KOLAR Document ID: 1462879

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 # 32446
Name: Merit Energy Company, LLC
Address 1: 13727 NOEL ROAD, SUITE 1200
Address 2:
City: DALLAS State: TX Zip: 75240 + 7362
Contact Person: IDANIA MEDINA
Phone: (620) 629-4228
CONTRACTOR: License # 5929
Name: Duke Drilling Co., Inc.
Wellsite Geologist: MERIT ENERGY 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 #:

4/18/2019	4/22/2019	5/7/2019
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No.: 15-081-22191-01-00
Spot Description:
NW - NE - NW - NW Sec. 35 Twp. 27 S. R. 34 ☐ East ☑ West
195 Feet from ☑ North / ☐ South Line of Section
670 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: Haskell
Lease Name: EMMA WARD Well #: 2
Field Name: St Louis
Producing Formation: Upper & Lower Chester
Elevation: Ground: 3033 Kelly Bushing: 3045
Total Vertical Depth: 5729 Plug Back Total Depth: 5699
Amount of Surface Pipe Set and Cemented at: 1832 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: 2100 ppm Fluid volume: 952 bbls
Dewatering method used: Evaporated
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: 06/12/2019
☐ **Confidential Release Date:** 06/11/2021
☑ **Wireline Log Received** ☐ **Drill Stem Tests Received**
☑ **Geologist Report / Mud Logs Received**
☐ **UIC Distribution**
ALT ☑ **I** ☐ **II** ☐ **III** **Approved by:** Karen Ritter **Date:** 06/17/2019

Operator Name: Merit Energy Company, LLC Lease Name: EMMA WARD Well #: 2

Sec. 35 Twp. 27 S. R. 34 ☐ East ☑ West County: Haskell

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	24	1832	A/C	685	See Attached
Production	7.875	5.5	17	5734	H/POZ	265	50 sx RH/See Attached

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: 5/11/2019

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

Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	72		32		

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
5497	5549

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)*
4	5497	5506			U.Chester/Frac- 540 bbl, s-link 473 bbl, L-frac 67 bbl, total 16/30 69789 lbs, total N2 1,162 SCF
4	5535	5549			L. Chester/Frac. " " " "

TUBING RECORD: Size: 2.8750 Set At: 5596 Packer At:

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

Form	ACO1 - Well Completion
Operator	Merit Energy Company, LLC
Well Name	EMMA WARD 2
Doc ID	1462879

All Electric Logs Run

COMPOSITE LOG
PHOTO DENSITY DUAL SPACED NEUTRON GAMMA RAY LOG
CALIPER LOG
COMPENSATED SONIC LOG
ARRAY INDUCTION SHALLOW FOCUSED ELECTRIC LOG

Form	ACO1 - Well Completion
Operator	Merit Energy Company, LLC
Well Name	EMMA WARD 2
Doc ID	1462879

Tops

Name	Top	Datum
HEEBNER	4182	
LANSING	4285	
KANSAS CITY	4721	
MARMATON	4884	
ATOKA	5288	
MORROW	5345	
CHESTER TOP	5466	
CHESTER BASE	5495	
ST GENEVIEVE	5553	

Form	ACO1 - Well Completion
Operator	Merit Energy Company, LLC
Well Name	EMMA WARD 2
Doc ID	1462879

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	24	1832	A/C	685	See Attached
Production	7.875	5.5	17	5734	H/POZ	265	50 sx RH/See Attached

MERIT ENERGY

Merit Energy

Haskell Co., KS
Emma Ward
Emma Ward #2

Emma Ward #2
Design #1

Anticollision Report

15 March, 2019

gyrodata

Company:	Merit Energy	**Local Co-ordinate Reference:**	Well Emma Ward #2
Project:	Haskell Co., KS	**TVD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Reference Site:	Emma Ward	**MD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Emma Ward #2	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Emma Ward #2	**Database:**	Gyrodata NWDB
Reference Design:	Design #1	**Offset TVD Reference:**	Reference Datum

Reference Design #1

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 100.00usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 35,000.00 u	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.80 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 03/15/19

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.00	5,801.29	Design #1 (Emma Ward #2)	MWD+HDGM	OWSG MWD + HDGM

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Emma Ward						
Emma Ward #1 - Emma Ward #1 - Emma Ward #1	1,493.25	1,493.96	105.07	91.48	7.733	CC
Emma Ward #1 - Emma Ward #1 - Emma Ward #1	1,800.00	1,799.75	107.12	90.67	6.509	ES
Emma Ward #1 - Emma Ward #1 - Emma Ward #1	2,200.00	2,209.92	114.55	95.77	6.098	SF

Offset Design Emma Ward - Emma Ward #1 - Emma Ward #1 - Emma Ward #1

Offset Site Error: 0.00 usft

Survey Program: 407-MWD, 1852-MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.60	0.00	0.00	0.00	-105.37	-31.14	-113.31	117.51				
100.00	100.00	101.11	100.51	0.16	0.18	-105.41	-31.17	-113.07	117.29	116.82	0.47	250.909	
200.00	200.00	201.62	201.01	0.52	0.35	-105.56	-31.28	-112.36	116.64	115.42	1.21	96.122	
300.00	300.00	302.11	301.50	0.87	0.53	-105.80	-31.45	-111.18	115.55	113.59	1.96	58.975	
400.00	400.00	402.60	401.97	1.23	0.70	-106.14	-31.69	-109.53	114.04	111.33	2.71	42.155	
500.00	500.00	502.34	501.70	1.59	1.05	-106.56	-32.04	-107.73	112.40	108.71	3.70	30.417	
600.00	600.00	602.06	601.40	1.95	1.41	-107.05	-32.54	-106.13	111.01	106.32	4.70	23.637	
700.00	700.00	701.84	701.17	2.31	1.77	-107.63	-33.27	-104.69	109.85	104.16	5.70	19.280	
800.00	800.00	801.56	800.88	2.67	2.13	-108.43	-34.42	-103.30	108.89	102.19	6.70	16.257	
900.00	900.00	900.94	900.25	3.03	2.48	-109.01	-35.30	-102.46	108.37	100.68	7.69	14.088	
1,000.00	1,000.00	1,001.13	1,000.44	3.38	2.83	-109.19	-35.56	-102.18	108.20	99.51	8.69	12.453	
1,100.00	1,100.00	1,101.82	1,101.12	3.74	3.19	-109.14	-35.24	-101.52	107.47	97.79	9.68	11.098	
1,200.00	1,200.00	1,201.56	1,200.86	4.10	3.54	-109.04	-34.77	-100.73	106.57	95.89	10.68	9.982	
1,300.00	1,300.00	1,301.36	1,300.65	4.46	3.89	-109.04	-34.53	-100.07	105.86	94.19	11.67	9.071	
1,400.00	1,400.00	1,401.17	1,400.47	4.82	4.25	-109.30	-34.81	-99.41	105.33	92.67	12.67	8.315	
1,493.25	1,493.25	1,493.96	1,493.25	5.15	4.57	-109.71	-35.44	-98.91	105.07	91.48	13.59	7.733	CC
1,500.00	1,500.00	1,500.66	1,499.95	5.18	4.59	-109.73	-35.47	-98.90	105.07	91.42	13.65	7.696	
1,600.00	1,600.00	1,599.89	1,599.18	5.53	4.93	-109.78	-35.69	-99.25	105.48	90.85	14.63	7.211	
1,700.00	1,700.00	1,699.85	1,699.14	5.89	5.27	-109.60	-35.65	-100.12	106.29	90.69	15.59	6.816	
1,800.00	1,800.00	1,799.75	1,799.03	6.25	5.53	-109.44	-35.65	-101.01	107.12	90.67	16.46	6.509	ES
1,900.00	1,900.00	1,899.82	1,899.10	6.61	5.63	-109.33	-35.76	-101.97	108.07	90.97	17.10	6.319	
1,975.00	1,975.00	1,975.12	1,974.40	6.88	5.65	-109.42	-36.11	-102.40	108.59	91.08	17.50	6.204	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Merit Energy	**Local Co-ordinate Reference:**	Well Emma Ward #2
Project:	Haskell Co., KS	**TVD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Reference Site:	Emma Ward	**MD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Emma Ward #2	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Emma Ward #2	**Database:**	Gyrodata NWDB
Reference Design:	Design #1	**Offset TVD Reference:**	Reference Datum

Offset Design Emma Ward - Emma Ward #1 - Emma Ward #1 - Emma Ward #1

Offset Site Error: 0.00 usft

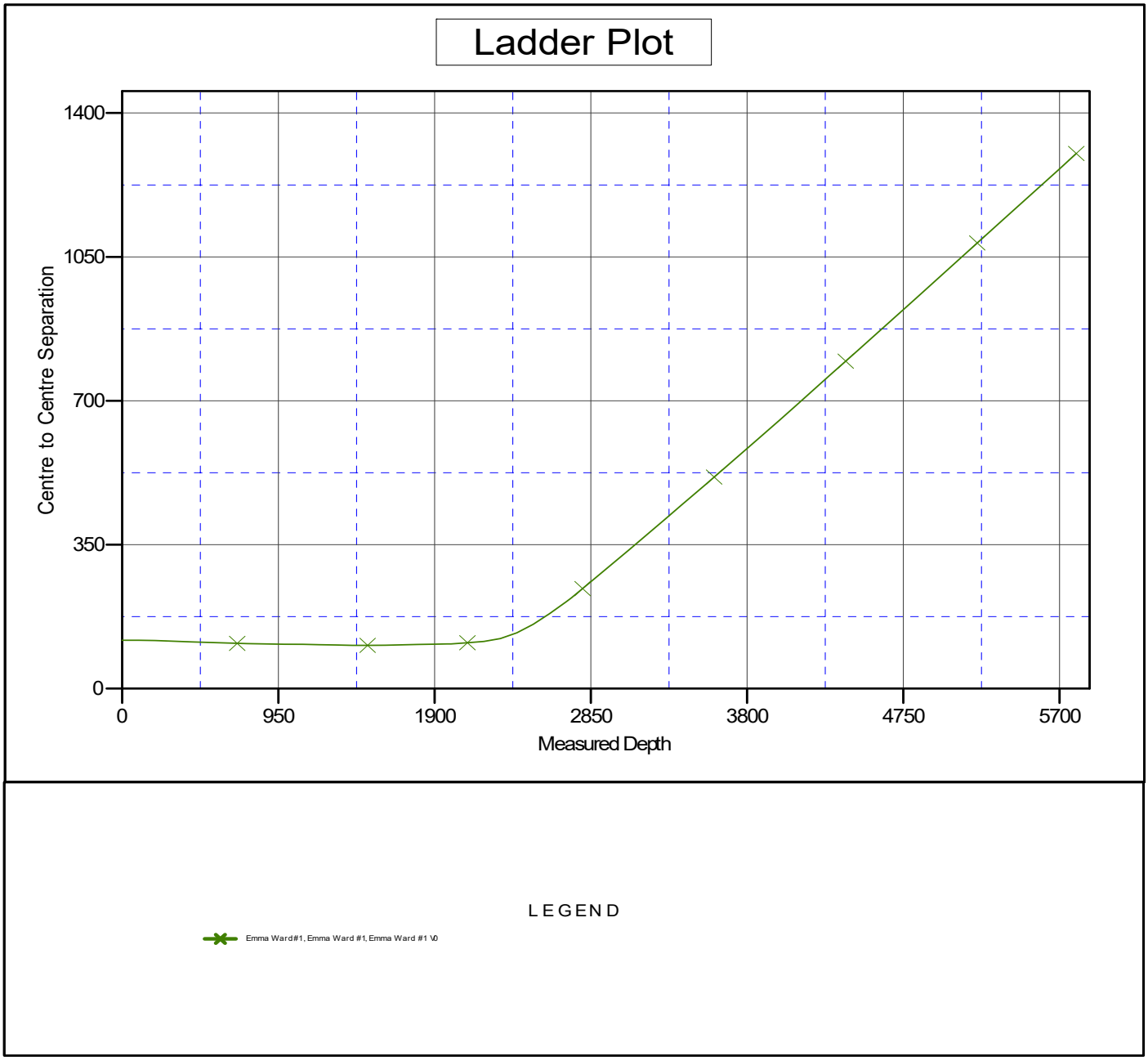
Survey Program: 407-MWD, 1852-MWD+HDGM

Offset Well Error: 0.00 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,000.00	2,000.00	2,000.74	2,000.02	6.97	5.66	-161.28	-36.36	-102.40	108.82	91.17	17.65	6.167	
2,100.00	2,099.91	2,103.43	2,102.60	7.32	5.71	-164.04	-39.77	-99.73	111.32	93.11	18.21	6.113	
2,200.00	2,199.48	2,209.92	2,208.54	7.68	5.80	-169.54	-45.08	-90.61	114.55	95.77	18.79	6.098	SF
2,300.00	2,298.43	2,308.35	2,306.19	8.03	5.91	-175.36	-50.21	-79.36	121.63	102.19	19.44	6.256	
2,400.00	2,396.50	2,405.75	2,402.90	8.40	6.04	179.71	-55.35	-68.99	135.69	115.56	20.13	6.741	
2,500.00	2,493.41	2,502.46	2,499.03	8.78	6.19	176.10	-60.25	-59.64	156.29	135.45	20.84	7.501	
2,600.00	2,588.90	2,600.62	2,596.72	9.18	6.35	173.76	-64.54	-50.98	182.53	160.97	21.56	8.466	
2,700.00	2,682.71	2,701.67	2,697.16	9.61	6.55	172.23	-66.36	-40.19	210.89	188.59	22.31	9.455	
2,731.46	2,711.84	2,730.46	2,725.76	9.75	6.61	171.84	-66.92	-36.91	220.75	198.19	22.55	9.789	
2,800.00	2,775.07	2,793.63	2,788.49	10.08	6.74	171.09	-68.75	-29.70	243.21	220.13	23.08	10.539	
2,900.00	2,867.33	2,887.16	2,881.37	10.57	6.95	170.16	-71.83	-19.13	276.39	252.53	23.87	11.580	
3,000.00	2,959.58	2,980.73	2,974.33	11.10	7.17	169.49	-74.92	-8.92	309.87	285.19	24.68	12.553	
3,100.00	3,051.84	3,074.31	3,067.34	11.64	7.41	168.99	-77.91	1.00	343.51	317.98	25.52	13.458	
3,200.00	3,144.10	3,167.28	3,159.78	12.20	7.65	168.64	-80.87	10.44	377.42	351.04	26.38	14.307	
3,300.00	3,236.36	3,260.74	3,252.75	12.77	7.90	168.40	-83.73	19.50	411.55	384.30	27.26	15.099	
3,400.00	3,328.62	3,354.31	3,345.91	13.36	8.15	168.30	-86.14	27.95	445.75	417.60	28.15	15.837	
3,500.00	3,420.87	3,447.40	3,438.63	13.96	8.41	168.28	-88.34	35.85	480.13	451.08	29.04	16.531	
3,600.00	3,513.13	3,541.29	3,532.04	14.58	8.69	168.10	-91.51	44.85	514.55	484.58	29.97	17.167	
3,700.00	3,605.39	3,634.25	3,624.45	15.20	8.97	167.87	-95.10	54.22	549.04	518.12	30.91	17.760	
3,800.00	3,697.65	3,726.33	3,716.06	15.83	9.25	167.72	-98.55	62.92	583.82	551.96	31.86	18.326	
3,900.00	3,789.91	3,820.05	3,809.33	16.46	9.54	167.63	-101.85	71.42	618.67	585.85	32.82	18.850	
4,000.00	3,882.16	3,911.52	3,900.39	17.10	9.83	167.56	-105.10	79.56	653.66	619.88	33.77	19.354	
4,100.00	3,974.42	4,000.30	3,988.80	17.75	10.11	167.53	-108.46	86.83	689.23	654.52	34.71	19.857	
4,200.00	4,066.68	4,093.40	4,081.55	18.41	10.40	167.52	-112.05	94.06	725.12	689.43	35.69	20.319	
4,300.00	4,158.94	4,188.27	4,176.10	19.06	10.71	167.55	-115.36	101.14	760.92	724.24	36.68	20.742	
4,400.00	4,251.20	4,283.77	4,271.29	19.73	11.02	167.59	-118.36	108.27	796.48	758.79	37.69	21.131	
4,500.00	4,343.45	4,376.63	4,363.84	20.39	11.32	167.64	-121.16	115.20	831.95	793.26	38.68	21.507	
4,600.00	4,435.71	4,467.34	4,454.29	21.06	11.62	167.70	-123.88	121.62	867.64	827.98	39.66	21.878	
4,700.00	4,527.97	4,560.26	4,546.95	21.73	11.92	167.77	-126.65	127.92	903.49	862.83	40.65	22.223	
4,800.00	4,620.23	4,652.84	4,639.31	22.41	12.22	167.87	-129.13	133.79	939.40	897.75	41.65	22.555	
4,900.00	4,712.48	4,742.40	4,728.64	23.08	12.52	167.94	-131.87	139.53	975.55	932.92	42.62	22.888	
5,000.00	4,804.74	4,834.35	4,820.36	23.76	12.83	167.99	-134.95	145.39	1,011.91	968.29	43.62	23.197	
5,100.00	4,897.00	4,929.46	4,915.21	24.44	13.15	168.05	-138.19	151.55	1,048.25	1,003.59	44.66	23.472	
5,200.00	4,989.26	5,030.99	5,016.48	25.13	13.49	168.12	-140.98	158.12	1,084.14	1,038.38	45.76	23.693	
5,300.00	5,081.52	5,120.65	5,105.93	25.81	13.79	168.18	-143.30	163.98	1,119.87	1,073.13	46.75	23.957	
5,400.00	5,173.77	5,210.97	5,196.01	26.50	14.10	168.24	-145.91	169.85	1,155.85	1,108.10	47.75	24.209	
5,500.00	5,266.03	5,302.79	5,287.63	27.19	14.42	168.31	-148.41	175.37	1,192.00	1,143.24	48.76	24.448	
5,598.60	5,357.00	5,395.96	5,380.63	27.87	14.73	168.40	-150.61	180.66	1,227.59	1,177.81	49.78	24.661	
5,600.00	5,358.29	5,397.25	5,381.92	27.88	14.74	168.40	-150.64	180.73	1,228.10	1,178.30	49.79	24.664	
5,700.00	5,450.55	5,493.02	5,477.53	28.57	15.06	168.51	-152.59	185.87	1,264.16	1,213.32	50.84	24.866	
5,800.00	5,542.81	5,535.00	5,519.44	29.05	15.20	168.56	-153.33	188.08	1,301.11	1,249.89	51.23	25.400	
5,802.05	5,544.70	5,535.00	5,519.44	29.06	15.20	168.56	-153.33	188.08	1,301.93	1,250.70	51.22	25.416	

Company:	Merit Energy	**Local Co-ordinate Reference:**	Well Emma Ward #2
Project:	Haskell Co., KS	**TVD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Reference Site:	Emma Ward	**MD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Emma Ward #2	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Emma Ward #2	**Database:**	Gyrodata NWDB
Reference Design:	Design #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to Duke 9 @ 3044.70usft (Duke 9 (3032Coordinates are relative to: Emma Ward #2
Offset Depths are relative to Offset Datum
Coordinate System is US State Plane 1927 (Exact solution), Kansas South 1502
Central Meridian is -98.500000
Grid Convergence at Surface is: -1.55°

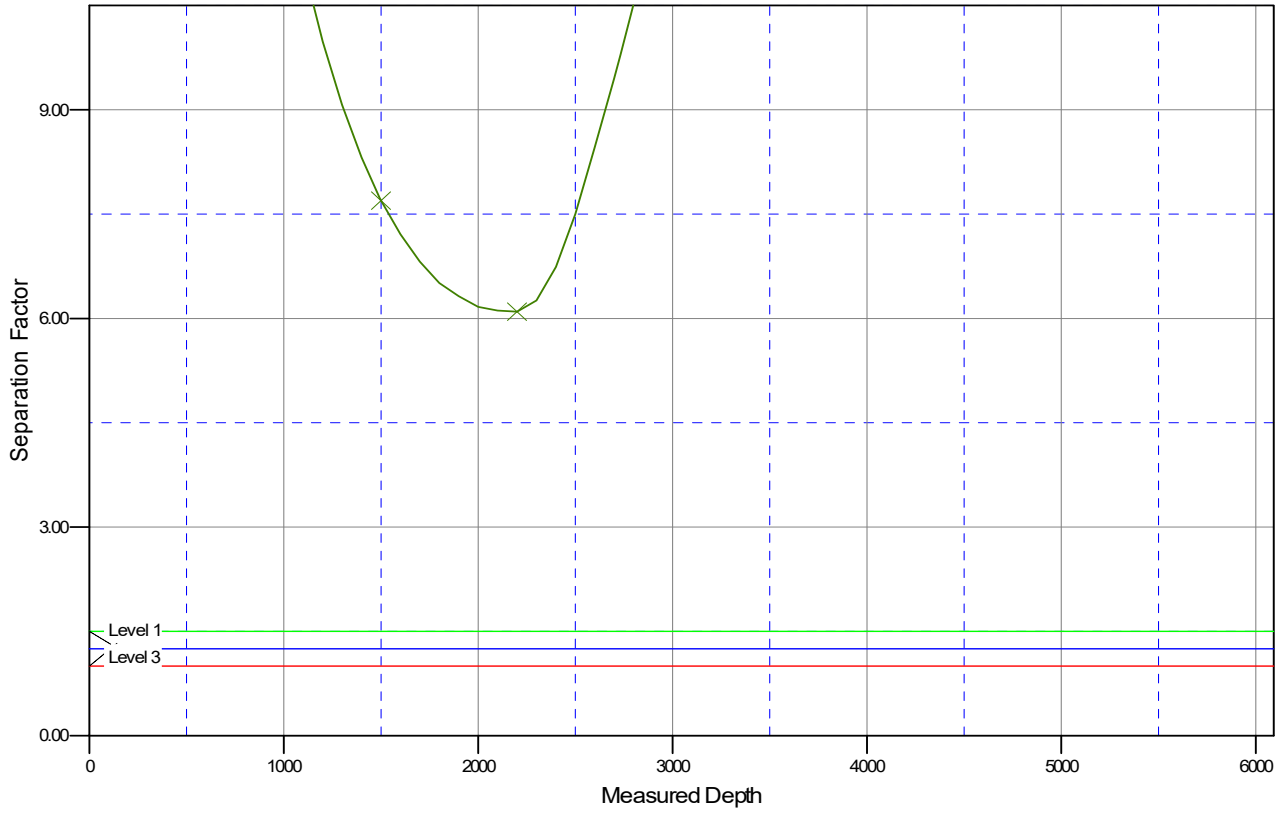


CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Company:	Merit Energy	**Local Co-ordinate Reference:**	Well Emma Ward #2
Project:	Haskell Co., KS	**TVD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Reference Site:	Emma Ward	**MD Reference:**	Duke 9 @ 3044.70usft (Duke 9 (3032.7 GE + 12 KB = 3044.7))
Site Error:	0.00 usft	**North Reference:**	Grid
Reference Well:	Emma Ward #2	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.00 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	Emma Ward #2	**Database:**	Gyrodata NWDB
Reference Design:	Design #1	**Offset TVD Reference:**	Reference Datum

Reference Depths are relative to Duke 9 @ 3044.70usft (Duke 9 (3032Coordinates are relative to: Emma Ward #2
Offset Depths are relative to Offset Datum
Coordinate System is US State Plane 1927 (Exact solution), Kansas South 1502
Central Meridian is -98.500000
Grid Convergence at Surface is: -1.55°

Separation Factor Plot



LEGEND

Emma Ward#1, Emma Ward #1, Emma Ward #1 \0

MBC WELL LOGGING LLC

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

Well Name:	EMMA WARD 2 DEVIATED AFE MERIT ENERGY CO LLC
Well Id:	API 15-081-22191-01-00
Location:	HASKELL COUNTY, KANSAS USA
License Number:	32446 Region: WILDCAT
Spud Date:	04-17-2019 Drilling Completed: 04-23-2019
Surface Coordinates:	NW/NE/NW/NW 195FNL 670FWL SEC 35-T27S-R34W
	DUKE RIG 9 #5929 RODNEY GONZALES CO-MAN
Bottom Hole Coordinates:	BHL 26-T27-R34 767.02 FNL 937.71 FEL
	WEATHERFORD SLIM HOLE -DIL/SP/GR CNL/CAL/PE/BHV SONIC SFC- GR TO
Ground Elevation (ft):	3032.7 K.B. Elevation (ft): 3045
Logged Interval (ft):	4100' To: 5729' Total Depth (ft): Elog 5728
Formation:	ST LOUIS
Type of Drilling Fluid:	MUDCO JUSTIN WHITING CELL (620)-214-3630

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

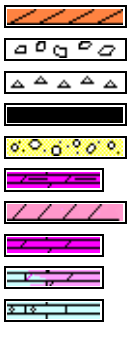
OPERATOR

Company: MERIT ENERGY CO LLC
Address: ATTN: KRYSTIN ROBINSON GEOLOGY
13727 NOEL RD STE 1200
DALLAS, TEXAS 75240

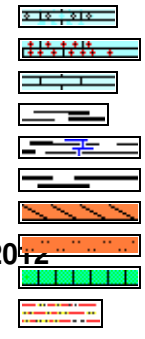
MUDLOGGER

Name: AUSTIN GARNER//TROY FOWLER
Company: MBC WELL LOGGING LLC
Address: 21156 RD 22
MEADE, KANSAS 67864

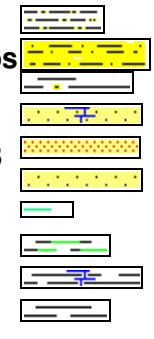
ROCK TYPES



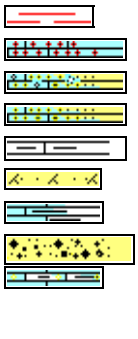
Anhy
Brec
Cht
Coal
Congl
Shly dolomite
Dolo new
New dolomite 2012
Newdolo ls 2
Ls & ooids



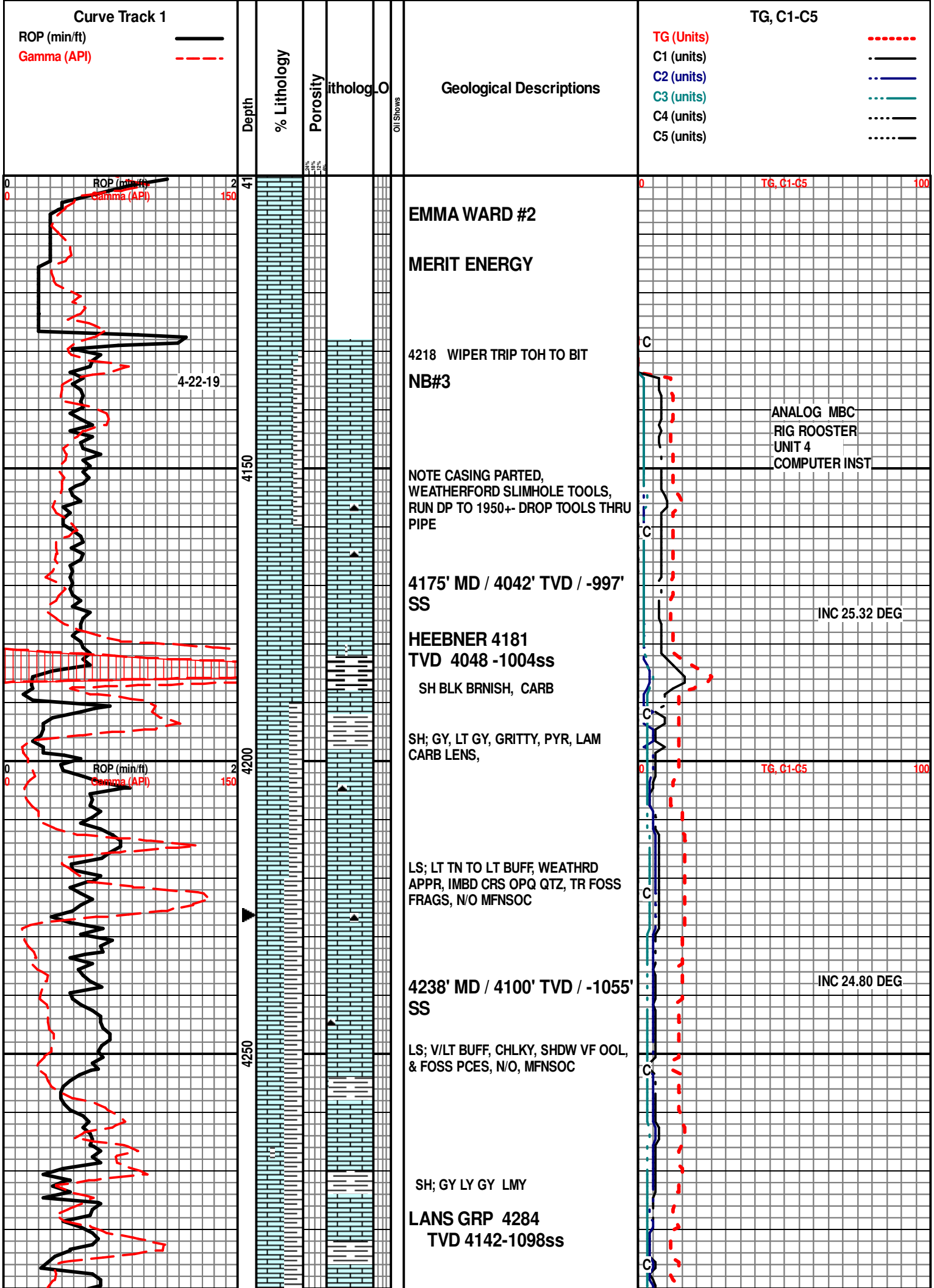
Oolitic ls -1
Stgensndy-arkos
New ls-1
Carby shale
Lmy carby sh-3
Carb sh
Gyp
Sltst
Salt
Sndy sh--red

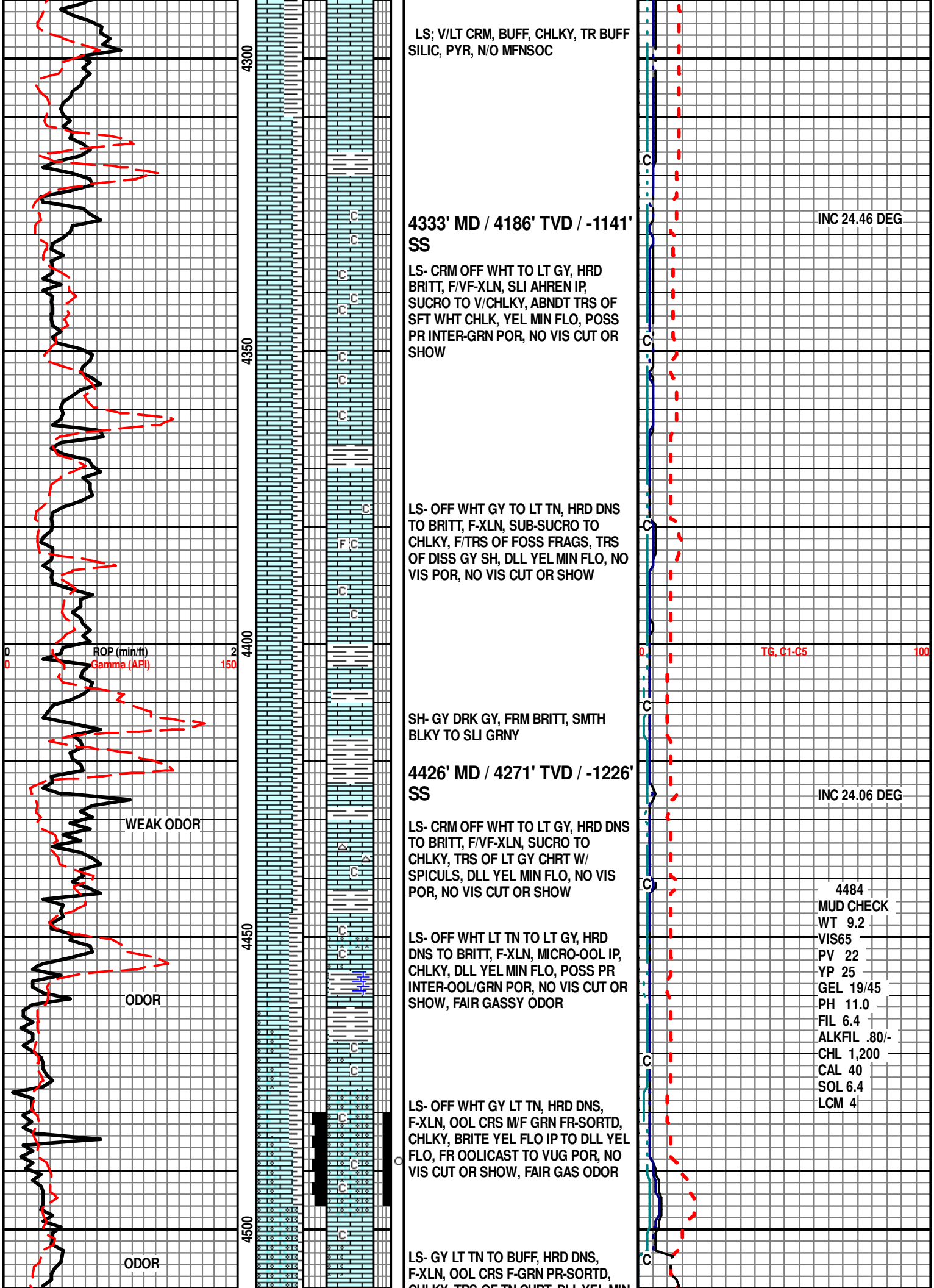


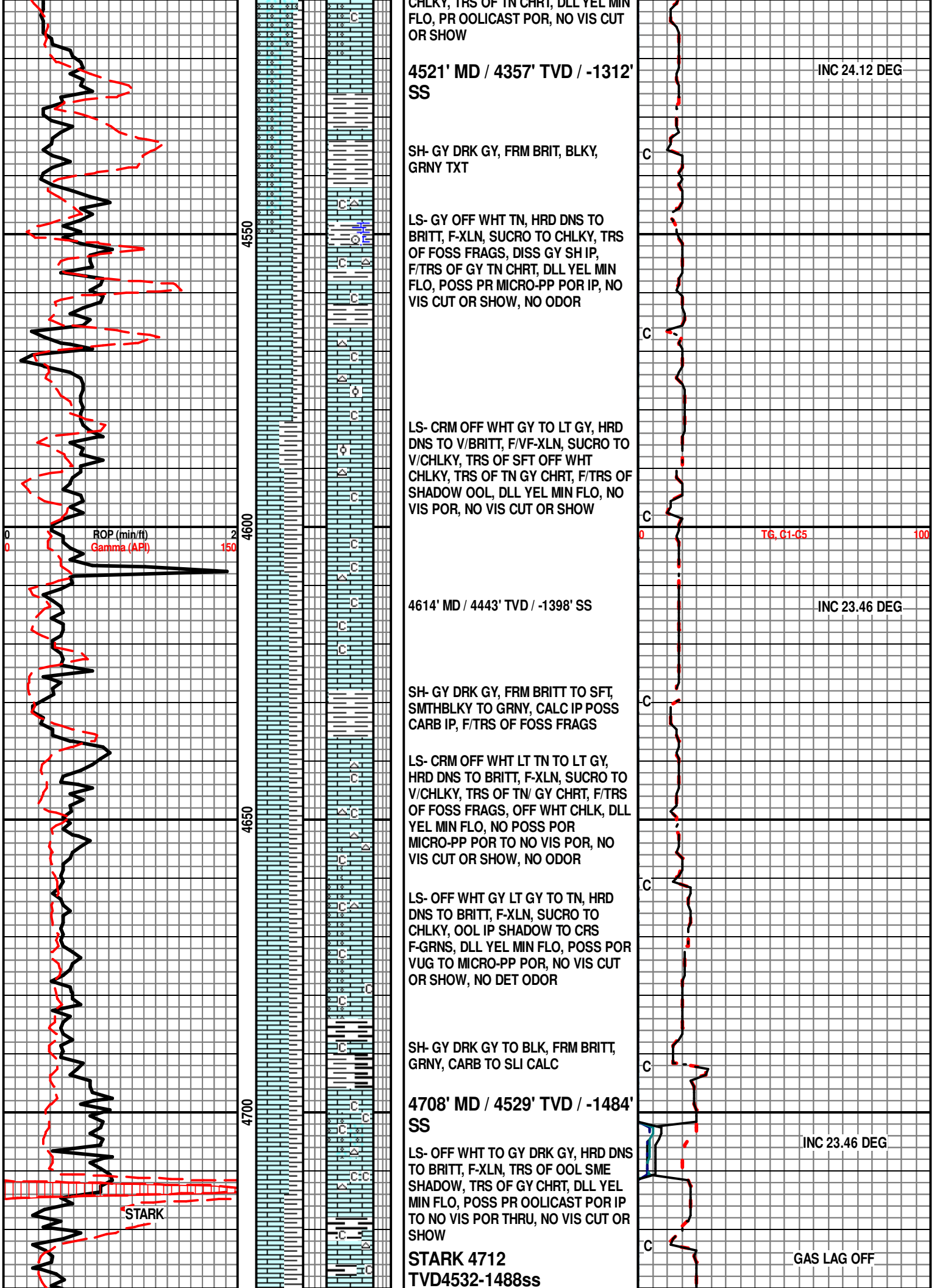
Sndy sh
Sltst-1
Slty-shale
Lmy ss-1
Arkosic snd
Ss
Grn sh strk
Grn mott gy sh
Lmy sh-2
Shale-1

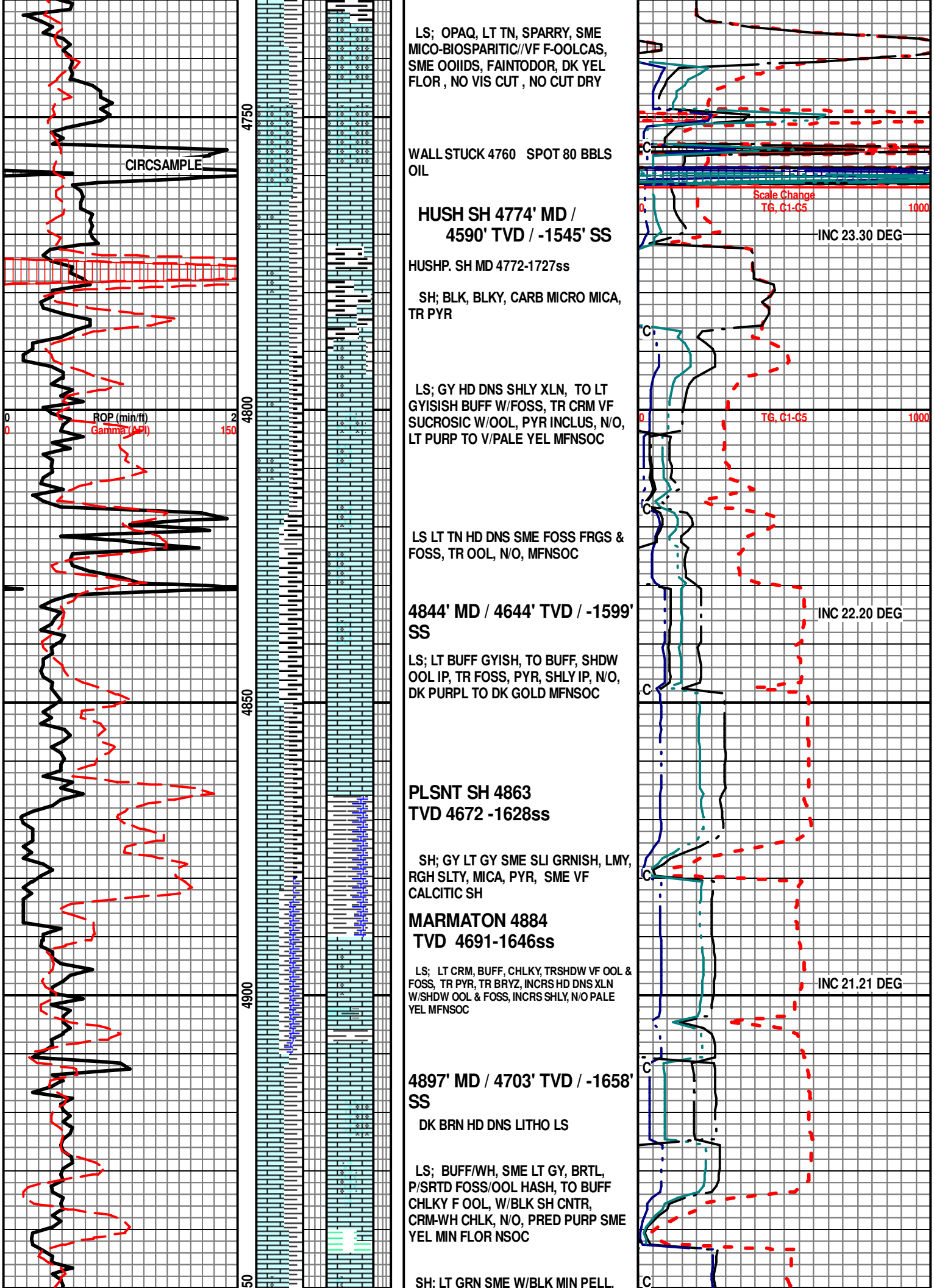


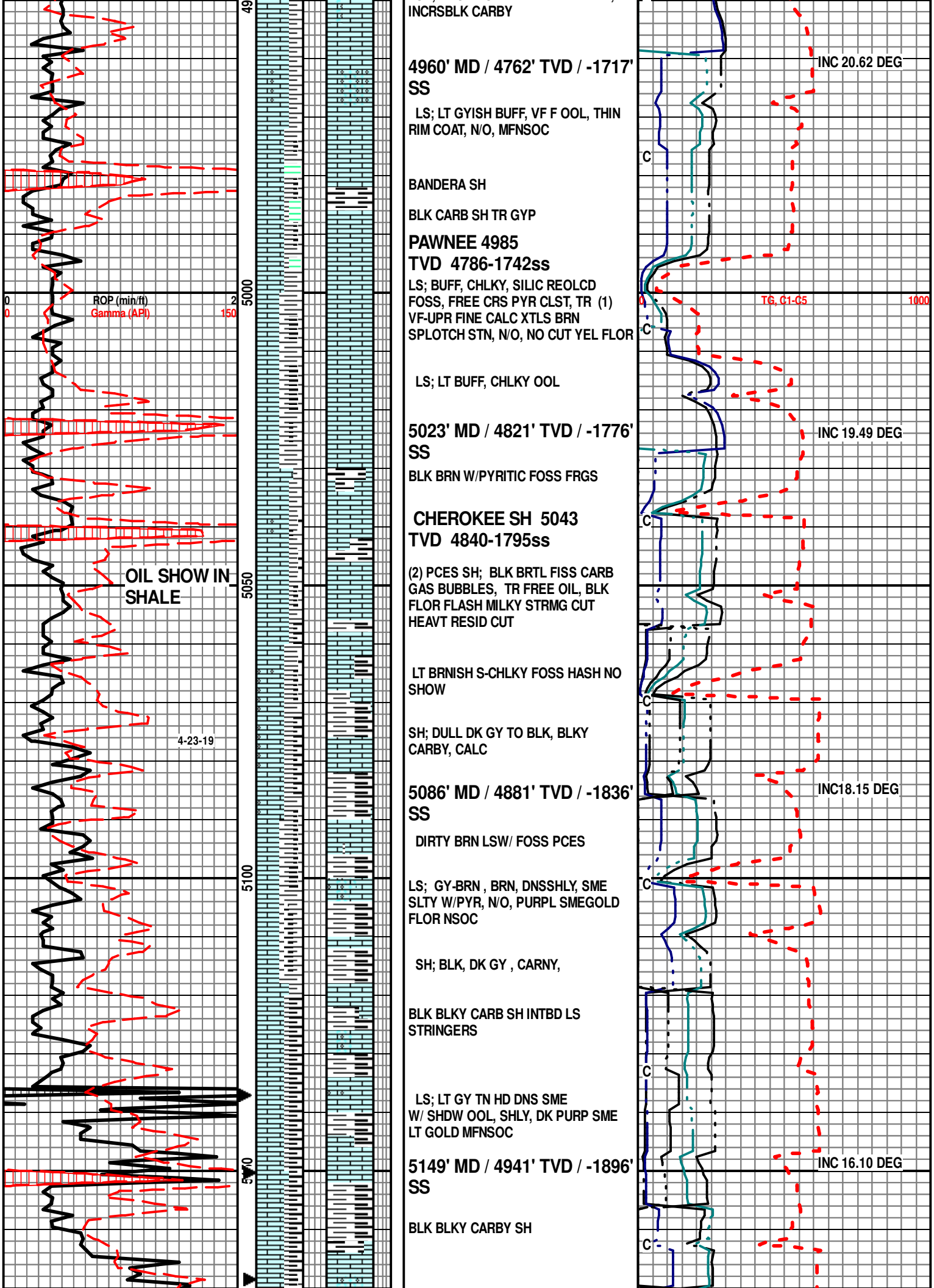
Red sh-1
Stgensndy-arkos
Sndy ool ls
Sndy-ls-1
Calc shale
Granitewash
Ls shly-b
Poor sortd ss
Snd-ls-sh

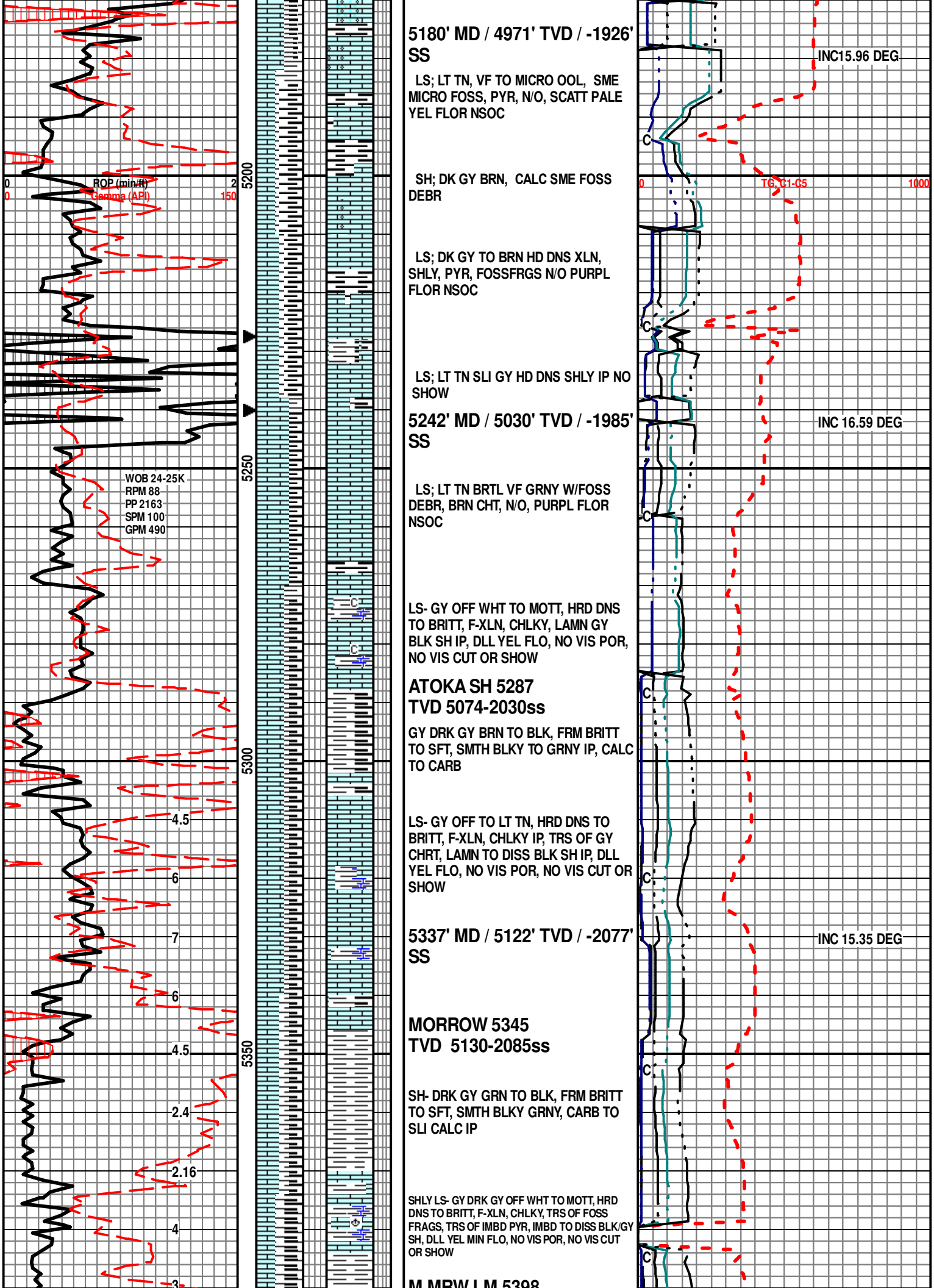

Curve Track 1
ROP (min/ft)
Gamma (API)
Depth
% Lithology
Porosity
Lithology
Oil Shows
Geological Descriptions
TG, C1-C5
TG (Units)
C1 (units)
C2 (units)
C3 (units)
C4 (units)
C5 (units)
ROP (min/ft)
Gamma (API)
4-22-19
4150
4200
4250
EMMA WARD #2
MERIT ENERGY
4218 WIPER TRIP TOH TO BIT
NB#3
ANALOG MBC
RIG ROOSTER
UNIT 4
COMPUTER INST
NOTE CASING PARTED, WEATHERFORD SLIMHOLE TOOLS, RUN DP TO 1950+- DROP TOOLS THRU PIPE
4175' MD / 4042' TVD / -997' SS
INC 25.32 DEG
HEEBNER 4181
TVD 4048 -1004ss
SH BLK BRNISH, CARB
SH; GY, LT GY, GRITTY, PYR, LAM CARB LENS,
LS; LT TN TO LT BUFF, WEATHRD APPR, IMBD CRS OPQ QTZ, TR FOSS FRAGS, N/O MFNSOC
4238' MD / 4100' TVD / -1055' SS
INC 24.80 DEG
LS; V/LT BUFF, CHLKY, SHDW VF OOL, & FOSS PCES, N/O, MFNSOC
SH; GY LY GY LMY
LANS GRP 4284
TVD 4142-1098ss

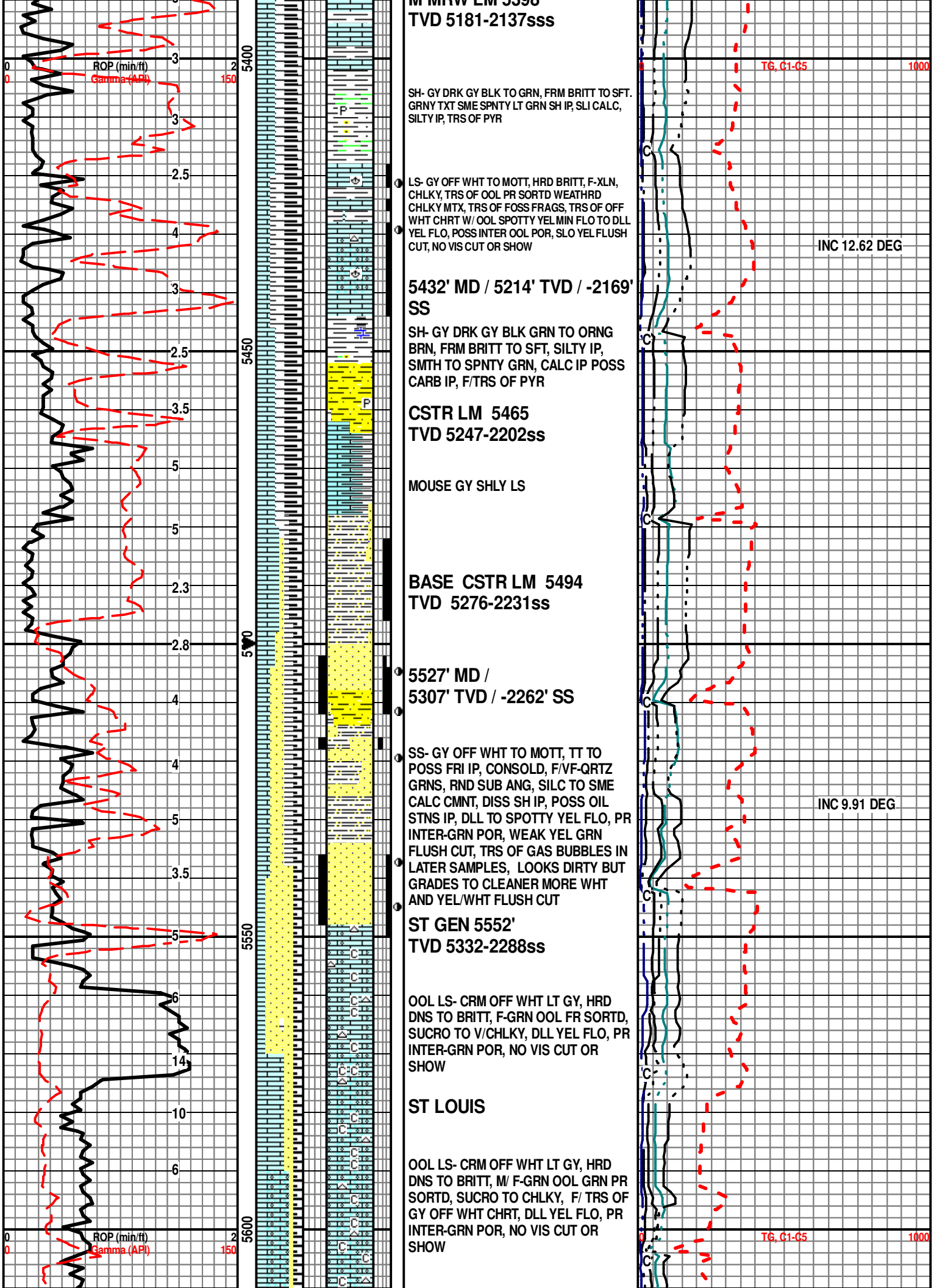

LS; V/LT CRM, BUFF, CHLKY, TR BUFF SILIC, PYR, N/O MFNSOC
4333' MD / 4186' TVD / -1141' SS
INC 24.46 DEG
LS- CRM OFF WHT TO LT GY, HRD BRITT, F/VF-XLN, SLI AHREN IP, SUCRO TO V/CHLKY, ABNDT TRS OF SFT WHT CHLK, YEL MIN FLO, POSS PR INTER-GRN POR, NO VIS CUT OR SHOW
LS- OFF WHT GY TO LT TN, HRD DNS TO BRITT, F-XLN, SUB-SUCRO TO CHLKY, F/TRS OF FOSS FRAGS, TRS OF DISS GY SH, DLL YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW
0
ROP (min/ft)
2
0
Gamma (API)
150
0
TG, C1-C5
100
SH- GY DRK GY, FRM BRITT, SMTH BLKY TO SLI GRNY
4426' MD / 4271' TVD / -1226' SS
INC 24.06 DEG
WEAK ODOR
LS- CRM OFF WHT TO LT GY, HRD DNS TO BRITT, F/VF-XLN, SUCRO TO CHLKY, TRS OF LT GY CHRT W/ SPICULS, DLL YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW
4484
MUD CHECK
WT 9.2
VIS65
PV 22
YP 25
GEL 19/45
PH 11.0
FIL 6.4
ALKFIL .80/-
CHL 1,200
CAL 40
SOL 6.4
LCM 4
ODOR
LS- OFF WHT LT TN TO LT GY, HRD DNS TO BRITT, F-XLN, MICRO-OOL IP, CHLKY, DLL YEL MIN FLO, POSS PR INTER-OOL/GRN POR, NO VIS CUT OR SHOW, FAIR GASSY ODOR
LS- OFF WHT GY LT TN, HRD DNS, F-XLN, OOL CRS M/F GRN FR-SORTD, CHLKY, BRITE YEL FLO IP TO DLL YEL FLO, FR OOLICAST TO VUG POR, NO VIS CUT OR SHOW, FAIR GAS ODOR
ODOR
LS- GY LT TN TO BUFF, HRD DNS, F-XLN, OOL CRS F-GRN PR-SORTD,
4300
4350
4400
4450
4500

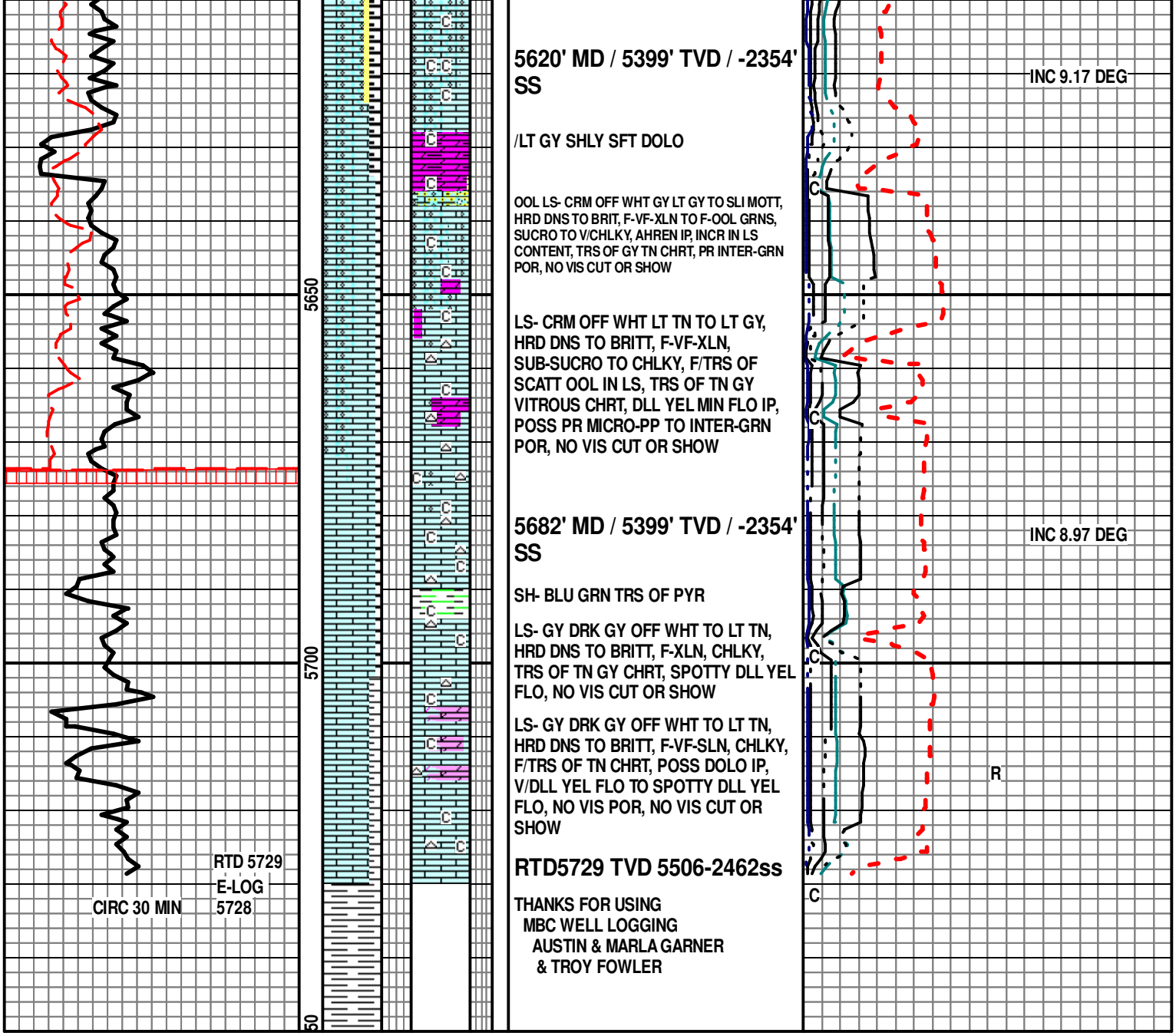

CHLKY, TRS OF TN CHRT, DLL YEL MIN FLO, PR OOLICAST POR, NO VIS CUT OR SHOW
4521' MD / 4357' TVD / -1312' SS
INC 24.12 DEG
SH- GY DRK GY, FRM BRIT, BLKY, GRNY TXT
LS- GY OFF WHT TN, HRD DNS TO BRITT, F-XLN, SUCRO TO CHLKY, TRS OF FOSS FRAGS, DISS GY SH IP, F/TRS OF GY TN CHRT, DLL YEL MIN FLO, POSS PR MICRO-PP POR IP, NO VIS CUT OR SHOW, NO ODOR
LS- CRM OFF WHT GY TO LT GY, HRD DNS TO V/BRITT, F/VF-XLN, SUCRO TO V/CHLKY, TRS OF SFT OFF WHT CHLKY, TRS OF TN GY CHRT, F/TRS OF SHADOW OOL, DLL YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW
4550
4600
4650
4700
0
ROP (min/ft)
2
0
Gamma (API)
150
0
TG, C1-C5
100
4614' MD / 4443' TVD / -1398' SS
INC 23.46 DEG
SH- GY DRK GY, FRM BRITT TO SFT, SMTHBLKY TO GRNY, CALC IP POSS CARB IP, F/TRS OF FOSS FRAGS
LS- CRM OFF WHT LT TN TO LT GY, HRD DNS TO BRITT, F-XLN, SUCRO TO V/CHLKY, TRS OF TN/ GY CHRT, F/TRS OF FOSS FRAGS, OFF WHT CHLK, DLL YEL MIN FLO, NO POSS POR MICRO-PP POR TO NO VIS POR, NO VIS CUT OR SHOW, NO ODOR
LS- OFF WHT GY LT GY TO TN, HRD DNS TO BRITT, F-XLN, SUCRO TO CHLKY, OOL IP SHADOW TO CRS F-GRNS, DLL YEL MIN FLO, POSS POR VUG TO MICRO-PP POR, NO VIS CUT OR SHOW, NO DET ODOR
SH- GY DRK GY TO BLK, FRM BRITT, GRNY, CARB TO SLI CALC
4708' MD / 4529' TVD / -1484' SS
INC 23.46 DEG
LS- OFF WHT TO GY DRK GY, HRD DNS TO BRITT, F-XLN, TRS OF OOL SME SHADOW, TRS OF GY CHRT, DLL YEL MIN FLO, POSS PR OOLICAST POR IP TO NO VIS POR THRU, NO VIS CUT OR SHOW
STARK
STARK 4712
TVD4532-1488ss
GAS LAG OFF


CIRCSAMPLE
4750
4800
4850
4900
ROP (min/ft)
Gamma (API)
0
2
150
LS; OPAQ, LT TN, SPARRY, SME MICO-BIOSPARITIC//VF F-OOLCAS, SME OOIIDS, FAINTODOR, DK YEL FLOR , NO VIS CUT , NO CUT DRY
WALL STUCK 4760 SPOT 80 BBLS OIL
HUSH SH 4774' MD / 4590' TVD / -1545' SS
HUSHP. SH MD 4772-1727ss
SH; BLK, BLKY, CARB MICRO MICA, TR PYR
LS; GY HD DNS SHLY XLN, TO LT GYISISH BUFF W/FOSS, TR CRM VF SUCROSIC W/OOL, PYR INCLUS, N/O, LT PURP TO V/PALE YEL MFNSOC
LS LT TN HD DNS SME FOSS FRGS & FOSS, TR OOL, N/O, MFNSOC
4844' MD / 4644' TVD / -1599' SS
LS; LT BUFF GYISH, TO BUFF, SHDW OOL IP, TR FOSS, PYR, SHLY IP, N/O, DK PURPL TO DK GOLD MFNSOC
PLSNT SH 4863
TVD 4672 -1628ss
SH; GY LT GY SME SLI GRNISH, LMY, RGH SLTY, MICA, PYR, SME VF CALCITIC SH
MARMATON 4884
TVD 4691-1646ss
LS; LT CRM, BUFF, CHLKY, TRSHDW VF OOL & FOSS, TR PYR, TR BRYZ, INCRS HD DNS XLN W/SHDW OOL & FOSS, INCRS SHLY, N/O PALE YEL MFNSOC
4897' MD / 4703' TVD / -1658' SS
DK BRN HD DNS LITHO LS
LS; BUFF/WH, SME LT GY, BRTL, P/SRTD FOSS/OOL HASH, TO BUFF CHLKY F OOL, W/BLK SH CNTR, CRM-WH CHLK, N/O, PRED PURP SME YEL MIN FLOR NSOC
SH; LT GRN SME W/BLK MIN PELL,
Scale Change
TG, C1-C5
0
1000
INC 23.30 DEG
INC 22.20 DEG
INC 21.21 DEG
C


0
ROP (min/ft)
2
0
Gamma (API)
150
4900
5000
5050
5100
5150
OIL SHOW IN SHALE
4-23-19
INCRSBLK CARBY
4960' MD / 4762' TVD / -1717' SS
LS; LT GYISH BUFF, VF F OOL, THIN RIM COAT, N/O, MFNSOC
BANDERA SH
BLK CARB SH TR GYP
PAWNEE 4985
TVD 4786-1742ss
LS; BUFF, CHLKY, SILIC REOLCD FOSS, FREE CRS PYR CLST, TR (1) VF-UPR FINE CALC XTLS BRN SPLOTCH STN, N/O, NO CUT YEL FLOR
LS; LT BUFF, CHLKY OOL
5023' MD / 4821' TVD / -1776' SS
BLK BRN W/PYRITIC FOSS FRGS
CHEROKEE SH 5043
TVD 4840-1795ss
(2) PCES SH; BLK BRTL FISS CARB GAS BUBBLES, TR FREE OIL, BLK FLOR FLASH MILKY STRMG CUT HEAVT RESID CUT
LT BRNISH S-CHLKY FOSS HASH NO SHOW
SH; DULL DK GY TO BLK, BLKY CARBY, CALC
5086' MD / 4881' TVD / -1836' SS
DIRTY BRN LSW/ FOSS PCES
LS; GY-BRN , BRN, DNSSHLY, SME SLTY W/PYR, N/O, PURPL SMEGOLD FLOR NSOC
SH; BLK, DK GY , CARNY,
BLK BLKY CARB SH INTBD LS STRINGERS
LS; LT GY TN HD DNS SME W/ SHDW OOL, SHLY, DK PURP SME LT GOLD MFNSOC
5149' MD / 4941' TVD / -1896' SS
BLK BLKY CARBY SH
INC 20.62 DEG
INC 19.49 DEG
INC18.15 DEG
INC 16.10 DEG
C
0
TG, C1-C5
1000


0
ROP (min/ft)
2
0
Gamma (API)
150
5200
5250
5300
5350
WOB 24-25K
RPM 88
PP 2163
SPM 100
GPM 490
4.5
6
7
6
4.5
2.4
2.16
4
3
5180' MD / 4971' TVD / -1926' SS
LS; LT TN, VF TO MICRO OOL, SME MICRO FOSS, PYR, N/O, SCATT PALE YEL FLOR NSOC
SH; DK GY BRN, CALC SME FOSS DEBR
LS; DK GY TO BRN HD DNS XLN, SHLY, PYR, FOSSFRGS N/O PURPL FLOR NSOC
LS; LT TN SLI GY HD DNS SHLY IP NO SHOW
5242' MD / 5030' TVD / -1985' SS
LS; LT TN BRTL VF GRNY W/FOSS DEBR, BRN CHT, N/O, PURPL FLOR NSOC
LS- GY OFF WHT TO MOTT, HRD DNS TO BRITT, F-XLN, CHLKY, LAMN GY BLK SH IP, DLL YEL FLO, NO VIS POR, NO VIS CUT OR SHOW
ATOKA SH 5287
TVD 5074-2030ss
GY DRK GY BRN TO BLK, FRM BRITT TO SFT, SMTH BLKY TO GRNY IP, CALC TO CARB
LS- GY OFF TO LT TN, HRD DNS TO BRITT, F-XLN, CHLKY IP, TRS OF GY CHRT, LAMN TO DISS BLK SH IP, DLL YEL FLO, NO VIS POR, NO VIS CUT OR SHOW
5337' MD / 5122' TVD / -2077' SS
MORROW 5345
TVD 5130-2085ss
SH- DRK GY GRN TO BLK, FRM BRITT TO SFT, SMTH BLKY GRNY, CARB TO SLI CALC IP
SHLY LS- GY DRK GY OFF WHT TO MOTT, HRD DNS TO BRITT, F-XLN, CHLKY, TRS OF FOSS FRAGS, TRS OF IMBD PYR, IMBD TO DISS BLK/GY SH, DLL YEL MIN FLO, NO VIS POR, NO VIS CUT OR SHOW
M MRW LM 5398
INC15.96 DEG
0
TG, C1-C5
1000
INC 16.59 DEG
INC 15.35 DEG
C


M MRW LM 5398
TVD 5181-2137sss
ROP (min/ft)
Gamma (API)
TG, C1-C5
SH- GY DRK GY BLK TO GRN, FRM BRITT TO SFT. GRNY TXT SME SPNTY LT GRN SH IP, SLI CALC, SILTY IP, TRS OF PYR
LS- GY OFF WHT TO MOTT, HRD BRITT, F-XLN, CHLKY, TRS OF OOL PR SORTD WEATHRD CHLKY MTX, TRS OF FOSS FRAGS, TRS OF OFF WHT CHRT W/ OOL SPOTTY YEL MIN FLO TO DLL YEL FLO, POSS INTER OOL POR, SLO YEL FLUSH CUT, NO VIS CUT OR SHOW
INC 12.62 DEG
5432' MD / 5214' TVD / -2169' SS
SH- GY DRK GY BLK GRN TO ORNG BRN, FRM BRITT TO SFT, SILTY IP, SMTH TO SPNTY GRN, CALC IP POSS CARB IP, F/TRS OF PYR
CSTR LM 5465
TVD 5247-2202ss
MOUSE GY SHLY LS
BASE CSTR LM 5494
TVD 5276-2231ss
5527' MD /
5307' TVD / -2262' SS
SS- GY OFF WHT TO MOTT, TT TO POSS FRI IP, CONSOLD, F/VF-QRTZ GRNS, RND SUB ANG, SILC TO SME CALC CMNT, DISS SH IP, POSS OIL STNS IP, DLL TO SPOTTY YEL FLO, PR INTER-GRN POR, WEAK YEL GRN FLUSH CUT, TRS OF GAS BUBBLES IN LATER SAMPLES, LOOKS DIRTY BUT GRADES TO CLEANER MORE WHT AND YEL/WHT FLUSH CUT
INC 9.91 DEG
ST GEN 5552'
TVD 5332-2288ss
OOL LS- CRM OFF WHT LT GY, HRD DNS TO BRITT, F-GRN OOL FR SORTD, SUCRO TO V/CHLKY, DLL YEL FLO, PR INTER-GRN POR, NO VIS CUT OR SHOW
ST LOUIS
OOL LS- CRM OFF WHT LT GY, HRD DNS TO BRITT, M/ F-GRN OOL GRN PR SORTD, SUCRO TO CHLKY, F/ TRS OF GY OFF WHT CHRT, DLL YEL FLO, PR INTER-GRN POR, NO VIS CUT OR SHOW


5620' MD / 5399' TVD / -2354' SS
/LT GY SHLY SFT DOLO
OOL LS- CRM OFF WHT GY LT GY TO SLI MOTT, HRD DNS TO BRIT, F-VF-XLN TO F-OOL GRNS, SUCRO TO V/CHLKY, AHREN IP, INCR IN LS CONTENT, TRS OF GY TN CHRT, PR INTER-GRN POR, NO VIS CUT OR SHOW
LS- CRM OFF WHT LT TN TO LT GY, HRD DNS TO BRITT, F-VF-XLN, SUB-SUCRO TO CHLKY, F/TRS OF SCATT OOL IN LS, TRS OF TN GY VITROUS CHRT, DLL YEL MIN FLO IP, POSS PR MICRO-PP TO INTER-GRN POR, NO VIS CUT OR SHOW
INC 9.17 DEG
5682' MD / 5399' TVD / -2354' SS
SH- BLU GRN TRS OF PYR
LS- GY DRK GY OFF WHT TO LT TN, HRD DNS TO BRITT, F-XLN, CHLKY, TRS OF TN GY CHRT, SPOTTY DLL YEL FLO, NO VIS CUT OR SHOW
LS- GY DRK GY OFF WHT TO LT TN, HRD DNS TO BRITT, F-VF-SLN, CHLKY, F/TRS OF TN CHRT, POSS DOLO IP, V/DLL YEL FLO TO SPOTTY DLL YEL FLO, NO VIS POR, NO VIS CUT OR SHOW
INC 8.97 DEG
RTD5729 TVD 5506-2462ss
THANKS FOR USING
MBC WELL LOGGING
AUSTIN & MARLA GARNER
& TROY FOWLER
5650
5700
RTD 5729
E-LOG
5728
CIRC 30 MIN
R

BASIC ENERGY SERVICES

1700 S. Country Estates Raod
Liberal, KS 67901
PH (620)-624-2277FAX (620) 624-2280

SERVICE ORDER - 1718 19437 L

Date: 4/19/2019

Well Name: Emma Ward # 2

Location: 35-27S-34W

County - State: Haskell, Ks

RRC #:

Type Of Service: Z42 - Cement Surface Casing

Customer's Order #: 0

Customer: Merit Energy

Address: sublette.invoices@meritenergy.com
AFE# 63465

As a consideration, the above named Customer agrees to pay Basic Energy Services In accord with the rates and terms stated in Basic Energy Services current price lists. Invoices are payable NET 30 (SEE 10.2) after date of invoice. Upon Customer's default in payment of Customers account by such date, Customer agrees to pay interest thereon after default at 18% per annum. In the event it becomes necessary to employ an attorney to enforce collection of said account, Customer agrees to pay all the collection costs and attorney fees. These terms and conditions shall be governed by the laws of the state where services are performed or equipment or materials are furnished.

Basic Energy Services., warrants only title to the products, supplies and materials and that the same are free from defects in workmanship. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, MERCHANTABILITY,FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Basic Energy Services., liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, product liability, breach of warranty or otherwise) arising out of the sale or use of any products, supplies, or materials upon their return to Basic Energy Services. is expressly limited to the replacement of such products, supplies or materials or , at Basic Energy Services. option, to the allowance to the Customer of credit for the cost of such items. In no event shall Basic Energy Services be liable for special, indirect, punitive or consequential damages.

CODE	QTY	UOM	DESCRIPTION	PRICE	TOTAL
CL101	520	Sk	'A-Con' Blend	18.60	9672.00
CL110	165	Sk	Premium Plus Cement	16.30	2689.50
CC102	302	Lb	Celloflake	3.70	1117.40
CC109	1779	Lb	Calcium Chloride	1.05	1867.95
CC201	520	Lb	Gilsonite	0.67	348.40
CF253	1	Ea	Guide Shoe - Regular, 8 5/8" (Blue)	380.00	380.00
CF1453	1	Ea	Flapper Type Insert Float Valves. 8 5/8" (Blue)	280.00	280.00
CF1753	6	Ea	Centralizer, 8 5/8" (Blue)	90.00	540.00
CF105	1	Ea	Top Rubber Cement Plug, 8 5/8"	225.00	225.00
E101	180	Mi	Heavy Equipment Mileage	7.50	1350.00
CE240	685	Sk	Blending & Mixing Service Charge	1.40	959.00
E113	1935	Tn/Mi	Proppant and Bulk Delivery Charges, per ton mile	2.50	4837.50
CE202	1	4 Hrs	Depth Charge; 1001'-2000'	1500.00	1500.00
CE504	1	Job	Plug Container Utilization Charge	250.00	250.00
E100	60	Mi	Unit Mileage Charge-Pickups, Small Vans & Cars (one way)	4.50	270.00
S003	1	Ea	Service Supervisor, first 8 hrs on loc.	175.00	175.00

Book Total:		$26,461.75
Taxes:		
Disc. Price:		$16,232.26
Additional 10% Discount as per Agreement on Cement Services	10% Disc	$1,623.23
	Adjusted Price	**$14,609.03**

PUMP TRUCK NUMBER: 38750, 19919

DRIVER: Angel Echevarria

Daniel Beck
BASIC ENERGY SERVICES

	YES	NO
THIS JOB WAS SATISFACTORILY COMPLETED	☐	☐
OPERATION OF EQUIPMENT WAS SATISFACTORY	☐	☐
PERFORMANCE OF PERSONEL WAS SATISFACTORY	☐	☐

CUSTOMER OR HIS AGENT

Customer Comments or Concerns:

BASIC ENERGY SERVICES

PRESSURE PUMPING

Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

Job Log

Customer:	Merit Energy	**Cement Pump No.:**	38750, 19919 7.5Hrs.		**Operator TRK No.:**	96816	
Address:	sublette.invoices@meritenergy.com	**Ticket #:**	1718 19437 L		**Bulk TRK No.:**	27808, 19883 Jesse	14354, 19808 Santiago
City, State, Zip:	AFE# 63465	**Job Type:**	Z42 - Cement Surface Casing				
Service District:	1718 - Liberal, Ks.	**Well Type:**	OIL				
Well Name and No.:	Emma Ward # 2	**Well Location:**	35-27S-34W	**County:**	Haskell	**State:**	Ks

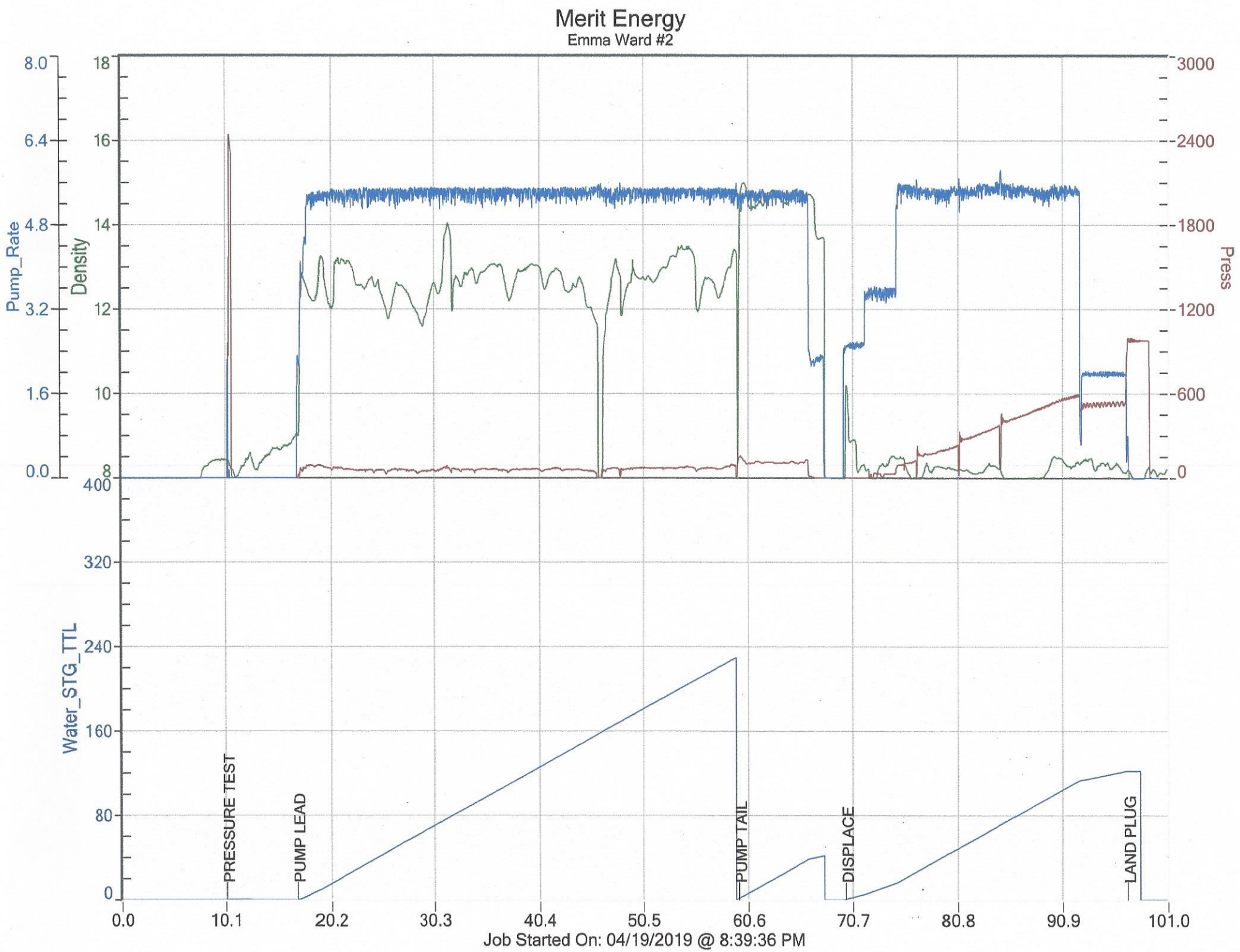
Type of Cmt	Sacks	Additives	Truck Loaded On		
A-Con' Blend	520	3% Calcium Chloride, 1/4# Polyflake, 1# Gilsonite	27808, 19883 Jesse	Front	Back
Premium Plus Cement	165	2% Calcium Chloride, 1/4# Polyflake	14354, 19808 Santiago	Front	Back
				Front	Back

Lead / Tail:	Weight #1 Gal.	Cu/Ft/sk	Water Requirements	CU. FT.	Man Hours / Personnel	
Lead:	12.1	2.41	13.9	1253.2	TT Man Hours:	52
Tail:	14.8	1.34	6.33	221.1	# of Men on Job:	3

Time (am/pm)	(BPM)	Volume (BBLS)	Pumps T	Pumps C	Pressure(PSI) Tubing	Pressure(PSI) Casing	Description of Operation and Materials
16:00							ON LOCATION
16:05							SAFETY MEETING
4:30 PM							RIG UP
8:15 PM							RIG TO CIRCULATE
8:45 PM							RIG TO PT
20:47							PRESSURE TEST TO 2400PSI
20:50	5.5	223.1 slurry				90	PUMP 520SX LEAD @ 12.1#
9:37 PM	5.3	39.3 slurry				100	PUMP 165SX TAIL @ 14.8#
21:45							SHUTDOWN / DROP PLUG
21:47	3.5	10				10	DISPLACE
	5.5	20				110	
	5.5	30				170	
	5.5	40				200	
	5.5	50				290	
	5.5	60				340	
	5.5	70				430	
	5.5	80				470	
	5.5	90				530	
22:10	5.4	103				590	SLOW RATE TO 2.0BPM @ 520PSI
	2	110				530	
22:15	2	113.8				530	LAND PLUG / PRESSURE UP TO 990PSI
22:17							RELEASE BACK --- FLOAT HELD
							JOB COMPLETE

Size Hole	12 1/4"	Depth	1837'			TYPE	Plug Container		
Size & Wt. Csg.	8 5/8" 24#	Depth	1832.17'	New / Used		DV Tool		Depth	
Landing Press.	414.5psi					Retainer		Depth	
Shoe Jt.	41.35'	Type				Perfs		CIBP	

Customer Signature:	Basic Representative:	Daniel Beck
	Basic Signature:	Daniel Beck
	Date of Service:	4/19/2019


Merit Energy
Emma Ward #2
Pump_Rate
Density
Press
Water_STG_TTL
PRESSURE TEST
PUMP LEAD
PUMP TAIL
DISPLACE
LAND PLUG
Job Started On: 04/19/2019 @ 8:39:36 PM

BASIC ENERGY SERVICES

PRESSURE PUMPING

Job Log

Liberal Yard #1717 - Phone 620-624-2277 - 1700 S. Country Estates Road, Liberal KS 67901

Customer:	Merit Energy	**Cement Pump No.:**	37712-19570 4 HRS	**Operator TRK No.:**	78938		
Address:	sublette.invoices@meritenergy.com	**Ticket #:**	1718-19399 L	**Bulk TRK No.:**	30463-19578		0
City, State, Zip:	AFE# 63465	**Job Type:**	Z42 - Cement Production Casing				
Service District:	1718 - Liberal Ks	**Well Type:**	OIL				
Well Name and No.:	Emma Ward # 2	**Well Location:**	35-27S-34W	**County:**	Haskell	**State:**	Ks

20:07							DROP OPENING TOOL
8:21 PM							PUMP OPENING TOOL W/ 520PSI
8:30 PM							RIG TO CIRCULATE
1:07 AM							RIG TO PT
2:05 AM							PRESSURE TEST TO 3000PSI
2:16	5.8	25.1 slurry				180	PUMP 90SX TAIL @ 13.6# / STAGE #2
2:24							SHUTDOWN / DROP CLOSING PLUG / WP
2:29 AM	7.5	10				160	DISPLACE
	7.5	20				170	
	7.5	30				170	
	7.5	40				170	
	7.5	50				170	
	7.5	60				170	
	7.5	70				170	
	7.5	80				180	
2:43	7.5	90				360	SLOW RATE TO 2.0BPM @ 120PSI
2:49	1.9	100.4				310	LAND CLOSING PLUG / PRESSURE UP TO PSI
2:51 AM							RELEASE BACK --- PLUG HELD
							JOB COMPLETE

Size Hole	7 7/8"	Depth				TYPE	Plug Container		
Size & Wt. Csg.	5 1/2" 17#	Depth	5734'	New / Used		DV Tool	4331.79'	Depth	
Landing Press 1	207.5 psi	Landing Press 2	398.9psi			Retainer		Depth	
Shoe Jt.	43.94'	Type				Perfs		CIBP	

Customer Signature:	Basic Representative:	CHAD HINZ
	Basic Signature:	
	Date of Service:	**4/25/2019**

BASIC ENERGY SERVICES

1700 S. Country Estates Raod
Liberal, KS 67901
PH (620)-624-2277FAX (620) 624-2280

SERVICE ORDER - 1718-19399 L

Date: 4/25/2019

Well Name: Emma Ward # 2

Location: 35-27S-34W

County - State: Haskell, Ks

RRC #:

Type Of Service: Z42 - Cement Production Casing

Customer's Order #: 0

Customer: Merit Energy

Address: sublette.invoices@meritenergy.com

AFE# 63465

As a consideration, the above named Customer agrees to pay Basic Energy Services In accord with the rates and terms stated in Basic Energy Services current price lists. Invoices are payable NET 30 (SEE 10.2) after date of invoice. Upon Customer's default in payment of Customers account by such date, Customer agrees to pay interest thereon after default at 18% per annum. In the event it becomes necessary to employ an attorney to enforce collection of said account, Customer agrees to pay all the collection costs and attorney fees. These terms and conditions shall be governed by the laws of the state where services are performed or equipment or materials are furnished.

Basic Energy Services., warrants only title to the products, supplies and materials and that the same are free from defects in workmanship. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Basic Energy Services., liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, product liability, breach of warranty or otherwise) arising out of the sale or use of any products, supplies, or materials upon their return to Basic Energy Services. is expressly limited to the replacement of such products, supplies or materials or , at Basic Energy Services. option, to the allowance to the Customer of credit for the cost of such items. In no event shall Basic Energy Services be liable for special, indirect, punitive or consequential damages.

CODE	QTY	UOM	DESCRIPTION	PRICE	TOTAL
CL104	315	Sk	50/50 POZ	11.00	3465.00
CC113	1590	Lb	Gypsum	0.75	1192.50
CC148	133	Lb	C-17	20.00	2660.00
CC105	67	Lb	C-41P	4.00	268.00
CC102	79	Lb	Celloflake	3.70	292.30
CC201	1576	Lb	Gilsonite	0.67	1055.92
CC111	1888	Lb	Salt	0.50	944.00
CF851	1	Ea	5 1/2" Float Shoe(Blue)	425.00	425.00
CF951	1	Ea	5 1/2" Float Collar(Blue)	420.00	420.00
CF1751	20	Ea	Centralizer, 5 1/2" (Blue)	80.00	1600.00
CF103	1	Ea	Top Rubber Cement Plug, 5 1/2"	105.00	105.00
CC151	500	Gal	Mud Flush	1.50	750.00
C718	27	Gal	Clayplex 650	35.00	945.00
E101	120	Mi	Heavy Equipment Mileage	7.50	900.00
CE240	315	Sk	Blending & Mixing Service Charge	1.40	441.00
E113	795	Tn/Mi	Proppant and Bulk Delivery Charges, per ton mile	2.50	1987.50
CE206	1	4 Hrs	Depth Charge; 5001-6000'	2880.00	2880.00
CE504	1	Job	Plug Container Utilization Charge	250.00	250.00
E100	60	Mi	Unit Mileage Charge-Pickups, Small Vans & Cars (one way)	4.50	270.00
S003	1	Ea	Service Supervisor, first 8 hrs on loc.	175.00	175.00
CF3000	6	Ea	Industrial Rubber Thread Lock Kit	34.00	204.00
				Book Total:	$21,230.22
				Taxes:	
				Disc. Price:	$13,423.48
			Additional 10% Discount as per Agreement on Cement Services	10% Disc	$1,342.35
				Adjusted Price	**$12,081.13**

PUMP TRUCK NUMBER: 37712-19570

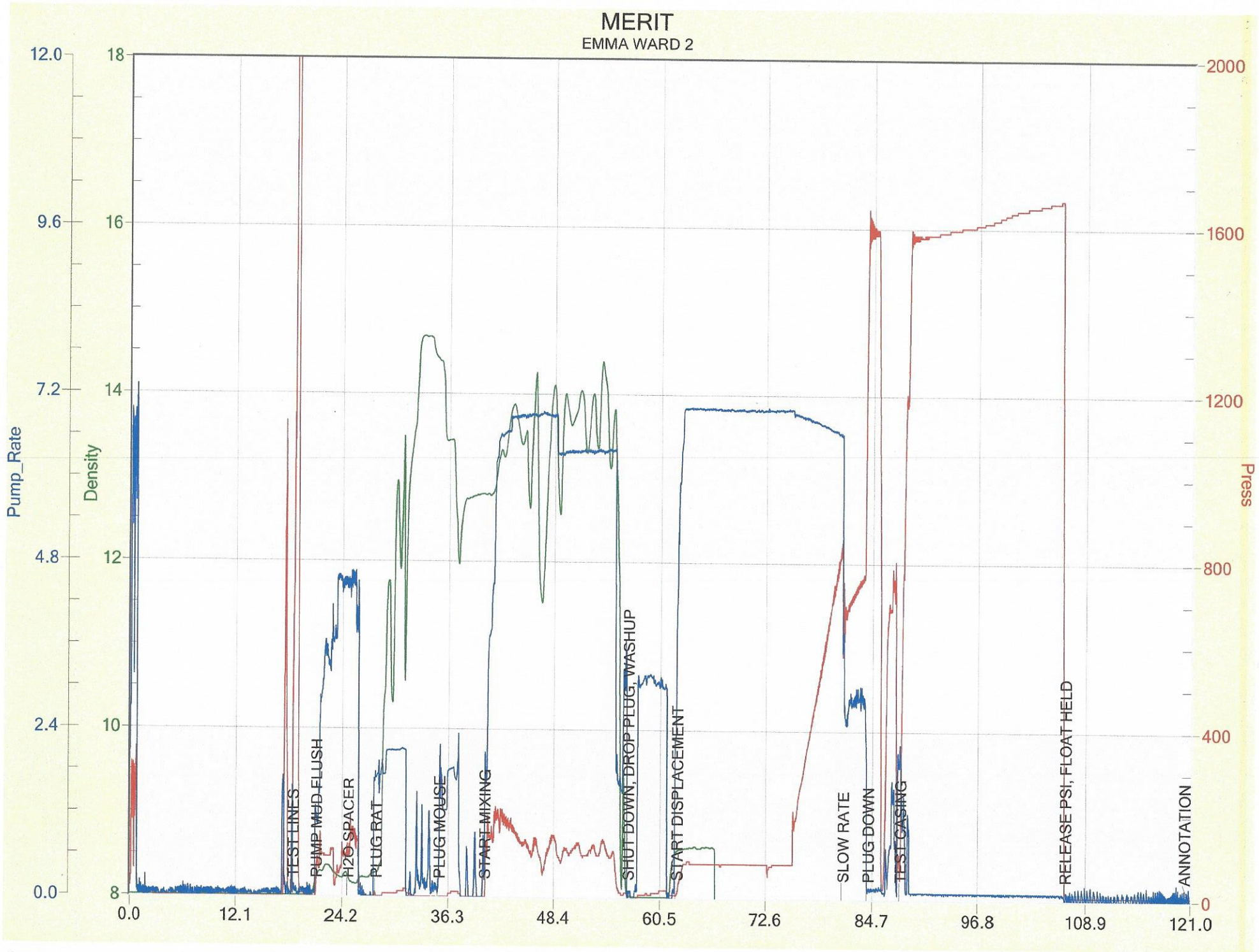
DRIVER:

	YES	NO
THIS JOB WAS SATISFACTORILY COMPLETED	☐	☐
OPERATION OF EQUIPMENT WAS SATISFACTORY	☐	☐
PERFORMANCE OF PERSONEL WAS SATISFACTORY	☐	☐

BASIC ENERGY SERVICES

CUSTOMER OR HIS AGENT

Customer Comments or Concerns:


MERIT
EMMA WARD 2
Pump_Rate
Density
Press
12.0
9.6
7.2
4.8
2.4
0.0
18
16
14
12
10
8
2000
1600
1200
800
400
0
0.0
12.1
24.2
36.3
48.4
60.5
72.6
84.7
96.8
108.9
121.0
TEST LINES
PUMP MUD FLUSH
H2O SPACER
PLUG RAT
PLUG MOUSE
START MIXING
SHUT DOWN, DROP PLUG, WASHUP
START DISPLACEMENT
SLOW RATE
PLUG DOWN
TEST CASING
RELEASE PSI, FLOAT HELD
ANNOTATION