



HALLIBURTON | Cementing

DESIGN, DELIVER, AND VALIDATE

SUSTAINABLE BARRIERS

TAILORED

to

MINIMIZE RISK

and

MAXIMIZE PRODUCTION.

HALLIBURTON

POST JOB SUMMARY

Customer Name: OCCIDENTAL PETROLEUM

Submitted By: Javier Vargas

Date: 17-May-2025

Well Name: Glade EAST

Job: INTERMEDIATE CASING

Rig: Precision 580

SO#: 0910066369

Objectives

Objective	Justification	Comments
HSE Objective	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.	
Zonal Isolation	Need cement to surface on both stages per customer requirement.	Both stages pumped as planned, reported full returns throughout the entire cement job. - 1st Stage: FCP 813psi at 4bpm - 2nd Stage: FCP 1200psi at 4bpm; 61 bbls of lead cement returns
Density Performance	1st & 2nd Stage lead, weight over rate.	- 1st Stage LEAD avg density: 12.45ppg - 2nd Stage LEAD avg density: 13.14ppg
Density Performance	1st & 2nd Stage tail, weight over rate.	- 1st Stage LEAD avg density: 12.37ppg - 2nd Stage LEAD avg density: 13.12ppg

Fluids Pumped

Stage No	Description	Density (ppg)	Rate (bbl/min)	Yield (ft3/sk)	Water Req. (gal/sk)	Volume (bbl)
1st STAGE						
1	Drilling Fluid (Mud)					
2	Tuned Prime Spacer	10.5	6.0	3.247	21.26	80.0
3	1 st Stage LEAD	12.5	7.0	1.97	9.92	238.6
4	1 st Stage TAIL	13.2	7.0	1.689	7.85	69.23
Drop Plug/Start Displacement						
5	Mud	10.1	7.0			318.0
6	Spacer/Flush	10.5	5.5	3.247	21.26	20.0
7	Mud	10.1	5.5			471.0
2nd STAGE						
1	Tuned Prime Spacer	10.5	6.5	3.247	21.26	60.0
2	2 nd Stage LEAD	12.5	9.0	1.97	9.92	422.57
3	2 nd Stage TAIL	13.2	5.5	1.689	7.85	31.45
Drop Plug/Start Displacement						
5	Mud	10.1	5.0			491.0

Job Log

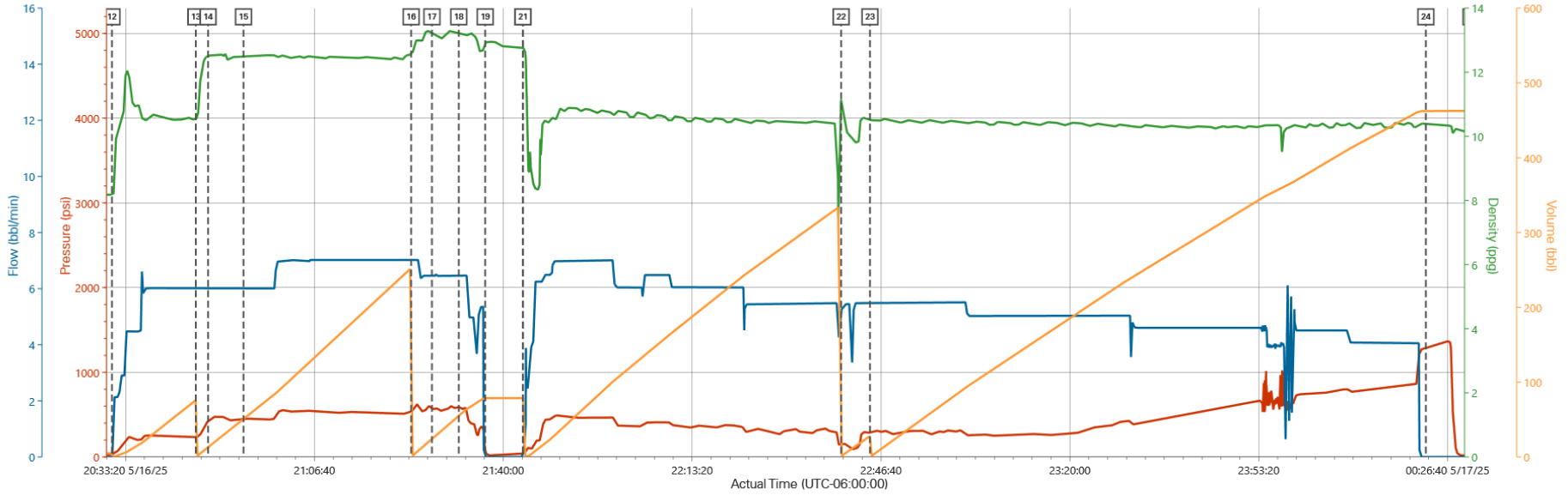
Seq #	Graph Label	Time / Date	Comments
1	Call Out	16-May-2025 10:30	ANADARKO PETROLEUM GLADE EAST 9 5/8" INTERMEDIATE CASING JOB - On location 05/16/25 @ 14:00 PM
2	Safety Meeting - Service Center or other Site	16-May-2025 15:30	Review Journey Management And Route With Crew Members
3	Depart from Service Center or Other Site	16-May-2025 15:40	Depart From Yard
4	Arrive At Loc	16-May-2025 16:30	Talk To Company Man (Jake) : TD = 11 150' TP = 11 127.68' ST = 104.68' OH = 12.25" CSG = 9 5/8" 47# Previous Casing 13 3/8" Set @ 2 178' WF = OBM @ 10.1# Test Water = pH - 7 Chlorides - < 80 ppm 55 F.
5	Safety Meeting - Assessment of Location	16-May-2025 16:45	Spot Equipment
6	Pre-Rig Up Safety Meeting	16-May-2025 17:00	Review JSA With Crew Members
7	Rig-Up Equipment	16-May-2025 17:30	Rigged Up All Iron And Hoses Needed For CMT Job With No Issues Or Incidents.
8	Rig-Up Completed	16-May-2025 18:45	Rigged Up All Iron And Hoses Needed For CMT Job With No Issues Or Incidents.
9	Safety Meeting - Pre Job	16-May-2025 20:30	Review Job Procedure And JSA With Rig Hands Co. Man And HES Members
10	Rig-Up Plug Container	16-May-2025 21:00	Rig Up Plug Container On Rig Floor. Rig Circulated With Rig Pumps. Rig Circulated From 18:00 PM To 20:00 PM At 300 GPM (7 BPM) With 250 psi Good Returns.
11	Start Job	16-May-2025 21:17	Start Recording Data
12	Pump Spacer 1	16-May-2025 21:30	Pump 80 bbls of Tuned Prime Spacer @ 10.5 PPG (3.25 ft3 21.26 Gal/sk). Total gallons 2 938. Pump Rate 6 BPM with 250 PSI. TOS=4 603'
13	Pump Lead Cement	16-May-2025 21:45	Pump 238.6 bbls of IsoBond @ 12.5 PPG (680 sk 1.97 ft3 9.92 Gal/sk). Total gallons 4 746. Pump Rate 7 BPM with 550 PSI. TOLC=5 969'
14	Check Weight	16-May-2025 21:47	Weight Verified by Mud Scales

15	Check Weight	16-May-2025 21:54	Weight Verified by Mud Scales
16	Pump Tail Cement	16-May-2025 22:23	Pump 69.23 bbls of ElastiCem @ 13.2 PPG (230 sk 1.69 ft3 7.85 Gal/sk). Total gallons 1 806. Pump Rate 7 BPM with 620 PSI. TOTC=10 045'
17	Check Weight	16-May-2025 22:27	Weight Verified by Mud Scales
18	Check Weight	16-May-2025 22:32	Weight Verified by Mud Scales
19	Shutdown	16-May-2025 22:36	Shutdown Pumping Cement
20	Drop Top Plug	16-May-2025 22:43	Drop Top Plug / Verified by Company Representative
21	Pump Displacement	16-May-2025 22:43	Pump 318 bbls of OBM Displacement. Total gallons 13 356. Pump Rate 7 BPM with 480 PSI.
22	Pump Spacer	16-May-2025 23:39	Pump 20 bbls of Tuned Prime Spacer @ 10.5 PPG (3.25 ft3 21.26 Gal/sk). Total gallons 735. Pump Rate 5.5 BPM with 240 PSI.
23	Pump Displacement	16-May-2025 23:44	Pump 471 bbls of OBM Displacement. Total gallons 19 782. Pump Rate 5.5 BPM with 315 PSI.
24	Bump Plug	17-May-2025 01:22	Bump Plug / FCP is 813 PSI and Took Up To 1 290 PSI
25	Set Packer	17-May-2025 01:30	Pressure Up To Set Packer
26	Pressure Up	17-May-2025 01:49	Pressure Back Up To Make Sure Packer Is Set
27	Other	17-May-2025 02:35	Pressure Up To Open DV Tool. Opening Pressure At 872 PSI.
28	Circulate Well	17-May-2025 02:59	Turned Over to Rig To Circulate Spacer and Cement Off Tool. Rig Circulated Until 8:00 AM
29	Check Weight	17-May-2025 09:14	Weight Verified by Mud Scales
30	Pump Spacer 1	17-May-2025 09:16	Pump 60 bbls of Tuned Prime Spacer @ 10.5 PPG (103.75 sk 3.247 ft3 21.26 Gal/sk). Total gallons 2 204. Pump Rate 6.5 BPM with 300 PSI. TOS=0'
31	Pump Lead Cement	17-May-2025 09:21	Pump 422.57 bbls of IsoBond @ 12.5 PPG (1 205 sk 1.969 ft3 9.93 Gal/sk). Total gallons 11 966. Pump Rate 9 BPM with 950 PSI. TOLC=0'

32	Check Weight	17-May-2025 09:24	Weight Verified by Mud Scales
33	Check Weight	17-May-2025 09:26	Weight Verified by Mud Scales
34	Pump Tail Cement	17-May-2025 10:11	Pump 31.45 bbls of ElastiCem @ 13.2 PPG (105 sk 1.682 ft3 7.85 Gal/sk). Total gallons 824. Pump Rate 5.5 BPM with 520 PSI. TOTC=6 160'
35	Check Weight	17-May-2025 10:13	Weight Verified by Mud Scales
36	Drop Top Plug	17-May-2025 10:20	Drop Top Plug / Verified by Company Representative
37	Pump Displacement	17-May-2025 10:20	Pump 491 bbls of OBM Displacement. Total gallons 20 622. 61 bbls of Cement to Surface.
38	Bump Plug	17-May-2025 11:54	Bump Plug / FCP is 1 200 PSI and Took Up To 2 200 PSI
39	Bleed Casing	17-May-2025 11:59	Bled Pressure Back To Zero And Got 6 bbls Back
40	Check Floats	17-May-2025 12:00	Floats Held Good.
41	End Job	17-May-2025 12:02	Stop Recording Data
42	Pre-Rig Down Safety Meeting	17-May-2025 12:20	Review JSA With HES Crew Members
43	Rig-Down Equipment	17-May-2025 12:30	Rig Down Iron Plug Container And Hoses Used On Job
44	Rig-Down Completed	17-May-2025 13:30	All Equipment Rigged Down With No Issues Or Incidents
45	Safety Meeting - Departing Location	17-May-2025 13:40	Review Journey Management And Route With Crew Members
46	Depart Location for Service Center or Other Site	17-May-2025 13:50	Depart location

Job Chart

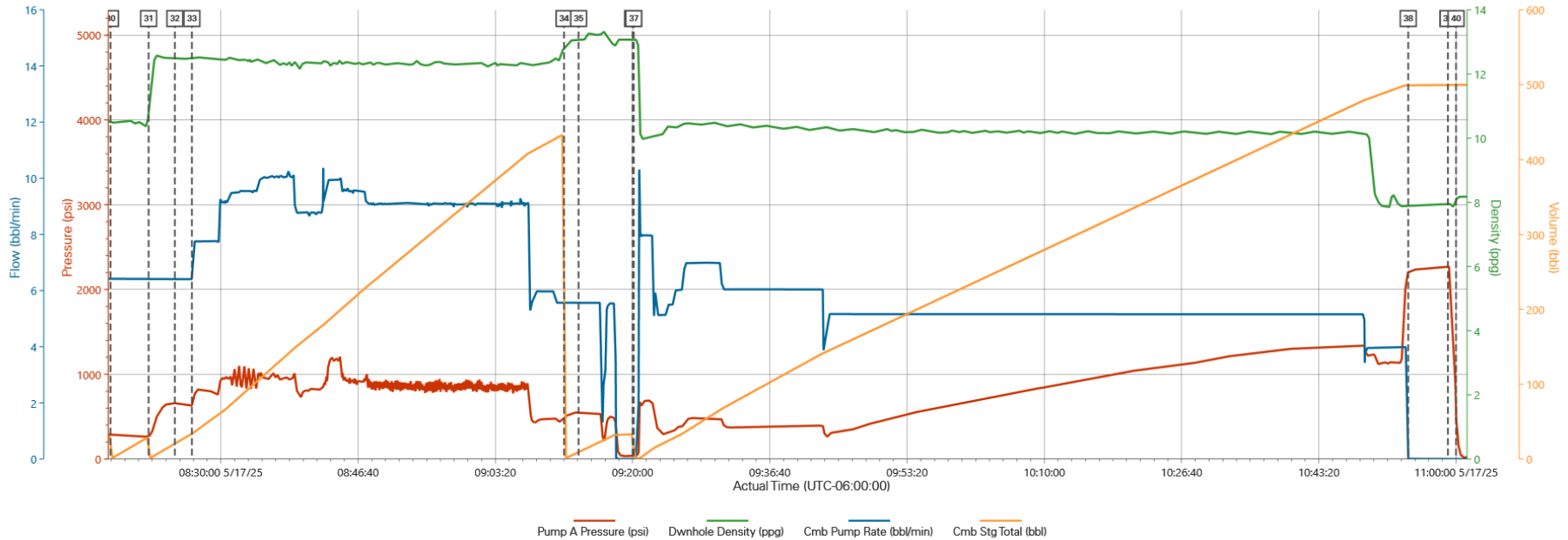
Oxy - Glade East - MS Intermediate casing - 1ST STAGE Job summary



Pump A Pressure (psi) Dwnhole Density (ppg) Cmb Pump Rate (bbl/min) Cmb Stg Total (bbl)

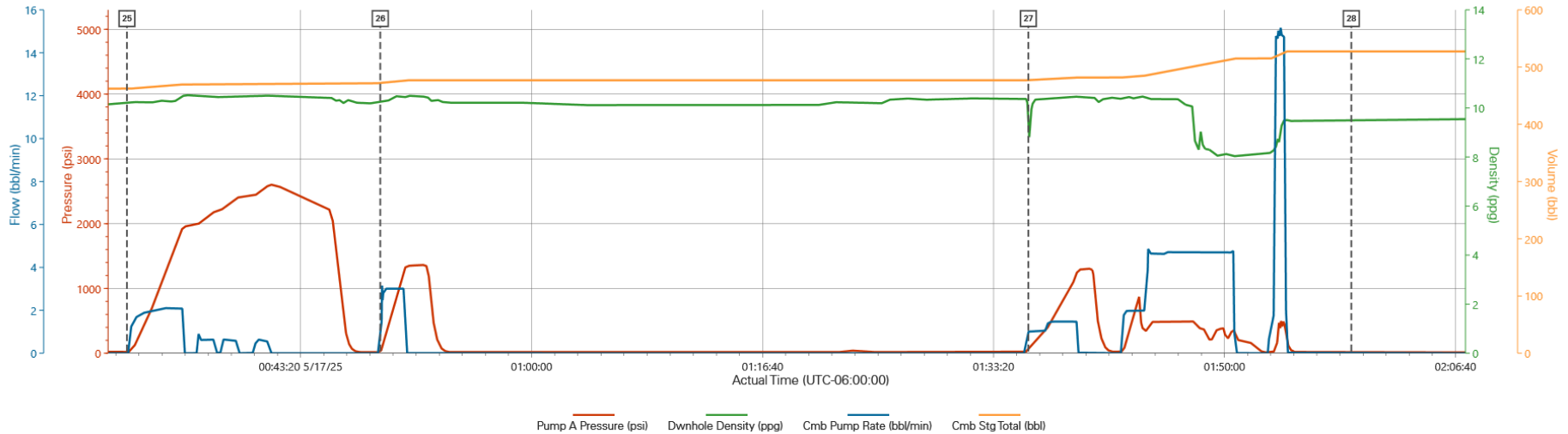
Description	Actual Time (UTC-06:00:00)	Pump A Pressure (psi)	Dwnhole Density (ppg)	Cmb Pump Rate (bbl/min)	Cmb Stg Total (bbl)
12 Pump Spacer 1	20:30:55	26.90	8.18	0.00	0.00
13 Pump Lead Cement	20:45:44	235.52	10.55	5.97	0.15
14 Check Weight	20:47:54	427.05	12.51	6.01	13.23
15 Check Weight	20:54:08	441.18	12.45	6.00	50.69
16 Pump Tail Cement	21:23:44	517.72	12.60	6.98	0.06
17 Check Weight	21:27:24	573.11	13.21	6.43	24.60
18 Check Weight	21:32:08	590.07	13.24	6.48	55.07
19 Shutdown	21:36:48	68.72	12.94	0.00	78.70
20 Drop Top Plug	21:43:26	29.23	12.76	0.00	78.70
21 Pump Displacement	21:43:29	29.28	12.77	0.00	0.00
22 Pump Spacer	22:39:38	142.23	11.15	5.22	1.24
23 Pump Displacement	22:44:43	293.04	10.48	5.52	0.05
24 Bump Plug	00:22:50	1294.71	10.38	0.00	462.30

Oxy - Glade East - MS Intermediate casing - 2ND STAGE Job summary



Description	Actual Time (UTC-06:00:00)	Pump A Pressure (psi)	Dnwhole Density (ppg)	Cmb Pump Rate (bbl/min)	Cmb Stg Total (bbl)
30 Pump Spacer 1	08:16:36	288.24	10.48	6.42	0.05
31 Pump Lead Cement	08:21:14	267.70	10.93	6.40	0.32
32 Check Weight	08:24:25	659.05	12.53	6.47	20.63
33 Check Weight	08:26:29	629.34	12.46	6.41	33.89
34 Pump Tail Cement	09:11:41	479.62	12.82	5.55	0.05
35 Check Weight	09:13:26	554.08	13.08	5.56	9.78
36 Drop Top Plug	09:20:00	36.63	13.06	0.00	33.09
37 Pump Displacement	09:20:09	36.41	13.07	0.00	0.00
38 Bump Plug	10:54:11	2210.18	7.89	0.00	499.81
39 Bleed Casing	10:59:00	2274.97	7.95	0.00	499.81
40 Check Floats	11:00:00	482.38	8.07	0.00	499.81

Oxy - Glade East - MS Intermediate casing - Set packer and open DV Tool



Description	Actual Time (UTC-06:00:00)	Pump A Pressure (psi)	Dnwhole Density (ppg)	Cmb Pump Rate (bbl/min)	Cmb Stg Total (bbl)
25 Set Packer	00:30:48	18.78	10.18	0.00	462.30
26 Pressure Up	00:49:05	31.66	10.26	1.11	471.87
27 Other	01:35:51	54.94	8.99	1.07	477.12
28 Circulate Well	01:59:09	13.78	9.51	0.00	527.31

Lab Reports

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Rockies, Brighton

Lab Results- 1st Stage Lead

Job Information

Request/Slurry	2912611/1	Rig Name	Precision 580	Date	07/MAY/2025
Submitted By	Javier Vargas Machado	Job Type	Intermediate Casing	Bulk Plant	Brighton
Customer	Occidental Petroleum Corp.	Location	Weld	Well	Glade East

Well Information

Casing/Liner Size	9.625 in	Depth MD	10608 ft	BHST	166°C / 330°F
Hole Size	12.25 in	Depth TVD	10608 ft	BHCT	79°C / 175°F
Press.	6000 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	9.6 lbm/gal
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Cement Information - Lead Design

Conc	UOM	Cement/Additive	Cement Properties		
		IsoBond(tm)	Slurry Density	12.5	lbm/gal
0.37	% BWOC	SCR-100	Slurry Yield	1.97	ft3/sack
1	lb/bbl	BridgeMaker II LCM	Water Requirement	9.92	gal/sack
			Total Mix Fluid	9.95	gal/sack

Operation Test Results Request ID 2912611/1

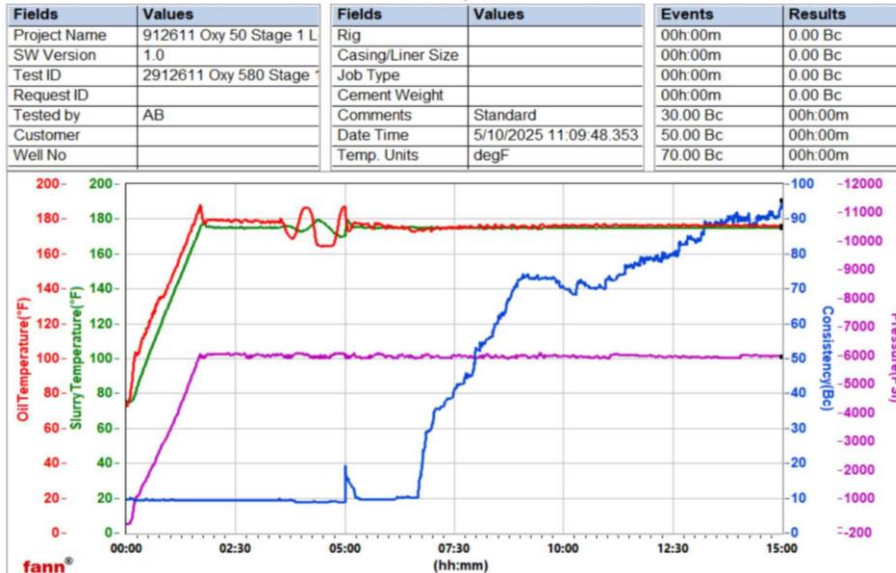
Mixability (0 - 5) - 0 is not mixable, Request Test ID:41535266 10/MAY/2025

Mixability Rating (0 - 5)	5	Avg. RPM Mixing Under Load (~12,000)	12000
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Thickening Time - ON-OFF-ON, Request Test ID:41535267 11/MAY/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)	Start BC	Static Period (min)	Stirring Before Stop (min)
175	600	100	06:58	07:28	07:58	08:51	9.8	210	90

FT Lupton



API Rheology, Request Test ID:41547668 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
80 (up)	130	104	70	56	45	34.2	28.7	0
80 (down)	130	92	59	46	34	19.7	17.7	0
80 (avg.)	130	98	65	51	40	27	23	0

PV (cP) & YP (lbs/100ft2): 105.1 28.52 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 98.25 31.75 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=22 MuInf(cP)=76.87 m=0.67 n=0.67

API Static Gel Strength, Request Test ID:41547669 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	B-R conf.
80	15	37	B1R1 F1

API Rheology, Request Test ID:41547670 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Cond. Time (min)	Cond. Temp. (degF)	Foam Q (%)
190 (up)	89	76	56	46	39	28.5	24.1	30	190	0
190 (down)	89	64	44	35	26	16.2	15	30	190	0
190 (avg.)	89	70	50	41	33	22	20	30	190	0

PV (cP) & YP (lbs/100ft2): 67.82 25.16 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 58.5 30.5 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=16.64 MuInf(cP)=31.24 m=0.51 n=0.51

API Static Gel Strength, Request Test ID:41547671 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	Cond. Time (min)	Cond. Temp. (degF)	B-R conf.
190	25	52	30	190	B1R1 F1

Pilot Test Results Request ID 2911194/1

Free Fluid API 10B-2, Request Test ID:41512468, Historical Data 30/APR/2025

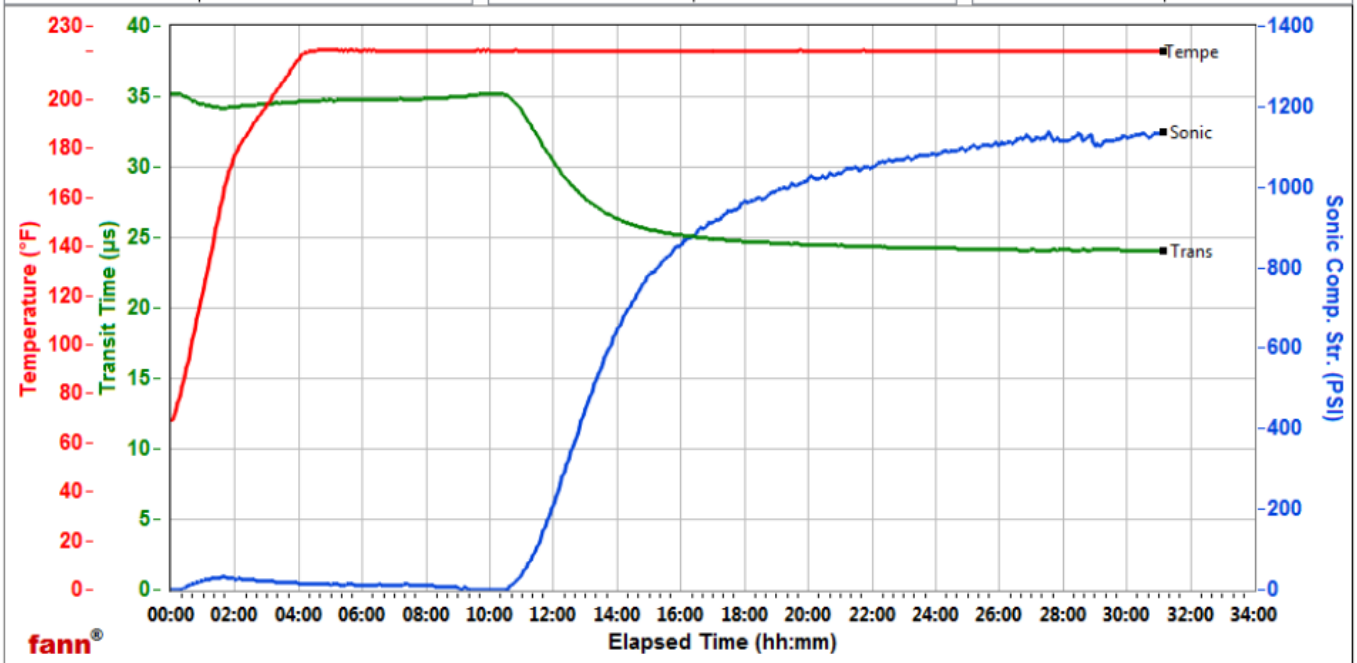
Cond. Temp. (degF)	Cond. Time (min)	Static Temp. (degF)	Static Time (min)	Inclination (deg)	% Fluid
180	30	180	120	0	0

API Fluid Loss, Request Test ID:41512469, Historical Data 30/APR/2025

Test Temp. (degF)	Test Press. (psi)	Test Time (min)	API FL (mL/30min)	Meas. Vol. (mL)	Cond. Time (min)	Cond. Temp. (degF)
180	1000	30	10	5	30	180

Brighton Lab

Fields	Values	Fields	Values	Events	Results
Project Name	2912611 Oxy 580 Stage 1	Rig		50.00 PSI	11h:08m
Author		Casing/Liner Size		100.00 PSI	11h:28m
Test ID	2912611 Oxy 580 Stage 1	Job Type		500.00 PSI	13h:16m
Request ID		Cement Type		1000.00 PSI	19h:24m
Tested by	AB	Cement Weight	Light Weight	08h:00m	10.41
Customer		Test Date	5/10/2025	12h:00m	214.39
Well No		Test Time	11:45 AM	24h:00m	1079.06



End Temp. (degF)	Pressure (psi)	50 psi (HH:MM)	100 psi (HH:MM)	500 psi (HH:MM)	1000 psi (HH:MM)	8hr CS (psi)	12 hr CS (psi)	16 hr CS (psi)	24 hr CS (psi)	End CS (psi)	End Time (hrs)
220	3000	11:08	11:28	13:16	19:24	0	214	857	1079	1138	31

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Lab Results- **1st Stage Tail**

Job Information

Request/Slurry	2912612/1	Rig Name	Precision 580	Date	07/MAY/2025
Submitted By	Javier Vargas Machado	Job Type	Intermediate Casing	Bulk Plant	Brighton
Customer	Occidental Petroleum Corp.	Location	Weld	Well	Glade East

Well Information

Casing/Liner Size	9.625 in	Depth MD	10608 ft	BHST	166°C / 330°F
Hole Size	12.25 in	Depth TVD	10608 ft	BHCT	77°C / 170°F
Press.	6500 psi				

Drilling Fluid Information

Mud Supplier Name		Mud Trade Name		Density	9.6 lbm/gal
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Cement Information - Tail Design

Conc	UOM	Cement/Additive	Cement Properties		
		ElastiCem	Slurry Density	13.2	lbm/gal
0.32	% BWOC	SCR-100	Slurry Yield	1.69	ft3/sack
1	% BWOC	BridgeMaker II LCM	Water Requirement	7.85	gal/sack
			Total Mix Fluid	7.88	gal/sack

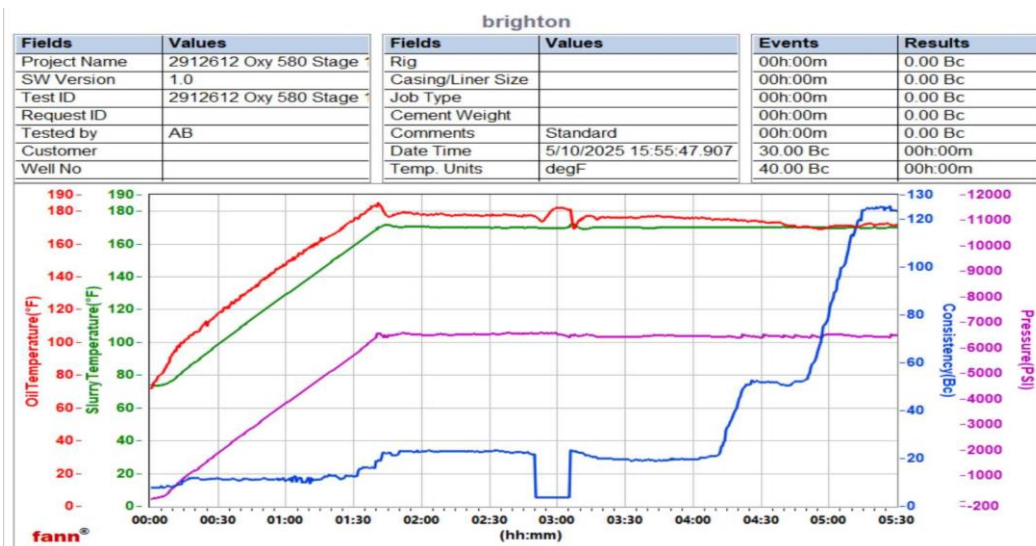
Operation Test Results Request ID 2912612/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41535268 10/MAY/2025

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

Thickening Time - ON-OFF-ON, Request Test ID:41535269 11/MAY/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)
170	6500	100	04:14	04:19	04:23	04:57	05:06	7.6	170	15



API Rheology, Request Test ID:41547664 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
80 (up)	178	143	95	72	52	29.9	22.6	0
80 (down)	178	132	86	66	49	28.4	25.4	0
80 (avg.)	178	138	91	69	51	29	24	0

PV (cP) & YP (lbs/100ft2): 152.29 33.87 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 131.25 46.75 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=14.76 MuInf(cP)=70.1 m=0.43 n=0.43

API Static Gel Strength, Request Test ID:41547665 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	Cond. Time (min)	B-R conf.
80	25	61	30	B1R1 F1

API Rheology, Request Test ID:41547666 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
190 (avg.)	125	104	80	71	67	46	35	0

PV (cP) & YP (lbs/100ft2): 81.15 51.36 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 67.5 57.5 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=24.1 MuInf(cP)=4.09 m=0.28 n=0.28

API Static Gel Strength, Request Test ID:41547667 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	Cond. Time (min)	Cond. Temp. (degF)	B-R conf.
190	43	43	30	190	B1R1 F1

Pilot Test Results Request ID 2911195/1

Free Fluid API 10B-2, Request Test ID:41512479, Historical Data 30/APR/2025

Cond. Temp. (degF)	Cond. Time (min)	Static Temp. (degF)	Static Time (min)	Inclination (deg)	% Fluid
180	30	180	120	0	0

API Fluid Loss, Request Test ID:41512480, Historical Data 30/APR/2025

Test Temp. (degF)	Test Press. (psi)	Test Time (min)	API FL (mL/30min)	Meas. Vol. (mL)	Cond. Time (min)	Cond. Temp. (degF)
180	1000	30	10	5	30	180

Operation Test Results Request ID 2912612/1

UCA Comp. Strength, Request Test ID:41535343

12/MAY/2025

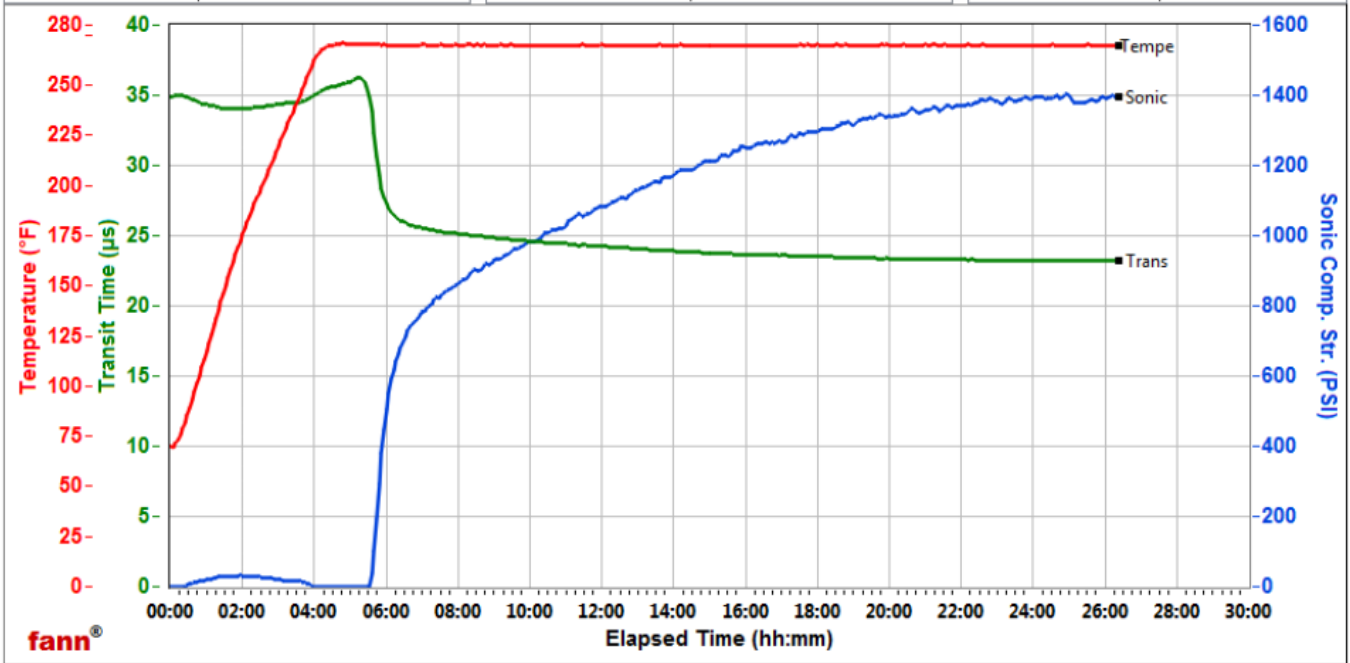
End Temp. (degF)	Pressure (psi)	50 psi (HH:MM)	100 psi (HH:MM)	500 psi (HH:MM)	1000 psi (HH:MM)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	End CS (psi)	End Time (hrs)
270	4000	05:40	05:44	06:00	10:24	861	1083	1391	1400	26.5

Brighton Lab

Fields	Values
Project Name	2912612 Oxy 580 Stage
Author	
Test ID	2912612 Oxy 580 Stage
Request ID	
Tested by	AB
Customer	
Well No	

Fields	Values
Rig	
Casing/Liner Size	
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	5/10/2025
Test Time	4:30 PM

Events	Results
50.00 PSI	05h:40m
100.00 PSI	05h:44m
500.00 PSI	06h:00m
1000.00 PSI	10h:24m
08h:00m	861.03
12h:00m	1083.30
24h:00m	1390.83



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Rockies, Brighton

Lab Results- **2nd Stage Lead**

Job Information

Request/Slurry	2912613/1	Rig Name	Precision 580	Date	07/MAY/2025
Submitted By	Javier Vargas Machado	Job Type	Intermediate Casing	Bulk Plant	Brighton
Customer	Occidental Petroleum Corp.	Location	Weld	Well	Glade East

Well Information

Casing/Liner Size	9.625 in	Depth MD	6600 ft	BHST	82°C / 180°F
Hole Size	12.25 in	Depth TVD	6600 ft	BHCT	54°C / 130°F
Press.	3500 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density	9.6 lbm/gal
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Cement Information - Lead Design

Conc	UOM	Cement/Additive	Cement Properties	
		IsoBond(tm)	Slurry Density	12.5 lbm/gal
0.15	% BWOC	SCR-100	Slurry Yield	1.97 ft ³ /sack
1.3	lb/bbl	BridgeMaker II LCM	Water Requirement	9.93 gal/sack
			Total Mix Fluid	9.96 gal/sack

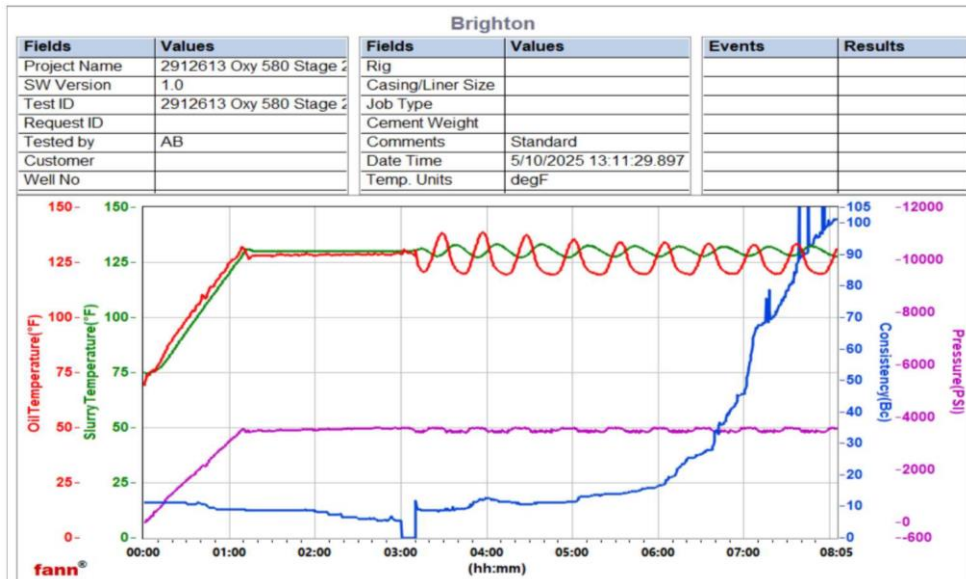
Operation Test Results Request ID 2912613/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41535270 10/MAY/2025

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

Thickening Time - ON-OFF-ON, Request Test ID:41535271 11/MAY/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)
130	3500	70	06:39	06:50	07:02	07:20	08:01	11.1	180	10



API Rheology, Request Test ID:41547533

12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
80 (up)	121	94	63	48	37	25.5	20.8	0
80 (down)	121	89	57	44	34	21.3	20.4	0
80 (avg.)	121	92	60	46	36	23	21	0

PV (cP) & YP (lbs/100ft2): 99.55 25.15 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 91.5 29.5 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=18.66 MuInf(cP)=71.79 m=0.65 n=0.65

API Static Gel Strength, Request Test ID:41547534 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	B-R conf.
80	25	87	B1R1 F1

API Rheology, Request Test ID:41547535 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Cond. Time (min)	Cond. Temp. (degF)	Foam Q (%)
130 (up)	105	103	76	63	50	28.9	25.5	30	130	0
130 (down)	105	66	41	31	22	14.6	13.9	30	130	0
130 (avg.)	105	85	59	47	36	22	20	30	130	0

PV (cP) & YP (lbs/100ft2): 84.6 26.58 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 69.75 35.25 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=13.94 MuInf(cP)=58.99 m=0.65 n=0.5

API Static Gel Strength, Request Test ID:41547536 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	Cond. Time (min)	Cond. Temp. (degF)	B-R conf.
130	23	112	30	130	B1R1 F1

Pilot Test Results Request ID 2911194/1

Free Fluid API 10B-2, Request Test ID:41512468, Historical Data 30/APR/2025

Cond. Temp. (degF)	Cond. Time (min)	Static Temp. (degF)	Static Time (min)	Inclination (deg)	% Fluid
180	30	180	120	0	0

API Fluid Loss, Request Test ID:41512469, Historical Data 30/APR/2025

Test Temp. (degF)	Test Press. (psi)	Test Time (min)	API FL (mL/30min)	Meas. Vol. (mL)	Cond. Time (min)	Cond. Temp. (degF)
180	1000	30	10	5	30	180

HALLIBURTON

Rockies, Brighton

Lab Results- **2nd Stage Tail**

Job Information

Request/Slurry	2912614/1	Rig Name	Precision 580	Date	07/MAY/2025
Submitted By	Javier Vargas Machado	Job Type	Intermediate Casing	Bulk Plant	Brighton
Customer	Occidental Petroleum Corp.	Location	Weld	Well	Glade East

Well Information

Casing/Liner Size	9.625 in	Depth MD	6600 ft	BHST	82°C / 180°F
Hole Size	12.25 in	Depth TVD	6600 ft	BHCT	52°C / 125°F
Press.	4500 psi				

Drilling Fluid Information

Mud Supplier Name	Mud Trade Name	Density	9.6 lbm/gal
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Cement Information - Tail Design

Conc	UOM	Cement/Additive	Cement Properties	
		ElastiCem	Slurry Density	13.2 lbm/gal
0.15	% BWOC	SCR-100	Slurry Yield	1.68 ft3/sack
1.6	lb/bbl	BridgeMaker II LCM	Water Requirement	7.85 gal/sack
			Total Mix Fluid	7.88 gal/sack

Operation Test Results Request ID 2912614/1

Mixability (0 - 5) - 0 is not mixable, Request Test ID:41535272 11/MAY/2025

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

Thickening Time - ON-OFF-ON, Request Test ID:41535273 11/MAY/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)
125	4500	70	05:00	05:10	05:36	06:13	06:47	18.5	100	15



API Rheology, Request Test ID:41547537 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
80 (up)	166	133	92	73	56	38.5	25.4	0
80 (down)	166	121	85	67	51	35.4	33.9	0
80 (avg.)	166	127	89	70	54	37	30	0

PV (cP) & YP (lbs/100ft2): 132.36 39.89 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 116.25 49.75 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=25.5 MuInf(cP)=70.48 m=0.53 n=0.53

API Static Gel Strength, Request Test ID:41547538 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	B-R conf.
80	37	136	B1R1 F1

API Rheology, Request Test ID:41547539 12/MAY/2025

Temp. (degF)	300	200	100	60	30	6	3	Foam Q (%)
130 (up)	111	89	62	50	41	34.4	29.2	0
130 (down)	111	85	57	45	36	28.3	27.4	0
130 (avg.)	111	87	60	48	39	31	28	0

PV (cP) & YP (lbs/100ft2): 82.69 31.93 (Least-squares method)
 PV (cP) & YP (lbs/100ft2): 77.25 33.75 (Traditional method (300 & 100 rpm based))
 Generalized Herschel-Bulkley 4: YP(lbf/100ft2)=29.31 MuInf(cP)=82.22 m=1 n=0.88

API Static Gel Strength, Request Test ID:41547540 12/MAY/2025

Temp. (degF)	10 Sec Gel (deg) (lbs/100ft2)	10 Min Gel (deg) (lbs/100ft2)	Cond. Time (min)	Cond. Temp. (degF)	B-R conf.
130	48	171	30	190	B1R1 F1

Pilot Test Results Request ID 2911195/1

Free Fluid API 10B-2, Request Test ID:41512479, Historical Data 30/APR/2025

Cond. Temp. (degF)	Cond. Time (min)	Static Temp. (degF)	Static Time (min)	Inclination (deg)	% Fluid
180	30	180	120	0	0

API Fluid Loss, Request Test ID:41512480, Historical Data 30/APR/2025

Test Temp. (degF)	Test Press. (psi)	Test Time (min)	API FL (mL/30min)	Meas. Vol. (mL)	Cond. Time (min)	Cond. Temp. (degF)
180	1000	30	10	5	30	180

Operation Test Results Request ID 2912614/1

UCA Comp. Strength, Request Test ID:41535720 **12/MAY/2025**

End Temp. (degF)	Pressure (psi)	50 psi (HH:MM)	100 psi (HH:MM)	500 psi (HH:MM)	1000 psi (HH:MM)	8hr CS (psi)	12 hr CS (psi)	24 hr CS (psi)	End CS (psi)	End Time (hrs)
200	4000	04:00	04:20	05:56	08:00	1000	1434	1725	1750	26

Brighton Lab

Fields	Values
Project Name	2912614 Oxy 580 Stage 2
Author	
Test ID	2912614 Oxy 580 Stage 2
Request ID	
Tested by	AB
Customer	
Well No	

Fields	Values
Rig	
Casing/Liner Size	
Job Type	
Cement Type	
Cement Weight	Light Weight
Test Date	5/10/2025
Test Time	4:49 PM

Events	Results
50.00 PSI	04h:00m
100.00 PSI	04h:20m
500.00 PSI	05h:56m
1000.00 PSI	08h:00m
08h:00m	1000.32
12h:00m	1433.80
24h:00m	1725.25

