



Great Western Operating Company, LLC

SURFACE POST JOB REPORT

Raindance FD 20-399HC 05-123-45196
S:30 T:6N R:67W Weld CO

CallSheet #: 1251
Proposal #: 13871



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

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	1556	25
Casing	Inner	9.625	8.921	36	n/a	0	1556	0

1.2 Equipment / People

Unit Type	Unit	Employee #1	Mileage
Bulk Trailer	E435	Borst, David	124
Bulk Trailer	E696	Vasquez, Mike	124
Cement Pump	101	Kresge, Adam	124
Light Duty Pickups	6	Chambers, Andrew	124

1.3 Timing

Event	Date/Time
Call Out	8/27/2017 08:00
Depart Facility	8/27/2017 09:00
On Location	8/27/2017 11:00
Rig Up Iron	8/27/2017 12:15
Job Started	8/27/2017 15:20
Job Completed	8/27/2017 16:35
Rig Down Iron	8/27/2017 17:25
Depart Location	8/27/2017 18:45

1.4 General Job Information

Metrics	Value
Well Fluid Density	8.4 lb/gal
Well Fluid Type	WBM
Rig Circulation Vol	135 bbls
Rig Circulation Time	15 hours
Calculated Displacement	116.8 bbls
Actual Displacement	116.8 bbls
Total Spacer to Surface	20 bbls
Total CMT to Surface	16 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 ³ /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	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	Start (gal)	End (gal)	Used (gal)
1	2	Primary	S100-22	AC3-10	Cement	100.00	%			
1	2	Primary	S100-22	ADF-20	Defoamer	0.03	gal/sk	10	3	7
1	4	Topout	S100-22	AC3-10	Cement	100.00	%			
1	4	Topout	S100-22	ADF-20	Defoamer	0.03	gal/sk	10	3	7

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	8/27/2017	08:00					BJ CREW CALLED OUT ON LOCATION AT 13:00
2	PRE CONVOY	8/27/2017	08:45					DISCUSSED HAZARDS OF DRIVING
3	DEPART FOR LOCATION	8/27/2017	09:00					BJ CREW LEAVES FOR LOCATION
4	ASSESSMENT OF LOCATION	8/27/2017	11:00					MET WITH CUSTOMER REP WENT OVER WHERE TO SPOT EQUIPMENT AND JOB DETAILS
5	PRE RIG UP	8/27/2017	12:00					DISCUSSED HAZARDS OF RIGGING UP IRON
6	RIG UP LOCATION	8/27/2017	12:15					BJ CREW RIGS UP LOCATION
7	RIG UP COMPLETE	8/27/2017	13:00					RIG UP COMPLETED SAFELY
8	PRE JOB	8/27/2017	14:50					CONDUCTED STEACS AND SAFETY MEETING WITH RIG CREW
9	FILL LINES	8/27/2017	15:20	8.33	2	2	85	FILLED LINES WITH 2/BBL OF FRESH WATER
10	PRESSURE TEST	8/27/2017	15:22	8.33	1		1500	TESTED LINES TO 1500 PSI TEST COMPLETE
11	SPACER	8/27/2017	15:24	8.33	5	20	150	PUMPED 20/BBL OF WATER SPACER WITH DYE
12	PRIMARY CEMENT	8/27/2017	15:30	14.5	5	170	300	687/SKS,170/BBL OF 14.5/LB,1.39YLD,6.76GAL/SK PRIMARY CEMENT
13	SHUT DOWN	8/27/2017	04:02					ALL CEMENT PUMPING COMPLETE
14	DROP PLUG	8/27/2017	04:10					TOP PLUG LEFT CEMENTING HEAD TATTLE TAIL WIRE BROKE SO HAD TO REMOVE THE CAP TO VERIFY PLUG LEFT HEAD
15	DISPLACEMENT	8/27/2017	04:17	8.33	5	116.8		STARTED DISPLACING 116.8 BBL OF FRESH WATER
16	CEMENT TO SURFACE	8/27/2017	16:33			100		16/BBL OF CEMENT TO SURFACE AT 100 BBL DISPLACED
17	SLOW RATE	8/27/2017	16:34		3			SLOWED RATE AT 105 BBL DISPCED TO BUMP
18	BUMP PLUG	8/27/2017	16:35				2400	BUMPED AT CALCULATED 500 TO 2400 FCP,2400 FOR CASING TEST
19	CASING TEST	8/27/2017	16:35				2400	TESTED CASING TO 2400 FOR 15/MIN
20	CHECK FLOATS	8/27/2017	16:50					RELEASED BACKED ASING TEST AND FLOATS HELD 1/BB



21	PRE RIG DOWN	8/27/2017	17:10					DISSCUSSED HAZARDS OF RIG DOWN
22	RIG DOWN EQUIPMENT	8/27/2017	17:25					BJ CREW RIGGED DOWN
23	RIG DOWN COMPLETE	8/27/2017	18:10					RIG DOWN COMPLETED SAFELY
24	PRE CONVOY	8/27/2017	18:30					DISSCUSSED HAZARDS OF DRIVING
25	DEPART FOR SHOP	8/27/2017	18:45					BJ CREW LEAVES LOCATION

3 Water Analysis

Metrics	Value	Recommended
Water Source	Upright Rig Tank	
Temperature	70 °F	50-80 °F
pH Level	7.5	5.5-8.5
Chlorides	0 mg/L	0-3000 mg/L
Total Alkalinity	250	0-1000
Total Hardness	2500 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

