

## 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	1555	25
Casing	Inner	9.625	8.921	36	LTC	0	1549	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	E421	Vasquez, Mike	140
Bulk Trailer	E435	Borst, David	140
Light Duty Pickups	7	Chambers, Andrew	140

### 1.3 Timing

Event	Date/Time
Call Out	6/27/2017 19:30
Depart Facility	6/27/2017 20:30
On Location	6/27/2017 22:30
Rig Up Iron	6/28/2017 12:30
Job Started	6/28/2017 02:03
Job Completed	6/28/2017 03:05
Rig Down Iron	6/28/2017 03:30
Depart Location	6/28/2017 05:00

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	8.6 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	174.26 bbls
Rig Circulation Time	21.7 hours
Calculated Displacement	116.49 bbls
Actual Displacement	116.4 bbls
Total Spacer to Surface	40 bbls
Total CMT to Surface	10 bbls
Well Topped Out	No

### 1.5 Well Fluid Details

Metrics	Value
Plastic Viscosity	1
Yield Point	4
10 sec. SGS	1
10 min. SGS	2
30 min. SGS	3
Filtrate	80
Flow Line Temp.	70

### 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	8.6 lb/gal
Well Fluid Density Out of Well	8.6 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 <sup>3</sup> /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	ALTCem S100-12	Lead	12.00	2.53	14.85		270.00	121.49	0
1	3	ALTCem S100-12	Tail	12.50	2.22	12.58		155.00	61.38	1000
1	4	Water	DisplacementFinal	8.33			42.00		113.00	0

### 1.10 Job Fluid Details

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



## 2 Job Logs

Line	Event	Date (MM/DD/Y Y)	Time (HH:M M)	Density (lb/gal)	Pump Rate (bpm)	Pump Volume (bbls)	Pipe Pressure (psi)	Comment
1	CALL OUT	6/27/2017	19:30					BJ CREW CALLED OUT
2	PRE-CONVOY	6/27/2017	20:15					DISSCUSSDD HAZARDS OF DRIVING
3	DEPART SHOP	6/27/2017	20:30					BJ CREW DEPARTED FOR LOCATION
4	ASSESSMENT OF LOCATION	6/27/2017	22:30					MET WITH CUSTOMER REP WENT OVER JOB DETAILS AND WHERE TO SPOT EQUIPMENT
5	PRE-RIG UP	6/27/2017	23:15					DISCUSSED HAZARDS OF DRIVING
6	RIG UP	6/28/2017	12:30					BJ CREW RIGGED UP LOCATION
7	RIG UP COMPLETE	6/28/2017	01:00					RIG UP COMPLETED SAFELY
8	PRE-JOB	6/28/2017	01:43					CONDUCTED STEACS BRIEFING WITH CREW AND SAFETY MEETING WITH RIG CREW
9	FILL LINES	6/28/2017	02:03	8.33	2	2		FILLED LINES WITH 2BBL FRESH WATER
10	PRESSURE TEST	6/28/2017	02:04	8.33	1	1		TESTED LINES TO 3000 PSI
11	PUMP SPACER	6/28/2017	02:06	8.33	5	40		PUMPED 40 BBL FRESH WATER SPACER
12	PUMP LEAD CEMENT	6/28/2017	02:13	12	5	121.5		121.5BBL OF 12/LB,2.53CUFT/FT,14.85GAL/SK,270/SK S OF LEAD
13	PUMP TAIL CEMENT	6/28/2017	02:30	12.5	5	61.4		61.4BBL,12.5/LB,2.22CUFT/FT,12.85GAK /SK,155/SKS OF TAIL
14	SHUTDOWN	6/28/2017	02:40					ALL CEMENT PUMPING COMPLETE
15	DROP PLUG	6/28/2017	02:41					TOP PLUG LEFT CEMENTING HEAD
16	DISPLACEME NT	6/28/2017	02:43	8.33	5	116.4		DISPLACED 116.4 BBL OF FRESH WATER
17	SLOW RATE	6/28/2017	02:59					SLOWED RATE AT 95 BBL DISPLACED TO2/BBL/MIN
18	CEMENT TO SURFACE	6/28/2017	03:01					AT 106 BBL DISPLACED 10 BBL TO SURFACE
19	BUMP PLUG	6/28/2017	03:05					BUMPED AT CALCULATED OF 116.4,440 TO 940 PSI
20	CHECK FLOATS	6/28/2017	03:09					FLOATS HELD .75 BBL BACK
21	PRE-RIG DOWN	6/28/2017	03:35					DISCUSSED HAZARDS OF RIGGING DOWN
22	RIG DOWN	6/28/2017	03:50					BJ CREW RIGGED DOWN LOCATION
23	RIG DOWN COMPLETE	6/28/2017	04:15					RIG DOWN COMPLETED SAFELY
24	PRE-CONVOY	6/28/2017	04:30					DISSCUSSDD HAZARDS OF DRIVING
25	DEPART LOCATION	6/28/2017	05:00					BJ CREW LEFT LOCATION FOR SHOP

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	None	
Temperature	72 °F	50-80 °F
pH Level	7.5	5.5-8.5
Chlorides	3 mg/L	0-3000 mg/L
Total Alkalinity	259	0-1000
Total Hardness	250 mg/L	0-500 mg/L
Carbonates	0 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

