

1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	9.625	8.921	36	n/a	0	1539	0
Open Hole	Outer	n/a	8.5	n/a	n/a	1549	12293	18
Casing	Inner	5.5	4.892	17	n/a	0	12274	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	505	Hyde, Andrew	150
Silo	657		
Silo	658		
Cement Pump	103	Seghetti, Joshua	150
Tractor	301	Soto Jr., Ruben	150
Light Duty Pickups	54	Cook, John	150

1.3 Timing

Event	Date/Time
Call Out	8/29/2017 13:00
Depart Facility	8/29/2017 15:45
On Location	8/29/2017 17:30
Rig Up Iron	8/29/2017 18:00
Job Started	8/29/2017 20:45
Job Completed	8/30/2017 00:39
Rig Down Iron	8/30/2017 01:00
Depart Location	8/30/2017 02:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	10 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	500 bbls
Rig Circulation Time	3 hours
Calculated Displacement	284.1 bbls
Actual Displacement	284.1 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	25 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	13
Yield Point	11
10 sec. SGS	3
10 min. SGS	11
Filtrate	4.4
Flow Line Temp.	155

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Well Full Prior to Job	Yes
Well Fluid Density Into Well	10 lb/gal
Well Fluid Density Out of Well	10 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	220 °F
BHST	220 °F

1.8 Circulation

Lost Circulation Experienced
No



1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft ³ /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sks)	Volume (bbl)	Top (ft)
1	1	Water	Flush	8.33			42.00		40.00	0
1	2	CD Spacer	Spacer	11.00			33.78		40.00	0
1	3	P100-X2	Lead	12.50	2.06	11.77		200.00	73.47	17
1	4	P100-X2	Lead	12.50	2.07	11.81		710.00	261.75	1550
1	5	P50-X1	Tail	13.50	1.47	7.43		975.00	256.07	6990
1	6	Water & MMCR	Displacement	8.33			41.90		10.00	11907
1	7	Water w/ Clay Protection and Biocide	Displacement Final	8.33			41.91		277.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Spacer	CD Spacer	ASR-20	Strength Retrogression	179.59	lb/bbl
1	2	Spacer	CD Spacer	AVS-10	Viscosifier	1.00	lb/bbl
1	3	Lead	P100-X2	AC3-10	Cement	100.00	%
1	3	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	3	Lead	P100-X2	AFL-10	Fluid Loss	0.30	%BWOB
1	3	Lead	P100-X2	AR-31	Retarder	0.16	%BWOB
1	3	Lead	P100-X2	AVS-20	Viscosifier	0.10	%BWOB
1	4	Lead	P100-X2	AC3-10	Cement	100.00	%
1	4	Lead	P100-X2	ABX-30	Bond Enhancer	0.40	%BWOB
1	4	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	P100-X2	AFL-10	Fluid Loss	0.30	%BWOB
1	4	Lead	P100-X2	AR-31	Retarder	0.16	%BWOB
1	4	Lead	P100-X2	AVS-20	Viscosifier	0.10	%BWOB
1	5	Tail	P50-X1	ACG-10	Cement	50.00	%
1	5	Tail	P50-X1	AFA-10	Extender	50.00	%
1	5	Tail	P50-X1	ADF-11	Defoamer	0.30	%BWOB
1	5	Tail	P50-X1	AFL-50	Fluid Loss	0.20	%BWOB
1	5	Tail	P50-X1	AR-20	Retarder	0.10	%BWOB
1	5	Tail	P50-X1	AVS-10	Viscosifier	0.10	%BWOB
1	5	Tail	P50-X1	AVS-50	Viscosifier	2.00	%BWOB
1	6	Displacement	Water & MMCR	AR-61	Retarder	0.10	gal/bbl
1	7	Displacement Final	Water w/ Clay Protection and Biocide	ASF-50	Clay Protection	0.08	gal/bbl
1	7	Displacement Final	Water w/ Clay Protection and Biocide	Biocide	Other	0.01	gal/bbl



2 Job Logs

Line	Event	Date (MM/DD/YY)	Time (HH:MM)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	YARD CALL	8/29/2017	13:00					PRE TRIP EQUIP/ LOAD CHEMS
2	STEACS	8/29/2017	13:30					
3	LEAVE YARD	8/29/2017	15:45					CONVOY
4	ARRIVE ON LOCATION	8/29/2017	17:30					
5	SAFETY MEETING	8/29/2017	17:40					PRE SPOTTING/ RIG UP
6	SPOT EQUIPMENT	8/29/2017	17:45					
7	RIG UP	8/29/2017	18:00					
8	MAIN SAFETY MEETING	8/29/2017	20:00					ALL PERSONNEL ON LOCATION
9	FILL PUMPS/ LINES	8/29/2017	20:45	8.33		3		WATER AHEAD
10	PRESSURE TEST	8/29/2017	20:47	8.33			5800	
11	WATER	8/29/2017	20:51	8.33	4	40	210	PRE FLUSH
12	SPACER	8/29/2017	21:01	11	6	40	350	11PPG BULK TRUCK 505
13	LEAD	8/29/2017	21:11	12.5	6	335		2.06 Y / 11.77 MW : 2.07 Y / 11.81 MW
14	TAIL	8/29/2017	22:04	13.5	6	255		1.47 Y / 7.43 MW
15	SHUT DOWN WASH P'S /L'S	8/29/2017	22:48					
16	DROP BOTTOM PLUG	8/29/2017	23:14	8.33				
17	PUMP H2O	8/29/2017	23:15	8.33	4	10		FOR WET SHOE
18	DROP TOP PLUG	8/29/2017	23:16	8.33				
19	DISPLACEMENT	8/29/2017	23:18	8.33	8	284.7	2800	
20	SHUT DOWN/BUMP PLUG	8/30/2017	00:05				2800	
21	CHECK FLOAT	8/30/2017	00:12					
22	REBUMP	8/30/2017	00:18	8.33	3		2800	
23	CHECK FLOAT	8/30/2017	00:20					
24	REBUMP	8/30/2017	00:27	8.33	3		2800	
25	CHECK FLOAT	8/30/2017	00:30					
26	PRESSURE UP	8/30/2017	00:36	8.33	3		1800	CLOSED IN MANIFOLD PER CUSTOMER
27	BLEED OFF	8/30/2017	00:39					
28	SAFETY MEETING	8/30/2017	00:45					
29	RIG DOWN	8/30/2017	01:00					RIG DOWN
30	LEAVE LOCATION	8/30/2017	02:30					AAR WITH CEMENT CREW

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	60 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	1 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

