



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
- Conv. to GSW
- Plug Back: \_\_\_\_\_ Plug Back Total Depth \_\_\_\_\_
- 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

County: \_\_\_\_\_

Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Field Name: \_\_\_\_\_

Producing Formation: \_\_\_\_\_

Elevation: Ground: \_\_\_\_\_ Kelly Bushing: \_\_\_\_\_

Total 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

- Letter of Confidentiality Received  
Date: \_\_\_\_\_
- Confidential Release Date: \_\_\_\_\_
- Wireline Log Received
- Geologist Report Received
- UIC Distribution
- ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_



1152643

Operator Name: \_\_\_\_\_ Lease Name: \_\_\_\_\_ Well #: \_\_\_\_\_

Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West County: \_\_\_\_\_

**INSTRUCTIONS:** Show important tops and base 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. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Run <input type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run:	<input type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum
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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
_____ Perforate _____ Protect Casing _____ Plug Back TD _____ Plug Off Zone				

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
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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	Sunflower Energy, LLC
Well Name	Zimmerman Unit 1-8
Doc ID	1152643

Tops

Name	Top	Datum
Stotler	3580	-979
Heebner Shale	4234	-1633
Lansing	4339	-1738
Stark Shale	4654	-2053
Hushpuckney Shale	4692	-2091
Pawnee	4876	-2275
Fort Scott	4903	-2302
Cherokee Shale	4920	-2319
Mississippian	5058	-2457
Meremec Dolomite	5224	-2623
LTD	5278	-2677

Date 1-16-13 District \_\_\_\_\_ Ticket No. 53319  
 Company Sunflower Energy Rig 101 Kat # 4  
 Lease Zimmerman Unit Well No. 1-B  
 County Franklin State MS  
 Location \_\_\_\_\_ Field \_\_\_\_\_

CASING DATA: Conductor  PTA  Squeeze  Misc   
 Surface  Intermediate  Production  Liner   
 Size 8 5/8 Type \_\_\_\_\_ Weight 34 Collar \_\_\_\_\_

Casing Depths: Top 0 Bottom 1683

Drill Pipe: Size \_\_\_\_\_ Weight \_\_\_\_\_ Collars \_\_\_\_\_  
 Open Hole: Size 12 1/4 T.D. 1026 ft. P.B. to \_\_\_\_\_ ft.

CAPACITY FACTORS:  
 Casing: Bbls/Lin. ft. .6637 Lin. ft./Bbl. 15.70  
 Open Holes: Bbls/Lin. ft. .1456 Lin. ft./Bbl. 6.85  
 Drill Pipe: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Annulus: Bbls/Lin. ft. .0735 Lin. ft./Bbl. 13.60  
 Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Perforations: From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: H2O  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG \_\_\_\_\_

LEAD: Pump Time \_\_\_\_\_ hrs. Type Class A 39cc  
270 Schwin M 290 byrd 1410 Excess \_\_\_\_\_

Amt. 425 Sks Yield 3.16 ft<sup>3</sup>/sk Density 11.4 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type Class A 20cc  
 Excess \_\_\_\_\_

Amt. 150 Sks Yield 1.32 ft<sup>3</sup>/sk Density 14.8 PPG

WATER: Lead \_\_\_\_\_ gals/sk Tail \_\_\_\_\_ gals/sk Total \_\_\_\_\_ Bbls.

Pump Trucks Used 570-444

Bulk Equip. 477-467 251-456

Float Equip: Manufacturer Weatherford

Shoe: Type Guide Shoe Depth 1143

Float: Type ATU 1100 Valve Depth 1640

Centralizers: Quantity 3 Plugs Top \_\_\_\_\_ Btn. \_\_\_\_\_

Stage Collars \_\_\_\_\_

Special Equip. \_\_\_\_\_

Disp. Fluid Type \_\_\_\_\_ Amt. \_\_\_\_\_ Bbls. Weight \_\_\_\_\_ PPG \_\_\_\_\_

Mud Type \_\_\_\_\_ Weight \_\_\_\_\_ PPG \_\_\_\_\_

COMPANY REPRESENTATIVE Ronald B...

CEMENTER Benny B...

TIME	PRESSURES PSI		FLUID PUMPED DATA			REMARKS	
	AM/PM	DRILL PIPE CASING	ANNULUS	TOTAL FLUID	Pumped Per Time Period		RATE Bbls Min.
12:00		0	—	10		4	10 barrels ahead
12:05		0		231		7	231 barrels lead cement 11.4
12:36		100		35		7	35 barrels tail cement 14.6
12:45		0		0		0	Shut down to Release plug
12:48		0		10		6	plug down displacement started
12:53		200		25		6	25 barrels H <sub>2</sub> O
12:58		200		50		6	50 barrels H <sub>2</sub> O
1:03		300		75		6	75 barrels H <sub>2</sub> O
1:10		450		100		6	100 barrels H <sub>2</sub> O
1:15		1000		104		3	104 barrels landed plug
1:17		0				0	Returned 1/2 tank to tank

Thank You

FINAL DISP. PRESS: 500 PSI BUMP PLUG TO 1000 PSI BLEEDBACK 1/2 BBLs. THANK YOU



**TRILOBITE TESTING, INC.**

# DRILL STEM TEST REPORT

Sunflower Energy  
 10801 Nastin Ste 920  
 Overland Park, KS 66201  
 ATTN: Wes Hansen

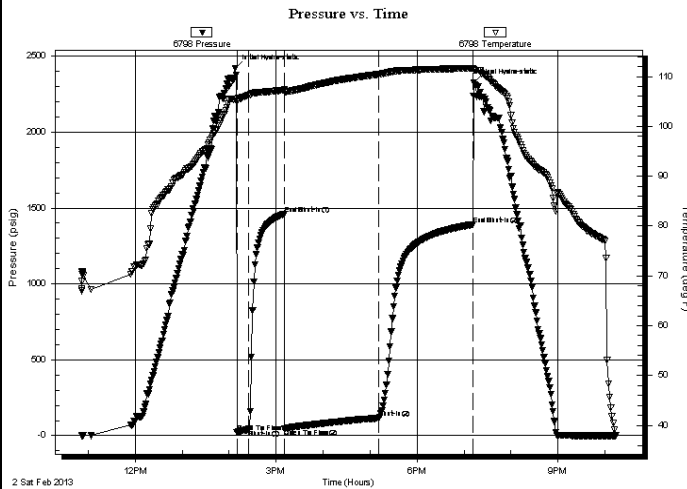
**8-27S-25W Ford**  
**Zimmerman Unit 1-8**  
 Job Ticket: 50886 **DST#: 1**  
 Test Start: 2013.02.02 @ 10:51:43

## GENERAL INFORMATION:

Formation: **Pawnee**  
 Deviated: No Whipstock: ft (KB)  
 Time Tool Opened: 14:09:43  
 Time Test Ended: 22:14:28  
 Interval: **4878.00 ft (KB) To 4906.00 ft (KB) (TVD)**  
 Total Depth: 4906.00 ft (KB) (TVD)  
 Hole Diameter: 7.88 inches Hole Condition: Good  
 Test Type: Conventional Bottom Hole (Initial)  
 Tester: Leal Cason  
 Unit No: 45  
 Reference Elevations: 2601.00 ft (KB)  
 2591.00 ft (CF)  
 KB to GR/CF: 10.00 ft

**Serial #: 6798 Inside**  
 Press@RunDepth: 115.68 psig @ 4879.00 ft (KB) Capacity: 8000.00 psig  
 Start Date: 2013.02.02 End Date: 2013.02.02 Last Calib.: 2013.02.02  
 Start Time: 10:51:43 End Time: 22:14:28 Time On Btm: 2013.02.02 @ 14:07:28  
 Time Off Btm: 2013.02.02 @ 19:12:43

TEST COMMENT: IF: Weak Surface Blow  
 ISI: No Blow Back  
 FF: Weak Blow, Built to 1 inch  
 FSI: No Blow Back



## PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2421.06	105.39	Initial Hydro-static
3	22.33	104.93	Open To Flow(1)
18	40.55	106.28	Shut-In(1)
64	1461.34	107.31	End Shut-In(1)
64	44.53	106.94	Open To Flow(2)
184	115.68	110.44	Shut-In(2)
304	1390.76	111.66	End Shut-In(2)
306	2327.19	111.32	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
62.00	Water	0.30
62.00	MCW 25%M 75%W	0.30
72.00	OCM 30%O 70%M	0.35

## Gas Rates

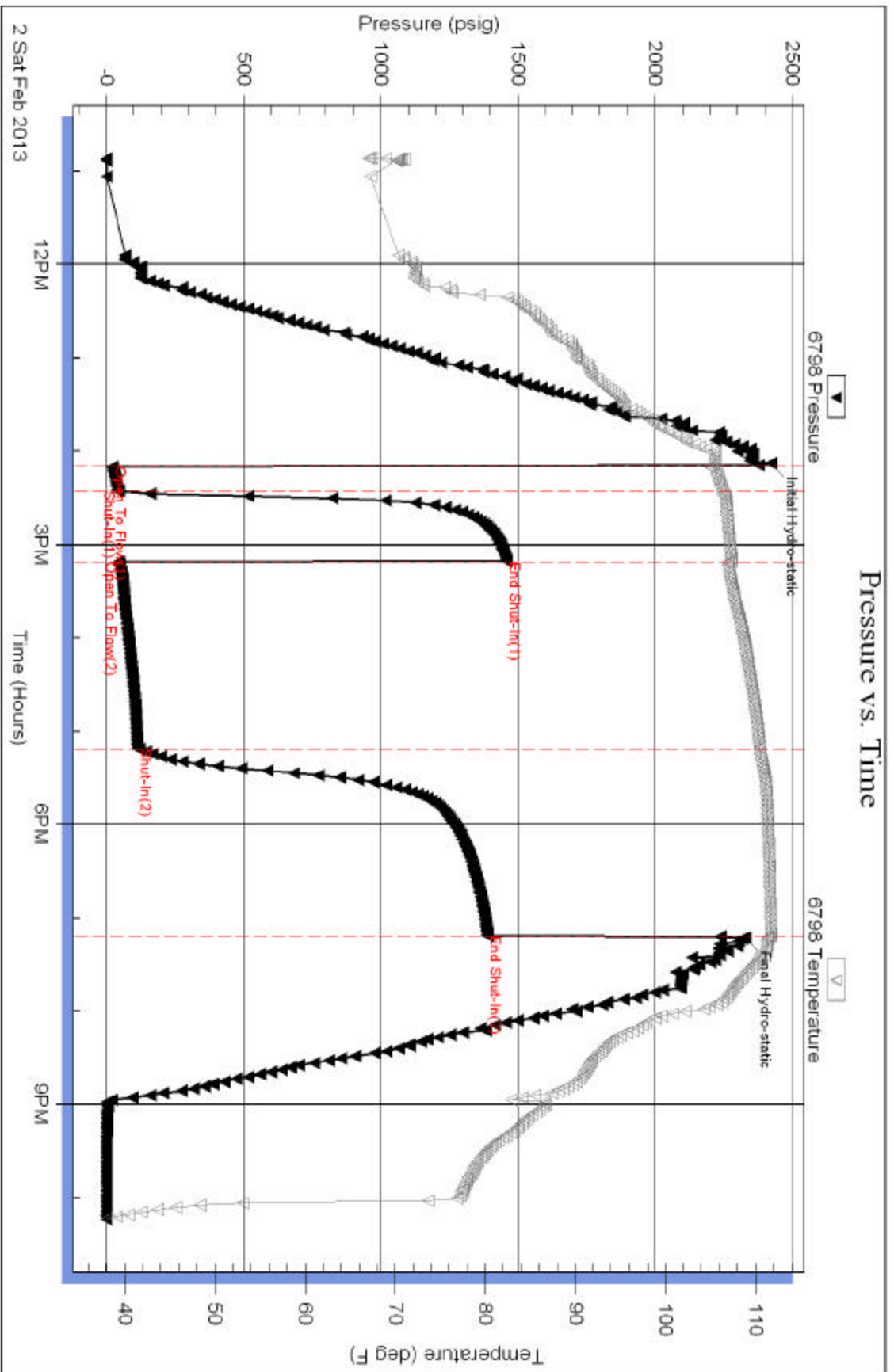
Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)

Serial #: 6798

Inside Sunflower Energy

Zimmerman Unit 1-8

DST Test Number: 1



Trickle Testing, Inc

Ref. No: 50886

Printed: 2013.02.02 @ 22:31:14



**WESLEY D. HANSEN Consulting Petroleum Geologist**

212 N. Market, Suite 257, Wichita, KS 67202  
Office: 316-267-7313 Cellular ; 316-772-6188

**KGS  
AAPG  
Kansas License #418**

## **LITHOLOGY STRIP LOG**

### **WellSight Systems**

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

**Well Name:** Sunflower Energy, LLC #1-8 Zimmerman Unit  
**Location:** 1078' FSL, 2542' FEL of Section 8-27S-25W  
**Licence Number:** API: 15-057-20869 **Region:** Ford County, Kansas  
**Spud Date:** 1-16-2013 **Drilling Completed:** 2-5-2013  
**Surface Coordinates:** 1078' FSL, 2542' FEL of 8-27S-25W

**Bottom Hole Vertical hole**  
**Coordinates:**  
**Ground Elevation (ft):** 2592' **K.B. Elevation (ft):** 2601'  
**Logged Interval (ft):** 3500' **To:** RTD **Total Depth (ft):** 5280'  
**Formation:** Mississippian Spergen at RTD  
**Type of Drilling Fluid:** Chemical

Printed by MUD.LOG from WellSight Systems 1-800-447-1534 [www.WellSight.com](http://www.WellSight.com)

### **OPERATOR**

**Company:** Sunflower Energy, LLC  
**Address:** 10801 Mastin  
Suite 920  
Overland Park, KS 66210

### **GEOLOGIST**

**Name:** Wesley D. Hansen  
**Company:** Wesley D. Hansen - Consulting Petroleum Geologist  
**Address:** 212 N. Market, Suite 257  
Wichita, KS 67202  
**Office:** 316-263-7313 **Cellular:** 316-772-6188

## COMMENTS

Contractor: Tomcat Drilling Rig #4  
Pusher: Oscar Martinez

Surface Casing: 8 5/8" set at 1696' w/581 sx  
Production Casing: P&A

Mud by: MudCo - Justin Whiting was the engineer

DST's by: Trilobite - Leal Cason was the tester

Logs by: Weatherford - Array Induction, CN-CD, Microlog, Sonic

Deviation Surveys: 3/4 deg. @ 1042'; 1 1/2 deg. @ 1696'; 1 deg. @ 4906'

Bit #	Size	MFG	Type	Depth Out	Footage Cut	Hours on bit
1	12 1/4"	HTC	GTC1	1696'	1696'	29
2	7 7/8"	HTC	BP506S	3396'	1700'	41 1/4
3	7 7/8"	HTC	GX28C	3396'	0'	0
4	7 7/8"	HTC	GX28C	4217'	821'	
5	7 7/8"	HTC	GX28C	5280'	1063'	

## FORMATION TOPS AND STRUCTURAL COMPARISON

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Stotler	not called		3580'	-979
Heebner Shale	4238'	-1637	4234'	-1633
Lansing	4344'	-1743	4339'	-1738
Stark Shale	4660'	-2059	4654'	-2053
Hushpuckney Shale	4699'	-2098	4692'	-2091
Pawnee	4883'	-2282	4876'	-2275
Fort Scott	4908'	-2307	4903'	-2302
Cherokee Shale	4926'	-2325	4920'	-2319
Mississippian	5065'	-2464	5058'	-2457
Meramec Dolomite	5229'	-2628	5224'	-2623
RTD	5280'	-2679		
LTD			5278'	-2677

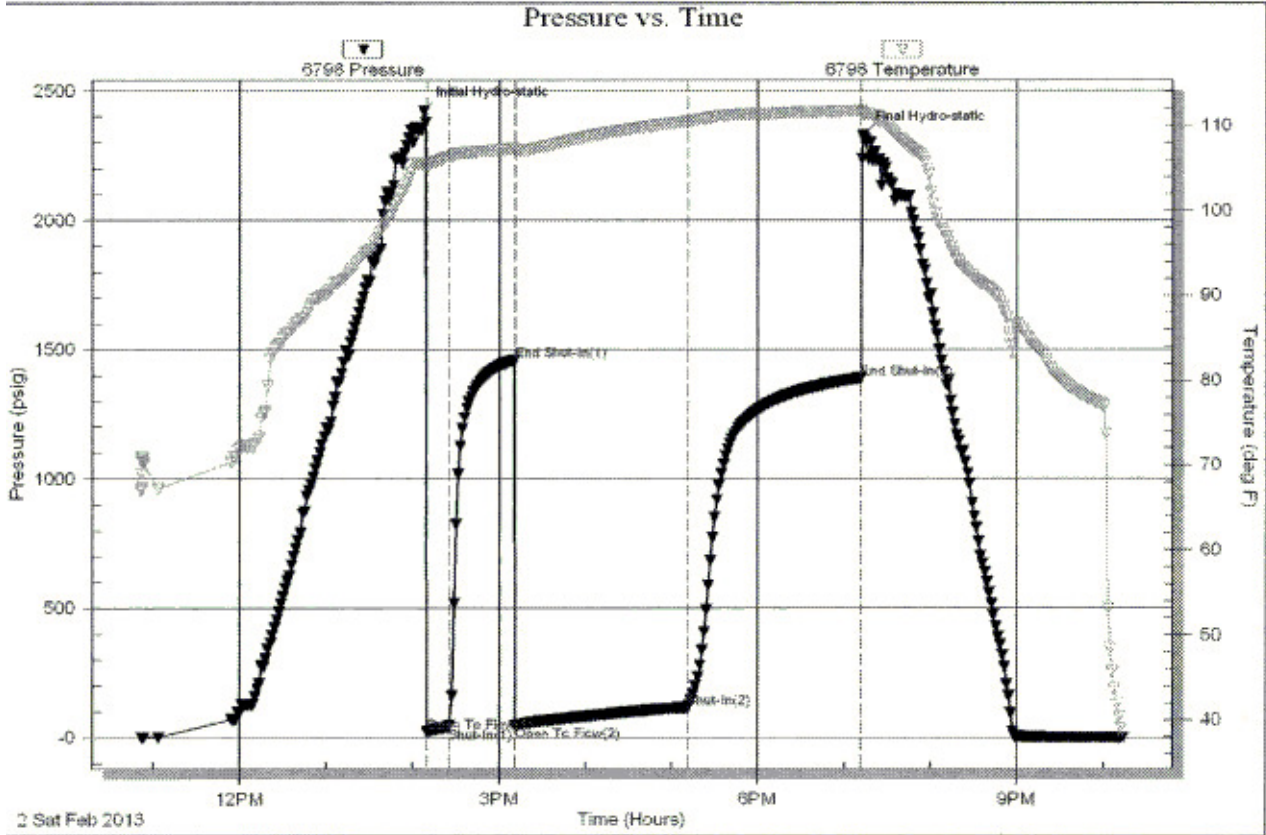


# DRILL STEM TESTS

DST No. 1 Pawnee  
 Interval: 4878'-4906'  
 Times: 15-45-120-120  
 Recovery: 72' OCM (30o, 70m); 62' MCW  
 (25m, 75w); 62' W, chl. 69,000  
 FP: 22-41/45-116 SIP: 1461-1391  
 HP: 2421-2327 BHT: 111 deg. F

IFP: weak surface blow  
 ISIP: no return blow  
 FFP: weak blow bldg. to 1 inch  
 FSIP: no return blow

Serial #: 6798      Inside      Sunflower Energy      Zimmerman Unit 1-6      DST Test Number: 1



## ROCK TYPES

	Anhy		Lmst		Ss		Shale		Shy dolo
	Cht		Salt		Carb sh		Sltstn		Shaly ls
	Coal		Shale		Dol		Shlyslts		
	Congl		Shcol		Dtd		Sltys		
	Dol		Shgy		Gry sh		Sdy dolo		
	Gyp		Sltst		Sandylms		Silty dolo		

### ACCESSORIES

#### FOSSIL

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

- Ostra
- Pelec
- Pellet
- Pisolite
- Plant
- Strom
- Fuss
- Oomold

#### MINERAL

- Anhy
- Arggrn
- Arg
- Bent
- Bit
- Breclrag

- Calc
- Carb
- Chtdk
- Chtlt
- Dol
- Feldspar
- Ferrpel
- Ferr
- Glau
- Gyp
- Hvymin
- Kaol
- Marl
- Minxl
- Nodule
- Phos

- Pyr
- Salt
- Sandy
- Silt
- Sil
- Sulphur
- Tuff
- Chlorite
- Dol
- Sand
- Sity

#### STRINGER

- Anhy
- Arg
- Bent

- Coal
- Dol
- Gyp
- Ls
- Mrst
- Sltstrg
- Ssstrg
- Carbsh
- Clystn
- Dol
- Grysh
- Gryslt
- Lms
- Sandylms
- Sh
- Sltstn

### OTHER SYMBOLS

#### INTERVALS

- Core
- Dst
- Dst

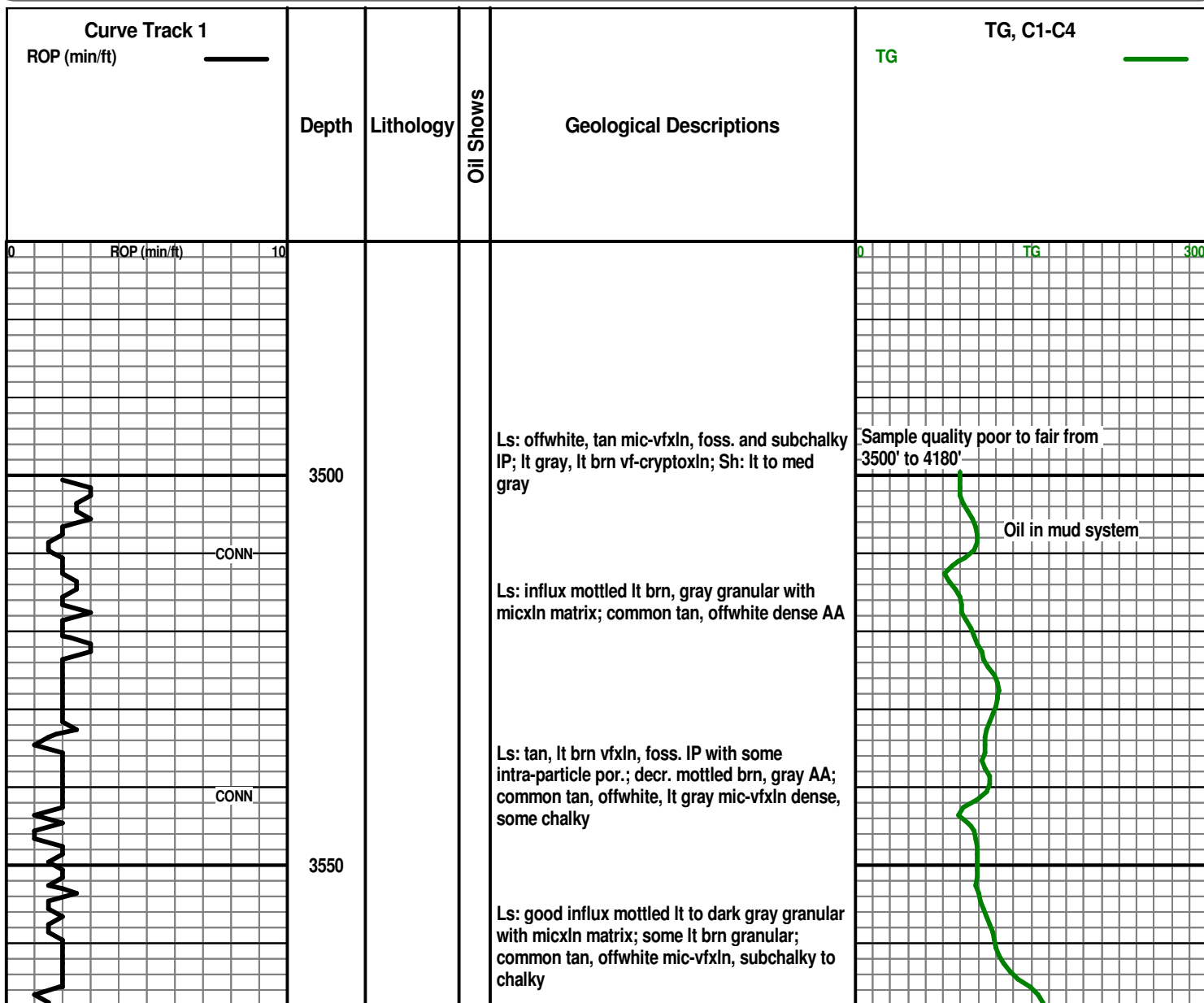
#### EVENTS

- Rft
- Dst top/base

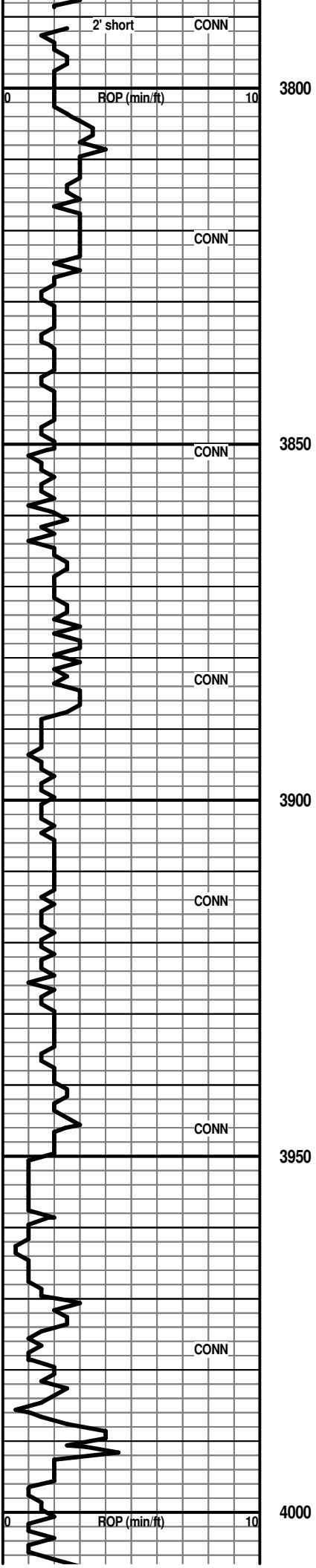
#### OIL SHOWS

- Even
- Spotted
- Quest.

- Trace
- Dead
- Gas show







Ls: various tan, offwhite, lt brn mic-vfxln subchalky, occ white chalky; spls very shaly

Ls: mix AA with lt brn fnxln with some interxln and poor inter-particle por.; very shaly spls AA with more soft lt gray shale

Ls: mix tan, lt brn fnxln with pp por. and tan, lt brn, offwhite mic-vfxln dense, subchalky to white chalky; streaks lt to med gray and some red-brn shales

Ls: mix AA with sl influx lt to med brn vf-cryptoxln

Ls: mix AA; sl influx mottled gray/brn granular, NVP; spls more shaly; sl influx lt gray opq chert

Ls: lt to med brn and gray vf-cryptoxln, mottled and granular IP with scatt. offwhite, lt gray opq chert; common vc gray and some red-brn shales

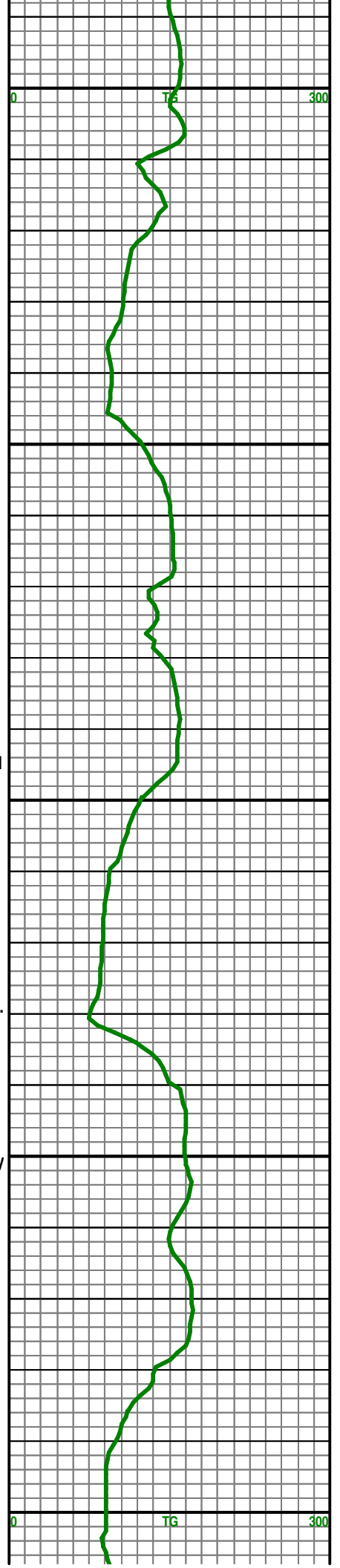
Ls: mix AA with influx tan mic-vfxln with some pp por., subchalky IP; still common brn and gray vf-cryptoxln; shales AA; cherts AA, some new dark gray opq

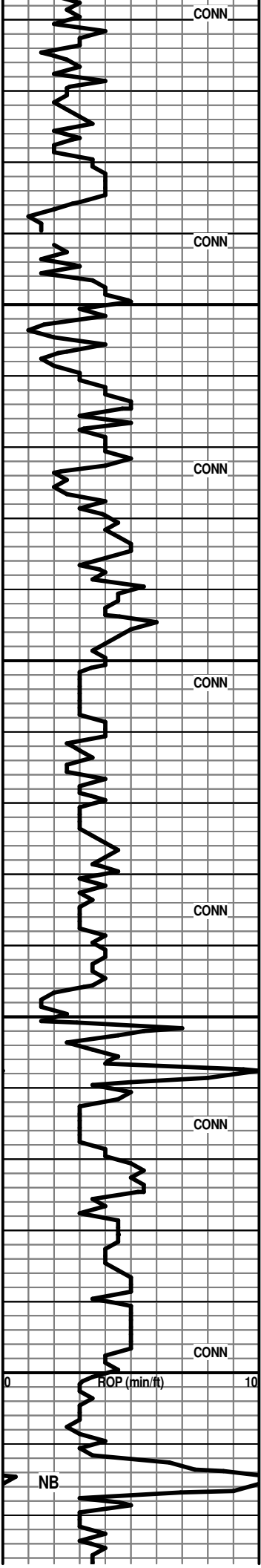
Ls: tan, lt brn mic-fnxln with some pp por., gen. dense subchalky to occ chalky; sl cherty AA; common med gray shale

Ls: mix AA with strong influx Sh: lt to med gray and dark red-brn

Ls: mix lt to med brn and gray vf-cryptoxln and tan mic-vfxln dense; some dove gray opq chert; decr. shale %

Ls: various tan, lt to med brn AA with abund, lt to med gray and lesser red-brn shales; scatt. offwhite, lt gray chert





4050

4100

4150

4200

mix Ls and shales, sl cherty AA

Ls: tan, offwhite mic-vfxln dense; lt to med brn dense, mottled IP; shales AA

Ls: predom. tan, offwhite mic-vfxln, some pp por., subchalky and dense IP; influx lt brn, lt gray cryptoxln; shales AA with some dark gray to black; sl cherty

shaly mix AA; definite incr. dark gray to black

Ls: tan, lt gray, offwhite mic-vfxln dense; samples very shaly

very shaly and poor samples

Ls: tan, lt brn, offwhite mic-vfxln dense; very shaly and poor spls

Ls: flood tan, lt brn, some lt gray cryptoxln to granular, poor to NVP; lesser mic-vfxln dense; scatt. offwhite opq chert

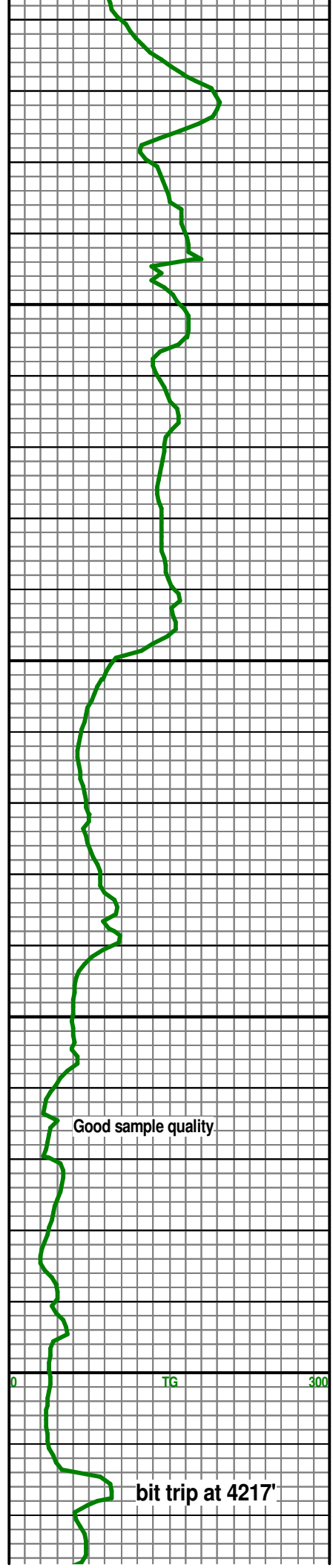
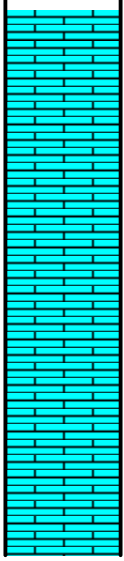
Ls: flood white chalky and tan, lt brn vf-cryptoxln, some granular with poor inter-particle por.

Ls: decr. chalky; predom. tan mic-vfxln dense and tan, lt brn vf-cryptoxln

Ls: mix tan, offwhite mic-vfxln dense, subchalky IP, some pp por.; sl influx lt gray vf-cryptoxln

Ls: mix tan, lt brn, offwhite mic-vfxln dense; lesser lt brn, lt gray vf-cryptoxln; some lt brn granular with some fair interxln por.; Sh: vsl incr. gray

Ls: mix AA with strong influx dark gray to



Good sample quality

TG

bit trip at 4217'

0

300

0

ROP (min/ft)

10

NB

CONN

CONN

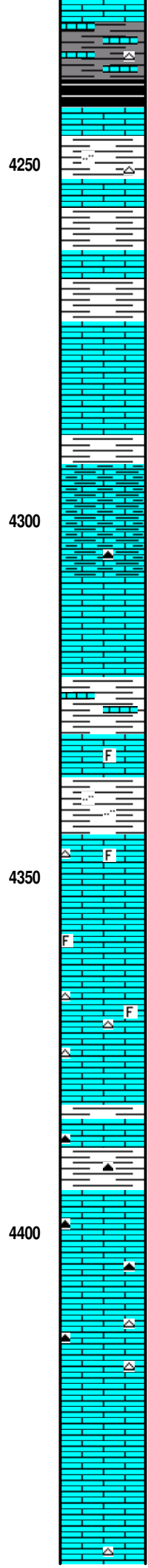
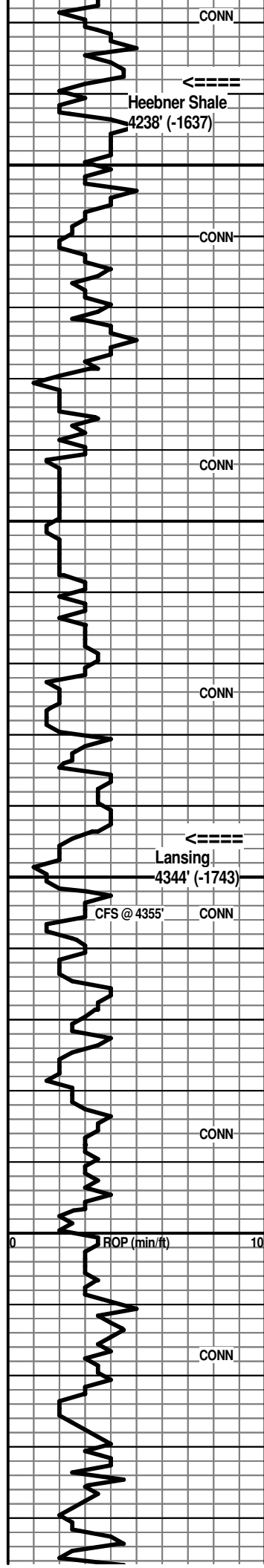
CONN

CONN

CONN

CONN

CONN



Ls: mix AA with strong influx dark gray to black shale (trip trash??)

Sh: med to dark gray, black fissile IP; Ls: various dense AA with sl incr. med brn, gray cryptoxln; trace gray oolitic chert

Ls: incr. dark gray, dark brn cryptoxln; Sh: AA with more black and lt gray silty; scatt. lt gray opq chert

Ls: mix med brn, gray cryptoxln and tan, lt brn vfxln dense; Sh: common vc gray, black, some splintery gray

Ls: predom. med to dark brn and gray-brn cryptoxln; lesser lt brn mic-vfxln dense, subchalky IP; decr. shale %

Ls: mix AA with incr. tan, offwhite mic-vfxln dense, subchalky IP; Sh: vc gray and black

Ls: abund. tan vfxln dense; lesser med to dark brn, dark gray-brn cryptoxln, mottled IP; minor shale %

Ls: mix AA with influx lt to med gray shaly Ls and shale

Ls: mix AA with sl influx dark gray cryptoxln; some dark gray chert

Ls: tan, lt brn foss. pkstn, some grnstr; trace gray chert; Sh: gray, green sl limy to chky

Ls: tan, dark gray mottled foss. grnstr and tan grnstr with oolite coated fragments; tan, brn foss. pkstn and grnstr AA; Sh: AA

Sh: brn silty, some gray-green; Ls: AA

CFS 4355' 30" spl - Ls: brn grnstr to pkstn, sl chky; gray, tan grnstr; 60" spl - lt brn grnstr, chky spl; gray foss. pkstn; trc cream, white chert; no odor, nfo, no fluor., trace gas bubbles; (my addition - tan, offwhite mic-vfxln with pp and small vug. por.; tan fn gran., foss. with inter-particle por.; brn, gray cryptoxln at base)

Ls: predom. tan, offwhite mic-vfxln dense, subchalky IP, occ foss., poor to NVP; lesser med to dark brn, gray, gray-brn cryptoxln; occ mottled gray/brn gran. and foss. NVP

Ls: tan, lt gray gran. and foss. with some inter-particle por.; fair influx tan, dark brn and offwhite chert; Sh: incr. med to dark gray

Ls: tan, offwhite mic-vfxln dense; vc brn and gray vf-cryptoxln, NVP; scatt. brn, gray chert; Sh: AA

Ls: mix AA with good influx dark gray and gray-brn opq chert

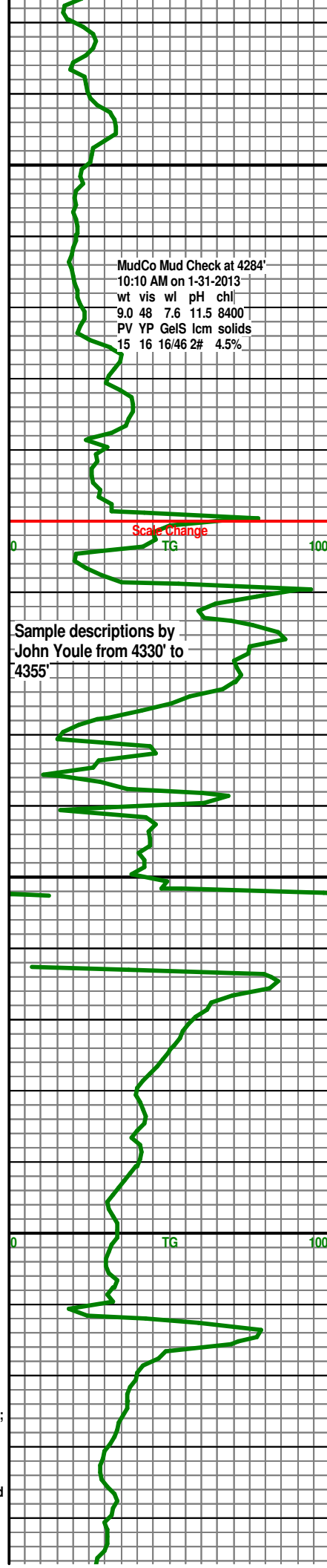
Ls: tan, offwhite mic-vfxln dense, subchalky IP; med to dark gray and brn cryptoxln, gran. IP, NVP; some mottled gray mic-vfxln dense; dark cherts AA

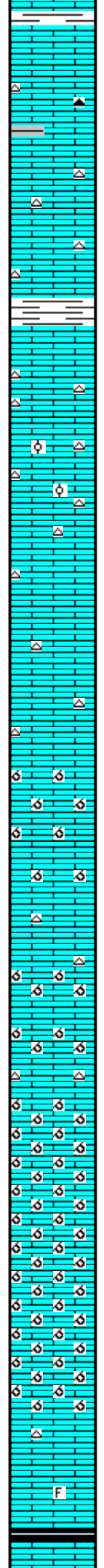
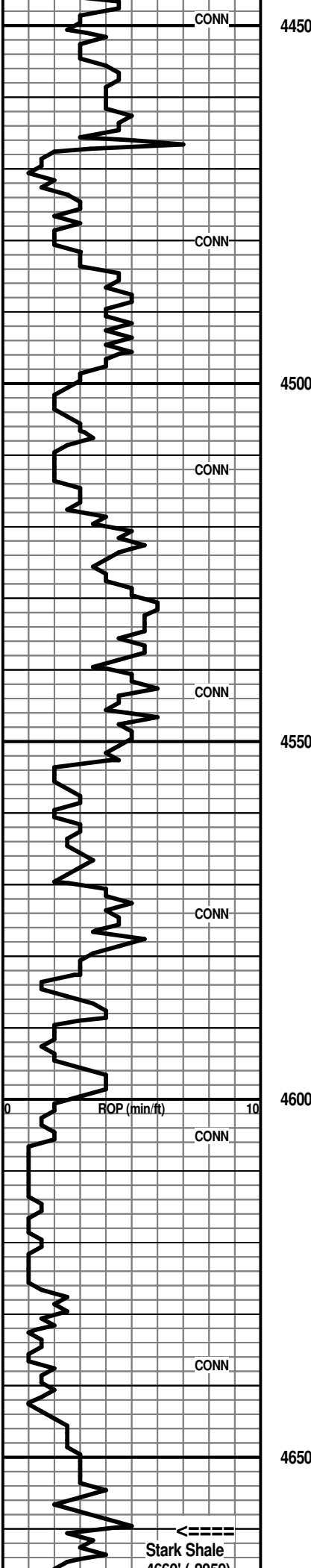
Ls: mix various dense with cherts AA; minor med to dark gray shale

Ls: tan, lt brn cryptoxln to gran. IP, NVP; common tan, offwhite mic-vfxln dense, sl subchalky IP; scatt. offwhite and dark gray chert

Ls: lt gray, tan mic-vfxln with poor pp por. IP. sl subchalky; predom. mottled brn/gray gran. to cryptoxln, NVP

Ls: various brn, gray, tan vf-cryptoxln, some gran., mottled IP; lesser offwhite, tan mic-vfxln dense





Ls: various tan, lt gray, offwhite vfxln dense, NVP; scatt. chert; Sh: sl influx med gray

Ls: various dense AA with sl influx dark gray and brn cryptoxln; Chert: incr. lt to dark gray opq; shale AA

Ls: mix lt to med brn vf-cryptoxln and tan, lt gray mic-vfxln dense; mottled dark brn, dark gray gran., NVP; Chert: brn, gray, tan

Ls: predom. various dark brn, dark gray mottled dense; tan, lt brn vf-cryptoxln, NVP; cherty AA; Sh: incr. % med to dark gray

Ls: tan, lt brn cryptoxln and tan, offwhite mic-vfxln dense; fair influx lt gray, offwhite and lt brn chert

Ls: flood tan, offwhite mic-vfxln dense, subchalky to chalky; scatt. gran., sl oolitic with poor inter-particle por., chalky; common tan, lt brn opq, occ oolitic chert

Ls: predom. tan, offwhite mic-vfxln dense, subchalky to chalky; lesser tan vf-cryptoxln; cherty AA

Ls: incr. tan, lt brn cryptoxln, rare chips with scatt. vug. por., rare fossil imprint, N.S.; tan, brn, offwhite opq chert, oolitic IP

Ls: good influx med brn and gray cryptoxln and mottled gray/brn gran.; scatt. cherts AA

Ls: flood tan, offwhite finely oolitic with gen. poor to fair oomoldic por.; tan, offwhite mic-vfxln dense; N.S.

Ls: good influx lt to med brn, gray-brn cryptoxln and tan, offwhite mic-vfxln dense; scatt. lt brn oolitic chert

Ls: mix AA with fair influx tan, lt brn oolitic with poor to fair oomoldic por.; some tan, gray oolitic chert with scatt. vugs

Ls: mix tan, lt brn oolitic with por. AA; predom. tan, offwhite mic-vfxln subchalky to chalky; other lt to med brn, lt gray vf-cryptoxln, NVP; sl influx lt to dark gray chert

Ls: tan, lt brn, offwhite fn to med oolitic with good oomoldic por., N.S.

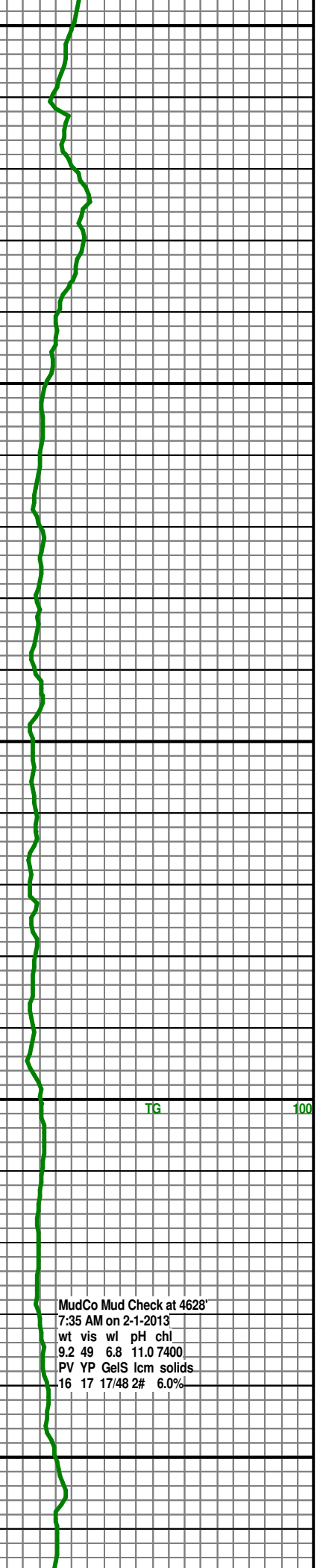
Ls: oolitic with por. AA; common to abund. fn to med and occ coarse loose oolites in spl tray

AA; common tan, offwhite subchalky to chalky; common loose oolites

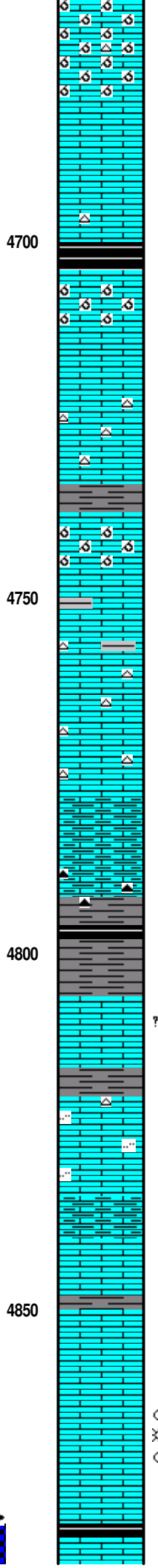
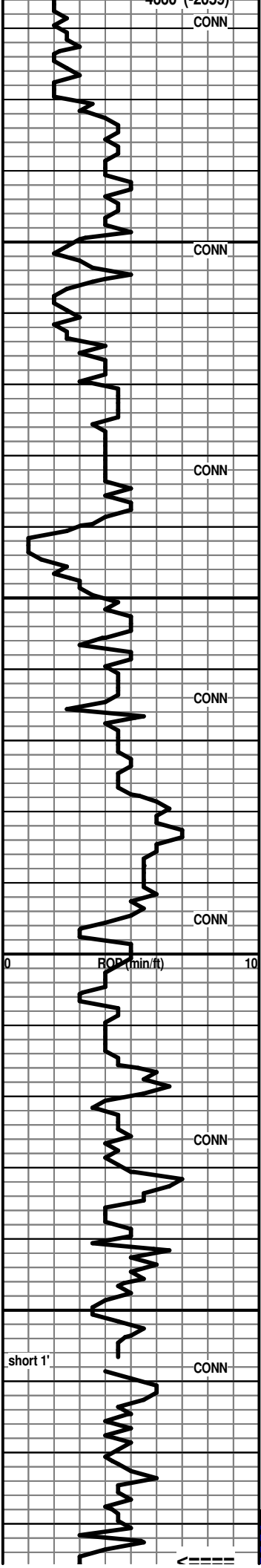
Ls: becoming predom. tan mic-vfxln dense; some tan, lt brn granular, NVP; scatt. tan oolitic chert

Ls: predom. tan, lt brn vf-cryptoxln and tan mic-vfxln dense, sl foss., NVP

Ls: mix AA with more tan mic-vfxln subchalky to white chalky; very minor black shale







Ls: tan finely oolitic with poor to fair oomoldic por., N.S.; scatt. dove gray chert

Ls: various tan, lt gray, offwhite mic-vfxln dense, subchalky to chalky; lesser lt brn vf-cryptoxln

Ls: tan, lt brn vfxln, NVP; some tan fnxln with pp por. and tan, offwhite dense, subchalky; scatt. lt gray chert

Ls: various tan, lt brn, offwhite mic-vfxln dense, subchalky IP; some med brn oolitic with poor oomoldic and vug. por.; Sh: occ dark gray to black carbon.

Ls: tan, lt brn oolitic with fair to good oomoldic por., N.S.; lt to med brn vf-cryptoxln and tan, offwhite mic-vfxln dense, subchalky IP

Ls: mix AA with sl influx dark brn cryptoxln; good influx lt to med gray opq chert

cherty mix AA; Sh dark gray to black

Ls: lt brn oolitic with good oomoldic por., N.S.

Ls: med to dark gray vfxln dense, shaly; med to dark brn and gray cryptoxln

Ls: good influx med to dark brn, gray-brn cryptoxln; gray dense shaly AA; common offwhite, lt gray and tan chert

Ls: very predom. med to dark brn, gray, gray-brn cryptoxln; lesser gray/brn mic-vfxln dense, shaly; mottled gray, mottled tan and offwhite chert

Ls: various dark cryptoxln AA with more dark gray dense, shaly; Sh: dark gray calcar.

Ls: dark gray dense shaly AA; various dark cryptoxln AA; Chert: dark gray, dark brn

Sh: influx lt to med gray calcar., some gray-green, some dark gray to black; common dense Ls's, sl cherty AA

Ls: fair influx tan, cream mic-vfxln firm, NVP with white mnrl fluor., trace ? condensate on break, no odor, nfo, no cut; still predom. various brn, gray cryptoxln, mottled and gran. IP; shales AA

Ls: predom. tan, cream, offwhite mic-vfxln dense, decr. fluor.; Sh: vc gray; occ mottled brn chert

Ls: good influx lt gray fn-vfxln dense, silty

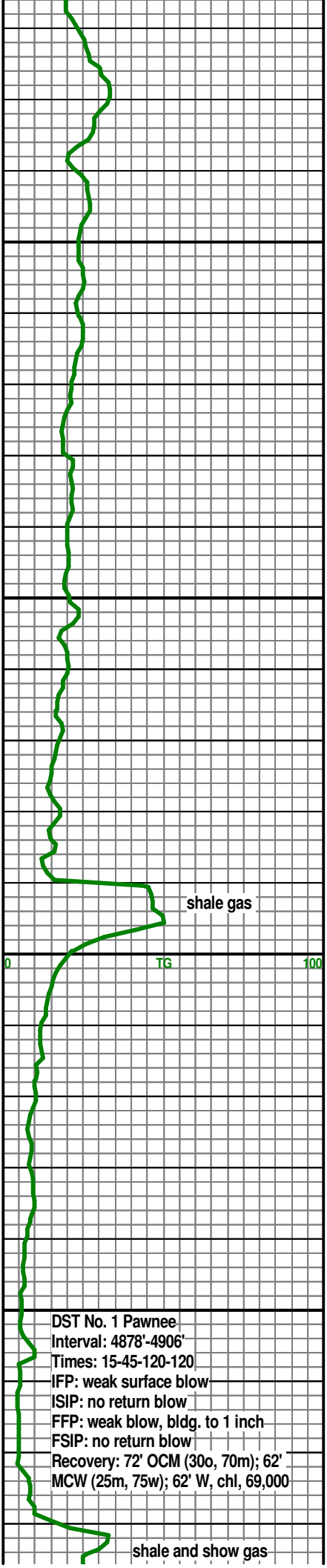
Ls: AA with lt to med brn, gray-brn vf-cryptoxln, NVP

Ls: brn, gray vf-cryptoxln and mottled brn granular

Ls: mix med to dark brn granular to cryptoxln; lt gray, tan, lt brn vf-cryptoxln

80' and 90' spls - Ls: predom. lt to med brn cryptoxln; influx offwhite, tan mic-vfxln dense; some tan cryptoxln with bright fluor. with slowly bleeding gas bubbles on brkn surface, very light to no odor, trace very lt stain and trace very light oil

Ls: lt to med brn, gray-brn cryptoxln and tan, offwhite mic-vfxln dense



DST No. 1 Pawnee  
 Interval: 4878'-4906'  
 Times: 15-45-120-120  
 IFP: weak surface blow  
 ISIP: no return blow  
 FFP: weak blow, bldg. to 1 inch  
 FSIP: no return blow  
 Recovery: 72' OCM (30o, 70m); 62'  
 MCW (25m, 75w); 62' W, chl, 69,000

short 1'

0 FOP (min/ft) 10

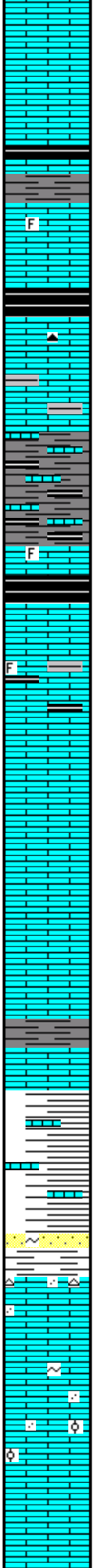
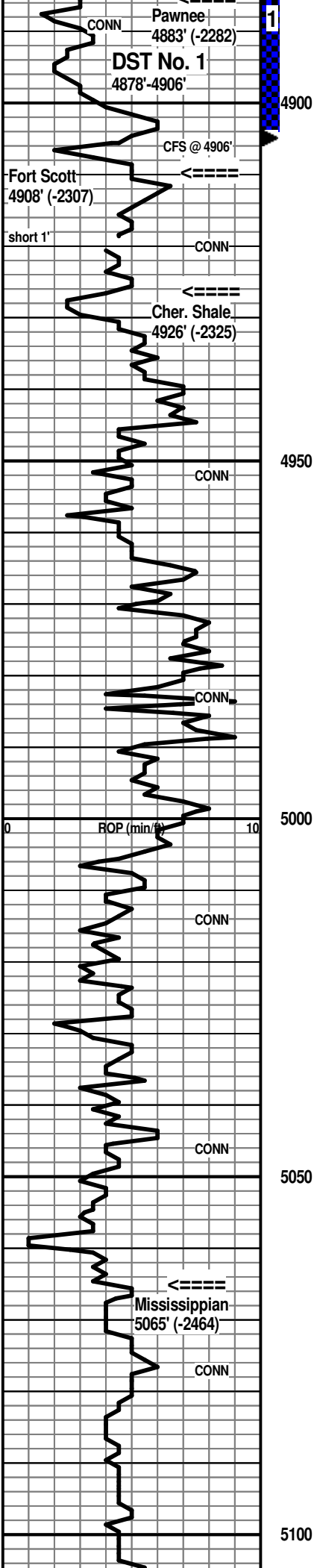
0 TG 100



DES 1006' 20" col. Ls: predom. lt to med brn vf-cryptoxln

shale and show gas





CFS 4906 30' spl - Ls. predom. lt to med brn vf-cryptoxin and offwhite, tan mic-vfxln dense, subchalky IP; occ white chalky; occ tan fn gran. with inter-particle por. with lt odor, bright fluor., fair show lt oil., very gassy on break; occ cryptoxln with scatt. vug. por. with lt stain; 60" spl - scatt. shows AA; predom. lt to med brn cryptoxln, N.S.; occ tan, offwhite mic-fnxln with some pp and inter-particle por. with trace patchy stain, some subchalky to chalky; Sh: dark gray to black carbon

Sh: dark gray to black carbon.; Ls: med to dark brn, some gray, gray-brn cryptoxln; lesser lt to med gray mic-vfxln dense, sl shaly

Ls: good influx tan, lt brn gran., occ foss., NVP and tan fn-vfxln dense

Sh: black carbon.

Ls: various tan, lt to med brn vf-cryptoxln, NVP; sl influx brn opq chert

Ls: lt to med brn more gran.; sl influx dark gray cryptoxln; Sh: interbedded dark gray to black

Sh: flood dark gray to black carbon. with Ls: med to dark brn cryptoxln and mottled dark gray/brn gran., NVP

Ls: influx med to dark brn cryptoxln, occ foss. and some gran., sl oolitic IP; lesser lt gray vf-cryptoxln and offwhite mic-vfxln dense

Sh: influx black carbon.

Ls: various brn, gray, gray-brn vf-cryptoxln and lt gray, offwhite mic-vfxln dense

Ls: various brn cryptoxln to mottled gran., foss.; lesser lt to med gray vf-cryptoxln; Sh: common dark gray to black

Ls: mix AA with more dark brn cryptoxln

Ls: flood tan, lt brn, some lt gray vf-cryptoxln, gran. IP, NVP; much decr. shale %

Ls: tan, lt brn, lt gray vf-cryptoxln, some gran., NVP; lesser mic-vfxln; very minor shale %

? 30' spl - Ls: tan, lt brn, lt gray cryptoxln; lesser offwhite, lt gray mic-vfxln dense; ? faint odor

○ 40' spl - Ls: very predom. various cryptoxln and dense AA; 1-2 chips brn cryptoxln with some vug. por., sat stain dry, sg, poor resid. oil; several chips tan vfxln with NVP with patchy to even pp fluor., NFO; Sh: influx med to dark gray

○ 50' spl - Ls: various gray cryptoxln to gran.; some gray dense with patchy stain; some lt gray, lt green silic. Ls; Sh: sl influx multi-colored (yellow, green, brn, gray-green, ochre, common med to dark gray)

60' spl - Sh: good influx vc gray with lt green, yellow, dark red, mottled yellow/green; common cryptoxln Ls's AA

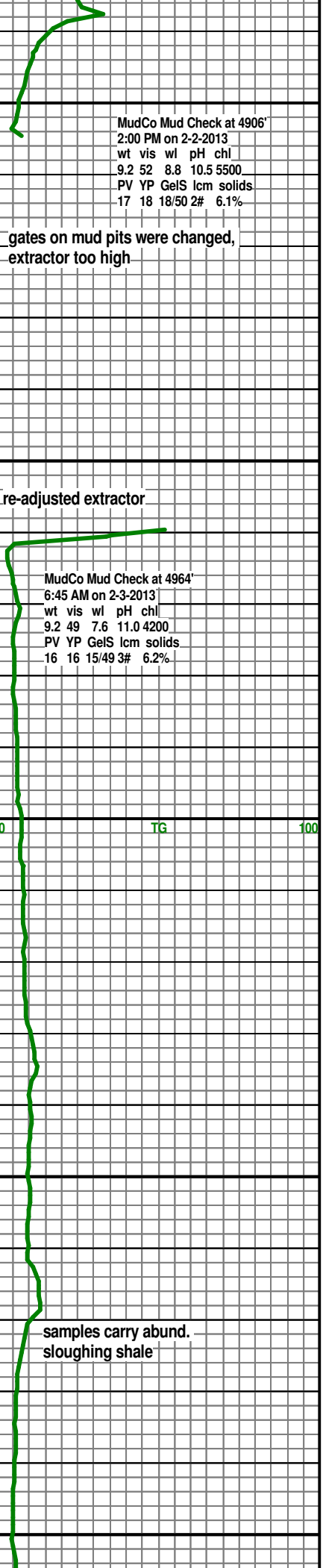
70' spl - Sh: multi-colored AA; some Sst: lt green, lt gray vvf-g, soft, sl glauc. IP, N.S.

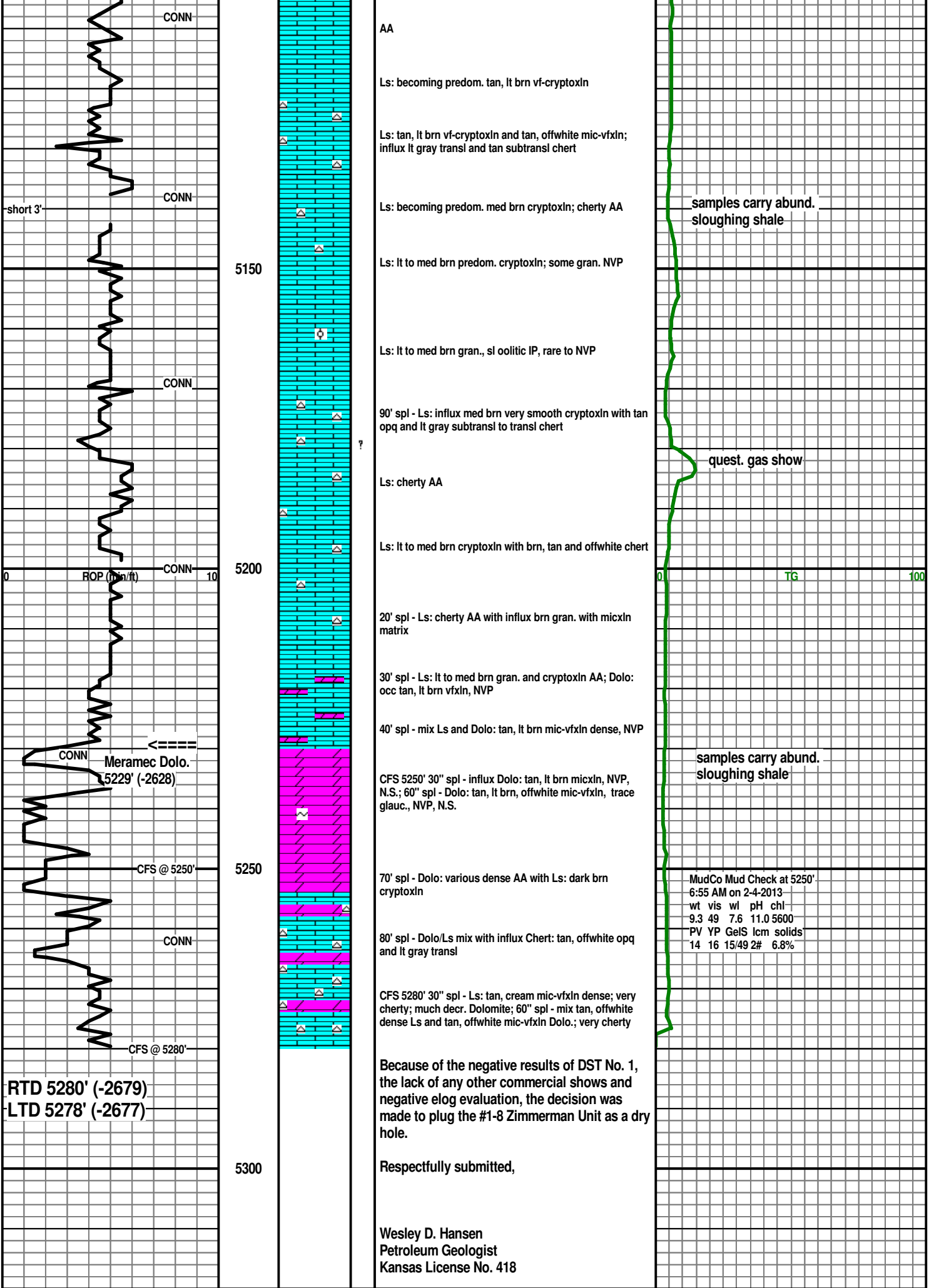
80' spl - predom. various shales AA; Ls: new tan, lt gray finely sandy to tan fn granular; some orange chert

Ls: tan, lt brn fn gran., some vsi glauc.

Ls: tan, lt brn gran., vsi oolitic IP; scatt. sandy Ls

Ls: tan, lt brn gran. and mic-vfxln dense





AA

Ls: becoming predom. tan, lt brn vf-cryptoxln

Ls: tan, lt brn vf-cryptoxln and tan, offwhite mic-vfxln; influx lt gray transl and tan subtransl chert

Ls: becoming predom. med brn cryptoxln; cherty AA

Ls: lt to med brn predom. cryptoxln; some gran. NVP

Ls: lt to med brn gran., sl oolitic IP, rare to NVP

90' spl - Ls: influx med brn very smooth cryptoxln with tan opq and lt gray subtransl to transl chert

Ls: cherty AA

Ls: lt to med brn cryptoxln with brn, tan and offwhite chert

20' spl - Ls: cherty AA with influx brn gran. with micxn matrix

30' spl - Ls: lt to med brn gran. and cryptoxln AA; Dolo: occ tan, lt brn vfxln, NVP

40' spl - mix Ls and Dolo: tan, lt brn mic-vfxln dense, NVP

CFS 5250' 30" spl - influx Dolo: tan, lt brn micxn, NVP, N.S.; 60" spl - Dolo: tan, lt brn, offwhite mic-vfxln, trace glauc., NVP, N.S.

70' spl - Dolo: various dense AA with Ls: dark brn cryptoxln

80' spl - Dolo/Ls mix with influx Chert: tan, offwhite opq and lt gray transl

CFS 5280' 30" spl - Ls: tan, cream mic-vfxln dense; very cherty; much decr. Dolomite; 60" spl - mix tan, offwhite dense Ls and tan, offwhite mic-vfxln Dolo.; very cherty

Because of the negative results of DST No. 1, the lack of any other commercial shows and negative elog evaluation, the decision was made to plug the #1-8 Zimmerman Unit as a dry hole.

Respectfully submitted,

Wesley D. Hansen  
Petroleum Geologist  
Kansas License No. 418

samples carry abund. sloughing shale

quest. gas show

samples carry abund. sloughing shale

MudCo Mud Check at 5250'

6:55 AM on 2-4-2013

wt	vis	wl	pH	chl
9.3	49	7.6	11.0	5600
PV	YP	GeIS	lcm	solids
14	16	15/49	2#	6.8%

TG

100

short 3'

5150

5200

5250

5300

Meramec Dolo.  
5229' (-2628)

CFS @ 5250'

CFS @ 5280'

RTD 5280' (-2679)  
LTD 5278' (-2677)

ROP (ft/min)

CONN

CONN

CONN

CONN

CONN

CONN

CONN

CONN

0

10

0

100

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



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

July 23, 2013

David E. Rice  
Sunflower Energy, LLC  
10801 MASTIN, STE 920  
OVERLAND PARK, KS 66210

Re: ACO1  
API 15-057-20869-00-00  
Zimmerman Unit 1-8  
SE/4 Sec.08-27S-25W  
Ford 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,  
David E. Rice

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



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

July 29, 2013

David E. Rice  
Sunflower Energy, LLC  
10801 MASTIN, STE 920  
OVERLAND PARK, KS 66210

Re: ACO-1  
API 15-057-20869-00-00  
Zimmerman Unit 1-8  
SE/4 Sec.08-27S-25W  
Ford County, Kansas

Dear David E. Rice:

K.A.R. 82-3-107 provides for all completion information to be filed within 120 days of the spud date. Subsection(e)(2) of that regulation states "All rights to confidentiality shall be lost if the filings are not timely."

The above referenced well was spudded on 1/15/2013 and the ACO-1 was received on July 23, 2013 (not within the 120 days timely requirement).

Therefore, your request for confidential treatment of data contained within the ACO-1 filing cannot be granted at this time.

If you should have any questions, please do not hesitate to contact me at (316)337-6200.

Sincerely,

Production Department