

The Western Company

of North America

TREATMENT REPORT

Date 6-16-76 Western District 6645, N. M. F. Receipt 140550
 Operator BLACK RIVER C. P.
 Lease CITIES FED. Well No. 3
 Field WASHINGTON RANCH Location SEC 33-255-24E
 County EDDY State N. M.
 Stage Number 2 This Zone ☒ This Well ☒

WELL DATA: OG ☐ NG ☒ NO ☐ OO ☐ WD ☐ IW ☐ Misc. ☐ Depth TD/PB 6884 Formation UPPER MURRAY
 Size Tubing 2 1/2 Tubing Perf. --- Type Packer GUIBERSON Set At 6785
 Size Casing 5 1/2 Wt. 15.50 Set From 0 To 6884 Size Liner --- Wt. ---
 Liner Set From --- To --- Open Hole: Size --- From --- To ---
 Casing Perforations: Size 4 1/4 Holes Per Foot 3 Intervals 6833-6845 (36 HOLES)

Previous Treatment 3000 GALS 7 1/2% 705 ACID + N₂ 6-13-76 Prior Production N/A

TREATMENT DATA: Pad Used: Yes ☒ No ☐ Pad Type MS. FRAC
 Treating Fluid Type: Oil ☐ Water ☐ Acid ☒ Misc. ☐ Foam ☐ Emulsion ☐
 Treating Fluid Volume Gals. 21,000 Fluid Description 14,000 GALS MS. FRAC
7000 GALS CO₂
 Total Prop Quantity 18,000 Lbs Prop Type: Sand ☒ Beads ☐ Special ☐ None ☐
 Prop Mesh Sizes, Types and Quantities 18,000 20/40 SAND
 Hole Loaded With FRM. GAS Treat Via: Tubing ☒ Casing ☐ Anul ☐ Tubing & Anul. ☐
 Ball Sealers: NONE In --- Stages of ---
 Types and Number of Pumps Used 3 ETAMIS ; 1 ACIDMASTER
 Auxiliary Materials 14 GALS I-15 ; 2 1/2 GALS 17-30 ; 350# KCL
 Procedure FRAC CSG PERFS VIA TRG

FLUID PUMPED AND CAPACITIES IN BBLs.

Tubing Cap. 26
 Casing Cap. 1.5
 Annular Cap. ---
 Open Hole Cap. ---
 Fluid to Load 18
 Pad Volume 48
 Treating Fluid 258
 Flush 18
 Overflush 10
 Total to Recover 364

Time AM/PM	Treating Pressure-Psi		Barrels Fluid Pumped	Inj. Rate BPM	REMARKS—
	Tubing	Casing			
8:29	1150	600	0	6	LINES TESTED
8:37+	6700	1850	48	8	ST. PAD & INCREASE CSG. PRESSURE
8:40+	6500	1850	64	8	ST. 1/2" 20/40 SAND
8:41	6600	1800	66	8	ST. 1" 20/40 SAND
8:43	6800	2000	82	7	1/2" ON FRM.
8:58	7500	2050	192	6	1" ON FRM.
9:09	7200	1950	200	7	SLOW RATE
9:28+	7300	2000	336	9	FRM. BREAKING
9:33+	7400	1900	354	8	ST FLUSH
					FLUSH COMPLETE

Note:
 INJ. RATE INCLUDES CO₂

Treating Pressure: Min. 5700 Max. 7500 Avg. 7100
 Inj. Rate on Treating Fluid 5 1/2 BPM Rate on Flush 6 3/4 BPM
 Avg. Inj. Rate 6 1/2 BPM S.D.P. 3200 Flush Dens. lb/gal 8.4
 Final Shut-in Pressure 2451 in 10 Minutes.
 Operator's Maximum Pressure 7500

Customer Representative WAR. LYNCH
 Western Representative CADPS & BRAKE
 Distribution ---

Job Number ---