

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other in-
structions on
reverse side)Form approved.
Budget Bureau No. 42-R355.5.

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☒ DRY ☐ Other _____		5. LEASE DESIGNATION AND SERIAL NO. 119	
b. TYPE OF COMPLETION: NEW WELL ☒ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☐ DIFF. RESVR. ☐ Other _____		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Jicarilla Apache	
2. NAME OF OPERATOR Consolidated Oil & Gas Inc.		7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR P.O. Box 2038 Farmington, New Mexico		8. FARM OR LEASE NAME Northwest Federal	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1750' from the South Line & 790' from the East Line of Section 7 At top prod. interval reported below At total depth		9. WELL NO. 2-7	
14. PERMIT NO.		DATE ISSUED	
15. DATE SPUDDED 6-18-64		16. DATE T.D. REACHED 6-24-64	
17. DATE COMPL. (Ready to prod.) 6-30-64		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6777.5' GL.	
19. ELEV. CASINGHEAD 6778		20. TOTAL DEPTH, MD & TVD 3711	
21. PLUG, BACK T.D., MD & TVD 3663		22. IF MULTIPLE COMPL., HOW MANY* Single	
23. INTERVALS DRILLED BY 0- to T.D.		24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* 3687-3542 Tapacito Pictured Cliffs	
25. WAS DIRECTIONAL SURVEY MADE No		26. TYPE ELECTRIC AND OTHER LOGS RUN Gamma Ray Neutron	
27. WAS WELL CORED No		28. CASING RECORD (Report all strings set in well) U. S. GEOLOGICAL SURVEY CEMENTING RECORD	
CASING SIZE 8 5/8" 4 1/2"		WEIGHT, LB./FT. 32 9.50#	
DEPTH SET (MD) 168 3710		HOLE SIZE 12 1/4" 7 7/8"	
AMOUNT PULLED 100 sacks of Regular w/25 Ca Cl₂ 120 sacks of 50-50 permix with 4% Gel.			
29. LINER RECORD		30. TUBING RECORD	
SIZE 1 1/4"		TOP (MD) 3507	
BOTTOM (MD)		PACKER SET (MD)	
SACKS CEMENT*			
SCREEN (MD)			
31. PERFORATION RECORD (Interval, size and number) 3540-3542 3516-3528 3487-3510 2 Holes per foot		32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC. DEPTH INTERVAL (MD) 3487-3542 AMOUNT AND KIND OF MATERIAL USED Sand and water Frac 59,000 pounds of sand 54,600 gallons of water	
33.* DATE FIRST PRODUCTION 7-3-64		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Shut In	
DATE OF TEST 7-3-64		HOURS TESTED 3	
CHOKE SIZE 3/4		GAS—MCF. 663	
FLOW. TUBING PRESS. 37		CASING PRESSURE 422	
CALCULATED 24-HOUR RATE 663		OIL GRAVITY-API (CORR.)	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)		TEST WITNESSED BY Clyde Phillips	
35. LIST OF ATTACHMENTS Drilling and Completion History and Gamma Ray Neutron log			
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records			
SIGNED Harold M. Beryl TITLE Area Superintendant		DATE 7-31-64	

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES			38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	NAME	MEAS. DEPTH	TRUE VERT. DEPTH
See attached Drilling & Completion History					

DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

NORTHWEST FEDERAL NO. 2-7

Rio Arriba County, New Mexico

July 15, 1964

LOCATION:	1750' FSL, 790' FEL, Section 7 Township 26 North, Range 4 West
ELEVATIONS:	6777.5' GL 6787' KB (All measurements from KB)
SPUD:	June 18, 1964
DRILLING COMPLETED:	June 24, 1964
WELL COMPLETED:	June 30, 1964
TOTAL DEPTH:	3711'
CASING - Surface:	8 5/8" set at 168' with 100 sx. regular with 2% CaCl ₂ .
- Production:	4 1/2" 9.5# set at 3710.13' with 120 sx. 50/50 Pozmix with 4% gel.
TUBING:	1 1/4" EUE set at 3507'
LOGS:	Jet Tech Gamma Ray/Neutron
CORES & DRILLSTEM TESTS:	None
FORMATION TOPS (Log):	Pictured Cliffs (Sand) 3472' (+3315)
PRODUCING PERFORATIONS:	3540' - 3542' 3516' - 3528' 3487' - 3510'
TREATMENT:	Sand-water fraced with 59,000 lbs. sand and 54,600 gal. water.
INITIAL POTENTIAL:	Flow volume thru 3/4" choke: 663 MCFD Calculated Absolute Open Flow Potential: 869 MCFD

WELL: NORTHWEST FEDERAL NO. 2-7
1750' F/SL, 790' F/EL, Sec. 7-T26N-R4W
 FIELD: Tapacito Pictured Cliffs
 COUNTY: Rio Arriba STATE: New Mexico
 ELEVATIONS: 6777.5' GL
6787 KB

6/19/64

Spudded in at 5 p.m. 6/18/64. Drilled 170' of 12 1/4" surface hole. Ran 5 joints of 8 5/8" casing for total of 156', set at 168' KB. Cemented with 100 sx. regular with 2% CaCl₂. Plug down 10:45 p.m. Good returns throughout job. Dev. 3/4" at 150'. Present operation, WOC.

6/20/64

Depth 2082'. Drilled 1912' of sand and shale. Mud 9.0. Vis. 39. Water loss 16. Dev. 1/2" at 1980'. Present operation, making trip for Bit 3.

6/21/64

Depth 2717'. Drilled 635' of sand and shale. Present operation, drilling with Bit 4. Mud 9. Vis. 40, water loss 8.4. Dev. 1" at 2400'.

6/22/64

Depth 3317'. Drilled 600' of sand and shale. Mud 9.3. Vis. 48. Water loss 10. Dev. 1 1/4" at 3100'. Present operation, drilling with Bit 5.

6/23/64

Depth 3670'. Drilled 353' of sand and shale. Mud 9.0. Vis. 55. Water loss 8.4. Present operation, drilling with Bit 6 with full returns. Lost partial circulation at 3485', complete circulation at 3505'. Approximately 300 bbls. mud lost. Dev. 1" at 3600'.

6/24/64

Depth 3700'. Ran 116 joints of 9.5# 4 1/2" casing for total of 3699.13', set at 3710.13' KB. Float collar at 3676.48' KB, treated 125 bbls. mud with 7.5 gal. Hydrazine and 12.5 gal. Bacrin No. 2. Cemented with 120 sx. 50/50 Pozmix with 4% gel. Bumped plug with 1500# at 6:40 p.m. 6/23/64. Float held OK. Good returns throughout job.

WELL: NORTHWEST FEDERAL 2-7

7/2/64

880 psi.

7/3/64

Will run 3 hour test today.

7/4/64

Ran 3 hour test. Heavy spray of water throughout test.

7/5/64

Shut in for 7 day test.

7/11/64

Ran 3 hour test.

	Casing	Tubing
9:40 a.m.	832	832
9:55 a.m.	641	63
10:10 a.m.	606	51
10:25 a.m.	581	45
10:40 a.m.	562	42
11:40 a.m.	504	34
12:40 p.m.	466	30

Light spray of water throughout test. ROF on 3/4" choke - 568 MCFD. AOF calculated 788 MCFD.

OPEN FLOW TEST DATA

DATE July 20, 1964WELL: NW FEDERAL 2-7

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6/25/64

Waiting on completion rig.

6/27/64

Rigged up Jet Tech. Ran Gamma Ray Neutron. Loggers TD 3663' KB. Top of Pictured Cliffs at 3472' KB.

6/28/64

Will perforate today.

6/29/64

Rigged up Lane Wells, perforated two per foot from 3542'-3540', 3528'-3516', 3510'-3487'. Present operation, preparing to frac.

6/30/64

Rigged up Dowell, treated with 59,000# 20-40 sand, 47,040 gal. water. Average treating pressure 1750, average injection rate 41.2 BPM. Job completed 8:14 a.m. Dropped 35 balls. Moved in Reems completion rig, started blowing well down with 1 1/4" EUE, no help. Blew down to 3648', on bottom at 4:30 a.m. Gauged well, making 250 MCFD. Blew for one hour, recovered traces of drilling mud. Well gauged 175 MCFD with 1/2" stream of water. Water now clear. Landed tubing, nipped up well-head, left line gas on to help clean up well. Ran 111 joints of 1 1/4" EUE tubing for 3497.18', set at 3507.18' KB.

Rigged up Dowell 4 Allison	Initial injection rate	37 BPM
Broke	Maximum injection rate	46.5 BPM
Initial treat. pres. 2700 psi	Minimum inj. rate	24 BPM
Max. treat. pres. 3100 psi	Final inj. rate	29 BPM
Min. treat. pres. 1450 psi	Avg. inj. rate	41.2 BPM
Final TP	sand	59,000# 20-40
Avg. TP	Total fluid	54,600 gal.
Instant SIP	Treat. fluid	47,040 gal.
15 min SIP	Additives 137#	J-100
Hydraulic HP	Balls	35 in 74 holes.
2322		
Job complete at 8:14 a.m.		

7/1/64

Shut off supply gas at 6 p.m. 6/30/64. This a.m. 820 psi.

Operator	Consolidated Oil & Gas, Inc.			Lease	Northwest Federal No. 2-7		
Location	1750' FSL, 790' FEL, Sec. 7-T26N-R4W			County	Rio Arriba		
Formation	Pictured Cliffs			State	New Mexico		
Casing Diameter	4-1/2"	Set At: Feet	3710	Tubing Diameter	1-1/4"	Set At: Feet	3507
Pay Zone: From	3487	To	3542	Total Depth:	3711		
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	820	- 12 = PSIA	832	Days Shut-In	7	Shut-in Pressure, Tubing, PSIG	- 12 = PSIA
Flowing Pressure: P, PSIG	37	- 12 = PSIA	49			Working Pressure: P _w , PSIG	- 12 = PSIA
Temperature: T, °F	42	n =	0.85			P _{pw} (From Tables)	1.013
						Gravity	0.70 (est.)

$$\text{CHOKE VOLUME} = Q = C \times P_r \times F_r \times F_g \times F_v$$

$$Q = 14.1605 \times 49 \times 1.0178 \times .9258 \times 1.013 = \underline{663} \text{ MCF/D}$$

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

$$A_{of} = \left(\frac{692,224}{503,868} \right)^n = 1.374^{.85} = 1.310$$

$$A_{of} = \underline{869} \text{ MCF D}$$

TESTED BY John WalkerWITNESSED BY Clyde Phillips

W. H. Williams
 W. H. Williams, Chief Engineer