

DETAIL SHEET TO BE ATTACHED TO USGS SHEET FROM 9-331

No: Santa Fe 070200-B - Middle No. 2 - SW/4 Section 23 - 30-N - 10-W NMPM

Operator: La Plata Gathering System, Inc. - Box 717 - Farmington, New Mexico 87401 R

- 11/30/65 Rigged up completion rig. Drilled out stage collars and cleaned out to FSTD 7398'. Spotted 250 gal. 10% acetic acid on bottom. Pressure tested casing to 3800 psi. Reamperforating log and cement bond log.
- 12/1/65 Blew water in hole down to 6200' with gas. Perforated 7350-7353, 7328-7331, 7306-7314. Fraced with 20,000 lbs. 20-40 sand and tailed in with 500 lbs. glass beads. Water treated with 2¢ per 1,000 gal J-2, 20¢ per 1,000 gal adomite aqua and 1¢ Calcium Chloride. Sand concentration 1 ¢ per gal. Set top drillable magnesium bridge plug at 7288. Pressure tested and plug failed at 1100 psi. Set another plug at 7282 and pressure tested to 3600 psi. Perforated 7262-7266 and 7248-7252. All perforations 4 SDJFF.
- 12/2/65 Frac Stage 2: Pumped in at 27 bpm at 3500¢. Ran 250 gal. Spearhead acid. Pumped in at 3600¢ and 35 bpm. Ran 1/2¢ sand per gal. until it hit perforation. Increased sand to 1¢ per gal. and well sanded off when 1¢ hit perforation. Pumped 3000¢ sand into formation and 450 bbls. treated water. Went in hole with tubing and blew well down with gas. Attempted to re-perforate and found sand on top of perforation. Attempted unsuccessfully to pump into hole.
- 12/3/65 Circulated sand out of hole and perforated 7256-7620, 7252-7256 with 4 SDJFF. Pressured up to 3800 psi and unable to pump into formation. Re-perforated as follows: 7262-7266, 7248-7252 with 4 SDJFF. Attempted to pump into formation but unable to pump at 3800 psi. Ran tubing and packer and set packer at 7204 with one joint of tail pipe. Broke formation down with acids at 4500 psi and Acidized with 500 gals Western Spearhead acid at 2 to 7 bbls. per min. Final pressure 1500 psi. Pulled tubing and packer.
- Frac Stage 2: Fraced with 24,000¢ 20-40 sand at 1/2¢ per gal and 47,500 gals water treated with 2¢ per 1000 gals J-2 and 20¢ per 1000 gals adomite aqua and 1¢ CaCl2. Pumped in initially at 3600 psi at 24 bpm. Rate gradually increased to 40 bpm at 3300 psi. Average rate 30.5 bpm IEDP 1400 psi. Ran Baker ~~shy shy~~ top drillable magnesium plug on wire line under 400 psi. Set plug at 7224. Plug failed under pressure test at 3200 psi. Set 0-0 magnesium bridge plug at 7209 and pressure tested to 3800 psi.
- 12/4/65 Perforated 7162-7170 with 4 SDJFF.
- Frac Stage 3: Displaced 250 gals Spearhead acid with no break in pressure. Fraced with 18,000 ¢ 20-40 sand and 37,700 gals water treated the same as Stage 2. Max TP 3800, Min. SE TP 3700, IEDP 2300. Average rate 28.3 bpm. Ran tubing and bit and drilled out all 4 bridge plugs and cleaned out to FSTD.
- 12/5/65 Blew well down with gas with tubing at 1200'. Well began flowing on its own after 3 hours. Lay down 2" EUE tubing and ran 221 joints 1 1/2" EUE, JCW-55 tubing. Total length 7153.63'. Landed at 7166' NCB. Ramped out Plug.
- Shut well in at noon on December 5, 1965 to await tests and pipe line connection.

12/15/65  
Rigged up completion rig. Drilled out stage collars and cleaned out to  
3000 psi. Spooled 250 gal. 10% acetic acid on bottom. Pressure tested  
 casing to 3000 psi. Reperforating log and cement bond log.

12/15/65  
Flow water in hole down to 2500' with gas. Perforated 1250-1252, 1252-1254,  
1254-1256. Pressured with 20,000 lbs. 20-40 sand and drilled in with 200 lbs.  
glass beads. Water treated with 2% per 1,000 gal. 1-2, 20% per 1,000 gal.  
sulfuric acid and 1% Calcium Chloride. Sand concentration 1% per gal.  
Set top drillable magnesium bridge plug at 1256. Pressure tested and  
plug failed at 1100 psi. Set another plug at 1252 and pressure tested  
to 3000 psi. Perforated 1252-1254 and 1254-1256. All perforations # 20TFT.

12/15/65  
Stage 2: Pumped in at 27 bpm at 3500 psi. Ran 250 gal. spearshead acid.  
Pumped in at 3000 psi and 25 bpm. Ran 1/2% sand per gal. until it hit  
perforation. Increased sand to 1% per gal. and well banded off when it hit  
perforation. Pumped 3000 psi sand into formation and 450 lbs. treated water.  
Went in hole with tubing and blew well down with gas. Attached to  
reperforate and found sand on top of perforation. Attempted unsuccessfully  
to pump into hole.

12/15/65  
Circulated sand out of hole and perforated 1252-1254, 1254-1256 with  
# 20TFT. Pressured up to 3000 psi and unable to pump into formation.  
Reperforated as follows: 1252-1254, 1254-1256 with # 20TFT. Attached  
to pumping formation but unable to pump at 3000 psi. Ran tubing and  
packer and set packer at 1204 with one joint of tail pipe. Broken formation  
down with acid at 4500 psi and acidized with 200 gals. Western spearshead  
acid at 2 to 7 bpm. Final pressure 1500 psi. Drilled tubing and  
packer.

12/15/65  
Stage 3: Pressured with 20,000 lbs. 20-40 sand at 1/2% per gal. and 47,500 gals  
water treated with 2% per 1,000 gals. 1-2 and 20% per 1,000 gals. sulfuric acid  
and 1% CaCl<sub>2</sub>. Pumped in initially at 3000 psi at 27 bpm. Rate gradually  
increased to 40 bpm at 3500 psi. Average rate 30.5 bpm 1250-1256. Ran  
packer and set top drillable magnesium plug on wire line under 400 psi. Set  
plug at 1254. Plug failed under pressure test at 3200 psi. Set 0-0  
magnesium bridge plug at 1202 and pressure tested to 3000 psi.

12/15/65  
Perforated 1252-1254 with # 20TFT.  
Stage 3: Drilled 250 gals. spearshead acid with no break in pressure.  
Pumped with 18,000 lbs. 20-40 sand and 37,100 gals. water treated one  
stage as Stage 2. Max TP 3800, Min. at TP 3700, 1250-1256. Average  
rate 28.3 bpm. Ran tubing and bit and drilled out all # bridge plugs  
and cleaned out to 2500'.

12/15/65  
Blew well down with gas with casing at 1200'. Well began flowing on 1st  
own after 3 hours. Lay down 2" O.D. tubing and ran SSJ joints 1 1/2" O.D.,  
1250-1256 tubing. Total length 1155.03'. Landed at 1155'. RFB. Pumped out  
plug.

12/15/65  
First well in at noon on December 2, 1965 to await tests and pipe line  
connection.