

# HALLIBURTON

iCem<sup>®</sup> Service

## **PICEANCE ENERGY LLC**

**For: Chuck Mallary**

Date: Thursday, December 17, 2015

### **Piceance Federal 28-07E Production PJR**

API# 05-077-10261-00

902991825

Job Date: Thursday, December 17, 2015

Sincerely,

**Grand Junction Cement Engineering**

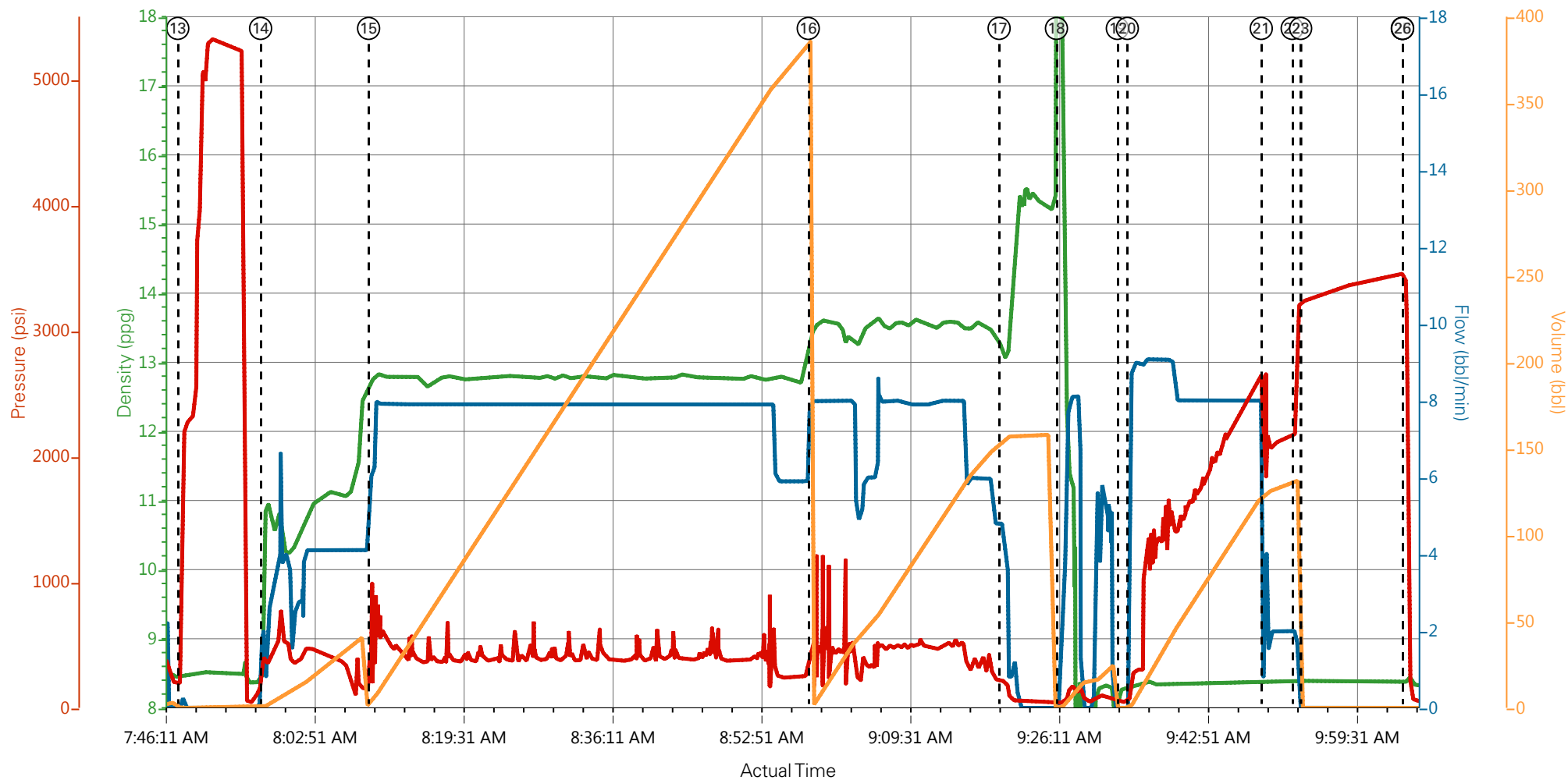
## 1.0 Real-Time Job Summary

## 1.1 Job Event Log

Type	Seq. No.	Activity	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	12/16/2015	23:00:00	USER					REQUESTED ON LOCATION @ 0600 IF POSSIBLE BY 0430
Event	2	Pre-Convoy Safety Meeting	12/17/2015	02:00:00	USER					ALL HES PRESENT
Event	3	Crew Leave Yard	12/17/2015	02:15:00	USER					1-550 PU, 2-660'S, AND 1- ELITE PUMP. ALL TRUCKS LEFT THE YARD TOGETHER
Event	4	Arrive At Loc	12/17/2015	05:00:00	USER					ALL TRUCKS CHAINED UP MADE IT TO LOCATION AN HOUR EARLY. NO ISSUES
Event	5	Assessment Of Location Safety Meeting	12/17/2015	05:15:00	USER					MET WITH CO REP AND WENT OVER NUMBERS AND JOB PROCEDURE. DID A WALKAROUND OF LOCATION COLLECTED WATER SAMPLE (PH7, CHL0, TEMP 58F) FILLED OUT JSA AND GOT TRUCKS SPOTTED IN
Event	6	Other	12/17/2015	05:16:00	USER					CUSTOMER HAS SDS
Event	7	Pre-Rig Up Safety Meeting	12/17/2015	05:20:00	USER					ALL HES PRESENT
Event	8	Rig-Up Equipment	12/17/2015	05:30:00	USER					CREW WAS DONE WITH CASING AT THIS POINT SO WE WERE ABLE TO GET EVERTHING RIGGED UP
Event	9	Pre-Job Safety Meeting	12/17/2015	07:20:00	USER					FILLED OUT RIG FLOOR JSA AND MET WITH THE RIG CREW. ALL HES PRESENT
Event	10	Start Job	12/17/2015	07:40:00	COM5					TD 8646', TP 8636', SC 8.625" 32# @ 1559', CASING 4.5" 11.6# L-80 LTC, SJ 87.15', OH 7.875", MW 9.4 PPG
Event	11	Drop Bottom Plug	12/17/2015	07:42:51	USER					PLUG WENT
Event	12	Prime Pumps	12/17/2015	07:45:16	COM5	8.34	2	390	2	2 BBLS FRESH WATER
Event	13	Test Lines	12/17/2015	07:47:54	COM5					TESTED TO 5326 PSI. PRESSURE HELD AND KO'S FUNCTIONING.
Event	14	Pump Spacer 1	12/17/2015	07:57:10	COM5	11	4	413	40	40 BBLS TUNED SPACER III 11 PPG, 4.55 FT3/SK 30 GAL

Event	15	Pump Lead Cement	12/17/2015	08:09:16	COM5	12.7	8	400	326	1109 SKS EconoCem (326 BBLS) 12.7 PPG, 1.65 FT3/SK, 7.95 GAL/SK
Event	16	Pump Tail Cement	12/17/2015	08:58:28	COM5	13.5	8	500	139	446 SKS ThermaCem GJ2 (139 BBLS) 13.5 BBLS, 1.75 FT3/SK, 7.97 GAL/SK
Event	17	Shutdown	12/17/2015	09:19:50	USER					END OF CEMENT
Event	18	Clean Lines	12/17/2015	09:26:15	USER	8.34	4	40	10	10 BBLS FRESH WATER TO CELLAR
Event	19	Drop Top Plug	12/17/2015	09:33:04	USER					PLUG WENT
Event	20	Pump Displacement	12/17/2015	09:34:11	COM5	8.34	8	2640	132.5	132.5 BBLS FRESH WATER WITH MMCR IN FIRST 10 BBLS AND CLA-WEB THROUGHOUT
Event	21	Slow Rate	12/17/2015	09:49:11	USER	8.34	2	2180	127	SLOWED TO 2 BBLS/MIN TO LAND PLUG
Event	22	Bump Plug	12/17/2015	09:52:39	COM5					BUMPED AT 2180 PSI AND WENT UP TO 3220 PSI
Event	23	Pressure Test	12/17/2015	09:53:35	USER			3237		PRESSURE HELD FOR 10 MIN
Event	24	Check Floats	12/17/2015	10:04:59	USER					10 MIN HELD PRESSURE FOR 10 MIN. FLOATS HELD. 1.5 BBLS BACK TO TRUCK
Event	25	End Job	12/17/2015	10:05:00	USER					GREAT RETURNS THROUGHOUT JOB. GOT ALL OF TUNED SPACER AND ABOUT 30 BBLS OF GOOD CEMENT TO SURFACE.
Event	26	Pre-Rig Down Safety Meeting	12/17/2015	10:05:01	USER					ALL HES PRESENT
Event	27	Rig Down Lines	12/17/2015	10:15:00	USER					
Event	28	Pre-Convoy Safety Meeting	12/17/2015	11:15:00	USER					ALL HES PRESENT
Event	29	Crew Leave Location	12/17/2015	11:30:00	USER					THANK YOU FOR USING HALLIBURTON CEMENT. CLIFF SPARKS AND CREW.

# PICEANCE, PICEANCE FED 28-07E 4.5" PRODUCTION



— DH Density (ppg)
 — Comb Pump Rate (bbl/min)
 — PS Pump Press (psi)
 — Pump Stg Tot (bbl)

① Call Out n/a;n/a;n/a;n/a	⑨ Pre-Job Safety Meeting 0.05;0;0;0.1	⑰ Shutdown 13.05;4.8;210;154.6	25 End Job 8.36;0;3239;0
② Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a	⑩ Start Job 8.28;0;29;21.3	⑱ Clean Lines 42.09;1.7;40;0.1	26 Pre-Rig Down Safety Meeting 8.35;0;3181;0
③ Crew Leave Yard n/a;n/a;n/a;n/a	⑪ Drop Bottom Plug 8.46;0;21;0	⑲ Drop Top Plug 8.27;0;48;0	27 Rig Down Lines n/a;n/a;n/a;n/a
④ Arrive At Loc n/a;n/a;n/a;n/a	⑫ Prime Pumps 8.42;1.3;255;0.5	20 Pump Displacement 8.27;8.7;183;0.9	28 Pre-Convoy Safety Meeting n/a;n/a;n/a;n/a
⑤ Assessment Of Location Safety Meeting n/a;n/a;n/a;n/a	⑬ Test Lines 8.43;0;195;0	21 Slow Rate 8.37;2.1;2069;123.8	29 Crew Leave Location n/a;n/a;n/a;n/a
⑥ Other n/a;n/a;n/a;n/a	⑭ Pump Spacer 1 10.25;2;420;0.9	22 Bump Plug 8.37;2;2525.14;131.2	
⑦ Pre-Rig Up Safety Meeting n/a;n/a;n/a;n/a	⑮ Pump Lead Cement 12.75;6.1;190;4.5	23 Pressure Test Casing 8.39;0;3237;0	
⑧ Rig-Up Equipment n/a;n/a;n/a;n/a	⑯ Pump Tail Cement 13.41;8;465;0.1	24 Check Floats/End Of Pressure Test 8.36;0;3288;0	

▼ **HALLIBURTON** | iCem® Service

Created: 2015-12-17 06:06:45, Version: 4.2.393

Edit

Customer: PICEANCE ENERGY LLC

Job Date: 12/17/2015 6:26:41 AM

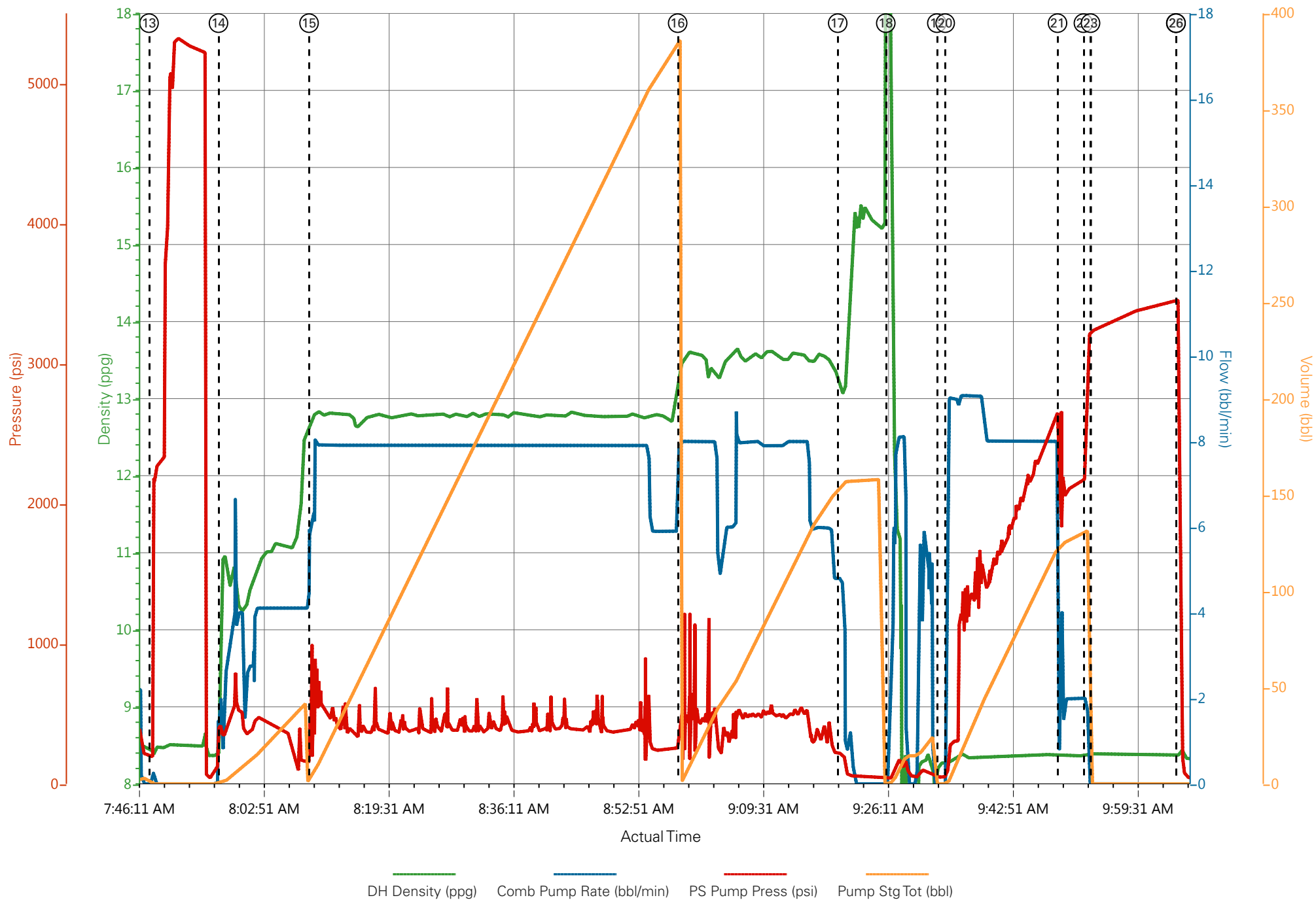
Well: 28-07E

Representative: ROGER FOSTER

Sales Order #: 902991825

ELITE 1 : CLIFF SPARKS / DUSTIN HYDE

# PICEANCE, PICEANCE FED 28-07E 4.5" PRODUCTION



## Job Information

Request/Slurry	2291324/3	Rig Name	Patterson #306	Date	13/DEC/2015
Submitted By	Jenna Cook	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Piceance Energy LLC	Location	Mesa	Well	Piceance Fed 28-07E

## Well Information

Casing/Liner Size	4.5 in / 114.3 mm	Depth MD	2594 m / 8509 ft	BHST	119°C / 247°F
Hole Size	7.875 in / 200.025 mm	Depth TVD	2454 m / 8051 ft	BHCT	76°C / 168°F
Pressure	341 bar / 4940 psi				

## Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
-------------------	----------------	---------

## Cement Information - Lead Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		EconoCem				Slurry Density	12.7	lbm/gal
		> Mountain G	Bulk Blend	15.12.15	Tank 29	Slurry Yield	1.645	ft3/sack
		> San Juan	Bulk Blend	15.12.15	Tank 16	Water Requirement	78.485	L/100kg
		Cement Blend				Total Mix Fluid	78.485	L/100kg
		Fresh Water	Lab	12.03.13				
		HALAD-344 (PB)	Bulk Blend	15.12.15	15040446			
		SA-1015 (PB)	Bulk Blend	15.12.15	5A0001W	Water Source	Fresh Water	
		Kol-Seal	Bulk Blend	15.12.15	Tank 1	Water Chloride		
		Pol-E-Flake	Bulk Blend	15.12.15	NA			
		HR-601	Bulk Blend	15.12.15	69			

## Operation Test Results Request ID 2291324/3

Thickening Time								15/DEC/2015
-----------------	--	--	--	--	--	--	--	-------------

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)
168	4940	41	7	4:17	5:27	6:12	7:02	8:20

Total sks=1109

CS3223 TR 4064 159 SKS

These are draft results and have not been approved for final use.

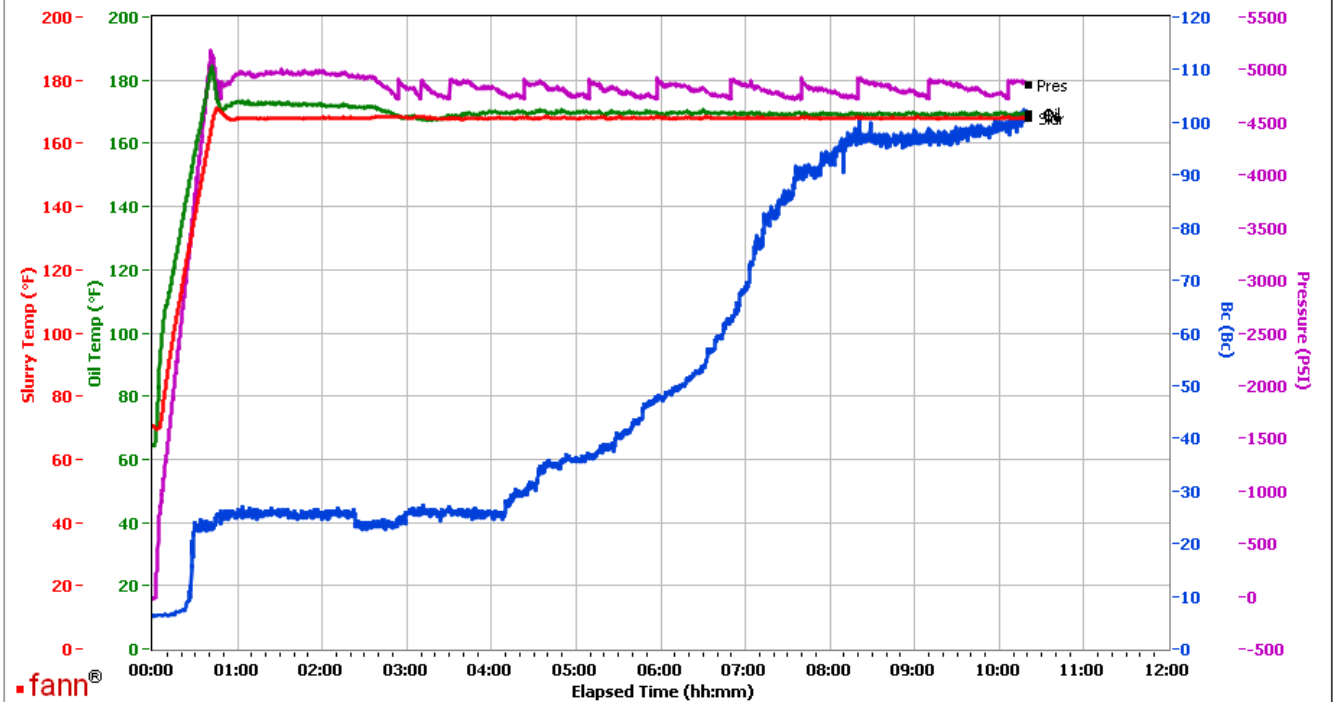
This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

## Grand Junction, Colorado

Fields	Values
Project Name	GJ2291324-3 PICEANCE PRODUCTION BULK
Test ID	GJ2291324-3 PICEANCE
Request ID	
Tested by	JASON
Customer	PICEANCE ENERGY
Well No	PICEANCE FED 28-07E
Rig	PATTERSON 306
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	ECONOCEM
Cement Weight	Light Weight
Test Date	12/15/15
Test Time	03:00 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	04h:17m
40.00 Bc	05h:27m
50.00 Bc	06h:12m
70.00 Bc	07h:02m
100.00 Bc	08h:20m
00h:30m	22.62
01h:00m	26.14
01h:30m	25.44



Data File	C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2291324-3 PICEANCE BULK LEAD[1].tdms
Comments	CS3223 TR 4064 159 SK5

**These are draft results and have not been approved for final use.**

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# Operation Test Results Request ID 2291324/2

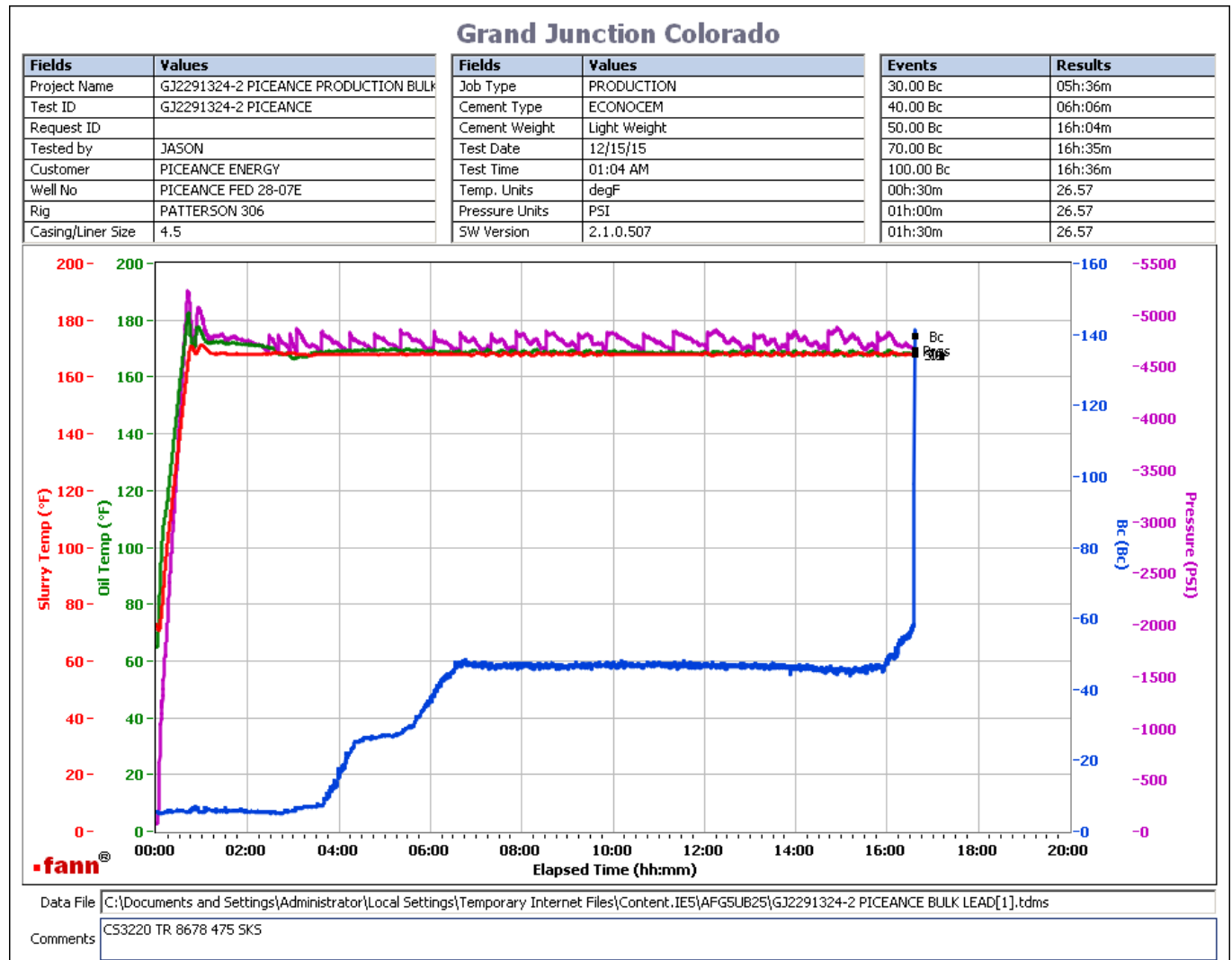
## Thickening Time

15/DEC/2015

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)
168	4940	41	6	5:36	6:06	16:04	16:35	16:36

Total sks=1109

CS3220 TR 8678 475 SKS



These are draft results and have not been approved for final use.

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.



## Operation Test Results Request ID 2291324/1

### Thickening Time

14/DEC/2015

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)	Termination Time	Termination BC
168	4940	41	18	3:24	4:14	5:38	6:52	7:08	90

Total sks=1109

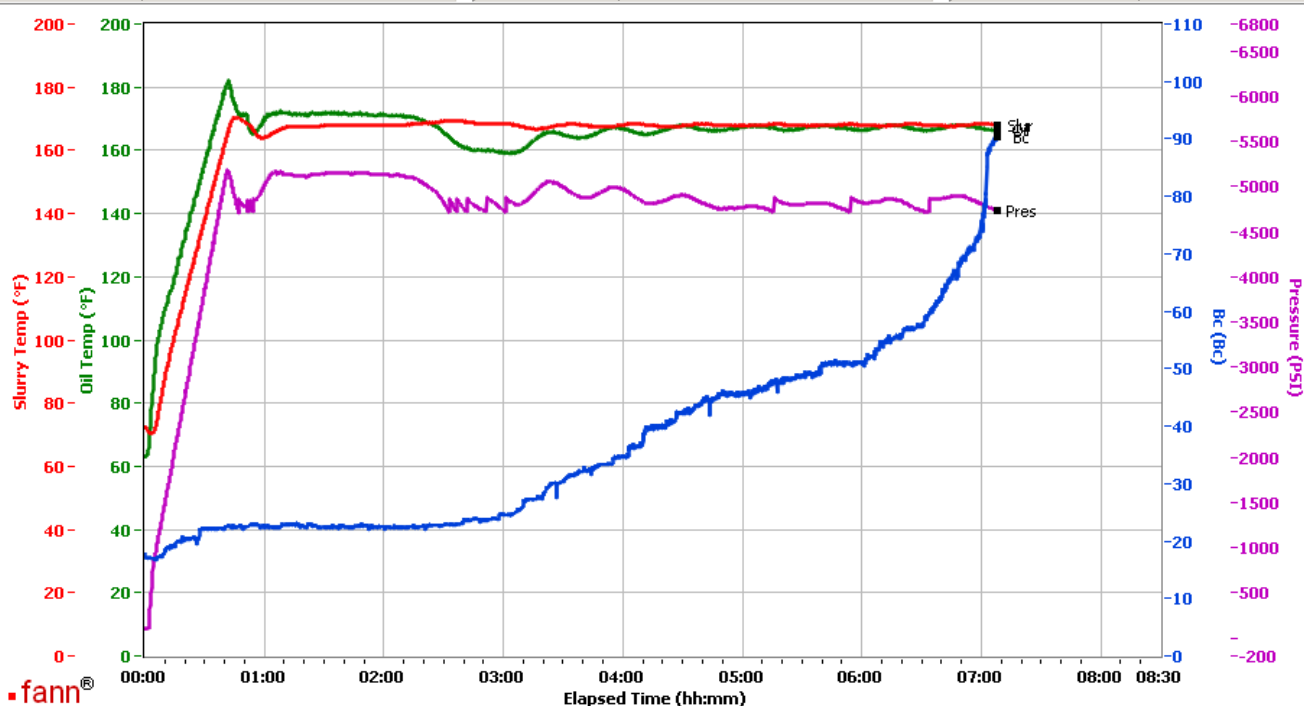
CS3219 TR#8677 475SKS

### Grand Junction Colorado

Fields	Values
Project Name	GJ2291324-1
Test ID	PICEANCE BULK LEAD
Request ID	
Tested by	ZG
Customer	PICEANCE
Well No	
Rig	
Casing/Liner Size	

Fields	Values
Job Type	
Cement Type	
Cement Weight	Standard
Test Date	12/14/15
Test Time	01:42 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:24m
40.00 Bc	04h:14m
50.00 Bc	05h:38m
70.00 Bc	06h:52m
100.00 Bc	NaN
00h:30m	22.23
01h:00m	22.57
01h:30m	22.47



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\CHQJOV4R\GJ2291324-1 PICEANCE BULK LEAD[1].tdms

Comments CS3219 TR#8677 475SKS

These are draft results and have not been approved for final use.

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# HALLIBURTON

## Rockies, Grand Junction

## Lab Results- Tail

### Job Information

Request/Slurry	2291323/2	Rig Name	Patterson #306	Date	13/DEC/2015
Submitted By	Jenna Cook	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Piceance Energy LLC	Location	Mesa	Well	Piceance Fed 28-07E

### Well Information

Casing/Liner Size	4.5 in / 114.3 mm	Depth MD	2594 m / 8509 ft	BHST	119°C / 247°F
Hole Size	7.875 in / 200.025 mm	Depth TVD	2454 m / 8051 ft	BHCT	76°C / 168°F
Pressure	341 bar / 4940 psi				

### Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density
-------------------	----------------	---------

### Cement Information - Tail Design

Conc	UOM	Cement/Additive	Sample Type	Sample Date	Lot No.	Cement Properties		
		ThermaCem				Slurry Density	13.5	lbm/gal
		> Mountain G	Bulk Blend	15.12.15	Tank 29	Slurry Yield	1.749	ft3/sack
		> San Juan	Bulk Blend	15.12.15	Tank 16	Water Requirement	76.618	L/100kg
		Cement Blend				Total Mix Fluid	76.618	L/100kg
		Fresh Water	Lab	12.03.13	N/A			
		SA-1015 (PB)	Bulk Blend	15.12.15	5A0001W			
		SS-200 silica flour	Bulk Blend	15.12.15	Tank 6	Water Source	Fresh Water	
		HALAD-344 (PB)	Bulk Blend	15.12.15	15040446	Water Chloride		
		SUPER CBL	Bulk Blend	15.12.15	150052			
		Kol-Seal	Bulk Blend	15.12.15	Tank 1			
		Pol-E-Flake	Bulk Blend	15.12.15	NA			
		HR-601	Bulk Blend	15.12.15	69			

### Operation Test Results Request ID 2291323/2

Thickening Time								15/DEC/2015
-----------------	--	--	--	--	--	--	--	-------------

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)
168	4940	41	18	3:47	3:51	3:53	4:08	4:34

Total sks=446

CS3224 TR 4064 100 SKS

These are draft results and have not been approved for final use.

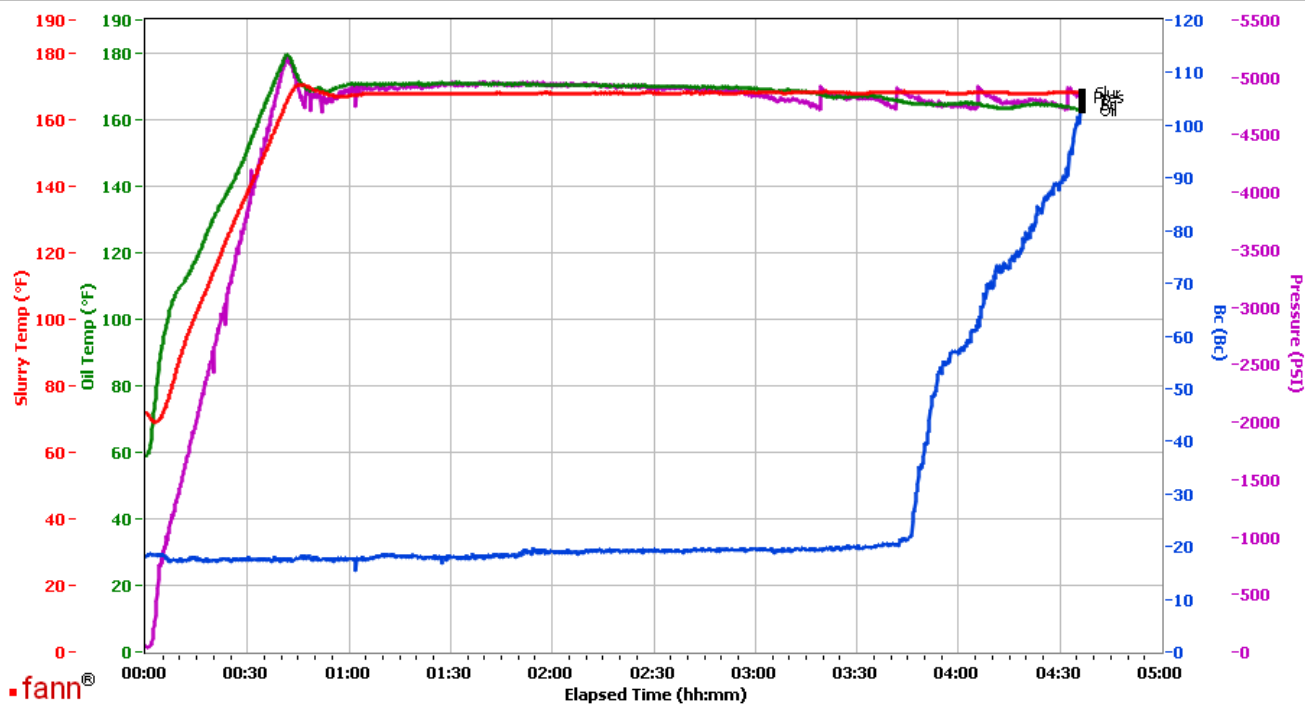
This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

## Grand Junction Colorado

Fields	Values
Project Name	GJ2291323-2 PICEANCE PRODUCTION BULK
Test ID	GJ2291323-2 PICEANCE
Request ID	
Tested by	JASON
Customer	PICEANCE ENERGY
Well No	PICEANCE FED 28-7E
Rig	PATTERSON 306
Casing/Liner Size	4.5

Fields	Values
Job Type	PRODUCTION
Cement Type	THERMACEM
Cement Weight	Light Weight
Test Date	12/15/15
Test Time	03:21 AM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:47m
40.00 Bc	03h:51m
50.00 Bc	03h:53m
70.00 Bc	04h:08m
100.00 Bc	04h:34m
00h:30m	17.65
01h:00m	17.83
01h:30m	18.18



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\OHU9OBIZ\GJ2291323-2 PICEANCE BULK TAIL[1].tdms

Comments CS3224 TR 4064 100 SKS

**These are draft results and have not been approved for final use.**

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.

# Operation Test Results Request ID 2291323/1

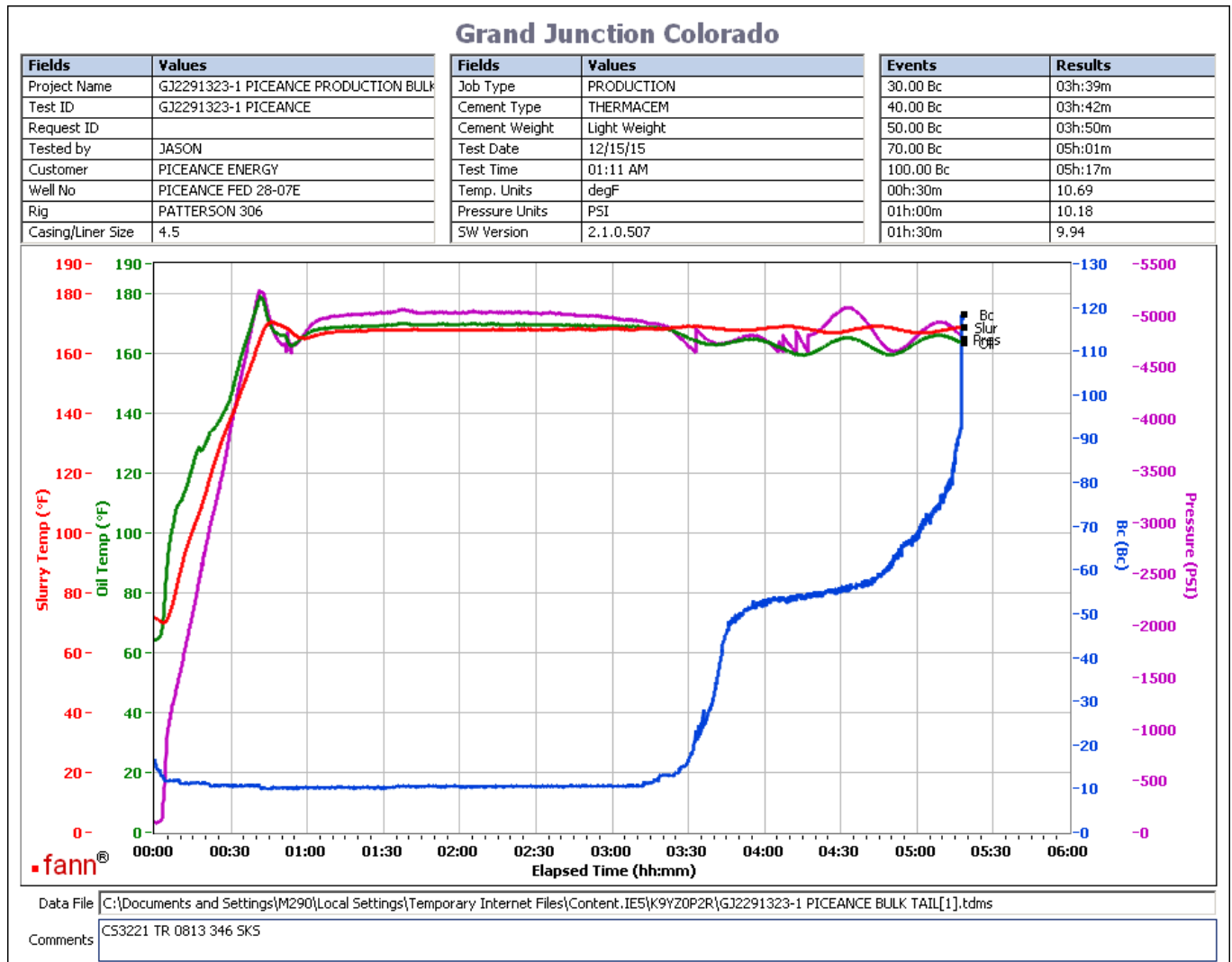
## Thickening Time

15/DEC/2015

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)
168	4940	41	17	3:39	3:42	3:50	5:01	5:17

Total sks=446

CS3221 TR 0813 346 SKS



These are draft results and have not been approved for final use.

This report is the property of Halliburton Energy Services and neither it nor any part thereof, nor a copy thereof, is to be published or disclosed without first securing the expressed written approval of Halliburton. It may however be used in the course of regular business operations by any person or concern receiving such report from Halliburton. This report is for information purposes only and the content is limited to the sample described. Halliburton makes no warranties, expressed or implied, as to the accuracy of the contents or results. Any user of this report agrees Halliburton shall not be liable for any loss or damage regardless of cause, including any act or omission of Halliburton, resulting from the use hereof.