DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CHAMPLIN NO. 3-35

Rio Arriba County, New Mexico
February 28, 1963

Location:	1060' F/NL, 1850' F/EL, Section 35 T27N-R4W, NMPM
Elevations:	7080' GL 7092' KB - all measurements from KB
Spud:	December 26, 1962
Drilling Completed:	January 28, 1963
Well Completed:	February 12, 1963
Total Depth:	6230' Drilled 6207' PBTD
Casing:	
Surface:	10 3/4" set at 311' with 240 sx. reg. 2% $CaCl_2$ cement.
Production:	7 5/8" set at 4113' with 75 sx. reg. and 168 cubic ft. Diacel D with 4% $CaCl_2$ followed with 85 sx. reg., 85 sx. Diamix A 2% $CaCl_2$, 4% gel. 4 1/2" liner set at 6227' with 340 sx. 50-50 Diamix A 4% $CaCl_2$, top of liner at 4003'.
Tubing:	1 1/2" landed at 5984' 1" landed at 3848'
Logs:	Lane Wells GRN, Induction Electric, Gamma - Accoustilog
Cores & Drillstem Tests:	None

Formation Tops: (Log)

OJO Alamos	3340' (+3752')
Kirtland	3566' (+3526')
Fruitland	3724' (+3368')
Pictured Cliffs	3896' (+3196')
Cliff House	5702' (+1390')
Point Lookout	6048' (+1044')

Producing Perforations:

MV	PC
6068' - 6082'	3914' - 3922'
6111' - 6118'	3932' - 3940'
6140' - 6148'	3950' - 3968'
6154' - 6159'	3974' - 3984'
6170' - 6178'	

Treatment:	**MV**	Sand water frac with 100,000 lbs. sand and 100,000 gal. water.
	PC	Sand water frac with 100,000 lbs. sand and 72,000 gal. water
Initial Potential:	**MV**	Flow volume thru 3/4" choke: 3700 MCFD
	PC	Flow volume thru 3/4" choke: 1730 MCFD CAOF 3702 MCFD

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1060' F/NL, 1850' F/EL, Sec. 35-T27N-R4W

FIELD: Blanco Mesaverde, Tapicito Pictured Cliffs

COUNTY: Rio Arriba STATE: New Mexico

ELEVATIONS: 7080' GL

7092' KB

12/22/62

Building location.

12/23/62

Waiting on rotary rig.

12/24/62

Moving in rotary rig.

12/26/62

Finished rigging up. Drilled mouse hole and rat hole. Drilled 130' of 15" surface hole, lost circulation at this depth, have lost estimated 500 bbls. of mud. Last bit of mud-hole stayed full.

12/27/62

Depth 315' 15" hole. Ran 7 joints 10 3/4" 28# surface pipe for 321' set at 311' KB. Cemented with 240 sx. regular 2% $CaCl_2$. Plug down 4:45 a.m. 12/26. Good returns on cement. Dev. 1 1/4° at 175', 1/4° at 300'.

12/28/62

WOC. Nippled up, pressured up to 900#. Drilled out under surface. Present depth 370', drilled 65' of sand and shale. Drilling with Bit 1 with water.

12/29/62

Depth 1520'. Drilled 1150' of sand and shale. Drilling with Bit 2. Mud 8.6. Vis. 38. Water loss 7.6. Dev. 3/4° at 746', 3/4° at 1200'.

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12/30/62

Depth 2085'. Drilled 565' of sand and shale. Drilling with Bit 3. Mud 9. Vis. 38. Water loss 7.8. Dev. 3/4° at 1820'.

12/31/62

Depth 2515'. Drilled 430' of sand and shale. Present operation, drilling with Bit 4. Mud 9.1. Vis. 43. Water loss 78. Mud cake 1/32. PH 9. Dev. 3/4° at 2260'.

1/1/63

Depth 2885'. Drilled 370'. Drilling with Bit 5. Dev. 1/2° at 2768'.

1/2/63

Drilling at 3191'. Drilled 306' of sand and shale. Drilling with Bit 6. Mud 9.4. Vis. 49. Water loss 9.

1/3/63

Drilling at 3532'. Drilled 341' of sand and shale. Drilling with Bit 7. Vis. 48. Mud 9.3. Dev. 3/4° at 3377'.

1/4/63

Depth 3757'. Drilled 225' of sand and shale. Present operation, making trip for Bit 9. Mud 9.3. Vis. 47. Water loss 7.8.

1/5/63

Depth 4010'. Drilled 253' of sand and shale. Present operation, drilling with Bit 10. Mud 9.3. Vis. 50. Dev. 1° at 3855'.

1/6/63

Depth 4115'. Drilled 105' of sand and shale. Reached TD at 6 p.m. 1/5. Circulated and conditioned hole. Pulled out and ran logs. Running 7 5/8" casing.

1/7/63

Broke circulation 600' off bottom, good circulation. Ran pipe on to 4115', broke circulation, after 10 minutes lost circulation. Had pipe on bottom at 11:30 a.m. 1/6/63. Used mud in pits with about 25% lost circulation material, pumped in mud, about 50% returns. Had to wait on mud from

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1/7/63 Cont'd.

Farmington to reach location. Mixed 100 bbls. mud with 30% lost circulation material, pumped in 100 bbls., got full circulation, circulated 1 hour with full returns. Total mud lost estimated 400 bbls. Ran 125 joints 7 5/8" 8-round, 26.50#, J55, for 4118.90' set at 4112.90' KB. Float collar 4081.90' cemented with 75 sx. Regular, 168 cu. ft. Diacel D with 4% $CaCl_2$, tailed in with 85 sx. regular, 85 sx. Diamix A, 2% $CaCl_2$, 4% gel. Plug down 12 midnight. One centralizer on shoe joint, one at 4051.34' KB, one at 3794.59' KB. Good returns while cementing until last 40 bbls. of displacement. 20 bbls. of this had about 75% circulation, 10 bbls. of this had about 50% circulation, last 10 bbls. had no returns. Hole stayed full after cementing. Present operation, nippling up, will run temperature survey this a.m.

1/8/63

Ran temperature survey, found top of cement at 2600'. Nippled up, pressured up on 7 5/8" at 1000#, pressure held OK. Present operation, blowing down 7 5/8" at 1000'.

1/9/63

Blew down to float collar, cleaned out 50' of cement on top of float. Drilled 32' dusting cement in shoe joint, drilled shoe 4112', drilled to 4166' with intermittant dusting and moisture. Present operation, in prep to make 10' of hole.

1/10/63

Drilled to 4196'. Well dusted intermittantly, drilled 84' of hole below shoe, pulled out of hole, ran Baker Model K magnesium retainer set at 4048' KB. Floated back side, pressured up to 1000#, pressure held. Pressured up down drill pipe, formation broke down at 3000# to 1600#. Pumped in at rate of 3 1/2 BPM at 1600#. Shut pumps down well on slow vacume. Started cement, pumped 8 bbls. or 40 sx. of slurry below tool, well started trying to bridge off. Pumped 20 sx., pressure was varying from 1100# to 2800#, cement trying to bridge in formation. Pumped 5 sx. pressure went to 3000#, released pressure, squeeze held. Reversed 6 bbls. slurry out of drill pipe, squeeze complete at 1:45 a.m. 1/10. Total cement reversed out, 30 sx.; total cement below tool, 75 sx.; total cement pumped out below shoe, 57 1/2 sx. Started out of hole at 2:10 a.m. with drill pipe. Present operation, finished pulling out drill pipe in prep to go back in hole blowing down.

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1/11/63

Blew well dry down to 4048' (Baker retainer). Started drilling on retainer at 2 p.m. 1/10. Drilled retainer, drilled firm cement from 4048' to 4057', from 4057' to 4104' - 47' - stringers of cement; from 4104' to 4110' - 6' - good firm cement; from 4110' to 4196' - 86' - stringers of cement. Well cleaned up and went to dusting at TD of 4196' at midnight. Started drilling 4196', well dusting good, drilled from 4196' to 4256', good dust. Well stopped dusting at 4256' 5 a.m. 1/11, pulled back up pipe, no visible moisture. Blew from 5 a.m. to 7 a.m., well started dusting on the way back to bottom. Total hole made out from under shoe joint, 144' to date.

1/12/63

TD 4290'. Drilled from 4256' to 4290', very little dust. Pull out of hole, took float out of drill pipe. When drill pipe was pulled this trip there was sign of mud from bit up 1500'. Went back in hole with bit. Blew and cleaned well, no moisture down to 4240'. 4240' to 4270' well unloaded some mud and water. In prep to clean out on to 4290', when well caught on fire at 1:30 a.m. 11/12/63. Shut down, waiting on insurance adjuster, well head equipment OK.

1/13/63

Changing out draw-works on rig.

1/14/63

Set old draw works off. Set another one on. Will be ready to pick up on pipe today.

1/15/63

Finished rigging up, picked up drill pipe, drill pipe free. Attempted to break circulation with gas, could not. Came out of hole, found drill collars plugged, went back in hole with drill pipe and bit. Left float out, could not break circulation. Present operation, out of hole to check for obstruction in drill pipe.

1/16/63

Depth 4290'. Went in hole with drill pipe, knocked mud and ice out of head and drill lines. Started in hole, got five stands in and found stand pipe and rotary hole full, removed ice and plug from same. Went back in hole with drill pipe without float, breaking circulation after ten stands, blew hole at 3850' for six hours. Well making water, shale and dust

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1/16/63 Cont'd.

started on to bottom, plug bit at 4215'. Present operation, pulling out of hole to remove plug from bit.

1/17/63

Depth 4308'. Blew and cleaned hole to TD. Cleaned out intermittant moisture, mud and shale. Drilled 18' of new hole, blew off bottom for 3 hours, blowing cleaning hole, will Braden head squeeze well today.

1/18/63

Circulating, hole full of water, cleaned out to TD at 4315'. Spotted 75 sx. cement on bottom, squeezed 28 sx. into formation, 37 sx. open hole, 10 sx. left inside 7 5/8" casing, cement started pumping in at 500#, pressure gradually climbed after having 28 sx. away in formation. Had 1900# of standing pressure, job complete at 9 p.m. 1/17. Present operation, WOC.

1/19/63

WOC. Log top of cement at 4093'. Came out of hole with drill pipe, put float in bit, started blowing down. Started drilling cement at 8:30 p.m. 1/18/63. TD this a.m. 4129'. Drilled 20' 4093' to 4113' (shale) of good firm cement. 4113' (shoe) to 4129' 16' of firm cement. Well stopped dusting at this depth. Have been blowing at this depth for 3 hours. Still drilling cement when well stopped dusting. Lack 186' of being to original TD (4315').

1/20/63

Blew well for 4 hours, well went to dusting. Depth 4800', drilled 485' Dev. 3/4° at 4500'.

1/21/63

Drilling at 5481'. Drilled 681' of sand and shale. Drilling with Bit 13. Dev. 3/4° at 5000'. Made trip for Bit 13 at 5185'.

1/22/63

Depth 5863'. Drilled 382'. Picked up estimated 300 MCFD natural at 5647'. Drilled on to 5742', well stopped dusting at 8:30 p.m., blew well till 4:30 a.m. No visible moisture, well started dusting, drilled to 5863', hole trying to stop dusting. Present operation, blowing hole at 6:15 a.m.

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1/23/63

Depth 5912'. Drilled 49', well stopped dusting. Pipe dragging, gas supply pressure building. Started working pipe, worked 500' of drill pipe out of hole, broke circulation with gas, unloaded a lot of tacky mud. Got well dusting, started out of hole with drill pipe, 5400' of drill pipe dragging all the way to 500'. Drill pipe stuck, worked pipe back down, put jelly on, broke circulation, rotated pipe. Cleaned hole up, finished pulling drill pipe, most of mud and cuttings in 7 5/8" casing. Going in hole breaking circulation and cleaned hole every 1000'. Present operation, blowing and cleaning hole at 4532'. Have unloaded a lot of mud balls and dust to this depth. No visible moisture.

1/24/63

Depth 5964'. Drilled 52', cleaned out from 4532' to 5912'. Cleaned out bridges, blew off bottom for 4 hours. Started dusting, drilled from 5912' to 5950', well stopped dusting. Blew well 3 hours at 5950', still would not dust, drilled 5950' to 5962', well would not dust. Supply gas pressure started climbing, pipe dragging, worked and blew well, could not get drag out of pipe. Came out of hole, had partial plugged bit with lost of mud on pipe, last 60' of pipe dry. Unplugged bit, went back in hole, cleaned out bridges, well dusting some. Present operation, blowing off bottom at 5964'.

1/25/63

Depth 6015'. Drilled 51', no dust. Blew and cleaned hole at this depth, pipe trying to stick. Started out of hole at 5:30 p.m. 1/24. First 1100' of pipe dragging 30,000#, pipe freed up, no further drag until last 10 stands, hit tight place, blew and cleaned hole at 900'. Made lot of moisture and dust, got out of hole at 10:30 p.m. 1/24. Cleaned off drill collars and bit. Started back in hole, hit bridge at 3750'. Drilled bridge out to 4030' (280' bridge), cleaned bridge out, blew and cleaned hole at this depth. Ran pipe in hole to 5500', cleaned out 3' bridge at this depth. Present operation, blowing hole 350' off bottom.

1/26/63

Depth 6111'. Drilled 96', no dust, started out of hole at 3 p.m. 1/25. Stuck pipe at 2878', put Kelly on broken work pipe, loose hole dried up and started dusting. Blew hole from 8 p.m. to 3 a.m. Started out of hole, stuck pipe again at 2598', down 2 hours, repairing rotary chain. Broke circulation, blew and cleaned hole. Worked pipe loose. Pulled three stands stuck pipe at 2360'. Present operation, blowing and cleaning hole at this depth, pipe has freed up.

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1/27/63

Finished pulling out of hole, out at 3 p.m. 1/26/63. Had to drill out, 1000' of bridges in 7 5/8". Back in hole with drillpipe, drilled 63' to TD of 6174'. Pulled out of hole, cleaned off drill collar and bit. Present operation, going in hole to drill ahead.

1/28/63

Depth 6230'. Drilled 54', reached TD at 5:30 p.m. yesterday. No dust. Worked first ten stands or 920' out of hole, came out of hole, drill pipe dragging some all of the way out of the hole. Hole real dirty. First five stands had mud around them, size of hole 6 3/4". Cleaned drill pipe off, went back in hole, hit first bridge at 5000'. Drilled and circulated to 5100', pipe dragging, attempting to work bit back up into 7 5/8" casing to blow and clean hole.

1/29/63

Worked bit back up into 7 5/8" casing to 4020', started blowing hole at 9:30 a.m. Blew hole with gas until 6 p.m., hole started dusting blew hole from 6 p.m. until 9 p.m, dusting good. Started reaming up and cleaning hole at 9 p.m. At midnight intermediate clean, went back into open hole, hit bridge at 4680' to 4770', 90' bridge. Well dusting good while drilling bridge, fell through bridge at 4770', went on to 6222'. Cleaned out to 6230'. Present operation, making short trip with no problems.

1/30/63

Made short trips, blew and cleaned hole, pulled out of hole. Rigged up to run casing, ran 69 joints 4 1/2" 10 1/2# LT & C for total casing of 2221.39', Burns hanger (4 1/2" X 7 5/8") for 2', casing and hanger 2223.39', set at 6226.72' KB, top of liner at 4003.33' KB. Float collar at 6197.45' KB. Cemented with 340 sx. 50/50 Diamix A, 4% $CaCl_2$, bumped plug with 1000#, released pressure, held OK. Plug down at 8:50 p.m. 1/29. Present operation, tearing down rotary rig.

1/31/63

Moving out rotary rig.

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2/6/63

Moved in at location 3 p.m. Rigged up and started in hole with tubing, on top of liner at 3:30 a.m., found no cement on top of liner.

2/7/63

Pressured up on top of liner to 1650# with rig pump, Held OK. Came out of hole with 6 3/4" bit, ran 3 7/8" bit, cleaned out to float collar, drilled 107' of cement on top of float collar. Drilled float collar at 6197', drilled 10' of good cement under float. PBTD 6207'. Pulled up with Dowell to 2700#, liner held. Came out of hole with tubing, rigged up Lane Wells, ran Gamma Ray Neutron log, finished logging at 4 a.m. 2/7.

2/8/63

Rigged up GO Perf Co., ran correlation log, perforated MV 2 per foot, total of 48', 84 holes. Perforated 6068-6082', 6111-6118', 6140-6148', 6154-6159', 6170-6178'. Finished perforating at 8 p.m. Rigged up Dowell to frac:

Breakdown	700#	Breakdown & fill	70 bbls.
Max. treating	1500#	Treating fluid	100,000 gals.
Min. treating	1000#	Overflush	12 bbls.
Average treat.	1200#	Sand	100,000 lbs.
Final treating	1500#	Average inj. rate	51 BPM
Instant shut in	400#	Balls	40
Five min. shut-in	Vac.	Job complete at 10:30 p.m. 2/7	

Set 4 1/2" bridge plug at 4100', perforated PC 2 per foot, total 44', 88 holes. Perforated from 3914-3922', 3932-3940', 3950-3968', 3974'-3984'. Finished perforating at 1:15 a.m. 2/8/63.

Breakdown	500#	Breakdown & fill	192 bbls.
Max. treating	900#	Treating fluid	72,000 gal.
Min. treating	700#	Overflush	None
Average treating	800#	Sand	100,000 lbs.
Final treating	900#	Average inj. rate	56 BPM
Instant shut in	600#	Balls	40
Five min. shut in	50#	Job complete at 3:45 a.m. 2/8	

Present operation, going in hole blowing down.

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2/9/63

Blew and cleaned hole to top of plug. Gauged PC at 555 MCFD. Drilled plug. Present operation, cleaning and blowing hole at 4100'.

2/10/63

Blew and cleaned well to TD. Gauged well at 4 p.m. 2/9/63. Well making 5600 MCFD. Blew and cleaned well to 9 p.m., layed down completion string. Present operation, rigging up to set production packer.

2/11/63

Went in with 4 1/2" production packer, could not get packer to go due to gas volume. Worked packer to no avail, came out of hole, had left packer in hole. Went back in with wire line, packer at 4010'. Came out of hole with wire line, picked up completion string, pushed packer to PBTD of 6207', came out of hole with completion string, laid same down. Rigged up and set packer at 5984' KB. Present operation, running 1 1/2" tubing.

2/12/63

Ran 184 joints 10-round, EUE, 2.90#, V50 1 1/2" tubing landed at 5974' KB. Ran 122 joints of 1" V50, EUE tubing landed at 3848' KB. One jet collar at 3600' KB, one jet collar at 3352' KB. Tubing landed at 7 p.m. 2/11/63.

2/13/63

Rigged down completion rig, will move off location today.

2/20/63

MV 3 hour initial potential test. Shut in tubing pressure 1153#, 15 min. flow pressure 310#, 30 min. flow pressure 295#, 45 min. flow pressure 270#, 1 hr. flow pressure 260#, 2 hr. flow pressure 260#, 3 hr. flow pressure 255#, temp. 54°. Will test PC tomorrow.

2/22/63

Testing PC, end of three hours casing pressure 802#, tubing 116#. Well tested through 1" tubing. will send all test data.

OPEN FLOW TEST DATA

DATE February 20, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin 3-35	
Location: 1060' FNL, & 1850FEL, Sec. 35, 27N-4W		County: Rio Arriba	State: New Mexico
Formation: Mesa Verde		Pool: Blanco	
Casing: Diameter: 4-1/2	Set At: Feet: 6,227	Tubing: Diameter: 1-1/2	Set At: Feet: 5,894
Pay Zone: From: 6,068	To: 6,178	Total Depth: 6,230	
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: PC	+ 12 = PSIA	Days Shut-in: 7	Shut-in Pressure, Tubing, PSIG: 1,153	+ 12 = PSIA: 1,165
Flowing Pressure: P, PSIG: 255	+ 12 = PSIA: 267		Working Pressure: P_w, PSIG	+ 12 = PSIA
Temperature: T, °F: 54	n =		Fpv (From Tables): 1.034	Gravity: 0.7 (est.)

CHOKE VOLUME = Q = C x P_t x F_t x F_g x F_{pv}

Q = 14.1605 x 267 x 1.0068 x .9258 x 1.034 = 3,644 MCF/D

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

Aof = $\left(\quad \right)^n$ =

Aof = _____ MCF/D

TESTED BY Johnny Walker

WITNESSED BY _____

Walter H. Williams, Jr.
Chief Engineer

OPEN FLOW TEST DATA

DATE February 21, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin 3-35	
Location: 1060'FNL & 1850FEL, Sec. 35-27N-4W		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Tapicito	
Casing: Diameter: 7-5/8"	Set At: Feet: 4,113	Tubing: Diameter: 1"	Set At: Feet: 3,848
Pay Zone: From: 3,914	To: 3,984	Total Depth: 6,230	
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: 1,043	+ 12 = PSIA: 1,055	Days Shut-in: 7	Shut-in Pressure, Tubing, PSIG: 1,046	+ 12 = PSIA: 1,058
Flowing Pressure: P, PSIG: 116	+ 12 = PSIA: 128		Working Pressure: P_w, PSIG: 802	+ 12 = PSIA: 814
Temperature: T, °F: 42	n =		Fpv (From Tables): 1.017	Gravity: 0.70 (est.)

CHOKE VOLUME = Q = C x P_t x F_t x F_g x F_{pv}

Q = 14.1605 x 128 x 1.0147 x .9258 x 1.017 = 1730 MCF/D

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

Aof = $\left(\frac{1,119,364}{456,768} \right)^n$ =

Aof = 3,702 MCF/D

TESTED BY John Walker

WITNESSED BY _____

Walter H. Williams, Jr.
Chief Engineer