1 Job Details & Summary

1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Open Hole	Outer	n/a	13.5	n/a	n/a	0	1533	25
Casing	Inner	9.625	8.921	36	LTC	0	1523	0

1.2 Equipment

Unit Type	Unit	Mileage
Bulk Trailer	PPC41311	80
Bulk Trailer	503	80

1.3 Timing

Event	Date/Time
Call Out	7/24/2017 22:00
Depart Facility	7/25/2017 00:20
On Location	7/25/2017 03:00
Rig Up Iron	7/25/2017 04:00
Job Started	7/25/2017 05:40
Job Completed	7/25/2017 06:55
Rig Down Iron	7/25/2017 07:20
Depart Location	7/25/2017 08:30

1.4 General Job Information

Metrics	Value
Well Fluid Density	10.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	265 bbls
Rig Circulation Time	1 hours
Calculated Displacement	114 bbls
Actual Displacement	114 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	36 bbls
Well Topped Out	No

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	120
Yield Point	9
10 sec. SGS	6
10 min. SGS	13
30 min. SGS	15
Filtrate	4
Flow Line Temp.	150

1.6 Job Details

Metrics	Value
Flare Prior to Job	No
Flare During Job	No
Flare at End of Job	No
Flare at End of Job	units
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	88 °F
BHST	110 °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		20.00	0
1	2	S100-12	Lead	12.00	2.53	14.85		260.00	116.99	0
1	3	S100-12	Tail	12.50	2.22	12.58		146.00	57.82	1045
1	4	Water	Displacement Final	8.33			42.00		117.00	0
1	5	S100-12	Topout	12.50	2.22	12.58		150.00	59.40	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Lead	S100-12	AC3-10	Cement	100.00	%
1	2	Lead	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	2	Lead	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	2	Lead	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	2	Lead	S100-12	ALC-10	Lost Circulation	0.13	lb/sk
1	2	Lead	S100-12	AXE-30	Extender	2.00	lb/sk
1	3	Tail	S100-12	AC3-10	Cement	100.00	%
1	3	Tail	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	3	Tail	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	3	Tail	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	3	Tail	S100-12	ALC-10	Lost Circulation	0.13	lb/sk
1	3	Tail	S100-12	AXE-30	Extender	2.00	lb/sk
1	5	Topout	S100-12	AC3-10	Cement	100.00	%
1	5	Topout	S100-12	ACL-10	Accelerator	2.00	lb/sk
1	5	Topout	S100-12	ACL-20	Accelerator	5.00	%BWOB
1	5	Topout	S100-12	ADF-11	Defoamer	0.30	%BWOB
1	5	Topout	S100-12	ALC-10	Lost Circulation	0.13	lb/sk
1	5	Topout	S100-12	AXE-30	Extender	2.00	lb/sk

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	Callout	7/25/2017	22:20					in Cheyenne
2	DEPART FROM YARD	7/26/2017	00:00					good pre-trip
3	Requested on location	7/26/2017	03:00					arrived 1 hour before requested
4	Arrive On Location	7/26/2017	03:00					waiting to rig up
5	STEACS BRIEFING	7/26/2017	03:15					discussed rig up
6	Rig Up Iron	7/26/2017	04:00					use teamwork
7	STEACS BRIEFING	7/26/2017	05:10					discussed the pumping of the job
8	TEST LINES	7/26/2017	05:40	8.33	1	1	2000	LINES TESTED GOOD
9	Pump Spacer	7/26/2017	05:42	8.33	5	20	135	FRESH WATER SPACER
10	Pump Lead Cement	7/26/2017	05:52	12	6	117	280	MIX AND PUMP 260 SKS @12# OF ALTCEM S100-12 YIELD 2.53 WR14.85
11	Pump Tail Cement	7/26/2017	06:11	12.5	6	59.4	195	MIX AND PUMP 146 SKS OF ALTCEM S100-12 @12.5# 2.22 YIELD WR 12.58
12	DROP PLUG	7/26/2017	06:30					USED THEIR PLUG
13	Pump Displacement	7/26/2017	06:35	8.33	6	20	130	FRESH WATER
14	Pump Displacement	7/26/2017	06:39	8.33	6	40	231	good circulation
15	Pump Displacement	7/26/2017	06:42	8.33	6	60	352	fresh water
16	Pump Displacement	7/26/2017	06:46	8.33	6	80	445	spacer to surface all 20 bbls
17	Pump Displacement	7/26/2017	06:49	8.33	6	100	524	cement to surface at 98 bbls away 36 bbls to the pit
18	Slow Pump Rate	7/26/2017	06:48	8.33	3	114	540	good circulation
19	BUMP PLUG	7/26/2017	06:52	8.33	3	114	1039	plug landed on calculated
20	Check Floats	7/26/2017	06:55					float is holding 1 barrel back
21	STEACS BRIEFING	7/26/2017	07:00					discussed rig down
22	Rig Down Iron	7/26/2017	07:10					used teamwork
23	AFTER ACTION REVIEW	7/26/2017	08:00					discussed how the whole went
24	STEACS JOURNEY	7/26/2017	08:30					discussed rig down
25	Depart Location	7/26/2017	09:00					

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	75 °F	50-80 °F
pH Level	6	5.5-8.5
Chlorides	4 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	450 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

4 Pump Diagrams