KOLAR Document ID: 1430007

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 # 9855
Name: Grand Mesa Operating Company
Address 1: 1700 N WATERFRONT PKWY BLDG 600
Address 2:
City: WICHITA State: KS Zip: 67206 + 5514
Contact Person: Michael J. Reilly
Phone: (316) 265-3000
CONTRACTOR: License # 33575
Name: WW Drilling, LLC
Wellsite Geologist: Steven Carl
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 #:

09/15/2018 Spud Date or Recompletion Date
09/21/2018 Date Reached TD
12/08/2018 Completion Date or Recompletion Date

API No.: 15-155-21759-00-00
Spot Description:
NE - SE - NW - SW Sec. 10 Twp. 23 S. R. 10 ☐ East ☑ West
1950 Feet from ☐ North / ☑ South Line of Section
1273 Feet from ☐ East / ☑ West Line of Section

Footages Calculated from Nearest Outside Section Corner:
☐ NE ☐ NW ☐ SE ☑ SW

GPS Location: Lat: *(e.g. xx.xxxxx)* , Long: *(e.g. -xxx.xxxxx)*
Datum: ☐ NAD27 ☐ NAD83 ☐ WGS84
County: Reno
Lease Name: MILLER Well #: 2-10
Field Name: Zenith Peace Creek
Producing Formation: VIOLA
Elevation: Ground: 1765 Kelly Bushing: 1770
Total Vertical Depth: 3860 Plug Back Total Depth: 3800
Amount of Surface Pipe Set and Cemented at: 168 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: 39000 ppm Fluid volume: 1500 bbls
Dewatering method used: Hauled to Disposal

Location of fluid disposal if hauled offsite:
Operator Name: Hesse Petroleum
Lease Name: Miller 1-10 License #: 31958
Quarter SW Sec. 10 Twp. 23 S. R. 10 ☐ East ☑ West
County: Reno Permit #: D28662.0

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: 01/30/2019
☐ **Confidential Release Date:**
☑ **Wireline Log Received** ☑ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 02/01/2019

Operator Name: Grand Mesa Operating Company Lease Name: MILLER Well #: 2-10

Sec. 10 Twp. 23 S. R. 10 ☐ East ☑ West County: Reno

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 *(Attach Additional Sheets)*	☑ Yes	☐ No	
Samples Sent to Geological Survey	☑ Yes	☐ No	
Cores Taken	☐ Yes	☑ No	
Electric Log Run	☑ Yes	☐ No	
Geologist Report / Mud Logs	☑ Yes	☐ No	

List All E. Logs Run: Attached

☑ Log Formation (Top), Depth and Datum ☐ Sample

Name	Top	Datum
Attached	Attached	Attached

CASING RECORD ☑ New ☐ Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	168	Common	120	2%CC,1/4#sx Flocele
Production	7.875	5.50	15.5	3820	Class A	150	2%CC, 3%Gel
Production	7.875	5.50	0	0	0	25	Rat Hole

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	-			
	-			

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: 12/08/2018

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	7		151		

DISPOSITION OF GAS: ☐ Vented ☐ Sold ☐ Used on Lease *(If vented, Submit ACO-18.)*

METHOD OF COMPLETION: ☐ Open Hole ☑ Perf. ☐ Dually Comp. *(Submit ACO-5)* ☐ Commingled *(Submit ACO-4)*

PRODUCTION INTERVAL:

Top	Bottom
3722	3740

Shots Per Foot	Perforation Top	Perforation Bottom	Bridge Plug Type	Bridge Plug Set At	Acid, Fracture, Shot, Cementing Squeeze Record *(Amount and Kind of Material Used)*
Attached	Attached	Attached	Attached	Attached	Attached

TUBING RECORD: Size: 2.875 Set At: 3695 Packer At:

Mail to: KCC - Conservation Division, 266 N. Main, Suite 220, Wichita, Kansas 67202

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	MILLER 2-10
Doc ID	1430007

All Electric Logs Run

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

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	MILLER 2-10
Doc ID	1430007

Tops

Name	Top	Datum
Howard Lst	2670	-41
Topeka Lst	2775	-43
Heebner	3068	-42
Lansing	3254	-45
Hush	3506	-46
B/KC	3543	-44
Viola	3701	-105
Simpson Shale	3803	-140
LTD	3856	0

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	MILLER 2-10
Doc ID	1430007

Perforations

Shots Per Foot	Perforation Top	Perforation Bottom	BridgePlugType	BridgePlugSetAt	Material Record
4	3730	3740			500gals 20% MCA Acid, w/additives
					1,000gals 10% NE/FE Acid, w/additives
					2,000gals 10% NE/FE Acid, w/additives
2	3722	3724			500gals 15% MCA Acid, w/additives
					1,000gals 15% NE/FE Acid, w/additives
					88,600# 30/50 Mesh Brwn Sd, 50,000# 16/30 Mesh Brwn Sd
					10,000# Resin Coated 16/30 Mesh
					490gals Additives, 6,655bbls Water

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	MILLER 2-10
Doc ID	1430007

Casing

Purpose Of String	Size Hole Drilled	Size Casing Set	Weight	Setting Depth	Type Of Cement	Number of Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	168	Common	120	2%CC,1/4 #sx Flocele
Production	7.875	5.50	15.5	3820	Class A	150	2%CC, 3%Gel
Production	7.875	5.50	0	0	0	25	Rat Hole

Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

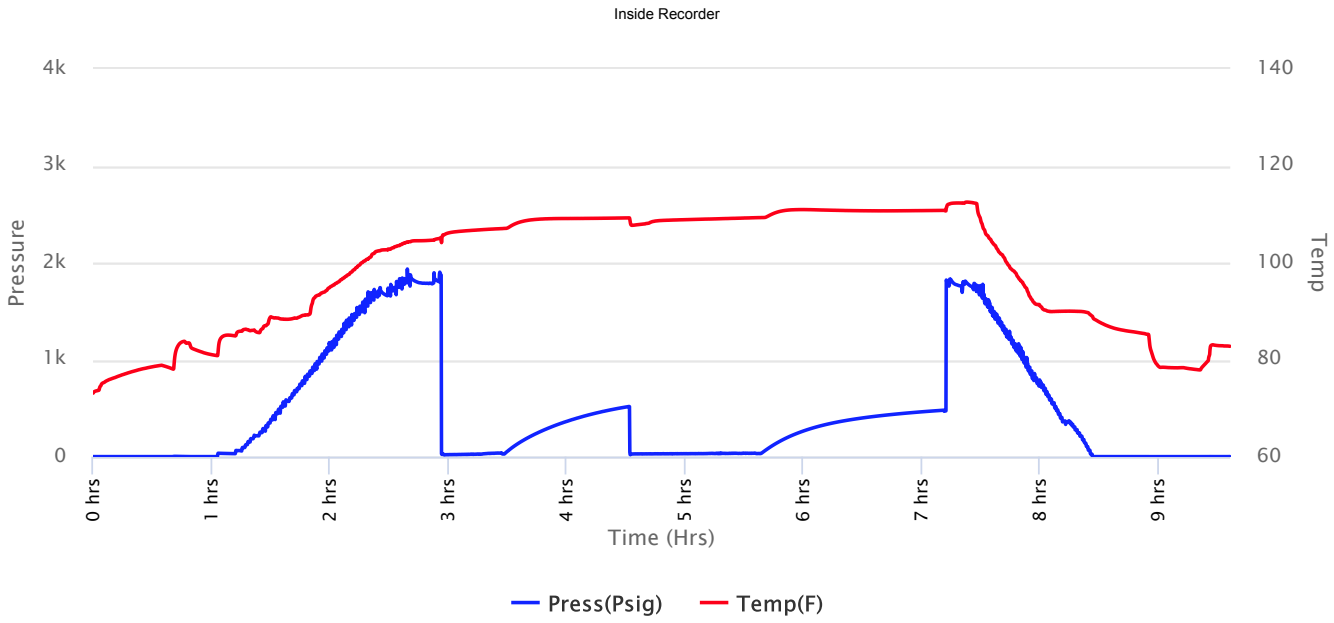
Operation:
Uploading recovery & pressures

DATE
September
20
2018

DST #1 **Formation: Viola** **Test Interval: 3720 - 3780'** **Total Depth: 3780'**

Time On: 01:29 09/20 Time Off: 10:49 09/20
Time On Bottom: 04:20 09/20 Time Off Bottom: 08:20 09/20

Electronic Volume Estimate:	1st Open	1st Close	2nd Open	2nd Close
1513'	Minutes: 30	Minutes: 60	Minutes: 60	Minutes: 90
	Current Reading:	Current Reading:	Current Reading:	Current Reading:
	50" at 30 min	0" at 60 min	116.6" at 60 min	0" at 90 min
	Max Reading: 50"	Max Reading: 0"	Max Reading: 116.6"	Max Reading: 0"



Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

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DATE
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Time On: 01:29 09/20 Time Off: 10:49 09/20
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Recovered

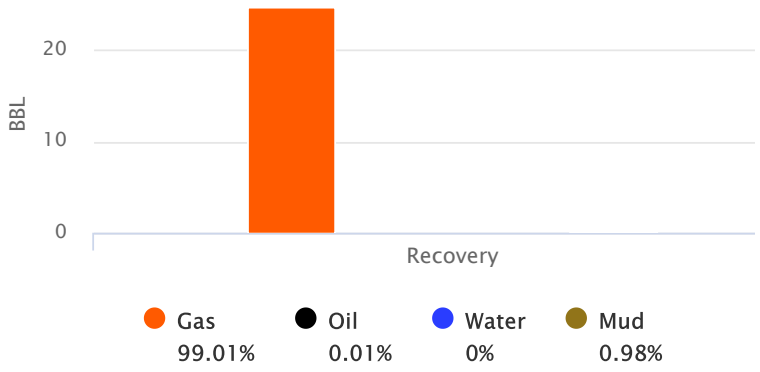
Foot	BBLS	Description of Fluid	Gas %	Oil %	Water %	Mud %
1777	24.6529783	G	100	0	0	0
50	0.246	SLOCM	0	1	0	99

Total Recovered: 1827 ft
Total Barrels Recovered: 24.8989783

Reversed Out
NO

Initial Hydrostatic Pressure	1791	PSI
Initial Flow	20 to 38	PSI
Initial Closed in Pressure	**517**	**PSI**
Final Flow Pressure	22 to 32	PSI
Final Closed in Pressure	**479**	**PSI**
Final Hydrostatic Pressure	1791	PSI
Temperature	111	°F
Pressure Change Initial Close / Final Close	7.3	%

Recovery at a glance



Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

Operation:
Uploading recovery & pressures

DATE
September
20
2018

DST #1 **Formation: Viola** **Test Interval: 3720 - 3780'** **Total Depth: 3780'**

Time On: 01:29 09/20 Time Off: 10:49 09/20
Time On Bottom: 04:20 09/20 Time Off Bottom: 08:20 09/20

BUCKET MEASUREMENT:
1st Open: 1/4 Blow. Built to 50 inches in 30 mins
1st Close: NOBB
2nd Open: BOB Instantly
2nd Close: NOBB

REMARKS:

Tool Sample: 10% Gas 10% Oil 4% Water 76% Mud

Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

Operation:
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DATE
September
20
2018

DST #1 **Formation: Viola** **Test Interval: 3720 - 3780'** **Total Depth: 3780'**

Time On: 01:29 09/20 Time Off: 10:49 09/20
Time On Bottom: 04:20 09/20 Time Off Bottom: 08:20 09/20

Down Hole Makeup

Heads Up: 9.35 FT

Drill Pipe: 3577.71 FT
ID-3 1/2

Weight Pipe: FT
ID-2 7/8

Collars: 118.07 FT
ID-2 1/4

Test Tool: 34.57 FT
ID-3 1/2-FH
Jars
Safety Joint

Total Anchor: 60

Anchor Makeup

Packer Sub: 1 FT

Perforations: (top): 3 FT
4 1/2-FH

Change Over: 1 FT

Drill Pipe: (in anchor): 32 FT
ID-3 1/2

Change Over: 1 FT

Perforations: (below): 22 FT
4 1/2-FH

Packer 1: 3714.5 FT

Packer 2: 3720 FT

Top Recorder: 3703.42 FT

Bottom Recorder: 3759 FT

Well Bore Size: 7 7/8

Surface Choke: 1"

Bottom Choke: 5/8"

Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

Operation:
Uploading recovery & pressures

DATE
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2018

DST #1 **Formation: Viola** **Test Interval: 3720 - 3780'** **Total Depth: 3780'**

Time On: 01:29 09/20 Time Off: 10:49 09/20
Time On Bottom: 04:20 09/20 Time Off Bottom: 08:20 09/20

Mud Properties

Mud Type: Chem **Weight:** 9.1 **Viscosity:** 55 **Filtrate:** 10.2 **Chlorides:** 6500 ppm

Company: Grand Mesa Operating Company
Lease: Miller #2-10

SEC: 10 TWN: 23S RNG: 10W
County: RENO
State: Kansas
Drilling Contractor: WW Drilling, LLC - Rig 10
Elevation: 1765 GL
Field Name: Zenith-Peace Creek
Pool: WILDCAT
Job Number: 230

Operation:
Uploading recovery & pressures

DATE
September
20
2018

DST #1 **Formation: Viola** **Test Interval: 3720 - 3780'** **Total Depth: 3780'**

Time On: 01:29 09/20 Time Off: 10:49 09/20
Time On Bottom: 04:20 09/20 Time Off Bottom: 08:20 09/20

Gas Volume Report

1st Open

Time	Orifice	PSI	MCF/D

2nd Open

Time	Orifice	PSI	MCF/D

QES

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

11656
11539

API # 15-155-21759-0000

TICKET NUMBER 54231
LOCATION Eldorado, KS
FOREMAN Fuzzy

FIELD TICKET & TREATMENT REPORT
CEMENT

Invoice #814191

DATE	CUSTOMER #	WELL NAME & NUMBER	SECTION	TOWNSHIP	RANGE	COUNTY
9-21-18	3372	M. Ilse 2-10	10	23	10	Reno

CUSTOMER: Grand Mesa Operating
MAILING ADDRESS: 1700 Waterfront Bldg 600
CITY: Wichita | STATE: KS | ZIP CODE: 67206

TRUCK #	DRIVER	TRUCK #	DRIVER
760	Jud		
775	Chance		
725	Fuzzy		

JOB TYPE Production | HOLE SIZE 7 7/8 | HOLE DEPTH 3860' | CASING SIZE & WEIGHT 5 1/2 15.5
CASING DEPTH 3825' | DRILL PIPE | TUBING | OTHER
SLURRY WEIGHT 14.2 | SLURRY VOL 39.5 (1.44) | WATER gal/sk 6.4 | CEMENT LEFT in CASING 19'
DISPLACEMENT 90.5 | DISPLACEMENT PSI | MIX PSI | RATE

REMARKS: Safety meeting on W.O. #4. Run Float Equip. Turbolizers 1 per 5 shoe jt. every other one after. 2-4-6-8-10 Basket Top of 1 jt above shoe jt. Pump 5 BBL water. Mix 25 sks cement in RH. Mix 150 sks Class 'A' 3% cc 2% gel w/ 5# Kolseal and 1# phenoseal per sk. Wash pump and lines. Drop plug and displace 92 3/4 BBL 600# lift. Land plug @ 1250# Float held.

Thanks
Fuzzy & Crew

ACCOUNT CODE	QUANITY or UNITS	DESCRIPTION of SERVICES or PRODUCT	UNIT PRICE	TOTAL
CE0452	1	PUMP CHARGE		
CE0002	50 miles	MILEAGE		
CE0710	8.2 Ton	Ton mileage Delivery		
8154 CC5800A	175 sks	Class 'A' cement		
CC5965	500#	Gel		
CC5325	350#	Calcium Chloride		
CC6077	875#	Kolseal		
CC6079	175#	Phenoseal		
CP8485	1	5 1/2 AFU Float shoe		
CP8254	1	5 1/2 Latchdown Plug and Assy		
CP8576	6	5 1/2 S. Band Turbolizers		
CP8651	1	5 1/2 Basket - Recip		
		subtotal		
		SCANNED		
		subtotal		
		SALES TAX		
		ESTIMATED TOTAL		

Ravin 3737

AUTHORIZTION [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.

BASIC energy services, L.P.

TREATMENT REPORT

Customer: Grene Mesa Operations	Lease No.	Date: 9/16/2018	
Lease: Miller	Well #: 2-10		
Field Order #: 1706	Station: Pratt, KS	Casing: 8 5/8	Depth: 168
County: Reno	State: KS		
Type Job: 2 4 2 / ~~PTA~~ 8 5/8 Surface	Formation: TD 170	Legal Description: 10-23s-10	

PIPE DATA		PERFORATING DATA		FLUID USED	TREATMENT RESUME		
Casing Size: 8 5/8	Tubing Size	Shots/Ft		Acid	RATE	PRESS	ISIP
Depth: 168	Depth	From	To	Pre Pad	Max		5 Min.
Volume: 10.7	Volume	From	To	Pad	Min		10 Min.
Max Press	Max Press	From	To	Frac	Avg		15 Min.
Well Connection	Annulus Vol.	From	To		HHP Used		Annulus Pressure
Plug Depth	Packer Depth	From	To	Flush: Water	Gas Volume		Total Load

Customer Representative: Dustin Doty	Station Manager: Justin Westerman				Treater: Dustin Fenwick							
Service Units	19911	84580	20340	19960	73765							
Driver Names	Dustin	Ed	Ed	Jose	Jose							

Time	Casing Pressure	Tubing Pressure	Bbls. Pumped	Rate	Service Log
9:00pm					On Location / Safety Meeting
					120 sk Common, 2% cc, ¼# Celloflake
					15.6 PPG, 1.20 yield, 5.23 water
11:15pm	100		3	5	Pump 3 bbls water
	400		25	5	mix 120 sk cement
	100		9	3	Displace 9 bbls water
11:45pm					Shut in
					Cement did Circulate
					3 bbls
					Job Complete / Disconnect
					Thank You!!!

Taylor Printing, Inc. 620-672-3656

Pro-Stim Chemicals LLC

Acidizing Report

Date: 10-3-18

Customer: GRAND MASON	Pro-Stim Chemical Yard: CHANUTE, KS	Pro-Stim Number: A-7
Well Name & Number: MILLER #2-10	Formation:	
County: RENO	State: KS	Interval: 3730-3740

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

Job Pumped Via: Tubing ☒ Casing ☐ Annulus ☐ CTU ☐ Combination ☐ Plug Depth: Packer Depth: 3700

Casing Size	GRD	WT	Depth	Tubing Size	Spot
5-1/2				2 7/8	3730 - 1 BBL

Casing Vol	Tbg Vol	Ann Vol	OH Vol	Total Displacement
.75	21.4			22.4

Customer Representative Signature: [signature]

500 GAL 20% MCA
5gals RAS-10, 24bbls 2% KCL Biocide

Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure Tubing	Pressure Casing	Observations
—	ACID						SPOT 1 BBL, WAIT 5 MIN
							PULLED 2 JOINTS, SET PACKER
1	ACID	3.4		4.5	0	0	
6	FLUSH	3.4		21.7	0	0	
7	"	0		22.5	0	0	WELL LOADED
7	"	0		22.5	500	0	
11	"	6		22.5	800	0	
22	"	0		22.5	800	0	
28	"	0		22.5	900	0	
35	"	0		22.5	1000	0	
42	"	.50		22.9	900	0	WELL TREATED @ 1,000 PSI
43	"	1.1		23.5	300	0	
44	"	1.5		24.9	200	0	
46	"	2.0		28.0	300	0	
48	"	2.0		32.0	300	0	
49	"	0		34.4	200	0	

Treatment Synopsis

Avg Inj Rate	Fluid BPM			Total Injected	H2O 22.4	Acid 1.2	Oil	
Treating Prs	Max 1,000	Fina 200	Avg.	ISIP 200	5 SI 110	10 SI 80	15 SI 70	
					20 50	25 40	30 36	

Pro-Stim Chemicals LLC

Acidizing Report

Date: 10-4-18

Customer: CRAND MESA	Pro-Stim Chemical Yard: CUNNINGHAM	Pro-Stim Number: A-17
Well Name & Number: MILLER #2-10	Formation:	
County: RENO	State: KS	Interval: 3730 – 3740

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

Job Pumped Via: Tubing ☒ Casing ☐ Annulus ☐ CTU ☐ Combination ☐

Plug Depth	Packer Depth
	3700

Casing Size	GRD	WT	Depth	Tubing Size	Spot
5 1/2				2 7/8	3770

Casing Vol	Tbg Vol	Ann Vol	OH Vol	Total Displacement
95	21.4			22.4

Customer Representative Signature: Jake Applebaum

1,000 GAL 10% NE/FE
10gals RAS-10, 24bbls 2% KCL Biocide

Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure Tubing	Pressure Casing	Observations
–	ACID						SPOT 1 BBL, WAIT 5 MIN, PULL 2 JOINTS, SET PACK
1	ACID	3.6		4.6	0	0	
5	"	3.6		18.4	0	0	
7	"	1.5		23.5	50	0	WELL LOADED
8	FLUSH	2.6		26.3	160	0	
9	"	2.7		29.1	250	0	
12	"	3.0		36.9	400	0	
13	"	3.5		40.9	420	0	
14	"	3.5		44.5	430	0	
15	"	0		47.4	250	0	

Treatment Synopsis

Avg Inj Rate	Fluid BPM	Total Injected	H2O	Acid	Oil
	3.05		23.4	24	

Treating Prs	Max	Final	Avg	ISIP	5 SI	10 SI	15 SI
	430	250		250	130	100	80

20	25	30

Pro-Stim Chemicals LLC

Acidizing Report

Date: 10-5-18

Customer: GRAND MESA	Pro-Stim Chemical Yard: CUNNINGHAM	Pro-Stim Number: A-17
Well Name & Number: MILLER #2-10	Formation:	
County: RENO	State: KS	Interval: 3730-3740

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

Job Pumped Via: Tubing ☒ Casing ☐ Annulus ☐ CTU ☐ Combination ☐ | Plug Depth: | Packer Depth:

Casing Size: 5 1/2	GRD	WT	Depth	Tubing Size: 2 7/8	Spot: 3790
Casing Vol: .95	Tbg Vol: 21.4	Ann Vol	OH Vol		Total Displacement: 22.4

Customer Representative Signature: John A Wilson

2,000gals 10% NE/FE Acid; 20gals RAS-10; 24bbls 2% KCL Biocide

Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure Tubing	Pressure Casing	Observations
-	ACID						SPOT 1 BBL, WAIT 5 MIN
							PULL 2 JOINTS, SET PACK
1	ACID	4.1		5.0	0	0	
3	"	4.1		13.1	0	0	
5	"	4.1		21.4	0	0	
6	"	2.0		25.9	20	0	WELL LOADED
7	"	4.1		28.5	400	0	
9	"	4.1		36.3	490	0	
11	"	4.1		44.5	530	0	
12	FLUSH	4.1		48.5	560	0	
14	"	4.1		56.8	580	0	
16	"	4.1		65.0	590	0	
17	"	4.1		69.0	630	0	
18	"	0		72.0	300	0	

Treatment Synopsis

Avg Inj Rate	Fluid BPM: 4.0		Total Injected	H2O: 24	Acid: 4/8	Oil		
Treating Prs	Max: 630	Final: 300	Avg	ISIP: 300	5'SI: 220	10'SI: 180	15'SI: 160	
					20	25	30	

Pro-Stim Chemicals LLC

Acidizing Report

Date: 10-10-18

Customer: GRAND MESA | Pro-Stim Chemical Yard: UINTAH | Pro-Stim Number: A-13

Well Name & Number: MILLER 2-10 | Formation:

County: KENO | State: CS | Interval: 3722-3724

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

Job Pumped Via: Tubing ☑ | Casing ☐ | Annulus ☐ | CTU ☐ | Combination ☐ | Plug Depth: | Packer Depth: 3700

Casing Size	GRD	WT	Depth	Tubing Size	Spot
5 1/2				2 7/8	

Casing Vol	Tbg Vol	Ann Vol	OH Vol	Total Displacement
.57	21.4			22

500gals 15% MCA Acid; 5gals RAS-10; 30bbls 2% KCL Biocide

Customer Representative Signature: _____

Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure Tubing	Pressure Casing	Observations
1	ACID			1.0	0	0	SHOT 1 BBL
							WAIT 5 MIN
7	"	3.0		3.9	0	0	
9	"	3.0		10.3	0	0	
11	FLUSH	3.0		16.3	0	0	
15	"	3.0		28.5	0	0	
17	"	0		35.0	0	0	

Treatment Synopsis

Avg Inj Rate: Fluid BPM 3.0 | Total Injected: H2O 23 | Acid 12 | Oil

Treating Pres: Max 0 | Final | Avg 0 | ISIP 0 | 5 SI | 10 SI | 15 SI

VAC | 20 | 25 | 30

Pro-Stim Chemicals LLC

Acidizing Report

Date: 10-11-18

Customer: CHANCE MESA	Pro-Stim Chemical Yard: WINONA	Pro-Stim Number: A-17
Well Name & Number: MILLER # 2-10	Formation:	
County: RENO	State: KS	Interval: 3722-3724

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

Job Pumped Via: Tubing ☒ Casing ☐ Annulus ☐ CTU ☐ Combination ☐ Plug Depth: Packer Depth: 3700

Casing Size	GRD	WT	Depth	Tubing Size	Spot
5 1/2				2 7/8	

Casing Vol	Tbg Vol	Ann Vol	OH Vol	Total Displacement
.57	21.4			22.0

1,000gals 15% NE/FE Acid; 10gals SDA-95; 10gals RAS-10; 30bbls 2% KCL Biocide

Customer Representative Signature: _____

Treatment Record

Time	Type Fluid	Rate BMP	Increment Vol Bbls	Cum Vol Bbls	Pressure Tubing	Pressure Casing	Observations
1	ACID	3.9		4.0	0	0	
4	"	3.9		15.4	0	0	
6	"	3.9		23.0	0	0	
7	FLUSH	3.3		26.4	30	0	CAUGHT WELL
8	"	3.9		30.5	400	0	
9	"	3.9		34.3	450	0	
10	"	3.8		38.0	500	0	
11	"	5.5		41.7	470	0	
12	"	3.1		44.5	450	0	
13	"	0		46.5	220	0	

Treatment Synopsis

Avg Inj Rate	Fluid BPM 3.6		Total Injected	H2O 22.5	Acid 24	Oil			
Treating Pres	Max 500	Final 220	Avg	ISIP 220	5 SI 160	10 SI 120	15 SI 90		
					20	25	30		

BASIC ENERGY SERVICES

Pratt Yard #1718
PO Box 8613
(620) 672-1201
Pratt, KS 67124

Field Ticket

Customer:	Grand Mesa Operating Company	Customer No:		Invoice No:	1718-17425A ZBZ
Address:	1700 N Waterfront Parkway, Bldg 600	AFE No:	-	P.O. No:	
City, State, Zip:	Wichita, KS 67206	Job Type:	15 Tank Slickwater	Stage #	1
Service District:	Pratt, Kansas	Well Type:	Oil		
Well Name and No:	Miller 2-10	County/Parish:	Reno	State:	Kansas

Product Code	Invoice Code	Description	Unit of Measure	Quantity	List Price/Unit	Item Discount	Gross Amount	Net Amount
Products								
PB3050	0	30-50 Mesh Brown	Cwt	886.00				
PB1630	0	16-30 Mesh Brown	Cwt	500.00				
PRC1630	0	Resin Coated, 16/30 mesh	Cwt	100.00				
FR102	0	BES: C-Plexslick 957	Gal	195.00				
SF104	0	BES: C-Plexsurf 580 ME	Gal	70.00				
BK103	0	BES: C-Plexgel Breaker XPA	Gal	56.00				
KCL114		BES: C-Clayplex 650	Gal	139.00				
BIO102	0	BES: C-Plexcide P5	Gal	30.00				
Equipment and Services								
ME102	0	Heavy Equipment Mileage	Mi	385.00				
ME101	0	Light Vehicle Mileage	Mi	70.00				
DC104	0	Proppant and Bulk Delivery Charges	Tn/Mi	2,600.00				
BE100	0	Pump Truck	hr	10.00				
BE105	0	Blender	hr	2.00				
BE125	0	Densiometer	hr	2.00				
BE119	0	Computerized Liquid Chemical Additive Unit	hr	2.00				
ME134	0	Generic Proppant Pump Charge	Cwt	1,486.00				
BE111	0	Sand Field Storage Unit	hr	2.00				
ME106	0	Rental: 4" Frac Valve	Job	1.00				
BE132	0	Treatment Van, (Computerized Data monitor	hr	2.00				
BE129	0	Service Supervisor	hr	2.00				
BE113	0	Iron Truck	hr	2.00				
BE121	0	Manifold Trailer	hr	2.00				

TERMS: Cash in advance unless Basic Energy Services has approved credit prior to sale. Credit terms of sale for approved accounts are total invoice due on or before the 30th day from the date of invoice. Past due accounts may pay interest on the balance past due at the rate of 1 ½% per month or the maximum allowable by applicable state or federal laws if such laws limit interest to a lesser amount. In the event it is necessary to employ an agency and/or attorney to affect the collection of said account, Customer hereby agrees to pay all fees directly or indirectly incurred for such collection. In the event that Customer's account with BES becomes delinquent, BES has the right to revoke any and all discounts previously applied in arriving at net invoice price. Upon revocation, the full invoice price without discount will become immediately due and owing and subject to collection.

Gross Amount	
Net Amount	
Customer Representative:	John Johnson
Basic Representative:	Mike Maguire
Date os Service:	November 9, 2018

SERVICE ORDER: I AUTHORIZE WORK TO BEGIN PER SERVICE INSTRUCTIONS IN ACCORDANCE WITH TERMS AND CONDITIONS (INCLUDING INDEMNIFICATION OBLIGATIONS) LISTED HERE OR IN THE CUSTOMER CONTRACT FORM AND REPRESENT THAT I HAVE AUTHORITY TO ACCEPT AND SIGN THIS ORDER.

Customer Comments or Concerns:

All applicable Federal, State and Local Taxes will be added to final invoice.

Basic Energy Services appreciates any Comments, Concerns or Critisism's from our valuble customers as Safety and Customer Satisfaction are our Number 1 goal.

All comments are confidential and will be used in a constructive manner to improve our Safety and Job Performance. We welcome them as a useful tool to improve our service.

BASIC ENERGY SERVICES

Treatment Report

Customer:	Grand Mesa Operating Company	District:	Pratt, Kansas
Date:		API #	
Lease/Well Name:	Miller 2-10	Well Type:	Oil
County, State:	Reno, Kansas	Job Type:	15 Tank Slickwater
Job #			
Formation	Viola		
Field			
Stage #	1		

Well Data				Set From	Set To	Capacities		Totals	
Casing Size	5.50" 15.50#	BBL/FT	0.0238	0 ft	3,740 ft	Casing bbls	89 bbls	Clean	6,655 bbls
Casing Size		BBL/FT				Tubing bbls		Slurry	6,818 bbls
Tubing Size		BBL/FT				Flush Volume gals	3,739 gals	Proppant	0 lbs
Tubing Size		BBL/FT				Flush Volume bbls	89 bbls		
# of Perfs:	44	Perf Size:	0.40 in	Interval @	3,722 ft	3,740 ft			

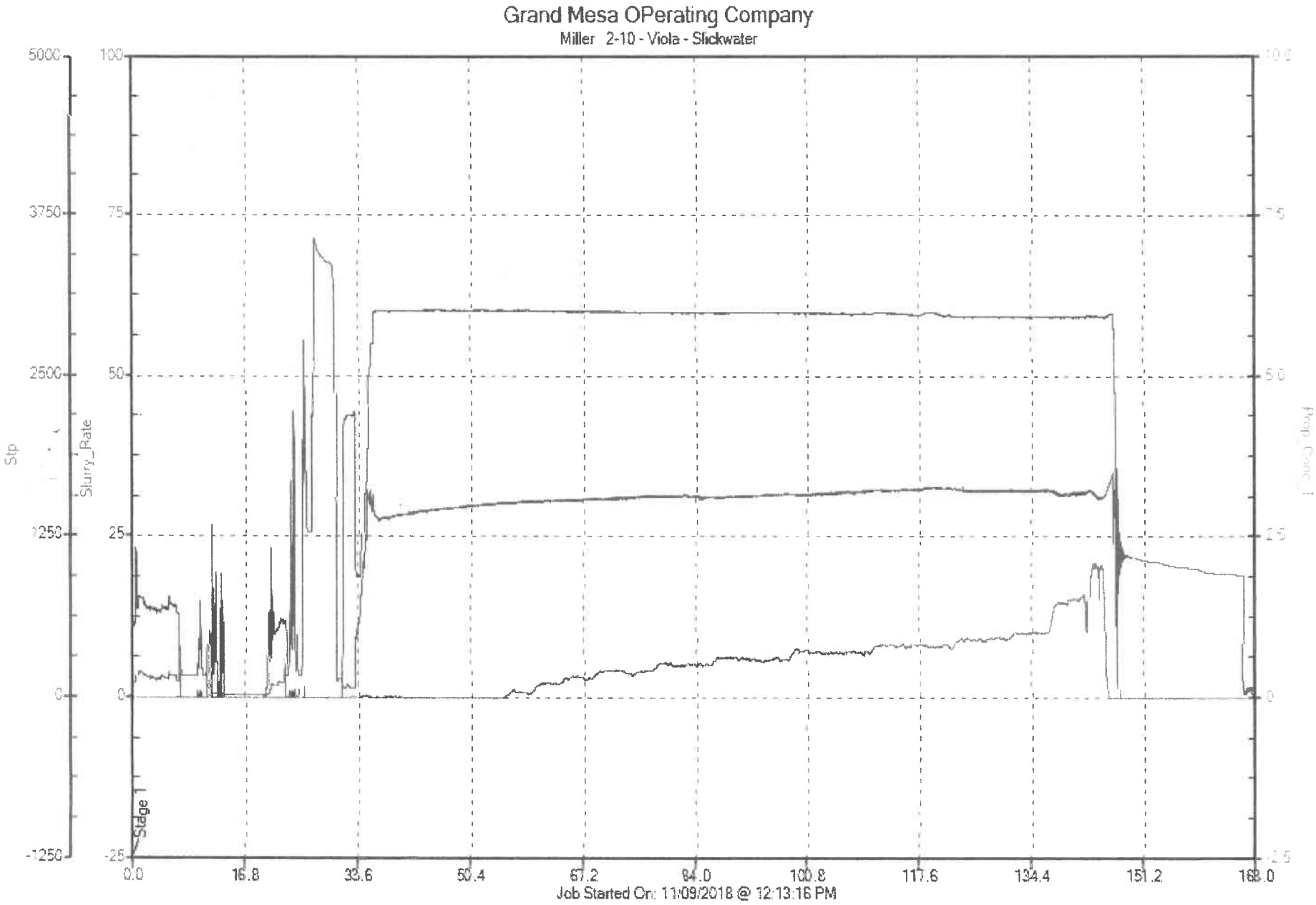
Job Details

Stage Name	Slurry BBLS	Stage Name	Slurry BBLS	Proppant	Total
Start Pad	0 bbls	start .4	0 bbls		
Start .1 30/50	0 bbls	start .5	0 bbls		
on bottom	0 bbls	start .6	0 bbls		
Start .2	0 bbls	start .7	0 bbls		
start.3	0 bbls	start .8	0 bbls		

			Min	Max	Average				
ISIP	1153					Pumps on Location	6	Time	
5 Min	1054	Treating Pressure	1,421 psi	1,613 psi	1,515 psi	Fluid Ends Lost			
10 Min	1001	Treating Rate	59 psi	60 psi	60 psi	Basic Energy Service Rep:		M. L. McGuire	
15 Min	961	Frac Gradient		0.74 psi/ft		Customer Rep:			

Treatment Data

Time (Military)	STP	Rate	Clean BBLS Stage	Clean BBLS Total	Slurry BBLS Stage	Slurry BBLS Total	Proppant lbs Stage	Proppant lbs Total	Stage Name	Proppant	PPG
12:05										Safety Meeting	
12:40										Test Lines	
12:44	1,421 psi	60.0							Start Pad		
13:08	1,509 psi	60.0				1,333			Start .1 30/50		
13:09	1,509 psi	60.0				1,422			on bottom		
13:12	1,525 psi	60.0				1,572			Start .2		
13:13	1,524 psi	60.0				1,661			on bottom		
13:16	1,525 psi	60.0				1,860			start.3		
13:18	1,538 psi	60.0				1,949			on bottom		
13:22	1,543 psi	60.0				2,150			start .4		
13:23	1,543 psi	60.0				2,239			on bottom		
13:31	1,567 psi	60.0				2,683			start .5		
13:32	1,560 psi	60.0				2,772			on bottom		
13:40	1,565 psi	60.0				3,219			start .6		
13:41	1,555 psi	60.0				3,308			on bottom		
13:51	1,584 psi	59.7				3,904			start .7		
13:52	1,578 psi	59.7				3,993			on bottom		
14:03	1,607 psi	59.6				4,641			start .8		
14:05	1,613 psi	59.8				4,730			on bottom		
14:16	1,631 psi	59.8				5,381			start .9 16/30		
14:17	1,607 psi	59.8				5,470			on bottom		
15:24	1,607 psi	59.2				5,877			start 1#		
15:26	1,602 psi	59.2				5,966			on bottom		
15:30	1,591 psi	59.2				6,226			start 1.5		
15:31	1,572 psi	59.2				6,315			on bottom		
15:37	1,568 psi	59.3				6,583			Start 2# resin		
15:38	1,572 psi	59.3				6,682			on bottom		
15:38	1,568 psi	59.3				6,713			Start flush		
15:40	1,153 psi					6,802			Shut down		


Grand Mesa OPerating Company
Miller 2-10 - Viola - Slickwater
5000
3750
2500
1250
0
-1250
100
75
50
25
0
-25
Stp
Slurry_Rate
Stage 1
0.0
16.8
33.6
50.4
67.2
84.0
100.8
117.6
134.4
151.2
168.0
Job Started On: 11/09/2018 @ 12:13:16 PM

Conservation Division
266 N. Main St., Ste. 220
Wichita, KS 67202-1513

Kansas
Corporation Commission

Phone: 316-337-6200
Fax: 346-337-6211
http://kcc.ks.gov/

January 30, 2019

Michael J. Reilly
Grand Mesa Operating Company
1700 N WATERFRONT PKWY BLDG 600
WICHITA, KS 67206-5514

Re: ACO-1
API 15-155-21759-00-00
MILLER 2-10
SW/4 Sec.10-23S-10W
Reno County, Kansas

Dear Michael J. Reilly:

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 09/15/2018 and the ACO-1 was received on January 30, 2019 (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

GRAND MESA OPERATING COMPANY

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

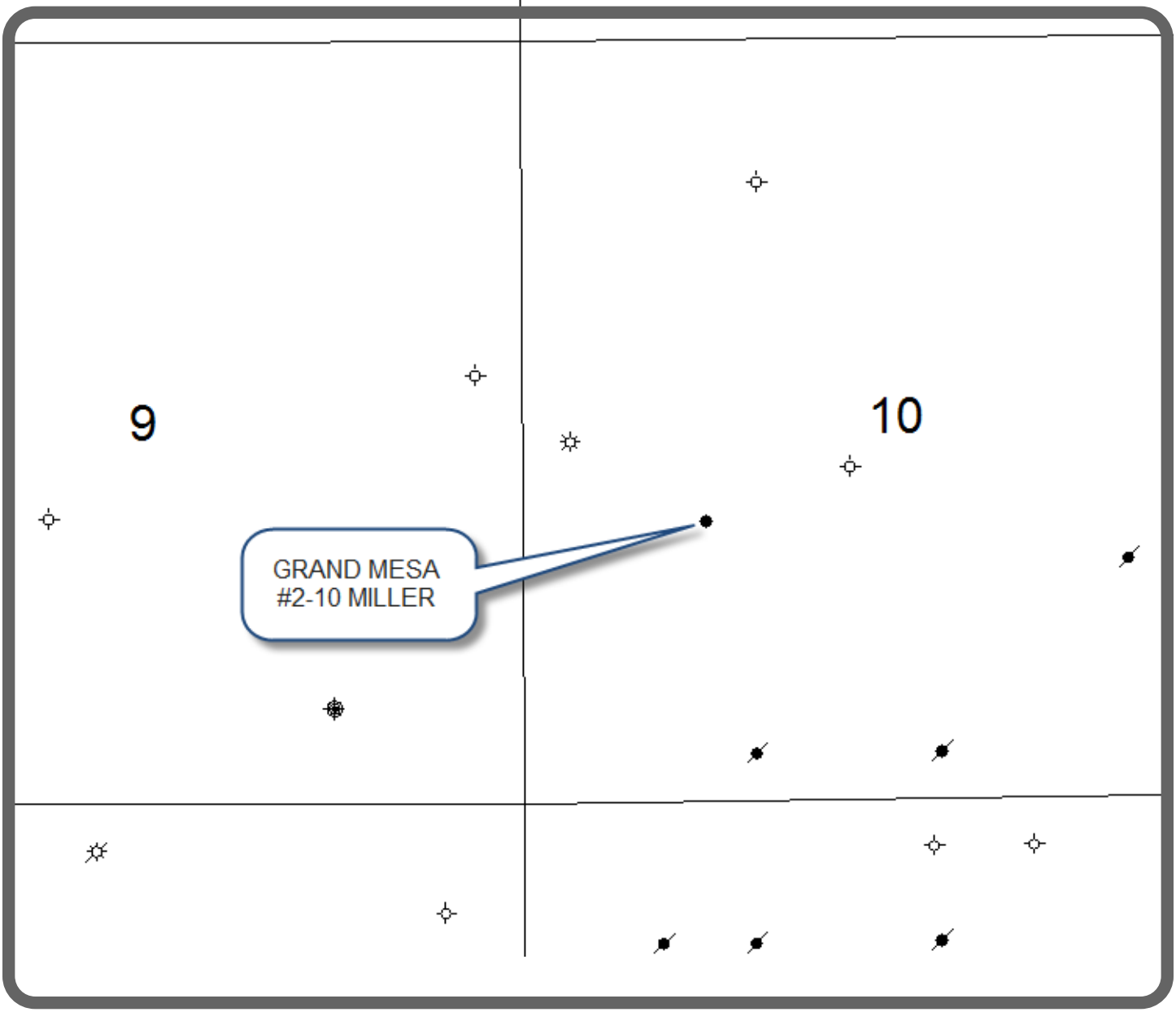
1700 N. WATERFRONT PARKWAY
BLDG. 600
WICHITA, KANSAS 67206-5514

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

Well Name:	**#2-10 MILLER**
API:	**15-155-21759**
Location:	**1950 FSL, 1273FWL SEC 10-23S-10W RENO COUNTY KANSAS**
License Number:	**Region:**
Spud Date:	**09/14/2018** **Drilling Completed: 09/21/2018**
Surface Coordinates:	**Lat: 38.0618**
	Long: -98.4128
Bottom Hole Coordinates:	**Vertical hole**
Ground Elevation (ft):	**1765** **K.B. Elevation (ft): 1770**
Logged Interval (ft):	**SURF To: RTD Total Depth (ft): 3860**
Formation:	**Simpson**
Type of Drilling Fluid:	**Chemical**

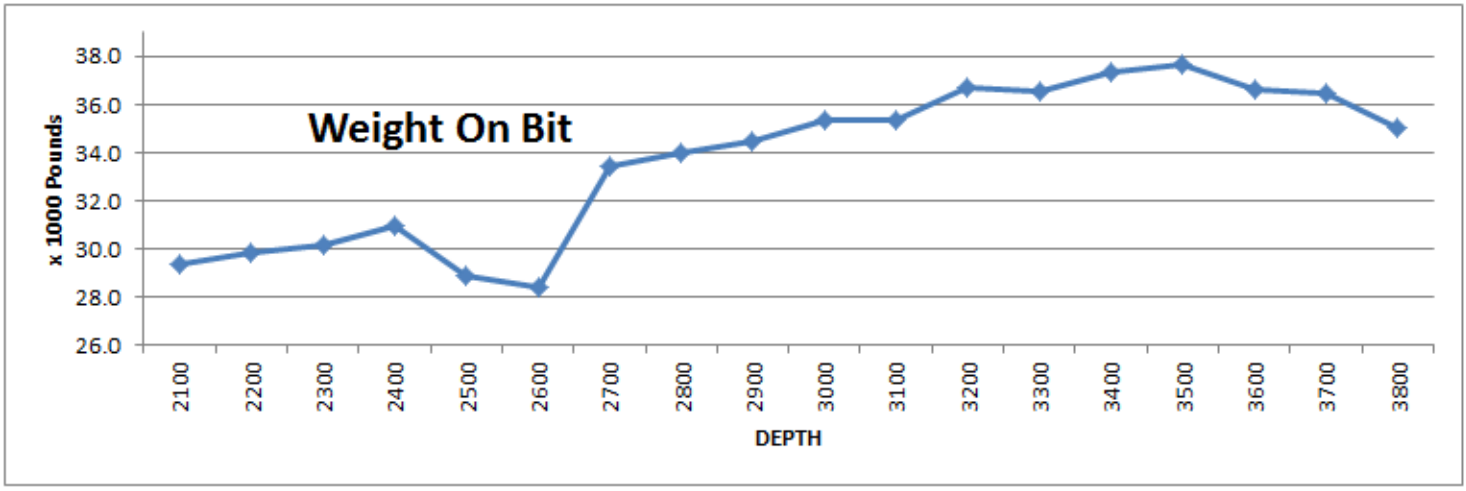
GEOLOGIST

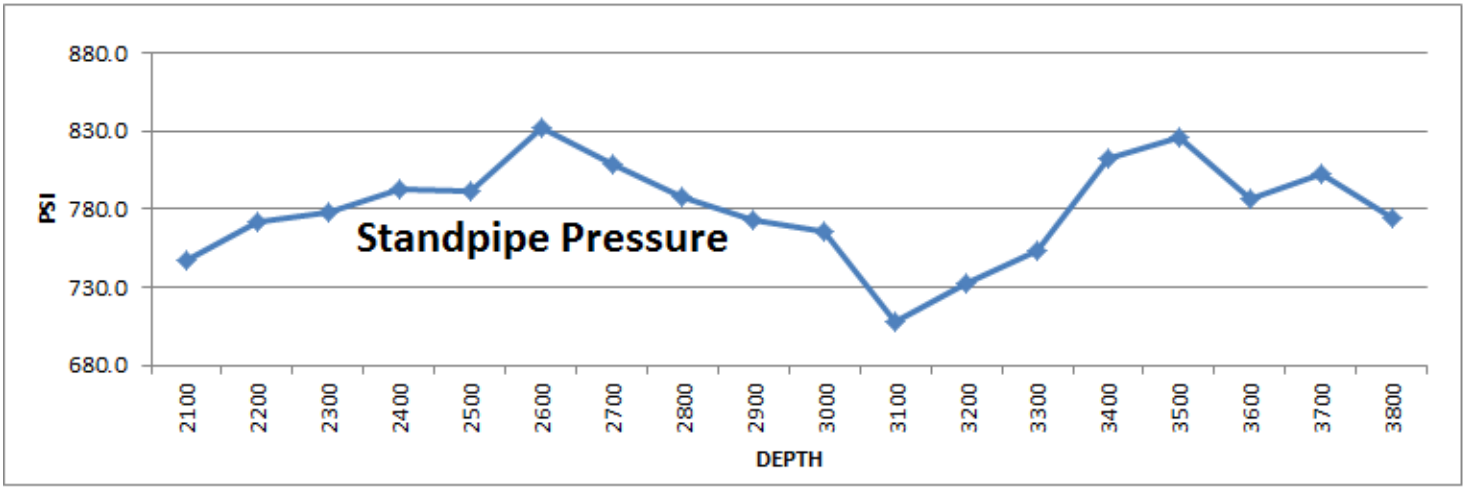
Name: **Steven P. Carl**
Company: **Grand Mesa Operating Company**
Address: **1700 N. Waterfront Parkway, Bldg 600**
Wichita, Kansas 67206
316-256-3000

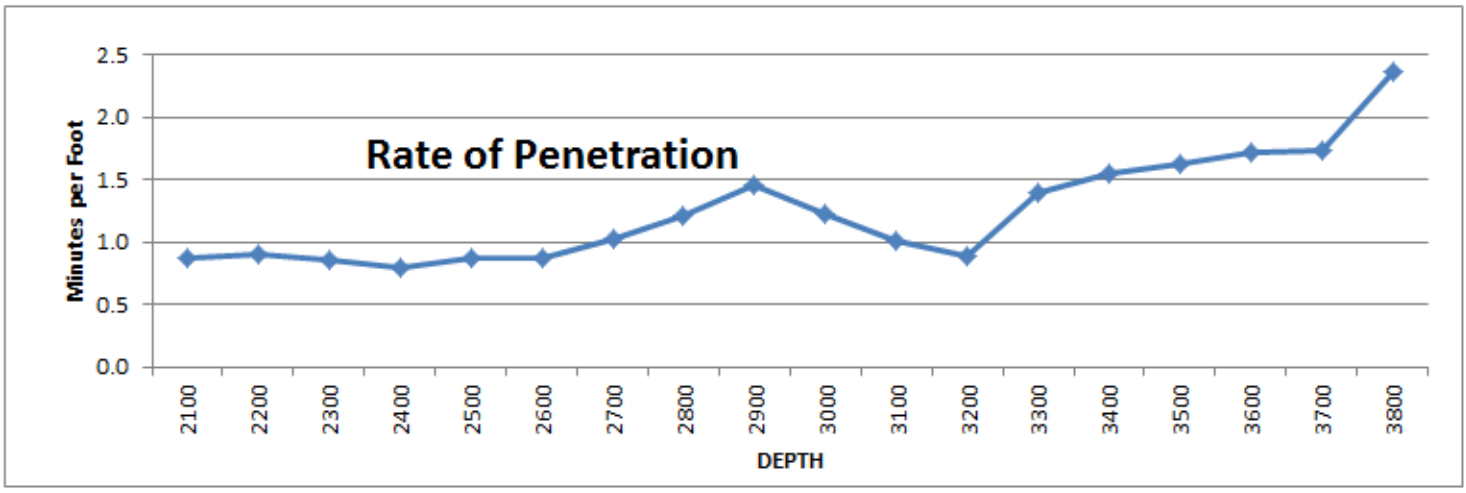

9
10
GRAND MESA
#2-10 MILLER

FORMATION TOPS

FORMATION	LOG TOPS Depth	Datum
B/Stone Corral	443'	+1327
Tarkio	2445'	-675
Howard	2670'	-900
Topeka	2774'	-1004
Heebner Shale	3068'	-1298
Lansing	3254'	-1484
Stark Shale	3476'	-1706
Hushpuckney Shale	3506'	-1736
BKC	3534'	-1764
Kinderhook SH	3626'	-1856
Viola	3700'	-1930
Simpson	3820'	-2050
RTD	3860'	-2090
LTD	3856'	-2086

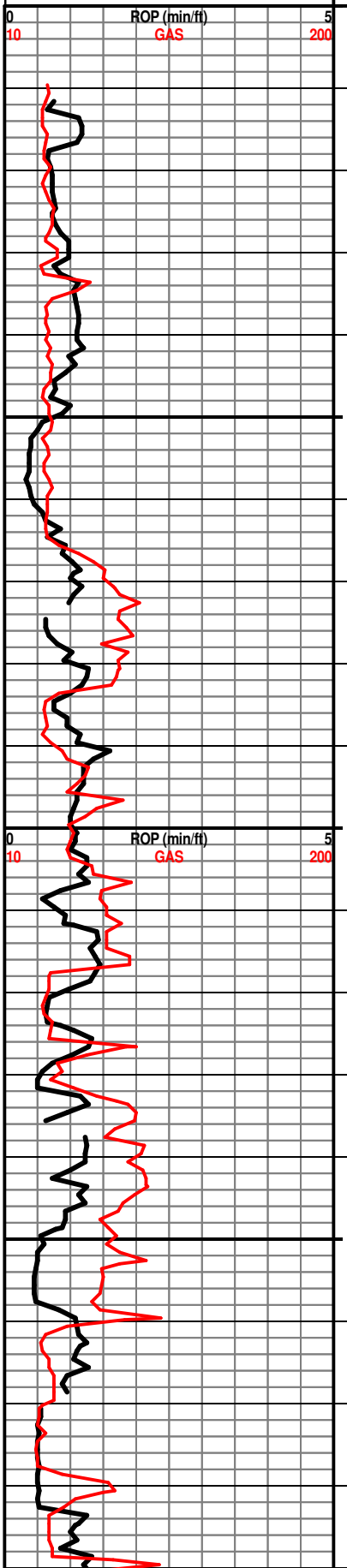




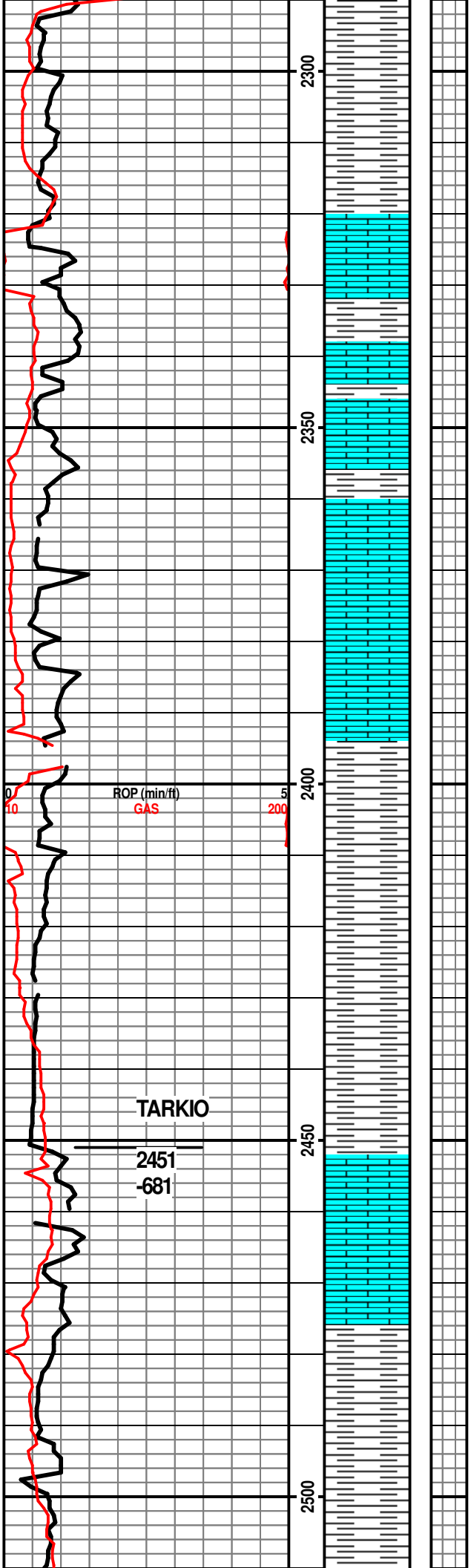


COMMENTS

Contractor: WW RIG #4
Tool Pusher: DUSTIN DAY
Surface Casing: 8 5/8" SET AT 168', Cement by Basic.
Production Casing: 5 1/2" set at 3820', Cemented by QES Services
Mud by: MudCo
DST's by: DIAMOND TESTING
Logs by: Weatherford (DIL, CN-CD, ML, SON)
ROP and GAS by PASON
RTD=3860'
LTD=3856'



MD	Lithology	CFS Point	Oil Shows	Geological Descriptions	Remarks
2100				Base Stone Corral = 442, datum 1327 Chase Group = 1501, datum 269 9/15/2018, MIRT 9/16/2018, Drilled out, at 11am, 168' 9/17/2018, Drilling at 1598' 9/18/2018, Drilling at 2715' 9/19/2018, Drilling at 3485' 9/20/2018, DST #1 at 3780' 9/21/2018, Logging at 3860' 9/22/2018, Running 5 1/2" casing	
2150					
2200					
2250					



2400 sample: Mostly silty gray shales, med to dark gry, a few ss clusters, fn grn, friable.

Mostly the same, influx of red shales, some anhydrite, few gyp xtls.

SH-med to drk gry, blocky, waxy, some silty, some SH-red, muddy, some LS-lt gry, med xln, mottled, soft, few anhy and gyp xlts.

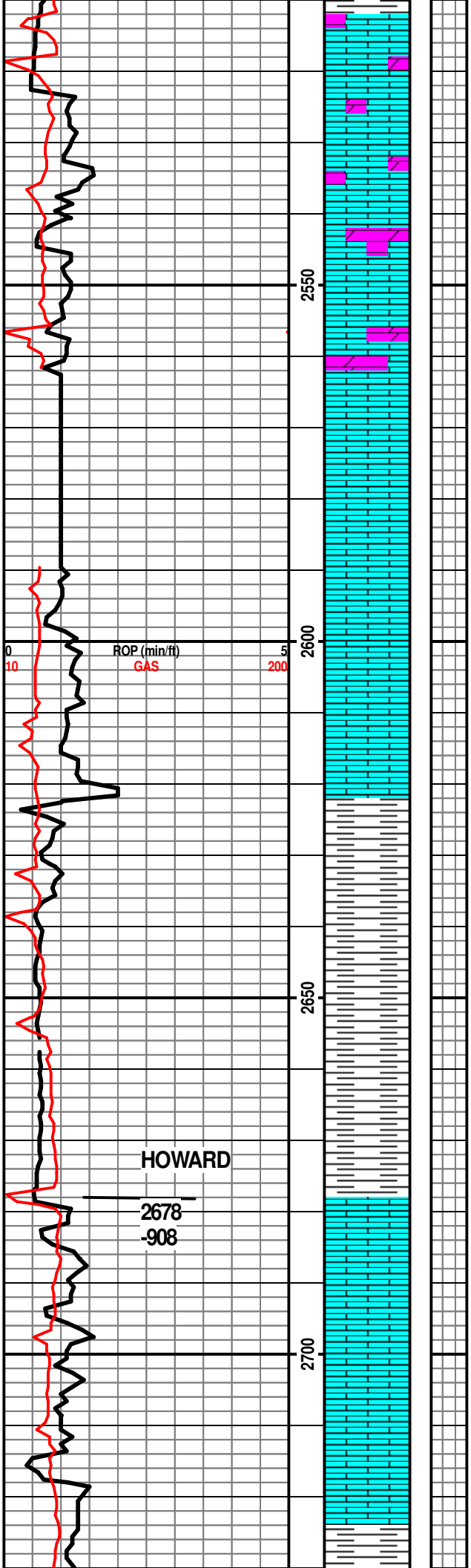
same

SH's mostly as above, some rounded, soft, sticky.

2500 sample: LS-lt gry/tan, fn-med xln, some grainy/gritty, abun foss-crin, few chalky, soft matrix, easy crush, rare fr vug por, no cup odr, no show.

same LS's, lt gry/tan, soft, brittle, SH's as above, mostly drk gry, some silty.

predom same as above, few chips of DOLO-lt tan, dense, med hard, no por,



still carrying some anhy and gyp xtls.

LS-crm, fn xln to sparry, abun foss-large fusulinids, few chalky, scat int xln (chalky) porosity, few chips of DOLO as above, lots of drk shales, no cup odor.

LS's and DOLO's as above.

2600 sample: sharp decr in LS, mostly dark shales, some LS-drk brown, foss, dense, med crush, no vis por, no cup odor, no show.

same

LS's, some drk brown, crs xln, foss, mottled, dense, med crush, some LS-lt gry/tan, fn xln, chalky, easy crush, abund drk gry shales, few chips anhy/gyp, no cup odr, no show.

influx lt gry mudstone, very soft, sticky, incr evap minerals, some LS, mostly as above, well preserved fusulinid fossils, no por, no cup odor, no show.

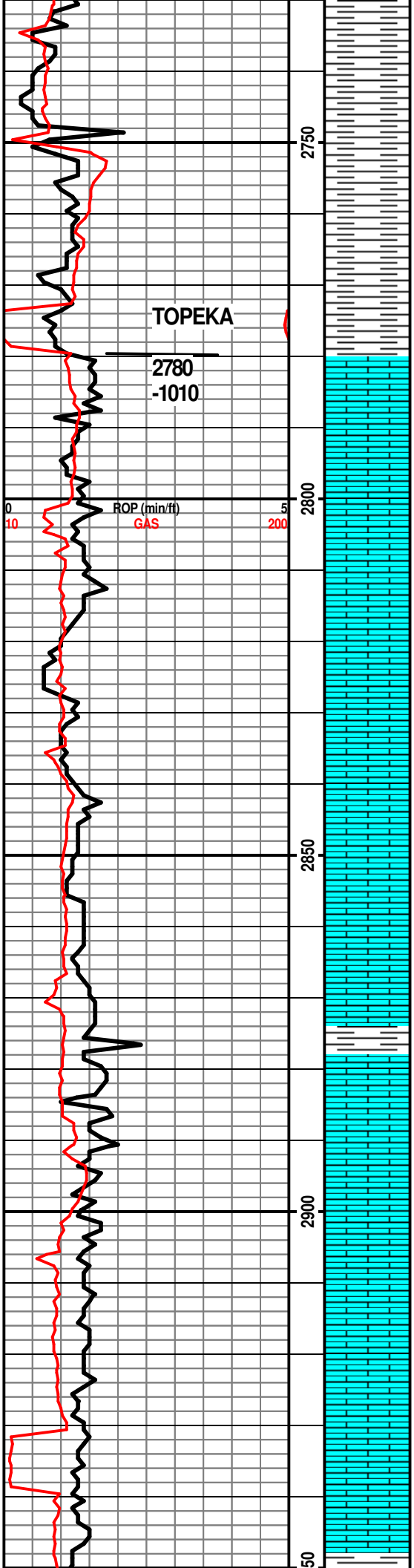
sharp incr red SH's, abund evap minerals.

2700 sample: as above, decr in red SH's.

LS-crm, lt tan, fn xln, chalky, mostly uniform matrix and texture, some mottled, lot of SH's as above, decr in evap mins, no cup odor.

LS-lt tan, few dark tan, fn xln, mostly uniform as above, some mottled/foss, few chips of CHERT, no cup odor, no vis por, no show.

LS-lt tan, few dark tan, fn xln, mostly uniform as above, no cup odor, no vis



por, no show.

LS- as above, Foss-coral/fusulinids

2800 sample: LS-lt tan, fn xln, foss, brittle, easy crush, no cup odr, ns.

LS-lt tan, fn xln, chalky in part, med crush, no vis por, no cup odr, ns.

LS- mostly as above, influx LS-drk brown, mottled, foss-crin/fus, no cup odr, no por, ns.

same LS's foss, chalky.

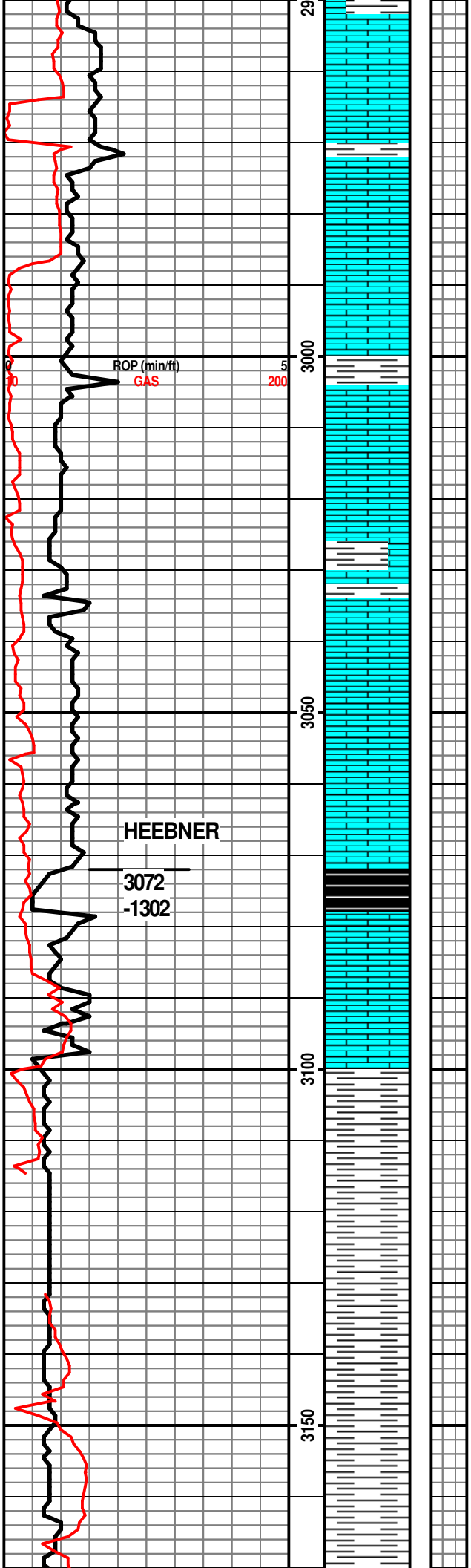
same LS's, influx SH-drk gry to black, brittle, fissile, few frags of evap minerals as above, no cup odr, no por, ns.

LS's, mostly lt tan/crm, fn xln, some chalky, some brittle, few chips of fresh CHERT, abund foss-brach/coral/fus/crin, no cup odr, no por, ns.

LS-as above, darker tan, abund foss, scat int foss por, some chalky int xln por, no cup odr, no show.

LS-lt gry/crm, fn xln, chalky, foss, soft, brittle, easy crush, scat in xln por, no cup odr, ns.

same: slt incr sharp CHERT, no cup odr, no por, ns.



3000 sample: sharp increase in fissile dark gry to black SH, no cup odr.

SH- as above, lighter gry, influx of some blocky red SH, no cup odr, ns.

LS-lt tan/crm, chalky in part, foss, rare pr int xln (chalky) por, soft, easy crush, no cup odr, no show.

LS-crm, mottled in part, uniform in part, some foss, influx of abund anhy and gyp minerals, no cup odr, no show.

LS-med tan, fn xln sparry, mottled, abund foss, some chalky, some hard and brittle, some spotty mineral staining in pr int xln por, does not fluor, no cup odr, no show.

3050 sample: LS-mottled tn, chalky matrix, abund drk brn gilsonite staining, does not fluor, cuts in acetone bright blue, no cup odr, no show of free oil.

LS-as above, decr staining, abund foss, no cup odor, no show free oil.

LS-as above, continues with gilsonite staining in por int xln, chalky porosity, no cup odor, no show free oil.

same, decr staining, no cup odr, no fluor, no show free oil.

Same: no HEEB in 3090 sample, no cup odor, abund gilsonite, no show free oil.

LS-predom med tan, hard, dense, mostly uniform, few foss, some LS-crm/lt tan, chalky, foss, still carrying a small amount of gilsonite, abund gry shale, no HEEB in 3100 sample.

LS's same as above, few chips of HEEB in 3110 sample.

HEEB abund in 3120 sample, blk, carb, fissile, brittle bleeding gas bubbles, no cup odor, no show free oil.

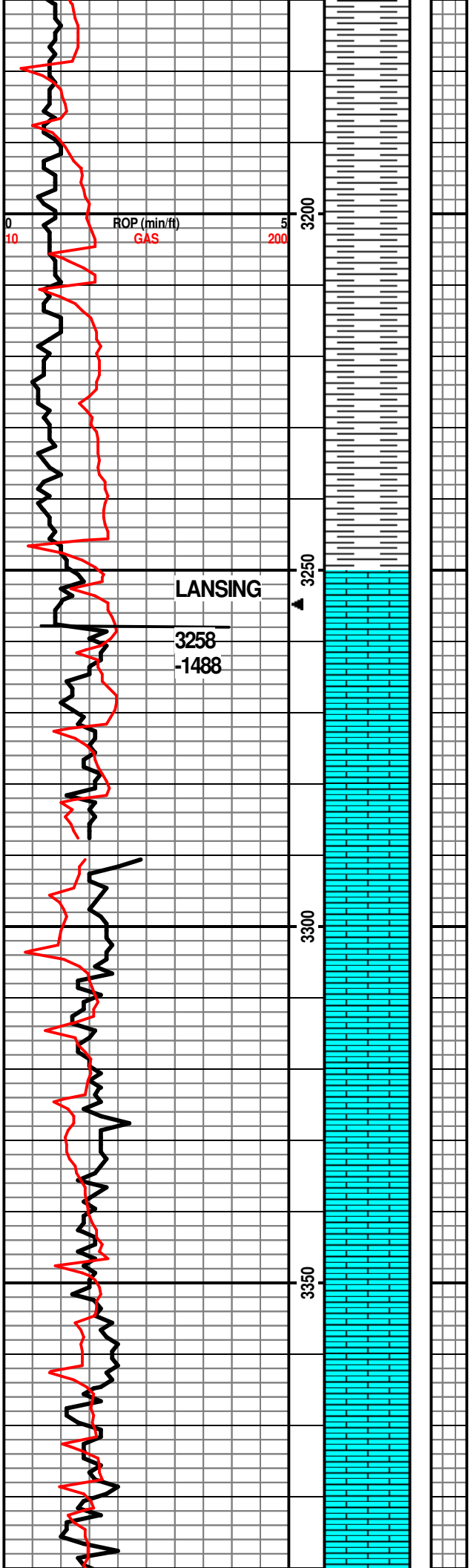
Several LS's- some med to lt tan to crm, some lt tan/crm, hard, brittle, uniform, some chalky, mottled, foss, lots of HEEB shale in 3140 sample, influx of brn/red waxy SH, no cup odor, no show.

LS's as above, still carrying abund HEEB shale.

LS-med tan, fn xln, dense, hard, abund foss- brach/spic/ crin, some chalky, mealy, mottled, pr int xln por in a few pcs, few pcs LS-drk tan, mottled, foss, brittle, hard, no cup odor, no fluor, no show.

3200 sample: LS's as above, SH's, lt-dry gry, varicolored, red/brown, few gm, no cup odor, ns.

LS-predom mottled tan, foss, flakey in part, chalky in part, SH's as above, no cup odor, no show.



No change, predom SH's as above

No change

LS-med tan, fn xln, mottled, foss, brittle, no vis por, no cup odr, no show, SH's as above.

SH-drk gry to black, not carb, less red/brown, no cup odor, no show.

SH- as above, increase proportion of red/brn, lighter gray, less black.

LS-lt tan/crm, fn-med xln, sparry, brittle, foss, no por, influx of small amount of CHERT-gry, opaque. SH's as above, no cup odor, no show.

LS-crm, lt gry, fn xln, some uniform, chalky, some mottled, foss, sparry, no cup odor, no por, no fluor, no show.

LS-med tan, fn xln, dense, brittle, hard, mostly uniform, some foss, no cup odor, no por, no show.

SS-lt blu/gray, silty, muddy, very fine grained, well sorted, mica, no cup odor.

LS-mostly lt tan/crm, some med tan, fn xln, all mottled, foss, chalky to dense/brittle, no por, no cup odor, no show.

LS-lt tan, fn xln, some chalky, some dense/brittle, more uniform than above, decr foss, no por, no cup odor, no show.

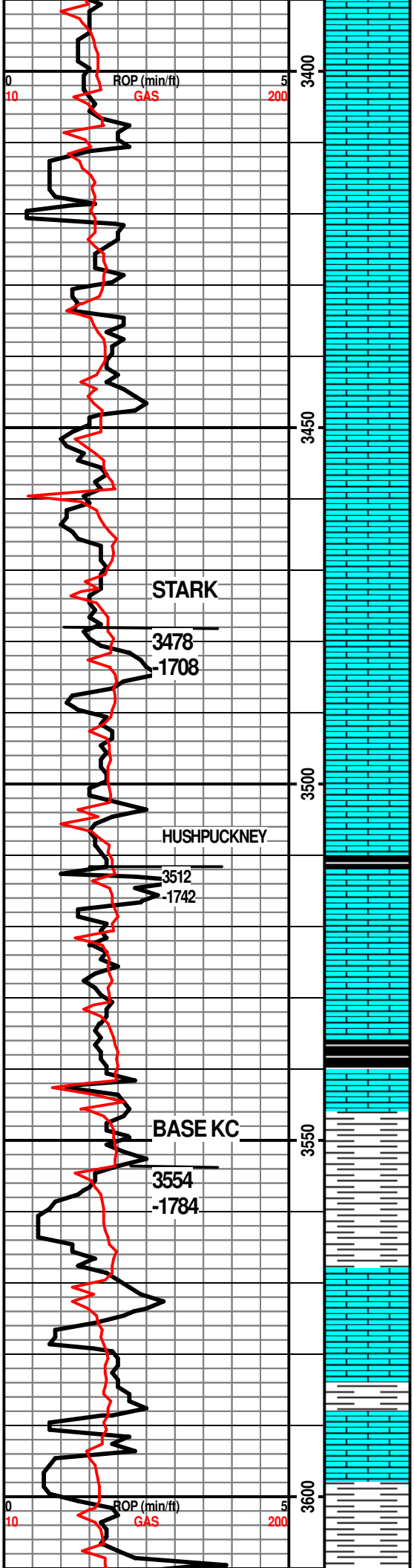
LS's as above, no change, no cup odor, no vis por, no show.

LS-lt gry, lt tan, fn xln, dense, hard, difficult crush, few chips oolitic, int ool por is filled with calcite, no cup odr, no fluor, no vis por, no show.

LS's as above, rare drk mineral stain in por int xln (chalky) por, no cup odr, no fluor, no vis por, no show.

LS-med tan, fn xln, dense, hard, no cup odr, no fluor, no vis por, no show.

Several LS's-LS-lt-med tan, dense, hard uniform, LS-med tan, v foss-bryz/crin/brach, LS-lt gry, mealy, chalky, foss, no cup odr, no fluor, no vis por, no show.



LS's as above, inf, influx CHERT-gry opaque to milky, transl, all sharp/fresh, no cup odr, no fluor, no vis por, no show.

LS-predom lt tan/gry, fn xln, uniform, hard, brittle, incr CHERT as above, no cup odr, no fluor, no vis por, no show.

LS-med tan/gry, fn xln, uniform, mostly hard, dense, brittle, some chalky, decr CHERT as above, no cup odr, no fluor, no vis por, no show.

LS- as above, no cup odr, no fluor, no vis por, no show.

LS-lt gry/tan, fn xln, dense, hard, tough, difficult crush, mostly uniform, some foss, rare ool, sparry, rare ooc, sparry, rare good ooc por, no cup odor, no fluor, no show.

LS-as above, few chips with black mineral staining along frac faces and stylolites, weak blu fluor on cut with acetone, no cup odor, no show free oil

LS-med tan, fn xln, mostly dense/hard, some uniform, some v foss, rare CHERT, no cup odr, no fluor, no vis por, no show.

LS's as above, incr chalk, no cup odr, no fluor, scat int xln (chalky) por, no show.

Several LS's, fn xln, uniform, some foss, some chalky, incr milky CHERT, some SH-gry, no carb SH, no cup odr, no fluor, no vis por, no show.

no change, no carb blk shale in 3510 sample

LS-lt tan, fn xln, mostly uniform, few foss, rare CHERT, rare chalky, no carb shale in 3520 sample, no cup odr, no fluor, no vis por, no show.

Few chips black carb shale in 3530 sample, no cup odr, no fluor, no vis por, no show.

LS's same as above, light colored, dense, hard, brittle, mostly uniform, rare foss, rare CHERT, no cup odr, no fluor, no vis por, no show.

LS-med tan, vfn xln, dense, brittle, hard, foss-bryz/crin no cup odr, no fluor, no vis por, no show.

LS's as above, no cup odr, no fluor, no vis por, no show.

LS-predom lt tan, fn xln, mostly uniform, some v foss, few chalky, SH's lt to drk gry, grn, no cup odr, no fluor, no vis por, no show.

LS's as above, dense, hard, incr SH's, gry/grn, no cup odr, no fluor, no vis por, no show.

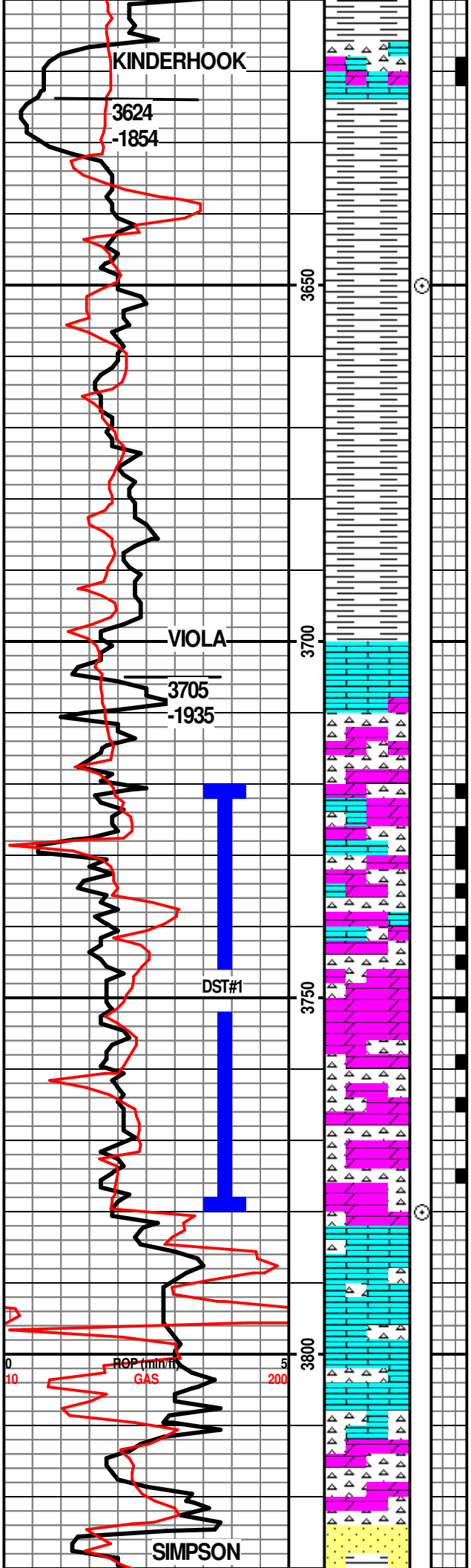
LS-crm tan, fn xln, dense, hard, some ool/foss, some uniform, no cup odr, no fluor, no vis por, no show.

LS-lt tan, fn xln, dense, hard, brittle, mostly uniform, some v foss, few chips CHERT, few chips of carb blk SH, no cup odr, no fluor, no vis por, no show.

LS's as above, incr in various SH's, drk gry, blk, lt gry, some green, some red/brown, waxy, no cup odr, no fluor, no vis por, no show.

no change, no odor.

no change, no odor.



LS-predom lt gry/tan, fn xln, dense, med hard, some uniform, some foss/ool-fus, some chalky, sample is about 50% SH, and of the SH's about 50% drk-lt gry, 50% red/ brown, rare (1-2 chips per tray) DOLO-lt tan, fn xln, foss, dense, no por, rare CHERT-milky, fresh, 1-2 chips per tray in the 60min sample with poor porosity and vvssfo, no cup odor.

30min- as above, influx abun CHERT- orange, milky, sharp, fresh, one chip of milky CHERT had one tiny bright blue spot of fluor, otherwise no cup odr, no fluor, no vis por, no show free oil.

3680sample had several (3-4) pcs per tray of CHERT as above with a sso, Predom LS- lt tan/crm, crs xln in part, foss in part, no cup odr, no fluor.

CFS 3650
60mins

3690sample: Predom SH-gry/grn, about 30% red/brown, most waxy, blocky, no blk carb, no cup odr, no fluor, no vis por, no show.

3700sample predom SH's as above, still carrying an occasional chip of CHERT with vssfo, no cup odr, no fluor.

SH-predom drk gry, some red/brown, vari col, no cup odr, no fluor, no vis por, no show.

SH-as above, no cup odr.

SH-as above

LS-lt tan/crm, fn xln, med hard, mostly uniform, no por, no cup odor, no show.

3750 sample, influx CHERT, mostly fresh, sharp, still carrying lot of SH as above, some LS as above, cup has faint petr odor, rare CHERT with poor porosity with vssfo.

DST #1
VIOLA
3720'-3780'
30-60-60-90
REC:
1777' GIP
50' SOCM
SIP:
517-479#
FP:
20-38, 22-32

3760sample flood of CHERT, mostly fresh, sharp, several pcs/tray with fair vuggy por filled with xln DOLO with ssfo to fsfo, good staining in all vugs in the dry samples, obvious petr odor to sample cup.

CHERT- milky, sharp, fresh, as above, decr in show.

30min, CHERT as above, increase in cup odor, several pcs of weathered milky chert with slight show dark free oil.

60min, CHERT as above, decr in cup odor, influx of LS-lt crm, fn xln, soft/chalky, some hard/dense, no por, very faint cup odor, vssfo in rare pcs of CHERT.

CFS 3780
60mins

3790 and 3800 Sample mostly SH's, lt to drk gry, some red/brn, CHERT mostly white/milky as above, some orange, none with por or show, no cup odr, no fluor, no vis por, no show.

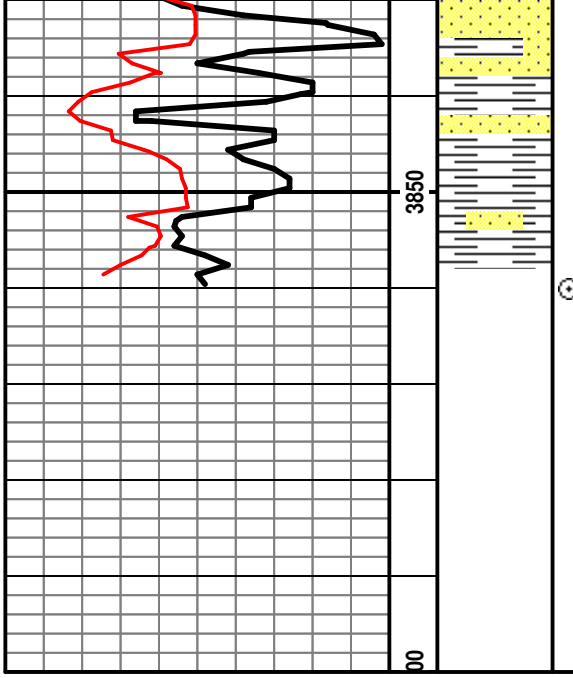
Circ after DST#1 for 30min, went back to drilling, cleaned out sample box 15 mins after started drilling.

SH's as above, drk gry, varicolored, influx of LS-wht, fn to med xln, uniform, med hard, rare int xln por, few chips milky CHERT, no cup odr, no fluor, no vis por, no show.

Survey at 3780 was 2.5 deg off. Took 10klbs off of bit when back to drilling after test.
WOB = 30klbs

SH-drk gry/grn, waxy, some fissile, LS-as above, incr CHERT, milky, sharp, few clusters of SS, gray, dirty, fn grained, well sorted, rounded, rare glauconite, some have tiny flecks of dark brown mineral-gilsonite? Does NOT cut in acetone, abund pyrite, no cup odr, no fluor, no vis por, no show.

SS-dirty gry, fn grained, well sorted, rounded, flecks of dark mineral, biotite? will NOT cut in acetone, same LS's and SH's as above, no cup odr, no fluor,



no vis por, no show.

3850 sample: 90% drk SH's, decr SS clusters, decrease LS's, no cup odr, no fluor, no vis por, no show.

Stop Sample 3860 same, decr in SS.
30 min: same

60min: same, incr in SS-dirty gry as above.

Added 5klbs to bit at 3835'
WOB 35klbs

TOTAL DEPTH
3860 FT