

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	1552	0
Open Hole	Outer	n/a	8.5	n/a	n/a	1555	17787	8
Casing	Inner	5.5	4.778	20	Buttress	0	17771	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	502	Gabel, Dustin	110
Bulk Trailer	509	Philman, Douglas	110
Silo	654		
Silo	661		
Silo	656		
Cement Pump	103	Montoya, Hector	110
Light Duty Pickups	8	Snyder, Albert	110

1.3 Timing

Event	Date/Time
Call Out	10/1/2017 17:30
Depart Facility	10/1/2017 19:30
On Location	10/1/2017 21:30
Rig Up Iron	10/1/2017 21:45
Job Started	10/2/2017 00:05
Job Completed	10/2/2017 04:00
Rig Down Iron	10/2/2017 04:30
Depart Location	10/2/2017 06:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	lb/gal
Well Fluid Type	OBM
Rig Circulation Vol	1000 bbls
Rig Circulation Time	3 hours
Calculated Displacement	392 bbls
Actual Displacement	382 bbls
Total Spacer to Surface	80 bbls
Total CMT to Surface	50 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	13
Yield Point	7
10 sec. SGS	7
10 min. SGS	9
30 min. SGS	9
Filtrate	11.3
Flow Line Temp.	80

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 (sk)	Volume (bbl)	Top (ft)
1	1	CD Spacer	Spacer	11.00			32.76		80.00	0
1	2	P100-X2	Lead	13.20	1.82	9.89		915.00	297.38	0
1	3	P50-X1	Tail	13.50	1.47	7.43		1880.00	493.86	6563
1	4	Water w/ Clay Protection and Biocide	DisplacementFinal	8.33			41.91		395.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	1	Spacer	CD Spacer	ASR-20	StrengthRetrogression	180.06	lb/bbl
1	1	Spacer	CD Spacer	ASF-20	Surfactant	0.50	gal/bbl
1	1	Spacer	CD Spacer	ASF-80	Surfactant	0.50	gal/bbl
1	1	Spacer	CD Spacer	AVS-10	Viscosifier	1.00	lb/bbl
1	2	Lead	P100-X2	AC3-10	Cement	100.00	%
1	2	Lead	P100-X2	ABX-20	BondEnhancer	3.00	%BWOB
1	2	Lead	P100-X2	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	P100-X2	AFL-50	FluidLoss	0.50	%BWOB
1	2	Lead	P100-X2	AR-31	Retarder	0.17	%BWOB
1	2	Lead	P100-X2	AVS-20	Viscosifier	0.10	%BWOB
1	3	Tail	P50-X1	ACG-10	Cement	50.00	%
1	3	Tail	P50-X1	AFA-10	Extender	50.00	%
1	3	Tail	P50-X1	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	P50-X1	AFL-50	FluidLoss	0.20	%BWOB
1	3	Tail	P50-X1	AR-20	Retarder	0.15	%BWOB
1	3	Tail	P50-X1	AVS-10	Viscosifier	0.10	%BWOB
1	3	Tail	P50-X1	AVS-50	Viscosifier	2.00	%BWOB
1	4	DisplacementFinal	Water w/ Clay Protection and Biocide	ASF-50	ClayProtection	0.08	gal/bbl
1	4	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)	Annular Pressure (psi)	Comment
1		Called out	10/1/2017	17:30						called out from cheyenne
2		requested time	10/1/2017	23:30						12/30/1899 11:30:00 PM
3		Arrive On Location	10/1/2017	21:30						arrived 2 hours early rig was ready for us
4		Steacs briefing	10/1/2017	21:45						discussed rigging up
5		Rig Up Iron	10/1/2017	22:00						worked carefully it was muddy and raining
6		Steacs briefing	10/1/2017	23:30						
7		Test lines	10/2/2017	00:05	8.33	1	1	5000		lines tested good
8		Pump Spacer	10/2/2017	00:07	11	4	80	450		cd spacer at 11#
9		Pump Lead Cement	10/2/2017	00:30	13.2	4	297	450		mix and pump 915 skts of p100-x2 at 13.2 with 1.82 yield 9.89 water requirement had problem with cement delivery
10		Pump Tail Cement	10/2/2017	01:35	13.5	6	493	500		mix and pump 1880 skts of p50-x1 at 13.5# with 1.47 yield 7.43 water requirement
11		shut down wash lines	10/2/2017	03:02						washed to the pit
12		Drop Top Plug	10/2/2017	03:07						used their 2 plugs
13		Pump Displacement	10/2/2017	03:09	8.33	8	20	800		good circulation
14		Pump Displacement	10/2/2017	03:14	8.33	8	50	1700		fresh water /biocide
15		Pump Displacement	10/2/2017	03:20	8.33	8	100	2400		fresh water /biocide
16		Pump Displacement	10/2/2017	03:25	8.33	8	150	2600		fresh water /biocide
17		Pump Displacement	10/2/2017	03:33	8.33	8	200	3000		fresh water /biocide
18		Pump Displacement	10/2/2017	03:39	8.3	8	250	3208		good circulation
19		Pump Displacement	10/2/2017	03:44	8.33	8	270	3300		good circulation



20		Pump Displacement	10/2/2017	03:47	8.33	8	300	3000		spacer to the surface got all 80 bbls back
21		Pump Displacement	10/2/2017	03:51	8.33	3	350	2600		cement to the surface 50 bbls to the pit
22		slowed rate	10/2/2017	03:53	8.33	3	370	2600		good circulation
23		Land the plug	10/2/2017	03:55	8.33	3	382	3150		plug landed 10 bbls early
24		Check Floats	10/2/2017	04:02						float is holding take head back to the yard
25		Steacs briefing	10/2/2017	04:10						discussed rigging down
26		Rig Down Iron	10/2/2017	04:20						used all 4 team members
27		move off location	10/2/2017	05:15						small location get out of the way
28		after action review	10/2/2017	06:00						discussed entire job
29		steacs journey	10/2/2017	06:15						journey to the truck stop
30		Depart Location	10/2/2017	06:30						

3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	50 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams

