

HALLIBURTON

iCem[®] Service

TERRA ENERGY PARTNERS

United States of America, COLORADO

Date: Friday, March 8, 2019

SG 314-15 Production

Terra Federal SG 314-15 Production

API# 05-045-24127-00

Job Date: Wednesday, January 30, 2019

Sincerely,

Grand Junction Cement Engineering

1.0 Real-Time Job Summary

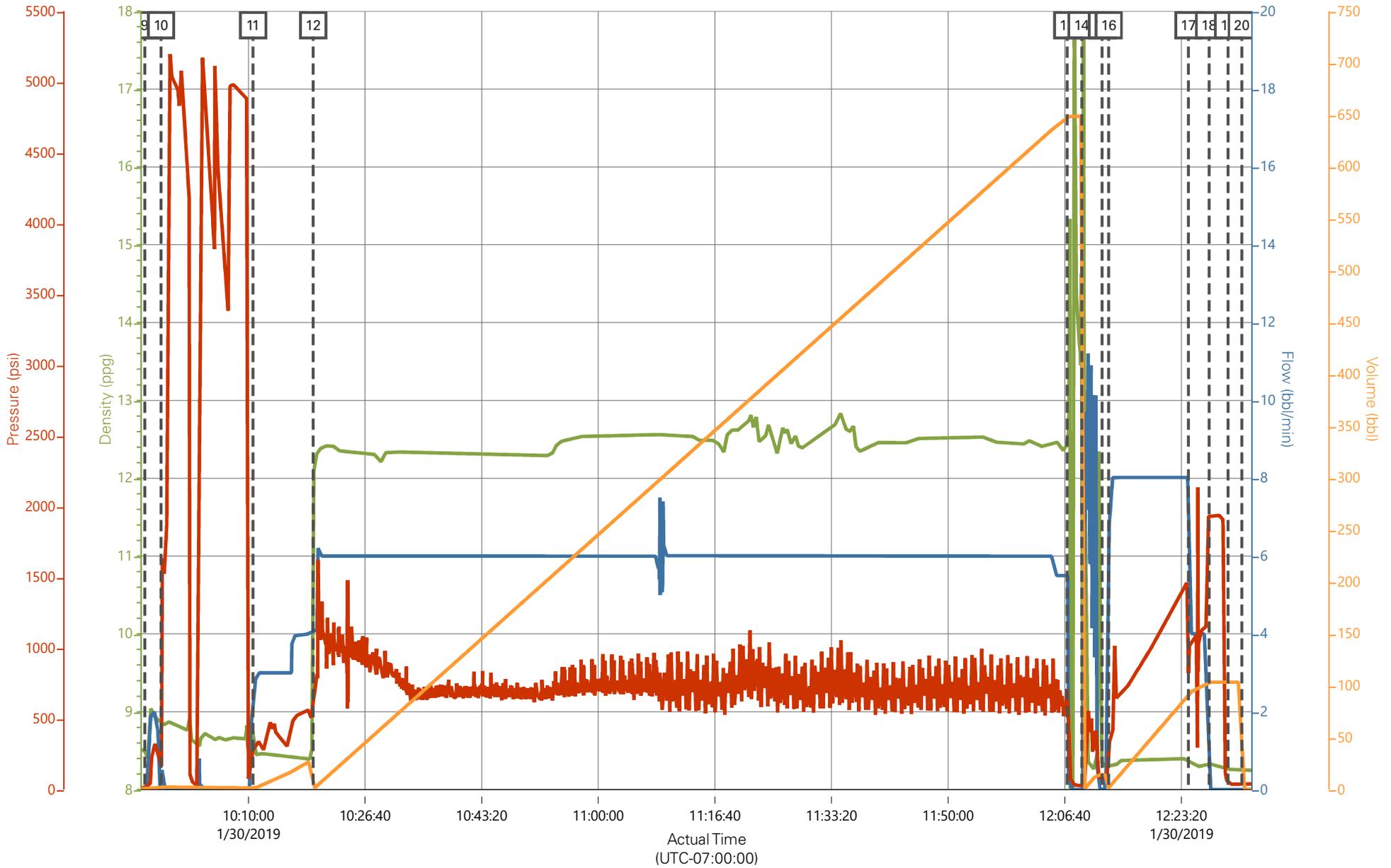
1.1 Job Event Log

Type	Seq. No.	Graph Label	Date	Time	Source	DH Density (ppg)	Comb Pump Rate (bbl/min)	PS Pump Press (psi)	Pump Stg Tot (bbl)	Comments
Event	1	Call Out	1/30/2019	02:30:00	USER					
Event	2	Pre-Convoy Safety Meeting	1/30/2019	06:00:00	USER					
Event	3	Arrive At Loc	1/30/2019	07:30:00	USER					
Event	4	Assessment Of Location Safety Meeting	1/30/2019	07:35:00	USER					
Event	5	Spot Equipment	1/30/2019	07:40:00	USER					
Event	6	Pre-Rig Up Safety Meeting	1/30/2019	07:45:00	USER					
Event	7	Rig-Up Equipment	1/30/2019	07:50:00	USER					
Event	8	Pre-Job Safety Meeting	1/30/2019	09:30:00	USER					PRESSURIZED MUD SCALES VERIFIED ON DRINKING WATER PRIOR TO JOB START
Event	9	Start Job	1/30/2019	09:55:11	COM5					TD: 6731 TP: 6724.8 SJ: 31.6 MW: 10.3 PPG 4 1/2" 11.6#/FT P-110 CSG IN 8 3/4" OH WATER TEST: PH: 7 POTASSIUM: 700 CHLORIDES: 0 SUFATES: <200 TEMP: 78 DEGREES
Event	10	Test Lines	1/30/2019	09:57:31	COM5			5000.00		5000 PSI TEST
Event	11	Pump Spacer 1	1/30/2019	10:10:40	COM5	8.40	4.00	361.00	20.00	MUDFLUSH SPACER
Event	12	Pump Cement	1/30/2019	10:19:16	COM5	12.5	6.00	593.00	616.10	1765 SKS @ 12.5 PPG 1.96 YLD 9.4 GAL/SK H2O. CUSTOMER REQUESTED THAT WE PUMP THE FIRST 200

BBL @ 12.3PPG W/ TUFF FIBER, TO HELP MITIGATE LOSSES

Event	13	Shutdown	1/30/2019	12:07:00	USER					
Event	14	Clean Lines	1/30/2019	12:09:05	COM5					
Event	15	Drop Top Plug	1/30/2019	12:11:59	COM5					PLUG AWAY
Event	16	Pump Displacement	1/30/2019	12:12:56	COM5	8.48	8.00	1480.00	103.70	FRESH H2O DISPLACEMENT W/ BE-6, MMCR, KCL
Event	17	Slow Rate	1/30/2019	12:24:20	USER	8.48	4.00	1125.00	93.00	
Event	18	Bump Plug	1/30/2019	12:27:17	COM5	8.33	0.00	1932.00	103.70	PLUG BUMPED AT CALCULATED DISPLACEMENT
Event	19	Check Floats	1/30/2019	12:30:00	USER					FLOATS HELD, GAINED 1 BBL BACK TO PUMP
Event	20	End Job	1/30/2019	12:31:58	COM5					
Event	21	Post-Job Safety Meeting (Pre Rig-Down)	1/30/2019	12:40:00	USER					GOOD CIRCULATION THROUGH MOST OF CEMENT, LOST RETURNS AT ABOUT 450BBL AWAY ON CEMENT AND DID NOT GAIN RETURNS BACK FOR THE REMAINDER OF THE JOB
Event	22	Rig-Down Equipment	1/30/2019	12:45:00	USER					PIPE WAS RECIPROCATED DURING JOB. NO ADD HOURS. 3# BE-6 USED, 1 GAL MMCR, 40 # SUGAR 5 BOXES WELL LIFE 914
Event	23	Depart Location Safety Meeting	1/30/2019	13:55:00	USER					
Event	24	Crew Leave Location	1/30/2019	14:00:00	USER					THANK YOU FOR CHOOSING HALLIBURTON CEMENTING ANTHONY ANDREWS AND CREW

Custom Results



— DH Density (ppg) -0.2
 — Comb Pump Rate (bbl/min) 6.8
 — PS Pump Press (psi) 37
 — Pump Stg Tot (bbl) 109

Job Information

Request/Slurry	2531157/5	Rig Name	H&P 318	Date	27/JAN/2019
Submitted By	Connor Matthews	Job Type	Production Casing	Bulk Plant	Grand Junction
Customer	Terra Energy Partners	Location	Garfield	Well	SG 314-15

Well Information

Casing/Liner Size	4.5 in	Depth MD	6744 ft	BHST	87°C / 188°F
Hole Size	8.75 in	Depth TVD	6363 ft	BHCT	52°C / 125°F
Pressure	3754 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>	Cement Properties		
141.7	% BWOC	Cement Blend					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 2531157/5

Thickening Time - ON-OFF-ON, Request Test ID:36188519

30/JAN/2019

Test Temp (degF)	Pressure (psi)	Reached in (min)	50 Bc (hh:min)	70 Bc (hh:min)	100 Bc (hh:min)	Start Bc	Stirring before stop (mins)	Static Period (min)	Peak reading (BC)
125	3754	34	4:56	5:05	5:14	5	44	15	8

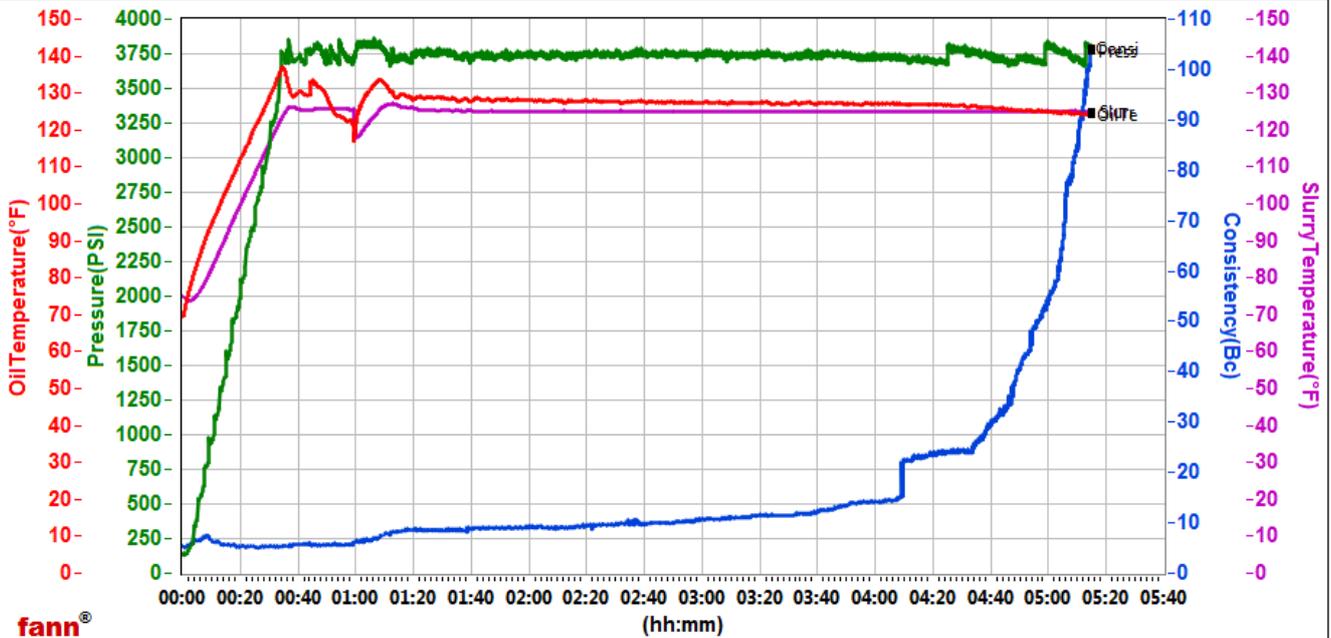
Total SKS 1765
 CS0148, Trailer 7094, 165 sks
 No deflection, 8Bc--- > 8Bc

GRAND JUNCTION

Fields	Values
Project Name	TempTest
SW Version	1.0
Test ID	36188519 - TT
Request ID	2531157-5
Tested by	CT
Customer	TERRA ENERGY PARTN
Well No	SG 314-15

Fields	Values
Rig	H&P 318
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION CASING
Cement Weight	GCC TYPE III
Comments	Light Weight
Date Time	1/29/2019 10:05:52.894
Temp. Units	degF

Events	Results



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2531157-5 TERRA BULK PRODUCTION PRIMARY.tdms

Comments Light Weight

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Operation Test Results Request ID 2531157/4

Thickening Time - ON-OFF-ON, Request Test ID:36187591

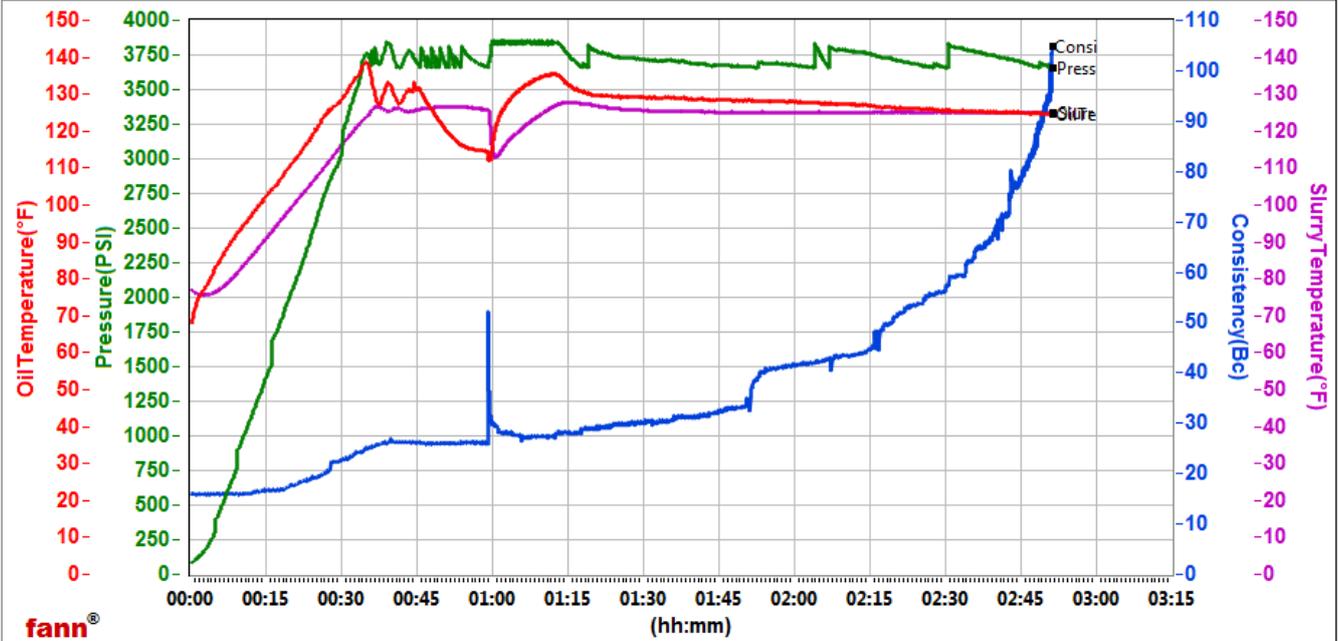
29/JAN/2019

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)	Peak reading (BC)
125	3754	34	1:27	2:19	2:40	2:50	15	44	15	52

CS0145 TR#2878 400 SKS

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	TempTest	Rig	H&P 318		
SW Version	1.0	Casing/Liner Size	4.5 INCH		
Test ID	36187591- TT	Job Type	PRODUCTION CASING		
Request ID	2531157-4	Cement Weight	GCC TYPE III		
Tested by	DS	Comments	Standard		
Customer	TERRA ENERGY PARTN	Date Time	1/29/2019 03:07:07.039		
Well No	SG 314-15	Temp. Units	degF		



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2531157-4 TERRA BULK PRODUCTION PRIMARY.tdms
 Comments Standard

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Operation Test Results Request ID 2531157/3

Thickening Time - ON-OFF-ON, Request Test ID:36187570

29/JAN/2019

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)	Peak reading (BC)
125	3754	34	2:35	3:08	3:36	3:43	10	44	15	12

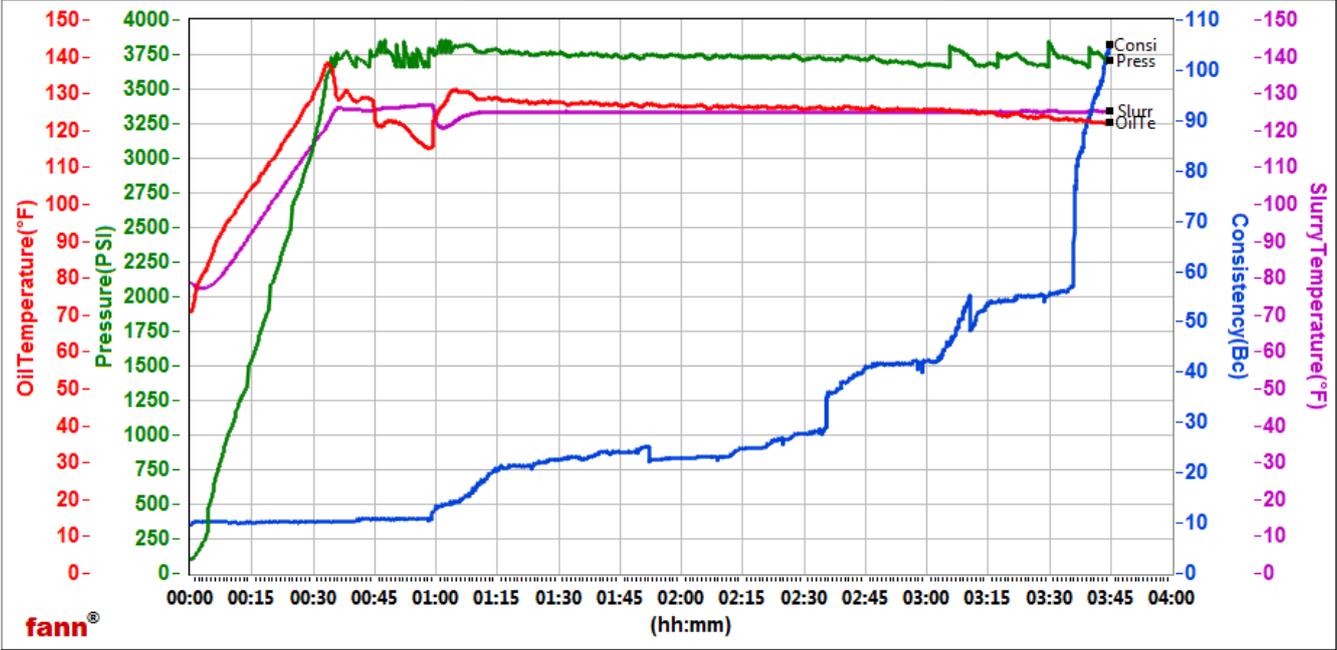
CS0144 TR#8678 400 SKS
Deflected from 10Bc-- > 12Bc

GRAND JUNCTION

Fields	Values
Project Name	TempTest
SW Version	1.0
Test ID	36187570 - TT
Request ID	2531157-3
Tested by	DS
Customer	TERRA ENERGY PARTN
Well No	SG 314-15

Fields	Values
Rig	H&P318
Casing/Liner Size	4.5 INCH
Job Type	PRODUCTION CASING
Cement Weight	GCC TYPE I-II
Comments	Standard
Date Time	1/29/2019 02:49:02.411
Temp. Units	degF

Events	Results



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2531157-3 TERRA PRODUCTION BULK PRIMARYms.tdms
 Comments Standard

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Operation Test Results Request ID 2531157/2

Thickening Time - ON-OFF-ON, Request Test ID:36184980

29/JAN/2019

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)	Peak reading (BC)
125	3754	34	3:56	4:01	4:14	4:33	9	44	15	15

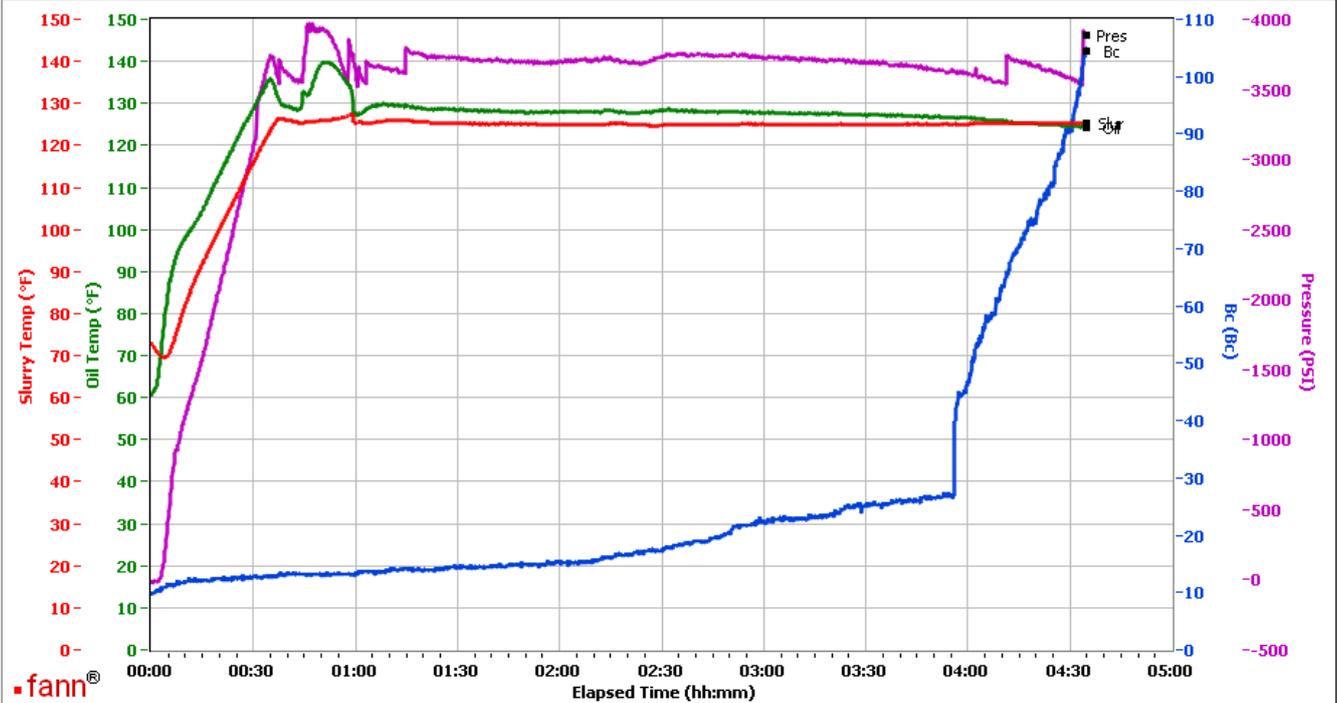
CS0146 TR#1513 400 SKS
 CS0147 TR#8476 400 SKS
 no deflection, 15Bc---> 15Bc

Grand Junction Colorado

Fields	Values
Project Name	GJ2531157-2 TERRA PRODUCTION BULK PR
Test ID	36184980-TT
Request ID	GJ2531157-2
Tested by	DEBA
Customer	TERRA ENERGY PARTNERS
Well No	5G 314-15
Rig	H&P 318
Casing/Liner Size	4.5 INCH

Fields	Values
Job Type	PRODUCTION CASING
Cement Type	GCC TYPE I-II
Cement Weight	Light Weight
Test Date	01/28/19
Test Time	07:23 PM
Temp. Units	degF
Pressure Units	PSI
SW Version	2.1.0.507

Events	Results
30.00 Bc	03h:56m
40.00 Bc	03h:56m
50.00 Bc	04h:01m
70.00 Bc	04h:14m
100.00 Bc	04h:33m
00h:30m	12.81
01h:00m	13.34
01h:30m	14.56



Data File C:\Documents and Settings\M290\Local Settings\Temporary Internet Files\Content.IE5\K9YZ0P2R\GJ2531157-2 TERRA PRODUCTION BULK PRIMARY[1].tdms
 Comments CS0146, TR#1513, 400 SKS AND CS0147, TR#1513, 400 SKS

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Operation Test Results Request ID 2531157/1

Thickening Time - ON-OFF-ON, Request Test ID:36185315

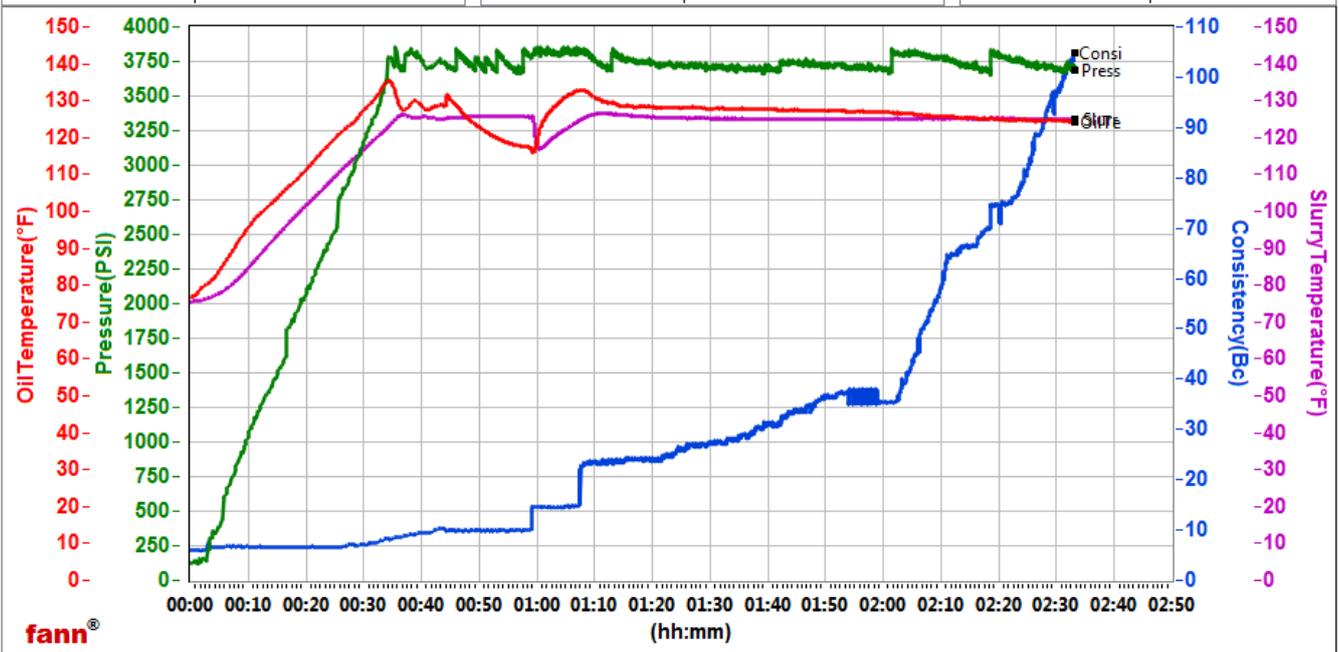
29/JAN/2019

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)	Peak reading (BC)
125	3754	34	1:37	2:07	2:18	2:31	6	44	15	14

Total SKS 1765
 CS0144 TR#8678 400 SKS
 CS0145 TR#2878 400 SKS
 deflected from 10Bc--- > 14Bc

GRAND JUNCTION

Fields	Values	Fields	Values	Events	Results
Project Name	TempTest	Rig	H&P 318		
SW Version	1.0	Casing/Liner Size	4.5 INCH		
Test ID	36185315 - TT	Job Type	PRODUCTION CASING		
Request ID	2531157-1	Cement Weight	GCC TYPE I/II		
Tested by	DS	Comments	Light Weight		
Customer	TERRA ENERGY PARTN	Date Time	1/28/2019 14:36:29.636		
Well No	SG 314-15	Temp. Units	degF		



Data File C:\Users\hx25273\Desktop\HPHT Graphs\GJ2531157-1 TERRA PRODUCTION BULK PRIMARY RETEST.tdms

Comments Light Weight

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