

Confidentiality Requested:

Yes  No

**KANSAS CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION**

Form ACO-1

January 2018

**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

Gas  DH  EOR

OG  GSW

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 EOR  Conv. to SWD

Plug Back  Liner  Conv. to GSW  Conv. to Producer

Commingled Permit #: \_\_\_\_\_

Dual Completion Permit #: \_\_\_\_\_

SWD Permit #: \_\_\_\_\_

EOR Permit #: \_\_\_\_\_

GSW Permit #: \_\_\_\_\_

Spud Date or Date Reached TD Completion Date or Recompletion Date

API No.: \_\_\_\_\_

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  Drill Stem Tests Received

Geologist Report / Mud Logs Received

UIC Distribution

ALT  I  II  III Approved by: \_\_\_\_\_ Date: \_\_\_\_\_

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](mailto: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 <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 Geologist Report / Mud Logs <input type="checkbox"/> Yes <input type="checkbox"/> No  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
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone				

1. Did you perform a hydraulic fracturing treatment on this well?  Yes  No *(If No, skip questions 2 and 3)*
2. Does the volume of the total base fluid of the hydraulic fracturing treatment exceed 350,000 gallons?  Yes  No *(If No, skip question 3)*
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)*

Date of first Production/Injection or Resumed Production/Injection:	Producing Method: <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other <i>(Explain)</i> _____				
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> <i>(Submit ACO-4)</i>	PRODUCTION INTERVAL: Top Bottom
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Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record <i>(Amount and Kind of Material Used)</i>

TUBING RECORD:	Size:	Set At:	Packer At:	
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Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	SCHWEIZER 3-35
Doc ID	1324800

All Electric Logs Run

CPDCN Micro Log
AI Shallow Focused Elect Log
Comp. Sonic w/Integrated Transit Time
Mirco. Log
Dual Receiver Cmt Bnd Log

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	SCHWEIZER 3-35
Doc ID	1324800

Perforations

Shots Per Foot	Perforation Record	Material Record	Depth
4	3642-3650	250gals 7.5% MCA Acid	3642-3650
		3gals RAS 10, 16bbbls 2% KCL	
		500gals 15% NE/FE Acid	3642-3650
		5gals RAS-10; 22bbbls 2% KCL	





**CONSOLIDATED**  
Oil Well Services, LLC

PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

6862  
Field # + doc  
6763

TICKET NUMBER 51432  
LOCATION EL Do Racho  
FOREMAN Fuzz

API# 55-155-21753-00-00

**FIELD TICKET & TREATMENT REPORT.**  
**CEMENT**

Invoice # 808835

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
10-18-14	3373	Schweizer 3-35	35	22	10	Renov
CUSTOMER Grand Mesa operating			SYLVIA NATHAN Inner Rd 8 N- et W.M.			
MAILING ADDRESS 1700 N Waterfront Bldg 600			TRUCK #	DRIVER	TRUCK #	DRIVER
CITY Wichita			603	Tracy		
STATE K			611	Jeremy		
ZIP CODE 67206						

JOB TYPE survice HOLE SIZE 12 1/4 HOLE DEPTH 259' CASING SIZE & WEIGHT 8 5/8  
 CASING DEPTH 256' DRILL PIPE \_\_\_\_\_ TUBING \_\_\_\_\_ OTHER \_\_\_\_\_  
 SLURRY WEIGHT 14.7 SLURRY VOL 42.3 WATER gal/sk 4.5 CEMENT LEFT in CASING 20'  
 DISPLACEMENT 15.0 DISPLACEMENT PSI \_\_\_\_\_ MIX PSI \_\_\_\_\_ RATE \_\_\_\_\_

REMARKS: Safety meeting on Summit Dilg. Rig up and pump  
5 BBL water 175 SKS Class 'A' 300cc. 20 gals w/ 1/4# poly  
flake per sk. Displace 15 BBL and shut in.

Cement did circulate approx 5+ BBL to pit

Thanks Fuzz & Crew

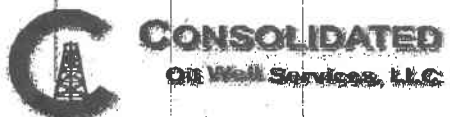
ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0450	1	PUMP CHARGE		
CE0002	50 miles	MILEAGE		
CE0710	410 (8.2 doz)	Tow mileage Delivery		
CC5800A	175 SKS	Class A		
CC5325	500#	Calcium Chloride		
CC5965	350#	Gel		
CC6077	75#	Poly. Flake		
		Subtotal		
		Subtotal		
<b>SCANNED</b>				
			SALES TAX	
			ESTIMATED	
			TOTAL	

Ravin 3737

*[Signature]*

AUTHORIZATION \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

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



PO Box 884, Chanute, KS 66720  
620-431-9210 or 800-467-8676

6929  
Field #11 doc  
6829

TICKET NUMBER 51435  
LOCATION El Dorado  
FOREMAN Fuzz4

API # 15-155-21735-00  
**FIELD TICKET & TREATMENT REPORT**  
**CEMENT**

**Invoice # 80914**

KS

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY																
10-24-16	3372	Schweizer 3-35	35	22	10	Renf																
CUSTOMER Grand Mesa Operating			<table border="1"> <thead> <tr> <th>TRUCK #</th> <th>DRIVER</th> <th>TRUCK #</th> <th>DRIVER</th> </tr> </thead> <tbody> <tr> <td>760</td> <td>Chris</td> <td></td> <td></td> </tr> <tr> <td>601</td> <td>Joe</td> <td></td> <td></td> </tr> <tr> <td>725</td> <td>Fuzz4</td> <td></td> <td></td> </tr> </tbody> </table>				TRUCK #	DRIVER	TRUCK #	DRIVER	760	Chris			601	Joe			725	Fuzz4		
TRUCK #	DRIVER	TRUCK #	DRIVER																			
760	Chris																					
601	Joe																					
725	Fuzz4																					
MAILING ADDRESS 1700 W. Waterfront #600			<table border="1"> <thead> <tr> <th>CITY</th> <th>STATE</th> <th>ZIP CODE</th> </tr> </thead> <tbody> <tr> <td>Chanute</td> <td>KS</td> <td>67206</td> </tr> </tbody> </table>				CITY	STATE	ZIP CODE	Chanute	KS	67206										
CITY	STATE	ZIP CODE																				
Chanute	KS	67206																				

JOB TYPE <u>Production</u>	HOLE SIZE <u>7 7/8"</u>	HOLE DEPTH <u>3700'</u>	CASING SIZE & WEIGHT <u>5 1/2 14#</u>
CASING DEPTH <u>3727'</u>	DRILL PIPE <u>set @ 3725'</u>	TUBING	OTHER
SLURRY WEIGHT <u>14.3</u>	SLURRY VOL <u>39.5</u>	WATER gal/sk	CEMENT LEFT in CASING <u>20'</u>
DISPLACEMENT <u>90.4</u>	DISPLACEMENT PSI	MIX PSI	RATE

REMARKS: Safety meeting on Summit Dalg. Run float equip Basket  
Top of shoe at Cent 1-2-3-5-7-9. Rig up pump SBBL  
water, mix 150sks class A cement 300cc 200cc w/5# Kolseal  
and 1# phenoseal per sk. Wash pump and lines  
Drip plug and displace 92" BSL 750# lift press.  
1150# land plug. float hold. ✓

Thanks Fuzz4  
+ crew

ACCOUNT CODE	QUANTITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0452	1	PUMP CHARGE		
CE0002	50 miles	MILEAGE		
CE0711	7.1 ton	Ton mileage Delivery (min)		
CD5900A 10231	150sks	Class A cement		
CE3965	450#	Gel		
CE3325	300#	Calcium Chloride		
CE6077	750#	Kolseal		
CE6079	150#	Phenoseal		
CE6125	NA	Mud Flush		
CE8485	1	5 1/2 - AFU float shoe (w)		
CE8254	1	5 1/2 - hatchdown Assy (w)		
CE8576	6	5 1/2 - S-Brand Turbolizers (w)		
CE8651	1	5 1/2 - Basket Recip (w)		

**SCANNED**

SALES TAX  
ESTIMATED  
TOTAL

AUTHORIZATION [Signature] TITLE \_\_\_\_\_ DATE \_\_\_\_\_

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

# Pro-Stim Chemicals LLC

## Acidizing Report

Date 11/17/16

Customer <u>Grand Mesa</u>		Pro-Stim Chemical Yard <u>Cunningham</u>		Pro-Stim Number <u>A17</u>	
Well Name & Number <u>Schwiozer #3</u>			Formation		
County <u>Reno</u>		State <u>KS</u>		Interval <u>3642-50</u>	
Well Type: Completion <input checked="" type="checkbox"/> Recompletion <input type="checkbox"/> Workover <input type="checkbox"/> Oil <input type="checkbox"/> Gas <input type="checkbox"/> Water <input type="checkbox"/> Disposal <input type="checkbox"/> Perf <input type="checkbox"/> OH <input type="checkbox"/>					
Job Pumped Via: Tubing <input type="checkbox"/> Casing <input type="checkbox"/> Annulus <input type="checkbox"/> CTU <input type="checkbox"/> Combination <input type="checkbox"/>			Plug Depth <u>        </u>		Packer Depth <u>3600</u>
Casing Size: <u>5 1/2</u>		GRD	WT	Depth	Tubing Size: <u>2 7/8</u>
Casing Vol		Tbg Vol	Ann Vol	OH Vol	Spot <u>3660</u>

250 7.5% MCA  
3 gal Res 10  
16 BBLs 270 KCL

Customer Representative Signature \_\_\_\_\_

### Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure		Observations
					Tubing	Casing	
1	Acid	Spot		1 BBL			
6	Acid	4.5		3.5	0	0	
7	Acid	4.5		6.0	0	0	Acid gone
8	Flush	4.5		11.5	0	0	
9	Flush	4.5		16.5	0	0	
10	Flush	4.5		22.1	0	0	Well loaded
11	Flush	0		22.2	300	0	
25	Flush	0		22.5	300	0	slow bleed off
30	Flush	0		22.7	400	0	
60	Flush	0		22.9	400	0	
90	Flush	0		23	500	0	500 to 200 3 min
120	Flush	0		23.1	500		SHUT IN

### Treatment Synopsis

Avg Inj Rate	Fluid BPM		Total Injected		H2O	Acid	Oil		
	Max	Final	Avg	ISIP	5'SI	10'SI	15'SI		
Treating Pys					20	25	30		



# Pro-Stim Chemicals LLC

## Acidizing Report

Date 11/18/16

Customer Grand Mesa Pro-Stim Chemical Yard Cunningham Pro-Stim Number A-17

Well Name & Number Schwitzer #3 Formation \_\_\_\_\_

County \_\_\_\_\_ State \_\_\_\_\_ Interval 3642-50

Well Type: Completion  Recompletion  Workover  Oil  Gas  Water  Disposal  Perf  OH

Job Pumped Via: Tubing  Casing  Annulus  CTU  Combination  Plug Depth \_\_\_\_\_ Packer Depth 3600

Casing Size: 5 1/2 GRD \_\_\_\_\_ WT \_\_\_\_\_ Depth \_\_\_\_\_ Tubing Size: 2 7/8 Spot 3660

Casing Vol \_\_\_\_\_ Tbg Vol \_\_\_\_\_ Ann Vol \_\_\_\_\_ OH Vol \_\_\_\_\_ Total Displacement 22

Customer Representative Signature \_\_\_\_\_

500 1570 NE/FE  
5 gal RAS-K  
22 BBLs 270

### Treatment Record

Time	Type Fluid	Rate BPM	Increment Vol Bbls	Cum Vol Bbls	Pressure		Observations
					Tubing	Casing	
1	Acid	4.5		6.5	0	0	stotted 1 BBL
3	Acid	4.5		12.0	0	0	Acid gone
4	Flush	4.5		19.5	0	0	
6	Flush	4.5		23.5	0	0	well loaded
7	Flush	1.4		24.5	0	0	
8	Flush	1.6		27	10	0	
10	Flush	1.0		29	10	0	
12	Flush	2.0		30	10	0	
13	Flush	2.2		31	10	0	
14	Flush	2.5		32	10	0	
16	Flush	2.7		34	10	0	

### Treatment Synopsis

Avg Inj Rate	Fluid BPM <u>2.3</u>	Total Injected	H2O <u>22</u>	Acid <u>12</u>	Oil
Treating Prs	Max <u>10</u>	Final <u>10</u>	Avg <u>10</u>	ISIP <u>0</u>	5'SI
					10'SI
					15'SI
					20
					25
					30

**GRAND  
MESA****OPERATING COMPANY**

(316) 265-3000  
FAX: (316) 265-3455

1700 N. WATERFRONT PARKWAY  
BLDG. 600  
WICHITA, KANSAS 67206-5514

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

Well Name: Schweizer  
Well Id: 3-35  
Location: 1610' FNL & 1142' FEL, Sec 35-T22S-R10W, Reno County, Kansas  
License Number: API: 15-155-21735 Region: Reno County  
Spud Date: 10/17/2016 Drilling Completed: 10/23/2016  
Surface Coordinates: Lat: 38.0961479  
Long: -98.3849709  
Bottom Hole Vertical hole  
Coordinates:  
Ground Elevation (ft): 1736' K.B. Elevation (ft): 1746'  
Logged Interval (ft): 2400' To: RTD Total Depth (ft): 3730'  
Formation: Viola at RTD  
Type of Drilling Fluid: Chemical

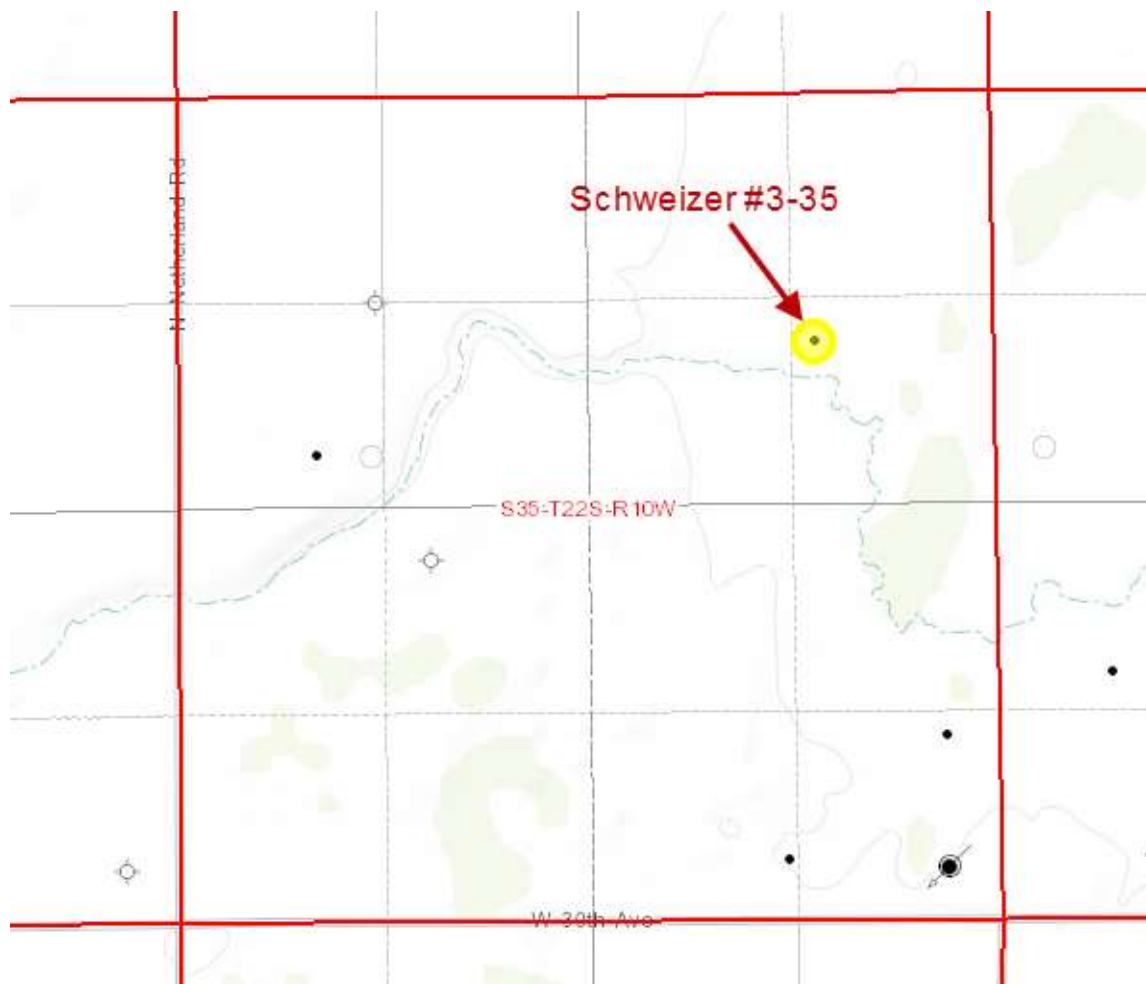
Printed by MUD.LOG from WellSight Systems 1-800-447-1534 www.WellSight.com

**OPERATOR**

Company: Grand Mesa Operating Company  
Address: 1700 N. Waterfront Parkway; Bldg. 600  
Wichita, KS 67206-5514  
316-265-3000

**GEOLOGIST**

Name: Kent R. Matson  
Company: Matson Geological Services, LLC  
Address: 33300 W. 15th Street S.  
Garden Plain, Kansas 67050  
316-644-1975; kent4m@hotmail.com



#### COMMENTS

Grand Mesa Company Geologist: Steve Stribling, 316-265-3000 (office).

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

Tool Pusher: Scott Miller, 620-341-3133 (cell).

Surface Casing: 8 5/8" set at 252' (KB) w/175 sx cement.

Production Casing: Based on field observations of drill cuttings and electric log review, production casing (5.5") was installed to further evaluate potential oil production.

Mud by: Andy's Mud & Chemical Co.; Dennis Rector, 785-656-3039 (cell).

DST's by: Diamond Testing: Mike Cochran, 620-282-2302 (cell). Note: no DSTs were conducted.

Logs by: Weatherford (CND w/PE, DI w/SP, Micro, Sonic), Adam Sill, 620-309-7753 (cell).

RTD= 3730', -1984'.

LTD= 3725', -1979'.

## FORMATION TOPS

FORMATION	SAMPLE TOPS		LOG TOPS	
	Depth	Datum	Depth	Datum
Tarkio	2386'	-640	2384'	-638
Howard	2611'	-865	2612'	-866
Topeka	2717'	-971	2715'	-969
Heebner	3012'	-1266	3012'	-1266
Brown LS	3161'	-1415	3163'	-1417
Lansing	3196'	-1450	3197'	-1451
Stark Shale	3417'	-1671	3417'	-1671
Base KC	3476'	-1730	3476'	-1730
Viola	3622'	-1876	3622'	-1876
RTD	3730'	-1984		
LTD			3725'	-1979

## ROCK TYPES

### LITHOLOGY

	Anhy
	Cht
	Coal
	Congl
	Dol
	Gyp
	Lmst
	Salt
	Shale
	Shcol
	Shgy
	Sltst
	Ss
	Carb sh
	Dol
	Dtd
	Gry sh
	Sandylms
	Shale
	Sltstn
	Shlyslts

	Sitysh
	Sdy dolo
	Silty dolo
	Shy dolo
	Shaly ls

### FOSSIL

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

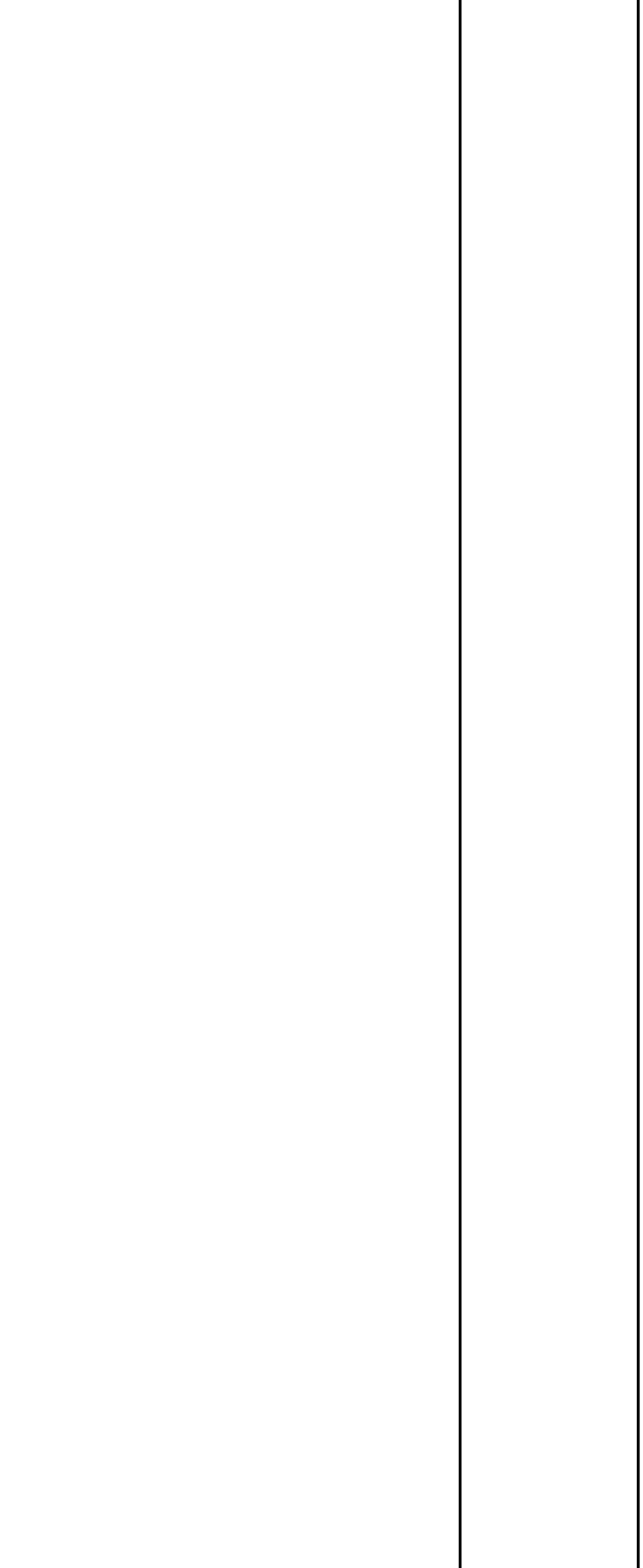
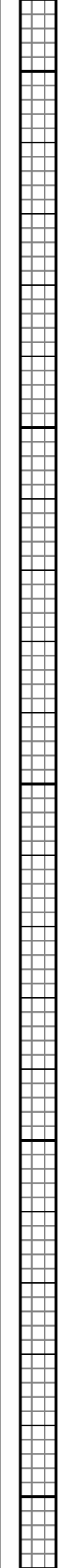
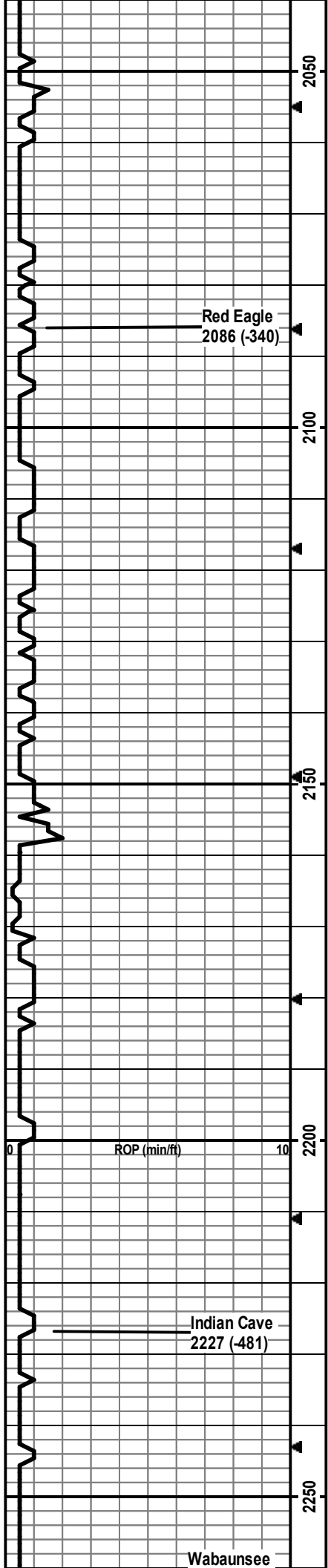
	Ostra
	Pelec
	Pellet
	Pisolite
	Plant
	Strom
	Fuss
	Oomold

### MINERAL

	Anhy
	Arggrn
	Arg
	Bent
	Bit
	Brecfrag
	Calc
	Carb
	Chtdk
	Chtlit
	Dol
	Feldspar

	Ferrpel
	Ferr
	Glau
	Gyp
	Hvymin
	Kaol
	Marl
	Minxl
	Nodule
	Phos
	Pyr
	Salt
	Sandy
	Silt
	Sil
	Sulphur
	Tuff
	Chlorite
	Dol
	Sand
	Sly

Rate of Penetration (ROP) ROP (min/ft)	Depth	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
					<p><b>Morning Report Depth/Activity</b>  10/17/2016, Spud.  10/18, @ 259', waiting to drill out under surface casing.  10/19, drill @ 920'.  10/20, drill @ 2023'.  10/21, mud displacement @ 2777'.  10/22, drill @ 3580'.  10/23, TD @ 3730'.</p> <p>ROP Data begins @ 1900' on 10/20/2016.</p>	<p>Andy's Mud Check @ 0'  10/17/16; predrilling  recommedations.</p> <p>Andy's Mud Check @  1142' 10/19/16 10:00am  wt vis pH chl  10 28 NA 78000  Filt LCM  NC NA</p> <p><b>Survey Record  Deg @ Ft</b>  0.0 @ 259'  0.25 @ 796'  1.0 @ 1299'  0.75 @ 1770'  0.50 @ 2274'  1.0 @ 2745'  0.75 @ 3529'  1.5 @ 3730'</p> <p>Short Trip  conducted at  2023'.</p>



2260 (-514)

2300

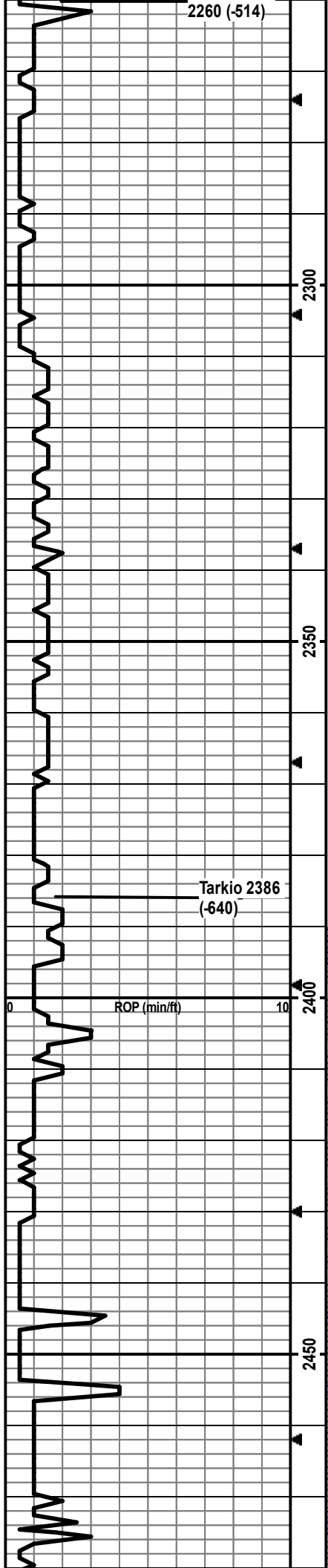
2350

Tarkio 2386 (-640)

2400

2450

ROP (min/ft)



LS: wht/crm/lt gry, fn-med xtal, foss frags/fusln, some vry silty, hard, min frac por, no odor, ns; SH: lt-dk gry, soft-firm, some vry silty, fissile.

SH: lt-med gry, soft, some silty.

SH: lt-med gry, vry silty, soft.

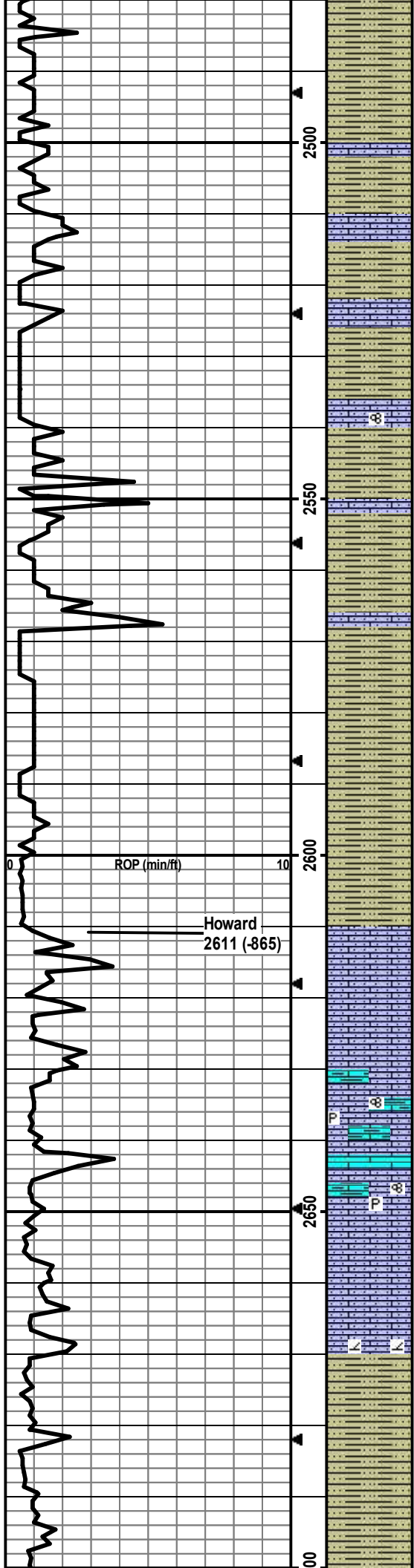
LS: crm/lt brn, vf-med xtal, some vry silty, no vis por, some foss frags, no odor, ns.

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

SH: lt-med gry, some vry silty, soft.

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

**Drill cutting samples at 20' intervals start at 2400'.**



SH: lt-med gry/some brn-gry, some vry silty, soft.

SH: as above w/some lt green. Some LS: wht/crm/lt gry, micro-fn xtal, some vry silty, min foss frags, some ppt-fn in-xtal por, no odor, ns.

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

SH: lt-med gry/min lt green, some vry silty, slit carb, soft.

LS: lt gry/crm/lt-med brn, vf-med xtal, some vry silty/sndy, some foss frags/min fusln, hard-some easily crushed, some ppt-fn in-xtal por, no odor, ns.

SH: lt-med gry, some vry silty, soft.

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

SH: lt-med gry/med brn-gry, vry silty, soft.

SH: lt-med gry/min yel-brn, some vry silty, soft.

SH: lt-med gry/min brn-gry, vry silty, soft.

Flood of SH as above; some LS: lt gry, crm, lt brn, vf-f, some vry silty, some foss frags, some ppt in-xtal por, no odor, ns.

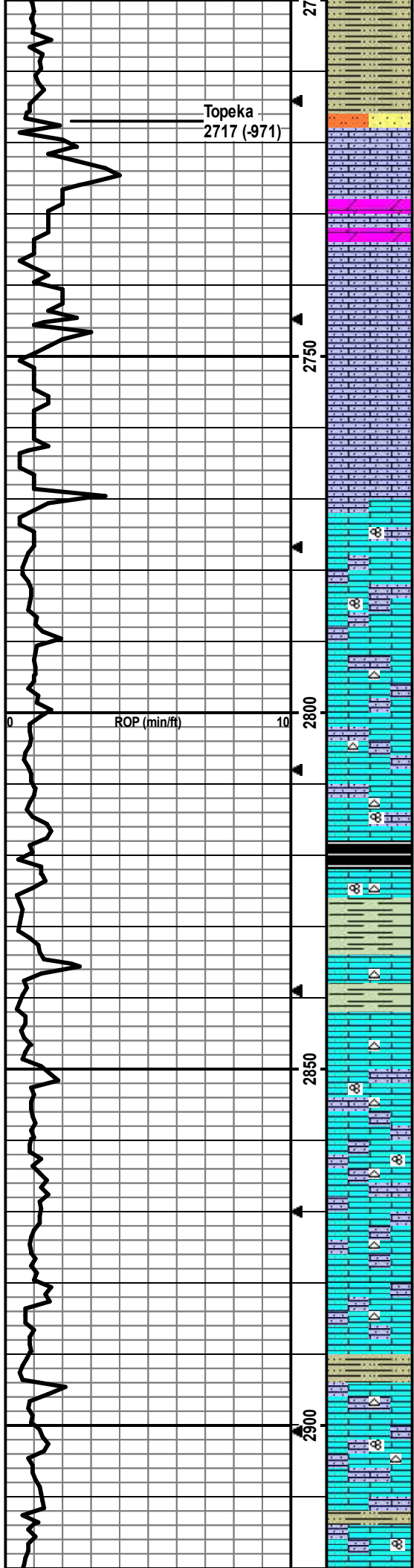
LS: crm/lt gry/lt brn, vf-med, some vry silty, some arg, some foss frags/min fusln, min pyrite, no vis por, no odor, ns.

LS: as above w/some crm/lt brn silty DOLO, no odor, ns.

SH: lt-dk gry, some vry silty, soft-firm, fissile.

SH: lt-med gry/brn gry, some vry silty, soft.





SH: lt-med gry/brn-gry, some vry silty, soft.

SH: lt-med gry w/min dk gry and dk brn, some vry silty, soft-firm, fissile; some SlStn/SS: lt gry, sr-wr, pred qtz, ppt-vf in-xtal por, arg, hard, friable, no odor, ns.

LS: crm/lt brn, vf-med xtal, min foss frags, vry silty, no vis por; some DOLO: crm/lt brn, vf-f, vf-med in-xtal por; no odor, ns.

LS: crm/lt brn/lt gry, vf-f, some foss frags, some silty, some crushes easily, no vis por; min DOLO: crm/lt brn, vf-f, vf-f in-xtal por; no odor, ns.

Poor sample quality; assume LS.

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

LS: crm/lt brn/lt gry, vf-f xtal, some foss frags, some vry chalky, some silty, min lt gry chert, min frac por, no odor, ns.

LS: crm/lt-med brn, vf-med, some vry chalky, foss frags/fusln, min crm/lt gry chert, no vis por, no odor, ns.

SH: dk gry/blk, carb, firm, fissile.

SH: lt-med gry, soft-firm, carb.

LS: crm/lt gry, micro-med xtal, some chalky, some foss frags, some crm chert, no vis por, no odor, ns. SH: med-dk gry, soft-firm, some carb, fissile.

LS: crm/lt brn/lt gry, vf-med, some vry chalky, some silty, some foss frags/fusln, min lt gry chert, no vis por, no odor, ns.

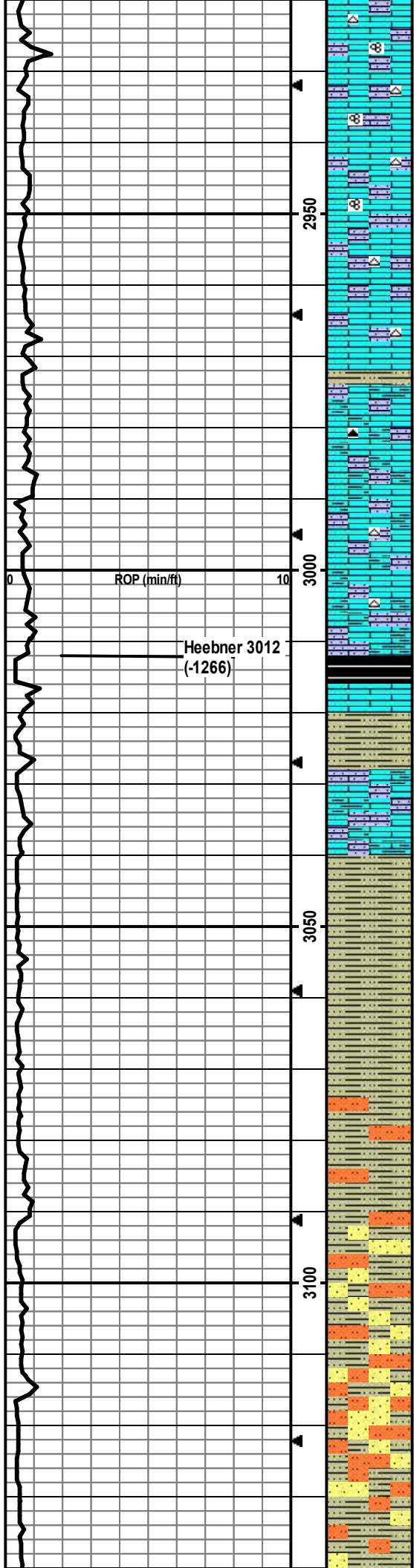
LS: crm/lt gry-brn/lt brn, vf-med, some foss frags, some chalky, some crushes easily, some silty, min lt gry chert, no vis por, no odor, ns.

LS: as above w/some fusln, no odor, ns. Some SH: med-dk brn-gry, soft, some silty.

LS: crm/lt-med gry, vf-med xtal, some silty, some chalky, foss frags/fusln, min wht chert, no vis por, ns. Min SH: med-dk arv, soft.

**Drilling mud displacement performed at 2777' (550 bbls).**

Andy's Mud Check #1  
 @ 2817' 10/21/16  
 02:00pm  
 wt vis pH chl  
 8.7 48 11 4500  
 Filt LCM  
 8 NA



LS: crm/lt brn, vf-med xtal, some silty, some chalky, min foss frags/fusln, min wht chert, no vis por, ns.

LS: as above w/increase in chalk, no odor, ns.

LS: crm/lt brn/lt-med gry, vf-med xtal, some vry chalky, some arg, some silty, min dk gry chert, foss frags, no vis por, ns. Min SH: med-dk gry, soft.

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

SH: dk gry/blk, carb, firm, fissile.

LS: crm/lt-med brn, vf-med, vry silty, some arg, vry chalky, min foss frags, no vis por, no odor, ns.

SH: med-dk gry, carb, some silty, soft-firm, fissile.

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

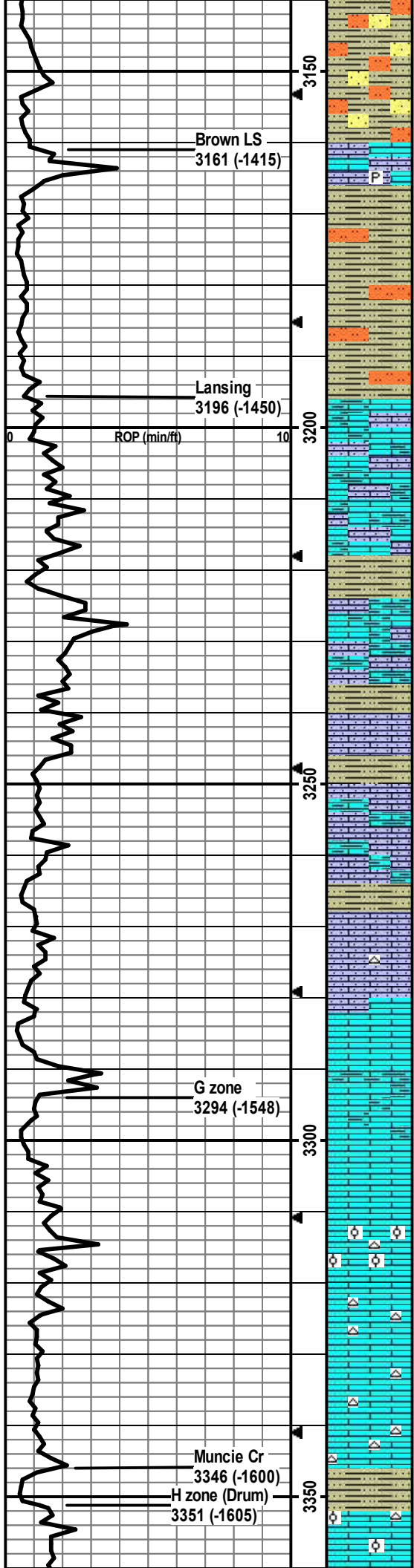
SH: med-dk gry/blk, some carb, some silty, soft-firm, fissile.

SH: med-dk gry/lt green-gry, some carb, some silty, soft-firm, fissile.

SH: as above w/min Slstn/SS: lt gry, pred qtz, soft, friable, no odor, ns.

SH: as above w/increase in Slstn/SS: lt gry, pred qtz, soft-firm, friable, some SS vf-f, sr-wr, carb matrix, no odor, ns.

SH/Slstn/SS mix as above, no odor, ns.



SH/Sltstn/SS mix as above w/decrease in Sltstn/SS content, no odor, ns.

LS: crm/lt-med brn, vry fn-med xtal, foss frags, silty, chalky, min pyrite, no vis por, no odor, ns.

SH: med-dk gry, silty, some carb, soft-firm, fissile; min Sltstn/SS: lt gry, firm-hard, friable; no odor, ns.

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

SH: lt-med gry, silty, soft-firm, slt carb, fissile.

LS: crm/lt-med brn/lt-med gry, vf-med xtal, some vry silty/arg, some vry chalky, foss frags/fusln, no vis por, no odor, ns.

SH: lt-med gry, slt carb, silty, soft.

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

SH: lt-med gry, slt carb, vry silty, soft.

LS: crm/mottled lt brn/lt gry, f-med xtal, foss frags, arg, chalky, silty, some crushes easily, no vis por, no odor, ns.

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

LS: crm/lt brn/lt gry, vf-med, min foss frags, some chalky, 1 pce w/med in-xtal por w/sfo, dull yel flor, slt odor, ssfo.

LS: crm/lt brn, vf-med xtal, foss frags, min lt brn chert, some chalky, no vis por, slt crush odor, nsfo.

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

LS: crm/lt-med brn/lt-med gry, micro-med, foss frags, chalky, some arg, some crushes easily, no vis por, no odor, ns.

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

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

LS: crm/lt brn, micro-med xtal, min foss frags, some vry chalky, increase in wht chert from above, no vis por, no odor, ns.

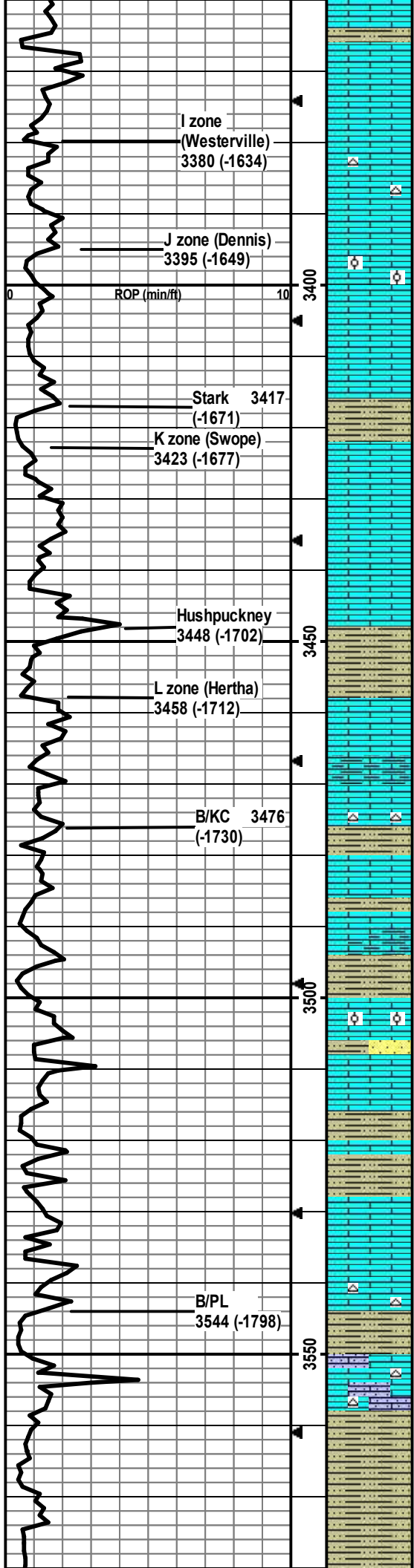
LS: crm/lt brn, micro-fn xtal, min foss frags, some chalky, some wht chert, no vis por, no odor, ns.

LS: wht/crm/lt brn, micro-med xtal, foss frags, some vry chalky, increase in wht/crm chert, no vis por, no odor, ns.

SH: lt-med gry, some vry silty, soft-firm, slt carb; no odor, ns.

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

Drill cutting samples at 10' intervals start at 3200'.



SH: lt-dk gry, some silty, soft-firm, fissile.

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

LS: crm, micro-f xtal, min foss frags, some chalky, no vis por, no odor, ns.

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

LS: crm/lt brn, micro-med xtal, foss frags/some dense ool pcs, some vry chalky, no vis por, no odor, ns.

LS: crm/lt gry, micro-f xtal, min foss frags, vry chalky, no vis por, no odor, ns.

SH: med gry/lt gry-green, some silty, some carb, soft-firm, fissile.

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

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

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

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

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

LS: as above w/some dk brn arg LS; no odor, ns.

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

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

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

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

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

SH: lt-dk gry, slt carb, some vry silty, soft; min SS: lt gry, pred qtz, f-m, sr-wr, friable, no odor, ns. LS: crm/lt brn, micro-med xtal, some foss frags/dense ool, some chalky, no vis por, no odor, ns.

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

SH: lt-dk gry/red brn, silty, soft; LS: crm/lt brn/red mottling, vf-med, min foss frags, no vis por, no odor, ns.

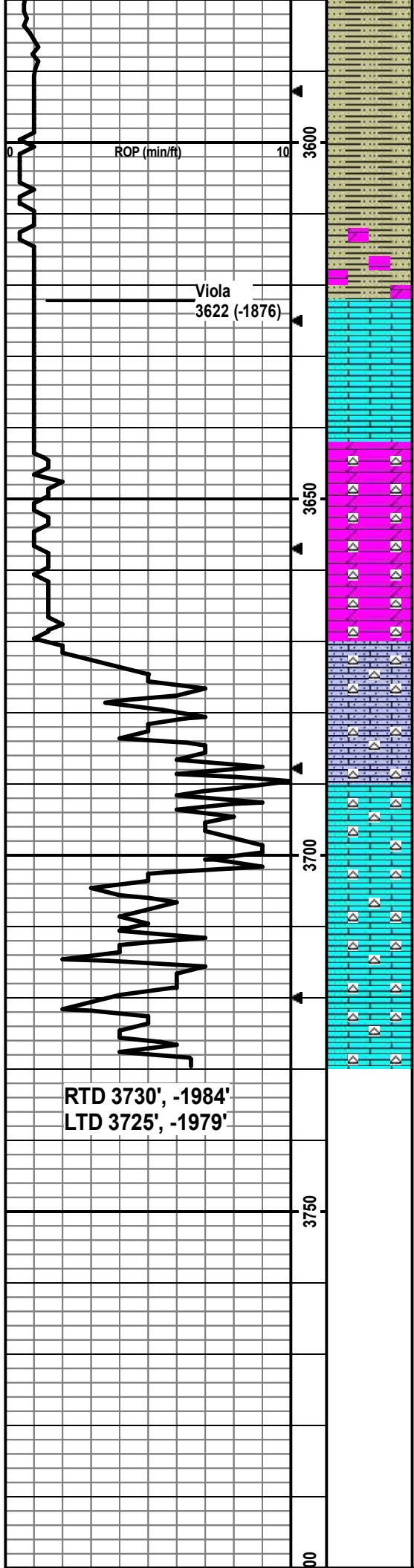
LS: wht/crm/lt gry, micro-med xtal, foss frags, some chalky, some crushes easily, no vis por, no odor, ns.

LS: crm/lt brn, vf-f xtal, vry sndy, dolomitic, yel-orange chert, abund pcs w/ppt-fn in-xtal por w/sfo, crushes easily, slt crush odor, no flor but dul yel cut, gsfo.

LS: wht/crm, micro-fn xtal, grainy, sndy, some yel-orange chert, mostly dense w/min ppt-fn in-xtal por, no odor, ns.

SH: med gry/maroon, some carb, some vry sndy, soft-firm, fissile.

SH: med-dk gry/maroon/brn, some carb, some vry sndy, soft-firm, fissile.



No sample at 3600', assume SH as above and below.

SH: lt-med gry/maroon/lt green-gry/brn, some vry silty, slt carb, soft-firm, fissile.

SH: red brn/lt-med gry, some vry silty, slt carb, soft-firm.

SH: red brn/lt-med gry/mustard yel/lt green-gry/maroon, some vry silty, soft-firm; min DOLO: lt green-gry, vf-f, no odor, ns.

SH: same as above w/min DOLO, no odor, ns.

SH: as above w/min brn DOLO; LS: wht/crm, vf-med xtal, chalky, easily crushed, some vf-f in-xtal por, no odor, ns.

LS: wht/crm/lt brn, vf-med xtal, some chalky, some easily crushed, no vis por, no odor, ns.

DOLO: crm, vf-f xtal, ppt-f in-xtal por, abund wht/crm chert, approx 25% of sample w/so, staining on smpl surface but oil droplets when crushed, yel flor/cut, strong cup odor, vgsfo.

DOLO: wht/crm, vf-f xtal, ppt-f in-xtal por, abund wht/crm chert, 3 pcs w/lt brn staining and droplets when crushed, yel flor/cut, slt cup odor, ssfo.

LS: crm, vf-f xtal, grainy, silty/sndy, abund wht/lt gry chert, dense, no vis por, no odor, ns.

LS: same as above, no odor, ns.

LS: crm/some lt-med brn, micro-fn xtal, abund wht chert, dense no vis por, slt crush odor, no flor, nfo.

LS: crm/lt brn, micro-fn xtal, abund wht chert, dense no vis por, no odor, ns.

LS: crm, micro-fn xtal, some chalky and easily crushed, abund wht chert, dense no vis por, no odor, ns.

LS: crm/lt brn, micro-med xtal, some chalky - easily crushed, abund wht chert, dense, min frac por, no odor, ns.

TD @ 3730'.

Cir at 3625' to correct ROP, talk w/office, and form a plan for cutting the Viola.

Andy's Mud Check #2 @ 3640' 10/22/16 11:00am  
wt vis pH chl  
9.2 33 10 6000  
Filt LCM  
12 NA

CFS @ 3640', Stop/30"/60".

CFS @ 3660', Stop/30"/60".

CFS @ 3670', Stop/30"/60".

Note: set up for a DST on the Viola but lost circulation while bit was still on bottom at 3670' so aborted test and drilled another 60' to TD.

Andy's Mud Check #3 @ 3730' 10/23/16 09:00am  
wt vis pH chl  
8.7 48 9.5 5600  
Filt LCM  
8.8 4

CFS @ 3730' Stop/30"/60". Conducted short trip, then cir 1.5 hrs total to clean hole. Logger encountered obstruction at about 1674' while tripping in hole and was able to work tools down about 100' further before stopped completely. So logger removed tools and drill rig went back to bottom with the bit to ream hole. Second attempt to log hole was successful.

RTD 3730', -1984'  
LTD 3725', -1979'