

## 1 Job Details & Summary

### 1.1 Geometry

Type	Function	OD (in)	ID (in)	Weight (lb/ft)	Thread	Top (ft)	Bottom (ft)	Excess (%)
Casing	Outer	7	6.276	26	LTC	0	6667	0
Drill Pipe	Inner	4	3.34	14	XT39	0	5650	0
Casing	Inner	4.5	4	11.6	LTC	5650	16365	0
Open Hole	Outer	n/a	6.13	n/a	n/a	6667	16337	10

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Field Bin	601			116
Bulk Trailer	E467	Schuebel, Kasey		116
Cement Pump	C992	Kresge, Adam	Mellon, Zacahria	116
Light Duty Pickups	5	Dewit, Eric	Rangel, Mario	116

### 1.3 Timing

Event	Date/Time
Call Out	8/6/2017 14:00
Depart Facility	8/6/2017 16:00
On Location	8/6/2017 17:55
Rig Up Iron	8/6/2017 18:30
Job Started	8/6/2017 20:22
Job Completed	8/6/2017 23:40
Rig Down Iron	8/6/2017 23:45
Depart Location	8/7/2017 00:45

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	9 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	460 bbls
Rig Circulation Time	2 hours
Calculated Displacement	201 bbls
Actual Displacement	201 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	15 bbls

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	3
Yield Point	1
10 sec. SGS	1
10 min. SGS	2

### 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	9 lb/gal
Well Fluid Density Out of Well	9 lb/gal

### 1.7 Job Details (cont.)

Metrics	Value
BHCT	215 °F
BHST	215 °F



## 1.8 Circulation

Lost Circulation Experienced
No

## 1.9 Job Execution Information

Job	Fluid	Product	Function	Density (lb/gal)	Yield (ft <sup>3</sup> /sk)	Water Rq. (gal/sk)	Water Rq. (gal/bbl)	Volume (sk)	Volume (bbl)	Top (ft)
1	1	CD Spacer	Spacer	11.00			33.75		25.00	4550
1	2	P50-X1	Primary	13.50	1.60	8.01		695.00	197.65	5650
1	3	Water + MMCR + Chems	Displacement	8.34			41.81		20.00	15078
1	4	Water + Chems	Displacement	8.33			41.91		130.00	6714
1	5	Water + MMCR	Displacement	8.33			41.90		20.00	5330
1	6	Water	Displacement Final	8.33			42.00		58.00	0

## 1.10 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	1	Spacer	CD Spacer	ASR-20	Strength Retrogression	179.40	lb/bbl
1	1	Spacer	CD Spacer	AR-20	Retarder	0.60	lb/bbl
1	1	Spacer	CD Spacer	AVS-10	Viscosifier	0.80	lb/bbl
1	2	Primary	P50-X1	ACG-10	Cement	50.00	%
1	2	Primary	P50-X1	AFA-10	Extender	50.00	%
1	2	Primary	P50-X1	ABX-20	Bond Enhancer	3.00	%BWOB
1	2	Primary	P50-X1	ADF-11	Defoamer	0.30	%BWOB
1	2	Primary	P50-X1	AFL-10	Fluid Loss	0.40	%BWOB
1	2	Primary	P50-X1	AR-20	Retarder	0.20	%BWOB
1	2	Primary	P50-X1	AVS-10	Viscosifier	0.10	%BWOB
1	2	Primary	P50-X1	AVS-50	Viscosifier	4.00	%BWOB
1	2	Primary	P50-X1	AXE-20	Extender	3.00	lb/sk
1	3	Displacement	Water + MMCR + Chems	AR-61	Retarder	0.10	gal/bbl
1	3	Displacement	Water + MMCR + Chems	ASF-50	Clay Protection	0.08	gal/bbl
1	3	Displacement	Water + MMCR + Chems	Biocide	Other	0.01	gal/bbl
1	4	Displacement	Water + Chems	ASF-50	Clay Protection	0.08	gal/bbl
1	4	Displacement	Water + Chems	Biocide	Other	0.01	gal/bbl
1	5	Displacement	Water + MMCR	AR-61	Retarder	0.10	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	Customer call out	8/6/2017	14:00					Customer calls with an RTS of 18:30
2	Arrive on location	8/6/2017	17:55					Arrive on location (rig on bottom circulating)
3	Spot trucks	8/6/2017	17:56					Spot trucks on location
4	Safety meeting	8/6/2017	18:05					Pre-rig up safety meeting
5	Rig up	8/6/2017	18:14					Rig up bulk, water, and high pressure lines
6	Safety meeting	8/6/2017	19:35					Pre-job safety meeting with company man and rig crew
7	Rig up	8/6/2017	19:45					Rig up stand pipe, and tie on to the drill pipe
8	Load lines	8/6/2017	20:22	8.34	2	3	798	Load lines with 3 bbls of fresh water
9	Pressure test	8/6/2017	20:25	8.34	0	0	4850	Pressure test pumps and lines
10	Spacer	8/6/2017	20:31	8.34	4.8	20	1438	Pump 20 bbls of fresh water ahead
11	Spacer	8/6/2017	20:40	11	4.8	25	1275	Pump 25 bbls of spacer at 11.0 ppg
12	Cement	8/6/2017	20:51	13.5	4.7	197	930	Pump 695 sacks of cement @13.5 ppg (Yield: 1.6 Mix water: 8.01)
13	Shut down	8/6/2017	21:43					Shut down, wash up pumps and lines, drop dart
14	Displacement	8/6/2017	21:53	8.34	5	0	137	Send dart start fresh water + Clay stabilizer + Biocide + retarder
15	Displacement	8/6/2017	21:57	8.34	5	20	1357	Fresh water + Clay stabilizer + biocide
16	Drop rate	8/6/2017	21:58	8.34	3	26	645	Drop rate to pick up the plug
17	Pick up plug	8/6/2017	22:02	8.34	3	37	1663	Pick up plug
18	Increase rate	8/6/2017	22:03	8.34	4.8	39	1807	Pick up pump rate
19	Displacement	8/6/2017	22:15	8.34	4.8	100	1994	Displacement
20	Displacement	8/6/2017	22:28	8.34	4.8	160	2069	Displacement with retarder
21	Displacement	8/6/2017	22:32	8.34	4.8	180	2211	Fresh water displacement
22	Drop rate	8/6/2017	22:34	8.34	3	190	1605	Drop rate to bump the plug
23	Land plug	8/6/2017	22:37	8.34	3	201	2067	Land plug @1658 psi, bump up to 2067 psi
24	Pressure up	8/6/2017	22:42	8.34	1	1	3138	Pressure up to open the shoe
25	Pump wet shoe	8/6/2017	22:43	8.34	4.8	5	2320	Pump 5 bbl wet shoe
26	Shut down	8/6/2017	22:44	8.34	0	0	0	Shut down
27	Check floats	8/6/2017	22:45	8.34	0	0	0	Check floats (floats held)
28	Pressure	8/6/2017	22:48	8.34	0	0	739	Put pressure down the drill pipe while setting the packer
29	Test packer	8/6/2017	23:01	8.34	0	0	0	Pressure test the backside (ending pressure was 2005)



30	Pressure up	8/6/2017	23:12	8.34	0	0	796	Put pressure down the drill pipe while rig stings out
31	Role hole	8/6/2017	23:16	8.34	7.2	0	1918	Start rolling the hole clean
32	Shut down	8/6/2017	23:37	8.34	0	155	0	Shut down (15 bbls of cement to surface)
33	Safety meeting	8/6/2017	23:45					Pre-rig down safety meeting
34	Rig down	8/6/2017	23:50					Rig everything down
35	Leave location	8/7/2017	00:45					Leave location