

# HALLIBURTON

iCem<sup>®</sup> Service

## **TERRA ENERGY PARTNERS**

United States of America, COLORADO

Date: Tuesday, January 01, 2019

### **GM 343-8 Production**

Terra GM 343-8 Production

API# 05-045-24020-00

Job Date: Tuesday, January 01, 2019

Sincerely,

**Grand Junction Cement Engineering**

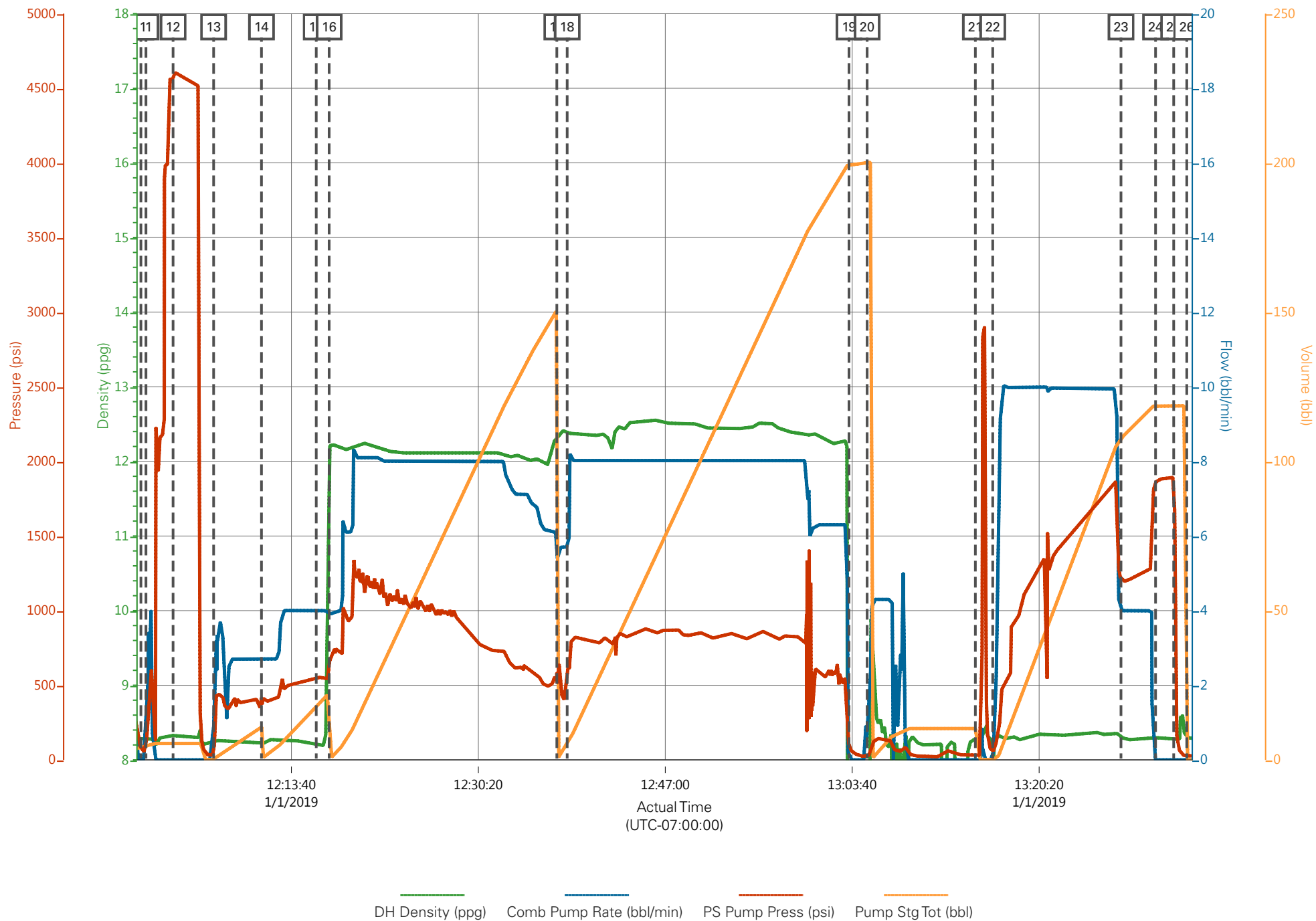
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	PS Pump Press (psi)	DH Density (ppg)	Comb Pump Rate (bbl/min)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	1/1/2019	05:00:00	USER					REQUESTED ON LOCATION @ 9:30
Event	2	Pre-Convoy Safety Meeting	1/1/2019	07:30:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	1/1/2019	08:00:00	USER					1 F550, 1 PUMP TRUCK & 1 660 BULK TURCK
Event	4	Arrive at Location from Service Center	1/1/2019	09:30:00	USER					RIG RUNNING CASING
Event	5	Assessment Of Location Safety Meeting	1/1/2019	09:45:00	USER					MET WITH COMP REP AND WENT OVER NUMBERS AND JOB PROCEDURE. WALKED AROUND LOCATION AND COLLECTED WATER SAMPLE (PH- 7, CHLORIDES- 0, TEMP- 71F). COMP REP WAS OFFERED SDS FOR ALL CHEMICLES USED BY HES.
Event	6	Pre-Rig Up Safety Meeting	1/1/2019	09:55:00	USER					ALL HES PRESENT
Event	7	Rig-Up Completed	1/1/2019	11:00:00	USER					HES RIGGED UP EQUIPMENT WITHOUT ENTERING RED ZONE.
Event	8	Prime Pumps	1/1/2019	11:28:13	COM6					8.33 PPG FRESH WATER
Event	9	Pre-Job Safety Meeting	1/1/2019	11:30:00	USER					ALL HES AND RIG CREW PRESENT
Event	10	Start Job	1/1/2019	12:00:15	COM6					TD 7230', TP 7224.4', SJ 30.11', OH 8.75", CSG 4.5" 11.6#, MUD 10.1 PPG. RIG CIRCULATED WELL @ 10 BPM WITH 1070 PSI FOR APPROX 1 HRS.
Event	11	Prime Pumps	1/1/2019	12:00:42	USER	364.00	8.33	2.00	2.00	8.33 PPG FRESH WATER

Event	12	Test Lines	1/1/2019	12:03:07	COM6	4619.00	8.33	0.50	0.50	ALL LINES HELD PRESSURE AT 4619 PSI
Event	13	Pump Spacer 1	1/1/2019	12:06:44	COM6	436.00	8.33	4.00	10.00	8.33 PPG FRESH WATER (10 BBL)
Event	14	Pump Spacer 2	1/1/2019	12:11:00	COM6	525.00	8.40	4.00	20.00	8.4 PPG MUDFLUSH III (20 BBL)
Event	15	Check Weight	1/1/2019	12:15:53	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	16	Pump Lead Cement	1/1/2019	12:17:02	COM6	947.00	12.30	8.00	132.00	NEOCER CEMENT 360 SKS (132 BBLs), 12.3 PPG, 2.06 FT3/SK, 10.14 GAL/SK
Event	17	Pump Tail Cement	1/1/2019	12:37:20	COM6	870.00	12.50	8.00	173.00	NEOCER CEMENT 495 SKS (173 BBLs), 12.5 PPG, 1.96 FT3/SK, 9.4 GAL/SK
Event	18	Check Weight	1/1/2019	12:38:15	COM6					WEIGHT VERIFIED VIA PRESSUREIZED MUD SCALES
Event	19	Shutdown	1/1/2019	13:03:23	USER					END OF CMT
Event	20	Clean Lines	1/1/2019	13:05:00	USER					WASH UP PUMPS AND LINES
Event	21	Drop Top Plug	1/1/2019	13:14:39	USER					PLUG WENT, VERIFIED BY CO REP
Event	22	Pump Displacement	1/1/2019	13:16:12	COM6	1950.00	8.33	10.00	102.30	8.34 PPG FRESH WATER (112.3 BBLs) 3 BAGS BE6, 1 GAL MMCR & 11 SKS KCL
Event	23	Slow Rate	1/1/2019	13:27:38	USER	1215.00	8.33	4.00	10.30	SLOW RATE TO 4 BPM PER CO REP TO LAND PLUG
Event	24	Bump Plug	1/1/2019	13:30:43	USER	1859.00	8.33	4.00	112.30	LAND PLUG AT 1300 PSI, BROUGHT UP TO 1850 PSI FOR A 10 MIN CSG TEST.
Event	25	Check Floats	1/1/2019	13:32:20	USER	1896.00	8.33	0.00	112.30	FLOATS HELD, 1 BBL BACK TO TRUCK
Event	26	End Job	1/1/2019	13:33:30	COM6					GOOD RETURNS THROUGHOUT, PIPE WAS RECIPROCATED
Event	27	Post-Job Safety Meeting (Pre Rig-Down)	1/1/2019	13:36:22	USER					ALL HES PRESENT
Event	28	Rig-Down Completed	1/1/2019	14:30:00	USER					ALL HES PRESENT
Event	29	Pre-Convoy Safety Meeting	1/1/2019	14:45:00	USER					ALL HES PRESENT
Event	30	Crew Leave Location	1/1/2019	15:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENT, CHRIS SMITH AND CREW

# TEP - GM 343-8 - 4.5" PRODUCTION



### Job Information

Request/Slurry	2524334/1	Rig Name	H&P 271	Date	27/DEC/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 343-8

### Well Information

Casing/Liner Size	4.5 in	Depth MD	7248 ft	BHST	89°C / 193°F
Hole Size	8.75 in	Depth TVD	6626 ft	BHCT	53°C / 128°F
Pressure	3938 psi				

### Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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### Cement Information - Lead Design

<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	Cement Properties		
							Slurry Density	12.3	lbm/gal
							Slurry Yield	2.06	ft3/sack
							Water Requirement	10.17	gal/sack
							Total Mix Fluid	10.17	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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## Operation Test Results Request ID 2524334/1

### Thickening Time - ON-OFF-ON, Request Test ID:36096133

30/DEC/2018

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
128	3938	36	4:24	5:04	5:18	5:22	5	46	15	5

Total SKS = 360

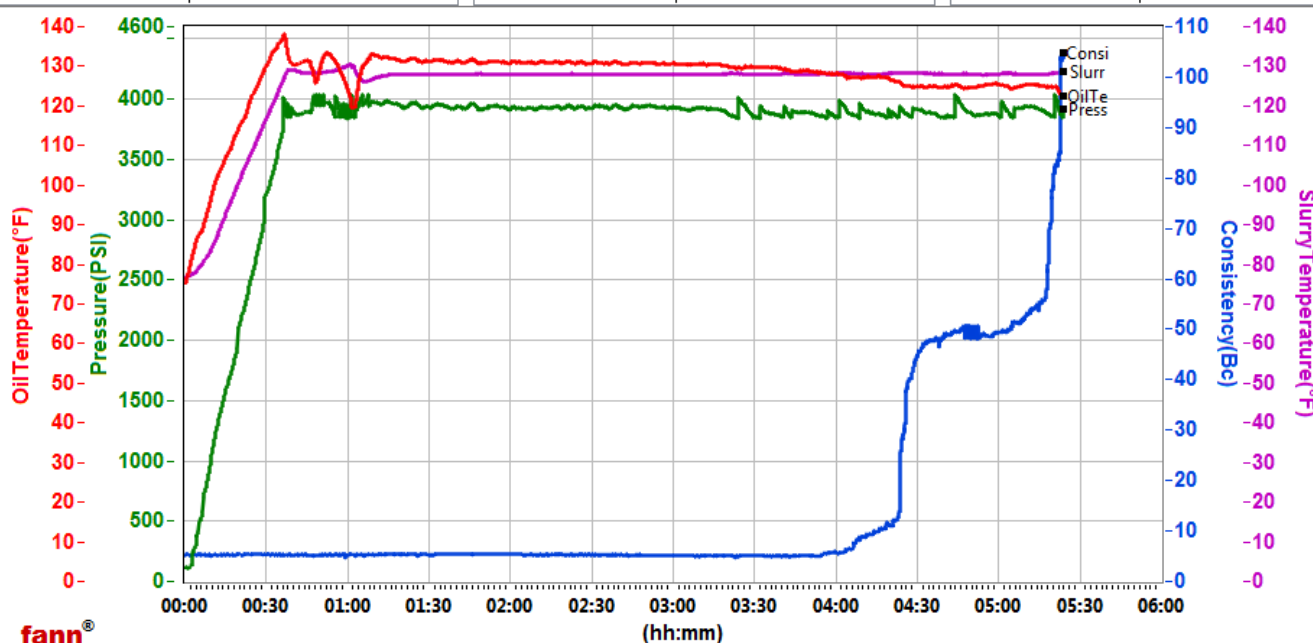
CS2691, Trailer 8677, 360 sks

no deflection, 5Bc--- > 5Bc

please note heat of hydration at 4:03

#### GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	TempTest	Rig	H&P 271		
SW Version	1.0	Casing/Liner Size	4.5 INCH		
Test ID	36096133 - TT	Job Type	PRODUCTION CASING		
Request ID	2524334-1	Cement Weight	GCC TYPE I-II		
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	12/29/2018 07:27:06.240		
Well No	GM 343-8	Temp. Units	degF		



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2524334-1 TERRA BULK PRODUCTION LEAD.tdms

Comments Standard

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# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

### Job Information

Request/Slurry	2524335/1	Rig Name	H&P 271	Date	27/DEC/2018
Submitted By	Lukas Van Zyl	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	GM 343-8

### Well Information

Casing/Liner Size	4.5 in	Depth MD	7248 ft	BHST	89°C / 193°F
Hole Size	8.75 in	Depth TVD	6626 ft	BHCT	53°C / 128°F
Pressure	3938 psi				

### Drilling Fluid Information

Mud Supplier Name	Baroid	Mud Trade Name	BARADRIL-N	Density	9.9 lbm/gal
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### Cement Information - Tail Design



<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>MP</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
							Slurry Density	12.5	lbm/gal
							Slurry Yield	1.96	ft3/sack
							Water Requirement	9.43	gal/sack
							Total Mix Fluid	9.43	gal/sack
							Water Source	Fresh Water	
							Water Chloride		

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# **Operation Test Results Request ID 2524335/1**

## **Thickening Time - ON-OFF-ON, Request Test ID:36096135**

**30/DEC/2018**

Test Temp (degF)	Pressure (psi)	Reached in (min)	30 Bc (hh:min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)
128	3938	36	4:37	4:46	4:51	5:02	8	46	15

Total SKS = 495

CS2694, Trailer 3212, 100 sks

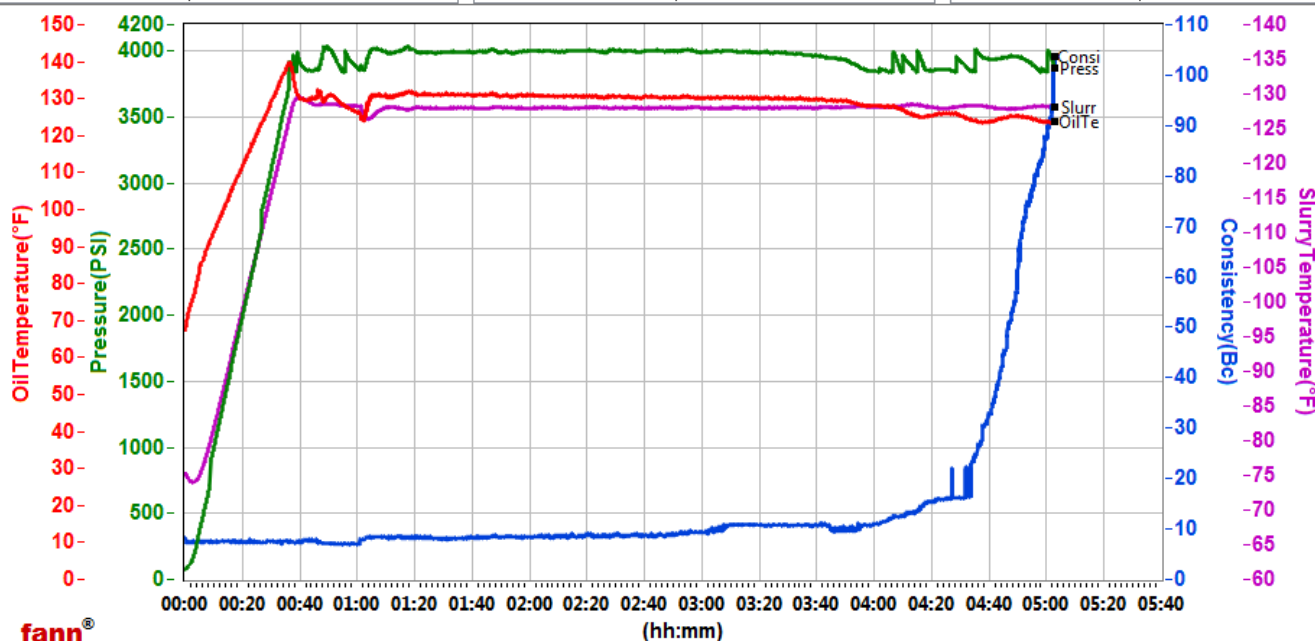
CS2693, Trailer 8678, 395 sks

deflected from 7Bc-- > 8Bc

please note heat of hydration at 4:09

### **GRAND JUNCTION**

Fields	Values	Fields	Values	Events	Results
Project Name	TempTest	Rig	H&P 271		
SW Version	1.0	Casing/Liner Size	4.5 INCH		
Test ID	36096135 - TT	Job Type	PRODUCTION CASING		
Request ID	2524335-1	Cement Weight	GCC TYPE I-II		
Tested by	CT	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	12/29/2018 09:40:09.94		
Well No	GM343-8	Temp. Units	degF		



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2524335-1 TERRA BULK PRODUCTION TAIL.tdms

Comments Standard

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