



Confidentiality Requested:

Yes No

KANSAS CORPORATION COMMISSION 1226801
OIL & GAS CONSERVATION DIVISION

Form ACO-1
August 2013

Form must be Typed
Form must be Signed
All blanks must be Filled

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

OPERATOR: License # _____

Name: _____

Address 1: _____

Address 2: _____

City: _____ State: _____ Zip: _____ + _____

Contact Person: _____

Phone: (_____) _____

CONTRACTOR: License # _____

Name: _____

Wellsite Geologist: _____

Purchaser: _____

Designate Type of Completion:

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

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

Operator: _____

Well Name: _____

Original Comp. Date: _____ Original Total Depth: _____

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

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

Spot Description: _____

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

_____ Feet from North / South Line of Section

_____ Feet from East / West Line of Section

Footages Calculated from Nearest Outside Section Corner:

- NE NW SE SW

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

Datum: NAD27 NAD83 WGS84

County: _____

Lease Name: _____ Well #: _____

Field Name: _____

Producing Formation: _____

Elevation: Ground: _____ Kelly Bushing: _____

Total Vertical Depth: _____ Plug Back Total Depth: _____

Amount of Surface Pipe Set and Cemented at: _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set: _____ Feet

If Alternate II completion, cement circulated from: _____

feet depth to: _____ w/ _____ sx cmt.

Drilling Fluid Management Plan

(Data must be collected from the Reserve Pit)

Chloride content: _____ ppm Fluid volume: _____ bbls

Dewatering method used: _____

Location of fluid disposal if hauled offsite:

Operator Name: _____

Lease Name: _____ License #: _____

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

County: _____ Permit #: _____

AFFIDAVIT

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

Submitted Electronically

KCC Office Use ONLY

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

1226801

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

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

INSTRUCTIONS: Show important tops of formations penetrated. Detail all cores. Report all final copies of drill stems tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface test, along with final chart(s). Attach extra sheet if more space is needed.

Final Radioactivity Log, Final Logs run to obtain Geophysical Data and Final Electric Logs must be emailed to kcc-well-logs@kcc.ks.gov. Digital electronic log files must be submitted in LAS version 2.0 or newer AND an image file (TIFF or PDF).

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

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

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

Did you perform a hydraulic fracturing treatment on this well? Yes No *(If No, skip questions 2 and 3)*

Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons? Yes No *(If No, skip question 3)*

Was the hydraulic fracturing treatment information submitted to the chemical disclosure registry? Yes No *(If No, fill out Page Three of the ACO-1)*

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record <i>(Amount and Kind of Material Used)</i>	Depth

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

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

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

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <input type="checkbox"/> Other <i>(Specify)</i> _____	PRODUCTION INTERVAL: _____ _____
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Form	ACO1 - Well Completion
Operator	Mull Drilling Company, Inc.
Well Name	Tjaden "C" 4
Doc ID	1226801

All Electric Logs Run

Sonic
Compensated Neutron
Caliper
Composite
Phased Induction

QUALITY WELL SERVICE, INC.

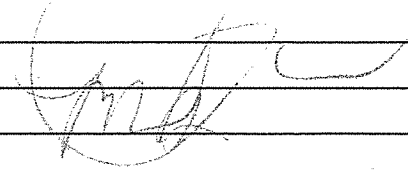
6234

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Office 620-727-3410
Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	09-19-14	Sec.	18	Twp.	30s	Range	07w	County	Kingman	State	KS	On Location	4:30 PM	Finish	6:00 PM
Lease	Jaden "C"	Well No.	4	Location Spivey, KS, 1s, 1 3/4 E, n/into											
Contractor	Pickcell #10	Owner Mull Drilling													
Type Job	Water String	To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.													
Hole Size	17 1/2	T.D.	55'	Charge To Mull											
Csg.	13 3/8	Depth	53'	Tbg. Size											
Tbg. Size		Depth		Street											
Tool		Depth		City State											
Cement Left in Csg.	75'	Shoe Joint	n/A	The above was done to satisfaction and supervision of owner agent or contractor.											
Meas Line		Displace	6 Bbls Fresh	Cement Amount Ordered 100 sx Class A + 2% gel/t											
EQUIPMENT				3 1/2 cu. + 1/4 # Flowseal - used 97 sx -											
Pumptrk	6	No.	Richard M.	Common 97											
Bulktrk	10	No.	Dustin C	Poz. Mix											
Bulktrk		No.		Gel. 2											
Pickup		No.	David F. Ron	Calcium 5											
JOB SERVICES & REMARKS				Hulls											
Rat Hole		Salt													
Mouse Hole		Flowseal 37.50													
Centralizers		Kol-Seal													
Baskets		Mud CLR 48													
DV or Port Collar		CFL-117 or CD110 CAF 38													
Conductor set at 53', Pump Spacer, Mix				Sand											
97 sx cement, Disp. w/ 6 Bbls Fresh LHM				Handling 107											
Shw + in, Cement Did Circ.				Mileage 45											
				FLOAT EQUIPMENT											
				Guide Shoe											
				Centralizer											
				Baskets											
				AFU Inserts											
				Float Shoe											
				Latch Down											
				LMV 45											
				Service Supervisor											
				Pumptrk Charge Conductor											
				Mileage 45 x 2											
												Tax			
												Discount			
												Total Charge			
<input checked="" type="checkbox"/> Signature															

QUALITY WELL SERVICE, INC.

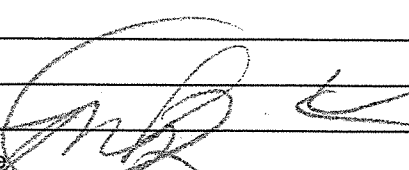
6235

Federal Tax I.D. # 481187368

Home Office 324 Simpson St., Pratt, KS 67124

Office 620-727-3410
Fax 620-672-3663

Rich's Cell 620-727-3409
Brady's Cell 620-727-6964

Date	09-20-14	Sec.	18	Twp.	30s	Range	07w	County	Kingman	State	KS	On Location	8:30AM	Finish	12:15 PM	
Lease	Jaden "C"	Well No.	4			Location										
Contractor	Pickrell Rig #10							Owner Mull Drilling								
Type Job	Surface							To Quality Well Service, Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.								
Hole Size	12 1/4		T.D.		225		Charge To									
Csg.	8 5/8		Depth		225		Street									
Tbg. Size			Depth				City									
Tool			Depth				State									
Cement Left in Csg.	20'		Shoe Joint		NA		The above was done to satisfaction and supervision of owner agent or contractor.									
Meas Line			Displace				Cement Amount Ordered 150sx class A + 2 1/2% gel + 3% cc + 1/4" Flowseal # 2 thread lock Kit									
EQUIPMENT																
Pumptrk	6	No.	David B				Common 150									
Bulktrk	10	No.	Mike B				Poz. Mix									
Bulktrk		No.					Gel. 3									
Pickup		No.	David F				Calcium 5									
JOB SERVICES & REMARKS																
Rat Hole								Hulls								
Mouse Hole								Salt								
Centralizers								Flowseal								
Baskets								Kol-Seal 37.5								
D/V or Port Collar								Mud CLR 48								
								CFL-117 or CD110 CAF 38								
								Sand								
	Pipe on Bottom, Break Cnc., Pump Spacers							Handling 150								
	Mix 150 sx cement, Start Digg, wash up							Mileage 45								
	quick - slow rate, stop Pump at 13 BBH							FLOAT EQUIPMENT								
	total, Shut in, Cement Did O'ker							Guide Shoe								
								Centralizer								
								Baskets								
								AFU Inserts								
								Float Shoe								
								Latch Down								
								LMV 45								
								Service Supervisor								
								Pumptrk Charge Surface								
								Mileage 45 X 2								
																
X Signature													Tax			
													Discount			
													Total Charge			



BASICSM
ENERGY SERVICES
PRESSURE PUMPING & WIRELINE

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

FIELD SERVICE TICKET
1718 11479 A

DATE _____ TICKET NO. _____

DATE OF JOB <u>09-28-14</u> DISTRICT <u>Pratt KC</u>		NEW WELL <input checked="" type="checkbox"/> OLD WELL <input type="checkbox"/> PROD <input type="checkbox"/> INJ <input type="checkbox"/> WDW <input type="checkbox"/> CUSTOMER ORDER NO.:							
CUSTOMER <u>MILL DRILLING CO.</u>		LEASE <u>T JAVEN C #</u> WELL NO.:							
ADDRESS		COUNTY <u>Kingman</u> STATE <u>KS</u>							
CITY STATE		SERVICE CREW <u>Sullivan, Hanson, Hays</u>							
AUTHORIZED BY		JOB TYPE <u>CDW 5 1/2 D.S.</u>							
EQUIPMENT#	HRS	EQUIPMENT#	HRS	EQUIPMENT#	HRS	TRUCK CALLED	DATE	AM	TIME
<u>33708-20920</u>	<u>2.4</u>					<u>9-27-14</u>	<u>9-27-14</u>	<u>PM</u>	<u>2:00</u>
<u>17831-19867</u>	<u>2.4</u>					ARRIVED AT JOB	<u>9-27-14</u>	<u>PM</u>	<u>5:00</u>
<u>3790</u>						START OPERATION	<u>9-28-14</u>	<u>AM</u>	<u>2:15</u>
						FINISH OPERATION	<u>9-28-14</u>	<u>PM</u>	<u>3:00</u>
						RELEASED	<u>9-28-14</u>	<u>AM</u>	<u>3:45</u>
						MILES FROM STATION TO WELL	<u>4.5</u>		

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: Zem Hays
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
CP 104	50/50 Pot cat	sk	300		3,300.00
CP 104	50/50 Pot cat	sk	50		550.00
CP 103	C-47 P	lb	59		236.00
CC 111	SALT	lb	1937		968.00
CC 112	C-94 Friction Reducer	lb	89		534.00
CC 113	Gypsum	lb	1470		1,102.50
CC 119	ALA-822	lb	147		1,102.50
CC 201	G. 13000	lb	1750		1,172.50
CF 207	LA 70 down Plug 5 1/2	SA	1		400.00
CF 1251	Rate Fall Guard Plug	CA	1		360.00
CF 1651	Feib.	sq	9		990.00
C 704	C/4 max	SM	5		175.00
CC 151	MDA Wash	lb	500		750.00

SUB TOTAL 13,515.46

CHEMICAL / ACID DATA:			

SERVICE & EQUIPMENT	%TAX ON \$	
MATERIALS	%TAX ON \$	
TOTAL		

SERVICE REPRESENTATIVE Robert J. Hays

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY:

(WELL OWNER OPERATOR CONTRACTOR OR AGENT)

FIELD SERVICE ORDER NO.

Customer <i>MULL Drilling Co</i>	Lease No.	Date <i>09-28-14</i>	
Lease <i>J JACOBI</i>	Well # <i>#</i>		
Field Order # <i>11477</i>	Station <i>PRATT KS</i>	Casing <i>5 1/2</i>	Depth <i>4740'</i>
Type Job <i>CNW 5 1/2 L.S</i>	Formation	County <i>Kingman</i>	State <i>KS</i>
		Legal Description <i>18-30-7</i>	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
<i>5 1/2</i>							
Depth	Depth	From	To	Pre Pad	Max		5 Min.
<i>4719</i>							
Volume	Volume	From	To	Pad	Min		10 Min.
<i>108 1/2</i>							
Max Press	Max Press	From	To	Frac	Avg		15 Min.
<i>2000</i>							
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
<i>P.C</i>							
Plug Depth	Packer Depth	From	To	Flush	Gas Volume		Total Load
<i>4677</i>							

Customer Representative	Station Manager <i>Mark Smith</i>	Treater <i>Robert Williams</i>
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Service Units	<i>37900</i>	<i>33708</i>	<i>21920</i>	<i>19831</i>	<i>19867</i>				
Driver Names	<i>SULLIVAN</i>	<i>HANSON</i>	<i>Phyc</i>						

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
<i>4:40</i>					<i>on loc</i>
					<i>Run 5 1/2 12th coil</i>
					<i>CASING ON BOTTOM</i>
<i>11:50</i>					<i>Hook Dip, circ circ</i>
<i>2:15</i>			<i>5</i>	<i>3.5</i>	<i>8T SPACER</i>
			<i>12</i>		<i>1T MUD FLUSH</i>
			<i>5</i>		<i>11 SPACER</i>
				<i>4.5</i>	<i>MIX CMT 300SK 50% super conc</i>
			<i>81</i>		<i>cmt mixed shut down wash, pump, treat</i>
					<i>Release Plug</i>
				<i>4</i>	<i>1t Dip</i>
	<i>200</i>				<i>1st PS</i>
	<i>15</i>			<i>4</i>	<i>show Rate</i>
<i>3:00</i>	<i>1500</i>		<i>108 1/2</i>		<i>plug down</i>
			<i>7</i>		<i>plug 12th w/ 300sk 50% conc</i>
			<i>5</i>		<i>plug 11th w/ 200sk 50% conc</i>
					<i>5013 to end of</i>
					<i>Thank you</i>



DRILLING COMPANY, INC.
WICHITA, KANSAS

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

Well Name: Tjaden "C" #4
Location: 1980' FSL, 660' FWL, Sec 18-T30S-R07W, Kingman County, Kansas
License Number: API: 15-095-22288
Spud Date: 09/19/2014
Surface Coordinates: Lat: 37.4335259
Long: -98.1330522
Bottom Hole Coordinates: Vertical hole.
Ground Elevation (ft): 1476' K.B. Elevation (ft): 1486'
Logged Interval (ft): 3040' To: RTD Total Depth (ft): 4740'
Formation: Arbuckle at RTD.
Type of Drilling Fluid: Chemical.

Region: Spivey-Grabs-Basil Field

Drilling Completed: 09/27/2014

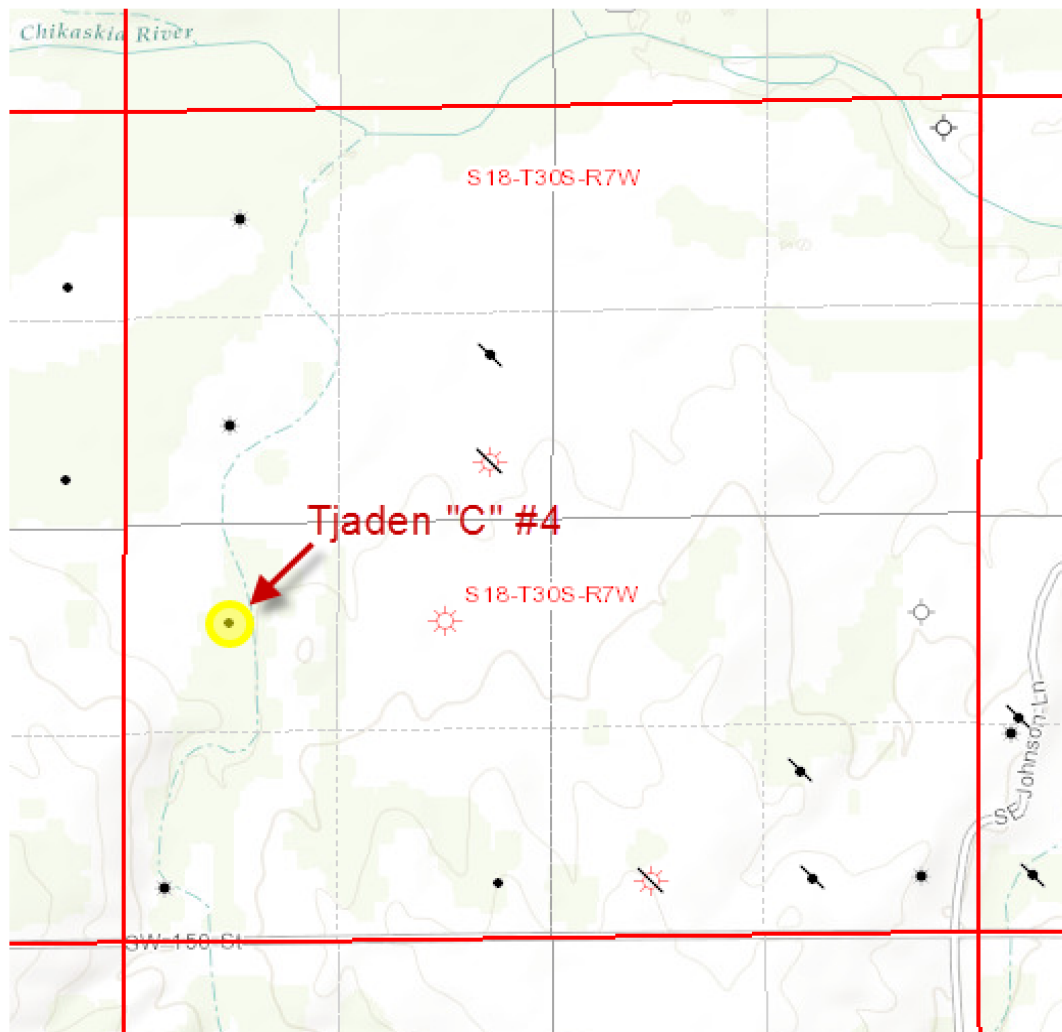
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

OPERATOR

Company: Mull Drilling Company, Inc.
Address: 1700 N. Waterfront Parkway, Bldg 1200
Wichita, KS 67206-6636
316-264-6366

GEOLOGIST

Name: Kent R. Matson
Company: Matson Geological Services, LLC
Address: 33300 W. 15th Street S.
Garden Plain, Kansas 67050
316-644-1975



COMMENTS

Mull Company Geologist: Ernie Morrison: 316-264-6366.

Drilling Contractor: Pickrell Drilling Company, Inc. Rig #1.

Tool Pusher: Mike Kern: 620-786-7133.

Surface Casing: 8 5/8" set at 223' (KB) w/150sx cement.

Production Casing: based on field observations of drill cuttings and electric log review the well will be used as a salt water disposal well, casing (5.5") was installed to RTD @ 4740.

Mud by: Mud-Co/Service Mud, Inc. - Brad Bortz: 620-793-2421.

DST's by: no DSTs were conducted.






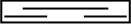



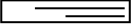




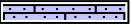











Logs by: Tucker (CNL/CDL w/PE, Micro, Sonic, DI). Conducted @ 4285'.

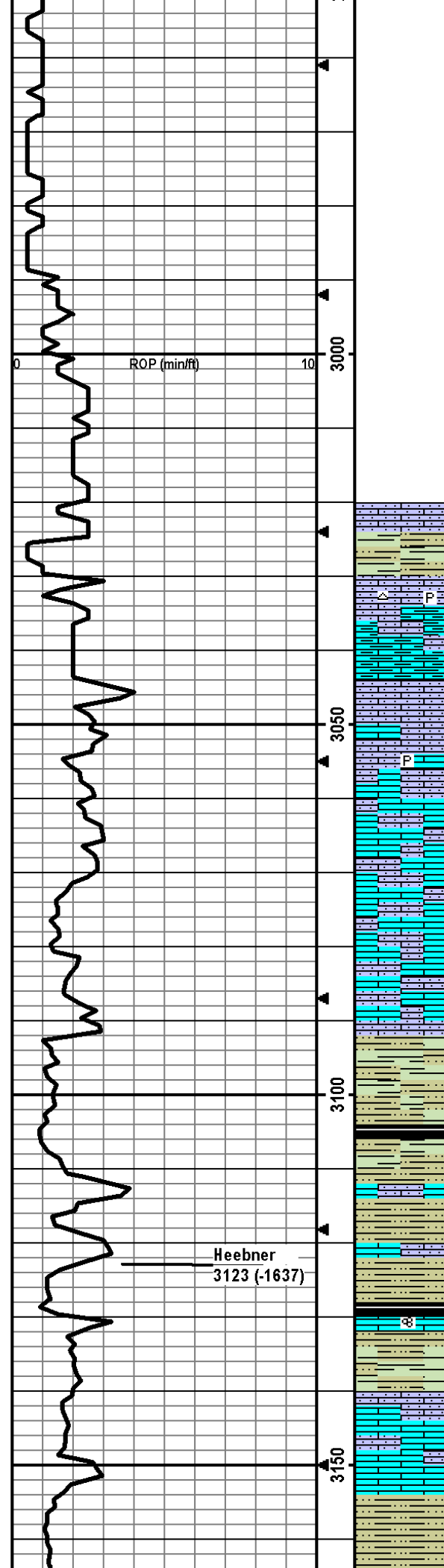
RTD= 4740', -3254'.

FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Heebner	3323'	-1637	3121'	-1635
Lansing	3336'	-1860	3335'	-1859
Stark	3778'	-2292	3778'	-2292
Base/KC	3881'	-2395	3880'	-2394
Cherokee	4024'	-2538	4023'	-2537
Mississippian	4140'	-2654	4138'	-2652
RTD	4285'	-2799		
LTD			4283'	-2797
Kinderhook	4416'	-2930	NA	
Woodford	4493'	-3007	NA	
Viola	4522'	-3036	NA	
Simpson	4568'	-3082	NA	
Arbuckle	4687'	-3201	NA	
RTD	4740'	-3254		
LTD			NA	

ROCK TYPES

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



Drill cutting samples at 10' intervals start at 3040'.

LS: crm/lt brn, micro-fn xtal, vry silty/sndy, some ppt-fn in-xtal por, no odor, ns.

SH: brn/med-dk gry, some vry silty, slt carb, firm, fissile.

LS: lt brn/dk gry-brn, micro-fn xtal, foss frags, some silty/snd, some gry-brn chert, slt pyritc, some arg, min frac por, nos odor, ns.

LS: lt-med brn, micro-fn xtal, min foss frags, silty/sndy, some pyritic, min frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty/sndy, some pyritic, min frac por, no odor, ns.

LS: crm/lt-dk brn, micro-fn xtal, some foss frags, some silty/sndy, min frac por, no odor, ns.

LS: crm/lt brn, micro-fn xtal, min foss frags, some vry silty/sndy, min ppt in-xtal/frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, some vry silty/sndy, min frac por, no odor, ns.

SH: lt-dk gry/brn, some vry silty, slt carb, min pyritic, firm, fissile.

SH: dk gry/blk, some silty, slt carb, firm, fissile.

LS: lt-dk brn, micro-fn xtal, some silty, some crush easily, some foss frags, min frac por, no odor, ns.

SH: lt-dk gry/brn-dk brn, some silty, slt carb, firm, fissile.

LS: lt-dk brn/brnsh gry, micro-fn xtal, some vry silty, foss frags, min frac por, no odor, ns.

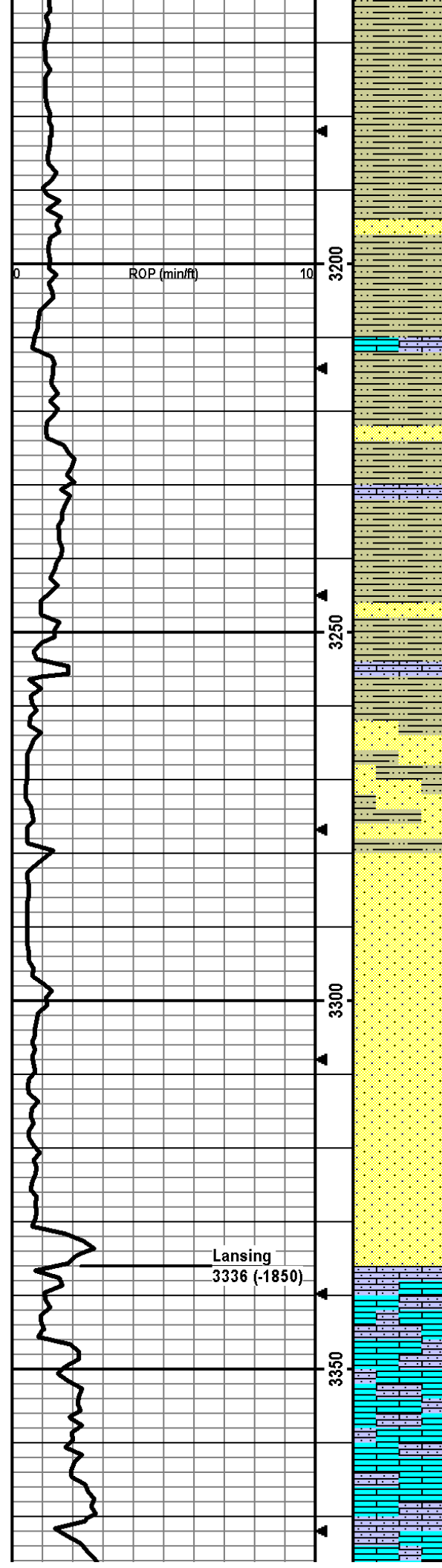
SH: lt green-gry/lt-dk gry/blk, some silty, slt carb, firm, fissile.

LS: lt-dk brn, micro-med xtal, foss frags/fusln, some slt silty/sndy, min frac por, no odor, ns.

SH: med-dk gry, some silty/sndy, slt carb, firm fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty, min frac por, no odor, ns.

SH: brn/lt-dk gry/blk, some silty, slt carb, firm, fissile, no odor, ns.



SH: same as above, no odor, ns.

SH: same as above w/some brn/red brn, no odor, ns.

SH: brn/red brn/lt green-gry/lt-dk gry, some silty, slt carb, firm, fissile, no odor, ns.

SH: same as above w/some lt gry SS: vf-f, sr-wr, pred qtz, hard, friable, no odor, ns.

SH: same as above, no odor, ns..

LS: crm/lt-med brn, micro-fn xtal, foss frags, some silty/sndy, some crushes easily, min ppt in-xtal por, no odor, ns.

SH: lt-dk gry/dk brn, silty/sndy, slt carb, firm, fissile, no odor, ns.

SH: as above; some SS: lt gry, vf-f, sr-wr, pred qtz, hard, friable, no odor, ns.

LS: crm/brn/dk gry-brn, micro-med xtal, foss frags, silty sndy, min frac por, no odor, ns.

SH: lt-dk gry/dk brn, silty, slt carb, firm, fissile, no odor, ns.

SH: med-dk gry, vry silty, soft-firm, slt carb, fissile; some SS: lt gry, vf-f, sr-wr, pred qtz, friable, no odor, ns.

LS: crm/lt-med brn, micro-fn xtal, min foss frags, vry silty, some frac por, no odor, ns.

SH: lt-dk gry, vry silty/sndy, carb, firm, fissile, no odor, ns.

SH/SS mix: SH: med-dk gry, silty/sndy, slt carb, firm, fissile; SS: lt-med gry, vf-f, sr-wr, pred qtz, hard, friable, no odor, ns.

SH/SS mix as above, no odor, ns

SS: lt gry, vf-f w/some med, sr-wr, hard, friable, pred qtz, slt carb, no odor, ns.

SS: as above, no odor, ns.

SS: as above, no odor, ns.

SS: as above, no odor, ns.

SS: lt gry, vf-f, sr-wr, hard, friable, pred qtz, slt carb, no odor, ns.

SS: as above, vry hard, carb cement, non-friable, no odor, ns.

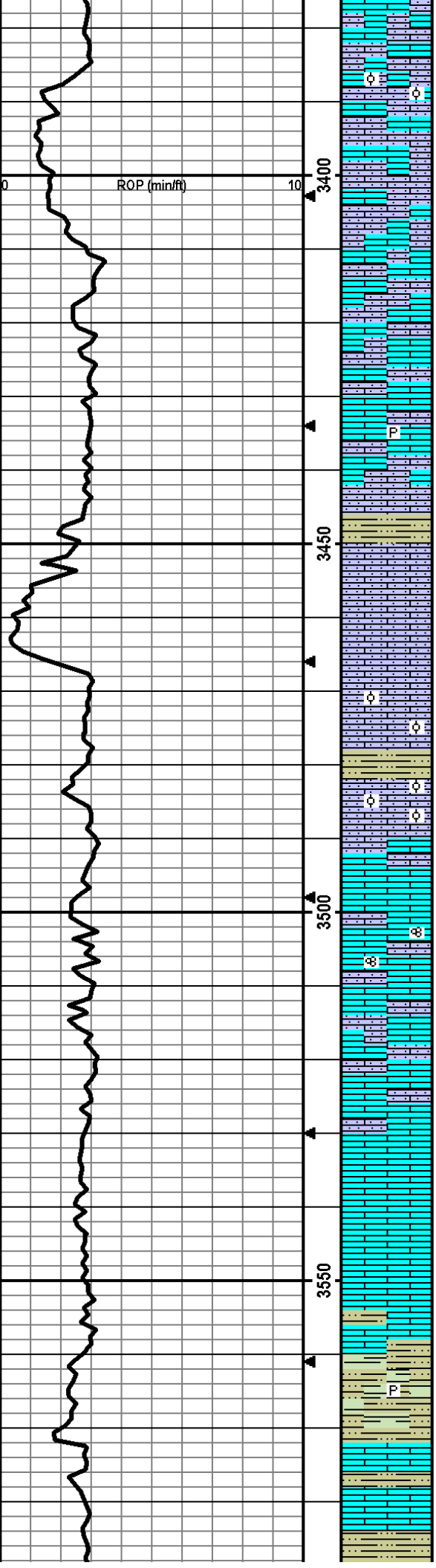
LS: lt-dk brn, micro-fn xtal, some foss frags, some silty/sndy, some frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty/sndy, min ppt-fn in-xtal por, no odor, ns.

LS: crm/lt-med brn, micro-fn xtal, foss frags, some silty/sndy, some chalky, some ppt in-xtal por, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags, some silty, some chalky, min ppt in-xtal por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags, some silty, min chalkv. some crushes easilv. min frac por. no odor, ns.



LS: crm/lt-dk brn/lt gry, micro-med xtal, foss frags w/some abund ool pcs, some vry silty/sndy, some chalky, some fn-crs in-xtal por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags, some silty, some chalky, crushes easily, min frac por, no odor, ns.

LS: lt-med brn/lt gry, micro-med xtal, foss frags, some vry silty/sndy, some crushes easily, some frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags, some vry silty/sndy, some chalky, min frac por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags, some vry silty/sndy, min chalky, min frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty/sndy, some pyritic, min frac por, no odor, ns.

SH: med-dk gry, some vry silty, firm, fissile, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags, silty/sndy, crushes easily, some frac por, no odor, ns. some SH: med-dk gry, some silty, slt carb, firm, fissile, no odor, ns.

LS: same as above, no odor, ns.

LS: crm/lt gry/lt brn, micro-med xtal, foss frags w/some abund ool pcs, silty/sndy, no vis por, no odor, ns.

SH: med-dk gry, silty, slt carb, firm, fissile, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags w/some abund ool pcs, silty, min chalky, no vis por, no odor, ns.

LS: lt-med brn/lt gry, micro-med xtal, min foss frags, some vry silty/sndy, no vis por, no odor, ns.

LS: lt-med brn/lt gry-brn, micro-med xtal, some foss frags/fusln, some silty/sndy, min frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, some foss frags, some silty/sndy, some frac por, no odor, ns.

LS: same as above, no odor, ns.

LS: lt-med brn, micro-fn xtal, min foss frags, min frac por, no odor, ns.

LS: lt-med brn w/some gry mottling, some foss frags, min frac por, no odor, ns.

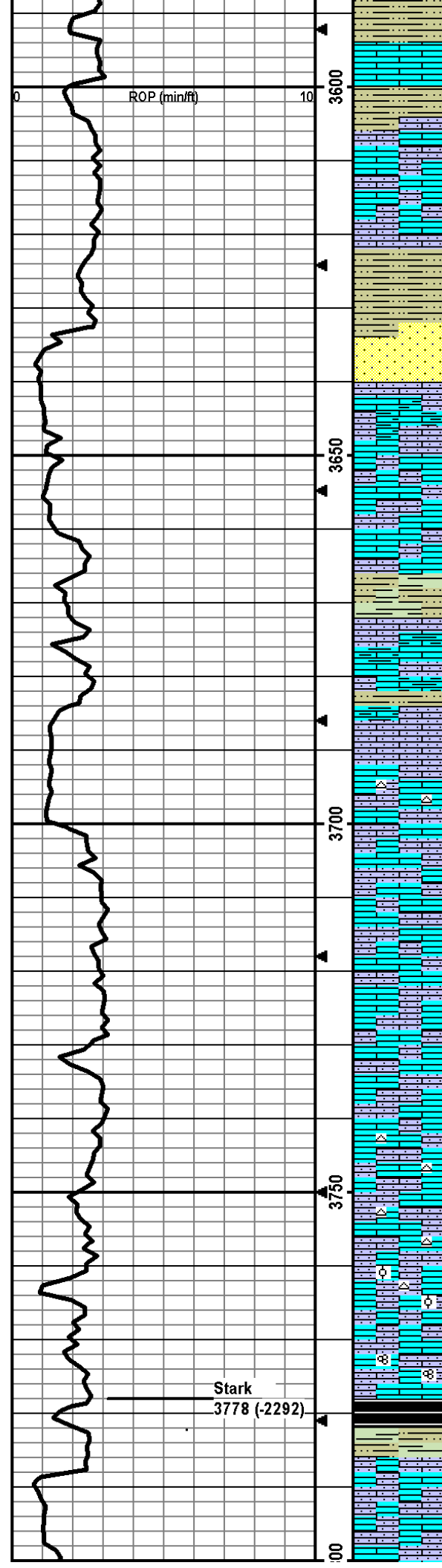
LS: as above w/abund med-dk gry silty SH, no odor, ns.

SH: lt-dk gry, some silty, some slt carb, min pyritic, firm, fissile, no odor, ns.

LS: lt-dk brn, micro-med xtal, foss frags/fusln, no vis por, no odor, ns. SH: lt-dk gry, some silty, slt carb, firm, fissile.

LS: crm/lt-med brn, micro-med xtal, foss frags, some silty/sndy, min ppt-fn in-xtal/frac por, no odor, ns.

SH: med-dk gry/lt green-grn, some vry silty/sndy, some pyritic



cm med dk gry/lt green gry, some vry silty/sndy, some pyrac, firm, fissile, no odor, ns.

LS: lt-med brn, micro-med xtal, some foss frags, no vis por, no odor, ns.

SH: lt green-gry/lt-dk gry/red brn, some silty/sndy, slt carb, firm, fissile.

LS: crm/lt-med brn/lt gry, micro-med xtal, min foss frags, some silty, no vis por, no odor, ns.

SH: lt green-gry/med-dk gry/red brn, some silty, slt carb, firm, fissile, no odor, ns.

SS: lt gry, vf-f, sr-wr, arg, hard, friable, no odor, ns.

LS: lt gry/lt gry-brn, micro-fn xtal, min foss frags, some vry silty/sndy, arg, no vis por, no odor, ns.

LS: lt-med brn/lt gry, micro-med xtal, min foss frags, some vry silty/sndy, no vis por, no odor, ns.

LS: as above w/some chalky, no odor, ns.

SH: lt-dk gry, slt silty, slt carb, firm, fissile, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags/brac, some vry silty/sndy, some arg, some crushes easily, min in-xtal por, no odor, ns.

SH: red brn/med-dk gry, some silty, carb, firm, fissile, no odor, ns.

LS: crm/lt brn/lt gry, micro-med xtal, foss frags, some silty/sndy, some wht/lt brn chert, some frac por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, foss frags, some vry silty/sndy, some chalky, some crushes easily, some frac por, no odor, ns.

LS: lt-med brn/lt gry, micro-fn xtal, foss frags, some vry silty, min frac por, no odor, ns.

LS: same as above, no odor, ns.

LS: crm/lt-med brn, micro-fn xtal, min foss frags, some silty/sndy, no vis por, no odor, ns.

LS: same as above w/min crm chert, no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, some foss frags, min crm/lt brn chert, some frac por, no odor, ns.

LS: crm/lt-med brn/gry/gry-brn, micro-med xtal, foss frags/ool, some vry silty/sndy, min wht chert, some frac por, no odor, ns.

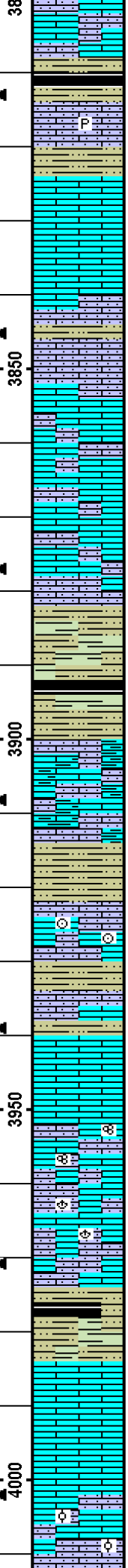
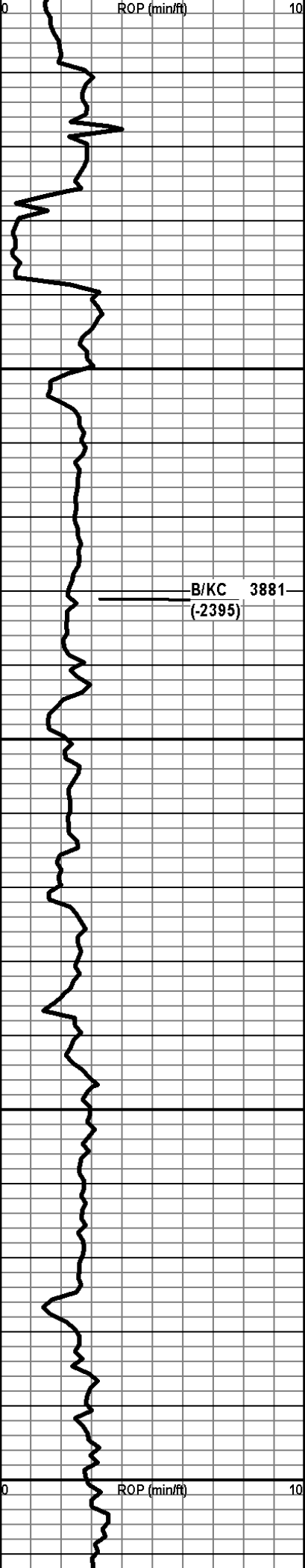
LS: crm/lt-med brn/lt gry, micro-med xtal, foss frags/fusln, some silty/sndy, some frac por, no odor, ns.

SH: med-dk gry/blk, some carb, some silty, soft-firm, fissile, no odor, ns.

LS: crm/lt gry/lt-med brn, micro-med xtal, foss frags, some silty, min frac por, no odor, ns.

MudCo Check #5 @3648'
 09/24/14 08:00am
 wt vis pH chl
 9.5 45 10.0 5000
 Filt LCM
 10 0

ROP (min/ft)



LS: gry/lt-med brn, micro-fn xtal, min foss frags, some silty, min frac por, no odor, ns.

SH: lt green-gry/lt-dk gry/blk/red brn, some carb, some silty, firm, fissile, no odor, ns.

LS: crm/med-dk brn, micro-med xtal, some foss frags, some vry silty, some pyritic, some frac por, no odor, ns.

SH: med-dk gry/blk/red brn/lt green-gry, some silty, some carb, soft-firm, fissile, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, min foss frags, no vis por, no odor, ns.

LS: crm/lt-med brn/lt gry, micro-med xtal w/2ndry xtal, min foss frags, min ppt in-xtal/frac por, no odor, ns.

LS: lt-med brn/gry, micro-med xtal, min foss frags, some silty, min frac por, no odor, ns.

SH: med-dk gry/min red brn, slt carb, some silty, firm, fissile, no odor, ns.

LS: lt-med brn, micro-med xtal, foss frags, some silty, min frac por, no odor, ns.

LS: lt-dk brn/gry, micro-med xtal, foss frags, some silty, min frac por, no odor, ns.

LS: crm/gry/lt-dk brn, micro-med xtal, foss frags, some silty, min frac por, no odor, ns.

SH: lt-dk gry/brn/red brn, some carb, some silty, firm, fissile, no odor, ns.

SH: lt-dk gry/blk/lt green-gry/brn/red brn, some carb, some silty, firm, fissile, no odor, ns.

LS: wht/lt gry/dk gry/brn, micro-med xtal, min foss frags, some silty/sndy, some arg, some frac por, no odor, ns.

SH: med-dk gry/dk maroon brn/red brn/orange brn, some silty, carb, firm, fissile, no odor, ns.

LS: gry/brn, micro-med, foss frags/crin, some silty, min frac por, no odor, ns.

SH: brn/red brn/med-dk gry/lt green-gry, some carb, some silty, firm, fissile, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags, no vis por, no odor, ns.

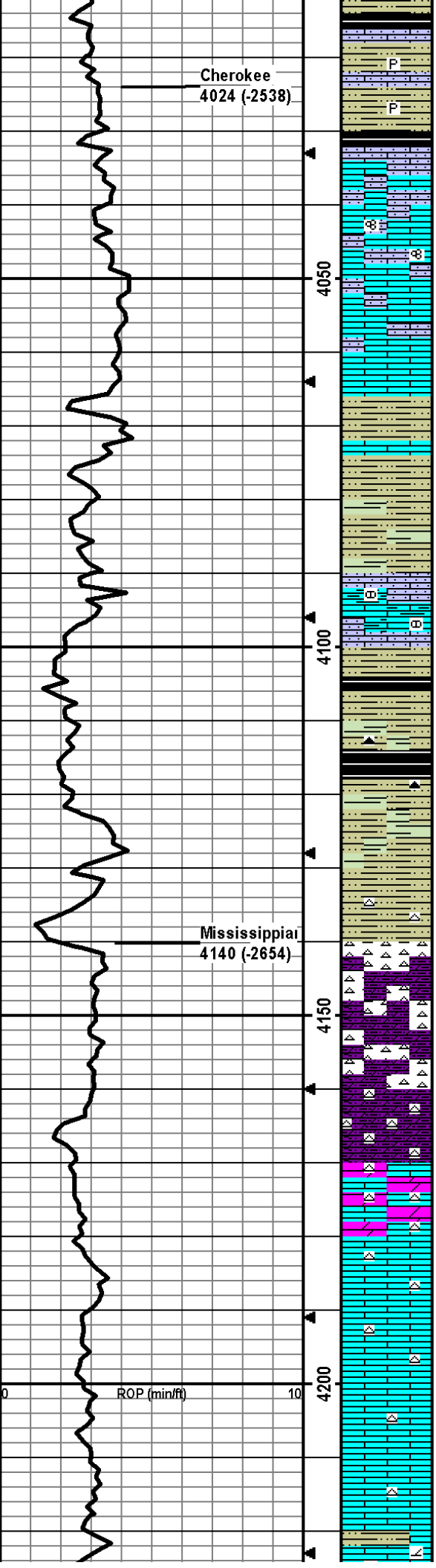
LS: crm/lt-med brn, micro-med xtal, foss frags/fusln, some silty/sndy, no odor, ns.

LS: crm/med-dk brn, micro-med xtal, foss frags/brac, some silty/sndy, some chalky, no odor, ns.

SH: med-dk gry/green-gry, slt carb, silty, firm, fissile, no odor, ns.

LS: crm/lt brn, micro-med xtal, foss frags, min frac por, no odor, ns.

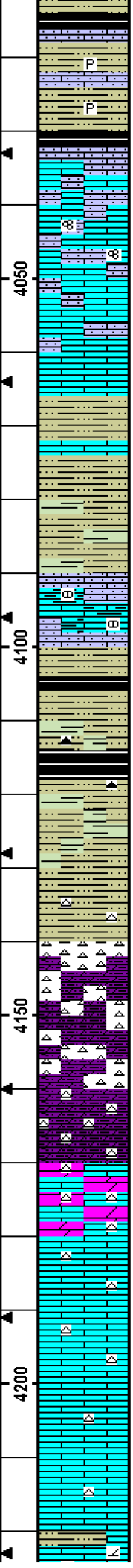
LS: crm/lt-dk brn, micro-med xtal, foss frags w/some ool, some silty, min frac por, no odor, ns.



Cherokee
4024 (-2538)

Mississippi
4140 (-2654)

ROP (min/ft)



SH: med-dk gry/blk, vry silty, carb, sord-frm, fissile; LS: crm/lt-med brn, micro-med xtal, foss frags, frac por; no odor, ns.

SH: med-dk gry/dk brn, vry silty, carb, pyritic, firm, fissile; LS: dk brn, micro-med xtal, min foss frags, no vis por; no odor, ns.

LS: crm/lt-dk brn, micro-med xtal, foss frags, some vry sndy, some frac por, no odor, ns.

LS: crm/lt-med brn, micro-med xtal, foss frags/fusln, some vry sndy, no vis por, no odor, ns.

LS: crm/lt-med brn/gry, micro-med xtal, foss frags, some sndy, no vis por, no odor, ns.

LS: crm/lt-med gry brn, micro-med xtal, foss frags, some silty/sndy, some chalky, no vis por, no odor, ns.

SH: med-dk gry/red brn, carb, silty, firm, fissile, no odor, ns.

Sample not collected at 4080'-4090'; assume SH w/thin LS.

SH: med-dk gry/mustard yel/maroon/red brn, carb, some silty, firm, fissile, no odor, ns.

LS: crm/gry/dk brn, micro-med xtal, foss frags, some vry silty/sndy, some arg, some nodules. no vis por, no odor ns.

SH: med-dk gry/min maroon/mustard yel, carb, silty, firm, fissile, no odor, ns.

SH: lt-dk gry/blk/maroon/mustard yel/lt green-gry, carb, some silty, min blk chert, firm, fissile, no odor, ns.

SH: lt-dk gry/maroon/mustard yel/lt green-gry, carb, some silty, firm, fissile, no odor, ns.

SH: lt-dk gry/red brn/maroon/mustard yel/green-gry, carb, some silty, some wht/crm chert, firm, fissile, no odor, ns.

Chert: wht/crm/lt brn, opaque, ppt in-xtal and frac por, 7 pcs w/brn oil staining or fo, yel flor/cut, slt crush odor, sfo

Chert as above w/some Dolo: wht/crm, fn-med xtal, grainy, silty, easily crushed, ppt in-xtal por; 2 chert pcs w/brn oil staining or fo, yel flor/cut, no odor, sfo.

Chert and Dolo as above; one pce of chert w/brn oil staining, yel flor/cut, no odor, sso.

LS/Dolo: wht/crm, micro-fn xtal, some wht/crm chert, ppt-fn in-xtal por, 7 pcs w/brn oil staining, no odor, yel flor/cut, so.

LS: wht/crm/lt green-gry, micro-fn xtal, some wht/crm chert, ppt-fn in-xtal por, 2 pcs of Dolo w/brn oil staining, no odor, yel flor/cut, so.

LS: wht/crm/gry, fn-med xtal, some wht/crm chert, no vis por, no odor, ns.

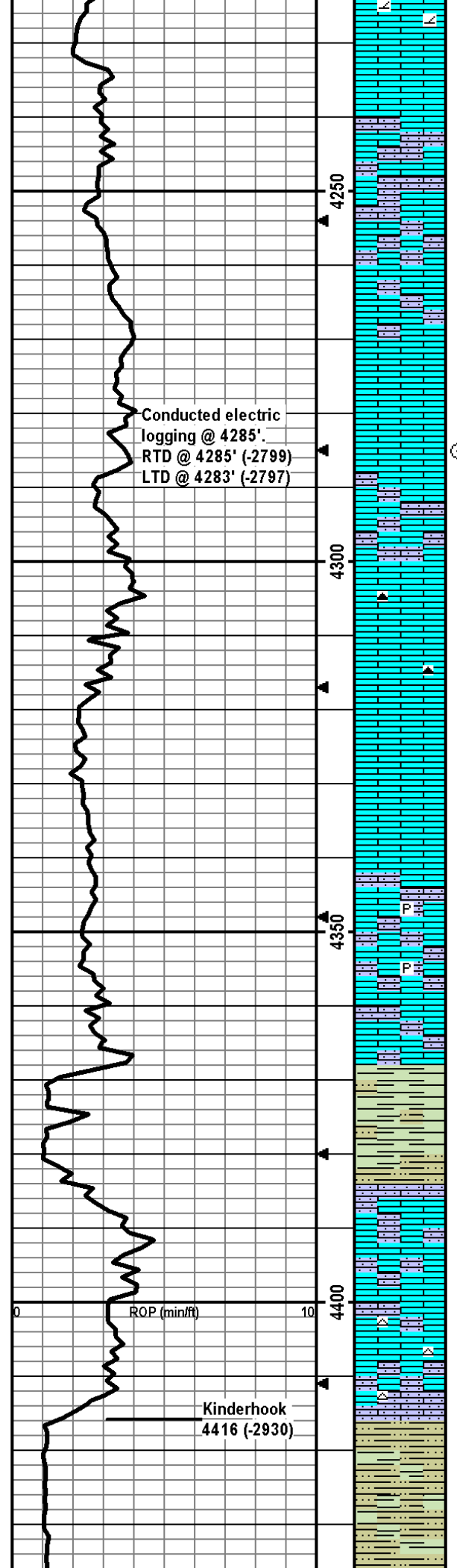
LS: crm/lt-med brn, micro-fn xtal, some crm chert, no vis por, no odor, ns.

LS: wht/gry, micro-fn xtal, some wht/crm chert, no vis por, no odor, ns.

LS: as above w/flood of lt-dk arv/red brn SH. firm. fissile: few pcs

MudCo Check #6 @ 4087'
09/25/14 09:30am
wt vis pH chl
9.6 45 9.0 3000
Filt LCM
10.8 2

Conducted bit
trip @ 4087' for
damaged bit.



of wht/lt brn grainy Dolo; no odor, ns.

LS: wht/lt gry, micro-fn xtal, some fn in-xtal por, no odor, ns.

LS: crm/gry/min dk brn, micro-med xtal, some ool pcs, some silty, no vis por, no odor, ns.

LS: crm/lt-med brn/gry, micro-med xtal, some ool pcs, some silty, no vis por, no odor, ns.

LS: wht/crm/lt brn, micro-fn xtal, some silty, no vis por, no odor, ns.

LS: crm/gry/med-dk brn, micro-fn xtal, some foss frags, no vis por, no odor, ns.

LS: crm/lt brn/lt gry, micro-fn xtal, some silty, no vis por, no odor, ns.

LS: crm/lt gry, micro-fn xtal, min blk chert, no vis por, no odor, ns.

LS: lt-med brn, micro-fn xtal, some foss frags, no vis por, no odor, ns.

LS: lt gry/lt brn, micro-fn xtal, some silty, some pyritic, no vis por, no odor, ns.

SH: med-dk gry, slt carb, slt silty, firm, fissile, no odor, ns.

LS: crm/lt gry/lt brn, micro-fn xtal, some foss frags, some silty/sndy, no vis por, no odor, ns.

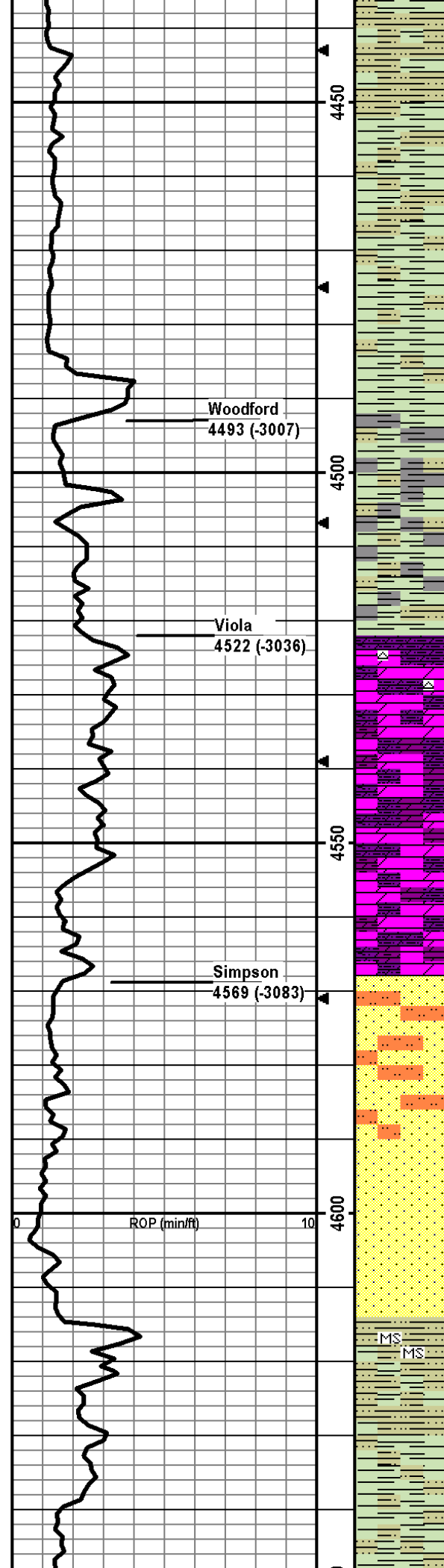
LS: as above w/some wht/crm/lt gry chert, no odor, ns.

SH: lt-dk gry/min blk, slt carb, some vry silty, firm, fissile, no odor, ns.

MudCo Check #7 @ 4285'
 09/26/14 12:30pm
 wt vis pH chl
 9.6 46 9.5 3000
 Filt LCM
 10.4 trc

Cir 1.5 hrs at 4430' to clean/condition hole, then ran short trip and cir 1 hr, prior to conducting electric logging.

NOTE: After review of the electric log conducted at 4285' TD, it was determined that drilling would recommence until the Arbuckle formation was reached. Drilling will extend approximately 50' into the Arbuckle to facilitate completing the well for salt water disposal.



SH: med-dk gry/min blk, slt carb, some silty, firm, fissile, no odor, ns.

SH: lt-dk gry, carb, some silty, firm, fissile, no odor, ns.

SH: med-dk gry, carb, slt silty, firm, fissile, no odor, ns.

Woodford
4493 (-3007)

SH: lt-dk gry/blk, some vry carb, slt silty, firm-hard, fissile, no odor, ns.

SH: as above, no odor, ns.

Viola
4522 (-3036)

Dolo: wht/lt gry/lt brn, micro-fn xtal, some silty, some carb pcs, min wht opaque chert, no vis por, no odor, ns.

Dolo: crm/lt gry/lt brn, micro-fn xtal, some silty, some carb pcs, some arg, min frac por, no odor, ns.

Dolo: same as above, no odor, ns.

Simpson
4569 (-3083)

SS: crm/lt brn/lt gry, vf-f, qtz, silty, some arg, carb matrix, hard, friable, no odor, ns.

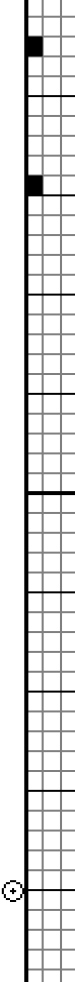
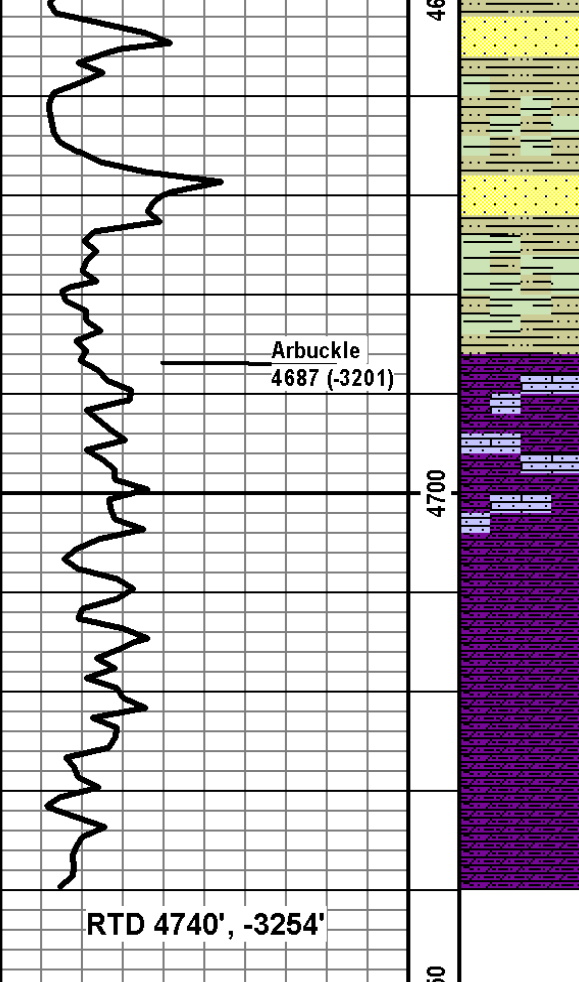
ROP (min/ft)

SS: wht/lt gry, vf-m, sr-wr, pred qtz, carb matrix, hard, friable, no odor, ns.

MS
MS

SH: lt-dk gry, some silty, some carb lamination, some mudstn, firm-hard, fissile, no odor, ns.

SH: lt-dk gry/lt green-gry, some carb, some slt silty, firm, no odor, ns.



SH: as above w/some SS: wht/lt gry, vf-m, sr-wr, pred qtz, 7 pcs w/blk tar oil, slt yel cut when crushed, no odor, sfo.

SH: lt-dk gry/brn, some silty, slt carb, firm, fissile, no odor, ns.

Dolo: wht/crm/lt brn, micro-fn xtal, silty, some w/ppt-med in-xtal por; min LS: crm/lt brn, micro-fn xtal, some foss frags, silty, no vis por; no odor, ns.

Dolo: crm/lt gry/lt brn, micro-fn xtal, silty, grainy, min frac por, no odor, ns.

Dolo: crm/lt gry/lt brn, micro-fn xtal, silty/sndy, grainy, ppt-fn in-xtal por, no odor, ns.

TD @ 4740'

MudCo Check #8 @4740'
 09/27/14 08:45am
 wt vis pH chl
 9.7 39 9.0 3000
 Filt LCM
 10.8 3

Cir 1 hr at 4740' to clean/condition hole, then ran short trip and cir 1.5 hrs, prior to coming out of hole to set casing.

RTD 4740', -3254'

Arbuckle
 4687 (-3201)

50