

# DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CHAMPLIN NO. 2-35

Rio Arriba County, New Mexico  
December 19, 1962

Location: 1800' F/SL, 1680' F/EL, Section 35  
T27N-R4W, N. M. P. M.

Elevations: 7058' GL  
7069' KB - all measurements from KB

Spud: October 6, 1962

Drilling Completed: October 31, 1962  
Well Completed: December 8, 1962

Total Depth: 6242' Drilled  
6168' PBTD

Casing - Surface: 10 3/4" set at 307' with 325 sx. regular  
2% CaCl<sub>2</sub>.

- Production: 7 5/8" set at 4073' with 75 sx. Class A  
cement, 200 cu. ft. Pozmix.

5 1/2" liner set at 6199' with 240 sx.  
50/50 Pozmix, top of liner at 3982'

- Tubing: 1 1/2" set in Model "D" packer at  
5954'

1" landed at 3845'

Logs: Welex Gamma-Acoustic Fracture Finder,  
ES-Induction, Gamma-Induction and  
Gamma Ray Neutron Logs

Cores & Drillstem Tests: None

Formation Tops (Log):	Kirtland	3532'	(+3537)
	Fruitland	3682'	(+3381)
	Pictured Cliffs	3866'	(+3203)
	Cliff House	5636'	(+1433)
	Pt. Lookout	6010'	(+1059)

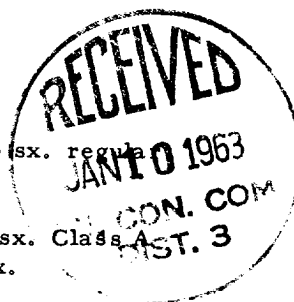
Producing Perforations:	PC	MV
	3890' - 3910'	6026' - 6045'
	3918' - 3930'	6054' - 6076'
	3937' - 3945'	6088' - 6110'
		6118' - 6128'
		6136' - 6150'

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

MV Sand water frac with 77,700 gal. water  
and 95,000 lbs. sand.

Initial Potential: PC Flow volume through 3/4" choke: 1512  
MCFD. Calculated Absolute Open Flow  
Potential: 3811 MCFD.

MV Flow volume through 3/4" choke: 915  
MCFD.



WELL: CHAMPLIN NO. 2-35  
 1800' F/SL, 1680' F/EL, Sec. 35-T27N-R3W  
 FIELD: Blanco Mesaverde, Tapicito Pictured Cliffs  
 COUNTY: Rio Arriba STATE: New Mexico  
 ELEVATIONS: 7058' GL  
 7069' KB

10/6/62

Spud 12:30 a.m. 10/6/62. Drilled 70' of 15" hole. Lost circulation. Mixing third pit of mud with lost circulation material.

10/7/62

Regained circulation at 70'. Drilled to 86', lost 100 bbls. mud, regained circulation. Present operation, drilling 15" surface hole at 290', 1/2° deviation at 250'.

10/8/62

Depth 665'. Drilled 375' of sand and shale. Present operation, drilling with Bit 1. Ran 10 joints 10 3/4" 32.75#, range 2, S.T. & C. casing. Total pipe, 329' set at 307' KB. Cemented with 325 sx, regular cement, 2% CaCl<sub>2</sub>. Plug down 10 a.m. 10/7. Good returns on cement job. Pressured up to 1000# before drilling out, held OK.

10/9/62

Drilling at 1315', drilled 650' of sand and shale. Drilling with Bit 2. Mud 8.6. Vis. 42. Dev. 3/4° at 625', 1° at 1100'.

10/10/62

Depth 2053'. Drilled 738' of sand and shale. Present operation, drilling with Bit 3. Mud 9.1. Vis. 46. Water loss 9.2. Mud cake 2/32. Dev. 3/4° at 1530', 3/4° at 1900'.

10/11/62

Depth 2533'. Drilled 408' of sand and shale. Tripping for Bit 5. Mud 9.8. Vis. 51. Water loss 11. Dev. 1° at 2514'.

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10/12/62

Depth 2853'. Drilled 320' of sand and shale. Drilling with Bit 6. Mud 9.8. Vis. 52. Dev. 1° at 2514'.

10/13/62

Depth 3030'. Drilled 177' of sand and shale. Drilling with Bit 6. Mud 10. Vis. 53. Water loss 6.8. Dev. 3 3/4° at 2875', 3 1/2° at 2936', 2 3/4° at 2995'.

10/14/62

Depth 3237'. Drilled 207' of sand and shale. Drilling with Bit 7. Mud 10.1. Vis. 46. Water loss 9. Dev. 2 3/4° at 2995', 2 1/2° at 3091', 2 1/2° at 3174'.

10/15/62

Depth 3500'. Drilled 263' of sand and shale. Drilling with Bit 8. Mud 10. Vis. 60. Water loss 6.6. Lost 50 bbls. mud at 3495'. Dev. 2 3/4° at 3369'.

10/16/62

Depth 3667'. Drilled 167' of sand and shale. Present operation, making trip for Bit 10. Mud 9.8. Vis. 55. Dev. 2 1/3° at 3660'.

10/17/62

Depth 3882'. Drilled 215' of sand and shale. Present operation, tripping for Bit 11. Mud 10. Vis. 48. Dev. 3 1/4° at 3861'.

10/18/62

Depth 4075'. Drilled 193' of sand and shale. Drilling with Bit 11. Mud 10.1. Vis. 90. Water loss 8.2. Well has been logged and cleaned out to TD. After logging made trip and drilled 30' of new hole. Present operation, circulating and preparing to run 7 5/8" casing.

10/19/62

TD 4075'. Circulated and conditioned hole, make short trip, pulled out of hole. Rigged up to run casing. Ran 127 joints 7 5/8" 26.40#, J-55 casing. Total casing ran 4102.12' less above KB 29.00', pipe set at 4073.12' KB. Float collar at 4038' KB, one centralizer on shoe joint, one centralizer at 3859'.

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10/19/62 Cont'd.

Lost circulation at 5 p.m., 60' off bottom, mixed and regained circulation at 2 a.m. Cemented with 75 sx, class A cement, 168 cu. ft. Diacel "D" 4% CaCl<sub>2</sub>, 200 cu. ft. Pozmix, 4% gel, 2% CaCl<sub>2</sub>. Plug down at 3:30 a.m. 10/19. Good returns throughout cement job.

10/20/62

Nipped up, pressured up to 1000#. Present operation, blowing down at 1000'.

10/21/62

Finished blowing down, drilled float collar at 4038', drilled shoe at 4073'. Depth 4450'. Present operation, drilling with Bit 12. Dev. 1 3/4° at 4344'.

10/22/62

Depth 5060'. Drilled 610' of sand and shale. Present operation, drilling with Bit 14. Dev. 4 1/2° at 4532', 4 3/4° at 5025'.

10/23/62

Depth 5736'. Drilled 676' of sand and shale. Hit some moisture at 5736' at 6:30 a.m. Gas 5706'-5730' - 30' flare, 1" stream of water, 600 MCFD, 130' in Cliffhouse. Dev. 3° at 5300', 2° at 5640'.

10/24/62

Depth 5801'. Drilled 65' of sand and shale. Present operation, blowing hole. Note: Well was making 1" stream of water at 5736', no solid moisture at this time, well trying to dust at present.

10/25/62

Depth 5810'. Drilled 9' of formation. Well still not dusting, well not making solid moisture at present. Will try and make more hole and attempt to get well dusting. If well is not dusting by 4 p.m. will call in and discuss.

10/26/62

Depth 5841'. Drilled 31'. Well still making 1/4" stream of water. Used three sacks of seal powder. Could not shut water off. Pulled up inside intermediate pipe. Have been blowing one hour. Still making 1/4" stream of water. Present operation: blowing hole with supply gas at 3900' (7 5/8" intermediate set at 4073'). Water dried up at this point.

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10/27/62

While waiting on water and mud to get on location, went back to bottom, blew and cleaned hole. Drilled from 5841' to 5851', well started dusting. Drilled on to 5884'. Well stopped dusting. Started mixing mud in pits. Present operation, making trip to change bit.

10/28/62

Made trip for new bit. Finished mudding up. Present operation, drilling at 5937', drilled 50'. Mud 9.6. Vis. 75.

10/29/62

Depth 6060'. Drilled 120' of sand and shale. Drilling with Bit 16. Mud 9.6. Vis. 76. Water loss 6.2. Mud cake 1/32. PH 8.2.

10/30/62

Depth 6201'. Drilled 141' of sand and shale. Present operation, making trip for Bit 18. Mud 9.6. Vis. 68. Dev. 2° at 6182'. No mud lost last 24 hours.

10/31/62

Depth 6242'. Drilled 41' of sand and shale. Present operation, mixing mud. Lost circulation at 6242', pipe stopped at 6172'. Lost approximately 1500 bbls. of mud with no returns at all.

11/1/62

Dialog found pipe stuck at 5630', backed off at 5627', had good circulation at 4600'. Lost circulation again at approximately 5200' pipe open ended. Left 16 drill collars and one joint of drillpipe in hole. Present operation, attempting to regain circulation at approximately 5200'.

11/2/62

Good circulation, came out of hole with drillpipe, ran bit to 5637' top of fish. Conditioned mud in hole, came out of hole with bit. Mud 8.9. Vis. 110. Water loss 8. Present operation, going in hole with 6 3/8" washover shoe.

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11/3/62

Washed over 1 joint of drillpipe. Came out of hole, went back in, screw on to fish at 5637'. Rigged up Dialog back off 1 joint of drillpipe at 5668'. Recovered some. Present operation, went back in hole with washover pipe. Washing over collars at 5708'.

11/4/62

Washover pipe started torquing up and pressured up 40# over collars (5708'). Came out of hole with conventional shoe. Shoe was split, went back in hole with cutright shoe. Went back to 5708', 40' below top of fish. Torquing up and pressured up. Rigged up Dialog. Ran to top of jars, could not get through jars (too small of opening). Came out of hole, shoe indicated being over fish. Went back in with 2 joints of washover, left jars out. Present operation, going in hole with washover pipe.

11/5/62

Went back to 5708' with 6" washover pipe, still torquing up. Came out of hole, changed back to 6 3/8" washover pipe, went back in hole to 5708', washed over to 5739' (two drill collars). Present operation, in preparation to go in hole to catch fish to back two collars off. Mud 8.6. Vis. 103. Water loss 10. Had 6 1/2 hours washing over, 3 1/2 hours changing washover pipe, 1 1/2 hours running collar locator, ten hours trips, 2 hours circulating over fish. Good circulation, no loss of mud.

11/6/62

Attempted to screw in top of fish at 5668', could not screw into fish. Came out of hole, put overshot on, went back to top of fish at 5668', caught fish, ran Dialog freepoint, fish stuck at 5679'. Got loose from fish, came out of hole, put 3 joints 6 3/8" washover pipe on. Present operation, prep to start washing over. Mud 8.8. Vis. 160. Water loss 6.8. Will raise vis. to 200. Good circulation, have not lost any mud.

11/7/62

Washed over fish from 5668' to 5758', came out of hole with washover pipe, ran back in with overshot, caught fish, back off at 5728' (two drill collars), recovered same. Present operation, running 3 joints of 6 3/8" washover pipe, top of fish at 5728'. Mud 8.7. Vis. 150. Water loss 6.8.

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11/8/62

Washed over fish from 5728' to 5818', lost circulation at this depth. Pulled washover pipe into 7 5/8" casing. Started mixing mud up, until midnight had pumped in between 450 and 500 bbls. (2 pits) of mud with heavy concentrate of lost circulation material. Unable to read radio this a.m. but believe they are pumping in 3rd or 4th pit of mud.

11/9/62

Seven hours tripping, one hour servicing rig, 16 hours mixing mud, have mixed 3 pits of mud since 8 a.m. Approximately 900 bbls. pumped in, going in hole open end to run gel plug, hole standing full when we stopped mixing mud, had 90% returns.

11/10/62

Went on to 5728' (top of fish), screwed in, pumped through drill collars with 50% circulation. Unscrewed from fish, pulled up to 5700'. Had lot of trouble with pump plugging up while mixing up material. Started pumping material away at 10:25 p.m. 11/9/62. Job completed at 1 a.m. Start pumping in at 350#. Final pumping pressure after material was displaced 500#. Instant shut in pressure 175#, end of 1 hour 75#. Mixed 40 sx. salt gel, 5 sx. lime, 7 sx. clay, 2 sx. King seal. Present operation, at 2000' cond. mud with full returns. Vis. 55. Mud weight 8.8.

11/11/62

Cond. mud to top of fish (5728'). Mud weight 8.6. Vis. 55. Came out of hole, ran washover pipe. Washover from 5728' to 5822', 94' with good circulation, one hour washing over. Came out of hole, ran back in hole open end, screw into fish. Rig up Dialog to run freepoint. Ran freepoint to 2800', got hung up. Pulled out of rope socket, ran overshot pulled instrument loose. Present operation, coming out of hole with instrument. Will unscrew from fish to pump bridge out of drillpipe.

11/12/62

Unscrewed from fish, circulated through drillpipe, screwed back into fish, went in with Dialog freepoint. Backed off 8 drill collars, left 6 in hole. Top of fish at 5961'. Came out of hole, lay 8 drill collars down, went back in hole to top of fish. Broke circulation, losing some mud. Picked up three stands above top of fish, broke circulation, had full returns. Present operation, circulating down at 5871', 90' above fish with full returns.

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11/13/62

Circulated down and over fish, to 5961' with good circulation. Came out of hole with washover pipe, went back in hole open end with pumper jars on. Screwed into fish, jarred for 30 minutes, fish came loose. Laying down fishing tools, all fish recovered.

11/14/62

Logging, had some trouble with logging unit.

11/15/62

Ran 67 joints of 5 1/2" OD, 8-round, 15.5#, Range 2, S.T. & C. casing for total of 2216.89'. Set at 6199' KB. Top of liner at 3982.11' KB. Ran cement basket at 5143.73' KB. Float collar at 6167.97' KB. Cemented with 240 sx. of 50/50 Pozmix. Plug down at 3:10 a.m. 11/15. Lost circulation just as circulation was started.

11/16/62

Attempting to move rotary rig. Ran temperature log, top of cement at 4700'.

11/17/62

Waiting on completion of rotary rig.

11/18/62

Waiting on rotary to move out. Shut down due to mud conditions.

11/19/62

Unable to move out rotary due to severe mud conditions.

11/20/62

Unable to finish moving out rotary due to severe mud conditions.

11/21/62

Unable to finish moving out rotary due to severe mud conditions.

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11/22/62

Unable to finish moving out rotary due to severe mud conditions.

11/23/62

Unable to finish moving out rotary due to severe mud conditions.

11/29/62

Moving in completion rig.

11/30/62

Moved in completion rig. Rigging up, picked up 2 3/8" tubing. Having engine trouble.

12/1/62

Ran 6 3/4" bit to top of liner (3782') no apparent cement on top of liner. Circulated hole, came out of hole. Ran Halliburton RTTS, 7 5/8" packer set at 3900'. Rigged up Halliburton, pressured up 1000# on back side. Pumped down tubing rate of 4 BPM at 1600#. Stopped pumps, well held 200# pressure. Started cement. Squeezed top of liner with 150 sx. regular 2% CaCl<sub>2</sub>, maximum squeeze pressure 1800#, standing pressure 1800#. Released tool, came out of hole. Job complete at 7:45 p.m. 11/30. Let cement set 10 hours, went back in hole with 6 3/4" bit, found top of cement 3925'. Present operation, drilling cement at 3950'. Lack 32' being to top of liner.

12/2/62

Having pump trouble (work on pump). Plugged bit, made trip. Back on bottom at 7 p.m. Started drilling, pump still giving trouble. Finished drilling cement from 3950' to 3982', pressured up on top of liner to 1900# with rig pump. Present operation, in prep to come out of hole to run 4 3/4" bit.

12/3/62

Ran 4 3/4" bit to PBTD. Came out of hole, shut down.

12/4/62

Attempted to run correlation log, could not get correlation. Ran Gamma Ray Neutron inside of casing, shut rig down.

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## OPEN FLOW TEST DATA

DATE December 13, 1962

12/5/62

Go in hole with tubing, spotted 1000 gal. acid. Came out of hole. Rigged up Welex, perforated 2 per foot. Note: perforated according to Gamma Ray Neutron correlation log, original Gamma Induction Log misleading as to sand intervals. Perforated 6150' - 6136', 6118'-6128', 6110'-6088', 6054'-6076', 6045'-6026'. Rigged up Western Co. (4 pumps). Pumped out acid. Breakdown on acid, 200#, well went on vacume. Started frac:

All pumps on	1100#	Breakdown & fill	40 bbls.
Maximum pressure	1200#	Treating fluid	77,700 gal.
Maximum treat. press.	1200#	Overflush	15 bbls.
Minimum treat. press.	1000#	Sand (20-40)	95,000 lbs.
Average treat. press.	1100#	Rubber balls	110
Final treating pressure	1000#	Injection rate	52.5 BPM
Instant shut in	400#	Number of holes	173
Five min. shut in	Vac.	Job complete	2:27 a.m. 12/5/62

Rigged up Welex, set bridge plug at 4108' KB. Rigged up Western, pressured up on bridge plug 2600#, OK. Rigged up Welex, perforated two per foot PC 3937'-3945', 3918'-3930', 3890'-3910', total of 80 holes.

12/6/62

Rigged up Western Co. to frac PC:

Breakdown 1 pump	2500#	Breakdown & fill	90 bbls.
All pumps on	1700#	Treating fluid	100,000 gal.
Maximum pressure	2500#	Overflush	None
Maximum treat. press.	1500#	Sand (20-40)	100,000 lbs.
Minimum treat. press.	1000#	Rubber Balls	60
Aver. treat. press.	1400#	Injection rate	50.6 BPM
Final treating pressure	800#	Job complete	at 9:34 a.m. 12/6
Instant shut in	600#		
Five min. shut in	400#		

Started blowing well down at 5 p.m. 12/6/62. Blew down to 1850', well started unloading on own. Blew well on to top of liner (3982') at this depth at 2:30 a.m. 12/6/62. Blew well from this depth until 6:30 a.m. Well clean of sand and water. Gauged well, making 3 million. In prep to drill plug at 4108'.

12/7/62

Drilled top off of bridge plug at 4108', water came back up hole, blew back down to 4108'. Drilled plug loose, blew and pushed plug on to PBTD of 6150'. Blew and cleaned well from 10 p.m. to 1 a.m. after reaching PBTD. Well gauged from 1500 to 2500 MCFD, clean of sand, still making

WELL:

CHAMPLIN 2-35

## OPEN FLOW TEST DATA

DATE December 13, 1962

12/7/62 Cont'd.

quite a lot of water. Well logging frac water. Started laying down 2 3/8" tubing at 1:30 a.m., tubing laid down at 6:30 a.m. Present operation, prep to set Model D production packer.

12/8/62

Ran and set Model "D" packer at 5954'. Ran 183 joints 1 1/2" 2.90# V-50 10-round, total 5931.54', one 1 1/2 X 8' sub, tubing set at 5950' KB. Ran 117 joints 1" 1.80 non-FUE 10-round set at 3844.60' KB. Total tubing 3834.60', 1" landed at 7:15 p.m. 12/7.

12/9/62

Well shut in (MV) 24 hours. Shut in pressure 1210#, shut in pressure PC 860#. Ran 3 hour test through 3/4" choke on MV side. End of 3 hours well had 21# flow pressure = 462 MCFD. Well made lot of water throughout test. Well blew and cleaned some more before shut in for 7 day test.

12/10/62

Well shut in, PC, blowing and cleaning MV.

12/12/62

Will test PC today.

12/13/62

Well tested, tubing pressure 1045#, casing 1045#. After 15 minutes 141#, 30 minutes 130#, 45 minutes 126#, one hour 126#, two hours 102#, three hours 102#. Casing after 15 minutes 1012#, 30 minutes 978#, 45 minutes 952#, one hour 937#, two hours 877#, three hours 849#. PC shut in 7 days. MV tubing shut in pressure 1258#, after 15 minutes 190#, 30 minutes 102#, 45 minutes 89#, one hour 63#, two hours 60#, three hours 56#.

Operator Consolidated Oil & Gas, Inc.		Lease Champlin No. 2-35	
Location 1800' F/SL, 1680' F/EL, Sec. 35-T27N		County Rio Arriba	State New Mexico
Formation Pictured Cliffs		Pool Tapicito	
Casing Diameter 7 5/8"	Set At: Feet 4073'	Tubing Diameter 1"	Set At: Feet 3845'
Pay Zone: From 3890'	To 3945'	Total Depth 6242'	
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 1045	- 12 = PSIA 1057	Days Shut-in 7	Shut-in Pressure, Tubing, PSIG 1045
Flowing Pressure: P, PSIG 102	- 12 = PSIA 114	Working Pressure: P <sub>w</sub> , PSIG 849	- 12 = PSIA 861
Temperature: T 60 (est.)	n = 0.85	P <sub>gv</sub> (From Tables) 1.012	Gravity 0.70 (est.)

$$\text{CHOKE VOLUME} = Q = C \times P_r \times F_r \times F_g \times F_v$$

$$Q = 14.1605 \times 114 \times 1 \times .9258 \times 1.012 = 1512 \text{ MCF/D}$$

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

$$Aof = \left( \frac{1,117,249}{375,928} \right)^n$$

$$Aof = 3811 \text{ MCF/D}$$

TESTED BY: Clyde Phillips

WITNESSED BY:

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

Operator Consolidated Oil & Gas, Inc.		Lease Champlin No. 2-35	
Location 1800' F/SL & 1680' F/EL, Sec. 35-T27N		County Rio Arriba	State New Mexico
Formation Mesaverde		Pool Blanco	
Casing Diameter 5 1/2"	Set At: Feet 3982'-6199'	Tubing Diameter 1 1/2"	Set At: Feet 5950'
Pay Zone: From 6026'	To 6150'	Total Depth 6242'	
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 1045	- 12 = PSIA 1057	Days Shut-in 7	Shut-in Pressure, Tubing, PSIG 1268
Flowing Pressure: P, PSIG 96	- 12 = PSIA 68	Working Pressure: P <sub>w</sub> , PSIG 1268	- 12 = PSIA 1280
Temperature: T 46	n = 0.75	P <sub>gv</sub> (From Tables) 1.013	Gravity 0.70 (est.)

$$\text{CHOKE VOLUME} = Q = C \times P_r \times F_r \times F_g \times F_v$$

$$Q = 14.1605 \times 68 \times 1.0137 \times .9258 \times 1.013 = 915 \text{ MCF/D}$$

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

$$Aof = \left( \frac{1,117,249}{375,928} \right)^n$$

$$Aof = 3811 \text{ MCF/D}$$

TESTED BY: Clyde Phillips

WITNESSED BY:

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