DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CHAMPLIN NO. 6-25

Rio Arriba County, New Mexico

October 25, 1963

Location: 1850' F/NL, 1850 F/WL, Section 25, T27N, R4W, NMPM

Elevation: 7317'
7329' KB - All measurements from KB

Spud: July 28, 1963

Drilling Completed: August 15, 1963

Well Completed: September 17, 1963

Total Depth: 8582' TD
8541' PBD

Casings:

Surface: 12-3/4" set at 300' with 274 sx reg., 2% $CaCl_2$.

Intermediate: 8-5/8" 32# casing set at 4376' with 325 sx Class "A" cement.

Production Liner: 4-1/2" 11.6# casing set from 4298' to 8581'. Cemented up 520 sx 20% Diacel and 100 sx regular 4% gel.

(Also, 4-1/2" liner from surface to 2100', set in Baker Model "DA" packer.)

Tubing: Dakota: 1-1/2" EUE and integral joint landed in Model "D" packer at 8280'.

Logs: Lane-Wells Gamma-Ray/Neutron

Cores & Drillstem Tests: None

Formation Tops (log):

Pictured Cliffs	4126' (+ 3203')
Cliff House	5920' (+ 1409')
Point Lookout	6306' (+ 1023')
Graneros	8366' (- 1037')
Dakota	8446' (-1117')

Producing Perforations:

Pictured Cliffs	Dakota
4146-66'	8372-82'
4176-88'	8450-64'
4200-12'	8482-8506'
	8524-34'

Treatment: Pictured Cliffs - Sand-water frac with 35,000 gals. and 100,000# sand.

Dakota - Sand-water frac with 120,144 gals. and 100,000# sand in 2 stages.

Initial Potential: Pictured Cliffs - Flow volume through 3/4" choke = 779 MCFD.

CAOF - 1,022 MCFD

Dakota - Flow volume through 3/4" choke = 668 MCFD

WELL: CHAMPLIN NO. 6-25

1850' F/NL, 1850' F/WL, Sec. 25, T27N-R4W

FIELD: Basin Dakota, Tapacito Pictured Cliffs

COUNTY: Rio Arriba STATE: New Mexico

ELEVATIONS: 7317' GL

7329' KB

7/28/63

Moving in rotary rig.

7/29/63

Depth 300'. Drilled 300' 12 1/4" surface. Present operation preparing to ream to 17" hole.

7/30/63

Present operation nippling up. Ran 10 joints 12 3/4" surface casing for a total of 307'. Set at 300' KB. Cemented with 274 sx regular 2% calcium chloride. Job completed at 9:45 a.m. 7-29-63. Cement okay.

7/31/63

Depth 1432'. Drilled 1132' of sand and shale. Drilling with Bit 2. Mud 8.9. Visc. 34, water loss 9.6. Dev. 1/2° at 800'. 3/4° at 1290'.

8/1/63

Depth 2789'. Drilled 635' of sand and shale. Present operation, drilling with Bit 4. Dev. 3° at 2300'. Mud 9.2, Visc. 45, water loss 9.6.

8/2/63

Depth 2153'. Drilled 721' sand and shale. Drilling with Bit 3. Mud 9.1, Visc. 40, dev. 1/2° at 1800'. Water loss 9.6.

8/3/63

Depth 3198', drilled 407' sand and shale. Present operation drilling with Bit 5. Dev. 1 1/2° at 2800'. Mud weight 9.2, visc. 40, water loss 10.

8/4/63

Depth 3564', drilled 366' sand and shale. Present operation drilling with Bit 6. Mud weight 9.2, visc. 44, water loss 9.6, 2° dev. at 3300'.

8/5/63

Depth 3590'. Drilled 336' sand and shale. Present operation tripping for Bit 8. Mud weight 9.3, visc. 50, water loss 9.6. Dev. 2° at 3800'.

8/6/63

Depth 4063'. Drilled 173' sand and shale. Drilling with Bit 9. Mud weight 9, visc. 65, water loss 7.2.

8/7/63

Depth 4397'. Drilled 334' sand and shale. Present operation - drilling with Bit 9. 3° dev. at 4300'. Mud weight 9.5, vis. 71, water loss 8.5.

8/8/63

Depth 4408'. Lost approximately 50 bbls mud at this depth. Conditioned hole, made short trip, came out of hole, ran Gamma Ray Neutron log. Rigged up to run 8 5/8" casing. Ran 141 joints 32# 8 5/8" casing. Set at 4376' KB. Hit bridge 22' off bottom. Cemented with 225 sx Class "A" and 100 sx Class "A" 2% $CaCl_2$. Plug down at 4 a.m., 8-8-63. Present operation - nippling up and WOC. Total bbls of slurry - 80. First 40 bbls of slurry, 100% circulation, second 40 bbls, 40% circulation.

8/9/63

Present operation - blowing down at 2200'. Pressured up on casing to 1500#, held okay.

8/10/63

Pressured up on casing to 1600#, held okay. Drilled float collar, drilled good cement from float collar to shoe. Cleaned out 321 of open hole. No cement in this open hole. 12 hours drying hole up. Present operation - depth 4540'. Drilled 132'. Well dusting good. 300# drilling gas pressure.

8/11/63

Depth 5720'. Drilled 1108' sand and shale. Present operation - drilling with Bit 11. Dev. at 1° at 5250'.

8/12/63

Depth 6675'. Drilled 905' sand and shale. Present operation - drilling with Bit 12. 1 3/4° dev. at 6200'. No natural flow to this a.m.

8/13/63

Depth 7731'. Drilled 1049' sand and shale. Present operation - drilling with Bit 13. 3 3/4° dev. at 7045'. Slight show of oil at 7566'.

8/14/63

Depth 8440'. Drilled 709' sand and shale. Present operation - drilling with Bit 14. 4 1/2° at 8200'. Made trip for button bit at 8239'. Had to blow well 2 hours before well started dusting. No natural flow as of this a.m. Well now dusting good.

8/15/63

Depth 8581'. Ran Lane Wells logs. Ran 134 joints (4283') of 4 1/2" 11.60# set at 8581' KB. Cemented with 520 sx of 20% Diacel. Followed with 100 sx. of regular 4% gel. Plug down at 1 a.m., 8-15-63.

9/1/63

Will move in completion rig today.

9/2/63

Moved in completion rig. Present operation - picking up tubing. Depth with 7 7/8" bit 2535'. Top of cement at 2535'. Drilling soft cement at 2615', drilled 80'.

9/3/63

Drilled soft cement on to 3100'. Cement firmed up. Drilled firm cement from 3100' to 3833'. Fell thru cement at 3833'. Ran 7 7/8" bit on to 4298' (top of liner). Circulated and cleaned up hole, pressured up on top of liner. Started taking fluid at 1200#. Present operation - coming out of hole to put on packer to squeeze top of liner.

9/4/63

Ran Baker full bore packer to 4164' and set. Pressured up on back side to 1500#. Held okay. Pumped down tubing 4 1/2 BPM at 2000#. Started cement squeeze with 75 sx of regular 2% $CaCl_2$. Squeezed 55 sx around liner and left 20 sx in 8 5/8" casing. Standing squeeze pressure 2500#. Job completed at 12:30 p.m. 9-3-63. Went in hole with 7 7/8" bit to top of cement at 4163'. Started drilling cement at 12:30 a.m. 9-4-63. Present operation this a.m. - drilling cement at 4208'. Lack 90' having cement drilled.

9/5/63

Finished drilling cement inside 8 5/8" casing to top of liner (4298'). Drilled 135' of hard cement, pressured up to 1500# with rig pump, held okay. Made trip for 5 3/4" bit. Drilled 18" cement and hangar switch. Made trip for 5 3/4" bit, drilled 20' of cement in top of liner. Went in to hole to 8395' - topped cement at this depth. Present operation - drilling cement at 8526'.

9/6/63

Finished cleaning out to 8541'. Circulated and cleaned hole. Rigged up Western Company. Attempted to pressure up to 3500#. Reached pressure of 3400#, pressure dropped off. Ran Baker 8 5/8" full bore packer. Checked casing. Found casing parted at 1984'. Attempted to circulate around 8 5/8" casing, could not. Shut rig down - order Model DA Baker packer to run 8 5/8" casing. Packer will arrive approximately 8:30 tonight.

9/7/63

Packer arrived on 8:30 p.m. plane. Started up rig at midnight. Rigged up Go wireline service. Ran Baker Model DA 8 5/8" packer to 2100' KB and set. Had a small amount of trouble getting through place at 2000'. Rigged up and ran 65 joints 4 1/2" 11.60# casing. Ran 1 joint 5 1/2" 15.5# casing on top. Present operation - preparing to pressure up on 4 1/2" casing and packer. If okay, will nipple up.

9/8/63

Pressured up with Western Company to 3200#. Held okay. Nippled up, going in hole with tubing to 8540'. Spotted 1,000 gals acid. Pulled out of hole, rigged up Go wireline service, perforated first stage of Dakota. Waited on frac trucks from 12 a.m. to 7 a.m. Present operation - rigging up to frac.

9/8/63 (con't)

Perforated Dakota 4 per foot 8534'-8524'; 8506'-8482'; 8464'-8450': Waited on Western 1 a.m. to 7 a.m. Rigged up Western - staged acid.

1st stage: Break down 1 pump from 1700# to 400# to stage 4 bbls - rate 4 BPM
2nd stage: Break down 1 pump from 1000# to 500# to stage 4 bbls - rate 4 BPM
3rd stage: Break down 1 pump from 1200# to 600# to stage 4 bbls - rate 4 BPM
4th stage: All pumps on: 2800#.

started fracing. (5 pumps)

All pumps on	2800#	Break down and and fill	30 bbls
Max. pressure	3100#	Treating fluid	68,544 gals
Min. Pressure	2800#	Over flush	60 bbls
Avg. pressure	3000#	Sand: 30,000# 40-60,	30,000# 20-40
Final treating pressure	3000#	Injection rate	35 BPM
5 min. S.I. pressure	2200#		
Instant S.I. pressure	2100#		

At end of flush - 4 pumps 3000# @ 18 BPM. Job complete @ 8:45 a.m.

WELL: CHAMPLIN NO. 6-25

9/8/63 (con't)

Closed preventor; rigged up Go to set plug. Worked on preventor 2 1/2 hours trying to get open. Worked plug down to 8390'. Could not get below this depth. Set plug at 8390' KB. Went in with gun - got to 8310'. Went in hole with bit. Found 125' of silt and sand on top of plug. Circulated and cleaned hole. Came out of hole with 3 3/4" bit.

Rigged up Go Wire Line Service. Perforated Graneros 6 per foot: 8372'-8382'.

Rigg ed up Western Co. (4 pumps, unable to get 5th pump on)

Break down 1 pump	1200#	Break down and fill:	60 bbls
All pumps on (4)	3000#	Treating fluid	51,600 gals
Max. pressure	3100#	Over Flush	none
Min. pressure	2900#	Sand: 20,000# 40-60, 20,000# 20-40	
Avg. treating pressure	3000#	Injection rate:	30 BPM
Instant S. I. pressure	2600#	Rubber balls:	25
5 min S. I. pressure	2200#		
30 min S. I. pressure	2000#		

NOTE: Dropped 25 balls at 29 BPM. Balls hit - started reducing pumps. Well screened out. 34,000# sand in formation, 6000# left in casing.

Set Go plug at 4390' KB. Got loose from plug - came up hole 15', sand stuck setting tool, pulled out of rope socket.

9/9/63

Going in to perforate Pictured Cliffs. Gun set down at 4116', 100' above lowest perforation. Rigged up, going in hole with 3 3/4" bit to circulate out sand, (8:30 a.m.) Circulated 200' of frac sand off top of liner. Came out of hole with bit. Rigged up Go Wire Line Service - perforated Pictured Cliffs with 2 shots per foot from -4146'-4166'; 4176'-4188'; 4200'-4212'. Rigged up Western

Break down 1 pump 900# to	700#	Break down and fill	60 bbls
All pumps on:	1900#	Treating fluid	55,000 gals
Max. pressure	2600#	lbs of sand: 100,000# 20-40	
Min. pressure	1800#	Rubber balls	45
Avg. treating pressure	1900#	Injection rate:	49 BPM
Instant S.I. pressure	200#		
5 min. S. I. pressure on vac.			

NOTE: Had all 100,000# in casing. Had raised pressure to 2600# by dropping balls when Western line cut out, shut all pumps down. Had approximately 90,000# in formation. Finished job at 5:30 p.m. 9/9/63. Having preventor trouble, "can't close blind rams."

WELL: CHAMPLIN NO. 6-25

9/10/63

Present operation - blowing down at 3070', no help from zone. Blowing lots of sand and water.

9/11/63

Cleaned out 600' of frac sand to top of liner (4298'). Pictured Cliffs gauged 1 1/2 million. Attempted to go inside liner with overshot to recover Go setting tool. Every time went inside of liner, sand would fall back and try and stick tubing. Blew and cleaned well 4 more hours. Sand staying in turbulence up in 8 5/8" casing. Blew hole until relatively clean. Went on down inside of liner. Caught fish, had to work tool for 3 hours before getting loose. Pulled and recovered same. Went back in hole with 3 3/4" bit. Blew down 20 stands thru water and 250' of sand. NOTE: this is sand that was hanging up in 8 5/8" casing. Went on to bridge plug - 4390'. Started drilling on plug. Plug has moved up hole. Present operation - drilling on bridge plug at 4350'.

9/12/63

Got plug to move down hole, blowing down one stand at a time. Sand trying to stick tubing. Blew and cleaned well to 6000'. Stuck tubing. Worked tubing loose, came up into 8 5/8" casing. Blew and cleaned for one hour at 4250'. Went back inside 4 1/2" liner to 4867'. Had 1050' of sand fillup. Started to clean out again, got to 5000', stuck tubing due to insufficient gas velocity to circulate out of hole. Worked tubing loose at 5000'. Came out of hole, took float out of bit sub. Present operation - preparing to go in hole to circulate out sand with water.

9/13/63

Went in hole with Bit with no float. Hit top of sand at 4050'. Circulated 242' of sand out of 8 5/8" casing. Down 4 hours filling water pits and repairing flow line flange with welder. Circulated 700' of sand from 4300' to 5000'. Hit void area from 5000' to 5743'. Circulated and washed sand from 5743' to 5938' (195'). Hit bridge plug at this depth - 5938'. Have drilled and pushed plug and washed sand to 7848'. Present operation - making connection to push plug on down hole.

9/14/63

Pushed plug and cleaned out sand to 8390' (bridge plug). Finished drilling plug up that had been pushed down. Drilled plug loose at 8390'. Well started heading and unloading. Had lots of pressure under plug. Present operation - drilling on plug at 8465'. (Hanging up in perforation.) Well is heading, bringing lots of sand. Started injecting line gas. Reversing sand out of hole.

WELL: CHAMPLIN NO. 6-25

9/15/63

Pushed plug on to 8541' (PBTD). Injected line gas - well started unloading lots of sand and water. Kept line gas in well for 6 hours. Turned line gas off. Well unloading on own. Let well unload on own starting at 4 p.m. 9-14-63. Well clean of sand this a.m. at 5. Still making quite a lot of water, show of green oil. Gauge well, well gauged 3 million. Present operation - laying down 2" completion string.

9/16/63

Laid down 8500' 2 3/8" completion string. Rigged up Lane Wells. Ran Model "D" packer to 8280' from KB and set. Rigged up and ran 1 1/2" tubing to 8280'. Will run 1" tubing today.

9/17/63

Ran 187 joints of 1 1/2" upset tubing on bottom with Baker 2" seal assembly. No latch down. Ran 67 joints of integral joint 1 1/2" on top. 1 1/2" tubing landed at 8272.05' (GL). Ran 124 joints of 1" integral joint tubing with 2 jet nipples, landed at 4040'. One jet collar 3291' and one jet collar at 3780'. Nippled up head. Pumped out pump-out plug on Dakota at 1 a.m. Pictured Cliffs was pressuring up at this time. Present operation - moving completion rig to Champlin No. 7-25. If Pictured Cliffs has not kicked off this a.m., will turn line gas into Pictured Cliffs annulus.

9/18/63

Shut in Dakota yeste rday at 10 a.m. This a.m. - had 10# pressure. Will try to get well kicked off today. Pictured Cliffs - turned line gas into annulus at 11 a.m. 9-17-63. 935#. This a.m. Pictured Cliffs was unloading some gas and lots of water.

9/19/63

Pictured Cliffs flowing with 800# casing pressure with heavy spray of water. Gas too small to measure. Dropped six soap sticks down tubing on Dakota side. Shut well in for 14 hours. Pressure this a.m. 75#. Will open to see if well will kick off.

9/20/63

Pictured Cliffs still making heavy spray of water. Dakota still dead. Swabbing unit on way to location. Will swab Dakota in.

9/21/63

Rigged up and swabbed Dakota zone to depth of 1000'. Well kicked off. Both zones flowing this a.m. Heavy spray of water and some show of oil from Dakota. Gas too small to measure. Pictured Cliffs - Heavy spray of water, no gauge on gas volume.

WELL: CHAMPLIN NO. 6-25

9/22/63

Dakota gauged 450 MCF with heavy spray of water and some show of oil. Pictured Cliffs gauged 800 MCF with heavy spray of water. Both zones still flowing.

9/23/63

Dakota - lots of water and show of oil, 240 MCF. Pictured Cliffs - 1# on tubing, 460# on casing, 734 MCF. Light spray of water. Will open tomorrow and clean.

9/24/63

Dakota shut in pressure 2100#. Pictured Cliffs 1010/1010. Apparently Pictured Cliffs and Dakota are clean. Well shut in for tests.

OPEN FLOW TEST DATA

DATE September 30, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 6-25	
Location: sec. 25. 1850' F/NL, 1850' F/WL, T27N-R4W		County: Rio Arriba	State: New Mexico
Formation: Dakota		Pool: Basin Dakota	
Casing: Diameter: 4 1/2"	Set At: Feet: 8581'	Tubing: Diameter: 1 1/2"	Set At: Feet: 8284
Pay Zone: From: 8372	To: 8534'	Total Depth: 8582'	
Stimulation Method: Sand-water frac		Flow Through Casing	Flow Through Tubing: X

Choke Size, Inches: 3/4"	Choke Constant: C: 14.1605			
Shut-in Pressure, Casing, PSIG	+ 12 = PSIA	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 2249	+ 12 = PSIA: 2261
Flowing Pressure: P PSIG: 38	+ 12 = PSIA: 50		Working Pressure: P_w PSIG	+ 12 = PSIA
Temperature: T °F: 53	n = 0.75		Fpv (From Tables): 1.013	Gravity: 0.70 (est)

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

Q = 14.1605 x 50 x 1.0058 x .9258 x 1.013 = 668 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 _____

W. H. Williams

OPEN FLOW TEST DATA

DATE October 7, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 6-25	
Location: 1850'FNL, 1850'FWL, Sec. 25, T27N, R4W		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Tapicito	
Casing: Diameter: 8-5/8"	Set At: Feet: 4376'	Tubing: Diameter: 1"	Set At: Feet: 4040'
Pay Zone: From: 4146'	To: 4212'	Total Depth: 8582'	
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: 1101	+ 12 = PSIA: 1113	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 1101	+ 12 = PSIA: 1113
Flowing Pressure: P PSIG: 46	+ 12 = PSIA: 58		Working Pressure: P_w PSIG: 564	+ 12 = PSIA: 576
Temperature: T °F: 48	n = 0.85		Fpv (From Tables): 1.013	Gravity: 0.70 (est.)

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

Q = 14.1605 x 58 x 1.0117 x .9258 x 1.013 = 779 MCF/D

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

Aof = $\left(\frac{1,212,201}{880,425} \right)^n$ = 1.312

Aof = 1022 MCF/D

TESTED BY Clyde Phillips

WITNESSED BY _____

W. H. Williams, Chief Engineer