DRILLING & COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CHAMPLIN NO. 8-25

Rio Arriba County, New Mexico
October 9, 1963

Location: 1650' F/SL, 1650' F/EL, Section 25
T27N-R4W, NMPM

Elevations: 7354' GL
7366' KB - all measurements from KB

Spud: July 7, 1963

Drilling Completed: July 27, 1963
Well Completed: August 31, 1963

Total Depth: 8662' TD
8578' PBTD

Casing:

Surface: 12 3/4" set at 302' with 275 sx regular cement, with 2% $CaCl_2$.

Intermediate: 8 5/8" 32# set at 4342' with 225 sx Class "A" cement and 100 sx Class "A" cement with 2% $CaCl_2$.

Production Liner: 4 1/2" 11.60# set at 8661 (top of liner at 4289') with 525 sx 20% Diacel, plus 110 sx regular cement, with 4% gel. Burns Liner Hanger. Squeezed top of liner with 75 sx of regular cement with 2% $CaCl_2$. 53 sx behind liner.

Tubing: 1 1/2" EUE landed at 8294.36'. Baker Retrievable Packer set at 4347.14'.
1" EUE set at 4082'.

Logs: Lane Wells - Gamma Ray-Neutron

Cores & Drillstem Tests: None

Formation Tops:(Log)

Pictured Cliffs	4146' (+3220')
Cliffhouse	5738' (+1628')
Point Lookout	6078' (+1288')
Mancos	6434' (+ 932')
Greenhorn	8264' (- 898')
Graneros	8370' (-1004')
Dakota	8444' (-1078')

Producing Perforations:

Pictured Cliffs	Dakota
4160'-4686'	8374'-8386'
4194'-4206'	8400'-8418'
4216'-4226'	8426'-8431'
	8450'-8462'
	8480'-8500'
	8520'-8530'

Treatment: PC Sand-water frac with 100,000# sand and 84,000 gals water.

DK Sand-water frac with 100,000# sand and 124,400 gals jelled water.

Initial Potential: DK Flow volume thru 3/4" choke - 1,032 MCFD
PC Flow volume thru 3/4" choke - 1,568 MCFD

CAOF - 6,680 MCFD

WELL: CHAMPLIN NO. 8-25

1650' F/SL, 1650' F/EL, Sec. 25, T27N-R4W

FIELD: Basin Dakota, Tapacito Pictured Cliffs

COUNTY: Rio Arriba STATE: New Mexico

ELEVATIONS: 7354' GL

7366' KB

7/6/63

Will start pumping rig water today.

7/7/63

Starting up rotary this a.m.

7/8/63

Drilled 215' of 15" hole. Visc. 54, 1/4° Dev. at 115'. Present operation drilling ahead.

7/9/63

Present operation - waiting on cement. TD. 15" hole to 306', reamed 306' of 15" hole to 17 1/4" hole. Dev. 3/4° at 259'. Ran 16 joints of 12 3/4" casing for a total of 310', set at 302' KB. Cemented with 275 sx. of regular 2% calcium chloride. Plug down at 4:30 a.m. 7-9-63. Good returns.

7/10/63

Depth 1150'. Drilled 847' sand and shale. Present operation drilling 11" hole with Bit #1. Mud weight 8.8, visc. 38, water loss 6.8. 1/2° Dev. at 500', 3/4° Dev. at 1000'.

7/11/63

Depth 2085'. Drilled 935' sand and shale. Drilling with bit 2. Reduced hole from 11" to 10 5/8" at 1602'. Mud weight 9, visc. 45, water loss 8.8, 1/2° dev. at 1450', 3/4° dev. at 2000'.

7/12/63

Depth 2647'. Drilled 549'. 3/4° dev. at 2000'. 1 1/2° dev. at 2510'. Mud weight 9.3, water loss 9.0, visc. 47. Present operation making trip for bit 4.

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7/13/63

Depth 3087'. Drilled 440' sand and shale. Present operation trip for Bit #5. Mud weight 9.3, visc. 46, water loss 9, 1 1/2° Dev. @ 2810'.

7/14/63

Depth 3383'. Drilled 295' sand and shale. Present operation drilling with Bit 6. Mud weight 9.3, Visc. 48, water loss 7.6, 1 1/4° Dev. @ 3225'. 16 1/2 hours drilling.

7/15/63

Depth 3793'. Drilled 410' sand and shale. Present operation drilling with Bit 7. 2° Dev. at 3720'. Mud weight 9.4, Visc. 52, water loss 7.6.

7/16/63

Depth 3960'. Drilled 173' sand and shale. Present operation drilling with Bit 8. Mud weight 9.3, visc. 52, water loss 8.2.

7/17/63

Depth 4274'. Drilled 314', present operation tripping for Bit 11. Mud weight 9, visc. 56, water loss 9.8, 2° dev. at 3974'. 2° dev. at 4225', injecting gas.

7/18/63

Depth 4400'. Drilled 126' sand and shale. Present operation logging. Mud weight 9.3, visc. 80, water loss 9.8, logs went okay Should run pipe in 1 1/2 hours. Did not lose any mud.

7/19/63

Finished logging. Cut 12 3/4" pipe, welded braden head on. Ran 122 joints 8 5/8" 32# casing. Set at 4342' from KB. Cemented with 225 sx. Class A and 100 sx. Class A 2% calcium chloride. Plug down at 8 p.m., 7-18-63. Float collar at 4313.63' from KB. Lost circulation at tail end of cement job. Hole stayed full. Nippled up, WOC, preparing to blow down.

7/20/63

Depth 4420', drilled 20' sand and shale. Present operation blowing well, waiting on well to start dusting.

7/21/63

Depth 5330'. Drilled 930', drilling with Bit 11. Drilling with gas. 2° Dev. at 4657'. 1 1/2° Dev. at 5170'.

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7/22/63

Depth 5660'. Drilled 330' sand and shale. Present operation drilling with Bit 12. 1° Dev. at 5544'. Lost cone off Bit 11 at 5544'. Went in hole with magnet and recovered cone.

7/23/63

Depth 6051'. Drilled 391' sand and shale. Drilling with Bit 13. 1/4° dev. at 5970'. Lost cone off bit 12 at 5952'. Going in hole with magnet to recover same. Bit ran 7 hours - made 413'.

7/24/63

Depth 6660'. Drilled 609' sand and shale. Present operation drilling with Bit 14, drilling with gas. 1/2° dev. at 6496'. Picked up estimated 750 MCF at 6496'.

7/25/63

Depth 7796'. Drilled 1136' sand and shale. Gas pressure 300#. Present operation tripping for Bit 15, 1° dev. at 7000', 3/4° at 7500'.

7/26/63

Depth 8460'. Drilled 645' sand and shale. Present operation drilling with Bit 16. 1° dev. at 8140'.

7/27/63

Depth 8661', drilled 201' sand and shale. Reached total depth at 11:00 a.m. 7-26. Blew well for 1 hour on bottom. NOTE: Picked up estimated 250 MCF natural flow at 8490'. Pulled out of hole, rigged up Lane Wells, logged well, logger total depth 8662'. Rig up and ran 135 joints 4 1/2" 11.60# casing, 4368.14' plus Burns tool 4'. Total ran 4372.14'. Pipe set at 8661.00 KB, top of liner 4288.86 KB, float collar at 8629.75' KB, overlap 54'. Cemented with 525 sx 20% Diacel tailed in with 110 sx regular 4% gel. Plug down at 8:25 a.m. 7-27-63. Bumped plug with 1000#, held okay. Present operation laying down drill pipe.

7/28/63

Laying down drill pipe, tearing down rig.

7/29/63

Waiting on completion rig.

7/30/63

Waiting on completion rig.

WELL: CHAMPLIN NO. 8-25

8/21/63

Will move in completion rig today.

8/22/63

Moved in part of completion rig. Had to shut down due to rain.

8/23/63

Waiting on rest of completion rig. Trucks had to shut down due to mud.

8/24/63

Firished rigging up completion rig. Picked up 2 3/8" tubing with 7 7/8" bit. Top of cement at 3150'. Drilled 300' of cement, dropped through cement. Went on to top of liner (4289'). Pressured up with rig pump to 1500#, liner held. Present operation - coming out of hole with 7 7/8" bit to put on 3 3/4" bit to clean out to perforating depth.

8/25/63

Pulled 7 7/8" bit, going in hole with 3 3/4" bit. No trouble getting in liner. Went in hole to 5410', topped cement at this depth. Drilled and clenaed out to 8578'. Rigged up Dowell, pressured up to 2600#, top of liner broke down @ 1600#, taking fluid at 2 1/2 BPM. Pulled out of hole, ran Baker packer and set @ 4179' KB. Pressured up on back side to 2000#, held okay. Pumped down tubing 2 1/2 BPM at 1800#. Squeezed well with 75 sx regular 2% $CaCl_2$. 53 sx behind liner, left 22 sx (90') in 8 5/8" casing. Well squeezed immediately, 2400# standing pressure. Job completed at 2 a.m., 8-25-63. Present operation - WOC. Will drill out at 2 p.m. this evening.

8/26/63

Top of cement 4189'. 100' above liner. Drilled out good, firm cement with 7 7/8" bit to 4287.50'. Came out of hole, put 5 3/4" bit on, drilled 1 1/2' of cement from 4287.50' to 4289'. Pressured up to 3000#, held okay. Came out of hole with 5 3/4" bit. Went back with 3 3/4' bit to 8578' PBTD. Pressured up to 3000#, held okay. Spotted 1000 gals of acid. Coming out of hole to perforate.

8/27/63

Getting ready to frac and perforate second stage.

WELL: CHAMPLIN NO. 8-25

8/27/63

Finished pulling out of hole with 3 3/4" bit. Out of hole at 10:15 a.m. 8-26-63. Called Welex at 5 a.m. 8-26-63. Started in hole to perforate at 8 p.m. (Waited 15 hours.) Rigged up and perforated Dakota 4 per foot; 8530'-8520'; 8500'-8480'; 8462'-8450'. Rigged up Dowell - staged acid away. 1st stage: 6 bbls - broke down from 1300# to 1000#, let set 10 min., pressure dropped to 700#. 2nd stage: 6 bbls - broke down from 1400# to 800#, let set 10 min., pressure dropped to 800#. 3rd stage: 6 bbls - broke down from 1300# to 750#, let set 10 min., pressure dropped to 750#. 4th stage: 6 bbls - all pumps on - 3000# at 30 BPM. No break. Total acid 1,000 gals 15% regular. Started frac with 4 Allisons.

DAKOTA

Break down - pump in	3000#	Break down and fill	30 bbls
All pumps on	3100#	Treatment fluid: 67,700 gals w/2 1/2 J-100 per thousand gal.	
Max treatment pressure	3100#	Total sand, 30,000# 40-60	
Min treatment pressure	2700#	20,000# 20-40	
Avg treatment pressure	2900#	Overflush: 50 bbls	
Final treatment pressure	3100#	Injection rate: 38 BPM	
5 min shut in pressure	2700#	Rubber balls: None	

Rigged up Welex, set bridge plug at 8438' KB.

Perforated 2 per foot: 8431'-8426'; 2 per foot: 8418'-8400'; 4 per foot: 8374'-8386' Rigged up Dowell (4 pumps)

GRANEROS

All pumps on	3000#	Break down and fill	50 bbls
Max treatment pressure	3200#	Treatment fluid: 56,700 gals w/2 1/2# J-100	
Min treatment pressure	2700#	per thousand gal	
Avg treatment pressure	3000#	Total sand: 50,000#	
Final treatment pressure	3200#	Overflush: none	
10 min shut in pressure	2800#	Injection rate: 30 BPM	
Instant shut in pressure	2900#	Job complete @ 9:36 a.m. 8-27-63	

Rigged up Welex. Set bridge plug at 4370' KB. Perforated Pictured Cliffs from 4160'-4686'; 4194'-4206'; 4216'-4226'

PICTURED CLIFFS

Break down	1700# to 1100#	Break down and fill:	67 bbls
All pumps on	700#	Treatment fluid: 84,000 gals	

WELL: CHAMPLIN NO. 8-25

8/27/63 (con't)

Max. treatment pressure	1100#	Total sand, 100,000#	
Min. treatment pressure	400#	Overflush none	
Avg. treatment pressure	500#	Injection rate 52 BPM	
Final treatment pressure	1100#	Rubber balls 60	
Instant Shut in pressure	800#	Job complete at 1:10 p.m.	
5 min. shut in pressure			

8/28/63

Finished frac'ing at 1 p.m. 8-27-63. Started in hole blowing down at 5 p.m. Blew well down to 1800'. Well kicked off at 9:30 p.m. Blew well down until 12 midnight. Ran tubing on to plug. Cleaned up well. Well gauged 3 1/2 million. Present operation - drilling on plug at 4370'.

8/29/63

Drilled plug loose at 4370'. Water came in. Blew and cleaned well at this depth before drilling and pushing plug on to 8438'. No apparent increase in gas, no sign of oil. Drilled top off plug at 8438'. Water came in, pulled 64 stands, broke circulation. Present operation - blowing back down at 7078'. 25 stands off bottom. Not getting any help from bottom.

8/30/63

Blew well on to 8438'. Well showing no increase in gas. Some oil showed up. Worked on rig for 5 hours. Finished drilling plug loose at 8438'. Drilled and pushed to PBTD 8578'. Blew and cleaned well of sand and water. Gauged well, well making 3,000 MCF with slight show of oil. Came out of hole, laid down 8600' 2 3/8" tubing. Present operation - running 1 1/2" tubing with retrievable packer.

8/31/63

Ran 256 joints 1 1/2" tubing for a total of 8277.16' with Baker retrievable packer. Packer set at 4347.14' (58.14' inside liner). Bottom of tail pipe at 8294.63', 79.37' above Dakota perforation, (open ended). Set 11,000# on packer. Ran 123 joints of 1" tubing, total 4071.16', landed at 4082'. 12 hour shut in Dakota pressure, 1160#. Pictured Cliffs: 7 hour shut in 600#/600#.

9/1/63

Will move completion rig today. Dakota shut in pressure, 1570#. Pictured Cliffs shut in pressure, 805#/805#.

9/2/63

Moved out completion rig. Will test Dakota thru 3/4" choke this a.m.

WELL: CHAMPLIN NO. 8-25

9/3/63

Attempted to test Dakota. Shut in Dakota, pressured up to 1320#. Pictured Cliffs shut in pressure - 880/880#. Opened Dakota, flowed 5 minutes, well dying. Well dead after 2 1/2 hours. Dakota started unloading. After 5 hours of blowing well down, well unloading consistently. Well too weak to gauge. Let well blow 24 hours. Well still making some water and oil. Gauged well, well gauged 1,254 MCF. Still cleaning well. Pictured Cliffs pressure after blowing Dakota 24 hours - 900/900#.

9/4/63

Gauged well at 3 p.m. 9-3-63. Well gauged 0 MCF to 750 MCF with intermitting slug of water and oil. Shut Dakota in at 5:30 p.m. 9-3-63. Checked pressure this a.m. Dakota tubing pressure after 13 hour - 1235#. Pictured Cliffs pressure 920/920#. Opened up Dakota again this a.m. to clean.

9/5/63

After flowing Dakota 12 hours, well gauged 340 MCF with heavy slugs of water. Shut well in at 7 p.m. 9-4-63. After 12 hour shut in, Dakota pressure 1370, Pictured Cliffs pressure 960/960#. Will open Dakota this a.m.

OPEN FLOW TEST DATA

DATE September 17, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 8-25	
Location: 1650 FSL & 1650 FEL, Sec. 25-27N-4W		County: Rio Arriba	State: New Mexico
Formation: Dakota		Pool: Basin	
Casing: Diameter: 4-1/2"	Set At: Feet: 8661	Tubing: Diameter: 1-1/2"	Set At: Feet: 8295
Pay Zone: From: 8374	To: 8530	Total Depth: 8662	
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: ---	+ 12 = PSIA: ---	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 1185 / + 12 = PSIA: 1197
Flowing Pressure: P PSIG: 65	+ 12 = PSIA: 77		Working Pressure: P_w PSIG: --- / + 12 = PSIA: ---
Temperature: T °F: 50	n = 0.75		Fpv (From Tables): 1.013 / Gravity: 0.70

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

Q = 14.1605 x 77 x 1.0098 x .9258 x 1.013 = 1032 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 Clyde Phillips

WITNESSED BY _____

W. H. Williams, Chief Engineer

OPEN FLOW TEST DATA

DATE September 10, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 8-25	
Location: 1650' FSL & 1650' FEL, Sec. 25-27N-4W		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Tapicito	
Casing: Diameter: 8-5/8"	Set At: Feet: 4342'	Tubing: Diameter: 1"	Set At: Feet: 4082'
Pay Zone: From: 4160'	To: 4226'	Total Depth: 8662'	
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: 1049	+ 12 = PSIA: 1061	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 1048	+ 12 = PSIA: 1060	
Flowing Pressure: P PSIG: 104	+ 12 = PSIA: 116		Working Pressure: P_w PSIG: 947	+ 12 = PSIA: 959	
Temperature: T °F: 45	n = 0.85		Fpv (From Tables): 1.016	Gravity: 0.70 (est.)	

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

Q = 14.1605 x 116 x 1.0147 x .9258 x 1.016 = 1568 MCF/D

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

Aof = $\left(\frac{1,123,600}{203,919} \right)^n$ = 4.26

Aof = 6680 MCF/D

TESTED BY John Walker

WITNESSED BY Clyde Phillips

W. H. Williams, Chief Engineer

OPEN FLOW TEST DATA

DATE September 10, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 8-25	
Location: 1650' FSL & 1650' FEL, Sec. 25-27N-4W		County: Rio Arriba	State: New Mexico
Formation: Pictured Cliffs		Pool: Tapicito	
Casing: Diameter: 8-5/8"	Set At: Feet: 4342'	Tubing: Diameter: 1"	Set At: Feet: 4082'
Pay Zone: From: 4160'	To: 4226'	Total Depth: 8662'	
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: 1049	+ 12 = PSIA: 1061	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 1048	+ 12 = PSIA: 1060	
Flowing Pressure: P PSIG: 104	+ 12 = PSIA: 116		Working Pressure: P_w PSIG: 947	+ 12 = PSIA: 959	
Temperature: T °F: 45	n = 0.85		Fpv (From Tables): 1.016	Gravity: 0.70 (est.)	

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

Q = 14.1605 x 116 x 1.0147 x .9258 x 1.016 = 1568 MCF/D

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

Aof = $\left(\frac{1,123,600}{203,919} \right)^n$ = 4.26

Aof = 6680 MCF/D

TESTED BY John Walker

WITNESSED BY Clyde Phillips

W. H. Williams, Chief Engineer

OPEN FLOW TEST DATA

DATE September 17, 1963

Operator: Consolidated Oil & Gas, Inc.		Lease: Champlin No. 8-25	
Location: 1650 FSL & 1650 FEL, Sec. 25-27N-4W		County: Rio Arriba	State: New Mexico
Formation: Dakota		Pool: Basin	
Casing: Diameter: 4-1/2"	Set At: Feet: 8661	Tubing: Diameter: 1-1/2"	Set At: Feet: 8295
Pay Zone: From: 8374	To: 8530	Total Depth: 8662	
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: ---	+ 12 = PSIA: ---	Days Shut-in: 7	Shut-in Pressure, Tubing PSIG: 1185	+ 12 = PSIA: 1197	
Flowing Pressure: P PSIG: 65	+ 12 = PSIA: 77		Working Pressure: P_w PSIG: ---	+ 12 = PSIA: ---	
Temperature: T °F: 50	n = 0.75		Fpv (From Tables): 1.013	Gravity: 0.70	

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

Q = 14.1605 x 77 x 1.0098 x .9258 x 1.013 = 1032 MCF/D

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

Aof = $\left(\frac{\quad}{\quad} \right)^n$ =

Aof = _____ MCF/D

TESTED BY Clyde Phillips

WITNESSED BY _____

W. H. Williams, Chief Engineer