

# HALLIBURTON

iCem<sup>®</sup> Service

## **TEP ROCKY MOUNTAIN LLC**

**For: Lynn Cass & Abe Alexander**

Date: Tuesday, December 06, 2016

## **RU 14-7 PRODUCTION**

API# 05-045-23259-00

Sincerely,

**Grand Junction Cement Engineering**

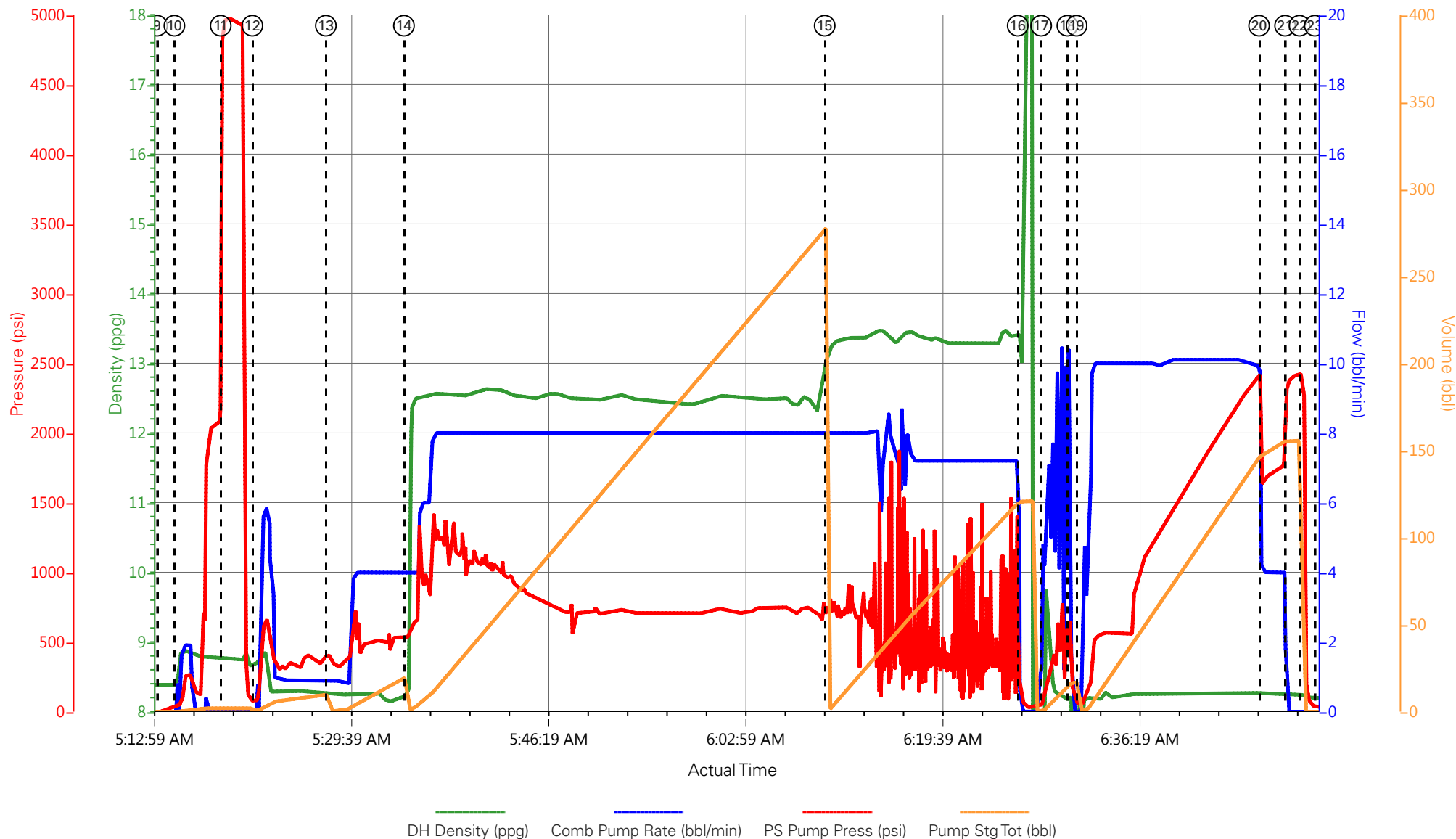
## 2.0 Real-Time Job Summary

## 2.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	12/5/2016	15:00:00	USER					ELITE #4
Event	2	Pre-Convoy Safety Meeting	12/5/2016	16:15:00	USER					ALL HES EMPLOYEES
Event	3	Arrive At Loc	12/5/2016	19:00:00	USER					ARRIVED 2 HOURS EARLY DID NOT START CHARGING HOURS UNTIL REQUESTED ON LOCATION TIME
Event	4	Assessment Of Location Safety Meeting	12/5/2016	19:15:00	USER					ALL HES EMPLOYEES
Event	5	Pre-Rig Up Safety Meeting	12/5/2016	19:30:00	USER					ALL HES EMPLOYEES
Event	6	Rig-Up Equipment	12/5/2016	19:45:00	USER					1 HT-400 PUMP TRUCK ( ELITE #4 ) 1 -660 BULK TRUCK 1 SILO 1 F-550 PICKUP
Event	7	Comment	12/5/2016	19:55:00	USER					CUSTOMER WAS OFFERED SDS WATER TEMP @ 75 F PH: 7 CHLORIDES: 0 PPM
Event	8	Pre-Job Safety Meeting	12/6/2016	04:30:00	USER					ALL HES EMPLOYEES AND RIG CREW RIG CIRCULATED @ 12 BBL/MIN FOR 2 HOURS PRIOR TO JOB GAS @ 180 PRIOR TO JOB
Event	9	Start Job	12/6/2016	05:13:30	COM5					TD: 9686 TP: 9676 CSG: 4 1/2 11.6# P-110 SJ: 25 MW: 10.0 PPG OH: 8 3/4 SURFACE CSG: 9 5/8 32.3# SET @ 1150
Event	10	Prime Lines	12/6/2016	05:14:57	USER	8.33	2.0	270	2.0	PRIME LINES FRESH WATER
Event	11	Test Lines	12/6/2016	05:18:53	USER	8.33		4980	2.0	PRESSURE TEST OK
Event	12	Fresh Water Spacer	12/6/2016	05:21:33	COM5	8.33	4.0	470	10.0	10 BBL FRESH WATER SPACER
Event	13	Mud Flush III	12/6/2016	05:27:46	COM5	8.4	4.0	490	20.0	20 BBL ( 80 LBS ) MUD FLUSH III SPACER
Event	14	Pump Lead Cement	12/6/2016	05:34:22	COM5	12.5	8.0	980	260.8	755 SKS NeoCem (260.8 BBLs) 12.5 PPG 1.94 YIELD 9.58 GAL/SK LEAD CEMENT WEIGHT VERIFIED VIA

										PRESSURIZED MUD SCALES 60 LBS TUFF FIBER ADDED THROUGHOUT	
Event	15	Pump Tail Cement	12/6/2016	06:09:57	COM5	13.3	8.0	400	81.6	265 SKS ThermaCem (81.6 BBLS) 13.3 PPG 1.73 YIELD 7.81 GAL/SK TAIL CEMENT WEIGHT VERIFIED VIA PRESSURIZED MUD SCALES	
Event	16	Shutdown	12/6/2016	06:26:17	USER						
Event	17	Clean Lines	12/6/2016	06:28:16	COM5						CLEAN LINES FRESH WATER
Event	18	Drop Top Plug	12/6/2016	06:30:28	COM5						PLUG AWAY NO ISSUES
Event	19	Pump Displacement	12/6/2016	06:31:15	COM5	8.4	10.0	2415	149.5	KCL DISPLACEMENT 1 GAL MMCR 3 LBS BE-6 ADDED THROUGHOUT	
Event	20	Slow Rate	12/6/2016	06:46:41	COM5	8.4	4.0	1670	139.5	SLOW RATE PRIOR TO BUMPING PLUG	
Event	21	Bump Plug	12/6/2016	06:48:53	COM5	8.4	4.0	1800	149.5	PRESSURE PRIOR TO BUMPING PLUG @ 1800 PSI BUMPED PLUG UP TO 2430 PSI	
Event	22	Check Floats	12/6/2016	06:50:06	COM5	8.4	2430		149.5	1 1/2 BBLS RETURNED BACK TO TRUCKS TANK	
Event	23	End Job	12/6/2016	06:51:24	COM5						GOOD RETURNS THROUGHOUT JOB PIPE WAS WORKED THROUGHOUT JOB
Event	24	Pre-Rig Down Safety Meeting	12/6/2016	07:30:00	USER						ALL HES EMPLOYEES
Event	25	Rig-Down Equipment	12/6/2016	07:45:00	USER						
Event	26	Pre-Convoy Safety Meeting	12/6/2016	08:15:00	USER						ALL HES EMPLOYEES
Event	27	Crew Leave Location	12/6/2016	08:30:00	USER						THANK YOU FOR USING HALLIBURTON CEMENT DAVID CAMPBELL AND CREW

# TEP - YOUBERG RU14-7 - 4 1/2 PRODUCTION



- |   |                          |                    |                                |                              |
|---|--------------------------|--------------------|--------------------------------|------------------------------|
| ① Call Out                              | ⑦ Comment                | ⑬ Mud Flush III    | ⑰ Pump Displacement            | 25 Rig-Down Equipment        |
| ② Pre-Convoy Safety Meeting             | ⑧ Pre-Job Safety Meeting | ⑭ Pump Lead Cement | 20 Slow Rate                   | 26 Pre-Convoy Safety Meeting |
| ③ Arrive At Loc                         | ⑨ Start Job              | ⑮ Pump Tail Cement | 21 Bump Plug                   | 27 Crew Leave Location       |
| ④ Assessment Of Location Safety Meeting | ⑩ Prime Lines            | ⑯ Shutdown         | 22 Check Floats                |                              |
| ⑤ Pre-Rig Up Safety Meeting             | ⑪ Test Lines             | ⑰ Clean Lines      | 23 End Job                     |                              |
| ⑥ Rig-Up Equipment                      | ⑫ Fresh Water Spacer     | ⑱ Drop Top Plug    | 24 Pre-Rig Down Safety Meeting |                              |

▼ **HALLIBURTON** | iCem® Service

Created: 2016-12-05 15:37:25, Version: 4.2.393

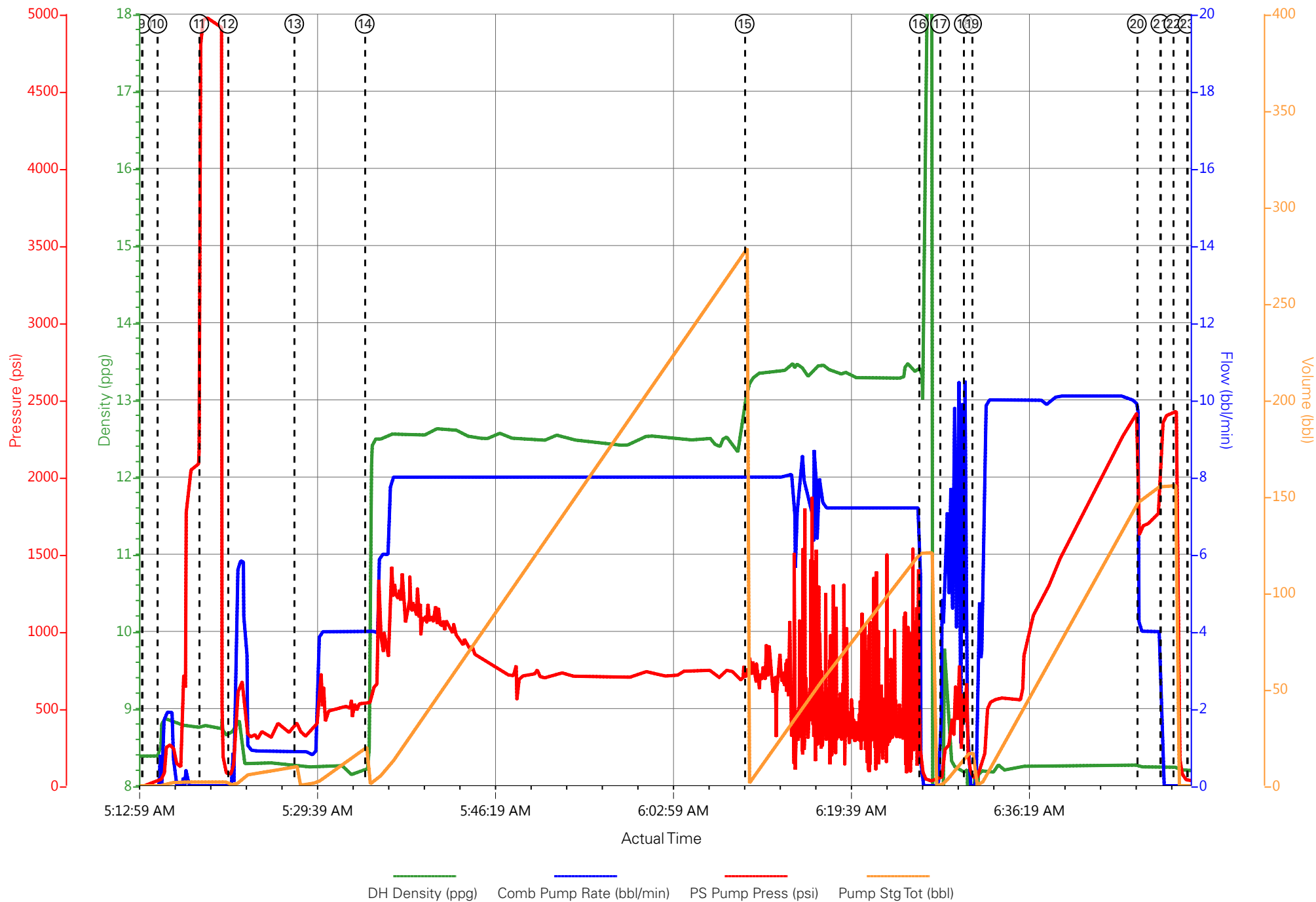
Edit

Customer: TEP ROCKY MOUNTAIN LLC  
Representative: ROBERT BROWN

Job Date: 12/6/2016  
Sales Order #: 0903704328

Well: RU 14-7  
ELITE #4: DAVID CAMPBELL/ BRANDON REEVES

# TEP - YOUNBERG RU14-7 - 4 1/2 PRODUCTION



# HALLIBURTON

## Rockies, Grand Junction

### Lab Results- Lead

#### Job Information

<b>Request/Slurry</b>	2353004/1	<b>Rig Name</b>	H&P 318	<b>Date</b>	01/DEC/2016
<b>Submitted By</b>	Patrick Ealey	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Terra Energy Partners	<b>Location</b>	Garfield	<b>Well</b>	RU 14-7

#### Well Information

<b>Casing/Liner Size</b>	4.5 in	<b>Depth MD</b>	9647 ft	<b>BHST</b>	115°C / 239°F
<b>Hole Size</b>	8.75 in	<b>Depth TVD</b>	9379 ft	<b>BHCT</b>	76°C / 169°F
<b>Pressure</b>	5870 psi				

#### Drilling Fluid Information

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



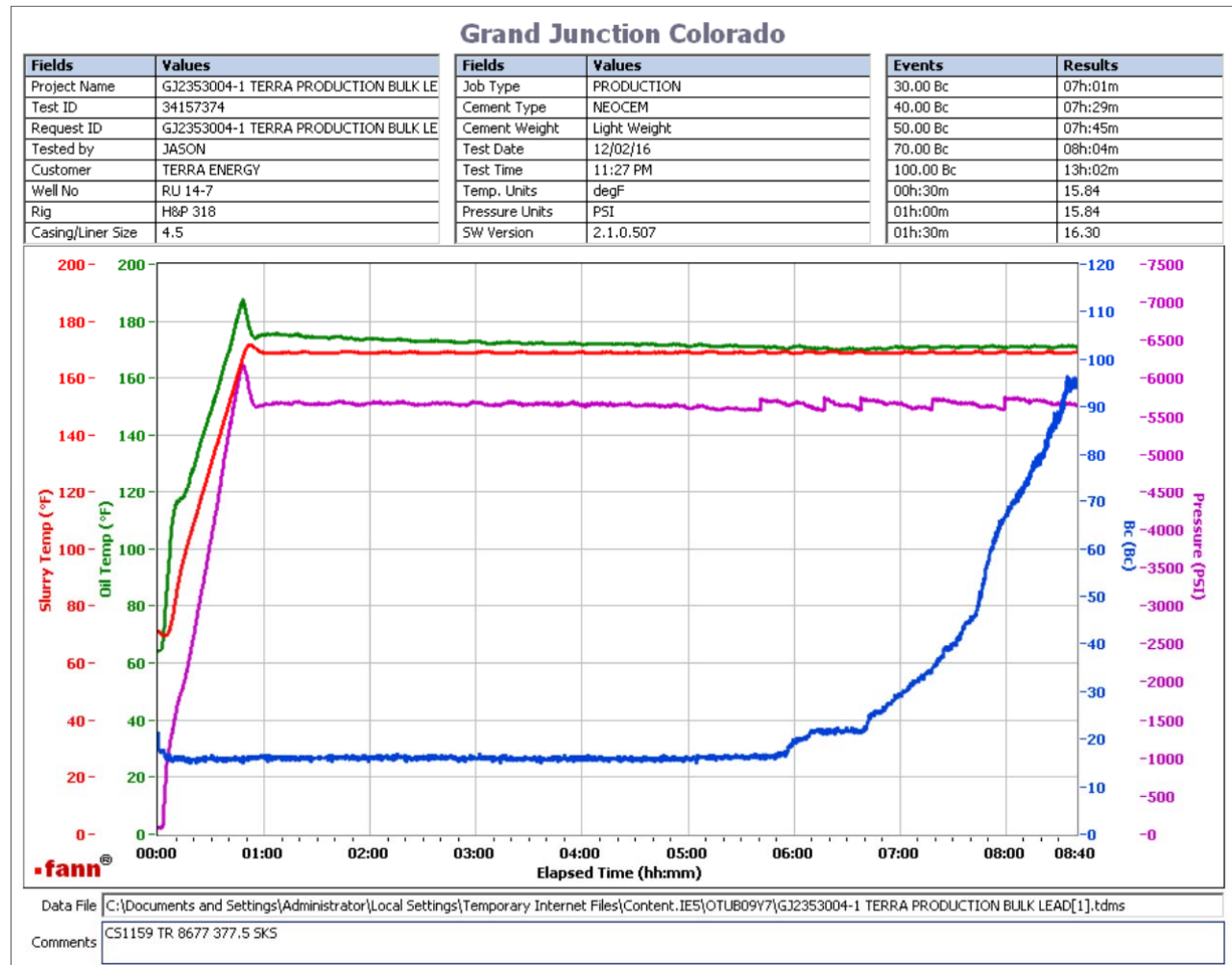
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		NeoCem GJ1				Slurry Density	12.5	lbm/gal
						Slurry Yield	1.941	ft3/sack
						Water Requirement	9.623	gal/sack
						Total Mix Fluid	9.623	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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## Thickening Time

03/DEC/2016

Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
169	5870	47	21	7:01	7:29	7:45	8:04	13:02



Total Sacks= 755  
CS1159 TR 8677 377.5 SKS

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Thickening Time

03/DEC/2016

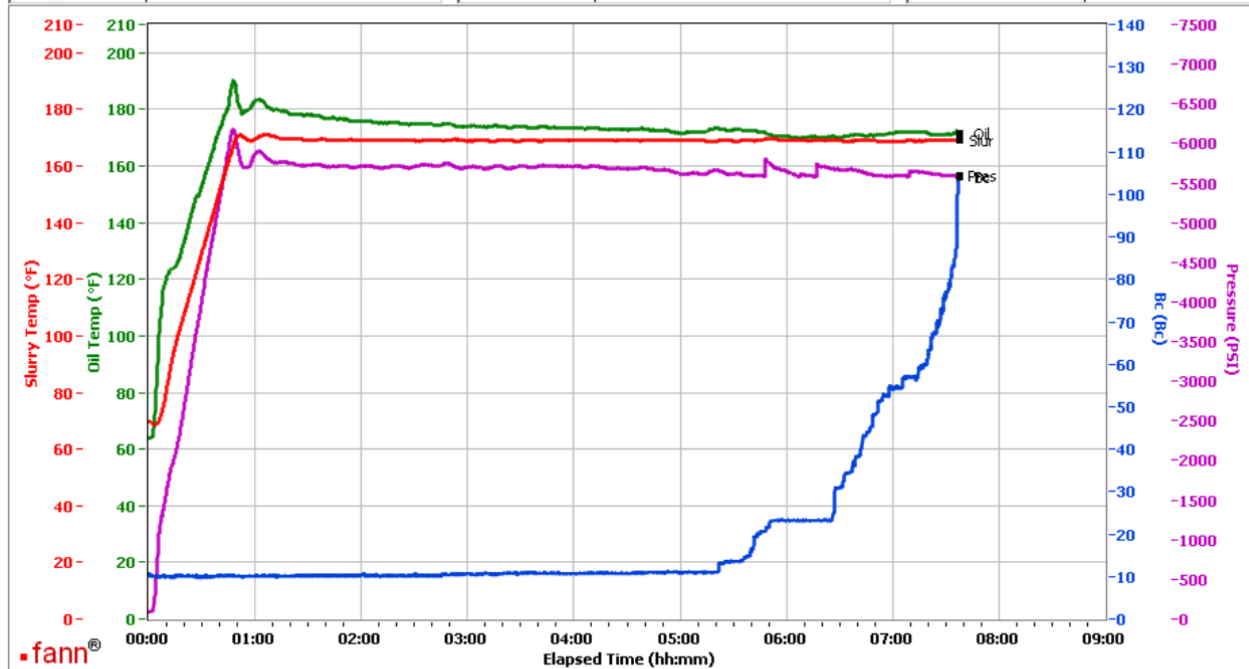
Temp (°F)	Pressure (psi)	Reached in (min)	Start BC	30 Bc (hh:mm)	40 Bc (hh:mm)	50 Bc (hh:mm)	70 Bc (hh:mm)	100 Bc (hh:mm)
169	5870	47	11	6:27	6:42	6:51	7:25	7:36

Grand Junction Colorado

Fields	Values
Project Name	GJ2353004-2 TERRA PRODUCTION BULK LE
Test ID	34159745
Request ID	GJ2353004-2 TERRA PRODUCTION BULK LE
Tested by	JASON
Customer	TERRA ENERGY
Well No	RU 14-7
Rig	H&P 318
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	NEOCEM
Cement Weight	Light Weight
Test Date	12/03/16
Test Time	12:17 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	06h:27m
40.00 Bc	06h:42m
50.00 Bc	06h:51m
70.00 Bc	07h:25m
100.00 Bc	07h:36m
00h:30m	9.71
01h:00m	9.92
01h:30m	10.28



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2353004-1 TERRA PRODUCTION BULK LEAD[1].tdms

Comments CS1160 TR 8678 377.5 SKS

Total Sacks= 755  
CS1160 TR 8678 377.5 SKS

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# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

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<b>Submitted By</b>	Patrick Ealey	<b>Job Type</b>	Production Casing	<b>Bulk Plant</b>	Grand Junction
<b>Customer</b>	Terra Energy Partners	<b>Location</b>	Garfield	<b>Well</b>	RU 14-7

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### Cement Information - Tail Design



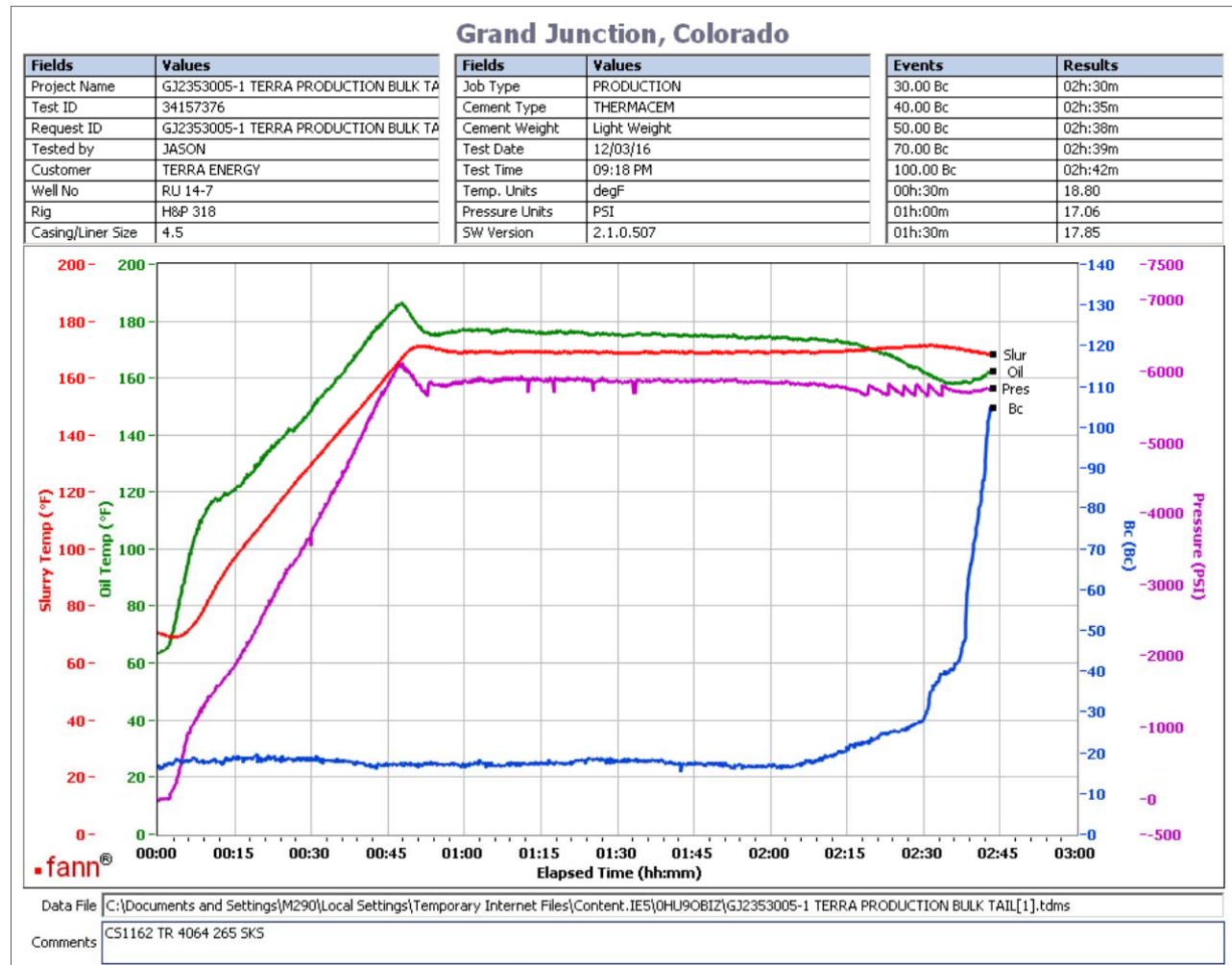
<u>Conc</u>	<u>UOM</u>	<u>Cement/Additive</u>	<u>Sample Type</u>	<u>Sample Date</u>	<u>Lot No.</u>	<b>Cement Properties</b>		
		ThermaCem				Slurry Density	13.3	lbm/gal
						Slurry Yield	1.733	ft3/sack
						Water Requirement	7.799	gal/sack
						Total Mix Fluid	7.799	gal/sack
						Water Source	Fresh Water	
						Water Chloride		

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03/DEC/2016

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169	5870	47	17	2:30	2:35	2:38	2:39	2:42



Total Sacks= 265  
 CS1162 TR 4064 265 SKS  
 Heat of hydration started around 2:17

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