

DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

JENNEY #1

Rio Arriba County, New Mexico
September 15, 1965

LOCATION:	800' FNL, 1480' FEL Section 13-T26N-R4W		
ELEVATIONS:	6,875' KB 6,874' DF 6,863' GL		
SPUD:	August 4, 1965		
DRILLING COMPLETED:	August 21, 1965		
WELL COMPLETED:	September 10, 1965		
TOTAL DEPTH:	8,030' Drilled (Logger's TD 8,025')		
CASING:	Surface:	9-5/8" 32# casing set at 307' KB with 170 sx. regular cement + 2% CaCl.	
	Intermediate:	7" 23# casing set at 3,700' KB with 56 sx. 50/50 Pozmix + 2% gel and 1/8# per sack of Celloflake. Tailed in with 25 sx. regular cement + 2% CaCl.	
	Production:	4-1/2" 9.5#, 10.5# and 11.5# casing set at 8,038' KB. Cemented in 2 stages as follows: 1st stage: Casing shoe, 53 sx. regular cement and 53 sx. Diamix "A" + 1/8# per sack of Cello- flake. Pre-flushed with 18 barrels of gel water. 2nd stage: Stage collar set at 5,877'. Cemented with 44 sx. type "C" cement and 44 sx. Dia- mix "A" + 4% gel and 1/8# per sack of Celloflake. Pre- flushed with 18 barrels of gel water.	
TUBING:	Dakota:	1-1/2" intergral tubing set at 7,654' with Baker Model "D" Packer set at 7,650'.	
	Mesaverde:	1" intergral tubing set at 5,537'.	
LOGS:	Lane Wells Densilog		
CORES & DRILL STEM TESTS:	None		
FORMATION TOPS: (Log)	Cliffhouse	5,242'	(+1,633')
	Point Lookout	5,610'	(+1,265')
	Greenhorn	7,646'	(- 771')
	Graneras	7,736'	(- 861')
	Dakota	7,845'	(-1,070')
PRODUCING PERFORATIONS:	<u>Dakota</u> 7,879-7,895' 7,749-7,760' <u>Mesaverde</u> 5,614-5,618' 5,704-5,708' 5,744-5,748' 5,772-5,776'		
TREATMENT:	Acidized with 1,000 gallons of 15% acid in 3 stages		
	Dakota:	Sand-water frac with 110,964 gallons of treated water and 100,000# 20/40 sand	
	Mesaverde:	Sand-water frac with 78,120 gallons of treated water and 100,000# 20/40 sand	
INITIAL POTENTIAL:	<u>Dakota</u> Choke volume thru 3/4" choke: 1,038 MCFPD <u>Mesaverde</u> Choke volume thru 3/4" choke: 5,292 MCFPD Calculated Absolute Open Flow: 6,274 MCFPD		

WELL: JENNEY #1
LOCATION: 800' FNL & 1840' FEL, Section 13-26N-4W
FIELD: Blanco Mesaverde-Basin Dakota
COUNTY: Rio Arriba STATE: New Mexico
ELEVATIONS: 6,863' GL
COG INTEREST: 25%
OPERATOR: Consolidated Oil & Gas, Inc.

7/31/65

Staked location.

8/1/65

Building location.

8/2/65

Building location.

8/3/65

Moving in rotary rig.

8/4/65

Completed rigging up rotary tools. Drilled rat hole. Shut down for night. Plan to start operations this morning.

8/5/65

Spudded at 11:00 a.m. 8-4-65. Drilled 321' of 13-3/4" surface hole. Ran 11 jts. (321') of 9-5/8" 32# casing and set @ 307' KB. Cemented with 170 sx. of regular cement + 2% CaCl. Plug down at 7:00 p.m. 8-4-65. Good returns throughout cement job. Nipped up blow-out preventer. Tested casing to 800# - held OK. Prep. to drill ahead.

8/6/65

TD 1,588' KB. Drilled 1,267'. 2 Days. Bit #2. Drilling 8-3/4" hole. Native mud. Dev: 1/4" @ 750' and 3/4" @ 1,270'.

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8/7/65

TD 2,368'. Drilled 780' sand & shale. 3 Days. Bit #3. Mud: Wt. 8.8#; Vis. 64. Dev: 1" @ 1,850'.

8/8/65

TD 2,770'. Drilled 402' sand & shale. 4 Days. Bit #4. Mud: Wt. 9#; Vis. 58. Dev: 1" @ 2,380'.

8/9/65

TD 3,132'. Drilled 362' sand & shale. 5 Days. Bit #5. Mud: Wt. 9#; Vis. 55; WL. 6 cc. Dev: 1/2" @ 2,850'.

8/10/65

TD 3,472'. Drilled 340' sand & shale. 6 Days. Bit #6. Mud: Wt. 9.2#; Vis. 53; WL. 7.8 cc. Dev: 3/4" @ 3,280'.

8/11/65

TD 3,700'. Drilled 228' sand & shale. 7 Days. Circulated and conditioned hole. Pulled out of hole. Rigged up and ran 7" casing. Lost circulation 1 joint off bottom. Now mixing mud and lost circulation material.

8/12/65

Regained circulation. Washed 15' to bottom. Ran 94 joints of 7" 23# casing (3,731') and set at 3,700' KB. Float collar at 3,659' KB. Cemented with 56 sx. of 50/50 Pozmix + 2% gel. and 1/8 lb. per sack of Celloflake. Tailed in with 25 sx. of regular cement + 2% CaCl. Plug down at 1:30 p.m. 8-11. Good circulation throughout cement job. Nipped up blow-out preventer. Blowing down at 1,500'.

8/13/65

Blew well to float collar at 3,659'. Drilled float collar and 15' of soft cement on top of float collar. After drilling float collar, drilled through to 3,697'; 3' of cement in bottom of shoe joint. Blew well for 1 hour, well trying to dust. Drilled 70' to 3,770', well dusting fair. Started making 1" stream of water at this depth. Blew well for 2 hours, water dried up. Drilled 15' to 3,785'. Well dusting fair. Stopped dusting at 3,800'. Blew well for 45 minutes, water dried up. Drilled 15' to 3,815' TD. Well started making 1" stream of heavy mud. Blew well for 2 hours, no decrease in mud. Pulled out of hole in preparation to squeeze well. Worked on blow-out preventer for 6 hours. Will not squeeze until blow-out preventer is fixed.

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8/14/65

TD 3,927'. 10 Days. Dusting good. Ran full bore packer on drill pipe. Set packer at 3,565'. Tested casing to 1500 psig. Pumped into open hole at 5-barrel per minute rate at 600 psig. Squeezed with 100 sx. regular cement + 4% CaCl. Final squeeze pressure - 2500 psig. Job completed at 11:00 a.m. WOC.

8/15/65

TD 4,851'. Drilled 991'. 11 Days. Dusting good. Bit #6. Dev: 1" @ 4,400'.

8/16/65

TD 5,385'. Drilled 534' sand & shale. 12 Days. Bit #7. Dev: 3/4" @ 5,115'.

8/17/65

TD 5,750'. Drilled 385' sand & shale. 13 Days. Bit #9. Picked up an estimated 100 MCF natural gas flow at 5,700'.

8/18/65

TD 6,553'. Drilled 803' sand & shale. 14 Days. Making trip for Bit #10. Dev: 1-1/4" @ 6,500'. No increase in natural flow to this depth.

8/19/65

TD 7,340'. Drilled 787' sand & shale. 15 Days. Bit #10. Well dusting good. No increase in natural flow at this depth, still maintaining rate of 100 MCF. Dev: 1-3/4" @ 7,080'.

8/20/65

TD 7,775'. Drilled 415' of sand & shale. 16 Days. Making rig repairs. Have been down for 6 hours. Made trip for button bit at 7,537'. Top of Greenhorn at 7,640'. No increase in natural flow.

8/21/65

TD 8,030'. Drilled 255'. 17 Days. Picked up 150 MCF natural flow at 7,915'. Down making rig repairs for 3 hours. Pulled drill pipe to log.

8/22/65

Pulled out of hole. Rigged up Lane Wells and ran Gamma Ray-Density Log and Caliper Log. Laid down drill pipe. Log Total Depth: 8,025'. Running 4-1/2" casing.

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8/23/65

Ran 251 joints (8,018') of 3.5", 10.5" and 11.5" 4-1/2" casing and 1 joint (32,477') of 5-1/2" casing. Set at 8,028' KB. Float collar at 7,995' KB. Stage collar at 5,877' KB. One cement basket and centralizer at 5,940' KB and one centralizer at 5,595'. Cemented in 2 stages as follows:

1st stage: 53 sx. regular cement and 53 sx. Diamix "A" plus 1/8# per sack of Celloflake. Preflushed with 18 barrels of gel water. Plug down at 11:15 a.m.

2nd stage: 44 sx. type "C" cement and 44 sx. Diamix "A" plus 4% gel and 1/8# per sack of Celloflake. Preflushed with 18 barrels of gel water. Pumped plug with 2000# at 12:10 p.m. Held OK.

Removed blow-out preventer, set slips. Rig released at 2:00 p.m. Moving out rotary rig.

8/24/65

Waiting on completion rig.

8/25/65

Waiting on completion rig

8/26/65

Moving in completion rig.

8/27/65

Moved in Reams completion rig. Rigged up. Picked up 2-3/8" tubing. Found top of cement at 5,765'. Drilled 110' of hard cement. Drilled out stage collar at 5,877'. Pressured up. Found high pressure leak in slips and packing. Waiting on wellies to repair.

8/28/65

Replaced packing, installed weld ring in 4-1/2" casing slips. Pressured to 2000#--held OK. Found top of cement at 7,850'. Cleaned out to 7,958'. Pressured up to 3000#--held OK. Spotted 1,000 gal. 15% regular acid.

Dakota frac job: Rigged up Lane Wells, ran correlation log. Perf: 7,879-95' and 7,749-60' with 4 shots per foot. Staged acid in 3 stages.

8/28/65 - Continued

Breakdown and fill	2,100 gallons
Treating fluid	110,964 gallons
Flush	50,000 gallons
Overflush	700 gallons
Sand - 20/40	100,000 lbs.
Balls	65 in 4 stages
Maximum injection rate	35 Bbls/min.
Average injection rate	33 Bbls/min.

Breakdown 1 pump	1000#
All pumps on	2700#
Maximum treating pressure	3300#
Minimum treating pressure	2700#
Average treating pressure	3000#
Final treating pressure	3000#
Instant shut-in	2000#
Five-minute shut-in	1700#

Job complete at 1:40 a.m.

Mesaverde frac job: Waited on sand for 6 hours. Perf: 5,614-18'; 5,704-08'; 5,744-48' and 5,772-76' with 4 shots per foot. Before perforating Mesaverde, set Baker mag. bridge plug at 5,800'.

Breakdown and fill	1,680 gallons
Treating fluid	78,120 gallons
Flush	3,864 gallons
Overflush	0
Sand - 20/40	100,000 lbs.
Balls	65 in 8 stages
Maximum injection rate	52 Bbls/min.
Average injection rate	45.3 Bbls/min.

Breakdown 1 pump	1300#
All pumps on	1600#
Maximum treating pressure	2300#
Minimum treating pressure	1500#
Average treating pressure	1800#
Instant shut-in	0
Five-minute shut-in	0

Job complete at 10:00 a.m.

8/29/65

Bridge plug set at 5,800'. Blew hole down to bridge plug. Blew Mesaverde 3 hours from bridge plug. Gauged Mesaverde at 5.2 MMCF. Still showing some frac water and sand. Preparing to drill bridge plug.

8/30/65

Drilled bridge plug at 5,800'. Well logged off with Dakota frac water. Pulled bit up to 4,000'. Blew well and pushed bridge plug to 7,925'. Dakota kicked off and started flowing. Hole logged off. Pulled bit up to 6,000'. Blew Mesaverde and Dakota for 4 hours. Gauged 6.2 MMCF from both zones. Pulled 2-3/8" tubing. Set Baker Model "D" Packer at 7,650'. Gauged well at 6:00 a.m. with 8 MMCF from both zones. Preparing to run 1-1/2" tubing.

8/31/65

Dakota tubing string: Ran 230 joints (7,499.52') of 1-1/2" integral tubing. Ran 5 Baker blast joints (101.68'). Ran six 1-1/2" integral pup joints (36'). Landed donut and changeover at 12' KB. Tubing landed with 9000# on packer at 7,653.95'. Blast joints spaced over Mesaverde perforations from 5,780-5,605'.

Mesaverde tubing string: Ran 170 joints (5,525') of 1" integral tubing and landed at 5,537' KB. Nipped up wellhead. Pumped plug out of Dakota tubing. Rigging down.

9/1/65

Shut in for 7-day test. Pressures: Dakota - 400#; Mesaverde - 1080#/1090#.

9/2/65

Opened 1-1/2" tubing. Cleaned Dakota and checked packer leakage. After 3 hours of blowing and cleaning, Dakota was making heavy spray of water and oil. After 3 hours, Dakota gauged 2 MMCF. While flowing Dakota, Mesaverde pressure came up 4#. Well now shut in for 7-day test.

9/3/65

Shut in for 7-day test. Dakota Shut-In Tubing Pressure: 2093#; Mesaverde Shut-In Tubing Pressure/Shut-In Casing Pressure: 1070#/1070#.

9/4/65

Shut in for 7-day test.

9/5/65

Shut in for 7-day test.

9/6/65

Shut in for 7-day test.

9/7/65

Testing Mesaverde today.

9/8/65

Mesaverde Test (through casing): Choke Volume - 5,292 MCF. AOF - 6,274 MCF. Test dry. Initial Shut In Tubing Pressure: 1146#. Initial Shut In Casing Pressure: 1161#. Final Flowing Tubing Pressure: 517#. Final Flowing Casing Pressure: 364#.

Dakota Tubing Pressure increased from 2340# to 2383# while testing Mesaverde. Will test Dakota today.

9/9/65

Tested Dakota (through 1-1/2" tubing): Choke Volume - 1,080 MCF. Initial Shut In Tubing Pressure: 2387#. Final Flowing Tubing Pressure: 72#. Well made heavy intermittent slugs of water and oil. Will clean well and shut in after cleaning for new test.

9/10/65

Orders changed to not retest the Dakota zone. Paper work will be filed on original Dakota test of 1,080 MCF. Awaiting pipeline connection. Final Report.

OPEN FLOW TEST DATA

DATE September 7, 1965

Operator Consolidated Oil & Gas Inc.		Lease Jenny #1	
Location Sec 13, Twp 46 North, R. 4E, S. 2E, 1341 PEL		County Rio Arriba	State New Mexico
Formation Alamosa (Heavensite)		Pool Heavensite (1341 PEL)	
Casing Diameter 4 1/2"	Set At Feet 8000	Tubing Diameter 1 1/2"	Set At Feet 7500
Pay Zone From 5000	To 5800	Total Depth 8000	Flow Through Casing Flow Through Tubing
Simulation method Said and water frac		XX	

Choke Size, Inches 2 1/4"		Choke Constant, C 11.16	
Shut-in Pressure, Casing, PSIG 1146	PSIA 1250	Days Shut-in 2	Shut-in Pressure, Tubing, PSIG 1141
Flowing Pressure, P, PSIG 74	PSIA 1206	Working Pressure, P _w , PSIG 52	PSIA 1172
Temperature, T, °F 75		Gas From Tubing 1.053	Gravity .70 est.

CHOKE VOLUME $Q = C \times P_r \times F_1 \times F_2 \times F_3$

$$Q = 11.16 \times 176 \times 1.053 \times 1.0 \times 1.0 = 2028 \text{ MCF/D}$$

$$\text{OPEN FLOW } A_{of} Q \left(\frac{P_r^2}{P_i^2 - P_w^2} \right)^n$$

$$A_{of} = \left(\frac{11.16 \times 176}{1146^2 - 74^2} \right)^{1/2} = 1.1856$$

$$A_{of} = 1.1856 \text{ MCF/D}$$

Witnessed by: John Walker

Witnessed by: Clyde Phillips

OO: Rudy Rogers, Oil Co.
Wayne Rogers, Oil Co.
Drum, Glenwood, N.M.
Mr. Dr. Williams, N.M.

Clyde Phillips
Clyde Phillips
Production Foreman

OPEN FLOW TEST DATA

DATE September 10, 1965

Operator Consolidated Oil & Gas Inc.		Lease Jenny #1	
Location Sec 13, Twp 46 North, R. 4E, S. 2E, 1341 PEL		County Rio Arriba	State New Mexico
Formation basin Dakota		Pool Dakota (Basin)	
Casing Diameter 4 1/2"	Set At Feet 8000	Tubing Diameter 1 1/2"	Set At Feet 7500
Pay Zone From 7500	To 8000	Total Depth 8000	Flow Through Casing Flow Through Tubing
Simulation method Said and water frac		XX	

Choke Size, Inches 3/4"		Choke Constant, C 11.16	
Shut-in Pressure, Casing, PSIG 1146	PSIA 1250	Days Shut-in 2	Shut-in Pressure, Tubing, PSIG 1141
Flowing Pressure, P, PSIG 60	PSIA 1206	Working Pressure, P _w , PSIG 52	PSIA 1172
Temperature, T, °F 75		Gas From Tubing 1.053	Gravity .70 est.

CHOKE VOLUME $Q = C \times P_r \times F_1 \times F_2 \times F_3$

$$Q = 11.16 \times 176 \times 1.053 \times 1.0 \times 1.0 = 2028 \text{ MCF/D}$$

$$\text{OPEN FLOW } A_{of} Q \left(\frac{P_r^2}{P_i^2 - P_w^2} \right)^n$$

$$A_{of} = \left(\frac{11.16 \times 176}{1146^2 - 60^2} \right)^{1/2}$$

$$A_{of} = \text{MCF/D}$$

Witnessed by: John Walker

Witnessed by: Clyde Phillips

OO: Rudy Rogers, Oil Co.
Wayne Rogers, Oil Co.
Drum, Glenwood, N.M.
Mr. Dr. Williams, N.M.

Clyde Phillips
Clyde Phillips
Production Foreman

This well was making very small amounts of water. The well would test better if it was cleaned up 24 hours. This is a much better well than the test indicates.