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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

**Raindance FD 20-282HC 05-123-44991**  
**S:30 T:6N R:67W Weld CO**

CallSheet #: 1002  
Proposal #: 13507



### **SURFACE Post Job Report**

**Attention:** Mr. Matt Mount | (303) 398-0373 | mmount@gwogco.com  
Great Western Operating Company, LLC  
1801 Broadway, Suite 500 | Denver, CO 80202

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Dear Mr. Mount,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,

**Oscar Medrano**

Technical Specialist-II | (307) 996-6222 | Oscar.Medrano@bjservices.com

**Field Office**      1716 East Allison Rd., Cheyenne WY, 82007  
Phone: (307) 638-5585

**Sales Office**      475 17th St. Suite 460 Denver Co., 80202  
Phone: (303) 296-1158



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## 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	1586	25
Casing	Inner	9.625	8.921	36	n/a	0	1586	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	E435	Gabel, Dustin	140
Bulk Trailer	E535	Martinez, Michael	140
Cement Pump	C992	Kresge, Adam	140
Light Duty Pickups	8	Dewit, Eric	140

### 1.3 Timing

Event	Date/Time
Call Out	7/9/2017 19:00
Depart Facility	7/9/2017 20:00
On Location	7/9/2017 21:00
Rig Up Iron	7/9/2017 21:15
Job Started	7/11/2017 13:00
Job Completed	7/11/2017 14:35
Rig Down Iron	7/11/2017 14:45
Depart Location	7/11/2017 15:45

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	8.34 lb/gal
Well Fluid Type	Water
Rig Circulation Vol	150 bbls
Rig Circulation Time	0.5 hours
Calculated Displacement	118.85 bbls
Actual Displacement	118 bbls
Total Spacer to Surface	14 bbls
Total CMT to Surface	12 bbls
Well Topped Out	No

### 1.5 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	8.4 lb/gal
Well Fluid Density Out of Well	8.4 lb/gal

### 1.6 Job Details (cont.)

Metrics	Value
BHCT	88 °F
BHST	109 °F



### 1.7 Circulation

Lost Circulation Experienced
No

### 1.8 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	Water	Flush	8.33			42.00		20.00	0
1	2	ALTCem S100-22	Primary	14.50	1.39	6.76		687.00	169.87	0
1	3	Water	DisplacementFinal	8.33			42.00		116.00	0

### 1.11 Job Fluid Details

Job	Fluid	Type	Fluid	Product	Function	Conc.	Uom
1	2	Primary	ALTCem S100-22	AC3-10	Cement	100.00	%
1	2	Primary	ALTCem S100-22	ADF-20	Defoamer	0.03	gal/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	Customer call out	7/9/2017	19:00					Customer calls with an RTS of 00:00 on 7/10/17
2	Leave yard	7/9/2017	20:00					Arrive on location, pump and bulk trucks already rigged in
3	Released by Customer	7/10/2017	08:00					Rig broke down released cement crew
4	Customer call out	7/10/2017	23:00					Customer calls with and RTS of 4:00 on 7/11/17, trucks and personal already on location
5	Rig starts casing	7/11/2017	10:30					Rig starts running casing
6	Rig done with casing	7/11/2017	12:30					Rig done running casing
7	Safety meeting	7/11/2017	12:43					Pre-job safety meeting with company man, and rig crew
8	Rig up	7/11/2017	12:53					Rig up cement head
9	Load lines	7/11/2017	13:00	8.34	2.4	3	68	Load pumps and lines
10	Pressure test	7/11/2017	13:03	8.34	0	0		Test pumps and lines
11	Spacer	7/11/2017	13:05	8.34	4.8	20		Pump 20 bbls of Fresh water + Dye
12	Cement slurry	7/11/2017	13:13	14.5	5	169	194	Pump 687 sacks of cement @14.5 ppg (Yield:1.39, Mix water:6.76) 169 bbls
13	Shut down	7/11/2017	13:49					Shut down drop top plug
14	Displacement	7/11/2017	13:55	8.34	6	0	47	Send plug start Fresh water + Biocide displacement
15	Displacement	7/11/2017	14:05	8.34	6.4	50	305	Fresh water + Biocide displacement
16	Spacer to surface	7/11/2017	14:12	8.34	6.4	92	583	Start getting spacer to surface
17	Drop rate	7/11/2017	14:13	8.34	3	105	518	Drop pump rate to land the plug
18	Cement to surface	7/11/2017	14:14	8.34	3	106	523	Start getting good cement to surface
19	Land plug	7/11/2017	14:17	8.34	3	118	1139	Land plug @560 psi, bump up to 1139 (12 bbls of cement to surface)
20	Start casing test	7/11/2017	14:19	8.34	0	0	2406	Start 15 min. casing test
21	Check floats	7/11/2017	14:35	8.34	0	0	0	Bleed of pressure, check floats (floats held) 1 bbl back
22	Safety meeting	7/11/2017	14:40					Pre-rig down safety meeting
23	Rig down	7/11/2017	14:45					Rig everything down
24	Leave location	7/11/2017	15:45					Leave location

### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	64 °F	50-80 °F
pH Level	7	5.5-8.5
Chlorides	131 mg/L	0-3000 mg/L
Total Alkalinity	180	0-1000
Total Hardness	>375 mg/L	0-500 mg/L
Carbonates	140 mg/L	0-100 mg/L
Sulfates	<200 mg/L	0-1500 mg/L
Potassium	250 mg/L	0-3000 mg/L
Iron	0 mg/L	0-300 mg/L

### 4 Pump Diagrams

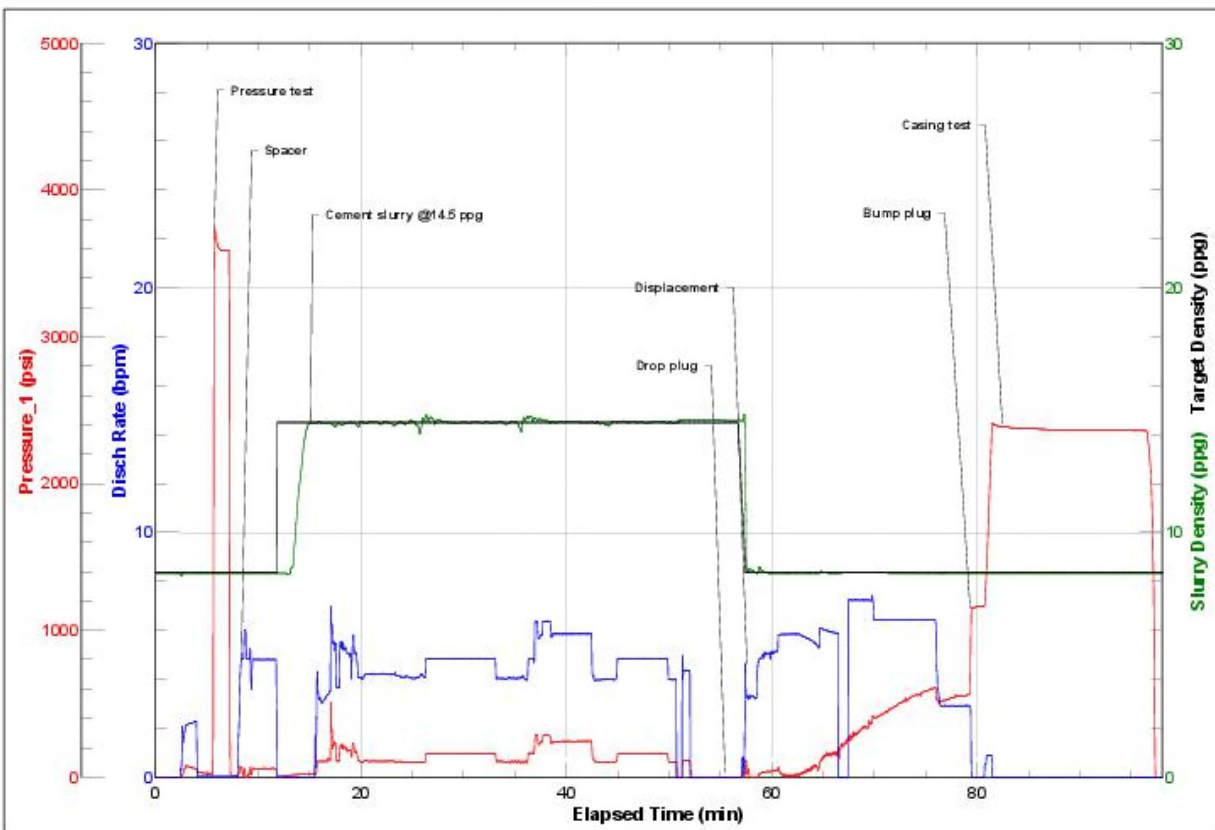


JobMaster Program Version 4.02C1

Job Number: #1002

Customer: Great Western

Well Name: Raindance FD 20-282HC



BJ Services

Job Start: Tues day, July 11, 2017