

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	1523	0
Open Hole	Outer	n/a	8.5	n/a	n/a	1533	12480	18
Casing	Inner	5.5	4.892	17	n/a	0	12470	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	505	Orner, Lance	Bryson, Maurice	150
Silo	657			
Silo	658			
Cement Pump	101	Chaparro, Hector		150
Light Duty Pickups	5	Fuentes, Orlando		150

1.3 Timing

Event	Date/Time
Call Out	9/9/2017 15:30
Depart Facility	9/9/2017 17:30
On Location	9/9/2017 19:00
Rig Up Iron	9/9/2017 19:30
Job Started	9/9/2017 23:00
Job Completed	9/10/2017 02:30
Rig Down Iron	9/10/2017 03:00
Depart Location	9/10/2017 05:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	10.4 lb/gal
Well Fluid Type	OBM
Rig Circulation Vol	900 bbls
Rig Circulation Time	2 hours
Calculated Displacement	288.65 bbls
Actual Displacement	286 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	95 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	12
Yield Point	8
10 sec. SGS	4
10 min. SGS	18
30 min. SGS	20
Filtrate	5.5
Flow Line Temp.	120

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	10.4 lb/gal
Well Fluid Density Out of Well	10.4 lb/gal

1.7 Job Details (cont.)

Metrics	Value
BHCT	220 °F
BHST	220 °F



1.8 Circulation

Lost Circulation Experienced
No

Circulation Details:

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 (sk)	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	0
1	4	P100-X2	Lead	12.50	2.07	11.81		735.00	270.97	0
1	5	P50-X1	Tail	13.50	1.47	7.43		975.00	256.07	5984
1	6	Water & MMCR	Displacement	8.33			41.90		10.00	12241
1	7	Water w/ Clay Protection and Biocide	DisplacementFinal	8.33			41.91		281.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Spacer	CD Spacer	ASR-20	StrengthRetrogression	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	FluidLoss	0.30	%BWOB
1	3	Lead	P100-X2	AR-31	Retarder	0.15	%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	BondEnhancer	0.40	%BWOB
1	4	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	4	Lead	P100-X2	AFL-10	FluidLoss	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	FluidLoss	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	DisplacementFinal	Water w/ Clay Protection and Biocide	ASF-50	ClayProtection	0.08	gal/bbl
1	7	DisplacementFinal	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	Call Out	9/9/2017	15:30					BJ Services crew get call out for job.
2	Depart Facility	9/9/2017	17:30					BJ Services crew departs location.
3	Arrive on location	9/9/2017	19:00					BJ Services crew arrives on location.
4	Pre-Rig Up Meeting	9/9/2017	19:00					BJ Services crew has a pre-rig up safety meeting
5	Rig Up	9/9/2017	19:30					BJ Services crew rigs up pump and iron.
6	Safety meeting	9/9/2017	22:30					BJ Services crew has a safety meeting and goes over pump procedure with rig hands and Co-Man.
7	Pressure test	9/9/2017	23:07	8.33			6500	Pressure test to 6500 psi.
8	Pump Water	9/9/2017	23:11	8.33	3	40	208	Pumped 40 bbls of fresh water at 3bpm w/208 psi.
9	Pump CD Spacer	9/9/2017	23:23	11	4	40	469	Pumped 40 bbls of CD spacer at 11 ppg at 4 bpm w/ 469 psi.
10	Pump Lead Cement	9/9/2017	23:31	12.5	6	344.34	312	Pumped 344.34 bbls (935 sks 12.5 ppg 2.07 yld 11.81 g/sks) of lead cement at 6 bpm w/ 312 psi.
11	Pump Tail Cement	9/10/2017	00:30	13.5	6	255.26	108	Pumped 255.26 bbls (975 sks 13.5 ppg 1.47 yld 7.43 g/sks) of tail cement at 6bpm w/ 108 psi.
12	Shut Down	9/10/2017	01:18					Shut down
13	Wash pumps/ lines	9/10/2017	01:20					Wash pumps and lines to the pit
14	Dropped Bottom Plug	9/10/2017	01:26					Dropped Bottom plug
15	Pumped Wet shoe	9/10/2017	01:27	8.33	4	10	60	Pumped 10 bbls of fresh water w/ 1 gal of AR 61 at 4 bpm w 60 psi. for wet shoe
16	Shut Down	9/10/2017	01:30					Shut down
17	Dropped Top plug	9/10/2017	01:31					Dropped top plug
18	Start Displacement	9/10/2017	01:32	8.33	8	0	150	Start pumping H2O Displacement at 8 bpm w/ 150 psi. (With ASF 50 and biocide)
19	Spacer to Surface	9/10/2017	01:53	8.33	8	170	1950	At 170 bbls away into displacement got spacer to surface.at 8 bpm w/ 1950 psi.
20	Cement to surface	9/10/2017	01:56	8.33	8	190	2200	At 190 bbls away into displacement got cement to surface at 8 bpm w/ 2200 psi.

21	Slow down rate	9/10/2017	02:06	8.33	3	270	1570	At 270 bbls away into displacement slow down rate to 3 bpm w/ 1570 psi.
22	Burst plug	9/10/2017	02:08	8.33	3	276	3500	Burst plug at 276 bbls away w/ 3500 psi. at 3 bpm.
23	Land plug	9/10/2017	02:11	8.33	3	286	2647	Land plug at 286 bbls away at 3 bpm, final circulating pressure was 1971 psi. Bumped plug to 2647 psi.
24	Check Floats	9/10/2017	02:15					Checked floats got 2.5 bbls back.
25	Pre-rig down meeting	9/10/2017	02:30					BJ Services has a pre-rig down meeting.
26	Rig Down	9/10/2017	03:00					BJ services rigs down.
27	Depart Location	9/10/2017	05:00					BJ services departs location
28	Other	9/10/2017	00:00					Spacer to surface 20 bbls.
29	Other	9/10/2017	00:00					Cement to surface 95 bbls.
30	Other	9/10/2017	00:00					Calculated top of tail 5984.2'

3 Water Analysis

Metrics	Value	Recommended
Water Source	Flat Tank	
Temperature	70 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	200 mg/L	0-3000 mg/L
Total Alkalinity	0	0-1000
Total Hardness	0 mg/L	0-500 mg/L
Carbonates	75 mg/L	0-100 mg/L
Sulfates	>200 mg/L	0-1500 mg/L
Potassium	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

