

File

EL PASO PRODUCTS COMPANY

POST OFFICE BOX 3986, ODESSA, TEXAS 79760

July 13, 1966

ADDRESS REPLY TO:
POST OFFICE BOX 1560
FARMINGTON, NEW MEXICO 87401

Frontier E No. 1
SW SE Section 4, Township 27N, Range 11W
San Juan County, New Mexico

There had been no Dakota gas production from this well for the past 18 months. A leak had been detected in the Dakota Tubing String and an attempt to set a packoff assembly inside the tubing string resulted in the loss of several strings of wireline tools.

Basically, both Gallup and Dakota tubing strings were pulled from this well, all tools were retrieved and the Baker Model "D" Production Packer at 6490' was drilled out. A new Baker Model "D" Production Packer was set at 6480' and the Dakota string - Hydro-Tested to 4000 psi, was run and latched into the production packer and the Gallup string was rerun and landed as before.

Both zones were subsequently put on production.

*fine sand - contribution
les from E-105*

EL PASO PRODUCTS COMPANY

SCHEMATIC DIAGRAM OF DUAL COMPLETION - AFTER WORKOVER

Frontier E No. 1 (GD)

SW SE Section 4, Township 27N, Range 11W - San Juan County, N. M.

Dual String
Xmas Tree

9-5/8" OD, 36.00#/ft., ST&C Surface Casing (216') set at 228' w/200 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8" OD, 4.70#/ft., J-55 (6000') set at 6010' with Latching Sub set in Baker Model 699 Parallel String Anchor.

Baker Model "J" Stage Cementing Collar set at 2207'. Cemented w/100 sacks cement. Top of cement by temperature survey at 1800'.

7" OD, 23.00#/ft. Production Casing (Lower 1292' N-80, Upper 5438' J-55) set at 6756' w/200 sacks cement. Top of cement 4832' - Cemoton Log.

Dakota Production Tubing 2-3/8" OD, 4.70#/ft., J-55 (6478') set at 6488'.

Gallup Formation perforated 5897'-5919' (2 sh./ft.). Sandoil fractured with 51,240 gals. oil & 50,000# sand. Perforated 5968'-5993' (2 sh./ft.) w/46,452 gals. oil & 40,000# sand. Pump Seating Nipple (1-25/32" ID) at 6008'.

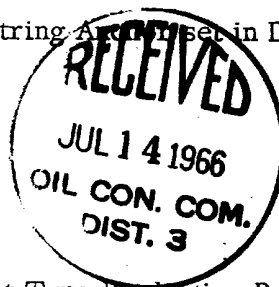
Baker Model 699 Parallel String Anchor set in Dakota Production Tubing at 6010'.

1.81" ID Seating Nipple.

Baker Model "D" Permanent Type Production Packer set at 6480'.

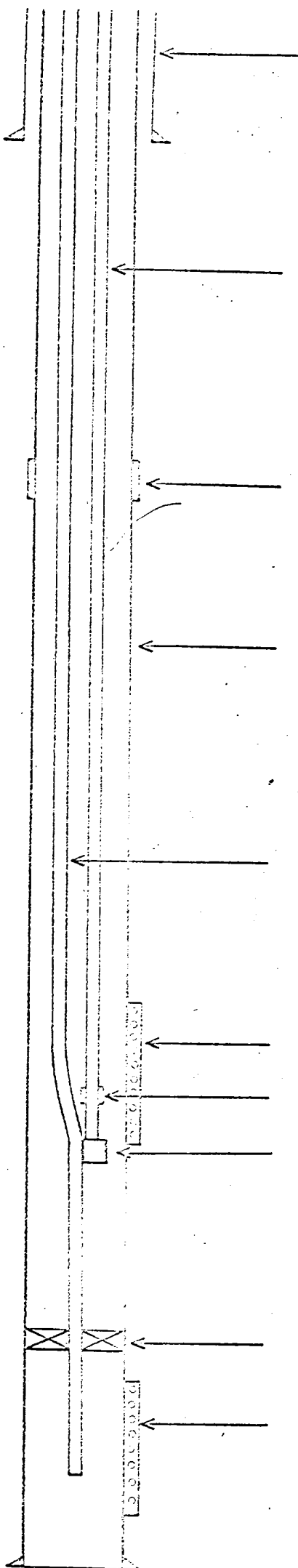
Dakota Formation perforated 6545'-6587' (4 sh./ft.). Sandoil fractured with 46,620 gals. oil and 50,000# sand.

T.D. 6757'
C.O.T.D. 6711'



EL PASO NATURAL GAS PRODUCTS COMPANY
SCHEMATIC DIAGRAM OF DUAL COMPLETION - Prior to Workover
FRONTIER POOL UNIT NO. 1-E (GD)

Dual String
Xmas Tree



9-5/8" O.D., 36.00#/ft., ST & C Surface Casing (216')
set at 228' w/200 sacks cement circulated to surface.

Gallup Production Tubing 2-3/8" O.D., 4.70#/ft., J-55 (6002')
set at 6014' with Latching Sub set in Baker Model 699 Parallel
String Anchor. 5947' Integral Joint (Hardy Griffin), EUE Tbg.
with 56' accessories.

Baker Model "J" Stage Cementing Collar set at 2207'. Cemented
with 100 sacks cement. Top of cement by temperature survey
at 1800'.

7" O.D., 23.00#/ft. Production Casing (Lower 1292' N-80,
Upper 5438' J-55) set at 6756' w/200 sacks cement. Top of
cement 4832' - Cemoton Log.

Dakota Production Tubing 2-3/8" O.D., 4.70#/ft. J-55 (6487')
set at 6497'. 9' Accessories, 6477' J-55, EUE Tubing.

Gallup Formation perforated 5897'-5919' (2 shots/ft.).
Sandoil fractured with 51,240 gals. oil and 50,000# sand. Perforated
5968'-5993' (2 sh./ft.) w/46,452 gals. oil & 40,000# sand.

Pump seating nipple (1 - 25/32" I.D.) at 6012'.

Baker Model 699 Parallel String Anchor set at 6014'.
Production Tubing at 6014'.

Baker Model "D" Permanent Type Production Packer set
at 6490'.

Dakota Formation perforated 6545'-6587' (4 shots/ft.). Sandoil
fractured with 46,620 gals. oil and 50,000# sand.

T.D. - 6757'
C.O.T.D. - 6711'



EL PASO NATURAL GAS COMPANY
OPEN FLOW TEST DATA

DUAL COMPLETION

DATE July 23, 1960

| | | | |
|---|-----------------------------|--|---------------------------------|
| Operator El Paso Natural Gas Products Co. | | Lease Frontier Pool Unit No. 1-E (D) | |
| Location SW 4-27-11 | | County San Juan | State New Mexico |
| Formation Dakota | | Pool Undesignated | |
| Casing: Diameter 7" | Set At: Feet 6756 | Tubing: Diameter 2" | Set At: Feet 6497 |
| Pay Zone: From 6545 | To 6587 | Total Depth: 6756 | Shut-In 7/13/60 |
| Stimulation Method Sand Oil | | Flow Through Casing | Flow Through Tubing X |

| | | | |
|---|----------------------------|---|--|
| Choke Size, inches .75 | | Choke Constant: C 12.365 | |
| Shut-In Pressure, Casing, PSIG 1061 (G) | - 12 = PSIA 1073 | Days Shut-In 15 | Shut-In Pressure, Tubing PSIG 2017 (D) |
| Flowing Pressure: P PSIG 373 | - 12 = PSIA 385 | Working Pressure: P _w PSIG Calc. | - 12 = PSIA 619 |
| Temperature: T °F 79 | n .75 | F _{pv} (From Tables) 1.039 | Gravity .681 F _g = .9392 |

Initial SIPT (G) = **752 psig**Packer at **6490**Final SIPC (G) = **1084 psig**CHOKE VOLUME = $Q \times C \times P_c \times F_p \times F_g \times F_{pv}$

$$12.365 \times 385 \times .9822 \times .9393 \times 1.039 = 4563 \text{ MCF/D}$$

$$\text{OPEN FLOW } A_{ot} = C \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$$

$$A_{of} = \left(\frac{4116841}{3733680} \right)^n$$

$$1.1026^{.75} \times 4563 = 1.0759 \times 4563$$



Slight Paraffin Mist.

$$A_{of} = 4909 \text{ MCF/D}$$

TESTED BY D. MortensenWITNESSED BY Van DykeChecked By R. Nickell

Lewis D. Galloway
L. D. Galloway