

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other instructions 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 _____

b. TYPE OF COMPLETION: NEW WELL WORK OVER DEEP-EN PLUG BACK DIFF. RESVR. Other _____

2. NAME OF OPERATOR

Consolidated Oil & Gas Ins.

3. ADDRESS OF OPERATOR

P.O. Box 2038, Farmington, New Mexico

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface **790' FSL. & 790' FSL of Section 3, Township 25 North, Range 10 West, NMPN.**

At top prod. interval reported below

At total depth

14. PERMIT NO. DATE ISSUED

5. LEASE DESIGNATION AND SERIAL NO.

S. F. 070124

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

Lundeen

9. WELL NO.

1-3

10. FIELD AND POOL, OR WILDCAT

Basin Dakota

11. SEC. T., R., M., OR BLOCK AND SURVEY OR AREA

Sec. 3 Twp. 25N- R 10W. NMPN.

12. COUNTY OR PARISH

San Juan

13. STATE

New Mexico

15. DATE SPUDDED 16. DATE T.D. REACHED 17. DATE COMPL. (Ready to prod.) 18. ELEVATIONS (DF, RSB, RT, GR, ETC.)* 19. ELEV. CASINGHEAD

12-31-64 1-24-65 1-27-65 6721.3 G.L. 6723 L.D. 6712

20. TOTAL DEPTH, MD & TVD 21. PLUG, BACK T.D., MD & TVD 22. IF MULTIPLE COMPL., HOW MANY 23. INTERVALS DRILLED BY ROTARY TOOLS CABLE TOOLS

6600 6567 Single 246' to T.D. 0 to 246'

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND T.D.) 25. WAS DIRECTIONAL SURVEY MADE

Basin Dakota (6526-6556)

26. TYPE ELECTRIC AND OTHER LOGS RUN

Acoustilog & Induction Electrolog.

27. WAS WELL CORED

28. CASING RECORD (Report all casing in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	AMOUNT PULLED
8 5/8	24	256	12 1/4	175 Sacks of Bag. w/26 Cu Ft.
4 1/2	11.6 & 10.50	6601	7 7/8	250 Sacks of 50-50 Fomix with 4.5 gal.

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
					1 1/2	6545	Open

31. PERFORATION RECORD (Interval, size and number)

6526-6556 6 Holes Per foot

Total of 180 holes 1/2"

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED
6526-6556	Sand & Water Frac. 60,000' of Sand and 66,115 gallons of Water.

33. PRODUCTION

DATE FIRST PRODUCTION PRODUCTION METHOD (Flowing, gas lift, pumping—size and type) WELL STATUS (Producing or shut-in)

DATE OF TEST HOURS TESTED CHOKER SIZE PROD'N. FOR TEST PERIOD OIL—BBL. WATER—BBL. GAS-OIL RATIO

2-8-65 3 3/4 Flowing 3.173 70 est.

FLOW. TUBING PRESS. CASING PRESSURE CALCULATED 24-HOUR RATE OIL—BBL. GAS—MCF WATER—BBL. OIL GRAVITY-API (CORR.)

260 700 3.173 70 est.

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.) TEST WITNESSED BY

Flared

Herman Ho Anally

35. LIST OF ATTACHMENTS

Drilling & Completion History, Acoustic log and Induction Electric log.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED **Clyde Phillips** TITLE **Production Superintendent** DATE **2-15-65**

*(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 36.

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.)

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

DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

LUNDEAN NO. 1-3

San Juan County, New Mexico

February 11, 1965

LOCATION: 790' ESE, 790' EBL, Sec. 3-T25N-R16W

ELEVATIONS: 6711.3' GI
6723' KB - all measurements from KB

DATE: December 31, 1964

DRILLING COMPLETED: January 24, 1965
WELL COMPLETED: January 27, 1965

TOTAL DEPTH: 6600' (Driller)
6587' (Log)

CASING: Surface- 8 5/8" 24# set at 200' with 175 sx. regular
2% CaCl₂ cement
Production- 4 1/2" 11.60# and 10.50# casing set at
6600.99' with 250 sx. 50/50 Pozmix with
4% gel.

TUBING: 1 1/2" EUE set at 6545'

LOGS: Line Wells Induction Electrolog and Acoustic

CORES & DRILLSTEM TESTS: None

FORMATION TOPS: (Log)

Pictured Cliffs	1970'	(+4753')
Cliffhouse	3670'	(+3083')
Pt. Lookout	4495'	(+2228')
Gallup	5517'	(+1206')
Greenhorn	6375'	(+ 348')
Dakota	6516'	(+ 207')

PRODUCING PERFORATIONS: 6526' - 6556'

TREATMENT: Sand water frac with 60,000# 20-40 sand and
66,315 gal. water.

LUNDEAN NO. 1-3

790' FSN, 790' FEL, Sec. 3-T25N-R10W, N1

FIELD:

BASIN DAKOTA

COUNTY:

San Juan

STATE: New Mexico

ELEVATIONS:

5711.3'

GL

6723'

KB

1/1/65

Drilled 10' of 12 1/4" hole. Shut in for night (December 31 operations).

1/2/65

Drilling at 60'.

1/3/65

Drilling at 160'. Drilled 100' of 12 1/4" hole.

1/4/65

Depth 240'. Drilled 80' of 12 1/4" hole.

1/5/65

Depth 245'. Drilled 5' of 12 1/4" surface hole. Ran 8 joints of 8 5/8" 24# surface pipe for total of 245' set at 256' KB with 175 sx. regular cement with 2% CaCl. Plug down 6 p.m. 1/4/65. Good returns.

1/6/65

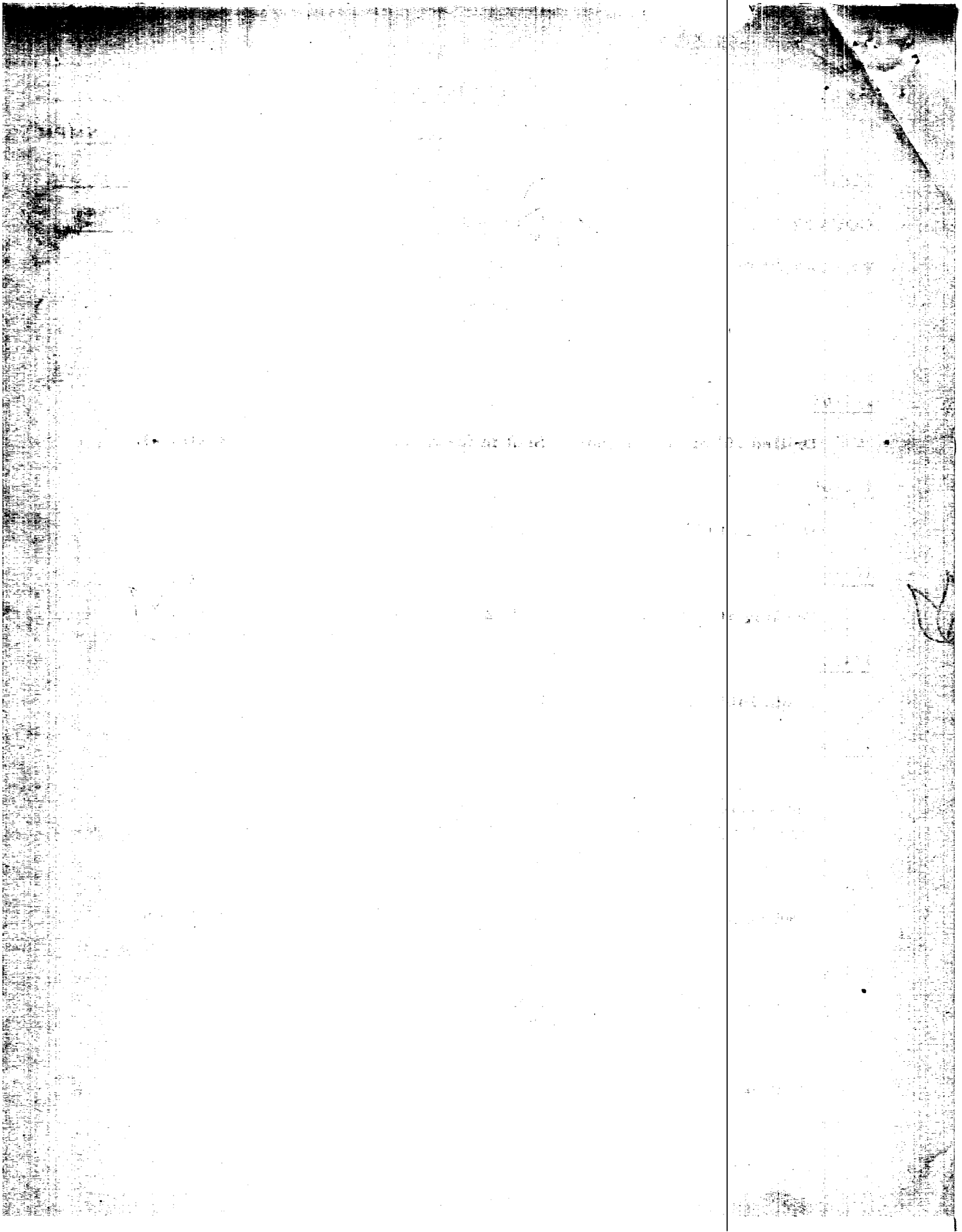
Surface pipe set. Present operation, waiting on rotary rig to move on.

1/7/65

Waiting on rotary.

1/8/65

Waiting on rotary.



DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

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February 11, 1965

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ELEVATIONS: 6711.3' GL
6723' KB - all measurements from KB

SPUD: December 31, 1964

DRILLING COMPLETED: January 24, 1965
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TOTAL DEPTH: 6600' (Driller)
6587' (Logger)

CASING: Surface- 8 5/8" 24# set at 256' with 175 sx. regular
2% CaCl₂ cement.

Production- 4 1/2" 11.60# and 10.50# casing set at
6600.99' with 250 sx. 50/50 Pozmix with
4% gel.

TUBING: 1 1/2" EUE set at 6545'

LOGS: Lane Wells Induction Electrolog and Accoustic

CORES & DRILLSTEM TESTS: None

FORMATION TOPS: (Log)

Pictured Cliffs	1970'	(+4753')
Cliffhouse	3670'	(+3083')
Pt. Lookout	4495'	(+2228')
Gallup	5517'	(+1206')
Greenhorn	6375'	(+ 348')
Dakota	6516'	(+ 207')

PRODUCING PERFORATIONS: 6526' - 6556'

TREATMENT: Sand water frac with 60,000# 20-40 sand and
66,315 gal. water.

INITIAL POTENTIAL: Flow volume thru 3/4" choke: 3173 MCFD
Calculated Absolute Open Flow Potential:
3613 MCFD.

LUNDEAN NO. 1-3

1/9/65

Moving in rotary rig.

1/10/65

Moving in rotary rig.

1/11/65

Depth 750'. Dev. 2° at 250', $1\ 3/4^{\circ}$ at 600', started drilling with water. Bit No. 1 at 12 a. m.

1/12/65

Depth 2350'. Drilled 1600' of sand and shale. Drilling with Bit 2 with water. Dev. $1\ 3/4^{\circ}$ at 1075', $1\ 1/4^{\circ}$ at 1536', 1° at 1950', $3/4^{\circ}$ at 2350'.

1/13/65

Depth 3200'. Drilled 850' of sand and shale. Present operation, drilling with Bit 4 with water. Dev. $3/4^{\circ}$ at 3010'.

1/14/65

Depth 3655'. Drilled 455' of sand and shale. Drilling with water. Present operation, making trip for Bit 6.

1/15/65

Depth 4080'. Drilled 420' of sand and shale. Drilling with water. Present operation, tripping for Bit 8.

1/17/65

Depth 4960'. Drilled 328'. Mud 9.1. Vis. 56.

1/18/65

Depth 5204'. Drilled 244' of sand and shale. Mud 9.1. Vis. 56. Present operation, waiting on pump motor.

1/19/65

Depth 5413'. Drilled 211' of sand and shale. Trip for Bit 13. Mud. 9.1. Vis. 60. Water loss 7.2. Oil content 5%. Dev. $3/4^{\circ}$ at 5300'.

LUNDEAN NO. 1-3

1/21/65

Depth 6080'. Drilled 319' of sand and shale. Drilling with Bit 15. Mud 9.2. Vis. 59. Water loss 8.2. Oil content 5%. Dev. 1° at 5860'.

1/22/65

Depth 6440'. Drilled 359' of sand and shale. Drilling with Bit 16. Mud 9.3. Vis. 60. Water loss 7. Oil content 4%.

1/23/65

Depth 6546'. Drilled 105' sand and shale. Present operation, trip for Bit 15. Mud 9.3. Vis. 64. Water loss 7.2. Oil content 3%. Dev. 1° at 6300'.

1/24/65

Depth 6600'. Drilled 54' of sand and shale. Present operation, preparing to log. Mud 9.3. Vis. 65. Water loss 7.2. Oil content 3%.

1/25/65

Rigging up Lane Wells. Ran induction ES log. Logger's TD 6587'. Went in with gamma ray acoustic log. Hit bridge at 525'. Removed centralizer from logging tool. Had three hours down time with rigging tool failure. Ran gamma ray acoustic log. Went in hole with drill pipe. Washed 10' to bottom. Layed down drill pipe. Present operation - running 4 1/2" casing, 1 joint off bottom.

1/26/65

Ran 27 joints 4 1/2" 11.60# casing (873.73'), 174 joints 4 1/2" 10.50# (5742.26'), total 201 joints 6615.99', set at 6600.99' KB. Float collar at 6570' KB. Pretreated mud with 0.06 gal./bbl. Hydrazine and 0.1 gal./bbl. Bactrin No. 2. Cemented with 250 sx. 50/50 Poz with 4% gel. Plug down 8:50 a.m., bumped plug with 2000 psi, held OK. Checked with wire line, wire line TD 6566' KB. Present operation, picking up 1 1/2" EUE tubing.

8 10 11

12 13 14

15 16 17

18 19 20

21 22 23

24 25 26

27 28 29

30 31 32

33 34 35

36 37 38

39 40 41

42 43 44

45 46 47

48 49 50

51 52 53

54 55 56

57 58 59

60 61 62

63 64 65

66 67 68

69 70 71

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75 76 77

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99 100 101

102 103 104

105 106 107

108 109 110

111 112 113

114 115 116

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120 121 122

123 124 125

126 127 128

129 130 131

132 133 134

135 136 137

138 139 140

141 142 143

LUNDEAN NO. 1-3

1/27/65

Picked up 218 joints 1 1/2" tubing, bit sub and 3 7/8" bit. Tagged bottom at 6567' KB. Circulated hole and spotted 500 gal. 10% HCl. Came out of hole, rigged up Lane Wells. Could not get below 6567' KB. Ran in 72 stands and two singles of 1 1/2" EUE tubing. Set down at 6545' KB. Washed to bottom, spotted 500 gal. of 15% HCl. Came out rigging up Lane Wells. Perforating six per foot from 6526' to 6586'. Hooked up Western Company, preparing to frac.

1/28/65

Pressured up to 2400 psi, broke back to 500 psi in 5 minutes. Staged acid away, bled back to 500 psi after each stage. Treated perforations at 6526' and 6556' (180 holes) with 60,000 lbs. 20-40 sand and 66,320 gal. water. Average treating pressure 3000 psi, average injection rate 33.7 BPM. Initial shut in pressure 2700 psi, 15 min. shut in 1600 psi. Dropped 140 ball sealers, job complete 9:37 a.m. Well flowed back until 11:30 a.m., started blowing down at 11:45 a.m. Out to 1350', logged off. Came out and blew down to 1350' at 8:45 p.m. Making 2" to 3" stream of water and sand with heavy spray of water. Blew from 1350' until 6:15 a.m. Well kicked off, gauged at 990 MCF. Still making 2" stream of water, no oil. Preparing to go to bottom.

5 FM 600's

Broke	2400#	Initial inj. rate	32 BPM
Initial treating pres.	2800#	Max. inj. rate	35 BPM
Maximum treating pres.	3500#	Min. inj. rate	30 BPM
Minimum treating pres.	2700#	Final inj. rate	30 BPM
Final treating pres.	3400#	Average inj. rate	33.7 BPM
Average treating pres.	3000#	Sand	60,000 20-40
Instant shut in	2700#	Additives	2 1/2# / 1000
5 minute shut in	2000#		FR-2
15 minute shut in	1600#	Balls	140
Hydraulic HP	2478	Treating fluid	59,470
Job complete at 9:37 a.m.		Total fluid	66,315
		Sand content	1.07/gal.

LUNDEAN NO. 1-3

Page 3

1/29/65

Ran tubing to bottom, had several gauges from 140 to 490 MCFD while running tubing. Well making 2" to 3" stream of water. Tagged bottom at 4 p. m., shut off supply gas, well sustained flow and gauged 350 MCF through casing. Dropped ball and knocked out pump out plug. Well kicked off through tubing at 8 p. m. 600 psi tubing pressure.

<u>Time</u>	<u>Casing pressure</u>	<u>MCF</u>
10 p. m.	600 psi	1450
11 p. m.	600 psi	1600
12 midnight	675 psi	1500
1 a. m.	700 psi	1450
2 a. m.	700 psi	1600
3 a. m.	700 psi	1500
4 a. m.	700 psi	1500
5 a. m.	700 psi	1450
6 a. m.	725 psi	1450
7 a. m.	700 psi	1450

Well making spray of water.

1/30/65

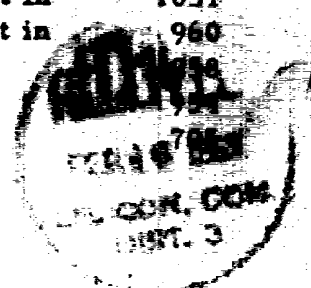
Blew well thru tubing until 12 p. m. Shut in well for 24 hour build up. Will run 3 hour test tomorrow.

1/31/65

Ran 3 hour test thru 3/4" choke.

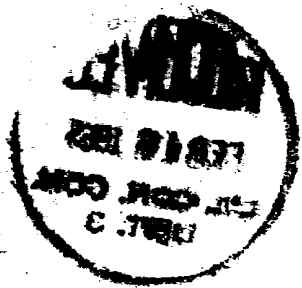
<u>Initial shut in tubing</u>		<u>Initial shut in casing</u>	
15 minute shut in	1215#	15 minute shut in	1811#
30 minute shut in	210	30 minute shut in	1109
45 minute shut in	290	45 minute shut in	1051
1 hour shut in	255	1 hour shut in	960
2 hour shut in	249	2 hour shut in	
3 hour shut in	159	3 hour shut in	
	150		

Note: Well tested thru tubing after 23 hours shut in.



2/1/65

Shut in for 7 day test.



OPEN FLOW TEST DATA

DATE February 6, 1973

Operator: Consolidated Oil & Gas, Inc.		Lease: Lundean 1-3	
Well: Sec. 3-T22N-R10W, NMPM		County: San Juan	State: New Mexico
Basin: Dakota		Pool: Basin Dakota	
Well Diameter: 1 1/2" 10, 3 1/2" 11.64	Set At. Feet: 6588	Tubing Diameter: 1 1/2"	Set At. Feet: 6505
Total Feet: 6526	Ts: 6556	Total Depth: 6600	
Completion Method: Sand and water frac		Flow Through Casing:	Flow Through Tubing: XX

Well Size, Inches: 3/4	Choke Constant: C: 12.365		
Shut-in Pressure, Casing: 1973	PSIG: 12 = PSIA	Days Shut-in: 8 days	Shut-in Pressure, Tubing: 1960
Working Pressure, P: 260	PSIG: 12 = PSIA		Working Pressure, Pw: 780
Temperature, T: 71	n = .75		Fav (From Tables): 1.030
			Gas Gravity: 0.700 est.

CHOKE VOLUME = $Q = C \times P_r \times F_p \times F_g \times F_v$

$Q = 12.365 \times 272 \times .9896 \times .9258 \times 1.030 = 3,173 \text{ MCF/D}$

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

$A_{of} = \left(\frac{3,940,225}{3,312,961} \right)^{.75} = 1.18975 = 1.1346$

$A_{of} = 3613 \text{ MCF/D}$



TESTED BY: A. A. Prater
 ANALYZED BY: Harmon McCall