

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	1534	0
Open Hole	Outer	n/a	8.5	n/a	n/a	1550	11690	15
Casing	Inner	5.5	4.892	17	n/a	0	11674	0

1.2 Equipment / People

Unit Type	Unit	Power Unit	Employee #1	Mileage
Silo	657		Groneman, Josh	100
Silo	658		Vasquez, Mike	100
Bulk Trailer	E466		Casciato, Luke	100
Light Duty Pickups		3	Dent, Jerod	100

1.3 Timing

Event	Date/Time
Call Out	5/11/2017 07:00
Depart Facility	5/11/2017 09:00
On Location	5/11/2017 10:30
Rig Up Iron	5/11/2017 11:00
Job Started	5/11/2017 15:15
Job Completed	5/11/2017 18:53
Rig Down Iron	5/11/2017 19:00
Depart Location	5/11/2017 20:00

1.4 General Job Information

Metrics	Value
Well Fluid Density	10.3 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	1980 bbls
Rig Circulation Time	3 hours
Calculated Displacement	270.25 bbls
Actual Displacement	265 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	59 bbls

1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	10
Yield Point	12
10 sec. SGS	6
10 min. SGS	10
30 min. SGS	0
Filtrate	6.8
Flow Line Temp.	82

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	10.3 lb/gal
Well Fluid Density Out of Well	10.3 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			33.75		40.00	0
1	3	ALTCem P100-X2	Lead	12.50	2.06	11.77		200.00	73.49	0
1	4	ALTCem P100-X2	Lead	12.50	2.07	11.81		620.00	228.62	1511
1	5	ALTCem P50-X1	Tail	13.50	1.47	7.43		940.00	246.88	5657
1	6	Water & MMCR	Displacement	8.33			41.90		10.00	11242
1	7	Water w/ Clay Protection and Biocide	DisplacementFinal	8.33			41.91		262.00	0

1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom	Start (gal)	End (gal)	Used (gal)
1	2	Spacer	CD Spacer	ASR-20	StrengthRetrogression	179.29	lb/bbl			
1	2	Spacer	CD Spacer	AR-31	Retarder	0.51	lb/bbl			
1	2	Spacer	CD Spacer	AVS-10	Viscosifier	1.00	lb/bbl			
1	3	Lead	ALTCem P100-X2	AC3-10	Cement	100.00	%			
1	3	Lead	ALTCem P100-X2	ADF-11	Defoamer	0.30	%BWOB			
1	3	Lead	ALTCem P100-X2	AFL-10	FluidLoss	0.30	%BWOB			
1	3	Lead	ALTCem P100-X2	AR-31	Retarder	0.20	%BWOB			
1	3	Lead	ALTCem P100-X2	AVS-20	Viscosifier	0.10	%BWOB			
1	3	Lead	ALTCem P100-X2	ADF-20	Defoamer	0.00		15	12	3
1	4	Lead	ALTCem P100-X2	AC3-10	Cement	100.00	%			
1	4	Lead	ALTCem P100-X2	ABX-30	BondEnhancer	0.40	%BWOB			



1	4	Lead	ALTCem P100-X2	ADF-11	Defoamer	0.30	%BWOB			
1	4	Lead	ALTCem P100-X2	AFL-10	FluidLoss	0.30	%BWOB			
1	4	Lead	ALTCem P100-X2	AR-31	Retarder	0.20	%BWOB			
1	4	Lead	ALTCem P100-X2	AVS-20	Viscosifier	0.10	%BWOB			
1	4	Lead	ALTCem P100-X2	ADF-20	Defoamer	0.00		12	8	4
1	5	Tail	ALTCem P50-X1	ACG-10	Cement	50.00	%			
1	5	Tail	ALTCem P50-X1	AFA-10	Extender	50.00	%			
1	5	Tail	ALTCem P50-X1	ADF-11	Defoamer	0.30	%BWOB			
1	5	Tail	ALTCem P50-X1	AFL-50	FluidLoss	0.20	%BWOB			
1	5	Tail	ALTCem P50-X1	AR-20	Retarder	0.10	%BWOB			
1	5	Tail	ALTCem P50-X1	AVS-10	Viscosifier	0.10	%BWOB			
1	5	Tail	ALTCem P50-X1	AVS-50	Viscosifier	2.00	%BWOB			
1	5	Tail	ALTCem P50-X1	ADF-20	Defoamer	0.00		8	0	8
1	6	Displacement	Water & MMCR	AR-61	Retarder	0.10	gal/bbl	1	0	1
1	7	DisplacementFinal	Water w/ Clay Protection and Biocide	ASF-50	ClayProtection	0.08	gal/bbl	23	0	23
1	7	DisplacementFinal	Water w/ Clay Protection and Biocide	Biocide	Other	0.01	gal/bbl	3	0	3

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	5/11/2017	07:00					BJ crew called to Cub Creek Haley 6HZ production.
2	Depart facility	5/11/2017	09:00					BJ crew depart for location.
3	Arrive on location	5/11/2017	10:30					BJ crew arrive at location.
4	Safety meeting	5/11/2017	10:45					BJ crew discuss spotting in and rigging up equipment and hazards associated with the task.
5	Rig up	5/11/2017	11:00					BJ crew spot in and rig up all equipment and fittings.
6	Safety meeting	5/11/2017	14:30					BJ crew, customer representative and rig crew discuss job procedure and hazards associated with job such as muster area, first aid, fire extinguishers, PPE, pinch points, overhead loads, trapped pressure, etc;
7	Start job	5/11/2017	15:15					BJ crew begins cement job.
8	Fill lines	5/11/2017	15:16	8.33	2	2	60	Fill lines with 2 bbls water ahead
9	Shutdown	5/11/2017	15:17					Shutdown to pressure test iron.
10	Pressure test lines	5/11/2017	15:18					Pressure test iron to 5,000 psi.
11	Pump spacer	5/11/2017	15:23	8.33	4	40	120	Pump 38 bbls water ahead for a total of 40 bbls of water spacer
12	Pump spacer	5/11/2017	15:30	11	6	80	250	Mix and pump 40 bbls of CD spacer at 11 ppg
13	Pump lead	5/11/2017	15:37	12.5	6	380.8	537	Mix and pump 820 sks of P100-X2 lead cement at 12.5 ppg, 2.07 yld, 11.77 gal/sk (300.8 bbls of slurry)
14	Pump tail	5/11/2017	16:40	13.5	6	626.9	230	Mix and pump 940 sks of P50-X2 tail cement at 13.5 ppg, 1.47 yld, 7.43 gal/sk (246.1 bbls of slurry)
15	Shutdown	5/11/2017	17:40					Shutdown to wash pumps/lines
16	Wash lines	5/11/2017	17:41					Wash pumps and lines to pit.
17	Drop bottom plug	5/11/2017	17:44					Drop bottom plug.
18	Pump displacement	5/11/2017	17:47	8.33	5	10	240	Pump 10 bbls of AR-61 retarded water displacement.
19	Shutdown	5/11/2017	17:49					Shutdown to drop top plug.
20	Drop top plug	5/11/2017	17:50					Drop top plug after pumping 10 bbls of retarded displacement water behind bottom plug to provide a wet shoe per customer request.
21	Pump displacement	5/11/2017	17:51	8.33	8	150	300	Pump 140 bbls of clay stabilized displacement with biocide.



22	Slow rate	5/11/2017	18:10	8.33	6	250	2100	Slow rate for 100 bbls due to shakers blinding off.
23	Slow rate	5/11/2017	18:30	8.33	2	265	1900	Slow rate per customer request with 250 total bbls displacement away.
24	Land plug	5/11/2017	18:42					Land plug with 265 bbls displacement away with a final circulating pressure of 1900 psi and bumped plug to 2430 psi. Held for 3 minutes.
25	Check floats	5/11/2017	18:45					Floats held with 2.5 bbls back to truck.
26	End job	5/11/2017	18:53					BJ crew ends cement job
27	Rig down	5/11/2017	19:00					BJ crew rig down all equipment and fittings.
28	Pre convoy meeting	5/11/2017	19:45					BJ crew discuss route and hazards of driving to facility.
29	Depart location	5/11/2017	20:00					BJ crew depart for facility

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	62 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	120	0-1000
Total Hardness	180 mg/L	0-500 mg/L
Carbonates	0 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	1500 mg/L	0-3000 mg/L
Iron	1.5 mg/L	0-300 mg/L

4 Pump Diagrams

Customer: Cub Creek
Well Number: 5-63-32-4841C2
Lease Info: Haley



Print Date/Time

5/11/2017 8:21:14 PM

