DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CHAMPLIN NO. 1 - 35

Rio Arriba County, New Mexico
January 29, 1963

Location:	990' F/SL & 990' F/WL, Section 35, T27N-R4W, N. M. P. M.
Elevations:	6991' GL 7002' KB - all measurements from KB
Spud:	November 29, 1962
Drilling Completed: Well Completed:	December 20, 1962 January 6, 1963
Total Depth:	8264' Drilled 8229' PBTD
Casing - Surface:	13 3/8" set at 301' with 300 sx. regular 2% $CaCl_2$ cement.
- Production:	8 5/8" set at 4024' with 300 sx. 50/50 Poz-mix, 4% gel, 2% $CaCl_2$ cement. 5 1/2" liner set from 3914' to 8264' cemented with 445 sx. Diacel D and 100 sx. regular.
- Tubing:	1 1/2" landed in Model "D" packer at 7916' 1" landed at 3751'.
Logs:	ES-Induction, Gamma Ray Neutron, Gamma Ray Accoustic
Cores & Drillstem Tests:	None

Formation Tops - Log:

Kirtland	3500'	(+3503)
Fruitland	3622'	(+3381)
Pictured Cliffs	3784'	(+3219)
Cliffhouse	5560'	(+1443)
Point Lookout	5920'	(+1083)
Dakota	7978'	(- 975)

Producing Perforations:

DK	PC
7984' - 8000'	3796' - 3810'
8014' - 8020'	3817' - 3830'
8040' - 8024'	3836' - 3844'
8088' - 8094'	3864' - 3868'
8122' - 8144'	
8162' - 8177'	

Treatment:	DK	Sand water frac with 129,950 gal. water and 100,000 lbs. sand in two stages.
	PC	Sand water frac with 51,550 gal. water and 77,500 lbs. sand.
Initial Potential:	DK	Flow volume thru 3/4" choke: 4056 MCFD
	PC	Flow volume thru 3/4" choke: 1412 MCFD Calculated Absolute Open Flow Potential: 6070 MCFD

WELL: Champlin No. 1-35

990' F/SL, 990' F/WL, Sec. 35-T27N-R4W

FIELD: Basin Dakota & Tapicito Pictured Cliffs

COUNTY: Rio Arriba STATE: New Mexico

ELEVATIONS: 6991' GL

7002' KB

11/29/62

Drilling mouse hole.

11/30/62

Drilled 350' of 12 1/4" hole. Present operation, laying down drill collar to pick up 17 1/2" reamer. Dev. 1/4° at 145', 1/4° at 285'.

12/1/62

Ream 12 1/4" hole to 17 1/4" to 310'. Ran 9 joints 13 3/8", 48#, Range 2 casing total 321' set at 301'. Cemented with 300 sx. regular 2% $CaCl_2$, plug down at 6 a.m. Good returns.

12/2/62

Depth 460'. Drilled 110' 11" hole. Present operation, drilling with Bit 1 with water.

12/3/62

Depth 1260'. Drilled 800' of sand and shale. Drilling with Bit 2. Mud 9. Vis. 37. Water loss 9.4. Dev. 3/4° at 930'.

12/4/62

Depth 1705'. Drilled 445' of sand and shale. Drilling with Bit 3. Mud 8.9. Vis. 50. Dev. 1° at 1620'.

12/5/62

Depth 2135'. Drilled 424' of sand and shale. Present operation, drilling with Bit 5. Mud 9.5. Vis. 42. Water loss 10. Mud cake 2/32. PH 9. Dev. 1 1/4° at 2100'.

WELL: CHAMPLIN NO. 1-35

12/6/62

Depth 2510'. Drilled 375' of sand and shale. Present operation, tripping for Bit 6. Mud 9.4. Vis. 44.

12/7/62

Depth 2776'. Drilled 266' of sand and shale. Present operation, making trip for Bit 7. Mud 9.2. Vis. 48. Dev. 1/2° at 2700'.

12/8/62

Depth 3055'. Drilled 279' of sand and shale. Present operation, tripping for Bit 8. Mud 9.4. Vis. 47. Dev. 3/4° at 3005'.

12/9/62

Depth 3345'. Drilled 290' of sand and shale. Present operation, tripping for Bit 8. Dev. 1° at 3270'. Vis. 44. Mud 9.4.

12/10/62

Depth 3517'. Drilled 172' of sand and shale. Present operation, tripping for Bit 10. Mud 9.3. Vis. 44. Dev. 1/2° at 3270'.

12/11/62

Depth 3863'. Drilled 346' of sand and shale. Present operation, making trip for Bit 11. Mud 9.5. Vis. 45.

12/12/62

Depth 3987'. Drilled 124' of sand and shale. Present operation, making trip for Bit 12. Mud 9.5. Vis. 65. Had trouble with torque converter.

12/13/62

Depth 4025'. Drilled 38' of sand and shale. Circulated and conditioned hole, came out of hole, ran logs. Rigged up, ran 8 5/8" casing. Ran 124 joints 8 5/8" 32# J-5 range 2 casing set at 4024' KB. Float collar at 3992' KB. Cemented with 300 sx. 50/50 Pozmix, 4% gel. 2% $CaCl_2$. Bumped plug with 1500#. Plug down 5:55 a.m. 12/13/62. Good circulation throughout cement job. Present operation, WOC and nippling up.

WELL: CHAMPLIN NO. 1-35

12/14/62

Nippled up, pressured up to 1000# for 30 minuts. Blew 8 5/8" casing down, present depth 4025'. Drilled float collar in prep to drill shoe.

12/15/62

Depth 4750'. Drilled 725' of sand and shale. Bit No. 13 in hole. Dev. 1/2° at 4200', 3/4° at 4695'.

12/16/62

Depth 5380'. Drilled 360' of sand and shale. Bit No. 14 in hole. Dev. 1 1/4° at 5266'. Well dusting good.

12/17/62

Depth 6232'. Drilled 852'. Present operation, drilling with Bit 15. Dev. 1/2° at 5733'. Estimated 300 MCFD natural show at 5560'. No apparent increase in natural show since this depth.

12/18/62

Depth 7132'. Drilled 900' of sand and shale. Drilling with Bit 16. Dev. 1 1/4° at 6738'.

12/19/62

Depth 7872'. Drilled 740'. Present operation, drilling with Bit 17. Dev. 1 1/2° at 7320', 1 1/4° at 7730'.

12/20/62

Depth 8264'. Drilled 392'. Bit No. 18 in hole. Present operation, coming out of hole to log. Reduced hole from 7 7/8" to 6 3/4" at 7950'.

12/21/62

Came out of hole with drill pipe, ran logs. Rigged up and ran 5 1/2" liner. Ran 133 joints 17# 5 1/2" casing for 4349.96' set at 8264' KB. Float collar at 8229', top of liner at 3914' KB. Cemented with 445 sx. 20% Diacel D, tailed in with 100 sx. regular 4% gel. Ran one centralizer at 7835' KB, one at 4115' KB. Plug down 12:30 a.m. 12/21, bumped plug with 1500#. Present operation, WOC. Tearing down rotary rig.

WELL: CHAMPLIN 1-35

12/22/62

Waiting on rotary rig to move.

12/23/62

Waiting on rotary rig to move.

12/24/62

Waiting on completion rig.

12/25/62

Waiting on completion rig.

12/26/62

Will finish moving in completion rig today.

12/27/62

Finished moving in completion rig.

12/28/62

Nippled up, ginned 2 7/8" completion string on rack. Got rigged up by dark and could not get light plant to work. Worked on it till 11 p.m. and could not get it to run, came to Farmington for repairs. Present operation, getting ready to start picking up 2 7/8".

12/29/62

Work on light plan, got plant running at 10 a.m. Work on pump motor until 2 p.m. Start in hole with 2 7/8" tubing. Air liner freezing up on rig. Top cement at 2279', 1635' above top of liner. From 7 p.m. to 10:30 p.m. thawing out water lines from frac tanks to circulation pit. Started drilling cement at 10:30 p.m. Drilled good firm cement from 2279' to 2683', drilled 404' of cement. Lack 1231' being to top of liner. Present operation, thawing out air lines on rig.

12/30/62

Firm cement at 3443'. Drilled 760' of cement. Lack 471' being to top of liner. Fell through cement at 2930' to 2955'. Have drilled firm cement from this depth 2955' to present depth 3443'. Present operation, drilling cement.

WELL: CHAMPLIN 1-35

12/31/62

Drilled firm cement from 3443' to 3536', total 93'. Fell through at this depth, went on to top of liner at 3914'. Circulated 1 1/2 hours, pressured up with rig pump to 1750#. Pressure held, came out of hole, put on 4 3/4" bit, went inside of 5 1/2" liner, no cement inside of liner. Pressured up with Halliburton to 3000#. Pressure held, clened out to 8218' TD. Spotted 1000 gal. of MCA, pulled out of hole, rigged up Lane Wells, ran correlation log over DK. Present operation, running correlation log over PC.

1/1/63

Rigged up Lane Wells, perforated 4 per foot 8088'-8094', 8122'-8144', 8162'-8177', 172 holes total. Rigged Halliburton acid treatment.

First stage, breakdown 1 pump, 700#, 5 min. 200#, 250 gal. 5 BPM
Second stage, breakdown 1 pump, 1000#, 5 min. 450#, 250 gal. 8 BPM
Third stage, maximum pressure 1100#, 5 min. 600#, 250 gal. 8 BPM
Fourth stage all pumps, max. 2200#, instant s.i. 1200#, 250 gal. 30 BPM

First Stage Frac:

All pumps on	2500#	Breakdown & fill	3380 gal.
Max. treat. press.	2950#	Total treating fluid	80,090 gal.
Min. treat. press.	2500#	Overflush	50 bbls.
Aver. treat. press.	2650#	Sand	60,000 lbs.
Instant shut in	2350#	Injection rate, tret.	36.3 BPM
Five min. shut in	2175#	Injection rate, flush	27.0 BPM
Job complete 12:24 p.m. 12/31		Rubber Balls	40

4# of FR-4 per 1000 gal. of treatment fluid, 1% CC mixed in 100,000 gal.
Rig up Lane Wells. Set Baker Model JC plug at 8066' KB. Perforated four per foot 8040'-8024', 8014'-8020', 7984'-3000', 152 holes.

Second Stage Frac:

Breakdown, all pumps	2300#	Breakdown & fill	2290 gal.
Max. treat. press.	2650#	Total treating fluid	49,860 gal.
Min. treat. press.	2300#	Overflush	None
Aver. treat. press.	2400#	Sand	40,000 lbs.
Instant shut in	1900#	Injection rate	42.5 BPM
Five min. shut in	1700#	Injection rate, flush	40.8 BPM
Job complete at 6:30 p.m. 12/31		Rubber Balls	40

Rig up Lane Wells, set Baker plug at 4010'. Perforated 2 per foot 3868'-3864', 3844'-3836', 3830'-3817', 3810'-3796', 78 holes.

WELL: CHAMPLIN NO. 1-35

1/1/63 Cont'd.

Third Stage Frac: PC

Breakdown, 2300# to 500#		Breakdown & fill	2090 gal.
Max. treat. press.	1620#	Total treating fluid	51,550 gal.
Min. treat. press.	800#	Overflush	None
Aver. treat. press.	1100#	Sand	77,500 lbs.
Instant shut in	450#	Injection rate, treat.	51.0 BPM
Five min. shut in	300#	Injection rate, flush	39.0 BPM
Job complete at 11:25 p.m.		Rubber balls	40
Max. injection rate	70 BPM	Minimum injection rate	29 BPM

Unable to get 100,000# in due to ice getting in blender and knocking pump out. In prep to lay blouie line.

1/2/63

Laid blouie line, got started blowing well down at 2 p.m. 1/1. Blew well down to 1500'. PC kicked off, blew well from 4 p.m. to 8 p.m., gauged well, well gauged 5000 MCFD, clean of water and sand. Cleaned out sand from 3870' to 4010'. Drilled top off of bridge plug at 4010' at 3:30 a.m. 1/2. This zone kicked off at 6 a.m., making lot of water, sand, oil and gas. A sizeable increase in gas will finish drilling plug when well cleans up some.

1/3/63

After drilling top off plug at 4010' well unloaded and blew hard for 4 hours. This apparently was built up pressure under plug from first Dakota. Well showed some oil at this time, finished drilling plug at 4010', pushed and drilled plug on to 8066', well clean of sand, light spray of water and oil. Well gauged 5000 MCFD, drilled plug up, drilled top off plug at 8066'. Water and pressure came up hole, blew well back down to 8066', drilled plug loose, pushed on to 8222' PBTD. Blew well two hours, well making spray of water, good show of oil, well logging. Well gauged 4000 MCFD, present operation, in prep to lay 2 7/8" completion string down.

1/4/63

Laid 8200' of 2 7/8" completion string down. Rigged up Lane Wells, set Baker Model D packer at 7915' KB. Nippled up to lubricate tubing in hole. Present operation, running 1 1/2" tubing, well logging and unloading oil.

WELL: CHAMPLIN NO. 1-35

1/5/63

Got 1 1/2" tubing landed at 4:30 p.m. Well unloading oil throughout running of 1 1/2" tubing. Shut down due to darkness hazzard of fire from lights. Well still unloading oil. Started running 1" this a.m.

1/6/63

Started running 1" tubing at 8 a.m. DK ran 241 joints 1 1/2" EUE 8-round, tubing for 7801.11' plus 2 blast joints 60.30', plus pup joints 44.33', plus 11' for KB, tubing landed at 7916.14' KB. PC ran 119 joints 1" EUE tubing for 3740.21' plus 11' for KB, tubing landed at 3751.51' KB. One jet collar at 3247.89' KB, one jet collar at 3499.58' KB.

1/7/63

Shut in for test.

1/16/63

Installing separator and tank, should test well today.

1/17/63

Set tank and separator, will run 3 hour test on DK today.

1/18/63

Ran 3 hour test on DK, initial shut in pressure 2390#, final after 3 hours 280#, heavy spray of oil and water throughout test. Made 63 bbls. oil in 16 hours.

OPEN FLOW TEST DATA

DATE January 21, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin 1-35	
Location: 990' F/SL & 990' F/WL, Sec. 35, T27N,R4W		County: Rio Arriba	State: New Mexico
Formation: Dakota		Pool: Basin	
Casing: Diameter: 8-5/8"	Set At: Feet: 4024	Tubing: Diameter: 1-1/2"	Set At: Feet: 7916
Pay Zone: From: 7984	To: 8177	Total Depth: 8264	
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: 956	+ 12 = PSIA: 968	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 2390	+ 12 = PSIA: 2402	
Flowing Pressure: P PSIG: 280	+ 12 = PSIA: 292		Working Pressure: P_w PSIG:	+ 12 = PSIA:	
Temperature: T °F: 42	n = 0.75		F_{pv} (From Tables): 1.041	Gravity: 0.70	

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

Q = 14.1605 x 292 x 1.0178 x .9258 x 1.041 = 4056 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 _____

WITNESSED BY _____

Chief Engineer

OPEN FLOW TEST DATA

DATE January 21, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin 1-35	
Location: 990' F/SL & 990' F/WL, Sec. 35, T27N, R4W		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Tapicito	
Casing: Diameter: 8-5/8"	Set At: Feet: 4024	Tubing: Diameter: 1"	Set At: Feet: 3752'
Pay Zone: From: 3796	To: 3868	Total Depth: 8264	
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: 956	+ 12 = PSIA: 968	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 956	+ 12 = PSIA: 968	
Flowing Pressure: P PSIG: 91	+ 12 = PSIA: 103		Working Pressure: P_w PSIG: 865	+ 12 = PSIA: 877	
Temperature: T °F: 42	n = 0.85		F_{pv} (From Tables): 1.013	Gravity: 0.68	

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

Q = 14.1605 x 103 x 1.0178 x .9393 x 1.013 = 1412 MCF/D

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

Aof = $\left(\frac{968^2}{968^2 - 877^2} \right)^n$ = 4.32

Aof 6070 MCF/D

TESTED BY John Walker

WITNESSED BY _____

Chief Engineer