

## BJ Services Company Treatment Report

Date October 7, 1998 District Brighton F.Receipt 225111923 Operator HS Resources  
 Well Name API #43-11 Field Wattenberg Location Sec 11-T4N-R66W  
 County Weld State CO Stage No. 1

**WELL DATA** Old Gas Depth TD/PB 7330 Formation Codell Refrac  
 Tubing Desc. - Set at: - Type Packer - Set at -  
 Casing Desc. 4 1/2" 11.6# Set From Surface To 7330 Liner Desc. -  
 Liner Set From - To - Open Hole Size - From - To -  
 Perforations: Size .38 Number: 44 Intervals 7212-7226  
 Previous Treatment - Prior Production -

**TREATMENT DATA** Pad Used - Pad Type Vistar 22 LHT  
 Treatment Fluid Type: Water Vol. 85596 Gal.  
 Base Fluid Type Fresh Water Base Fluid Vol. - Gal.  
 Foam Quality. -% Total Prop Qty. 267220 Lbs.  
 Proppant Description 20/40, 100 Mesh, 100 Mesh  
 Hole Loaded With 2% KCL Water Treated Via Tubing  
 Ball Sealers: - In - Stages of -  
 Types and Numbers of Pumps Used 2 Frac Pumps  
 Auxiliary Materials GS-1A, XLW-14, Claytreat 3C, GBW-23L, Flo-Back 20, BF-9L,  
 NE-940, Ultra Perm CRB, GBW-5

**LIQUID/GAS PUMPED & CAPACITIES IN BBL**

Tubing Cap.	-
Casing Cap.	112
Annular Cap.	-
Open Hole Cap.	-
Fluid to Load	89
Pad Volume	908
Treating fluid	2038
Flush	111
Over Flush	-
Fluid to Recover	3057
Total CO2	-
Total N2	-

**PROCEDURE SUMMARY**

238 bbl Pump-In, 48 bbl Pad, 119 bbl 1 ppg 100 Mesh, 357 bbl  
 Spacer, 238 bbl 1 ppg 20/40, 357 bbl 2 ppg, 928 bbl 3 ppg,  
 619 bbl 4 ppg, Flush

TIME AM/PM	TREATING PRESSURE PSI		SURFACE SLURRY PUMPED BBLS		SLURRY RATE BPM	SURFACE CO2 PUMPED		CO2 RATE BPM	SURFACE N2 PUMPED MSCF		N2 RATE SCFM	COMMENTS SAFETY MEETING/TEST LINES
	STP	ANNULUS	STAGE	TOTAL		STAGE	TOTAL		STAGE	TOTAL		
7:45	153		106	0	0-4.5							Start Brakdown
8:02	1846		-	106	3.8-0							ISDP 1530
8:10	1547		225	0	0-13							Start Pump-In
8:30	2850		-	225	13-0							ISDP 1940
8:39	2552		65	0	0-13							Start Pad
8:43	2676		101	65	12.6							Start 1 ppg 100 Mesh
8:56	2755		415	166	12.6							Start Spacer
9:29	3152		244	581	12.6							Start 1 ppg 20/40
9:48	3036		383	825	12.6							Start 2 ppg
10:11	3032		1054	1208	12.6							Start 3 ppg
11:45	3460		630	2262	12.8							Start 4 ppg
12:35	3275		111	2892	11.9							Start Flush
12:46	3770			3003	11-0							Shut down

Treating Pressure: Min 1246 Max 3586 Avg. 3192 Customer Representative Charlie Willard  
 Inj. Rate on Treating Fluid 12.6 Rate on Flush 10.8 Western Representative David Archuleta  
 Avg. Inj. Rate 12.3 I.S.D.P. 3703 Flush Dens. lbs/gal 8.34  
 Final Shut-in Pressure 2120 In 30 Minutes

**JOB NUMBER**  
59093

Operator's Maximum Pressure (psi) 5500  
 Recommendation ID# 17995050