DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

MANLEY NO. 1-31

San Juan County, New Mexico
March 16, 1962

Location:	935' F/SL & 1050' F/EL, Section 31 T29N-R10W, NMPM
Elevations:	5642' GD 5654' KB - all measurements from KB
Spud:	January 18, 1962
Drilling Completed: Well Completed:	January 22, 1962 March 7, 1962
Total Depth:	1936' Drilled 1904' PBTD
Casing:	
Surface:	8 5/8" 32# cemented at 117' with 80 sx. regular with 2% HA5.
Production:	4 1/2" 16.60# casing set at 1934' KB with 400 sx. 50/50 Pozmix with 4% gel. cement.
Tubing:	1" regular landed at 1796'
Logs:	Lane Wells Gamma Ray Neutron
Cores & Drillstem Tests:	None
Formation Top: (Log)	Pictured Cliffs 1812'
Producing Perforations:	1820' - 1894'
Treatment:	Sand water frac with 99,900 gal. water, 100,000# 20-40 sand.
Initial Potential:	Flow volume thru 3/4" choke: 1770 MCFD Calculated Absolute Open Flow Potential: 2600 MCFD.

WELL: MANLEY NO. 1-31

935' F/SL, 1050' F/WL, Sec. 31-T29N-R10W

FIELD: Fulcher Kutz (P.C.), Farmington Undesignated

COUNTY: San Juan STATE: New Mexico

ELEVATIONS: 5642' GD

5654' KB

1/16/62

Moving in rotary rig.

1/17/62

Will start rigging up today.

1/18/62

Rigging up rotary rig, should break today.

1/19/62

Drilled rat hole and mouse hole. Spudded in at 9:30 p.m. 1/18. Drilled 117' 12 1/4" hole. Ran 106' 8 5/8" casing set at 117' KB. Cemented with 80 sx. regular cement with 2% HA 5. Plug down at 5 a.m. 1/19/62. Dev. 1/2° at 101', mixed 1sx. lime.

1/20/62

Drilling at 900'. Drilled 783' sand and shale with clear water. Dev. 1/2° at 615'.

1/21/62

Depth 1892'. Drilled 982' of sand and shale with water. Made short trip 25' fillup. Presently conditioning hole to run log. No indication of gas drilling through Farmington sand.

1/22/62

Attempt to run log, log would not go, held in with bit, drilled to 1936'. Ran 70 joints 4 1/2" 16.60# drill pipe set at 1933.65' KB. Float collar at 1903.96' KB. Cemented with 400 sx. 50/50 Pozmix 4% gel, good returns throughout job. Cement circulated to surface, circulated 11 bbls. of good cement slurry to pits. Pipe displaced 28 bbls. Bumped plug with 1000 PSIG, held pressure 10 minutes. Released pressure, float held. Plug down at 1 a.m. 1/20/62. Ran BJ float equipment, guide shoe and float collar. One Halliburton centralizer at 1906', one Halliburton centralizer at 1802'. Moving out rotary.

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1/23/62

Finished moving out rotary, waiting on completion rig, roads bad to location.

1/24/62

Waiting on completion rig.

2/20/62

Checked out road conditions, cannot move equipment in.

2/22/62

Planning to move Cat out today to repair road.

2/23/62

Repaired roads, will log today. Start moving in frac tanks today.

2/24/62

Ran logs, moving in and hauling frac water.

2/25/62

Hauling frac water.

2/26/62

Lacked one frac tank of having enough water on location to frac. Will most likely perforate and complete tomorrow if weather permits.

2/27/62

Will complete when weather permits.

2/28/62

Will complete Saturday.

3/4/62

Rigged up Lane Wells. Perforated 2 per foot from 1894' to 1820', total of 74' 2 per foot with Super Dyna-jets. Rigged up Dowell to frac. Break down pressure 1800# down to 1600# with all pumps on line Maximum pressure 2400#, maximum treating pressure 2400#, minimum treating pressure 1550#, average treating pressure 2000#, instant shut-in 600#, five minute shut-in 60#. Break down and fill 30 bbls., treating fluid 99,900 gals. total sand 100,000# of 20-40, well sanding off last 5000#, will start swabbing well this a.m.

WELL: MANLEY NO. 1-31

3/5/62

Rigged up Signal Oil Field Service small pulling unit. Sand pumped 60' of frac sand off bottom. Started swabbing casing at 4 p.m. 3/4. Had trouble getting down with swab at 100' and 210'. Turned swab cups down, having no trouble swabbing at this time. Fluid static 600' down from top, swabbing from depth of 1200'. Well kicked off 3 a.m. 3/5, flowed 30 minutes and died. Ran sand pump, cleaned out 10' of frac sand off bottom. Slight show of gas while swabbing. Swabbing casing from 1200'.

3/6/62

Swabbing casing, well kicked off at 5 p.m. 3/5. Gauged well at 6 p.m. Gauged 400 MCFD wet, gauged well at 8 p.m., well gauged 760 MCFD wet. Shut rig down at 8 p.m., blew well 12 hours through casing, well gauged 1635 MCFD, 20' of sand fillup. After blowing well 12 hours will clean out sand and run 1" tubing this a.m. After landing tubing will finish cleaning well through 1" tubing.

3/7/62

Ran 85 joints 1" tubing total 1785' plus 11' for KB. Tubing landed at 1796'. Tested well after landing tubing, well making 1800 MCFD. Cleaning well through 1" tubing, rig released, well still set with water, making some sand.

3/8/62

Shut well in at 7:30 p.m. 3/7/62. Well clean, will run 3 hour test Friday morning.

3/9/62

Will test this a.m.

OPEN FLOW TEST DATA

DATE March 9, 1962

Operator: Consolidated Oil & Gas, Inc.		Lease: Manley No. 1-31	
Location: 935' F/SL, 1050' F/WL Sec. 31-T29N-R10W		County: San Juan	State: New Mexico
Formation: Pictured Cliffs		Pool: Fulcher Kutz	
Casing: Diameter: 4 1/2"	Set At: Feet: 1934	Tubing: Diameter: 1"	Set At: Feet: 1796
Pay Zone: From: 1820	To: 1894	Total Depth:	
Stimulation Method: Sand water frac		Flow Through Casing:	Flow Through Tubing: X

Choke Size, Inches: 0.75		Choke Constant: C: 14.1605			
Shut-In Pressure, Casing, PSIG: 527	+ 12 = PSIA: 539	Days Shut-In: 7	Shut-In Pressure, Tubing PSIG: 527	+ 12 = PSIA: 539	
Flowing Pressure: P PSIG: 118	- 12 = PSIA: 130		Working Pressure: Pw PSIG: 118	+ 12 = PSIA: 130	
Temperature: T °F: 39	n = .75		Fpv (From Tables): 1.018	Gravity: .70	

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

$Q = 14.1605 \times 130 \times 1.0208 \times .9258 \times 1.018 =$ 1770 MCF/D

OPEN FLOW = $Aof = Q \left(\frac{P_c^2}{P_c^2 - P_w^2} \right)^n$

$Aof = \left(\frac{292,000}{175,100} \right)^n =$

Aof = 2600 MCF/D

TESTED BY Vernon Lowe

WITNESSED BY _____