

DRILLING AND COMPLETION HISTORY
CONSOLIDATED OIL & GAS, INC.
SUNSHINE NO. 1-13
San Juan County, New Mexico
May 13, 1965

LOCATION: 1030' F/NL, 1190' F/EL, Section 13
T25N-R10W, NMPM

ELEVATIONS: 6894' GL
6905' KB

SPUD: April 1, 1965

DRILLING COMPLETED: April 18, 1965
WELL COMPLETED: April 22, 1965

TOTAL DEPTH: 6735' Driller's
6739' Logger's

CASING - Surface: 8 5/8" 20# set at 242' KB with 250 sx.
regular with 2% CaCl.

- Production: 4 1/2" 11.6# and 10.50# set at 6739'
with 250 sx. of 50/50 Pozmix

TUBING: 1 1/2" upset landed at 6679'.

LOGS: Lane Wells Induction, Gamma Ray & Density

CORES & DRILL STEM TESTS: None

FORMATION TOPS: (Log)

Pictured Cliffs	2133'	(+4772')
Cliffhouse	3692'	(+3213')
Pt. Lookout	4587'	(+2318')
Gallup	5633'	(+1272')
Greenhorn	6547'	(+ 358')
Graneros Sand	6676'	(+ 229')
Dakota	6703'	(+ 202')

PRODUCING PERFS: 6706' - 6724' (6 per foot)

TREATMENT: Sand water frac with 60,000# sand and
70,938 gal. water.

INITIAL POTENTIAL: Flow volume thru 3/4" choke: 5520 MCFD
Calculated Absolute Open Flow Potential:
5740 MCFD.

WELL: SUNSHINE NO. 1-13
1030' FNL, 1193' FEL, Sec. 13-T25N-R10W

FIELD: Basin Dakota

COUNTY: San Juan STATE: New Mexico

ELEVATIONS: 5894' GL
6905' KB

WELL: SUNSHINE NO. 14/18/65

Depth 6735'. Drilled 62' of sand and shale. Circulated and conditioned hole. Short trip, pulled out of hole to log. Riggd up Lane Wells, ran Induction, Gamma Ray and Density logs. Logger's TD 6739'. Going in hole to lay down drillpipe.

4/19/65

Laying down drillpipe. Lost 6 hours due to rig repair. Running 4 1/2" casing.

4/20/65

Ran 25 joints 4 1/2" 11.6# casing for 817.36. Ran 184 joints 4 1/2" 10.50# for 5942.51' for a total of 6759.87'; set at 6739.37' KB. Float collar at 6704.87' KB. Pretreated 200 bbls. mud with .06 gal./bbl. of Hydrazine and .01 gal./bbl. Bactine No. 2. Preflushed with 30 bbls. of GP 100. Cemented with 250 sx. of 50/50 Pozmix with 4% gel. Plug down 7:50 a.m. 4/19. Bumped plug with 2000#, held OK. Good returns throughout job, cut off pipe, nipped up, shut down for night.

4/21/65

Started picking up tubing at 7 a.m. Tagged float collar at 6705', cleaned out to 6734' KB. Pressured up on casing to 3000#, held OK. Spotted 500 gal. 15% mud acid, pulled tubing out of hole. Riggd up Lane Wells and ran correlation log. Perforated from 6706' to 6724', six per foot. Riggd up Western Company, staged acid away.

Broke	1300#	Initial injection rate	33 BPM
Initial treating press.	2800#	Max. injection rate	36 BPM
Max. treating press.	3600#	Min. injection rate	30 BPM
Min. treating press.	2400#	Final injection rate	30 BPM
Final treating press.	3600#	Average injection rate	33 BPM
Average treating press.	2900#	Sand	60,000 lbs. 20-40
Instant shut in press.	2100#	Total fluid	70,938 gal.
10 minute shut in	1600#	Treating fluid	64,218 gal.
Hydraulic HP	2360	Flush	120 bbl.
		Balls	85 balls in 6 stages
		Job complete at	6 a.m.

Present operation, rigging up to blow well down.

4/2/65

Spudded in 7:30 p.m. 4/1. Drilled 250' of 12 1/4" surface hole. Ran 6 joints of 8 5/8" 20# casing, set at 242' KB. Cemented with 250 sx. regular 2% CaCl. Plug down 5:30 a.m. 4/2. Good returns. Present operation, waiting on cement.

4/3/65

Depth 1475'. Drilled 1225' of sand and shale. Present operation, tripping for Bit 2. Drilling with water. Dev. 1° at 500', 1° at 971'.

4/4/65

Depth 2900'. Drilled 1425' of sand and shale. Present operation, drilling with Bit 3. Drilling with water. Dev. 1° at 2535'.

4/5/65

Depth 3070'. Drilled 170' of sand and shale. Present operation, fishing for cones, left two cones off Bit 4 in hole, fishing with magnet.

4/6/65

Depth 3070'. Mudded up. Recovered 2 cones. Fishing for pin.

4/7/65

Depth 3360'. Drilled 290' of sand and shale. Mud 8.9. Vis. 46. Water loss 10.

4/8/65

Depth 3675'. Drilled 315' of sand and shale. Drilling with Bit 8. Dev. 1 1/2° at 3580'. Mud 9. Vis. 46. Water loss 10.

4/9/65

Depth 4038'. Drilled 363' of sand and shale. Tripping for Bit 10. Mud 9. Vis. 48. Water loss 6.

4/10/65

Depth 4525', drilled 487' of sand and shale. Present operation, drilling with Bit 11. Mud 9. Vis. 46. Water loss 8. Dev. 1 1/2° at 4300'.

4/11/65

Depth 4905', drilled 380' of sand and shale. Present operation, drilling with Bit 12. Mud 9.1. Vis. 46. Water loss 6.

4/12/65

Depth 5230', drilled 325' of sand and shale. Present operation, drilling with Bit 13. Mud 9.2. Vis. 45. Water loss 6.

4/13/65

Depth 5505'. Drilled 275' of sand and shale. Present operation, drilling with Bit 15. Mud 9.2. Vis. 48. Water loss 6. Dev. 1 1/4° at 5375'.

4/14/65

Depth 5845', drilled 340' of sand and shale. Present operation, drilling with Bit 16. Mud 9.2. Vis. 47. Water loss 9.2.

4/15/65

Depth 6110'. Drilled 315' of sand and shale. Present operation, drilling with Bit 17. Mud 9.2. Vis. 49. Water loss 9.2.

4/16/65

TD 6350'. Drilled 190' of sand and shale. Present operation, drilling with Bit 18. Mud 9.2. Vis. 52. Water loss 9. 6% oil. Ten hours down time to repair No. 1 engine.

4/17/65

Depth 6673'. Drilled 323' of sand and shale. Drilling with Bit 19. Mud 9.2. Vis. 52. Water loss 8.

WELL: SUNSHINE NO. 1

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4/22/65

Blew well to bottom, well gauged 5210 MCFD with a good show of oil. Landed tubing, nipped up wellhead, pumped out tubing plug. Released rig 8 p.m. Ran 218 joints 1 1/2" upset for 6667', landed at 6679' KB. Shut in for 7 day test.

4/23/65

After 14 hours shut in, well had 1960/1970. Shut in for test.

4/24/65

Shut in for test.

4/25/65

Shut in for test.

4/26/65

Shut in for test.

4/27/65

Shut in for test.

4/28/65

Ran three hour potential test, 5520 MCFD and CAOF of 5740 MCF. Initial shut in pressure 1947/1947. Tested through casing. Light spray of oil and water throughout test.

4/29/65

Shut in awaiting hookup. Final report.

OPEN FLOW TEST DATA

DATE April 28, 1965

Operator <u>Consolidated Oil & Gas Inc.</u>		Lease <u>Sunshine # 1</u>	
Location <u>1030' FNL & 1190' FNL of Sec 11, 25N, 10W.</u>		County <u>San Juan</u>	State <u>New Mexico</u>
Formation <u>Basin Dakota</u>		Dakota	
Casing Diameter <u>4 1/2"</u>	Set At: Feet	Tubing Diameter <u>1 1/2"</u>	Set At: Feet
Pay Zone: From	To	Total Depth:	
Simulation Method <u>Sand & Water Frac.</u>		Flow Through Casing <u>XX</u>	Flow Through Tubing

Choke Size, inches <u>3/4"</u>		Choke Constant: C <u>14,1605</u>	
Shut-in Pressure, Casing, PSIG <u>1947</u>	$\pm 12 \pm$ PSIA <u>1959</u>	Days Shut-in <u>7</u>	Shut-in Pressure, Tubing, PSIG <u>1947</u>
Flowing Pressure: P, PSIG <u>376</u>	$\pm 12 \pm$ PSIA <u>388</u>	Working Pressure: P _w , PSIG <u>655</u>	$\pm 12 \pm$ PSIA <u>667</u>
Temperature: T <u>78</u>	n = <u>75</u>	F _{ps} (From Tables) <u>1.042</u>	Gravity <u>.70 est.</u>

CHOKE VOLUME : $Q = C \times P_1 \times F_1 \times F_g \times F_{pv}$

$$Q = 14,1605 \times 388 \times .9831 \times .9258 \times 1.042 = \underline{5,211} \text{ MCF/D}$$

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

$$Aof = \left(\frac{3837681}{3392792} \right)^n = 1.131^{75} = 1.0966$$

Very light spray of oil and water

$$Aof = \underline{5,714} \text{ MCF D}$$

TESTED BY: A.A. Prater

WITNESSED BY: Herman Mc Nalley

CC: Mr. Oran Haseltine
Mr. Rudy Motto
Mr. D.N. Canfield
Mr. Robert Tenison
Mr. Bruno Giovanninni

Clyde Phillips
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