



# BJ Services Company —Treatment Report

Date 2-20-98 District BRIGHTON F. Receipt 051279 Operator PATINA OIL & GAS  
 Lease OSTER Well No. 30-10 Field WATONBORG Location SEC 30-T4N-R6SW  
 County WELD State CO Stage Number 1 This Zone ☒ This Well ☒

**WELL DATA** OG ☒ NG ☐ NO ☐ OO ☐ WD ☐ IW ☐ Misc. ☐ Depth TD/PB 7374 Formation COLELL (RE-FAC)  
 Tubing Size NONE WT. N/A Set at: N/A Type Packer NONE Set At N/A  
 Casing Size 2 7/8 WT. 6.5 Set From SURFACE To 7405 Liner Size NONE Wt. N/A  
 Liner Set From N/A To N/A Open Hole: Size NONE From N/A To N/A Casing Perforations: Size .32  
 Holes Per Foot 4 Intervals 7264-7274 (40 TOTAL)  
 Previous Treatment NONE Prior Production UNKNOWN

**TREATMENT DATA** Pad Used: Yes ☒ No ☐ Pad Type VIKING ID 30 LHT  
 Treating Fluid Type: Foam ☐ Water ☒ Acid ☐ Oil ☐ Treat. Fluid Vol. \_\_\_\_\_ Gal.  
 Base Fluid Type 2% KCL WATER Base Fluid Vol. 166 446 Gal.  
 Foam Qual.: NONE % Mitchell ☐ Slurry ☐ Surface ☐ Downhole ☐ Total Prop Qty. 335,640 Lbs.  
 Prop Type: Sand ☒ WP-1 ☐ WP-3 ☐ Baux. ☐ Other N/A  
 Prop Mesh Sizes, Types and Quantities 335,640 lb. 20/40 WHITE SAND  
 Hole Loaded With 2% KCL WATER Treat Via: Tubing ☐ Casing ☒ Anul. ☐ Tubing & Anul. ☐  
 Ball Sealers: NONE In N/A Stages of N/A  
 Types and Number of Pumps Used 2 BL 1250; 2 TM 1000  
 Auxiliary Materials .5 GPT NE-940; 1.5 GPT GBW-23L (LST 92,000 GAL); 2.0 GPT (NXT 15,000 GAL); 1.0 PPT CRB (NXT 10,000 GAL); 1.0 PPT GBW-33D (LST 8,000 GAL); 1 PPT 1/2 PPT GBW-S (LST 800 GAL)  
**PROCEDURE SUMMARY** 60 BBL 30# LINER STAG RATE TEST; 714 BBL PAD; 357 BBL 2 PPG 20/40; 405 BBL 3 PPG 20/40; 1571 BBL 4 PPG 20/40; FLUSH WELL

## LIQUID/GAS PUMPED AND CAPACITIES IN BBLs.

Tubing Cap. NONE  
 Casing Cap. 42.0  
 Annular Cap. NONE  
 Open Hole Cap. 48 PRO PAD  
 Fluid to Load (26)  
 Pad Volume 722  
 Treating Fluid 2246  
 Flush 40  
 Overflush 0  
 Fluid to Recover 3056  
 Total N<sub>2</sub> NONE  
 Total CO<sub>2</sub> NONE

Time AM/PM	Treating Pressure-Psi		Surface Slurry BBLs. Pumped		Slurry Rate BPM	Surface CO <sub>2</sub> BBLs. Pumped		CO <sub>2</sub> Rate BPM	Surface CLEAN BBLs. Pumped		N <sub>2</sub> Rate SCFM	Comments
	STP	Annulus	Stage	Total		Stage	Total		Stage	Total		
8:15	—		—	—	—				—	—	BREAK	TEST LINER & SPT FOR DATES
8:51	500		6	0	5.0				6	0	440	ST. LINER PUMP IN
8:52	150		0	6	0				0	6		SHUT DOWN - FRAC PAD DOWN
9:15	5400		42	6	10.0				42	6		START PAD - VIKING ID 30 LHT
9:21	2100		0	48	0				0	48		SHUT DOWN - CUSTOMER COLLAR LOCK
9:39	5100		509	48	13.7				509	48		START PAD - VIKING ID 30
9:45	2800		—	109	0				—	109		SHUT DOWN - ISDP 2800
9:46	5000		—	109	14.2				—	109		RESUME PAD
10:19	5000		88	557	14.7				86	557		ST. 1/2 PPG 20/40 - CUST. VALVE DRIP
10:25	5200		127	645	14.7				127	643		ST. SPACER - LEAK SEALED
10:34	4900		364	772	14.5				334	770		ST. 2 PPG 20/40
10:59	4900		457	1136	14.5				402	1104		ST. 3 PPG 20/40
11:30	5200		1783	1593	14.5				1510	1506		ST. 4 PPG 20/40 -
13:09	5150		—	2999	14.5				—	2772		ST. VIKING ID 25
13:32	5200		40	3376	14.6				40	3016		START FLUSH
13:35	3570		0	3416	0				0	3056		SHUT DOWN

Treating Pressure: Min. 4850 Max. 5400 Avg. 4900 Customer Representative MR. SCOTT REASNER  
 Inj. Rate on Treating Fluid 10.0 - 14.7 Rate on Flush 14.6 BJ Representative JIM STUHR  
 Avg. Inj. Rate 14.6 I.S.D.P. 3570 Flush Dens. lb./gal. 8.43 Distribution \_\_\_\_\_  
 Final Shut-in Pressure 3500 in 9 Minutes \_\_\_\_\_  
 Operator's Maximum Pressure 6500

Job Number

Recommendation ID # DV060375