DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

GOVERNMENT KAUFMANN NO. 1-33

San Juan County, New Mexico

February 24, 1961

Location:	1450' F/NL, 790' F/EL of Section 33-T31N-R13W, N. M. P. M.
Elevation:	5545' Ground 5557' K. B. - all measurements from K. B.
Spud:	December 16, 1960
Drilling Completed: Well Completed:	January 16, 1961 February 15, 1961
Total Depth:	6320' Drilled 6285' Plug Back
Casing:	
Surface:	9-5/8", 32# H-40 cemented at 195' w/132 sx 2% $CaCl_2$ cement.
Production:	5-1/2", 17# & 15.5# J-55 cemented at 6319' w/150 sx 6% gel cement.
Tubing:	1-1/2" EUE J-55 hung at 6136'.
Logs:	Lane Wells Gamma Ray-Neutron & Cement
Cores and Drillstem Tests:	None

Formation Tops: (Log)

Pictured Cliffs	1498'	(+ 4059')
Mesa Verde	3120'	(+ 2437')
Cliffhouse	3185'	(+ 2360')
Menefee	3322'	(+ 2223')
Pt. Lookout	3976'	(+ 1569')
Mancos	4310'	(+ 1235')
Greenhorn	6033'	(− 488')
Dakota	6156'	(− 611')

Producing Perforations:	6244' - 6256' 6162' - 6217' Notched: 6246' & 6252'
Treatment:	Sand-water frac w/91,000 # (20-40 & 40-60) mesh sand, 120,000 gal. water, 1,750 gal. acid.
Initial Potential:	Flow volume thru 3/4" choke 1,935 MCFD. Calculated Absolute Open Flow Potential 2220 MCFD.

WELL: GOVERNMENT KAUFMANN NO. 1-33 (1450' F/NL & 790' F/EL, Sec. 33 - T31N - R13W, N.M.P.M.)

FIELD: BASIN-DAKOTA

COUNTY: San Juan STATE: New Mexico

ELEVATIONS: 5545' GD

5557' KB

12/12/60

Moving in and rigging up.

12/13/60

Rigging up.

12/14/60

Rigging up, mixing mud in preparation for drilling rat and mouse hole.

12/15/60

Drilling rat hole.

12/16/60

Drilling surface hole at 45'.

12/17/60

Drilled 195' of 13-3/4" hole. Ran 7 joints (221') of 9-5/8" casing set at 195' K.B. Cemented with 132 sx regular 2% $CaCl_2$. Plug down 8:00 p.m. Deviation 1/2 degree at 90'; 1/2 degree at 155'. Present operation, nippling up.

12/18/60

Drilling at 1095' with Bit No. 1. Drilled 900', shale and sand. Mud 9.1 - 32. Deviation 1/2 degree at 500'; 3/4 degree at 950'.

12/19/60

Total Depth 1792'. Drilled 697', shale and sand. Present operation tripping for Bit No. 3. Mud 9.1 - 34. Deviation 3/4 degree at 1540'.

12/20/60

Drilling at 2205' with Bit No. 3. Drilled 413', shale and sand. Mud 9-32 - deviation 1 degree at 1919'.

12/21/60

Drilling at 2574' with Bit No. 4. Drilled 369', shale and sand. Mud 9.2 - 35. Deviation 3/4 degree at 2400'.

12/22/60

Drilling at 2877' with Bit No. 5. Drilled 303', shale and sand. Deviation 1 degree at 2760'. Mud 9.2 - 34.

12/23/60

Total Depth 3052'. Drilled 175', sand. Mud 9 - 38. Presently tripping for Bit No. 7.

12/24/60

Drilling at 3230' with Bit No. 8. Drilled 178', sand and shale. Mud 9.2 - 37.

12/25/60

Drilling at 3436' with Bit No. 9. Drilled 206', shale and sand. Mud 9.3 - 42.

12/26/60

Drilling at 3530' with Bit No. 10. Drilled 94', sand. Mud 9.5 - 48 - deviation 1 degree at 3450'.

12/27/60

Drilling at 3715' with Bit No. 11. Drilled 285', shale and sand. Mud 9.4 - 48.

12/28/60

Drilling at 3930' with Bit No. 12. Drilled 215', shale and sand. Mud 9.5 - 42 - 10.

12/29/60

Drilling at 4143' with Bit No. 14. Drilled 213', shale and sand. Mud 9.8 - 47 - deviation 1 degree at 3951'.

12/30/60

Total Depth 4379'. Drilled 236', shale and sand. Tripping for Bit No. 16. Mud 9.6 - 46.

12/31/60

Drilling at 4525' with Bit No. 17. Drilled 146', sand and shale. Mud 9.7 - 45 - deviation 1 degree at 4435'.

1/1/61

Drilling at 4776' with Bit No. 18. Drilled 251', shale and sand. Mud 9.5 - 48.

1/2/61

Total Depth 4970'. Drilled 194', shale and sand. Presently tripping for Bit No. 20. Mud 9.6 - 45.

1/3/61

Total Depth 5175'. Drilled 205', shale and sand. Tripping for Bit No. 21. Mud 9.6 - 45.

1/4/61

Total Depth 5449'. Drilled 274', shale and sand. Mud 9.6 - 46 - deviation 3/4 degree at 5300'. Presently coming out of hole to pick up overshot.

1/5/61

Total Depth 5449'. Mud 9.5 - 62.

Fishing the past 24 hours. Went in hole with overshot - recovered 25 drill collars and 9 joints drillpipe. Went in hole with magnet and recovered one cone. The second trip with magnet did not recover any cones. Presently in hole with diamond point to stir cones up and condition hole.

1/6/61

Total Depth 5449'. All cones out of hole. Going in hole presently with Bit No. 22. Inspecting drill collars with Drillco. Mud 9.6 - 70.

1/7/61

Total Depth 5535'. Drilled 86', sand. Present operation, lost circulation at 5535'. Lost approximately 100 bbls. mud. Now mixing mud. Bit No. 22 in hole.

1/8/61

Drilling at 5586' with Bit No. 23. Drilled 51', sand and shale. Mud 9.4 - 57. Twelve hours downtime for lost circulation.

1/9/61

Total Depth 5807'. Drilled 221', sand and shale. Presently tripping for Bit No. 24. Mud 9.6 - 60.

1/10/61

Drilling at 5816' with Bit No. 24. Drilled 9', sand and shale. Mud 9.8 - 55.
7 hrs tripping for bit
8 hrs tripping for plugged bit
4 hrs going in hole after getting bit unplugged
1 hr servicing rig
3 hrs down on pump
1 hr drilling

WELL: GOVERNMENT KAUFMANN NO. 1-33

1/11/61

Drilling at 6020' with Bit No. 24. Drilled 204', sand and shale. Mud 9.7 - 57.

1/12/61

Drilling at 6182' with Bit No.26. Drilled 162', sand and shale. Mud 9.7 - 74 - lost approximately 100 bbls mud at 6150'. Down 3 hrs. for lost circulation.

1/13/61

Total depth 6257'. Drilled 75', sand and shale. Presently tripping for Bit No. 28. Mud 9.6 - 92 - 8.8.

1/14/61

Total Depth 6303'. Drilled 46', sand. Mud 9.5 - 94 - 7.2. Presently tripping for Bit No. 29.

1/15/61

6320' Total Depth. Drilled 17', sand. Presently laying down drillpipe to run casing. Mud 9.7 - 120 - 7.2. Ran logs.

1/16/61

Total Depth 6320'. WOC. Moving off rotary rig.

Ran 6335' of 5-1/2" J-55 casing and set at 6319' (lower 4109' is 17-lb. and upper 2210' is 15.5-lb., 115 joints and 70 joints respectively of 17-lb. and 15.5-lb.).

Cemented with 150 sacks regular cement with 6% gel. Good returns throughout. Bumped plugs at 3000 psig - floats held OK.

1/17/61

Waiting on completion rig.

2/7/61

Moving on completion rig.

WELL: GOV'T KAUFMANN NO. 1-33

2/8/61

Rigging up completion rig and preparing to pick up workover drillpipe.

2/9/61

Preparing to pull drillpipe after notching. Cut casing notch at 6246' KB. Will spot acid and break down formation, pull string and frac.

2/10/61

Cleaning out wellbore sand accumulation after first frac attempt.

Cut casing notch at 6246' - pumped in at 7 BPM at 2500 PSIG - treating with 750 gallons 15% HCl injected under slow soaking rate. Pulled drillpipe and attempted to frac with rates varying from 11 to 17 BPM at 3400 to 3700 PSIG. Successful in getting 10,000 pounds 20 - 40 mesh sand into formation.

After cleaning out sand accumulation, plan to re-notch and attempt additional fracing of lower zone.

2/11/61

Coming out of hole with tubing and notching tool to perforate and frac for second stage.

Cleaned out to PBTD of 6285'. Cut second casing notch at 6252'. Unable to break down at 3700 PSIG. Displaced 500 gallons 15% HCl and soaked away at 3100 PSIG gradually reducing to 2000 PSIG. Spotted additional 500 gallons 15% HCl and started out of hole.

2/12/61

Shut in after second stage frac.

Completed pulling tubing and notching tool. Perforated 6244' to 6256' with two jets per foot (24 holes) and 1 1/2 bullets per foot (18 holes). Note that this is same interval in which notches were cut. Perforated with two bullets and two jets per foot 6162' to 6217'.

Soaked acid away at 300 to 400 PSIG. Performed second stage sand-water frac as follows:

WELL: Gov't Kaufmann No. 1-33

2/12/61 (cont'd)

Began injecting at 42 BPM at 1800 PSIG. Started 1/2 pound sand per gallon gradually increasing to 1 pound per gallon and injected 30,000 pounds (40-60 mesh) sand at 2000 PSIG. Started 20-40 mesh sand and continued at 1 pound per gallon. After 40,000 pounds sand, dropped 25 balls - after 50,000 pounds sand, dropped 25 balls - after 60,000 pounds sand, dropped 25 balls with slight pressure increase to 2100 PSIG - after 70,000 pounds sand, dropped 25 balls - after 78,000 pounds sand, dropped 50 balls with pressure increase to 2200 PSIG. Continued injecting for a total of 81,000 pounds sand - flushed to perforations at 2200 to 2300 PSIG. Used Western Company's Water Loss additive.

Allowed well to remain shut in for two hours and back flowed for eight hours, after which time it was essentially dead.

Job summary:

81,000 pounds sand
96,000 gallons water
1,000 gallons 15% HCl
150 balls
41 BPM
1800 to 2200 PSIG

2/13/61

Preparing to bring well in after landing 1 1/2" EUE completion tubing.

After allowing well to settle down following eight hours back flowing, started in hole with completion tubing. After blowing with supply gas at 800 feet for about one hour, the well began flowing naturally. Inserted tubing discs below and above tubing jet collars and stripped to bottom. Have now broken the top disc and are attempting to break lower disc. Now have 800 PSIG on both tubing and casing.

2/14/61

Preparing to rerun completion tubing.

Because of inability to break lower disc yesterday, it was necessary to strip the tubing out of the hole. The well has continued to flow through two 3" side outlets with indications of being unusually strong.

WELL: GOVERNMENT KAUFMANN NO. 1-33

2/15/61

Shut in. Will run initial three hour potential test today. 1733 PSIG tubing pressure. 1640 PSIG casing pressure.

Reran completion tubing yesterday and landed as follows: 1 1/2" - EUE - J - 55 (189 joints) set at 6136' KB. Jet holes at 5318' and 4796' KB. After some thirty hours of exhaustive flow through the casing while pulling and rerunning tubing, the well was making about 1.25 MCFD and returning lots of frac water. Shut in for overnight buildup.

2/16/61

Shut in. Will run a second three hour potential test today. Tubing pressure 1780 PSIG - casing pressure 1690 PSIG. Results of three hour test yesterday as follows:

Time After Opening	Casing Pressure	Tubing Pressure
1 hour	805 PSIG	113 PSIG
2 hours	692	90
3 hours	635	*85

*1250 MCFD

Well still cleaning up frac water.

2/17/61

Shut in for initial seven day pressure buildup and official potential testing.

Ran another three hour test yesterday. After 20 hours shut in, the tubing and casing pressure was 1800 PSIG. Results of test indicated 1550 MCFD actual flow at the end of three hours with 775 PSIG on casing. Well appears to be getting stronger as frac water is cleaned up.

2/20/61

Shut in. Tubing pressure 2080 PSIG. Casing pressure 2080 PSIG.

WELL: GOVERNMENT KAUFMANN NO. 1-33

2/25/61

S.I. for hookup. Ran official initial potential test yesterday following seven-day shut in as follows:

Time Open	Casing PSIA	Tubing PSIA	Temp.
0 min.	2047	2032	-
15	1562	742	52°F
30	1322	637	
45	1237	362	
60	1087	323	52
120	922	150	53
180	*837	130	54

*1935 MCFD

Well stream fairly dry with liquid slugs.

OPEN FLOW TEST DATA

DATE February 2, 1961

Operator: Consolidated Oil & Gas, Inc.		Lease: Government Kaufmann	
Location: 1450' FNL, 790' FEL 33-31N-13W		County: San Juan	State: New Mexico
Formation: Dakota		Pool: Basin	
Casing: Diameter: 5 1/2	Set At: Feet: 6319	Tubing: Diameter: 1 1/2" EUE	Set At: Feet: 6136
Pay Zone: From: 6162	To: 6256	Total Depth: 6285 PB	
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: 2047	+ 12 = PSIA: 2059	Days Shut-In: 7	Shut-In Pressure, Tubing PSIG: 2032	+ 12 = PSIA: 2044	
Flowing Pressure: P PSIG: 132	+ 12 = PSIA: 144		Working Pressure: Pw PSIG: 837	+ 12 = PSIA: 849	
Temperature: T °F: 54	n = 0.75		Fpv (From Tables): 1.018	Gravity: 0.70	

CHOKE VOLUME = $Q = C \times P_t \times F_t \times F_g \times F_{pv}$

$Q = 14.1605 \times 144 \times 1.0058 \times 0.9258 \times 1.018 =$ 1935 MCF/D

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

$Aof = \left(\frac{4239481}{3538912} \right)^n = 1.19796^n$

Aof = 2220 MCF/D

TESTED BY Phillips

WITNESSED BY _____

George E. Thomas

NEW MEXICO OIL CONSERVATION COMMISSION — Form C-110
SANTA FE, NEW MEXICO — Revised 7/1/55

(File the original and 4 copies with the appropriate district office)

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Company or Operator **Consolidted Oil & Gas, Inc.** Lease **Govt. Kaufman**

Well No. **1-33** Unit Letter **H** S **33** T **31N** R **13W** Pool **Basin Dakota**

County **San Jaun** Kind of Lease (State, Fed. or Patented) **Federal**

If well produces oil or condensate, give location of tanks: Unit **H** S **33** T **31N** R **13W**

Authorized Transporter of Oil or Condensate **(1) Foutz & Bursum (2) Plateau, Inc, 75%** **25%**

Address **(1) P. O. Box 307, Farmington, N. M. (2) P. O. Box 567, Bloomfield, N. M.**
(Give address to which approved copy of this form is to be sent)

Authorized Transporter of Gas **Southern Union Gas Company**

Address **1507 Pacific Avenue, Dallas 1, Texas** Date Connected _____
(Give address to which approved copy of this form is to be sent)

If Gas is not being sold, give reasons and also explain its present disposition:

_____

_____

_____

Reasons for Filing: (Please check proper box) New Well ( )
Change in Transporter of (Check One): Oil ( ) Dry Gas ( ) C'head ( ) Condensate (X)
Change in Ownership _____ ( ) Other _____ ( )
(Give Explanation Below)

Remarks:

RECEIVED
JUL 31 1961
OIL CON. COM.
DIST. 3

The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with.

Executed this the **26** day of **July**, 19**61**.

Approved JUL 31 1961, 19____

OIL CONSERVATION COMMISSION

Original Signed By
By A. R. KENDRICK

Title PETROLEUM ENGINEER DIST. NO. 3

By _____

Title **Chief Engineer**

Company **Consolidated Oil & Gas, Inc.**

Address **2112 Tower Bldg., 1700 Broadway**

Denver 2, Colorado

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION
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NEW MEXICO OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

FORM C-110
(Rev. 7-60)

FILE THE ORIGINAL AND 4 COPIES WITH THE APPROPRIATE OFFICE

Company or Operator	Lease	Well No.
Consolidated Oil & Gas, Inc.	Kaufman (Gov't)	1-33

Unit Letter	Section	Township	Range	County
H	33	31 N	13 W	San Juan

Pool	Kind of Lease (State, Fed, Fee)
Basin Dakota	Federal

If well produces oil or condensate give location of tanks	Unit Letter	Section	Township	Range
	H	33	31 N	13 W

Authorized transporter of oil ☐ or condensate ☒
~~La Mar Trucking, Inc.~~ Inland, Inc.

Address (give address to which approved copy of this form is to be sent)
P. O. Box 1528
Farmington, New Mexico

Is Gas Actually Connected? Yes X No ____

Authorized transporter of casing head gas ☐ or dry gas ☐

Date Connected

Address (give address to which approved copy of this form is to be sent)

If gas is not being sold, give reasons and also explain its present disposition:

REASON(S) FOR FILING (please check proper box)

New Well ..... ☐
Change in Transporter (check one)
Oil ..... ☐ Dry Gas .... ☐
Casing head gas . ☐ Condensate . . ☒
Change in Ownership ..... ☐
Other (explain below)

Remarks

RECEIVED
JAN 9 1963
OIL CON. COM.
DIST. 3

The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with.

Executed this the 4th day of January, 1963.

OIL CONSERVATION COMMISSION

Approved by
Original Signed Emery C. Arnold

Title
Supervisor Dist. # 3

Date
JAN 9 1963

By
W. A. Williams

Title
Chief Engineer

Company
Consolidated Oil & Gas, Inc.

Address
4150 East Mexico Avenue
Denver 22, Colorado