# LITHOLOGY STRIP LOG

## WellSight Systems

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

| | | | |
|---|---|---|---|
| **Well Name:** | **VINCENT OIL CORP. DOLL #1-5** | | |
| **Location:** | **SE NE NW SW SEC. 5-T23S-R29W, FINNEY CO. KANSAS** | | |
| **License Number:** | **15-055-22281-00-00** | **Region:** | **WILDCAT** |
| **Spud Date:** | **2/17/14** | **Drilling Completed:** | **2/27/14** |
| **Surface Coordinates:** | **2,300' FSL, 1,219' FWL** | | |
| **Bottom Hole Coordinates:** | | | |
| **Ground Elevation (ft):** | **2,661'** | **K.B. Elevation (ft):** | **2,672'** |
| **Logged Interval (ft):** | **3,700' To: 4,706'** | **Total Depth (ft):** | **4,706'** |
| **Formation:** | **RTD IN THE MISSISSIPPI** | | |
| **Type of Drilling Fluid:** | **NATIVE MUD TO 3,556'. CHEMICAL GEL TO RTD** | | |



### OPERATOR

**Company:** VINCENT OIL CORP.
**Address:** 155 N. MARKET STE 700
WICHITA, KANSAS 67202-1821
OFFICE; 316-262-3573

### GEOLOGIST

**Name:** Jame R. Hall Well Site Supervision
**Company:** Black Gold Petroleum
**Address:** 5530 N. Sedgwick
Wichita, Kansas 67204-1828
316-838-2574

## Comments

**Drilling contractor: VAL ENERGY, Rig #5, Tool Pusher: Randy Smith.**

**Surface Casing: 8 5/8" set at 452' w/210sx, cement did circulate.**

**Daily Activity & (06:30):**
**2/17/14; move on and spud.**
**2/18/14; drilling 12 1/4' hole at 310'.**
**2/19/14; drilling 7 7/8" hole at 795'.**
**2/20/14; drilling at 1,855'.**
**2/21/14; drilling at 2,650'.**
**2/22/14; drilling at 3,240'.**
**2/23/14; drilling at 3,860', displaced mud system @ 3,556'.**
**2/24/14; drilling at 4,350', company time spent circulating (2.25hrs.).**
**2/25/14; 4,472'; running DST #1 Pawnee, new bit trip @ 4,380', & ran survey 1.75 deg. Est. Co. time last 24hrs.( 5.75hrs.).**
**2/26/14; drilling at 4,500', ran DST #1 Pawnee 4,450'-4,472' (misrun). DST #2 Pawnee 4,390' - 4,472'. est. company time spent circulating and two DST's last 24hrs. :(21.75hrs.).**
**2/27/14; 4,616' running DST #3 Mrw. Sand, company time spent circulating and testing the last 24hrs.; (13.75hrs.).**
**2/28/14; 4,706' running open hole logs, total company time circulating, logging and finishing DST #3; (17hrs.)**
**3/1/14; 4,709' log depth, DST #4 (Straddle) 4,445' - 4,490' (45') with 219' tail pipe, P&A orders given @ 22:30hrs 2/28/24, total company to P&A orders; (16hrs.).**

**Well Status: P&A.**

**Deviation Surveys: 1.75 @ 465', 1.75 @ 4,380', 0.75 @ 4,706'.**

**Bit Record:**
**#1 12 1/4" out @ 465'.**
**#2 7 7/8" JZ HA20Q in @ 465', out @ 4,380', made 3,915' in 114 hrs.**
**#3 7 7/8" RR JZ HF41BM in @ 4,380', out @ 4,706', made 326' in 25.5 hrs.**

**Drilling time commenced: @ 3,700'. Minimum 10' wet and dry samples commenced: @ 3,750' to RTD. Samples delivered to Kansas Geological Sample Library at Wichita, Kansas.**

**Gas Detector: Blue Stem Labs, digital unit #0259.**

**Tester; Trilobite Hays Kansas. Tester; Cornelio (Scott City Office).**

**Mud System: Mud-Co/Service Mud. Chemical Gel system @ 3,556', Mud Engineer: Justin Whiting (Dodge City)**

**Open Hole Logs: Nabors Completion & Production, Hays Kansas, Logging Engineer: Ian Mabb.**
**DIL, CDL/CNL/PE, MEL/SON.**

**Note: A shift of approximately 3' deeper, should be made to correlate with the open hole logs.**

**Sample tops are placed on this strip log, with the reference wells "A" Vincent Pianalto #1-5, NE/4 5-T23S-R29W, and "B" Vincent Thiessen Trust #1-4, NW/4 4-T23S-R29W, with E-log tops datum differences are shown.**

## DSTs

**DST #1 (Pawnee); 4,450' - 4,472' (22'), IF; Packer failure; Rec; 95' mud.**

**DST #2 (Pawnee); 4,390' - 4,472' (82'), 30-60-60-120, IH 2230, IF 114-134 (BOB 10min), ISI 1232 (no blow), FF 167-170 (no blow for 15min, then BOB 31min-charts indicate plugging), FSI 1199 (weak blow, dead in 5min), FH 2226, Rec; 126' GOCM (10%gas, 15%oil, 75%mud), 126' GOCM (10%gas, 20%oil, 70%mud), 2' CGO (10%gas, 90%oil), BHT 123 F.**

**DST #3 (Mrw. Sand), 4,570'-4,616 (46'), IH 2315, IF 21-22 (weak blow after 12min then dead again in 5min), ISI 31 (no blow), FF 21-24 (dead, flush tool good surge,still dead after flush), FSI 29 (no blow), FH 2269, Rec; 2' mud with trace of oil., BHT 118 F.**

**DST #4 (Pawnee) 4,445' - 4,490' (45') StraddleTest with 219' of tail pipe; 45-90-15-60, IH 2250, IF 144-151 (BOB 55sec. then died back to 8.5"), ISI 1229 (no blow), FF 151-157 (no blow), FSI 1192 (no blow), FH 2170, Rec; 260'mud. BHT 117F**

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Vincent Oil Corporation

155 N. Market Ste. #700
Wichita, KS 67202

ATTN: Jim Hall

**5-23s-29w-Finney Co, KS**

**Doll #1-5**

Job Ticket: 55717 **DST#: 1**

Test Start: 2014.02.25 @ 06:47:00

## GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened:
Time Test Ended: 12:00:45

Test Type: Conventional Bottom Hole (Initial)
Tester: Cornelio Landa III
Unit No: 75

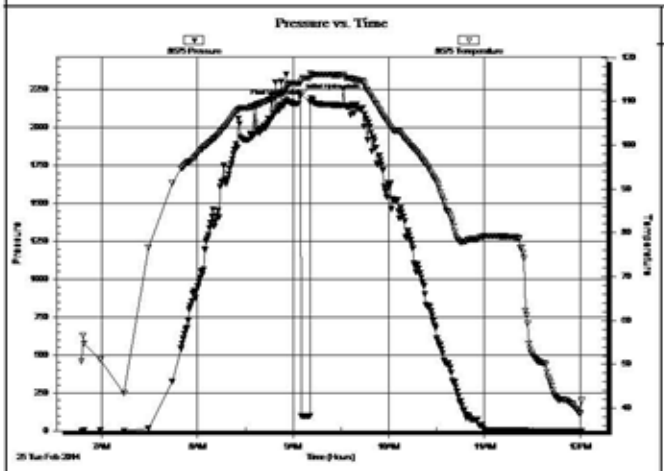
**Interval: 4450.00 ft (KB) To 4472.00 ft (KB) (TVD)**
Total Depth: 4472.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2672.00 ft (KB)
2661.00 ft (CF)
KB to GR/CF: 11.00 ft

**Serial #: 8675** **Inside**
Press@RunDepth: psig @ 4454.00 ft (KB)
Start Date: 2014.02.25 End Date: 2014.02.25
Start Time: 06:47:15 End Time: 12:00:45

Capacity: 8000.00 psig
Last Calib.: 2014.02.25
Time On Btm: 2014.02.25 @ 09:04:30
Time Off Btm: 2014.02.25 @ 09:10:45

TEST COMMENT: PACKER FAILURE




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2202.76 | 114.16 | Initial Hydro-static |
| 7 | 2166.34 | 116.34 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 95.00 | Mud 100m | 1.33 |
| | | |
| | | |
| | | |
| | | |
| | | |

## Gas Rates

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

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Vincent Oil Corporation

155 N. Market Ste. #700
Wichita, KS 67202

ATTN: Jim Hall

**5-23s-29w-Finney Co, KS**

**Doll #1-5**

Job Ticket: 55718 **DST#: 2**

Test Start: 2014.02.25 @ 12:20:00

## GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 14:27:15
Time Test Ended: 22:10:15

Test Type: Conventional Bottom Hole (Reset)
Tester: Cornelio Landa III
Unit No: 75

**Interval: 4390.00 ft (KB) To 4472.00 ft (KB) (TVD)**
Total Depth: 4472.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

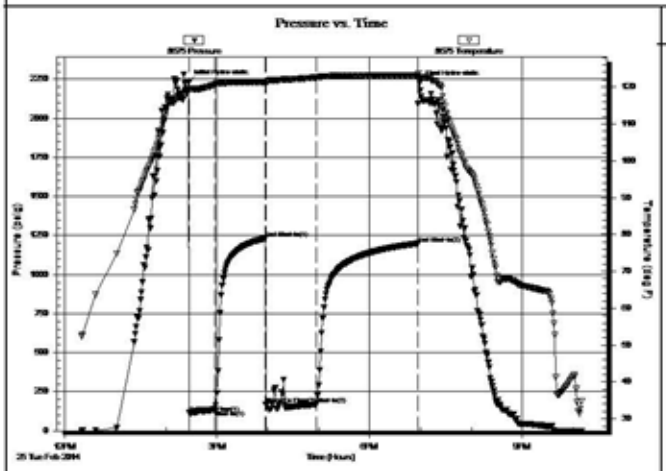
Reference Elevations: 2672.00 ft (KB)
2661.00 ft (CF)
KB to GR/CF: 11.00 ft

**Serial #: 8675** **Inside**

Press@RunDepth: 169.85 psig @ 4394.00 ft (KB)
Start Date: 2014.02.25 End Date: 2014.02.25
Start Time: 12:20:15 End Time: 22:10:15

Capacity: 8000.00 psig
Last Calib.: 2014.02.25
Time On Btm: 2014.02.25 @ 14:26:30
Time Off Btm: 2014.02.25 @ 18:58:45

TEST COMMENT: IF: B.o.b in 10 min.
ISI:Bled off in 2 min.-No return
FF: No blow until 15 min.open & Built to B.o.b. 31 min.
FSI:Bled off 2 min.-Surface blow back after 5 min. into shut in-Died in 5min.




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2229.81 | 119.45 | Initial Hydro-static |
| 1 | 113.62 | 119.55 | Open To Flow (1) |
| 31 | 133.87 | 120.69 | Shut-In(1) |
| 91 | 1232.21 | 121.31 | End Shut-In(1) |
| 91 | 167.33 | 120.79 | Open To Flow (2) |
| 151 | 169.85 | 122.58 | Shut-In(2) |
| 271 | 1199.08 | 123.10 | End Shut-In(2) |
| 273 | 2225.67 | 122.65 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 126.00 | Gocm 10g 15o 75m | 1.77 |
| 126.00 | Gocm 10 20o 70m | 1.77 |
| 2.00 | Cgo 10g 90o | 0.03 |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Vincent Oil Corporation

155 N. Market Ste. #700
Wichita, KS 67202

ATTN: Jim Hall

**5-23s-29w-Finney Co, KS**

**Doll #1-5**

Job Ticket: 55719 **DST#: 3**

Test Start: 2014.02.27 @ 02:22:00

## GENERAL INFORMATION:

Formation: **Morrow**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 05:39:15
Time Test Ended: 10:24:30

Test Type: Conventional Bottom Hole (Reset)
Tester: Cornelio Landa III
Unit No: 75

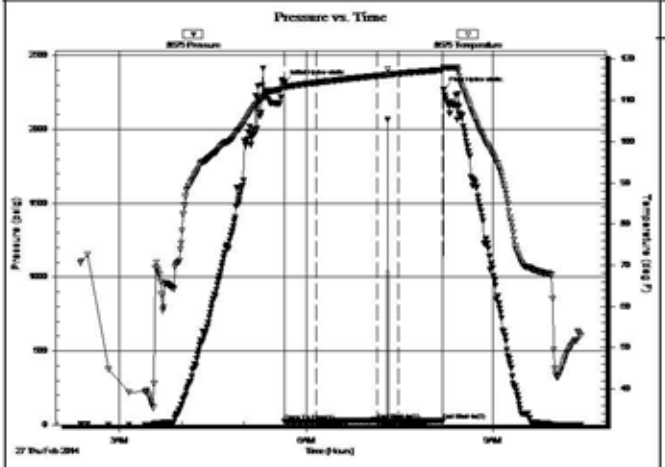
**Interval: 4570.00 ft (KB) To 4616.00 ft (KB) (TVD)**
Total Depth: 4616.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2672.00 ft (KB)
2661.00 ft (CF)
KB to GR/CF: 11.00 ft

**Serial #: 8675** **Inside**
Press@RunDepth: 24.28 psig @ 4572.00 ft (KB)
Start Date: 2014.02.27 End Date: 2014.02.27
Start Time: 02:22:15 End Time: 10:24:30

Capacity: 8000.00 psig
Last Calib.: 2014.02.27
Time On Btm: 2014.02.27 @ 05:38:45
Time Off Btm: 2014.02.27 @ 08:12:15

TEST COMMENT: IF: Weak surface blow after 12 min. open-Died in 5 min.
ISI: No return
FF: No blow-Flushed tool-Good surge-Flushed 10 min. into open
FSI: No return




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2314.69 | 113.74 | Initial Hydro-static |
| 1 | 20.97 | 113.10 | Open To Flow (1) |
| 31 | 22.38 | 114.31 | Shut-In(1) |
| 90 | 30.68 | 115.93 | End Shut-In(1) |
| 90 | 21.29 | 115.94 | Open To Flow (2) |
| 110 | 24.28 | 116.48 | Shut-In(2) |
| 152 | 28.67 | 117.34 | End Shut-In(2) |
| 154 | 2268.73 | 117.97 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 2.00 | Mud w/trace of oil | 0.03 |
| | | |
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| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

# DRILL STEM TEST REPORT

TRILOBITE TESTING, INC.

Vincent Oil Corporation

155 N. Market Ste. #700
Wichita, KS 67202

ATTN: Jim Hall

**5-23s-29w-Finney Co, KS**

**Doll #1-5**

Job Ticket: 55720 **DST#: 4**

Test Start: 2014.02.28 @ 13:20:00

## GENERAL INFORMATION:

Formation: **Pawnee**
Deviated: No Whipstock: ft (KB)
Time Tool Opened: 15:34:45
Time Test Ended: 21:49:00

Test Type: Conventional Straddle (Reset)
Tester: Cornelio Landa III
Unit No: 75

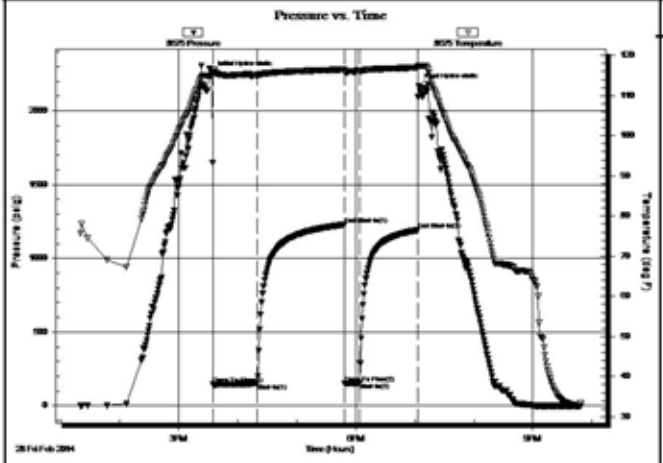
**Interval: 4445.00 ft (KB) To 4490.00 ft (KB) (TVD)**
Total Depth: 4709.00 ft (KB) (TVD)
Hole Diameter: 7.88 inches Hole Condition: Fair

Reference Elevations: 2672.00 ft (KB)
2661.00 ft (CF)
KB to GR/CF: 11.00 ft

**Serial #: 8675** **Inside**
Press@RunDepth: 156.57 psig @ 4446.00 ft (KB)
Start Date: 2014.02.28 End Date: 2014.02.28
Start Time: 13:20:15 End Time: 21:49:00

Capacity: 8000.00 psig
Last Calib.: 2014.02.28
Time On Btm: 2014.02.28 @ 15:33:45
Time Off Btm: 2014.02.28 @ 19:03:45

TEST COMMENT: IF: B.o.b. in 55 seconds-Died back to 8 1/2 in. of blow
ISI: Bled off in 1 1/2 min.-No return
FF: No blow
FSI: No return




## PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|---|---|---|---|
| 0 | 2250.41 | 115.05 | Initial Hydro-static |
| 1 | 144.16 | 116.40 | Open To Flow (1) |
| 46 | 151.18 | 115.10 | Shut-In(1) |
| 135 | 1229.07 | 116.50 | End Shut-In(1) |
| 135 | 151.05 | 115.75 | Open To Flow (2) |
| 150 | 156.57 | 116.08 | Shut-In(2) |
| 210 | 1192.08 | 116.96 | End Shut-In(2) |
| 210 | 2169.60 | 117.37 | Final Hydro-static |

## Recovery

| Length (ft) | Description | Volume (bbl) |
|---|---|---|
| 260.00 | Mud 100m | 3.65 |
| | | |
| | | |
| | | |
| | | |
| | | |

* Recovery from multiple tests

## Gas Rates

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

**WELL SITE OPERATIONS / JIM HALL SUPERVISOR**
**OPERATOR:** Vincent Oil Corp.
**WELL REFERENCE SHEET** **SUBJECT WELL:** Doll #1-5
**SUBJECT WELL LOCATION:** SE NE NW SW 5-T23S-R29W
**SUBJECT WELL DATUM:** **2,672**

**REF. WELL 'A'** Vincent Pianalto 1-5 NE/4 5-T23S-R29W **DATUM:** **2,656**

**REF. WELL 'B'** Vincent Thiessen Trust 1-4 NW/4 4-23-29 **DATUM:** **2,671**

***OPEN HOLE LOG TOPS***

| **SUBJECT WELL:** | | | **WELL 'A'** | | | **WELL 'B'** | | |
|---|---|---|---|---|---|---|---|---|
| **ZONE** | **DEPTH** | **DATUM** | **DEPTH** | **DATUM** | **REF.** | **DEPTH** | **DATUM** | **REF.** |
| HEEB. | 3,878 | -1,206 | 3,881 | -1,225 | 19 | 3,886 | -1,215 | 9 |
| Brown Ls. | 3,954 | -1,282 | 3,953 | -1,297 | 15 | 3,961 | -1,290 | 12 |
| Lansing | 3,962 | -1,290 | 3,959 | -1,303 | 13 | 3,969 | -1,298 | 8 |
| Stark Sh | 4,282 | -1,610 | 4,284 | -1,628 | 18 | 4,275 | -1,604 | -6 |
| Hushp. Sh | 4,320 | -1,648 | 4,323 | -1,667 | 19 | 4,313 | -1,642 | -6 |
| Marmaton | 4,382 | -1,710 | 4,385 | -1,729 | 19 | 4,374 | -1,703 | -7 |
| PAWNEE | 4,463 | -1,791 | 4,469 | -1,813 | 22 | 4,456 | -1,785 | -6 |
| Labette Sh | 4,480 | -1,808 | 4,487 | -1,831 | 23 | 4,475 | -1,804 | -4 |
| CKE Sh | 4,496 | -1,824 | 4,506 | -1,850 | 26 | 4,494 | -1,823 | -1 |
| 2nd CKE | 4,526 | -1,854 | 4,535 | -1,879 | 25 | 4,522 | -1,851 | -3 |
| B/Penn. | 4,587 | -1,915 | 4,599 | -1,943 | 28 | 4,584 | -1,913 | -3 |
| SAND | 4,591 | -1,919 | 4,615 | -1,959 | 40 | 4,600 | -1,929 | 10 |
| ChertCong | | | | | | | | |
| MISS. | 4,604 | -1,932 | 4,633 | -1,977 | 45 | 4,618 | -1,947 | 15 |
| 1st Por. | | | 4,660 | -2,004 | | 4,684 | -2,013 | |
| Spergen | | | 4,771 | -2,115 | | 4,712 | -2,041 | |

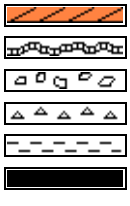
## Qualifiers

**CARBONATE CLASSIFICATION:**

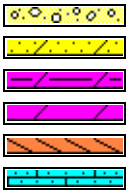
**AFTER DUNHAM: GRAIN; any fossil, fossil fragment, sand grain, or other rock fragment within the rock. MUDSTONE; muddy carbonate rocks containing less than 10% grains. WACKESTONE; mud supported carbonate rocks with more than 10% grains. PACKSTONE; grain supported muddy carbonate rocks. GRAINSTONE; mud free carbonate rock, grain supported. BOUNDSTONE; carbonate rock bound together at deposition (coral, etc.). CRYSTALLINE CARBONATE; carbonate rock retaining to little of their depositional texture to be classified.**

**Qualifiers: (fossils, minerals, shows); Rare = less than 1% of sample total, Trace = less than 5% of sample total, 5% or greater = estimate of total percentage.**

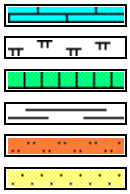
## ROCK TYPES



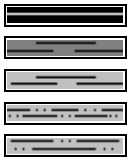
Anhy
Bent
Brec
Cht
Clyst
Coal



Congl
Sdy dolo
Shy dolo
Dol
Gyp
Sdy lmst



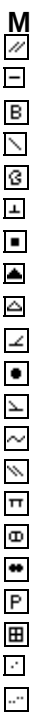
Lmst
Mrlst
Salt
Shale
Sltst
Ss



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

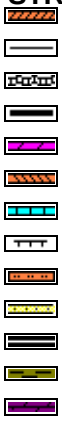
Chlorite
Dol
Sand
Slty

### FOSSIL

Algae
Amph
Belm
Bioclst
Brach
Bryozoa
Cephal
Coral
Crin
Echin
Fish
Foram
Fossil
Gastro
Oolite
Ostra

Pelec
Pelloidal
Pisolite
Plant
Strom
Fuss
Oomoldic

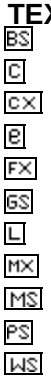
### STRINGER



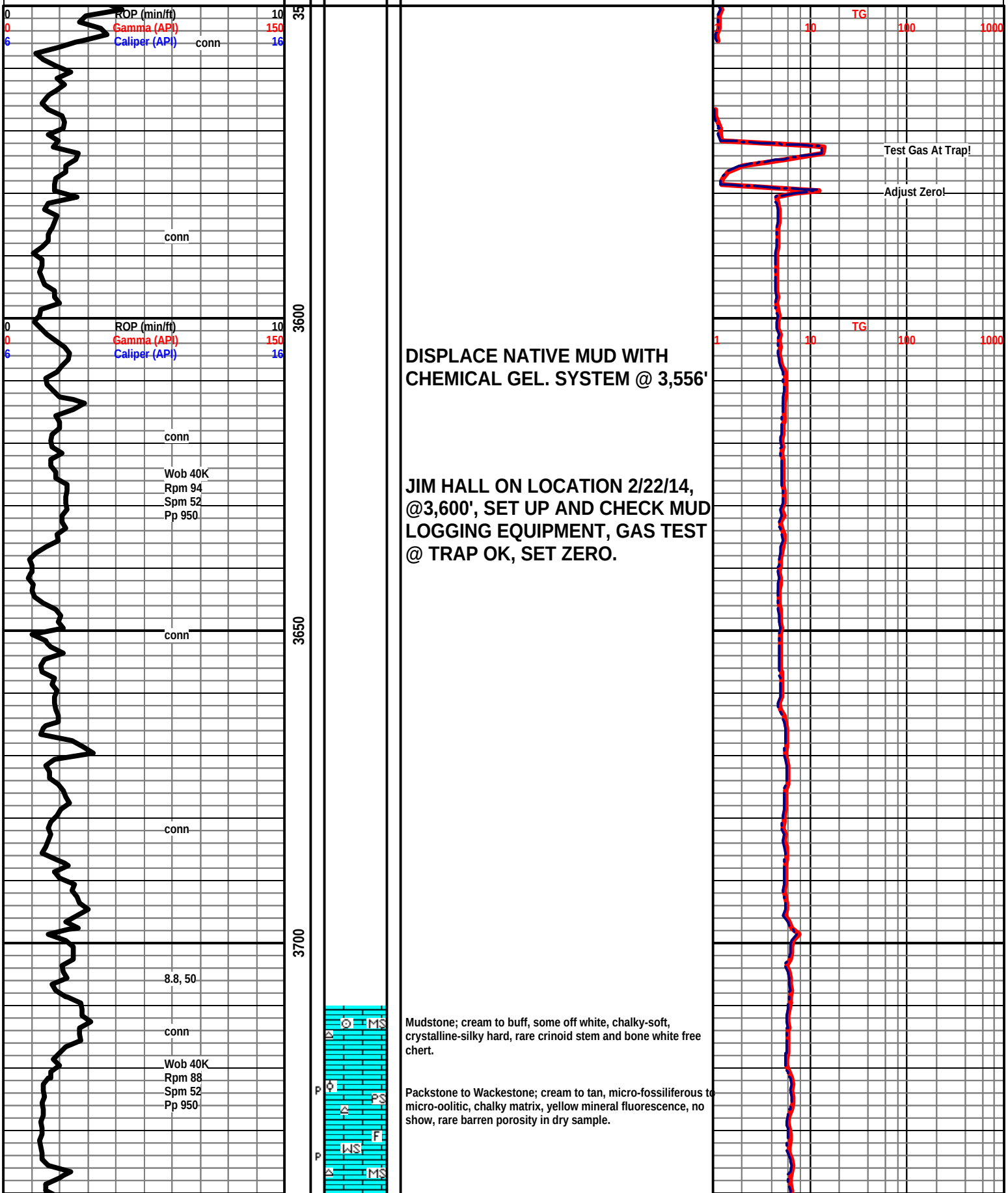
Anhy
Arg
Bent
Coal
Dol
Gyp
Ls
Mrst
Sltstrg
Ssstrg
Carbsh
Clystn
Dol

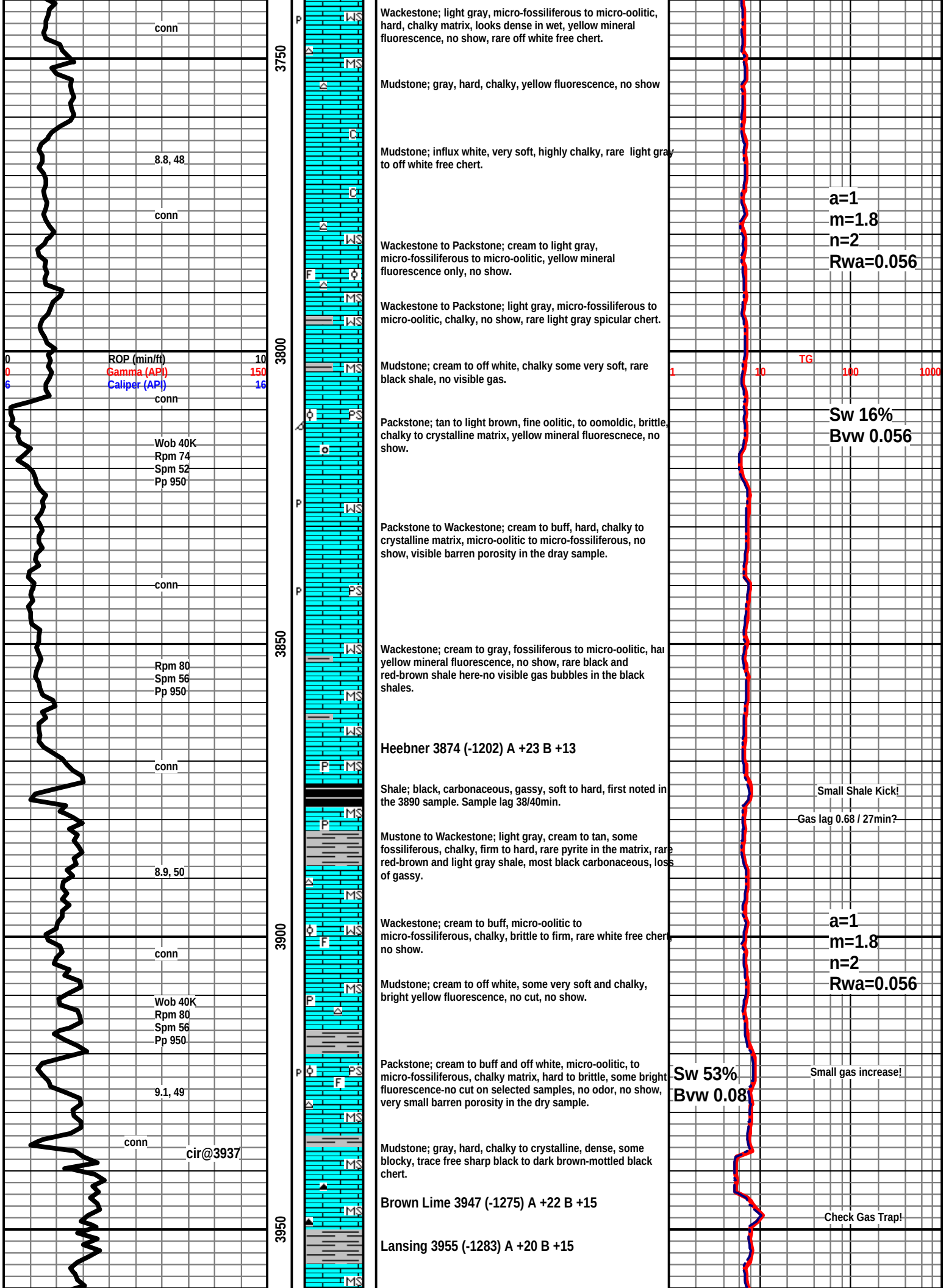
Grysh
Gryslt
Lms
Sandylms
Sh
Sltstn

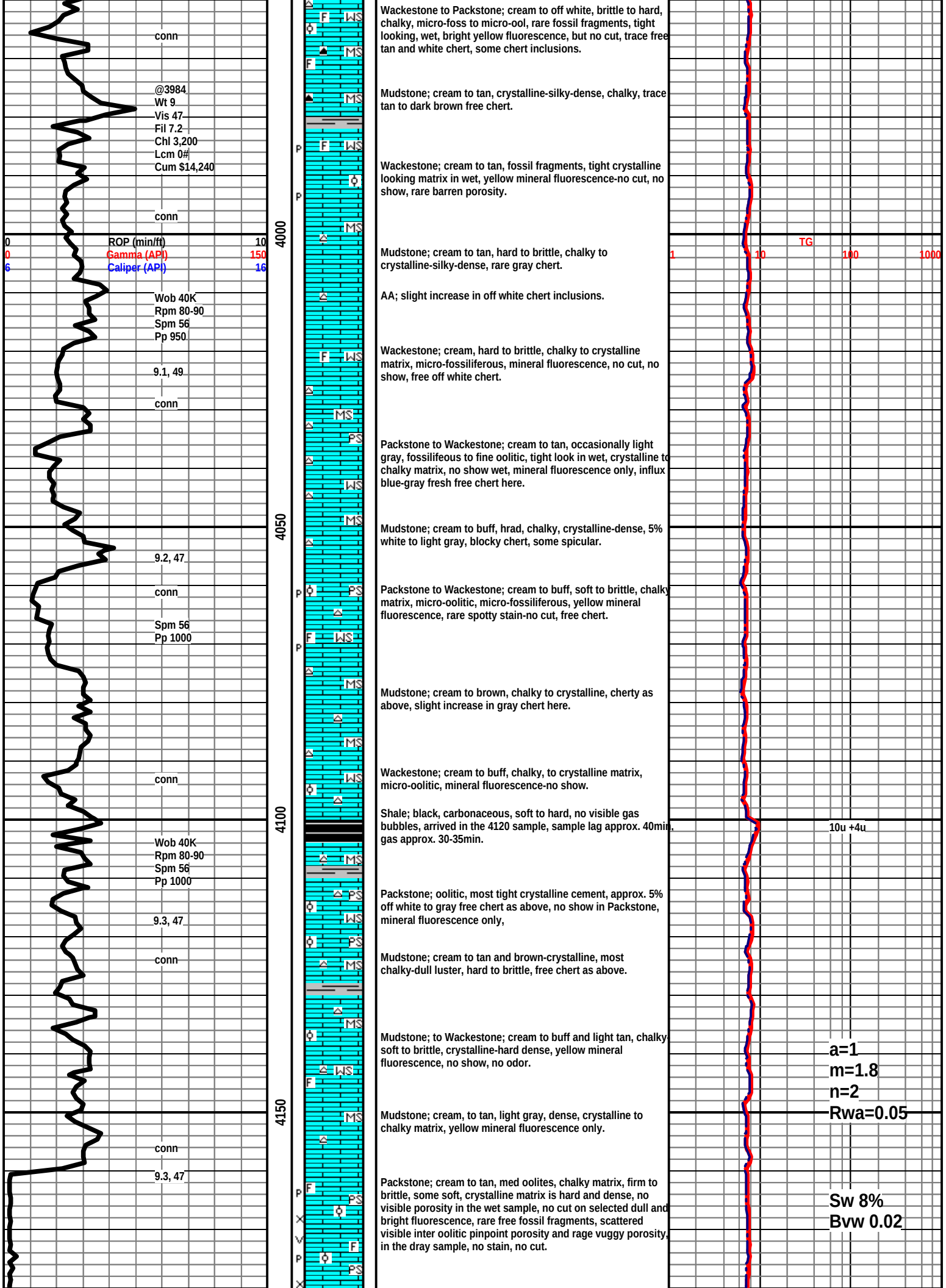
### TEXTURE

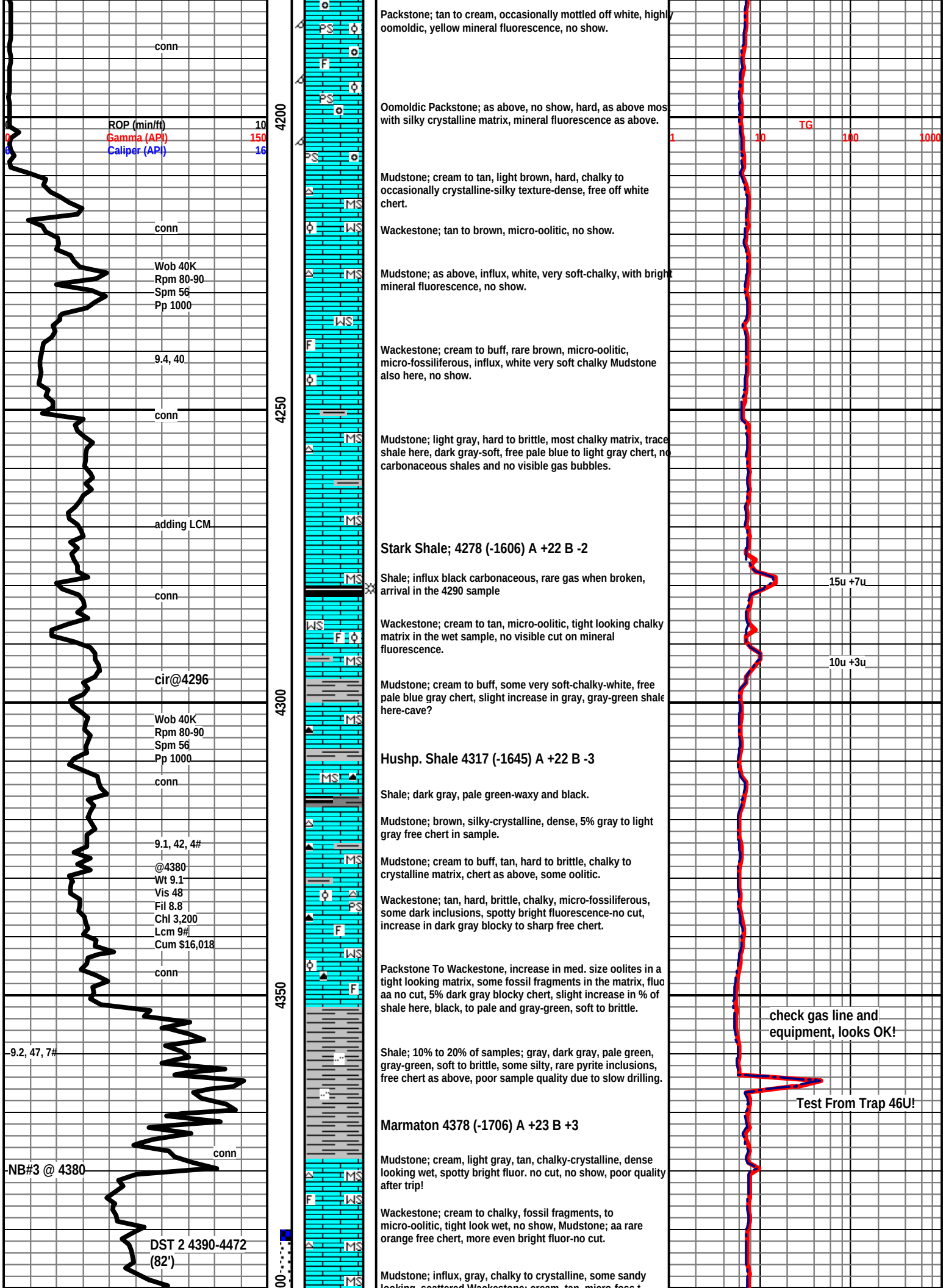


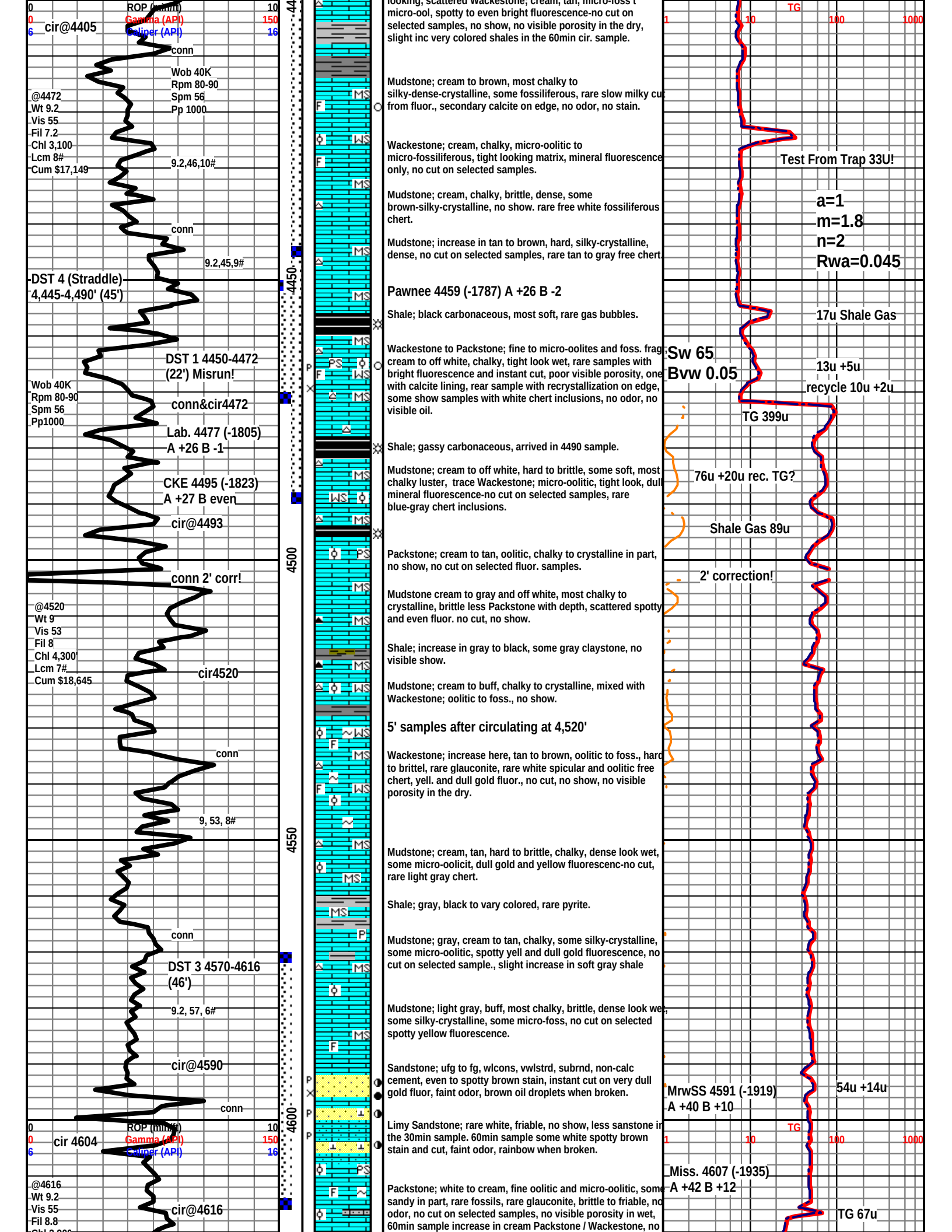
Boundst
Chalky
Cryxln
Earthy
Finexln
Grainst
Lithogr
Microxln
Mudst
Packst
Wackest


Curve Track 1
ROP (min/ft)
Gamma (API)
Caliper (API)
Depth
Porosity Type
Lithology
Oil Shows
Geological Descriptions
TG, C1-C5
TG (units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
0
ROP (min/ft)
10
0
Gamma (API)
150
6
Caliper (API)
16
conn
35
TG
1
10
100
1000
Test Gas At Trap!
Adjust Zero!
3600
DISPLACE NATIVE MUD WITH CHEMICAL GEL. SYSTEM @ 3,556'
Wob 40K
Rpm 94
Spm 52
Pp 950
JIM HALL ON LOCATION 2/22/14, @3,600', SET UP AND CHECK MUD LOGGING EQUIPMENT, GAS TEST @ TRAP OK, SET ZERO.
3650
3700
8.8, 50
Wob 40K
Rpm 88
Spm 52
Pp 950
MS
PS
F
WS
P
Mudstone; cream to buff, some off white, chalky-soft, crystalline-silky hard, rare crinoid stem and bone white free chert.
Packstone to Wackestone; cream to tan, micro-fossiliferous to micro-oolitic, chalky matrix, yellow mineral fluorescence, no show, rare barren porosity in dry sample.


conn
8.8, 48
conn
0
ROP (min/ft)
10
0
Gamma (API)
150
6
Caliper (API)
16
conn
Wob 40K
Rpm 74
Spm 52
Pp 950
conn
Rpm 80
Spm 56
Pp 950
conn
8.9, 50
conn
Wob 40K
Rpm 80
Spm 56
Pp 950
9.1, 49
conn
cir@3937
3750
3800
3850
3900
3950
Wackestone; light gray, micro-fossiliferous to micro-oolitic, hard, chalky matrix, looks dense in wet, yellow mineral fluorescence, no show, rare off white free chert.
Mudstone; gray, hard, chalky, yellow fluorescence, no show
Mudstone; influx white, very soft, highly chalky, rare light gray to off white free chert.
Wackestone to Packstone; cream to light gray, micro-fossiliferous to micro-oolitic, yellow mineral fluorescence only, no show.
Wackestone to Packstone; light gray, micro-fossiliferous to micro-oolitic, chalky, no show, rare light gray spicular chert.
Mudstone; cream to off white, chalky some very soft, rare black shale, no visible gas.
Packstone; tan to light brown, fine oolitic, to oomoldic, brittle, chalky to crystalline matrix, yellow mineral fluorescnece, no show.
Packstone to Wackestone; cream to buff, hard, chalky to crystalline matrix, micro-oolitic to micro-fossiliferous, no show, visible barren porosity in the dray sample.
Wackestone; cream to gray, fossiliferous to micro-oolitic, hai yellow mineral fluorescence, no show, rare black and red-brown shale here-no visible gas bubbles in the black shales.
Heebner 3874 (-1202) A +23 B +13
Shale; black, carbonaceous, gassy, soft to hard, first noted in the 3890 sample. Sample lag 38/40min.
Mustone to Wackestone; light gray, cream to tan, some fossiliferous, chalky, firm to hard, rare pyrite in the matrix, rare red-brown and light gray shale, most black carbonaceous, loss of gassy.
Wackestone; cream to buff, micro-oolitic to micro-fossiliferous, chalky, brittle to firm, rare white free chert, no show.
Mudstone; cream to off white, some very soft and chalky, bright yellow fluorescence, no cut, no show.
Packstone; cream to buff and off white, micro-oolitic, to micro-fossiliferous, chalky matrix, hard to brittle, some bright fluorescence-no cut on selected samples, no odor, no show, very small barren porosity in the dry sample.
Mudstone; gray, hard, chalky to crystalline, dense, some blocky, trace free sharp black to dark brown-mottled black chert.
Brown Lime 3947 (-1275) A +22 B +15
Lansing 3955 (-1283) A +20 B +15
TG
1
10
100
1000
a=1
m=1.8
n=2
Rwa=0.056
Sw 16%
Bvw 0.056
Small Shale Kick!
Gas lag 0.68 / 27min?
a=1
m=1.8
n=2
Rwa=0.056
Sw 53%
Bvw 0.08
Small gas increase!
Check Gas Trap!


conn
@3984
Wt 9
Vis 47
Fil 7.2
Chl 3,200
Lcm 0#
Cum $14,240
conn
0
ROP (min/ft)
10
0
Gamma (API)
150
6
Caliper (API)
16
Wob 40K
Rpm 80-90
Spm 56
Pp 950
9.1, 49
conn
9.2, 47
conn
Spm 56
Pp 1000
conn
Wob 40K
Rpm 80-90
Spm 56
Pp 1000
9.3, 47
conn
conn
9.3, 47
4000
4050
4100
4150
Wackestone to Packstone; cream to off white, brittle to hard, chalky, micro-foss to micro-ool, rare fossil fragments, tight looking, wet, bright yellow fluorescence, but no cut, trace free tan and white chert, some chert inclusions.
Mudstone; cream to tan, crystalline-silky-dense, chalky, trace tan to dark brown free chert.
Wackestone; cream to tan, fossil fragments, tight crystalline looking matrix in wet, yellow mineral fluorescence-no cut, no show, rare barren porosity.
Mudstone; cream to tan, hard to brittle, chalky to crystalline-silky-dense, rare gray chert.
AA; slight increase in off white chert inclusions.
Wackestone; cream, hard to brittle, chalky to crystalline matrix, micro-fossiliferous, mineral fluorescence, no cut, no show, free off white chert.
Packstone to Wackestone; cream to tan, occasionally light gray, fossilifeous to fine oolitic, tight look in wet, crystalline to chalky matrix, no show wet, mineral fluorescence only, influx blue-gray fresh free chert here.
Mudstone; cream to buff, hrad, chalky, crystalline-dense, 5% white to light gray, blocky chert, some spicular.
Packstone to Wackestone; cream to buff, soft to brittle, chalky matrix, micro-oolitic, micro-fossiliferous, yellow mineral fluorescence, rare spotty stain-no cut, free chert.
Mudstone; cream to brown, chalky to crystalline, cherty as above, slight increase in gray chert here.
Wackestone; cream to buff, chalky, to crystalline matrix, micro-oolitic, mineral fluorescence-no show.
Shale; black, carbonaceous, soft to hard, no visible gas bubbles, arrived in the 4120 sample, sample lag approx. 40min, gas approx. 30-35min.
Packstone; oolitic, most tight crystalline cement, approx. 5% off white to gray free chert as above, no show in Packstone, mineral fluorescence only,
Mudstone; cream to tan and brown-crystalline, most chalky-dull luster, hard to brittle, free chert as above.
Mudstone; to Wackestone; cream to buff and light tan, chalky soft to brittle, crystalline-hard dense, yellow mineral fluorescence, no show, no odor.
Mudstone; cream, to tan, light gray, dense, crystalline to chalky matrix, yellow mineral fluorescence only.
Packstone; cream to tan, med oolites, chalky matrix, firm to brittle, some soft, crystalline matrix is hard and dense, no visible porosity in the wet sample, no cut on selected dull and bright fluorescence, rare free fossil fragments, scattered visible inter oolitic pinpoint porosity and rage vuggy porosity, in the dray sample, no stain, no cut.
TG
1
10
100
1000
10u +4u
a=1
m=1.8
n=2
Rwa=0.05
Sw 8%
Bvw 0.02


ROP (min/ft) 10
Gamma (API) 150
Caliper (API) 16
conn
Wob 40K
Rpm 80-90
Spm 56
Pp 1000
9.4, 40
conn
adding LCM
conn
cir@4296
Wob 40K
Rpm 80-90
Spm 56
Pp 1000
conn
9.1, 42, 4#
@4380
Wt 9.1
Vis 48
Fil 8.8
Chl 3,200
Lcm 9#
Cum $16,018
conn
9.2, 47, 7#
conn
NB#3 @ 4380
DST 2 4390-4472
(82')
4200
4250
4300
4350
Packstone; tan to cream, occasionally mottled off white, highly oomoldic, yellow mineral fluorescence, no show.
Oomoldic Packstone; as above, no show, hard, as above mos with silky crystalline matrix, mineral fluorescence as above.
Mudstone; cream to tan, light brown, hard, chalky to occasionally crystalline-silky texture-dense, free off white chert.
Wackestone; tan to brown, micro-oolitic, no show.
Mudstone; as above, influx, white, very soft-chalky, with bright mineral fluorescence, no show.
Wackestone; cream to buff, rare brown, micro-oolitic, micro-fossiliferous, influx, white very soft chalky Mudstone also here, no show.
Mudstone; light gray, hard to brittle, most chalky matrix, trace shale here, dark gray-soft, free pale blue to light gray chert, no carbonaceous shales and no visible gas bubbles.
Stark Shale; 4278 (-1606) A +22 B -2
Shale; influx black carbonaceous, rare gas when broken, arrival in the 4290 sample
Wackestone; cream to tan, micro-oolitic, tight looking chalky matrix in the wet sample, no visible cut on mineral fluorescence.
Mudstone; cream to buff, some very soft-chalky-white, free pale blue gray chert, slight increase in gray, gray-green shale here-cave?
Hushp. Shale 4317 (-1645) A +22 B -3
Shale; dark gray, pale green-waxy and black.
Mudstone; brown, silky-crystalline, dense, 5% gray to light gray free chert in sample.
Mudstone; cream to buff, tan, hard to brittle, chalky to crystalline matrix, chert as above, some oolitic.
Wackestone; tan, hard, brittle, chalky, micro-fossiliferous, some dark inclusions, spotty bright fluorescence-no cut, increase in dark gray blocky to sharp free chert.
Packstone To Wackestone, increase in med. size oolites in a tight looking matrix, some fossil fragments in the matrix, fluo aa no cut, 5% dark gray blocky chert, slight increase in % of shale here, black, to pale and gray-green, soft to brittle.
Shale; 10% to 20% of samples; gray, dark gray, pale green, gray-green, soft to brittle, some silty, rare pyrite inclusions, free chert as above, poor sample quality due to slow drilling.
Marmaton 4378 (-1706) A +23 B +3
Mudstone; cream, light gray, tan, chalky-crystalline, dense looking wet, spotty bright fluor. no cut, no show, poor quality after trip!
Wackestone; cream to chalky, fossil fragments, to micro-oolitic, tight look wet, no show, Mudstone; aa rare orange free chert, more even bright fluor-no cut.
Mudstone; influx, gray, chalky to crystalline, some sandy
TG
1
10
100
1000
15u +7u
10u +3u
check gas line and equipment, looks OK!
Test From Trap 46U!


0
ROP (min/ft)
10
0
Gamma (API)
150
6
Caliper (API)
16
cir@4405
conn
Wob 40K
Rpm 80-90
Spm 56
Pp 1000
@4472
Wt 9.2
Vis 55
Fil 7.2
Chl 3,100
Lcm 8#
Cum $17,149
9.2,46,10#
conn
9.2,45,9#
DST 4 (Straddle)
4,445-4,490' (45')
DST 1 4450-4472
(22') Misrun!
Wob 40K
Rpm 80-90
Spm 56
Pp1000
conn&cir4472
Lab. 4477 (-1805)
A +26 B -1
CKE 4495 (-1823)
A +27 B even
cir@4493
conn 2' corr!
@4520
Wt 9
Vis 53
Fil 8
Chl 4,300
Lcm 7#
Cum $18,645
cir4520
conn
9, 53, 8#
conn
DST 3 4570-4616
(46')
9.2, 57, 6#
cir@4590
conn
0
ROP (min/ft)
10
0
Gamma (API)
150
6
Caliper (API)
16
cir 4604
@4616
Wt 9.2
Vis 55
Fil 8.8
cir@4616
4450
4500
4550
4600
looking, scattered Wackestone, cream, tan, micro-foss t
micro-ool, spotty to even bright fluorescence-no cut on
selected samples, no show, no visible porosity in the dry,
slight inc very colored shales in the 60min cir. sample.
Mudstone; cream to brown, most chalky to
silky-dense-crystalline, some fossiliferous, rare slow milky cut
from fluor., secondary calcite on edge, no odor, no stain.
Wackestone; cream, chalky, micro-oolitic to
micro-fossiliferous, tight looking matrix, mineral fluorescence
only, no cut on selected samples.
Mudstone; cream, chalky, brittle, dense, some
brown-silky-crystalline, no show. rare free white fossiliferous
chert.
Mudstone; increase in tan to brown, hard, silky-crystalline,
dense, no cut on selected samples, rare tan to gray free chert.
Pawnee 4459 (-1787) A +26 B -2
Shale; black carbonaceous, most soft, rare gas bubbles.
Wackestone to Packstone; fine to micro-oolites and foss. frag;
cream to off white, chalky, tight look wet, rare samples with
bright fluorescence and instant cut, poor visible porosity, one
with calcite lining, rear sample with recrystallization on edge,
some show samples with white chert inclusions, no odor, no
visible oil.
Shale; gassy carbonaceous, arrived in 4490 sample.
Mudstone; cream to off white, hard to brittle, some soft, most
chalky luster, trace Wackestone; micro-oolitic, tight look, dull
mineral fluorescence-no cut on selected samples, rare
blue-gray chert inclusions.
Packstone; cream to tan, oolitic, chalky to crystalline in part,
no show, no cut on selected fluor. samples.
Mudstone cream to gray and off white, most chalky to
crystalline, brittle less Packstone with depth, scattered spotty
and even fluor. no cut, no show.
Shale; increase in gray to black, some gray claystone, no
visible show.
Mudstone; cream to buff, chalky to crystalline, mixed with
Wackestone; oolitic to foss., no show.
5' samples after circulating at 4,520'
Wackestone; increase here, tan to brown, oolitic to foss., hard
to brittel, rare glauconite, rare white spicular and oolitic free
chert, yell. and dull gold fluor., no cut, no show, no visible
porosity in the dry.
Mudstone; cream, tan, hard to brittle, chalky, dense look wet,
some micro-oolicit, dull gold and yellow fluorescenc-no cut,
rare light gray chert.
Shale; gray, black to vary colored, rare pyrite.
Mudstone; gray, cream to tan, chalky, some silky-crystalline,
some micro-oolitic, spotty yell and dull gold fluorescence, no
cut on selected sample., slight increase in soft gray shale
Mudstone; light gray, buff, most chalky, brittle, dense look wet,
some silky-crystalline, some micro-foss, no cut on selected
spotty yellow fluorescence.
Sandstone; ufg to fg, wlcons, vwlstrd, subrnd, non-calc
cement, even to spotty brown stain, instant cut on very dull
gold fluor, faint odor, brown oil droplets when broken.
Limy Sandstone; rare white, friable, no show, less sanstone in
the 30min sample. 60min sample some white spotty brown
stain and cut, faint odor, rainbow when broken.
Packstone; white to cream, fine oolitic and micro-oolitic, some
sandy in part, rare fossils, rare glauconite, brittle to friable, no
odor, no cut on selected samples, no visible porosity in wet,
60min sample increase in cream Packstone / Wackestone, no
TG
1
10
100
1000
Test From Trap 33U!
a=1
m=1.8
n=2
Rwa=0.045
17u Shale Gas
Sw 65
Bvw 0.05
13u +5u
recycle 10u +2u
TG 399u
76u +20u rec. TG?
Shale Gas 89u
2' correction!
MrwSS 4591 (-1919)
A +40 B +10
54u +14u
TG
1
10
100
1000
Miss. 4607 (-1935)
A +42 B +12
TG 67u

Chl 2,900
Lcm 6#
Cum $19,604

conn

9.1, 56, 9#

conn

9.2, 59, 9#

cir@4675

@4706
Wt 9.1
Vis 49
Fil 8.4
Chl 1,900
Lcm 7#
Cum $20,938

9.2, 57, 9#

conn

9.2+, 59, 9#

4650

4700

50

show.

Packstone; most cream-chalky, to occasionall tan-crystalline, oolitic to rare visible fossil fragments, most brittle, oolites are fine, occasionall medium to also micro-oolitic, rare galuconite approx 5-20% cream to light gray sandy lime-hard, dull min. fluor, no odor, no visible oil, 1 sample chalky mudstone with residual cut-cave.

Packstone to Wackestone; tan to light brown, occ med oolites to smaller and micro-oolites in a silky crystalline looking matrix, rare dark stain-no cut, rare bone white chert.

Wackestone to Packstone; AA, small to med oolites to micro-oolites, rare edge stain-no cut, one sample with inter-ool stain-no cut

Wackestone / Packstone; small to micro-oolites in dense looking chalky and crystalline matrix, rare spotty stain-no cut. Mudstone; 10% cream to tan micro-oolitic, dense, no sample show, rare free white, light gray and mottled chert.

Packstone to Wackestone; oolitic as above; slight increase in Mudstone; cream to tan, chalky to crystalline, rare spotty stain-no cut.

Mudstone; tan, hard, dense, some micro-oolitic, silky luster, mixed with oolitic Wackestone, free tan and gray chert.

Mudstone; as above, small increase oolitic Wackestone and Packstone here, free blue mottled chert

Gss Test From Trap After Last Circulated
Sample Checked Out OK!

**RTD 4,706' 2/27/14**

**OPEN HOLE LOG**
**TD 4,709'**