

The Western Company

of North America

TREATMENT REPORT

Date 6-13-76 Western District 1385, N.M. F. Receipt 140548
 Operator BLACK RIVER CORPORATION
 Lease CITIES FEDERAL Well No. 3
 Field WASHINGTON RANCH Location SEC 33-755-24E
 County EDDY State NEW MEXICO
 Stage Number 1, This Zone ☐ This Well ☒

WELL DATA: OG ☐ NG ☒ NO ☐ OO ☐ WD ☐ IW ☐ Misc. ☐ Depth TD/PB 6884 Formation UPPER MURROW
 Size Tubing 2 3/8 Tubing Perf. --- Type Packer QUIBERSON 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 NONE Prior Production NONE

TREATMENT DATA: Pad Used: Yes ☒ No ☐ Pad Type 5000 SCF N₂
 Treating Fluid Type: Oil ☐ Water ☐ Acid ☒ Misc. ☐ Foam ☐ Emulsion ☐
 Treating Fluid Volume Gals. 3000 Fluid Description 7 1/2 % MS ACID

FLUID PUMPED AND CAPACITIES IN BBLs.

Tubing Cap. 26
 Casing Cap. 1.5
 Annular Cap. ---
 Open Hole Cap. ---
 Fluid to Load 15
 Pad Volume ---
 Treating Fluid 72
 Flush 16
 Overflush ---
 Total to Recover 88

Total Prop Quantity NONE Lbs. Prop Type: Sand ☐ Beads ☐ Special ☐ None ☒
 Prop Mesh Sizes, Types and Quantities ---
 Hole Loaded With SWABBED Treat Via: Tubing ☒ Casing ☐ Anul ☐ Tubing & Anul. ☐
 Ball Sealers: NONE In --- Stages of ---
 Types and Number of Pumps Used 1 FTA 1111
 Auxiliary Materials 350 # KCL ; 1/2 GAL AT-22 ; 3 GAL I-15 ; 12 GALS FR-14
 Procedure ACIDIZE CSG PERFS VIA TBC WITH 1000 SCF N₂ PER BARREL IN ALL FLUID AS FOLLOWS:

Time AM/PM	Treating Pressure-Psi		Barrels Fluid Pumped	Inj. Rate BPM	REMARKS
	Tubing	Casing			
9:58		600		2	LINES TESTED
10:20	600	400	0	1	PRESSURE CSG.
10:21	600	400	1	1	ST. ACID
10:22	600	400	1		SHUT DOWN
10:24	1300	450	1	3	ST. 5000 SCF N ₂ PAD
10:26	5300	1100	15	2	CONTINUE ACID & 1000 SCF N ₂ / BBL
10:31	5600	1100	20	3	TBC LOADS & ACID ON FRM.
10:44	5300	900	72	3.5	FRM. BREAKING-INCREASE RATE
10:48	5250	800	88	3.5	ST. FLUSH
					FLUSH COMPLETE

Treating Pressure: Min. 5300 Max. 5600 Avg. 5400
 Inj. Rate on Treating Fluid 3 + 2.1 N₂ Rate on Flush 3.5 + 1.9 N₂
 Avg. Inj. Rate 3 + 2.1 N₂ I.S.D.P. 3500 Flush Dens. lb/gal 8.4
 Final Shut-in Pressure 2700 in 5 Minutes.
 Operator's Maximum Pressure 5500

Customer Representative MR. Lynd
 Western Representative CHIPS
 Distribution ---

Job Number