DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

SANGER NO. 1-26

San Juan County, New Mexico
April 24, 1962

Location: 930' F/SL & 1450' F/EL
                                 Section 26-T26N-R8W, NMPM

Elevations: 6988' GL
                                 7000' KB - all measurements from KB

Spud: March 26, 1962

Drilling Completed: March 30, 1962
Well Completed: March 31, 1962

Total Depth: 2945' Drilled
                                 2910' Plug Back

Casing:
       Surface: 8 5/8" 28# H-40 cemented at 130' with
                                 112 sx. regular 2% $CaCl_2$

       Production: 4 1/2" 16.6# drill pipe cemented at 2948'
                                 with 226 sx. regular 4% gel.

       Tubing: 1" V-50 set at 2751' KB

Logs: Lane Wells Gamma Ray Neutron

Cores & Drillstem Tests: None

Formation Tops: Log   Pictured Cliffs   2797'

Producing Perforations: 2802' - 2872'

Treatment: Sand water frac with 100,000 lbs. 20-40
                                 sand, 95,600 gal. water.

Initial Potential: Flow volume thru 3/4" choke: 2600 MCFD
                                 Calculated Absolute Open Flow Potential:
                                 3250 MCFD

WELL: SANGER NO. 1-26

                    930 F/SL & 1450' F/EL, Sec. 26-T26N-R8W

FIELD: Ballard Pictured Cliffs

COUNTY: San Juan   STATE: New Mexico

ELEVATIONS: 6988'   GL

                    7000'   KB

3/26/62

        Drilling mouse hole.

3/27/62

        Drilled 130' 13 3/4" surface hole, ran 5 joints or 8 5/8" H-40 surface
        pipe total 152' set at 130' KB. Cemented with 112 sx. regular 2% $CaCl_2$.
        Plug down 5 p.m. 3/26/62, good returns on cement. Dev. 1/4° at 100'.
        Drilling with Bit 1. 7 7/8" hole at 243' with water.

3/28/62

        Depth 2049'. Tripping for Bit 3. Drilled 1806' of sand and shale.
        Dev. 1/2° at 583', 1/2° at 1300', 1/2° at 2012'.

3/29/62

        Depth 2802'. Drilling with Bit 4. Drilled 733' of sand and shale.
        6 1/4 hours rig down time. Dev. 3/4° at 2440'.

3/30/62

        Rotary TD 2945'. Drilled 144' of sand and shale. Ran 108 joints
        4 1/2" 16.6# drill pipe set at 2948.12' KB. Cemented with 226 sx.
        regular 4% gel. Plug down at 6 a.m. 3/30/62. Running Gamma Ray
        Neutron log, will get logs to RBT some time today.

3/31/62

        Rigged up Halliburton, pressured up on casing to 2000#, before perfor-
        ating pressure bled off to 1800# five minutes (surface leak). Rigged
        up Lane Wells perforated 2 per foot super dyna jets 2802'-2872', rigged
        up Halliburton to frac. 2-HT 400

Breakdown pressure 1 pump	1200#	Breakdown and fill	1,980 gals.
Maximum pressure	2300#	Treating fluid	95,600 gals.
Maximum treating pressure	2000#	Over flush	10 bbls.
Minimum treating pressure	1700#	Disp.	41 bbls.
Average treating pressure	1900#	Lbs. of sand 20-40	100,000 lbs.
Final treating pressure	1800#	Injection rate	31 BPM
Instant shut-in pressure	700#	Rubber balls	80
Five minute shut-in pressure	500#	Job complete 3 p.m. 3/31/62	

WELL: SANGER NO. 1-26

3/31/62 Cont'd.

The above treatment , used 2# FR 2 gel per 1,000 gal. water. Lost
1 pump (overheating) after having 80,000 lbs. in formation. This is
the reason for a low final treating pressure. Well shut-in.

Kicked well off through 2" tubing. After flowing well through tubing
6 hours, well gauged 2500 MCFD.

4/1/62

Cleaned out 50' of sand.

4/2/62

Ran 1" tubing.

4/5/62

Well shut-in for 7-day test.

4/11/62

Well tested 2734 MCFD through casing, test data will follow,
completely dry.

OPEN FLOW TEST DATA

DATE _____ April 11, 1962

Operator		Lease	
Consolidated Oil & Gas, Inc.		Sanger No. 1-26	

Location		County	State
930' F/SL, 1450' F/EL, Sec. 26-T26N-R8W		San Juan	New Mexico

Formation	Pool	
Pictured Cliffs	Ballard	

Casing: Diameter	Set At: Feet	Tubing: Diameter	Set At: Feet
4 1/2	2943	1"	

Pay Zone: From	To	Total Depth:	
2802	2872	PB 2910	

Stimulation Method		Flow Through Casing	Flow Through Tubing
Sand Water frac		X	

Choke Size, Inches	Choke Constant: C		
.750	14.1605		

Shut-In Pressure, Casing, PSIG	+ 12 = PSIA	Days Shut-In	Shut-In Pressure, Tubing PSIG	+ 12 = PSIA
628	640	7	628	640

Flowing Pressure: P PSIG	+ 12 = PSIA	Working Pressure: Pw PSIG	+ 12 = PSIA
179	191	179	191

Temperature: T °F	n =	Fpv (From Tables)	Gravity
48	.75	1.026	.70

CHOKE VOLUME = $Q = C \times P_t \times F_t \times F_g \times F_{pv}$

$$Q = 14.1605 \times 191 \times 1.0117 \times .9258 \times 1.026 \quad = \underline{\qquad 2600 \qquad} \text{MCF/D}$$

OPEN FLOW = $A_{of} = Q \left(\dfrac{P_c^2}{P_c^2 - P_w^2} \right)^n$

$$A_{of} = \left(\dfrac{410,000}{350,000} \right)^n =$$

$$A_{of} = \underline{\qquad 3250 \qquad} \text{MCF/D}$$

TESTED BY _____ Clyde Phillips _____

WITNESSED BY _____