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# **Great Western Operating Company, LLC**

## **SURFACE POST JOB REPORT**

Raindance FD 20-319HN 05-123-44989  
S:30 T:6N R:67W Weld CO

CallSheet #: 1049  
Proposal #: 13510



**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  
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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	1558	25
Casing	Inner	9.625	8.921	36	n/a	0	1558	0

### 1.2 Equipment / People

Unit Type	Unit	Employee #1	Employee #2	Mileage
Bulk Trailer	E-527	Nepgen, AJ		120
Bulk Trailer	E696	Montoya, Hector		120
Cement Pump	C156	Staples, Anthony		120
Light Duty Pickups	8	Boyd, Brian	ALBERT SNYDER	120

### 1.3 Timing

Event	Date/Time
Call Out	7/20/2017 19:30
Depart Facility	7/20/2017 21:00
On Location	7/21/2017 01:00
Rig Up Iron	7/21/2017 01:15
Job Started	7/21/2017 03:32
Job Completed	7/21/2017 05:12
Rig Down Iron	7/21/2017 05:30
Depart Location	7/21/2017 06:30

### 1.4 General Job Information

Metrics	Value
Well Fluid Density	8.33 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	300 bbls
Rig Circulation Time	1 hours
Calculated Displacement	117 bbls
Actual Displacement	117 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	11 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	8.33 lb/gal
Well Fluid Density Out of Well	8.33 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

### 1.9 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	Callout	7/20/2017	19:30					WAITING ON UPPER LOCATION FOR CALL OUT
2	Depart Location	7/20/2017	21:00					
3	Arrive On Location	7/21/2017	01:00					BULK TRUCK COMING FRO CHEYENNE
4	requested time on location	7/21/2017	01:00					ARRIVED AS PLANNED
5	STEACS BRIEFING	7/21/2017	00:00					DISSUED RIG UP
6	Rig Up Iron	7/21/2017	01:20					USED TEAM WORK READY FROM THE LAST JOB
7	STEACS BRIEFING	7/21/2017	03:00					DISCUSSED JOB PROCEEDURE
8	Pressure Test Lines	7/21/2017	03:32	8.33	1	1	3000	HAD PROBLEMS GETTING A GOOD TEST FOUND PROBLEM AND FIXED IT
9	Pump Spacer	7/21/2017	03:35	8.33	6	20	87	WATER WITH DYE FLUSH
10	Pump Tail Cement	7/21/2017	03:43	8.33	6	170.7.	340	MIX AND PUMP 687 SKS OF ALTCES S100-22 CEMENT AT 14.5 WITH 1.39 YIELD 6.76WATER REQUIREMENT
11	DROP PLUG	7/21/2017	04:26					USED THEIR PLUG WASHED ONTOP OF PLUG
12	Pump Displacement	7/21/2017	04:28	8.33	6	20	142	FRESH WATER
13	Pump Displacement	7/21/2017	04:32	8.33	6	40	305	FRESH WATER
14	Pump Displacement	7/21/2017	04:35	8.33	6	60	463	GOOD CIRCULATION
15	Pump Displacement	7/21/2017	04:39	8.33	6	80	596	SPACER TO THE SURFACE 20 BBLS
16	Pump Displacement	7/21/2017	04:43	8.33	6	100	700	GOOD RETURNS
17	Pump Displacement	7/21/2017	04:46	8.33	3	106	340	CEMENT TO THE SURFACE 11 BBLS
18	Slow Pump Rate	7/21/2017	04:38	8.33	3	117	637	GOD CEMENT TO THE SURFACE
19	LAND PLUG	7/21/2017	04:51	8.33			1600	PLUG LANDED ON CALCULATED
20	CASING TEST	7/21/2017	04:53	8.33			2400	CASING TEST WAS HELS AT 2400 FOR 15 MNIUTES
21	Check Floats	7/21/2017	05:12				0	FLOAT IS HOLDING 1 BARRELS BACK
22	STEACS BRIEFING	7/21/2017	05:15					TALK ABOUT RIGGING DOWN
23	Rig Down Iron	7/21/2017	05:20					NO PROBLEMS



24	MOVE OFF LOCATION	7/21/2017	05:45					MOVE TO UPPER LOCATION
25	AFTER ACTION REVIEW	7/21/2017	06:30					DISCUSS WHOLE JOB AND HOW IT WENT
26	STEACS JOURNEY	7/21/2017	06:45					
27	Depart Location	7/21/2017	07:00					

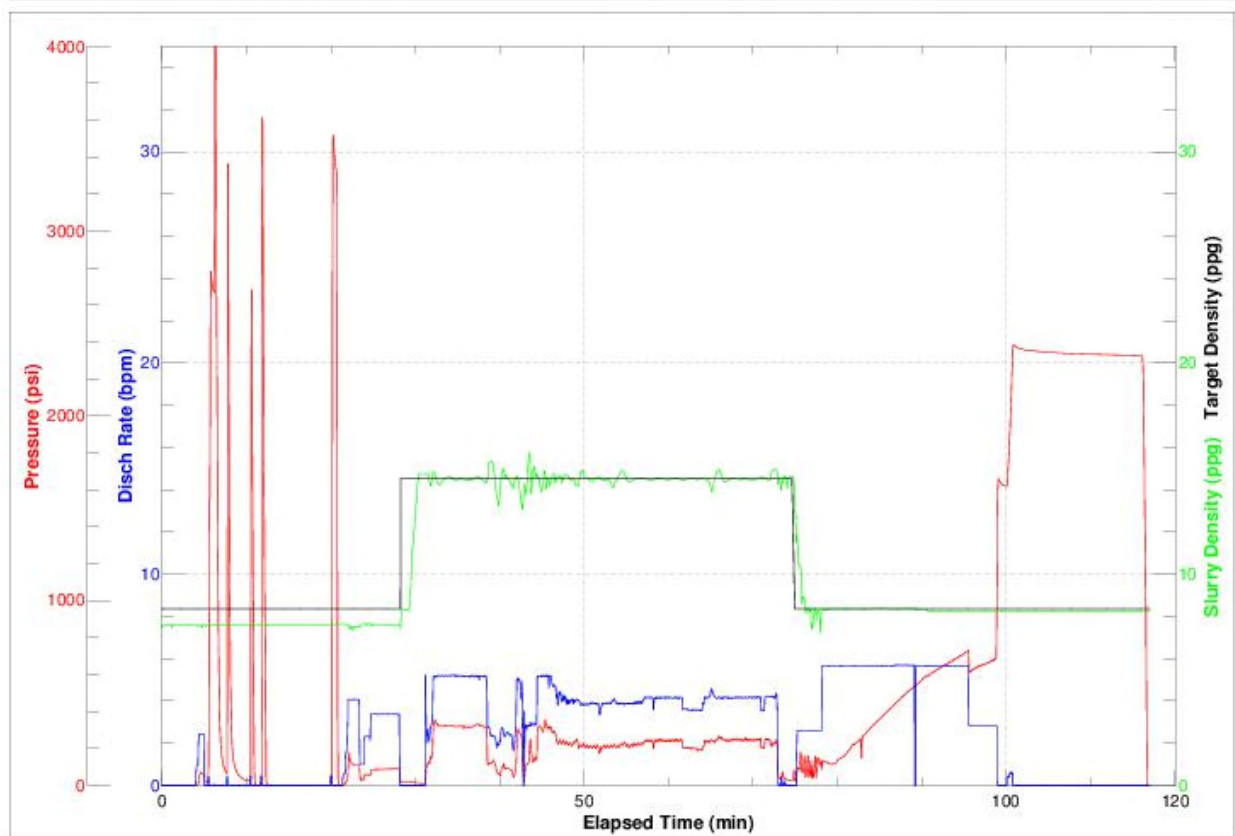
### 3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	75 °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	125 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	0.3 mg/L	0-300 mg/L

### 4 Pump Diagrams



JobMaster Program Version 4.02C1  
Job Number: #1049  
Customer: Great Western  
Well Name: Raindance RD2--319HN



BJ Services

Job Start: Friday, July 21, 2017