Confidentiality Requested:
☐ Yes ☐ No

KANSAS CORPORATION COMMISSION
OIL & GAS CONSERVATION DIVISION

1158451

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 # 33168
Name: Woolsey Operating Company, LLC
Address 1: 125 N MARKET STE 1000
Address 2:
City: WICHITA State: KS Zip: 67202 + 1729
Contact Person: DEAN PATTISSON
Phone: ( 316 ) 267-4379
CONTRACTOR: License # 34484
Name: Fossil Drilling, Inc.
Wellsite Geologist: SCOTT ALBERG
Purchaser: PLAINS MARKETING / ATLAS PIPELINE

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 #:

| 05/16/2013 | 05/24/2013 | 07/08/2013 |
|---|---|---|
| Spud Date or Recompletion Date | Date Reached TD | Completion Date or Recompletion Date |

API No. 15 - 15-007-24024-00-00
Spot Description:
SW NE SW SE Sec. 35 Twp. 31 S. R. 12 ☐ East ☑ West
930 Feet from ☐ North / ☑ South Line of Section
1675 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: Barber
Lease Name: GRESS-DAWSON Well #: 2
Field Name: PIKE SOUTH
Producing Formation: MISSISSIPPIAN
Elevation: Ground: 1560 Kelly Bushing: 1572
Total Vertical Depth: 4785 Plug Back Total Depth: 4617
Amount of Surface Pipe Set and Cemented at: 217 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: 57000 ppm Fluid volume: 950 bbls
Dewatering method used: Hauled to Disposal
Location of fluid disposal if hauled offsite:
Operator Name: WOOLSEY OPERATING COMPANY LLC
Lease Name: WECKWORTH 6 License #: 33168
Quarter SW Sec. 09 Twp. 35 S. R. 12 ☐ East ☑ West
County: BARBER Permit #: D 31019

**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: 09/13/2013
☑ **Confidential Release Date:** 09/13/2015
☑ **Wireline Log Received**
☑ **Geologist Report Received**
☐ **UIC Distribution**
**ALT** ☑ **I** ☐ **II** ☐ **III** **Approved by:** NAOMI JAMES **Date:** 09/16/2013

1158451

Operator Name: Woolsey Operating Company, LLC Lease Name: GRESS-DAWSON Well #: 2

Sec. 35 Twp. 31 S. R. 12 ☐ East ☑ West County: Barber

**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:

Compensated Density/Comp Neutron PE
Dual Induction

☑ 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 | 14.5 | 10.75 | 32.75 | 217 | CLASS A | 200 | |
| PRODUCTION | 7.875 | 4.5 | 10.5 | 4696 | 60/40 POZ | 50 | |
| PRODUCTION | 7.875 | 4.5 | 10.5 | 4696 | CLASS H | 125 | SEE ATTACHED |

ADDITIONAL CEMENTING / SQUEEZE RECORD

| Purpose: | Depth Top Bottom | Type of Cement | # Sacks Used | Type and Percent Additives |
|---|---|---|---|---|
| ___ Perforate<br>___ Protect Casing<br>___ Plug Back TD<br>___ 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 | 4318-4340 & 4350-4360 | 1600 gal 10% MIRA acid | 4318-4360 OA |
| | | 357,232 gal slick wtr, 96,102# 30/50 sd, | |
| | | 44,000# 16/30 sd, 10,500# resin coated sd, numerous additives | 4318-4360 OA |
| | | | |
| | | | |

TUBING RECORD: Size: 2.375 x 4.7# Set At: 4398 Packer At: Liner Run: ☐ Yes ☐ No

Date of First, Resumed Production, SWD or ENHR. 08/03/2013

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

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|---|---|---|---|---|---|
| | 25 | 50 | 100 | 2000 | 36 |

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: 4318-4360 OA

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

| | |
|---|---|
| Form | ACO1 - Well Completion |
| Operator | Woolsey Operating Company, LLC |
| Well Name | GRESS-DAWSON 2 |
| Doc ID | 1158451 |

Tops

| Name | Top | Datum |
|---|---|---|
| CHASE | 1811 | -239 |
| ONAGA | 2614 | -1042 |
| ELGIN SD | 3420 | -1848 |
| DOUGLAS | 3624 | -2052 |
| LANSING A | 3761 | -2189 |
| HERTHA | 4182 | -2610 |
| MISSISSIPPIAN | 4317 | -2745 |
| VIOLA | 4605 | -3033 |
| SIMPSON | 4823 | -3251 |

Conservation Division
Finney State Office Building
130 S. Market, Rm. 2078
Wichita, KS 67202-3802

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 316-337-6211
http://kcc.ks.gov/

Mark Sievers, Chairman
Thomas E. Wright, Commissioner
Shari Feist Albrecht, Commissioner

Sam Brownback, Governor

September 13, 2013

DEAN PATTISSON
Woolsey Operating Company, LLC
125 N MARKET STE 1000
WICHITA, KS 67202-1729

Re: ACO1
API 15-007-24024-00-00
GRESS-DAWSON 2
SE/4 Sec.35-31S-12W
Barber County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,
DEAN PATTISSON

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

# FIELD SERVICE TICKET
1718 07732 A

DATE TICKET NO.

| | |
|---|---|
| DATE OF JOB 5-16-13 DISTRICT Pratt | NEW WELL [X] OLD WELL [ ] PROD [ ] INJ [ ] WDW [ ] CUSTOMER ORDER NO.: |
| CUSTOMER Woolsey Operating | LEASE Gress-Dawson 2 WELL NO. |
| ADDRESS | COUNTY Barber STATE KS |
| CITY STATE | SERVICE CREW mike Arron Joe |
| AUTHORIZED BY | JOB TYPE: cnw 10 3/4 SF SURFACE CASING |

| EQUIPMENT# | HRS | EQUIPMENT# | HRS | EQUIPMENT# | HRS |
|---|---|---|---|---|---|
| 33709-20920 | 15 | | | | |
| 19831-19862 | 15 | | | | |
| 28443 | | | | | |

| | DATE | AM/PM | TIME |
|---|---|---|---|
| TRUCK CALLED | 5-16-13 | PM | 2:26 |
| ARRIVED AT JOB | 5-16-13 | PM | 5:06 |
| START OPERATION | 5-16-13 | PM | 7:45 |
| FINISH OPERATION | 5-16-13 | PM | ~~8:45~~ 8:58 |
| RELEASED | 5-16-13 | PM | 9:15 |
| MILES FROM STATION TO WELL | | | |

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: X Donald Bard
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

| ITEM/PRICE REF. NO. | MATERIAL, EQUIPMENT AND SERVICES USED | UNIT | QUANTITY | UNIT PRICE | $ AMOUNT |
|---|---|---|---|---|---|
| CP 103 | 60/40 POZ | SK | 200 | | 2,400 00 |
| CP 102 | CelloFlake | lb | 46 | | 170 20 |
| CC 109 | Calcium Chloride | lb | 344 | | 361 20 |
| E 100 | Pickup Mileage | mi | 30 | | 127 50 |
| E 101 | Heavy Mileage | mi | 60 | | 420 00 |
| E 113 | Bulk Delivery | Tm | 258 | | 412 80 |
| CE 200 | Depth Charge 0-500 | 4hr | 1 | | 1,000 00 |
| CE 240 | Mixing Charge | SK | 200 | | 280 00 |
| S 003 | Supervisor | eq | 1 | | 175 00 |

WELL FILE
Regulatory Correspondence
Drlg / Comp Workovers
Tests / Meters Operations

| CHEMICAL / ACID DATA: | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

SUB TOTAL DLS 3,475 36

| | | |
|---|---|---|
| SERVICE & EQUIPMENT | %TAX ON $ | |
| MATERIALS | %TAX ON $ | |
| | TOTAL | |

JUN 13 2013

SERVICE REPRESENTATIVE Joel Mehrhoff

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: X Donald Bard
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

BASIC ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

10244 NE Hwy. 61
P.O. Box 8613
Pratt, Kansas 67124
Phone 620-672-1201

# FIELD SERVICE TICKET
1718 07736 A

DATE TICKET NO.

| | |
|---|---|
| DATE OF JOB 5-25-13 DISTRICT Pratt | NEW WELL ☑ OLD WELL ☐ PROD ☐ INJ ☐ WDW ☐ CUSTOMER ORDER NO.: |
| CUSTOMER Woolsey | LEASE Gress - Dawson WELL NO. 2 |
| ADDRESS | COUNTY Barber STATE KS |
| CITY STATE | SERVICE CREW Mike Arron Joe |
| AUTHORIZED BY | JOB TYPE: CNW 4½ LS PRODUCTION CASING |

| EQUIPMENT# | HRS | EQUIPMENT# | HRS | EQUIPMENT# | HRS |
|---|---|---|---|---|---|
| 19903-19905 | 1½ | | | | |
| 19960-21010 | 1½ | | | | |
| 28443 | 1½ | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

| | DATE | AM/PM | TIME |
|---|---|---|---|
| TRUCK CALLED | 5-24-13 | AM PM | 6 |
| ARRIVED AT JOB | 5-24-13 | AM PM | 10:15 |
| START OPERATION | 5-25-13 | AM PM | 3:45 |
| FINISH OPERATION | 5-25-13 | AM PM | 4:15 |
| RELEASED | 5-25-13 | AM PM | 5:15 |
| MILES FROM STATION TO WELL | | | 30 |

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered).
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of Basic Energy Services LP.

SIGNED: Donald Boyd
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

| ITEM/PRICE REF. NO. | MATERIAL, EQUIPMENT AND SERVICES USED | UNIT | QUANTITY | UNIT PRICE | $ AMOUNT |
|---|---|---|---|---|---|
| CP 103 | 60/40 POZ | SK | 50 | | 600 00 |
| CP 105 | AA2 cement | SK | 125 | | 2,125 00 |
| CP 103 | 60/40 POZ | SK | 50 | | 600 00 |
| CC 102 | CELLOFlake | lb | 56 | | 207 20 |
| CC 111 | SALT | lb | 790 | | 395 00 |
| CC 113 | GYPSUM | lb | 590 | | 442 50 |
| CC 129 | FLA-322 LOW FLUID LOSS | lb | 95 | | 712 50 |
| CC 200 | cement GEL | lb | 172 | | 43 00 |
| CC 201 | GILSONITE | lb | 750 | | 502 50 |
| CF 606 | Latch Down Plug | eq | 1 | | 370 00 |
| CF 1250 | AUTO FILL shoe | eq | 1 | | 330 00 |
| CF 1650 | TURBOLIZER | eq | 10 | | 850 00 |
| CF 2000 | cement Scratchers | eq | 32 | | 2,240 00 |
| C 706 | CC-1 KCL | gal | 4 | | 176 00 |

WELL FILE
Regulatory Correspondence
Drlg / Comp Workovers
Tests / Meters Operations

| CHEMICAL / ACID DATA: | | | |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

SUB TOTAL
NG

| | | |
|---|---|---|
| SERVICE & EQUIPMENT | %TAX ON $ | |
| MATERIALS | %TAX ON $ | |
| | TOTAL | |

JUL - 3 2013

SERVICE REPRESENTATIVE Joe Mc

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Donald Boyd
(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

CLOUD LITHO - Abilene, TX

# DRILL STEM TEST REPORT

WOOLSEY OPERATING CO.LLC

125 N MARKEY STE 1000
WICHITA KS 67202

ATTN: SCOTT ALBERG

**35-31S-12W, BARBER**

**GRESS-DAWSON #2**

Job Ticket: 52319 **DST#: 1**

Test Start: 2013.05.22 @ 15:50:00

## GENERAL INFORMATION:

Formation: **MISS**
Deviated: No Whipstock: 1572.00 ft (KB)
Time Tool Opened: 18:14:15
Time Test Ended: 00:59:45

Test Type: Conventional Bottom Hole (Initial)
Tester: RANDY WILLIAMS
Unit No: 47

**Interval: 4320.00 ft (KB) To 4350.00 ft (KB) (TVD)**
Total Depth: 4350.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

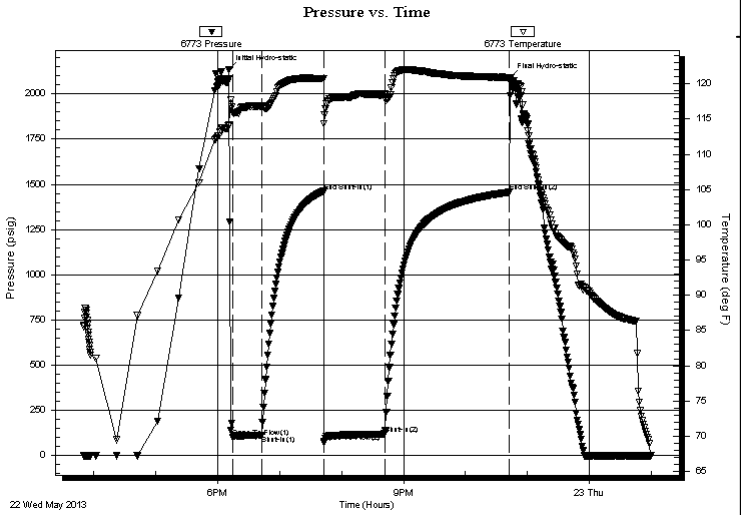
Reference Elevations: 1572.00 ft (KB)
1560.00 ft (CF)
KB to GR/CF: 12.00 ft

**Serial #: 6773**

Press@RunDepth: 119.67 psig @ ft (KB)
Start Date: 2013.05.22 End Date: 2013.05.23
Start Time: 15:50:05 End Time: 00:59:45

Capacity: 8000.00 psig
Last Calib.: 2013.05.23
Time On Btm: 2013.05.22 @ 18:11:00
Time Off Btm: 2013.05.22 @ 22:43:30

TEST COMMENT: IF-30- SBB, BOTTOM BUCKET 30 SEC'S
ISI-60- YBB, BOTTOM BUCKET
FF-60- SBB, BOTTOM BUCKET AT OPEN
FSI-120- YBB,GAS TO SURFACE 16 MIN'S INTO




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2135.76 | 114.20 | Initial Hydro-static |
| 4 | 101.32 | 115.87 | Open To Flow (1) |
| 32 | 111.72 | 116.84 | Shut-In(1) |
| 92 | 1461.37 | 120.70 | End Shut-In(1) |
| 92 | 74.52 | 114.34 | Open To Flow (2) |
| 151 | 119.67 | 118.56 | Shut-In(2) |
| 272 | 1456.95 | 120.89 | End Shut-In(2) |
| 273 | 2089.11 | 120.31 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 114.00 | MUD 100% | 0.56 |
| 121.00 | G-40%, O-10%, W-5%, M-45% | 1.62 |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

**FLUID SUMMARY**

WOOLSEY OPERATING CO.LLC

125 N MARKEY STE 1000
WICHITA KS 67202

ATTN: SCOTT ALBERG

**35-31S-12W, BARBER**

**GRESS-DAWSON #2**

Job Ticket: 52319 **DST#: 1**

Test Start: 2013.05.22 @ 15:50:00

## 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: | 51.00 sec/qt | Cushion Volume: | bbl | | |
| Water Loss: | 9.18 in³ | Gas Cushion Type: | | | |
| Resistivity: | ohm.m | Gas Cushion Pressure: | psig | | |
| Salinity: | 4000.00 ppm | | | | |
| Filter Cake: | 3.00 inches | | | | |

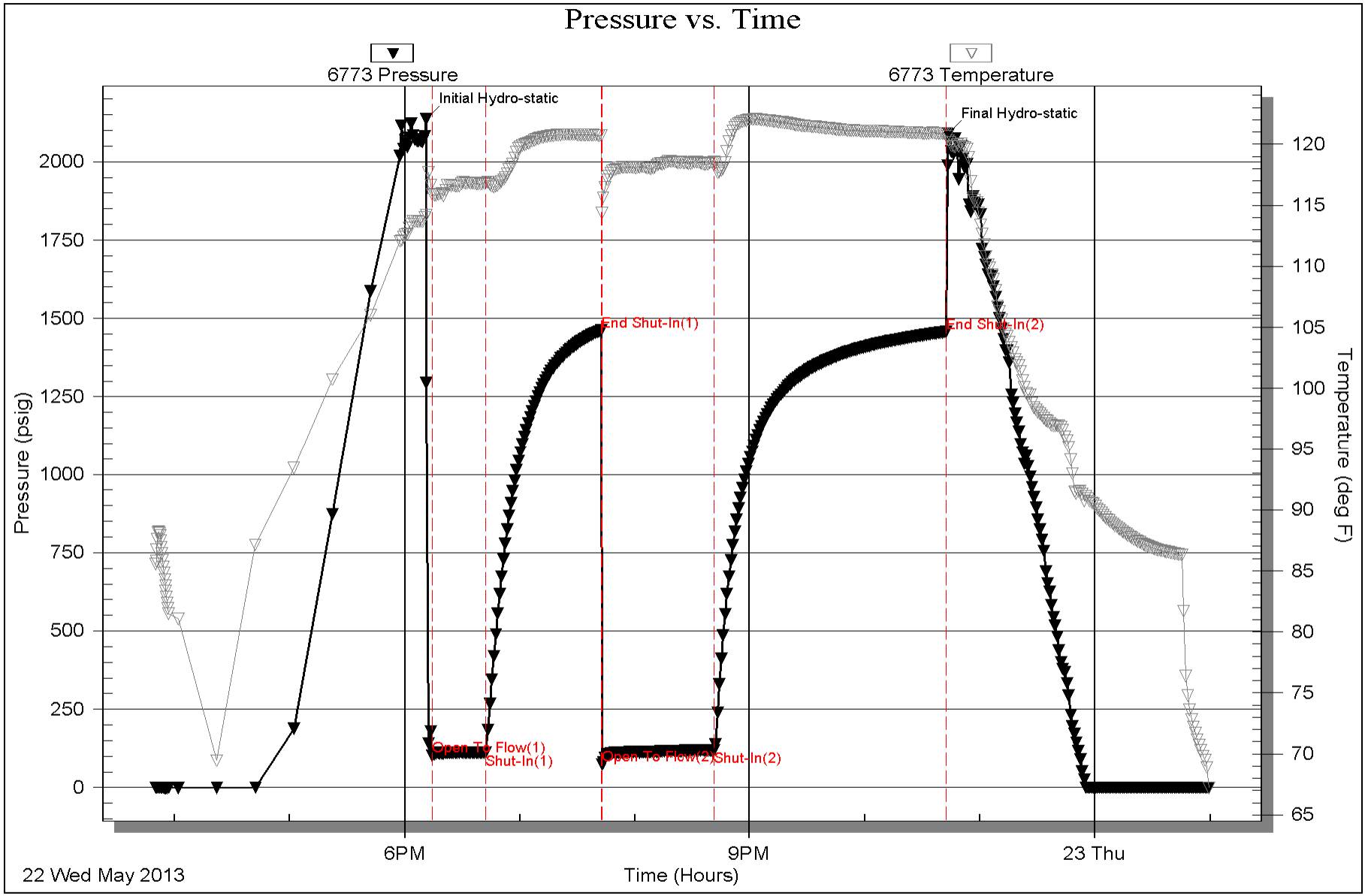
## Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|---|---|---|
| 114.00 | MUD 100% | 0.561 |
| 121.00 | G-40%, O-10%, W-5%, M-45% | 1.624 |

Total Length: 235.00 ft Total Volume: 2.185 bbl

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


Pressure vs. Time
6773 Pressure
6773 Temperature
Initial Hydro-static
Final Hydro-static
End Shut-In(1)
End Shut-In(2)
Open To Flow(1)
Shut-In(1)
Open To Flow(2)
Shut-In(2)
Pressure (psig)
Temperature (deg F)
2000
1750
1500
1250
1000
750
500
250
0
120
115
110
105
100
95
90
85
80
75
70
65
6PM
9PM
23 Thu
22 Wed May 2013
Time (Hours)

# Woolsey Operating Company, LLC

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

| | | | |
|---|---|---|---|
| **Well Name:** | **GRESS-DAWSON #2** | | |
| **Location:** | **APPROX SW NE SW SE** | | |
| **License Number:** | **API: 15-007-24024-00-00** | **Region:** | **Barber County, Kansas** |
| **Spud Date:** | **May 16, 2013** | **Drilling Completed:** | **May 24, 2013** |
| **Surface Coordinates:** | **Section 35-T31S-R12W, 930' FSL, 1675' FEL**<br>**Pike South** | | |
| **Bottom Hole Coordinates:** | **Vertical Hole** | | |
| **Ground Elevation (ft):** | **1560** | **K.B. Elevation (ft):** | **1572** |
| **Logged Interval (ft):** | **3200 To: RTD** | **Total Depth (ft):** | **4785** |
| **Formation:** | **Simpson** | | |
| **Type of Drilling Fluid:** | **Chemical Mud, Displace at 3381'.** | | |

**Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com**

## OPERATOR


**Company:** **Woolsey Operating Company,LLC**
**Address:** **125 N. Market, Suite 1000**
**Wichita, KS 67202**


## GEOLOGIST


**Name:** **W. Scott Alberg**
**Company:** **Alberg Petroleum, LLC**
**Address:** **609 Meadowlark Lane**
**Pratt, Kansas 67124**

## FORMATION TOPS

| | SAMPLE TOPS | LOG TOPS |
|---|---|---|
| LECOMPTON | 3396(-1824) | 3396(-1824) |
| KANWAKA | 3421(-1849) | 3420(-1848) |
| HEEBNER | 3575(-2003) | 3575(-2003) |
| M. DOUGLAS SAND | 3716(-2144) | 3715(-2143) |
| BROWN LIME | 3756(-2184) | 3756(-2184) |
| LANSING | 3766(-2194) | 3768(-2196) |
| STARK SHALE | 4136(-2564) | 4134(-2562) |
| HUSHPUCKNEY SHALE | 4172(-2600) | 4172(-2600) |
| B/KC | 4238(-2666) | 4237(-2665) |
| PAWNEE | 4297(-2725) | 4297(-2725) |
| MISSISSIPPIAN | 4318(-2746) | 4318(-2746) |
| KINDERHOOK SHALE | 4485(-2913) | 4485(-2913) |
| WOODFORD SHALE | 4570(-2998) | 4570(-2998) |
| VIOLA | 4604(-3032) | 4605(-3033) |
| SIMPSON SHALE | 4709(-3137) | 4709(-3137) |
| SIMPSON SAND | 4740(-3168) | 4740(-3168) |
| RTD | 4785(-3213) | |
| LTD | | 4785(-3213) |

## COMMENTS

**Surface Casing: Set 5 joints 10 3/4" at 217' with 200 sxs Class A, 2% gel, 3% cc, plug down at 8:00 pm on May 16, 2013. Cement did Circulate.**
**Production Casing: Ran 4 1/2 Casing**
**Deviation Surveys:1/2 - 217', 1/2 - 908', 1/4 1763'. 1/4 2271, 3/4 - 2747', 1 - 3286', 3/4 - 3794', 1 - 4350', 3/4 - 4785,**

**Contractor Bit Record:**

**1- 14 3/4" out at 217'.**
**2- 7 7/8" out at 4350'.**
**3- 7 7/8" out at 4785'.**

**Pipe Strap at 4350' - 1.35' long to board.**

**Gas Detector: Woolsey Operating Company, Trailer #1**
**Mud System: Mud Co, Brad Bortz, Engineer**
**DSTs: Trilobite Testing, Randy Williams**
**Logged by Nabors Completion and Production Services**
**LTD - 4785**

## DSTs

**DST #1 4320 to 4350 - Mississippi**
**Times 30-60-60-120**
**1st Opening - Strong Blow BOB in 30 seconds, blow back BOB**
**2nd Opening- Strong Blow BOB at Open, blow back, BOB GTS 16 minutes.**
**Recovery:4250' GIP, 114' Drilling Mud (100% M), 121'GOWM (40% G, 10% O, 5% W, 45% M)**
**IFP 101-112# FFP 74-120#**
**ISIP 1461# FSIP 1457#**
**IHP 2135# FHP 2089#**
**Temp 122**
**Note - Tool partly plugged - cuttings.**

## CREWS

Fossil Drilling, Inc  Rig #3
Tool Pusher - Jim Wenrich
Drillers -  Days -  Daniel Orranta
Evening - Edward Raney
Morning - Andres Maestas
Relief -  Allen Collins

## ROCK TYPES

- Anhy
- Bent
- Brec
- Cht
- Clyst
- Coal
- Congl
- Sdy dolo
- Shy dolo
- Dol
- Gyp
- Sdy lmst
- Lmst
- Mrlst
- Salt
- Shale
- Sltst
- Ss
- Black sh
- Gry sh
- Shale
- Shysltst
- Sltysh

## ACCESSORIES

### MINERAL

- Anhy
- Arg
- Bent
- Bit
- Brecfrag
- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Ferrpel
- Ferr
- Glau
- Gyp
- Marl
- Nodule
- Phos
- Pyr
- Salt
- Sandy
- Silt
- Chlorite
- Dol
- Sand
- Slty

### FOSSIL

- Algae
- Amph
- Belm
- Bioclst
- Brach
- Bryozoa
- Cephal
- Coral
- Crin
- Echin
- Fish
- Foram
- Fossil
- Gastro
- Oolite
- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomoldic

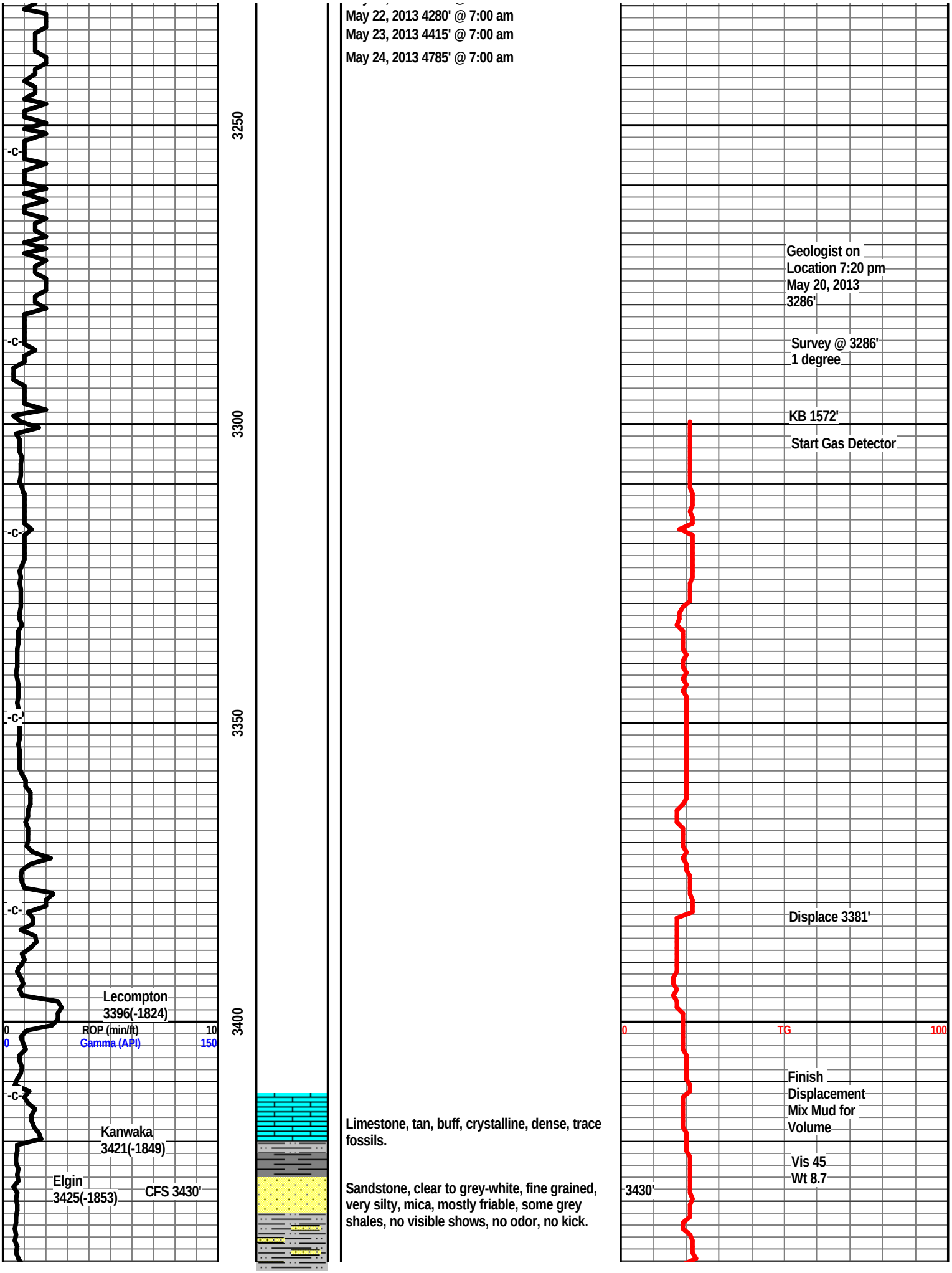
### STRINGER

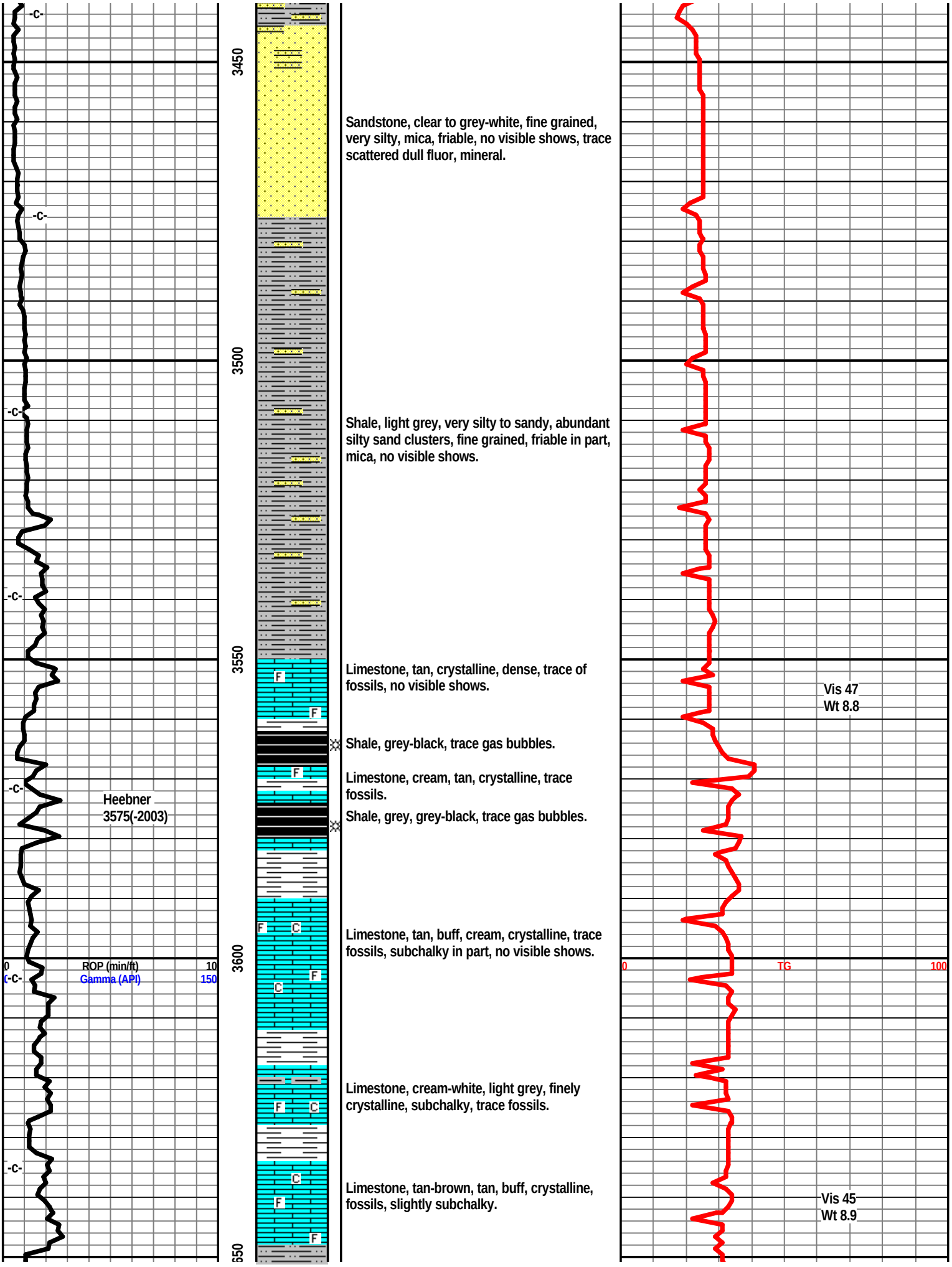
- Anhy
- Arg
- Bent
- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Grysltst
- Lms
- Sandylms
- Sh
- Sltstn

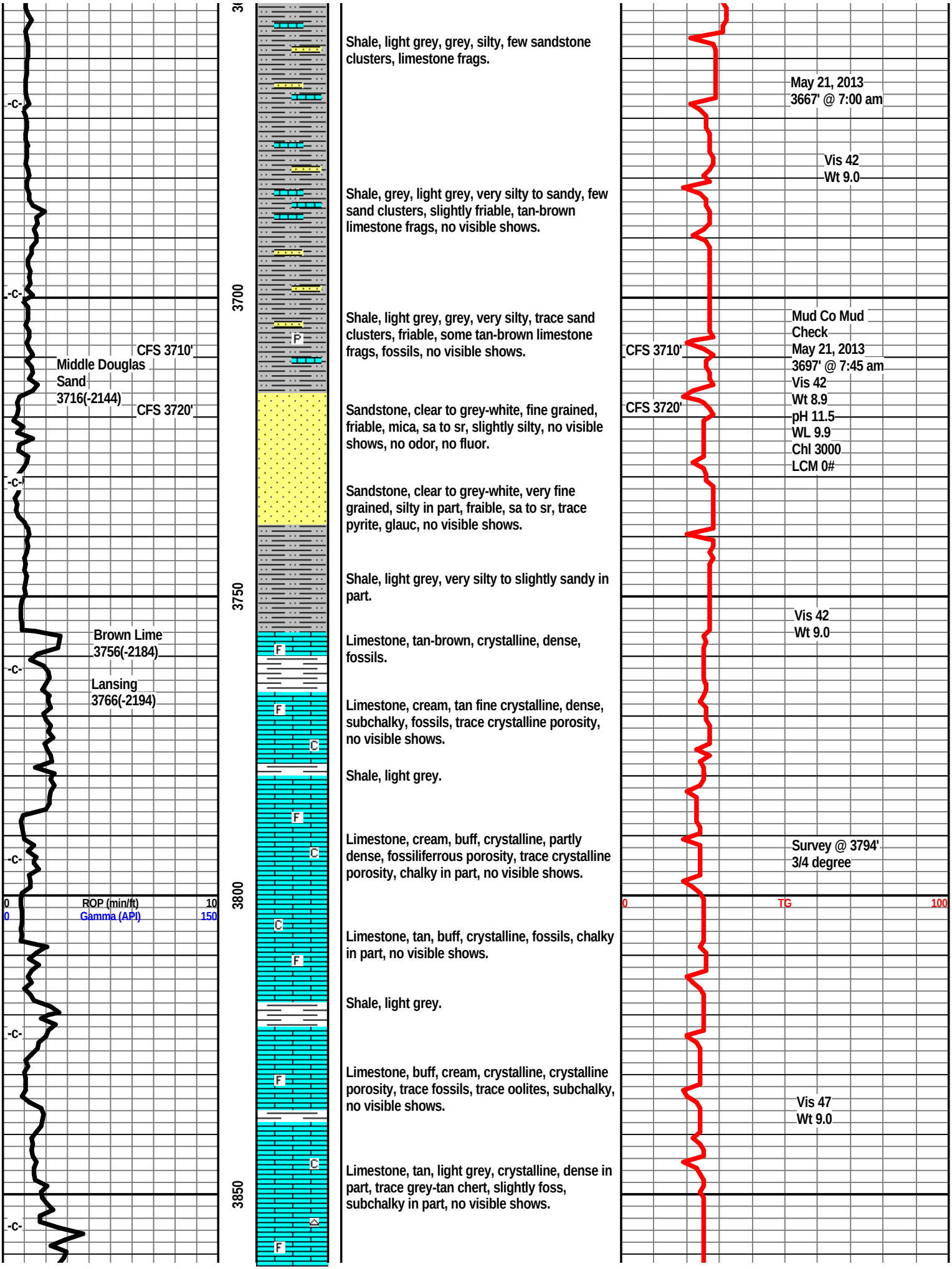
### TEXTURE

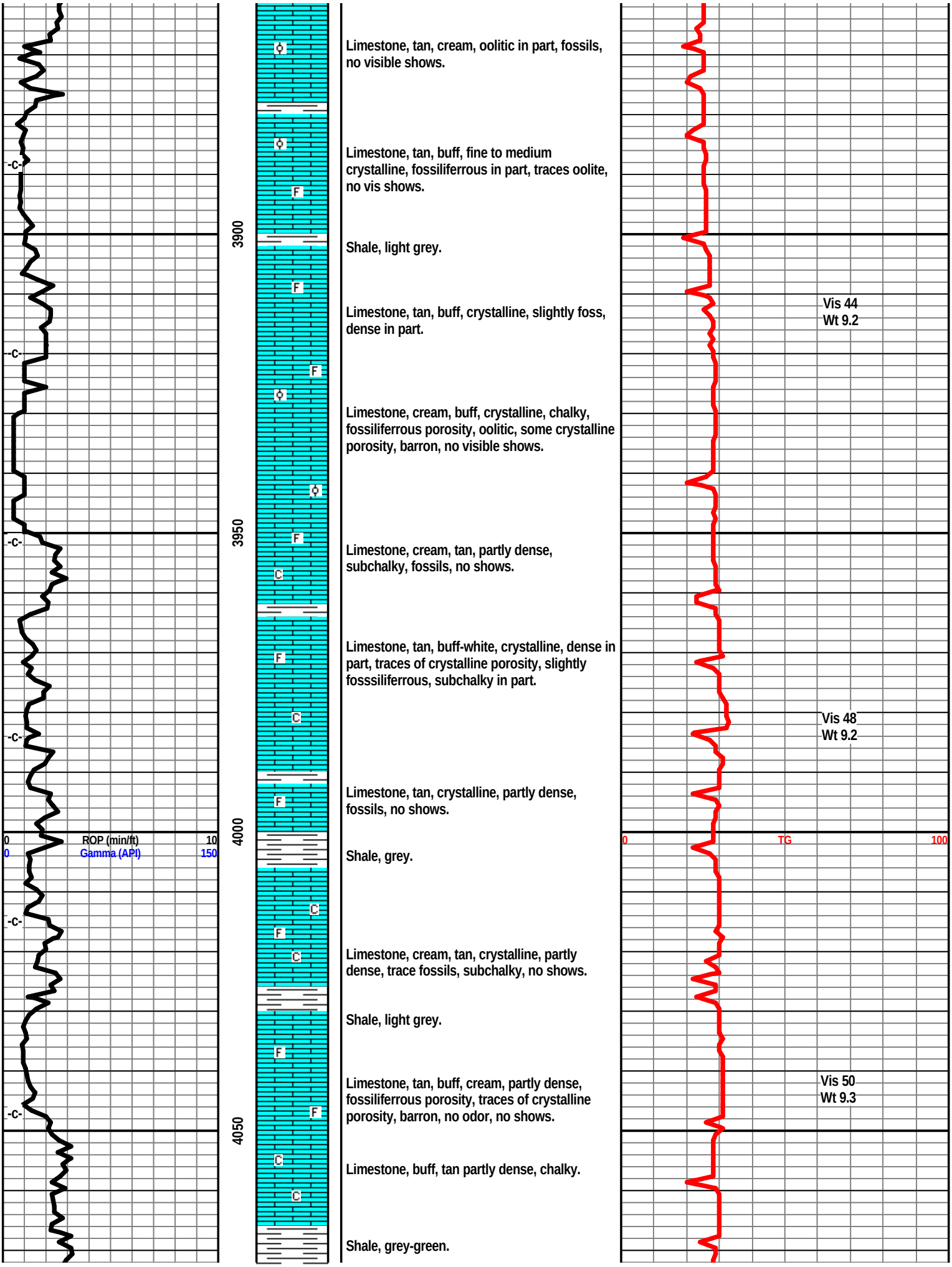
- Boundst
- Chalky
- Cryxln
- Earthy
- Finexln
- Grainst
- Lithogr
- Microxln
- Mudst
- Packst
- Wackest

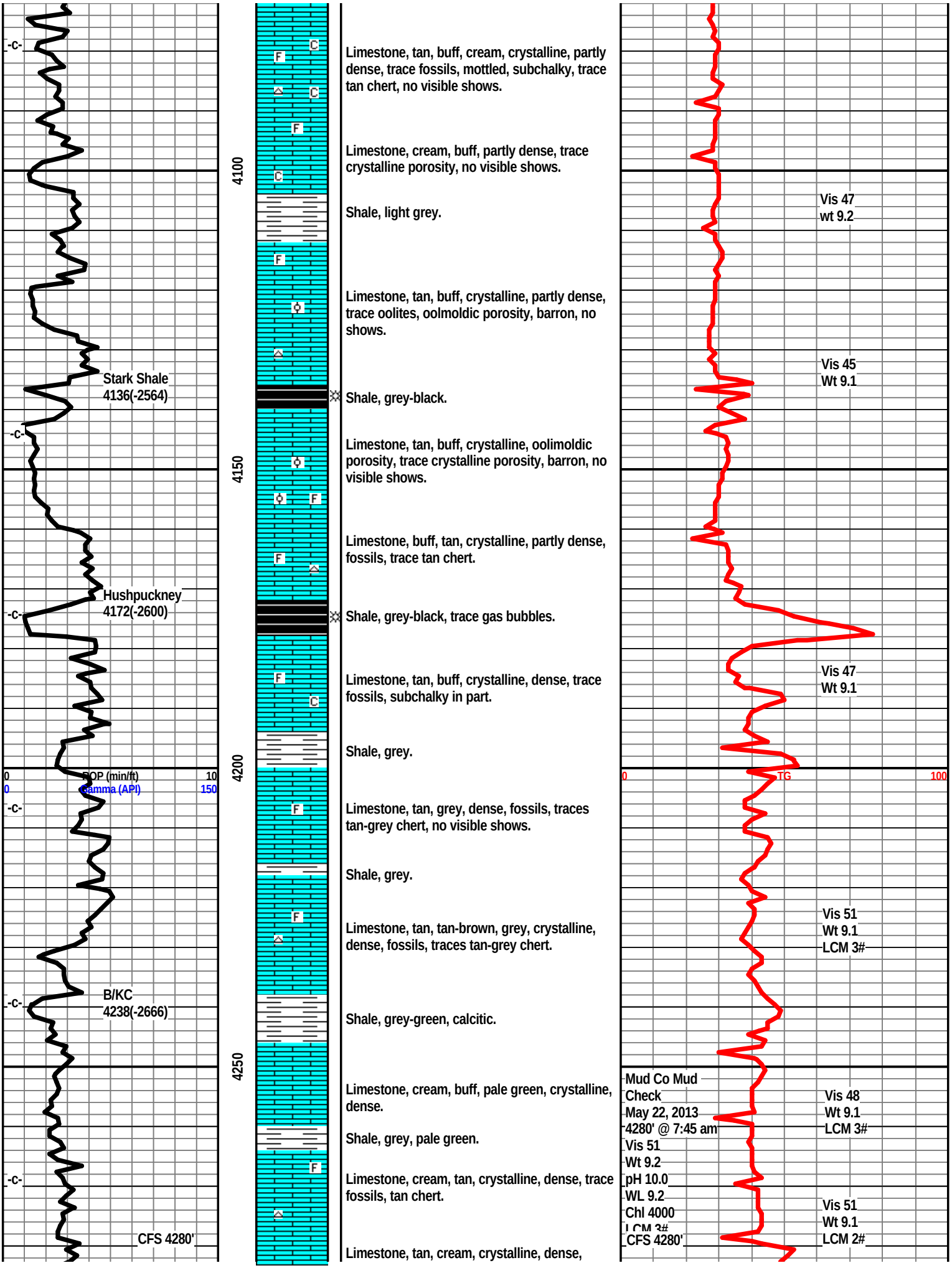
| Curve Track 1 | Depth | Lithology | Oil Shows | Geological Descriptions | TG, C1-C5 |
|---|---|---|---|---|---|
| ROP (min/ft)<br>Gamma (API) | | | | | TG (units)<br>C1 (units)<br>C2 (units)<br>C3 (units)<br>C4 (units)<br>C5 (units) |
| 0 ROP (min/ft) 10<br>0 Gamma (API) 150<br>-C- | 32 | | | Drilling Progress<br><br>May 16, 2013 MIRT Spud<br>May 17, 2013 275' @ 7:00 am<br>May 18, 2013 1900' @ 7:00 am<br>May 19, 2013 2460' @ 7:00 am<br>May 20, 2013 2860' @ 7:00 am<br>May 21, 2013 3667' @ 7:00 am | 0 TG 100 |

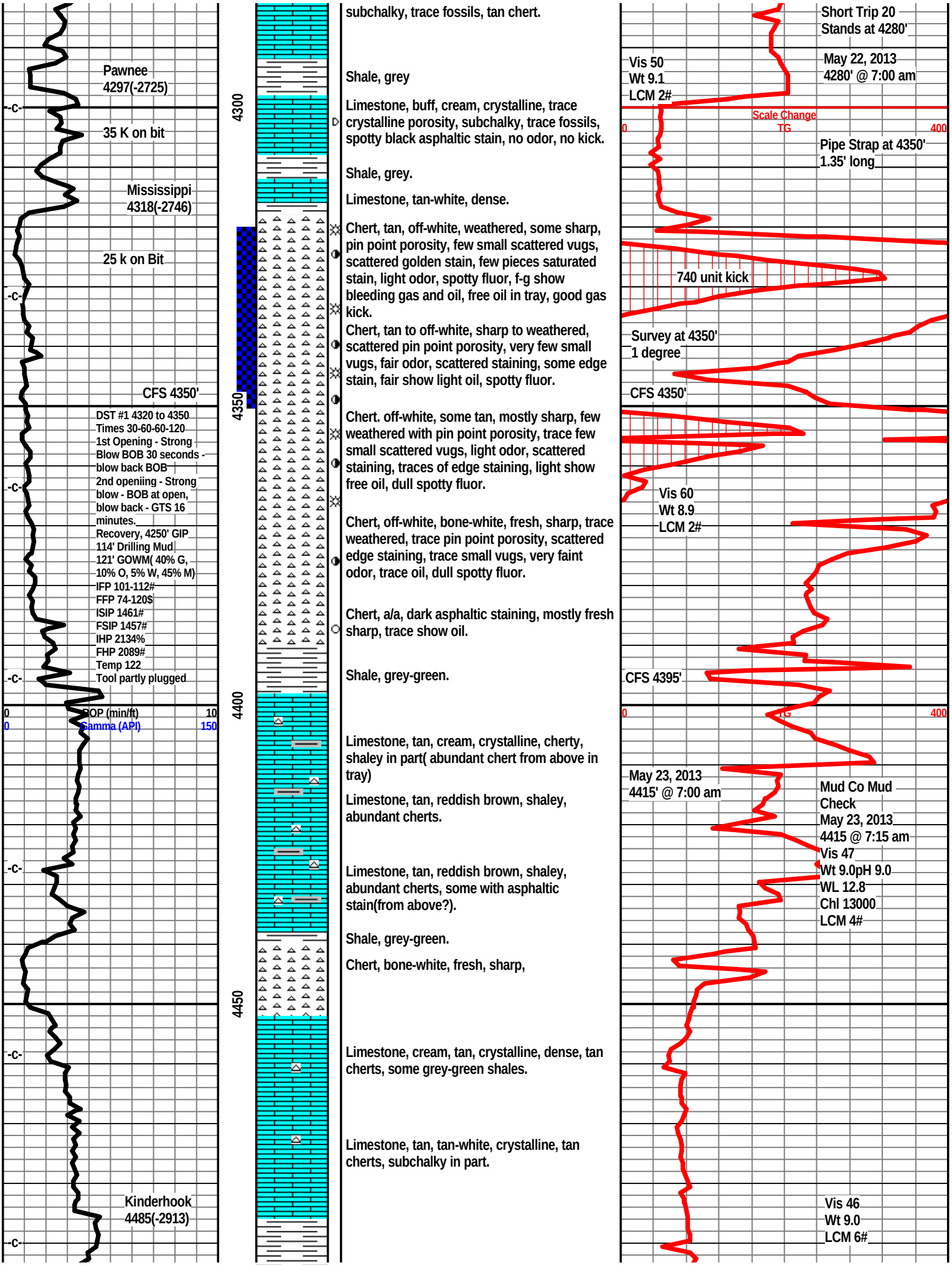

May 22, 2013 4280' @ 7:00 am
May 23, 2013 4415' @ 7:00 am
May 24, 2013 4785' @ 7:00 am
Geologist on Location 7:20 pm May 20, 2013 3286'
Survey @ 3286' 1 degree
KB 1572'
Start Gas Detector
Displace 3381'
Finish Displacement Mix Mud for Volume
Vis 45 Wt 8.7
3430'
3250
3300
3350
3400
-c-
Lecompton 3396(-1824)
Kanwaka 3421(-1849)
Elgin 3425(-1853)
CFS 3430'
0 ROP (min/ft) 10
0 Gamma (API) 150
0 TG 100
Limestone, tan, buff, crystalline, dense, trace fossils.
Sandstone, clear to grey-white, fine grained, very silty, mica, mostly friable, some grey shales, no visible shows, no odor, no kick.

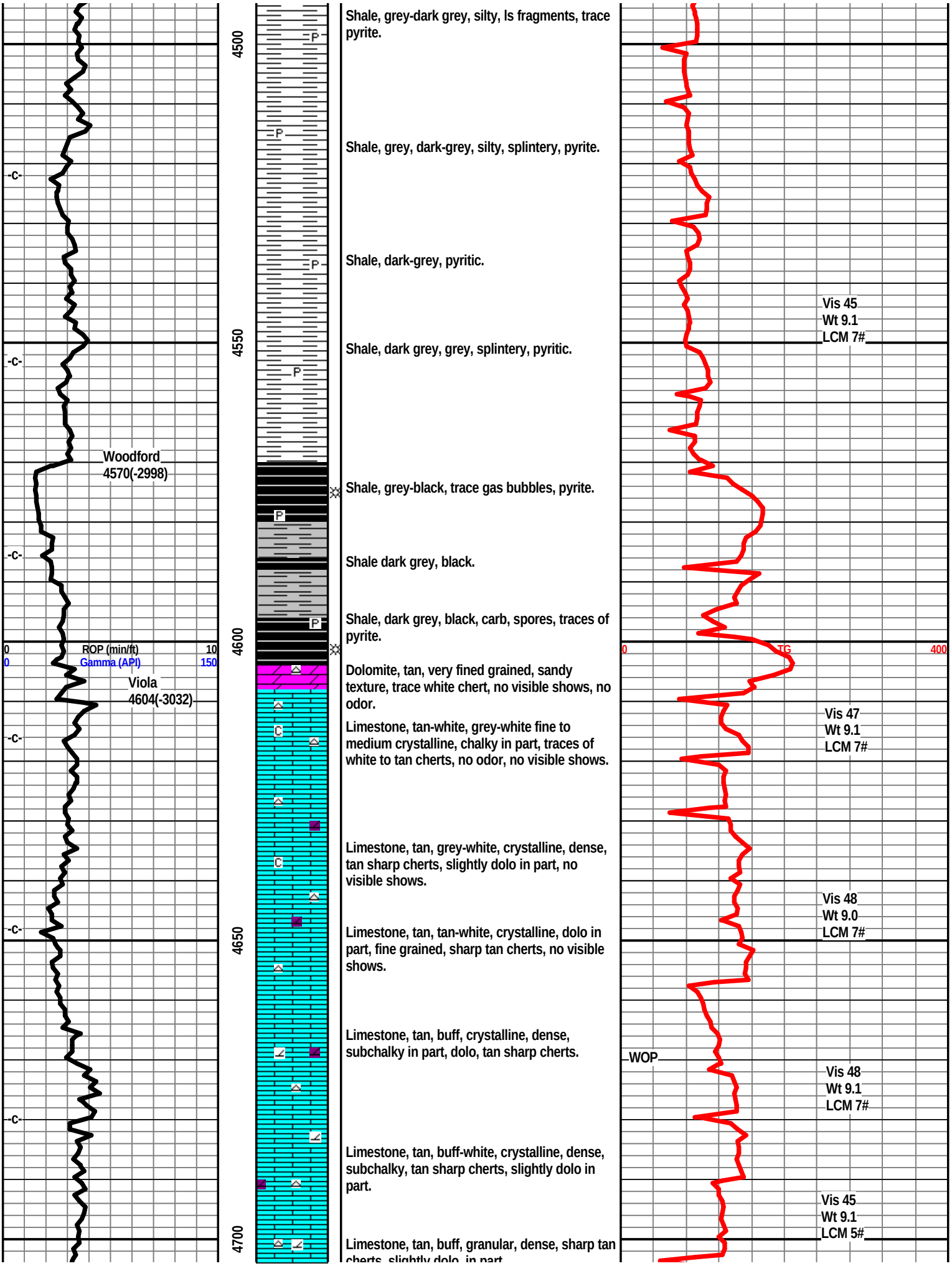

-C-
-C-
-C-
-C-
-C-
-C-
Heebner
3575(-2003)
0
ROP (min/ft)
10
(-C-
Gamma (API)
150
3450
3500
3550
3600
650
F
C
Sandstone, clear to grey-white, fine grained, very silty, mica, friable, no visible shows, trace scattered dull fluor, mineral.
Shale, light grey, very silty to sandy, abundant silty sand clusters, fine grained, friable in part, mica, no visible shows.
Limestone, tan, crystalline, dense, trace of fossils, no visible shows.
Shale, grey-black, trace gas bubbles.
Limestone, cream, tan, crystalline, trace fossils.
Shale, grey, grey-black, trace gas bubbles.
Limestone, tan, buff, cream, crystalline, trace fossils, subchalky in part, no visible shows.
Limestone, cream-white, light grey, finely crystalline, subchalky, trace fossils.
Limestone, tan-brown, tan, buff, crystalline, fossils, slightly subchalky.
Vis 47
Wt 8.8
Vis 45
Wt 8.9
0
TG
100

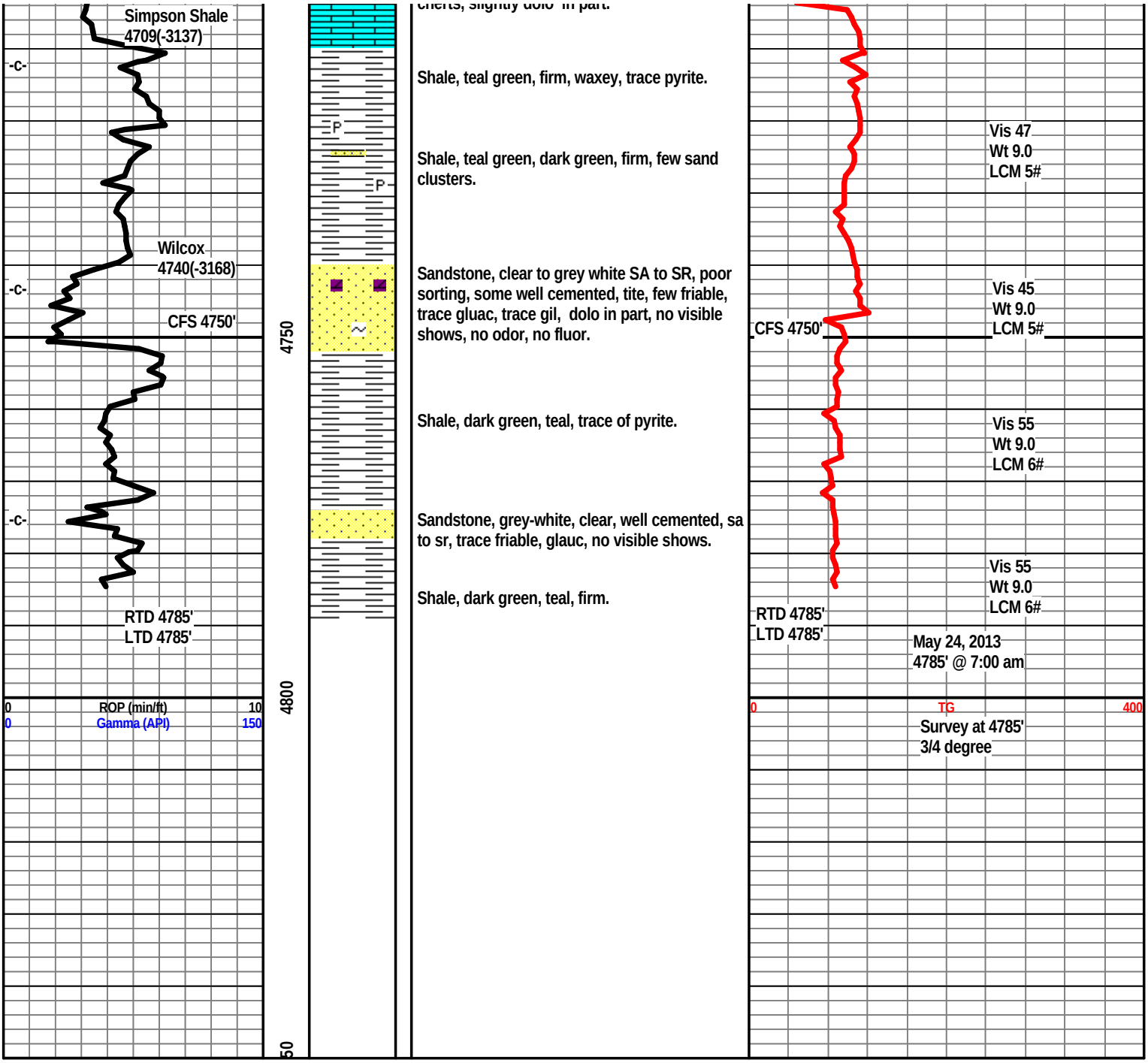

-C-
-C-
CFS 3710'
Middle Douglas
Sand
3716(-2144)
CFS 3720'
-C-
Brown Lime
3756(-2184)
-C-
Lansing
3766(-2194)
-C-
0
ROP (min/ft)
10
0
Gamma (API)
150
-C-
-C-
3700
3750
3800
3850
P
F
F
C
F
C
C
F
F
C
F
Shale, light grey, grey, silty, few sandstone clusters, limestone frags.
Shale, grey, light grey, very silty to sandy, few sand clusters, slightly friable, tan-brown limestone frags, no visible shows.
Shale, light grey, grey, very silty, trace sand clusters, friable, some tan-brown limestone frags, fossils, no visible shows.
Sandstone, clear to grey-white, fine grained, friable, mica, sa to sr, slightly silty, no visible shows, no odor, no fluor.
Sandstone, clear to grey-white, very fine grained, silty in part, fraible, sa to sr, trace pyrite, glauc, no visible shows.
Shale, light grey, very silty to slightly sandy in part.
Limestone, tan-brown, crystalline, dense, fossils.
Limestone, cream, tan fine crystalline, dense, subchalky, fossils, trace crystalline porosity, no visible shows.
Shale, light grey.
Limestone, cream, buff, crystalline, partly dense, fossiliferrous porosity, trace crystalline porosity, chalky in part, no visible shows.
Limestone, tan, buff, crystalline, fossils, chalky in part, no visible shows.
Shale, light grey.
Limestone, buff, cream, crystalline, crystalline porosity, trace fossils, trace oolites, subchalky, no visible shows.
Limestone, tan, light grey, crystalline, dense in part, trace grey-tan chert, slightly foss, subchalky in part, no visible shows.
May 21, 2013
3667' @ 7:00 am
Vis 42
Wt 9.0
CFS 3710'
CFS 3720'
Mud Co Mud Check
May 21, 2013
3697' @ 7:45 am
Vis 42
Wt 8.9
pH 11.5
WL 9.9
Chl 3000
LCM 0#
Vis 42
Wt 9.0
Survey @ 3794'
3/4 degree
0
TG
100
Vis 47
Wt 9.0


0
ROP (min/ft)
10
0
Gamma (API)
150
3900
3950
4000
4050
Limestone, tan, cream, oolitic in part, fossils, no visible shows.
Limestone, tan, buff, fine to medium crystalline, fossiliferrous in part, traces oolite, no vis shows.
Shale, light grey.
Limestone, tan, buff, crystalline, slightly foss, dense in part.
Limestone, cream, buff, crystalline, chalky, fossiliferrous porosity, oolitic, some crystalline porosity, barron, no visible shows.
Limestone, cream, tan, partly dense, subchalky, fossils, no shows.
Limestone, tan, buff-white, crystalline, dense in part, traces of crystalline porosity, slightly fosssiliferrous, subchalky in part.
Limestone, tan, crystalline, partly dense, fossils, no shows.
Shale, grey.
Limestone, cream, tan, crystalline, partly dense, trace fossils, subchalky, no shows.
Shale, light grey.
Limestone, tan, buff, cream, partly dense, fossiliferrous porosity, traces of crystalline porosity, barron, no odor, no shows.
Limestone, buff, tan partly dense, chalky.
Shale, grey-green.
Vis 44
Wt 9.2
Vis 48
Wt 9.2
Vis 50
Wt 9.3
0
TG
100


-c-
Stark Shale
4136(-2564)
-c-
Hushpuckney
4172(-2600)
-c-
0
ROP (min/ft)
10
0
Gamma (API)
150
-c-
B/KC
4238(-2666)
-c-
CFS 4280'
4100
4150
4200
4250
Limestone, tan, buff, cream, crystalline, partly dense, trace fossils, mottled, subchalky, trace tan chert, no visible shows.
Limestone, cream, buff, partly dense, trace crystalline porosity, no visible shows.
Shale, light grey.
Limestone, tan, buff, crystalline, partly dense, trace oolites, oolmoldic porosity, barron, no shows.
Shale, grey-black.
Limestone, tan, buff, crystalline, oolimoldic porosity, trace crystalline porosity, barron, no visible shows.
Limestone, buff, tan, crystalline, partly dense, fossils, trace tan chert.
Shale, grey-black, trace gas bubbles.
Limestone, tan, buff, crystalline, dense, trace fossils, subchalky in part.
Shale, grey.
Limestone, tan, grey, dense, fossils, traces tan-grey chert, no visible shows.
Shale, grey.
Limestone, tan, tan-brown, grey, crystalline, dense, fossils, traces tan-grey chert.
Shale, grey-green, calcitic.
Limestone, cream, buff, pale green, crystalline, dense.
Shale, grey, pale green.
Limestone, cream, tan, crystalline, dense, trace fossils, tan chert.
Limestone, tan, cream, crystalline, dense,
Vis 47
wt 9.2
Vis 45
Wt 9.1
Vis 47
Wt 9.1
0
TG
100
Vis 51
Wt 9.1
LCM 3#
Mud Co Mud
Check
May 22, 2013
4280' @ 7:45 am
Vis 51
Wt 9.2
pH 10.0
WL 9.2
Chl 4000
LCM 3#
CFS 4280'
Vis 48
Wt 9.1
LCM 3#
Vis 51
Wt 9.1
LCM 2#


Pawnee
4297(-2725)
35 K on bit
Mississippi
4318(-2746)
25 k on Bit
CFS 4350'
DST #1 4320 to 4350
Times 30-60-60-120
1st Opening - Strong
Blow BOB 30 seconds -
blow back BOB
2nd openiing - Strong
blow - BOB at open,
blow back - GTS 16
minutes.
Recovery, 4250' GIP
114' Drilling Mud
121' GOWM( 40% G,
10% O, 5% W, 45% M)
IFP 101-112#
FFP 74-120$
ISIP 1461#
FSIP 1457#
IHP 2134%
FHP 2089#
Temp 122
Tool partly plugged
0
ROP (min/ft)
10
0
Gamma (API)
150
Kinderhook
4485(-2913)
4300
4350
4400
4450
subchalky, trace fossils, tan chert.
Shale, grey
Limestone, buff, cream, crystalline, trace crystalline porosity, subchalky, trace fossils, spotty black asphaltic stain, no odor, no kick.
Shale, grey.
Limestone, tan-white, dense.
Chert, tan, off-white, weathered, some sharp, pin point porosity, few small scattered vugs, scattered golden stain, few pieces saturated stain, light odor, spotty fluor, f-g show bleeding gas and oil, free oil in tray, good gas kick.
Chert, tan to off-white, sharp to weathered, scattered pin point porosity, very few small vugs, fair odor, scattered staining, some edge stain, fair show light oil, spotty fluor.
Chert. off-white, some tan, mostly sharp, few weathered with pin point porosity, trace few small scattered vugs, light odor, scattered staining, traces of edge staining, light show free oil, dull spotty fluor.
Chert, off-white, bone-white, fresh, sharp, trace weathered, trace pin point porosity, scattered edge staining, trace small vugs, very faint odor, trace oil, dull spotty fluor.
Chert, a/a, dark asphaltic staining, mostly fresh sharp, trace show oil.
Shale, grey-green.
Limestone, tan, cream, crystalline, cherty, shaley in part( abundant chert from above in tray)
Limestone, tan, reddish brown, shaley, abundant cherts.
Limestone, tan, reddish brown, shaley, abundant cherts, some with asphaltic stain(from above?).
Shale, grey-green.
Chert, bone-white, fresh, sharp,
Limestone, cream, tan, crystalline, dense, tan cherts, some grey-green shales.
Limestone, tan, tan-white, crystalline, tan cherts, subchalky in part.
Short Trip 20
Stands at 4280'
May 22, 2013
4280' @ 7:00 am
Vis 50
Wt 9.1
LCM 2#
Scale Change
TG
0
400
Pipe Strap at 4350'
1.35' long
740 unit kick
Survey at 4350'
1 degree
CFS 4350'
Vis 60
Wt 8.9
LCM 2#
CFS 4395'
0
TG
400
May 23, 2013
4415' @ 7:00 am
Mud Co Mud
Check
May 23, 2013
4415 @ 7:15 am
Vis 47
Wt 9.0pH 9.0
WL 12.8
Chl 13000
LCM 4#
Vis 46
Wt 9.0
LCM 6#


4500
4550
4600
4650
4700
-C-
P
C
Woodford
4570(-2998)
Viola
4604(-3032)
0
ROP (min/ft)
10
0
Gamma (API)
150
Shale, grey-dark grey, silty, ls fragments, trace pyrite.
Shale, grey, dark-grey, silty, splintery, pyrite.
Shale, dark-grey, pyritic.
Shale, dark grey, grey, splintery, pyritic.
Shale, grey-black, trace gas bubbles, pyrite.
Shale dark grey, black.
Shale, dark grey, black, carb, spores, traces of pyrite.
Dolomite, tan, very fined grained, sandy texture, trace white chert, no visible shows, no odor.
Limestone, tan-white, grey-white fine to medium crystalline, chalky in part, traces of white to tan cherts, no odor, no visible shows.
Limestone, tan, grey-white, crystalline, dense, tan sharp cherts, slightly dolo in part, no visible shows.
Limestone, tan, tan-white, crystalline, dolo in part, fine grained, sharp tan cherts, no visible shows.
Limestone, tan, buff, crystalline, dense, subchalky in part, dolo, tan sharp cherts.
Limestone, tan, buff-white, crystalline, dense, subchalky, tan sharp cherts, slightly dolo in part.
Limestone, tan, buff, granular, dense, sharp tan
0
TG
400
Vis 45
Wt 9.1
LCM 7#
Vis 47
Wt 9.1
LCM 7#
Vis 48
Wt 9.0
LCM 7#
WOP
Vis 48
Wt 9.1
LCM 7#
Vis 45
Wt 9.1
LCM 5#


Simpson Shale
4709(-3137)
-c-
Wilcox
4740(-3168)
-c-
CFS 4750'
-c-
RTD 4785'
LTD 4785'
0
ROP (min/ft)
10
0
Gamma (API)
150
4750
4800
P
P
cherts, slightly dolo in part.
Shale, teal green, firm, waxey, trace pyrite.
Shale, teal green, dark green, firm, few sand clusters.
Sandstone, clear to grey white SA to SR, poor sorting, some well cemented, tite, few friable, trace gluac, trace gil, dolo in part, no visible shows, no odor, no fluor.
Shale, dark green, teal, trace of pyrite.
Sandstone, grey-white, clear, well cemented, sa to sr, trace friable, glauc, no visible shows.
Shale, dark green, teal, firm.
Vis 47
Wt 9.0
LCM 5#
Vis 45
Wt 9.0
LCM 5#
CFS 4750'
Vis 55
Wt 9.0
LCM 6#
Vis 55
Wt 9.0
LCM 6#
RTD 4785'
LTD 4785'
May 24, 2013
4785' @ 7:00 am
0
TG
400
Survey at 4785'
3/4 degree