DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

PRICE NO. 1-15

San Juan County, New Mexico
August 31, 1961

Location: 895' F/SL & 1470' F/WL, Section 15
T31N-R13W, N.M.P.M.

Elevation: 5723' Ground
5735' K.B. - all measurements from K.B.

Spud: July 9, 1961

Drilling Completed: July 30, 1961
Well Completed: August 11, 1961

Total Depth: 6675' Drilled
6646' Plug Back

Casing:

Surface: 10 3/4" 32.75# H-40 cemented at 189' w/150 sx. 2% $CaCl_2$ cement.

Production: 5 1/2" 14# & 15.5# J-55 - S.T.&C. cemented at 6674' w/125 sx 4% gel cement with 1/2 cu. ft. Strata-Crete per sack through shoe and 125 sx. with 4% gel. 50/50 Pozmix cement through stage collar at 4701'.

Tubing: MV - 1" Regular CW hung at 4277'
DK - 1 1/2" IJ J-55 hung at 6491'

Logs: McCullough Gamma-Ray Neutron & Cement Location

Cores and Drillstem Tests: None

Formation Tops: (Log)

Pictured Cliffs	2099'	(+3636)
Mesaverde	3472'	(+2263)
Cliffhouse	3529'	(+2206)
Menefee	3750'	(+1985)
Pt. Lookout	4336'	(+1399)
Mancos	4545'	(+1190)
Greenhorn	6396'	(- 661)
Dakota	6523'	(- 788)

Producing Perforations:

MV	DK
4347' - 4357'	6541' - 6558'
4367' - 4377'	6564' - 6570'
4385' - 4395'	6580' - 6589'
4412' - 4420'	6603' - 6608'
	6613' - 6623'

Treatment: Sand-water frac:
Mesaverde: 125,000# (20-40 mesh) sand, 140,000 gal. water
Dakota: 80,000# (20-40 & 40-60 mesh) sand, 105,000 gal. slicked water, 1500 gal. acid in 2 stages.

Initial Potential: MV Flow volume thru 3/4" choke: 50 MCFD

DK Flow volume thru 3/4" choke: 2460 MCFD

WELL: PRICE NO. 1-15

(895' FSL & 1470' FWL of Sec. 15-31N-13W, N.M.P.M.)

FIELD: Basin Dakota

COUNTY: San Juan STATE: New Mexico

ELEVATIONS: 5723' GD

5735' KB

7/7/61

Moving on materials.

7/9/61

Rat hole drilled. Drilling mouse hole.

7/10/61

WOC.

Drilled 189' of 15" hole. Ran 176' 10 3/4" set at 189' KB. Cemented with 150 sx regular 2% $CaCl_2$ - plug down 11 p.m. Dev. 1/4° at 150'. Butted in at 10 a.m.

7/11/61

Depth 1086'. Drilled 897'. Sand and shale. Drilling with Bit No. 2. Using water. 1/2° at 750' dev.

7/12/61

Depth 1820'. Drilled 734'. Sand and shale. Drilling with Bit No. 3. Mud 8.9. Vis. 36. Dev. 3/4° at 1400'.

7/13/61

Depth 2680'. Drilled 860'. Sand and shale. Drilling with Bit 4. Mud 9.2. Vis. 33. Water loss 12.8. Dev. 1/4° at 1900'.

7/14/61

Depth 3195'. Drilled 515'. Sand and shale. Trip for Bit No. 6. Mud 9.3. Vis. 32. Water loss 18. Dev. 1/2° at 3133'.

7/15/61

Depth 3398'. Drilled 203'. Sand. Drilling with Bit No. 8. Mud 9.4. Vis. 33. Water loss 18. 6% oil.

7/16/61

Depth 3658'. Drilled 250'. Sand and shale. Drilling with Bit 10. Mud 9.4. Vis. 32. Water loss 22. 6% oil.

7/17/61

Depth 3792'. Drilled 134'. Sand and shale. Tripping for Bit 12. Mud 9.2. Vis. 32. Water loss 17. 6% oil.

7/18/61

Depth 4103'. Drilled 313'. Sand and shale. Drilling with Bit 13. Mud 9.4. Vis. 35. Water loss 16. 7% oil. Dev. 3/4° at 3888'.

7/19/61

Depth 4345'. Drilled 240'. Sand and shale. Drilling with Bit 15. Mud 9.2. Vis. 35. Water loss 16. 6 1/2% oil.

7/20/61

Depth 4496'. Drilled 151'. Sand and shale. Going back in hole with bit after twisting off. Lost 10 drill collars - fish out OK. Mud 9.4. Vis. 48. Water loss 16.5.

7/21/61

Depth 4732'. Drilled 236'. Sand and shale. Drilling with Bit 16. Mud 9.3. Vis. 36. Water loss 16.2. 5% oil. Dev. 3/4° at 4530'.

7/22/61

Depth 5019'. Drilled 287'. Sand and Shale. Trip for Bit 19. Mud 9.3. Vis. 38. Water loss 13.

7/23/61

7/24/61

Depth 5474'. Drilled 242'. Sand and shale. Drilling with Bit 21. Mud 9.5. Vis. 35. Water loss 14.

7/25/61

Depth 5858'. Drilled 384'. Sand and shale. Drilling with Bit 22. Mud 9.2. Vis. 36. Water loss 11. Oil 4%. Dev. 1° at 5636'.

7/26/61

Depth 6172'. Drilled 314'. Sand and shale. Drilling with Bit 23. Mud 9.4. Vis. 40. Water loss 12. 7% oil.

7/27/61

Depth 6554'. Drilled 382'. Sand and shale. Drilling with Bit 24. Mud 9.5. Vis. 40. Water loss 12.6. Lost circulation 6550, approximately 75 bbls. Good returns at time of report.

7/28/61

Depth 6627'. Drilled 73'. Sand. Drilling with Bit 26. Mud 9.3. Vis. 47. Water loss 12. 4% oil.

Hit dense drlg. @ 6592'. This makes top of DK @ 6527'. Present TD 6670'. McCullough to run Gamma-Neutron.

7/29/61

Depth 6670'. Waiting on logging truck. Drilled 43'. Sand. Mud 9.8. Vis. 80. Water loss 8.8. (Used 27 Bits)

7/30/61

TD 6675'. WOC. Ran 203 joints of 5 1/2" J-55 ST & C casing to 6674', mixed string. TD by pipe talley 6675' KB; by driller 6670' KB; by McCullough log 6673' KB. Float collar at 6613'. Stage collar for MV at 4791'. Weevil plate run on top of float shoe. DK cement - 125 sx reg. cement by Halliburton, additives 4% gel. 1/2 cu. ft. Strata-crete #6/sx. Plug pump down with water at 3 a.m. with 2000 lbs. pressure, release to zero pressure, float holding. Waited 3 hours and started on MV cement. MV cement - 125 sx. reg. cement by Halliburton, additives 4% gel. 50/50 Pozmix. Plug pump down with water at 7 a.m. with 2200 lbs. pressure, released back to zero, float holding. Set slips and cut off pipe. Good returns throughout. Released rig at 8 a.m.

Casing Detail:

24 joints 15.5# - 740.67' set at 740.67'
97 joints 14# - 3268.03' set at 4008.70'
82 joints 15.5# - 2665' set at 6674'

7/31/61

WOC

8/1/61

Waiting on frac water.

8/2/61

Will not start completion until tomorrow. Frac water still muddy.

8/3/61

Nippling up and preparing to go in the hole.

8/4/61

Drilled stage collar, going to clean out estimated PBTD 6645'.

8/5/61

Preparing to perforate for lower Dakota frac stage.

Drilled float collar and cement to 6645' PBTD. Tested whole casing string to 3000 PSIG - OK.

8/6/61

Cleaning out frac sand after performing lower stage Dakota frac.

Ran McCullough correlation and cement log. Perforated with 2 bullets and 2 jets per foot as follows: 6613' - 6623', 6603' - 6608'. Soaked away 750 gals. 15% mud acid which had been spotted on bottom after cleaning out to PBTD. Soaked acid out at 1400 PSIG to 1200 PSIG final. Attempted to frac but pressure increased rapidly to 3700 PSIG after about 1000# sand injected. Concluded that had inadequate penetration with bullets and jets.

Cleaned out sand bridge and spotted additional 750 gals. 15% mud acid on bottom. Notched with McCullough Jet Casing Notcher at 6605' and 6617'. Soaked acid away after initial breakdown at 1600 PSIG.

Performed Lower Stage Dakota Frac as Follows:

Frac 35,000# 40-60 mesh sand, 15,000# 20-40 mesh sand. 70,000 gals. water with 1% $CaCl_2$ and slickum agent. Maximum pressure 3600 PSIG, minimum pressure 2100 PSIG. Instant shut-in pressure 1500 PSIG. Average injection rate 43 BPM at 2150 PSIG.

8/7/61

Wash sand from above plug, bringing up tools to recover bridge plug, setting tool fish.

Cleaned out 500 feet frac sand to PBTD. Set cast iron bridge plug with BJ at 6598'. Perforated with two bullets and two jets per foot as follows: 6541' - 6558', 6564' - 6570', 6580' - 6589'.

WELL: PRICE NO. 1-15

8/7/61 Cont'd.

Performed Upper Stage Dakota Frac as Follows:

30,000# 20-40 mesh sand. 35,000 gals. water treated as per lower stage job. 36 BPM. 2900 PSIG to 3600 PSIG. Sanded out. Waited 1 3/4 hrs., went in hole with bridge plug on wire line and attempted to set at 4450', below Pt. Lookout section. Unable to set plug but left plug and setting tool in hole. Later found indicated sand fill-up to 4363'. (Desired Pt. Lookout section to be perforated is the interval from 4347' to 4420'.)

8/8/61

Flowing well back after Mesaverde frac job. Went in hole, retrieved setting tool, left bridge plug at 4450'. Setting tool indicated plug had not set electrically. Perforated 2 bullets per foot as follows: 4412' - 4420', 4385' - 4395', 4367' - 4377', 4347' - 4357'. Total frac. 125,000# 20-40 mesh sand, 140,000 gal. water, 45 frac balls, breakdown pressure 2150 PSIG. Frac started 2000 PSIG, 57 BPM. Maximum pressure 3700 PSIG, average rate 54 BPM at 2400 PSIG. Instant shut-in 1100 PSIG, 10 min. 800 PSIG. Well has been flowing back from Mesaverde showing some gas since 3 a.m.

8/9/61

Circulating sand out at 6176'. Drilled plug at 4450' - plug came loose and went down hole. Reached solid sand at 6176', drilled it out at that depth.

8/10/61

Coming out of hole laying down completion string. Preparation to run completion tubing. Drilled plugs, cleaned out sand to PBTD 6646'.

8/11/61

Running Mesaverde Tubing.

Completed laying down work-over tubing, set Baker Model D permanent completion packer on wire line at 6490' KB. Ran 1 1/2" IJ Dakota completion tubing and seated in packer. Will complete installation of Mesaverde tubing and swab well in.

8/12/61

DK flowing, cleaning up frac water.

Completed running MV tubing. Swabbed DK in after about 20 swab runs from 2000'. Indicated flow late this a.m., 1250 MCFD.

8/13/61

Repairing leak in well head.

WELL: PRICE NO. 1-15

8/14/61

Flowing DK and MV to atmosphere, cleaning up frac water. Dakota continues to look relatively strong. Mesaverde has now been flowing on its own about 2 hours. Natural flow was instigated of Mesaverde by using Dakota supply gas over night at 1100 PSIG well head flowing pressure this a.m.

8/15/61

Flowing back frac water from MV and DK. Yesterday cycled for 8 hours each zone, flowed by itself for 16 hours. MV making 1/4" stream of water, gas too small to measure. Casing pressure 250 PSIG. DK 1150 MCFD, fine spray of water.

Tubing Details

206 joints 1 1/2" integral joint-6469.12', subs, seating nipple, etc.-20.84'. Set at 6491.33 KB. Set with 5000# compression on packer. Baker Model D packer at 6490' KB.

MV - 147 joints 1" regular-4271.37'. 6' KB correction. Tubing set at 4277.37' KB. Jet collars at 3584' KB and 3091' KB.

8/16/61

DK - Shut-in, preparing for 3 day shut-in test. 1550 PSIG after 12 hours shut-in.
MV - Dead after 12 hours flowing, 240 PSIG casing pressure. Going to cycle MV for approximately 2 hours.

8/17/61

DK - Shut-in 18 hours, shut-in pressure 1580 PSIG
MV - Flowing 1/4" stream of water, approximately 200 MCFD. Casing pressure 200 PSIG. Continuing to flow to clean up.

8/18/61

MV - Shut-in, casing pressure after 17 hours, 300 PSIG. Opened well to atmosphere yesterday, blew gas for 5 minutes and died. Pressured up casing to 800 PSIG, after 15 minutes making 1" stream of water with some gas.

DK - Shut-in, tubing pressure after 44 hours, 1800 PSIG. Looks strong.

8/19/61

MV - 7 a.m., dead. 250 PSIG casing pressure.
DK - Shut-in, gage pressure 1940 PSIG. P.M. ran 3 hour test on DK after 3 days shut-in, initial casing pressure 1837 PSIG, final flow pressure 129 PSIG which is approximately 1980 MCFD. Wet throughout test. After test, pressured up MV Annulus with DK gas to kick it off.

WELL: PRICE NO. 1-15

8/20/61

MV - making 1/2" stream of water, 220 PSIG casing pressure, gas too small to measure.
DK - making 1025 MCF, heavy spray of water. Shut-in - preparation for initial potential test 8/27.

8/21/61

MV - still making water, going to shut-in for 3 day pressure build-up.
DK - Shut-in.

8/22/61

MV - Shut-in now 24 hours, no pressure taken yet this a.m. Will be shut-in for 3 days for pressure build-up.
DK - Shut-in for 7 day test, will be tested 8/27.

8/23/61

MV - Shut-in for pressure build-up. Yesterday at noon, 260 PSIG.
DK - Shut-in for 7 day test. Pressure at noon, 2000 PSIG.

8/24/61

MV - Shut-in, tubing pressure 286 PSIG, casing pressure 343 PSIG
DK - Shut-in, tubing pressure 1850 PSIG.

8/25/61

MV - 470 PSIG tubing and casing. Opened to atmosphere for added clean-up and testing.
DK - Shut-in, 1870 PSIG.

8/28/61

MV - Flowing for clean up, making 1/2" stream of water with 225 PSIG casing pressure.
DK - 1840 PSIG tubing head pressure after 1 day shut-in. Ran official flow test on 8/27 with actual flow of 2500 MCFD.

8/29/61

MV - Shut-in for pressure build-up.
DK - Shut-in

8/30/61

MV - Flowing 1/2" stream of water, 225 PSIG casing pressure, gas too small to measure.
DK - Shut-in, 1875 PSIG.

WELL: PRICE NO. 1-15

8/31/61

MV - 500 PSIG casing and tubing pressure after 24 hours shut-in and will flow again today.
DK - 1875 PSIG

9/1/61

MV - Open, after 19 hours flowing 200 PSIG casing pressure, making 1/2" stream of water, gas too small to measure.
DK - Shut-in, 1890 PSIG tubing pressure.

9/2/61

DK - Shut-in
MV - Opened after 20 hours shut-in, 480 PSIG casing pressure.

9/3/61

MV - Opened to atmosphere
DK - Shut-in

9/4/61

MV - 165 PSIG casing pressure, making 1/4" stream of water, gas too small to measure. Shut-in to pressure up.
DK - Shut-in

9/5/61

Both zones shut-in.

9/6/61

DK - Shut-in
MV - Opened at 12 noon. Shut-in casing pressure 425 PSIG, after 15 minutes making 1/4" stream of water, gas too small to measure.