

# The Western Company

of North America

## TREATMENT REPORT

Date 11-21-80 Western District Farmington (31) F Receipt 351956  
Operator JOHN H. Hill  
Lease Nickson Well No 18  
Field East Ballard Pictured Cliff Location S14, T26N, R8W  
County San Juan State New Mexico  
Stage Number 1 This Zone 1 This Well X

|                                                                                                                                                                                                                         |                                                                                                                                                              |                                                                                                                                                                                                                                                               |                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>WELL DATA:</b>                                                                                                                                                                                                       |                                                                                                                                                              | OG <input checked="" type="checkbox"/> NG <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> OO <input type="checkbox"/> WD <input type="checkbox"/> IW <input type="checkbox"/> Misc. <input type="checkbox"/> Depth TD: <u>2750</u> | Formation <u>Pictured Cliff</u> |
| Size Casing <u>2 7/8</u>                                                                                                                                                                                                | Size Tubing <u>1.6</u>                                                                                                                                       | Tubing Perf. <u>surface</u>                                                                                                                                                                                                                                   | Type Packer <u>2750</u>         |
| Wt. <u>---</u>                                                                                                                                                                                                          | Set From <u>---</u>                                                                                                                                          | To <u>---</u>                                                                                                                                                                                                                                                 | Size Liner <u>---</u>           |
| Liner Set From <u>---</u>                                                                                                                                                                                               | To <u>---</u>                                                                                                                                                | Open Hole: Size <u>---</u>                                                                                                                                                                                                                                    | From <u>---</u>                 |
| Casing Perforations: Size <u>.44</u>                                                                                                                                                                                    | Holes Per Foot <u>variable</u>                                                                                                                               | Intervals <u>2133-2188</u>                                                                                                                                                                                                                                    | 14 holes                        |
| Previous Treatment <u>none</u>                                                                                                                                                                                          |                                                                                                                                                              | Prior Production <u>none</u>                                                                                                                                                                                                                                  |                                 |
| <b>TREATMENT DATA:</b>                                                                                                                                                                                                  |                                                                                                                                                              | <b>FLUID PUMPED AND CAPACITIES IN BBLs.</b>                                                                                                                                                                                                                   |                                 |
| Pad Used: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>                                                                                                                                           | Pad Type <u>75% Quality Foam</u>                                                                                                                             | Tubing Cap <u>---</u>                                                                                                                                                                                                                                         |                                 |
| Treating Fluid Type: Oil <input type="checkbox"/> Water <input type="checkbox"/> Acid <input type="checkbox"/> Misc <input type="checkbox"/> Foam <input checked="" type="checkbox"/> Emulsion <input type="checkbox"/> | Treating Fluid Volume Gals. <u>6,859</u>                                                                                                                     | Casing Cap <u>12.2</u>                                                                                                                                                                                                                                        |                                 |
| Fluid Description <u>75% Quality Foam</u>                                                                                                                                                                               |                                                                                                                                                              | Annular Cap. <u>---</u>                                                                                                                                                                                                                                       |                                 |
| Total Prop Quantity <u>40,000</u>                                                                                                                                                                                       | Lbs <u>---</u>                                                                                                                                               | Open Hole Cap. <u>---</u>                                                                                                                                                                                                                                     |                                 |
| Prop Mesh Sizes, Types and Quantities <u>20/40 sand, 40,000 lbs.</u>                                                                                                                                                    | Prop Type: Sand <input checked="" type="checkbox"/> Beads <input type="checkbox"/> Special <input type="checkbox"/> None <input type="checkbox"/>            | Fluid to Load <u>---</u>                                                                                                                                                                                                                                      |                                 |
| Hole Loaded With <u>dry</u>                                                                                                                                                                                             | Treat Via: Tubing <input type="checkbox"/> Casing <input checked="" type="checkbox"/> Annul <input type="checkbox"/> Tubing & Annul <input type="checkbox"/> | Pad Volume <u>29.7</u>                                                                                                                                                                                                                                        |                                 |
| Ball Sealers <u>---</u>                                                                                                                                                                                                 | Stages of <u>---</u>                                                                                                                                         | Treating Fluid <u>133.6</u>                                                                                                                                                                                                                                   |                                 |
| Types and Number of Pumps Used <u>(1) GRB 1000</u>                                                                                                                                                                      | Auxiliary Materials <u>10 gals. X-cide; 41 gals. Adofoam; 300 gals. 15% HCl; 250,900 gals. Nitrogen</u>                                                      | Flush <u>---</u>                                                                                                                                                                                                                                              |                                 |
| Procedure <u>Start acid; start pad; start 1<sup>st</sup>; start 2<sup>nd</sup>; start flush; all flush</u>                                                                                                              |                                                                                                                                                              | Overflush <u>---</u>                                                                                                                                                                                                                                          |                                 |
|                                                                                                                                                                                                                         |                                                                                                                                                              | Total to Recover <u>162</u>                                                                                                                                                                                                                                   |                                 |

| Time  | Treating Pressure-Psi | Barrels Fluid | Inj. Rate | REMARKS—               |
|-------|-----------------------|---------------|-----------|------------------------|
| AM/PM | Tubing                | Casing        | Pumped    | BPM                    |
| 8:06  | —                     | 1300          | 0         | 1.8                    |
| 8:12  | —                     | 2700          | 7         | 4.9                    |
| 8:18  | —                     | 2100          | 20.7      | 4.5                    |
| 8:24  | —                     | 2350          | 39.4      | 4.5                    |
| 8:42  | —                     | 2350          | 162       | 4.5                    |
| 8:44  | —                     | 1950          | 162       | 0                      |
|       |                       |               |           | Start 300 gals 15% HCl |
|       |                       |               |           | Start pad              |
|       |                       |               |           | Start 20/30 sand 2100  |
|       |                       |               |           | Start 9/40 sand 2350   |
|       |                       |               |           | Start flush            |
|       |                       |               |           | All Nitrogen Flush     |

|                             |      |               |      |                        |                 |                         |                        |
|-----------------------------|------|---------------|------|------------------------|-----------------|-------------------------|------------------------|
| Treating Pressure: Min.     | 2350 | Max.          | 2750 | Avg.                   | 2375            | Customer Representative | C. D. Moore            |
| Inj. Rate on Treating Fluid | 4.5  | Rate on Flush | 0    | Western Representative | Charles Robison |                         |                        |
| Avg. Inj. Rate              | 4.5  | I.S.D.P.      | 1750 | Flush Dens. lb/gal     | foam            | Distribution            | (9) JOHN H. HILL*      |
| Final Shut-in Pressure      | 1650 | in            | 15   | Minutes.               |                 |                         | 17400 Dallas Pkwy      |
| Operator's Maximum Pressure | 4000 |               |      |                        |                 |                         | Dallas, Texas 75252    |
| Job Number                  |      |               |      |                        |                 |                         | Attn: Mr. Steve Connor |
|                             |      |               |      |                        |                 | cc: Farmington District |                        |

