in pt, pr sh por, scatt
[No Odor, scatt dull fluor, abund pcs with patchy brn-bk spotty str, sil show dk hv DO and show of dry dead flakey gilson]
Sh mostly gy, some red
Sh red-gy-grn, silty in pt (washes red)

7:00 AM, January 25, 2014

Ls wh-cr, fr sh, subchaly in pt, all foss
[No Show]

Mud Check, Drtg @ 4600:
Vls Wt WL LCM PV YP
55 82 53 7 15
29 14 52 18 26
3000 30 105 64

Ls wh-cr, fr sh, mostly dns, some chaly, foss, scatt calc patches
[No Show]

4686 (-1422)

Sh black-gy
Ls wh-cr, fr sh, vfr-in sh, dns, subchaly in pt, Rr foss
Ls wh-cr, fr sh, subchaly in pt, all foss

4704 (-1440)

Sh black-gy
Sdy Ls wh-cr, fr sh, vfr-in sh, dns, subchaly in pt, Rr foss
Sdy Ls wh-cr, fr sh, vfr-in sh, dns, subchaly in pt, Rr foss
[No Show]

4686 (-1422)

Ls wh-cr, fr sh, mostly dns & firm, fr amt of softer & chaly
Sh black-red-gy, subally text in pt, argill text in pt
Ls wh-cr, fr sh, chaly in pt

4686 (-1422)

Sh gy-red-purple-gm, silty to sdy, mixed with sds gy-red-gm, shaly in pt, subrd, gd sort, pr-gd fr, some calc cem
[No Show]

4686 (-1422)

Sh gy-purple, sdy to some sd clusters with crs subang gms embedded in in sd, scatt gluc in pt
[No Show]

4686 (-1422)

60% Shale gy-gm-red-yellow-purple-lav, mucky to soft, silty to sdy in pt
30% Sd wh-deer-gm-grn, mostly fr gm, some fr-md mix, subrd-subang-gm, com in pt, shaly in pt, gluc in pt, some crs gms in calc cem
10% Ls wh, dns

4686 (-1422)

50% Sh red-gy-gm-yellow-lav
40% Sd wh-deer-gm-grn, mostly fr gm, some fr-md mix, subrd-subang-gm, com in pt, shaly in pt, gluc in pt, some crs gms in calc cem
10% Ls wh, dns

4686 (-1422)

80% Shale mostly red, some gm-gy-yellow, sdy in pt, arg in pt, soft
20% Sd & Ls as above
[No Show]

4686 (-1422)

60% Shales mostly red, some gm-gy-yellow, sdy in pt
30% Sd fr-md gm, pr-gd sort, subrd-ang, com in pt, shaly in pt
10% Ls wh, dns
[No Show]

4686 (-1422)

RTD 4850 Ft. LTD 4850 Ft.

RTD 4850 Ft. at 10:00 PM, January 25, 2014