

DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

TRIBAL "C" NO. 11 - 8

Rio Arriba County, New Mexico

December 18, 1962

Location: 1650' F/SL, 1450' F/WL, Section 8
T26N-R3W, N. M. P. M.

Elevations: 7085' GL
7096' KB - all measurements from KB

Spud: November 6, 1962

Drilling Completed: November 23, 1962
Well Completed: November 29, 1962

Total Depth: 6155' Drilled
6050' PBDT

Casing - Surface: 10 3/4" set at 320' with 395 sx. regular
2% CaCl₂ cement.

- Production: 7 5/8" set at 4049' with 75 sx. regular
cement and 100 sx. 50/50 Pozmix with
4% gel.

5 1/2" liner set at 6153' with 183 sx. of
50/50 Pozmix with 4% gel. Top of liner
at 3946'.

- Tubing: 1 1/2" set in Model "D" packer at 5870'
1" landed at 3729'

Logs: Welex Gamma-Accoustic and E-S Induction

Cores & Drillstem Tests: None

Formation Tops (Log):

Pictured Cliffs	3753'	(+3343)
Cliffhouse	5546'	(+1550)
Pt. Lookout	5942'	(+1154)
Mancos	6097'	(+ 999)

Producing Perforations:

MV	PC
5954' - 5986'	3776' - 3778'
5998' - 6016'	3790' - 3828'
6032' - 6038'	3836' - 3850'

Treatment: PC Sand water frac with 78,900 gal. water and
100,000 lbs. sand

MV Sand water frac with 79,800 gal. water and
100,000 lbs. sand

Initial Potential: MV Flow volume thru 3/4" choke: 2937 MCFD

PC Flow volume thru 3/4" choke: 1036 MCFD
Calculated Absolute Open Flow Potential:
6578 MCFD.



WELL: Tribal "C" No. 11-8
 1650' F/SL, 1450' F/WL, Sec. 8-T26N-R3W
 FIELD: Tapicito Pictured Cliffs, Blanco Mesaverde
 COUNTY: Rio Arriba STATE: New Mexico
 ELEVATIONS: 7085' GL
 7096' KB

11/7/62

Spudded in at 11 p.m. 11/6/62. Present operation, drilling 15" surface hole at 230'. Dev. 3/4" at 80', 3/4" at 160'.

11/8/62

Drilled 90' more of 15" surface hole to 320'. Attempted to run 10 3/4" casing. Casing went to 140' could not get below this depth. Pulled casing back out of hole, reamed 15" hole out to 17 1/4" from surface to 320'. Present operation, running 10 3/4" surface casing.

11/9/62

Ran 344' of 28# 10 3/4" surface casing set at 320' KB. Cemented with 395 sx. regular 2% CaCl₂, plug down at 8:30 11/8, good returns on cement. Nippled up, pressured up to 800# for 15 minutes. Present operation, drilling at 1011'. Drilled 691'. Mud 9.1. Vis. 36. Water loss 7.6. Dev. 1" at 400', 3/4" at 800'.

11/10/62

Depth 1967'. Drilled 958' of sand and shale. Present operation, making trip for Bit 4. Mud. 9.2. Vis. 43. Dev. 1" at 1250', 1/4" at 1650'.

11/11/62

Depth 2535'. Drilled 568' of sand and shale. Drilling with Bit 5. Dev. 1/4" at 2035', 1/2" at 2450', Mud weight 9.5. Vis. 45.

11/12/62

Drilling at 2885'. Drilled 355' of sand and shale. Drilling with Bit 6. Mud. 9.4. Vis. 45. Dev. 1/2" at 2850'.

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11/21/62

Drilling 5243'. Drilled 653' of sand and shale. Bit 13 in hole. Dev. 1" at 4650'. Dev. 1" at 5000'. Drilling with gas.

11/23/62

TD 6155'. Drilled 275' of sand and shale. Well making est. 100 MCF from Point Lookout. Came out of hole and ran log. Ran 63 jts. of 5-1/2" 15.5# J-5 Range 2 and 3 casing for a total of 2207.50'. 5-1/2" liner set at 6153.37' KB. Top of 5-1/2" liner at 3945.87' KB, 103' overlap. Float collar at 6109.24' KB. Cemented with 183 sx. of 50/50 Pozmix with 4% gel. Bumped plug with 1500# pressure. Job completed at 4:20 A.M., 11/23/62. Present operation WOC.

11/24/62

WOC 24 hours. Ran drillpipe with 6 3/4" bit to top of liner (3946'), approximately 3' of cement on top of liner, cleaned out cement. Pressured up with rig pump to 1700# for 30 minutes. Present operation, laying down drillpipe.

11/25/62

Finished laying down drillpipe. Pick up 2 7/8" tubing, cleaned out to 6050' TD. Present operation, getting ready to pressure up at this depth (6050')

11/26/62

First stage frac, perforated 2 per foot from 6032'-6038', 5998'-6016', 5954'-5986', 112 holes.

Breakdown, 1 pump	2500#	Breakdown and fill	20 bbls.
Breakdown, all pumps	500#	Treating fluid	78,900 gal.
Maximum pressure	2500#	Overflush	30 bbls.
Minimum pressure	400#	Sand	100,000 lbs.
Average treating press.	450#	Balls	65
Instant shut in	Vac.	Injection rate	52 BPM
5 minute shut in	Vac.	Job complete at 7:35 p.m.	11/25.
Final treating press.	600#		
Maximum treating press.	600#		

Rigged up Wellex, set bridge plug at 4028'. Perforated 2 per foot 3836'-3850', 3790'-3828', 3776'-3778', 108 holes.

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11/13/62

Depth 3180'. Drilled 295' of sand and shale. Present operation trip for Bit 8. Mud 9.8. Vis. 48. Dev. 1/2" at 2850'.

11/14/62

Depth 3348'. Drilled 168' of sand and shale. Present operation, drilling with Bit 8. Mud 9.8. Vis. 45. Water loss 7.6. Dev. 3/4" at 3250'.

11/15/62

Depth 3665'. Drilled 317' of sand and shale. Drilling with Bit No. 9. Mud 9.9. Vis. 45. Dev. 3/4" at 3650'.

11/16/62

Depth 3920'. Drilled 255' of sand and shale. Bit No. 10 in hole. Lost circulation at 3920', have lost approximately 50 bbls. Mud 10. Vis. 53. Present operation, mixing mud. Have regained circulation.

11/17/62

Depth 4044'. Drilled 124' of sand and shale. Present operation, logging well.

11/18/62

Finished logging well. Rigged up and ran 7-5/8" casing. Ran 124 joints of 7-5/8" 26.40# J-55, Range 2 for total of 4060.74'. Set at 4048.74'. Cemented with 75 sx. of regular with 40% Diacel "D" with 4% CaCl₂. Tailed in with 100 sx. 50/50 Pozmix with 4% gel. Bumped plug with 1500#, plug down at 4:07. Present operation, nipping up.

11/19/62

Finished nipping up, blew and cleaned hole to 4049', (shoe). Present operation, blowing and drying hole at 4049'.

11/20/62

Depth 4590'. Drilled 546' of sand and shale. Present operation, drilling with Bit 2. Dev. 1" at 4250'. Getting drill gas

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11/27/62

Second stage frac:

Breakdown, 1 pump	1100#	Breakdown and fill	52 bbls.
Breakdown, all pumps	500#	Treating fluid	79,900 gal.
Maximum treating press.	2200#	Overflush	None
Minimum treating press	500#	Sand	100,000 lbs.
Average treating press	1000#	Balls	50
Instant shut in	500#	Injection rate	45 BPM
5 minute shut in	300#	Job complete at 9:40 a.m.	11/26
Final treating press.	2200#		

Rigged up and went in hole, blowing down. Blew down to bridge plug at 4028', cleaned well up. Well gauged 7848 MCFD. Present operation, drilling up bridge plug and blowing hole.

11/28/62

Finished drilling bridge plug at 4028', pushed plug to 6032'. Plug stopped, drilled on plug 2 hours, came out of hole, changed bit, went back in. Drilled plug loose 6032', pushed plug on to bottom, started laying 2" tubing down at 2 a.m. 11/28. Well gauged 5000 MCFD after pulling 2" tubing out of hole, well logging MV frac water. Present operation, prep to set Model D.

11/29/62

Set Model D at 5870' KB. MV ran 181 joints 1 1/2" 2.90#, 10-round, EUE, V50 tubing, for total 5857.05', landed at 5869.05'. PC ran 118 joints of 1", 1.80#, 10-round, EUE, V50 tubing for total of 3717' landed at 3729' KB. Ran one 1" jet collar at 3509' KB, one 1" jet collar at 3257' KB. Pumped out pump-out plug, well shut in 11/29.

11/30/62

24 hour shut in pressures, MV 1175#, PC 825#.

12/4/62

Ran 3 hour test in both zones. Final flow pressure on MV 175#. Final flow pressure on PC through 1" tubing 65#, casing pressure 888#. Shut in MV pressure 1179#, shut in PC pressure 934#.

WELL:

TRIBAL No. 11-8

12/11/62

MV 3010 MCFD through 1 1/2" tubing, well made light spray of water throughout test. Final casing pressure 1009#, test will be mailed today.

OPEN FLOW TEST DATA

DATE December 12, 1962

Operator Consolidated Oil & Gas, Inc.		Lease Tribal "C" No. 11-8	
Location 1650' F/SL, 1450' F/NL, Sec. 8-T26N-R3W		County Rio Arriba	State New Mexico
Formation Mesaverde		Pool Blanco	
Casing Diameter 5 1/2"	Set At Feet 3946'-6153'	Tubing Diameter 1 1/2"	Set At Feet 5869'
Pay Zone From 5954'	To 6038'	Total Depth 6050'	
Simulation 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 1199	- 12 = PSIA	Days Shut-in 7	Shut-in Pressure, Tubing, PSIG 1211
Flowing Pressure, P, PSIG 203	- 12 = PSIA	215	Working Pressure, P _w , PSIG 1211
Temperature, T, °F 46	n =	0.75	F _{pv} (From Tables) 1.028
			Gravity 0.70 (est.)

$$\text{CHOKE VOLUME} : Q = C \times P_r \times F_r \times F_g \times F_{pv}$$

$$Q = 14,1605 \times 215 \times 1.0137 \times 1.028 \times 1.028 = 2937 \text{ MCF/D}$$

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

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

$$Aof = 6578 \text{ MCF/D}$$

TESTED BY: Clyde Phillips

WITNESSED BY: *W. H. Williams*

OPEN FLOW TEST DATA

DATE December 12, 1962

Operator Consolidated Oil & Gas, Inc.		Lease Tribal "C" No. 11-8	
Location 1650' F/SL, 1450' F/WL, Sec. 8-T26N-R3W		County Rio Arriba	State New Mexico
Formation Pictured Cliffs		Pool Tapicito	
Casing Diameter 7 5/8"	Set At Feet 4049'	Tubing Diameter 1"	Set At Feet 3729'
Pay Zone From 3776'	To 3850'	Total Depth 6050'	
Simulation 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 944	- 12 = PSIA	Days Shut-in 7	Shut-in Pressure, Tubing, PSIG 956
Flowing Pressure, P, PSIG 65	- 12 = PSIA	77	Working Pressure, P _w , PSIG 900
Temperature, T, °F 46	n =	0.85	F _{pv} (From Tables) 1.013
			Gravity 0.7 (est.)

$$\text{CHOKE VOLUME} : Q = C \times P_r \times F_r \times F_g \times F_{pv}$$

$$Q = 14,1605 \times 77 \times 1.0137 \times 1.028 \times 1.013 = 1036 \text{ MCF/D}$$

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

$$Aof = \left(\frac{913,936}{103,936} \right)^n$$

$$Aof = 6578 \text{ MCF/D}$$

TESTED BY: Clyde Phillips

WITNESSED BY:

W. H. Williams
W. H. Williams, Chief Engineer