



**HALLIBURTON** | Cementing

DESIGN, DELIVER, AND VALIDATE

SUSTAINABLE BARRIERS

**TAILORED**

to

MINIMIZE RISK

and

MAXIMIZE PRODUCTION.

# HALLIBURTON

## POST JOB SUMMARY

Customer Name: CIVITAS RESOURCES-EBUS

Submitted By: Javier Vargas

Date: 24-Jun-2025

Well Name: Origami A-O31 6S-10-02

Job: PRODUCTION CASING

Rig: PATTERSON 345

SO#: 0910153970

**Objectives**

Objective	Justification	Comments
<b>HSE Objective</b>	There are to be no accidents or incidents concerning any cementing operation and no harm is to be caused to the environment. Cementing jobs are to be conducted in accordance with Halliburton’s Health, Safety and Environmental Standards.	
<b>Top of Cement (TOC)</b>	TOC at Surface, 50 bbl of Cap slurry excess	Job pumped as planned with no losses throughout the entire cement job, returns to Surface 46 bbls of cap cement
<b>TOC (lead)</b>	Top of lead as requested by Customer	
<b>TOC (tail)</b>	Top of tail as requested by Customer	
<b>Density Performance</b>	Maintain margin of error for Cap	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
<b>Density Performance</b>	Maintain margin of error for Lead	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
<b>Density Performance</b>	Maintain margin of error for Tail	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.

**Fluids Pumped**

Stage No	Description	Density (ppg)	Rate (bbl/min)	Yield (ft <sup>3</sup> /sk)	Water Req. (gal/sk)	Volume (bbl)
1	Drilling Fluid (Mud)		0.0			0.0
Bottom Plug						
2	Spacer/Flush	11.5	8.0	2.571	16.2	80.0
3	Cement	13.0	9.0	1.645	8.03	163.56
4	Cement	13.0	8.6	1.577	7.38	119.60
5	Cement	13.2	9.0	1.564	7.5	268.11
Top Plug/Start Displacement						
6	Spacer/Flush	8.33	10.0			270.0

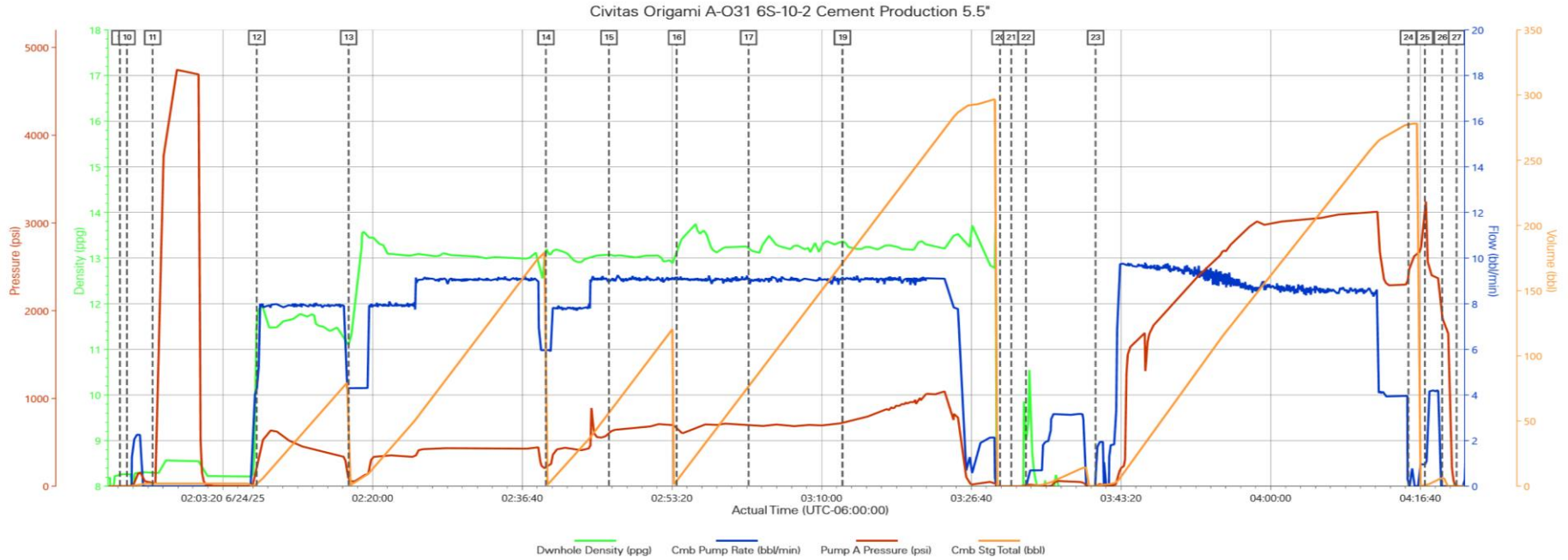
**Job Log**

Seq #	Graph Label	Time / Date	Comments
1	Call Out	23-Jun-2025 19:30	CREW CALLED OUT JUNE 23 2025 @ 16:00 REQUESTED ON LOCATION @ 22:00. CHEMICALS GRABBED FROM FORT LUPTON 80-GALS D-AIR 100 LBS SUGAR AND 10-GALS MMCR. BULK 660 11784082 PUMP 11689698 PUMP 11966149 AND P/U 13684623.
2	Pre-Convoy Safety Meeting	23-Jun-2025 23:00	DISCUSSED ROUTE TO LOCATION RADIO COMMUNICATION HAZARDS SPECIFIC TO WEATHER AND SPEED LIMITS ON LEASE ROADS.
3	Crew Leave Yard	23-Jun-2025 23:30	CREW DEPARTED YARD IN CONVOY TO LOACTION.
4	Arrive at Location from Service Center	24-Jun-2025 01:00	MET WITH CO. MAN TO DISCUSS JOB; SURFACE CASING- 9.625" 36 LB/FT @ 1 705' 5.5" CASING: 20 LB/FT TOTAL 12 145' 8.5" OH TD 12 155' TVD- 6 58' SHOE TRAC 5' TOTAL OF 215 CENTRALIZERS. CITADEL FLOAT EQUIPMENT TOP AND BOTTOM PLUG WF 9.3 LB. MAX PRESSURE 3 500 PSI. 5 BBL WET SHOE AFTER BURSTING TOP PLUG.
5	Pre-Rig Up Safety Meeting	24-Jun-2025 01:30	DISCUSSED WHERE TO SPOT EQUIPMENT 5 CHECKS TO GO WITH CREW MEMBERS SITE SPECIFIC HAZARDS AND TWO SPOTTERS WHEN BACKING EQUIPMENT.
6	Rig-Up Equipment	24-Jun-2025 01:45	RIG UP BULK/MIXING EQUIPMENT. RUN DME IRON TO BUFFER ZONE.
7	Rig-Up Completed	24-Jun-2025 03:15	ALL BULK/MIXING EQUIPMENT RIGGED UP PUMPS PRIMED UP BULK TANKS AIRED UP AND ELITES PRIMED UP. WAITED ON RIG TO FINISH RUNNING CASING CIRCULATE BOTTOMS UP AND SKID RIG.
8	Pre-Job Safety Meeting	24-Jun-2025 05:00	DISCUSSED JOB DETAILS WITH CUSTOMER AND ALL 3RD PARTY PERSONNEL.
9	Start Job	24-Jun-2025 05:21	BEGIN RECORDING JOB DATA.
10	Drop Bottom Plug	24-Jun-2025 05:22	BOTTOM PLUG LOADED BY FRANK KINNEY.
11	Test Lines	24-Jun-2025 05:25	PRESSURE TESTED IRON TO 4 800 PSI. KICKOUTS SET TO 500 PSI KICKED OUT @ 800 PSI 5TH GEAR STALL OUT @ 1 500 PSI.
12	Pump Spacer 1	24-Jun-2025 05:37	PUMP 80 BBLS OF TUNED PRIME SPACER @ 11.5 LB/GAL 2.57 FT3/SK 16.2 GAL/SK. INJECTED 20 GALLONS D-AIR ON THE FLY DRY SURFACTANTS MIXED IN WITH BLEND. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. PUMP RATE 8 BBLS/MIN @ 675 PSI.

13	Pump Cap Cement	24-Jun-2025 05:47	PUMPED 560 SKS OF ELASTICEM CAP @ 13.0 LB/GAL 1.64 FT3/SK 8.03 GAL/SK. 163.56 BBLS PUMP RATE 9 BPM @ 470 PSI. CALCULATED 46 BBLS BACK TO CAP CEMENT TO SURFACE. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. TOTAL MIX GALLONS 4 497. CALCULATED TOC= 0' HOC= 2 653'.
14	Pump Lead Cement	24-Jun-2025 06:09	PUMPED 425 SKS OF ISOBOND LEAD @ 13.0 LB/GAL 1.58 FT3/SK 7.38 GAL/SK. 119.6 BBLS PUMP RATE 9 BPM @ 660 PSI. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. TOTAL MIX GALLONS 3 137. CALCULATED TOL= 2 653' HOL= 2 931'.
15	Check Weight	24-Jun-2025 06:16	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
16	Pump Tail Cement	24-Jun-2025 06:23	PUMPED 965 SKS OF ELASTICEM TAIL @ 13.2 LB/GAL 1.56 FT3/SK 7.5 GAL/SK. 268.11 BBLS. PUMP RATE 9 BPM @ 825 PSI. DENSITY VERIFIED BY PRESSURIZED MUD SCALES. TOTAL MIX GALLONS 7 238. CALCULATED TOT= 5 584' HOT=6 571'.
17	Check Weight	24-Jun-2025 06:31	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
18	Check Weight	24-Jun-2025 06:42	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
19	Check Weight	24-Jun-2025 06:42	DENSITY VERIFIED BY PRESSURIZED MUD SCALES.
20	Shutdown	24-Jun-2025 06:59	SWAPPED MANIFOLD OVER FOR WASHUP.
21	Drop Top Plug	24-Jun-2025 07:01	TOP PLUG LOADED INTO PLUG CONTAINER BY FRANK KINNEY.
22	Clean Lines	24-Jun-2025 07:02	CLEANED PUMP/LINES WITH 12 BBLS FRESH WATER PRIOR TO DISPLACING TOP PLUG.
23	Pump Displacement	24-Jun-2025 07:10	BEGIN CALCULATED DISPLACEMENT OF 270 BBLS FRESH WATER WITH 10-GALS MMCR IN FIRST 20 BBLS. PUMPED 250 BBLS WITH BIOCIDES THROUGHOUT DISPLACEMENT. SPACER TO SURFACE @ 143 AWAY CEMENT TO SURFACE @ 223 BBLS AWAY WITH TOTAL OF 46 BBLS CEMENT TO SURFACE. PUMP RATE 10 BBLS/MIN @ 3 200 PSI SLOWED RATE AT 250 BBLS AWAY TO 4 BBLS/MIN @ 2 260 PSI.
24	Bump Plug	24-Jun-2025 07:45	PLUG BUMPED AT CALCULATED DISPLACEMENT. FINAL CIRCULATING PRESSURE 2 300 PSI PRESSURED 300 PSI OVER BUMP.
25	Pump Water	24-Jun-2025 07:47	PRESSURED UP TO BURST TOP PLUG @ 3 300 PSI FOLLOWED WITH 5 BBLS FRESH WATER FOR WET SHOE.
26	Check Floats	24-Jun-2025 07:49	RELEASED PRESSURE FLOATS HELD 1.5 BBLS BACK.

27	End Job	24-Jun-2025 07:50	STOP RECORDING JOB DATA.
28	Pre-Rig Down Safety Meeting	24-Jun-2025 08:00	SAFETY MEETING PRIOR TO RIGGING DOWN BULK/MIXING EQUIPMENT WITH HALLIBURTON PERSONNEL.
29	Rig-Down Equipment	24-Jun-2025 08:10	RIG DOWN ALL BULK AND MIXING EQUIPMENT.
30	Rig-Down Completed	24-Jun-2025 09:00	BULK/MIXING EQUIPMENT RIGGED DOWN AND AREA AROUND SILOS CLEANED UP.
31	Pre-Convoy Safety Meeting	24-Jun-2025 09:30	DISCUSSED ROUTE LEAVING LOCATION RADIO COMMUNICATION DURING DRIVE HAZARDS SPECIFIC TO WEATHER AND SPEED LIMITS ON LEASE ROADS. DISCUSSED DRIVER HOURS OF SERVICE AND FIT FOR DUTY. DOUBLE CHECK ALL ITEMS STOWED AND SECURED FOR TRAVEL.
32	Crew Leave Location	24-Jun-2025 10:00	CREW DEPARTED LOCATION.

### Job Chart



Civitas Origami A-O31 6S-10-2 Cement Production 5.5\*

Description	Actual Time (UTC-06:00:00)	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Pump A Pressure (psi)	Cmb Stg Total (bbl)
9 Start Job	01:51:52	8.24	0.00	-1.61	0.00
10 Drop Bottom Plug	01:52:39	8.27	0.00	-2.28	0.00
11 Test Lines	01:55:30	8.29	0.00	42.30	2.08
12 Pump Spacer 1	02:07:06	11.62	4.28	244.81	1.81
13 Pump Cap Cement	02:17:20	11.08	4.30	83.57	0.04
14 Pump Lead Cement	02:39:18	13.25	5.91	214.66	0.10
15 Check Weight	02:46:19	13.08	9.16	589.41	56.53
16 Pump Tail Cement	02:53:51	13.09	9.08	682.29	4.23
17 Check Weight	03:01:52	13.24	9.04	685.55	76.89
18 Check Weight	03:12:18	13.38	9.18	718.88	171.47
19 Check Weight	03:12:20	13.38	8.98	722.93	171.62
20 Shutdown	03:29:52	-0.51	0.00	-1.76	0.00
21 Drop Top Plug	03:31:07	-0.89	0.00	-3.92	0.00
22 Clean Lines	03:32:45	8.96	0.00	16.88	0.00
23 Pump Displacement	03:40:30	7.50	0.00	-5.55	0.00
24 Bump Plug	04:15:20	7.60	0.00	2439.92	278.01
25 Pump Water	04:17:10	7.67	0.94	3133.44	0.56
26 Check Floats	04:19:06	7.55	0.00	1921.73	6.04
27 End Job	04:20:42	7.64	0.00	-2.92	0.00

**Lab Reports**

**HALLIBURTON**

Rockies, Brighton

Lab Results- Primary

**Job Information**

Request/Slurry	2919716/1	Rig Name	PATTERSON 345	Date	20/JUN/2025
Submitted By	Grace Ahabike	Job Type	Production Casing	Bulk Plant	Brighton
Customer	Civitas Resources	Location	Weld	Well	Origami A-O31 6S-10-02

**Well Information**

Casing/Liner Size	5.5 in	Depth MD	11972 ft	BHST	107°C / 225°F
Hole Size	8.5 in	Depth TVD	6172 ft	BHCT	107°C / 225°F
Press.	3400 psi				

**Cement Information - Primary Design**

Conc	UOM	Cement/Additive	Cement Properties	
		ElastiCem	Slurry Density	13 lbm/gal
10.243	lb/bbl	WellLife 708	Slurry Yield	1.64 ft <sup>3</sup> /sack
0.3	% BWOC	SCR-100	Water Requirement	8.03 gal/sack
3.414	lb/bbl	BridgeMaker II LCM	Total Mix Fluid	8.03 gal/sack

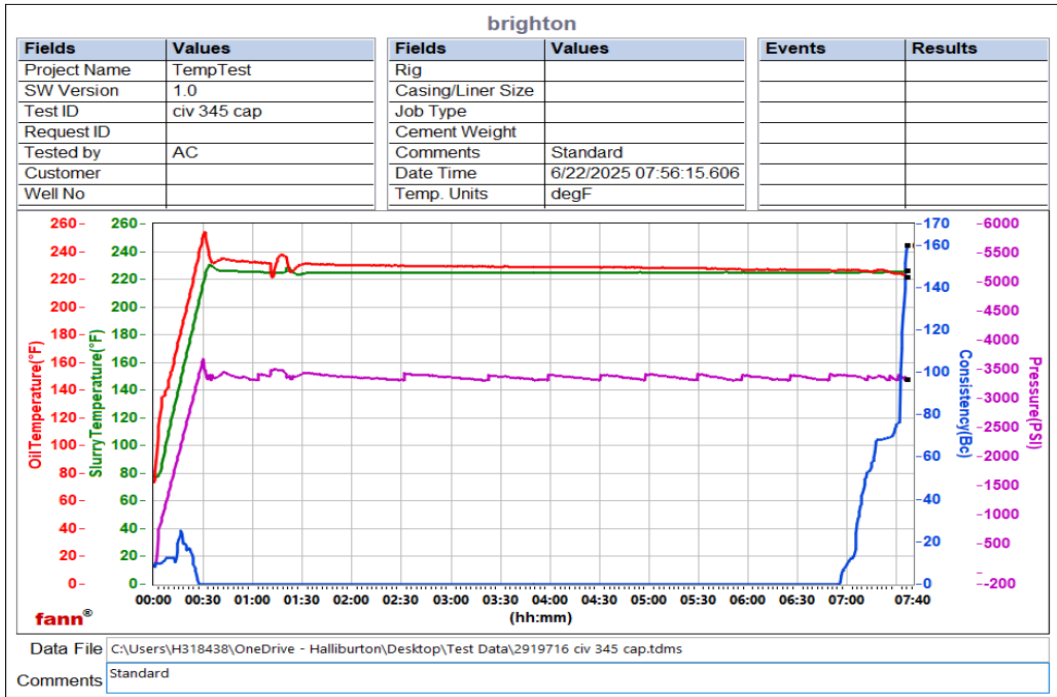
**Operation Test Results Request ID 2919716/1**

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41650917 22/JUN/2025

Mixability Rating (0 - 5) Avg. RPM Mixing Under Load (~12,000)  
 5 12000

**Thickening Time - ON-OFF-ON, Request Test ID:41650918 23/JUN/2025**

Test Temp. (degF)	Pressure (psi)	Reached In (min)	30 BC (HH:MM)	40 BC (HH:MM)	50 BC (HH:MM)	70 BC (HH:MM)	100 BC (HH:MM)	Start BC	Static Period (min)	Stirring Before Stop (min)
225	3400	30	07:06	07:09	07:11	07:28	07:32	8.1	10	70



# HALLIBURTON

Rockies, Brighton

Lab Results- Lead

**Job Information**

Request/Slurry	2919717/1	Rig Name	PATTERSON 345	Date	20/JUN/2025
Submitted By	Grace Ahabike	Job Type	Production Casing	Bulk Plant	Brighton
Customer	Civitas Resources	Location	Weld	Well	Origami A-031 6S-10-02

**Well Information**

Casing/Liner Size	5.5 in	Depth MD	11972 ft	BHST	107°C / 225°F
Hole Size	8.5 in	Depth TVD	6172 ft	BHCT	107°C / 225°F
Press.	4200 psi				

**Cement Information - Lead Design** ✓

Conc	UOM	Cement/Additive	Cement Properties	
		IsoBond(tm)	Slurry Density	13 lbm/gal
14.654	lb/bbl	ChannelFix	Slurry Yield	1.58 ft3/sack
0.4	% BWOC	SCR-100	Water Requirement	7.38 gal/sack
3.562	lb/bbl	BridgeMaker II LCM	Total Mix Fluid	7.38 gal/sack

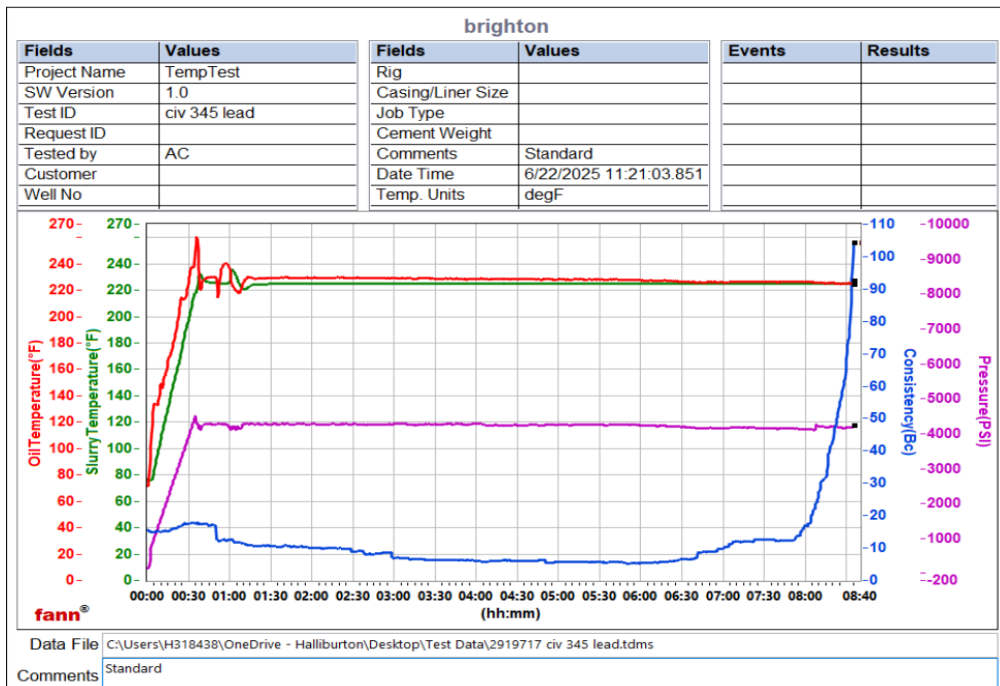
**Operation Test Results Request ID 2919717/1**

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41650919 22/JUN/2025

Mixability Rating (0 - 5) Avg. RPM Mixing Under Load (~12,000)  
 5 12000

**Thickening Time - ON-OFF-ON, Request Test ID:41650920** 23/JUN/2025

Test Temp. (degF)	Pressure (psi)	Reached In (min)	30 BC (HH:MM)	40 BC (HH:MM)	50 BC (HH:MM)	70 BC (HH:MM)	100 BC (HH:MM)	Start BC	Static Period (min)	Stirring Before Stop (min)
225	4300	35	08:11	08:18	08:23	08:30	08:35	15.3	10	50



# HALLIBURTON

Rockies, Brighton

Lab Results- Tail

## Job Information

Request/Slurry	2919718/1	Rig Name	PATTERSON 345	Date	20/JUN/2025
Submitted By	Grace Ahabike	Job Type	Production Casing	Bulk Plant	Brighton
Customer	Civitas Resources	Location	Weld	Well	Origami A-O31 6S-10-02

## Well Information

Casing/Liner Size	5.5 in	Depth MD	11972 ft	BHST	107°C / 225°F
Hole Size	8.5 in	Depth TVD	6172 ft	BHCT	107°C / 225°F
Press.	4700 psi				

## Cement Information - Tail Design



Conc	UOM	Cement/Additive	Cement Properties		
		ElastiCem	Slurry Density	13.2	lbm/gal
10.772	lb/bbl	WellLife 708	Slurry Yield	1.56	ft3/sack
0.3	% BWOC	SCR-100	Water Requirement	7.5	gal/sack
			Total Mix Fluid	7.5	gal/sack

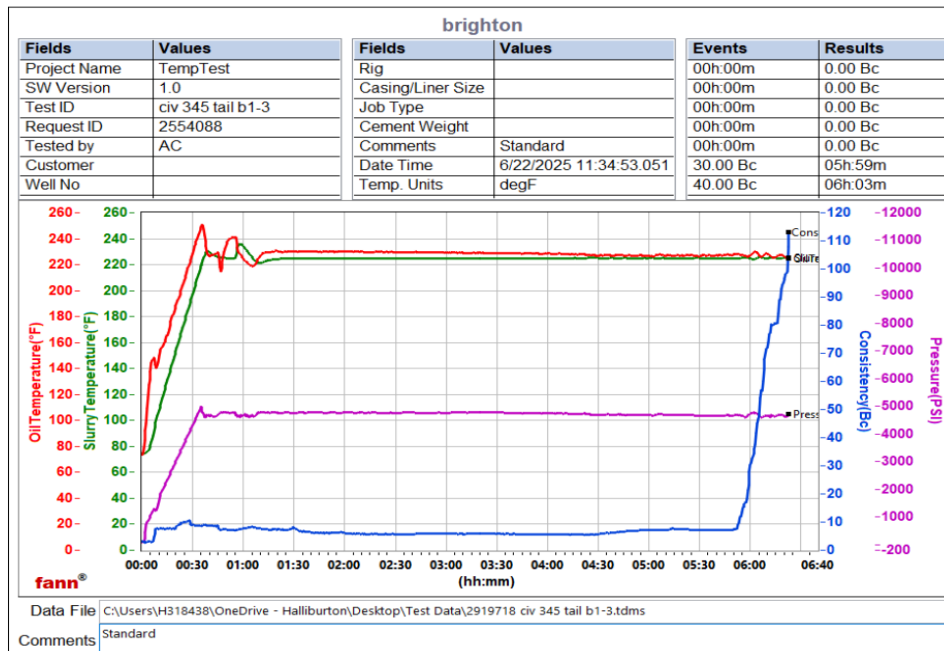
## Operation Test Results Request ID 2919718/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41650921 22/JUN/2025

Mixability Rating (0 - 5) Avg. RPM Mixing Under Load (~12,000)  
 5 12000

Thickening Time - ON-OFF-ON, Request Test ID:41650922 23/JUN/2025

Test Temp. (degF)	Pressure (psi)	Reached In (min)	30 BC (HH:MM)	40 BC (HH:MM)	50 BC (HH:MM)	70 BC (HH:MM)	100 BC (HH:MM)	Start BC	Static Period (min)	Stirring Before Stop (min)
225	4700	35	06:00	06:03	06:06	06:09	06:22	3.1	10	45



Data File: C:\Users\H318438\OneDrive - Halliburton\Desktop\Test Data\2919718 civ 345 tail b1-3.tdms

Comments: Standard