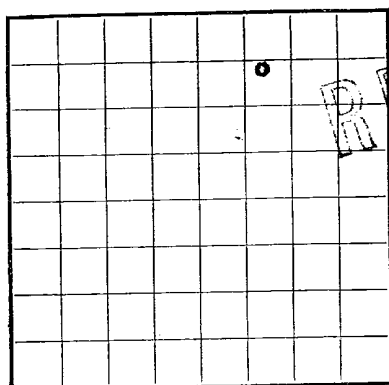


Santa Fe

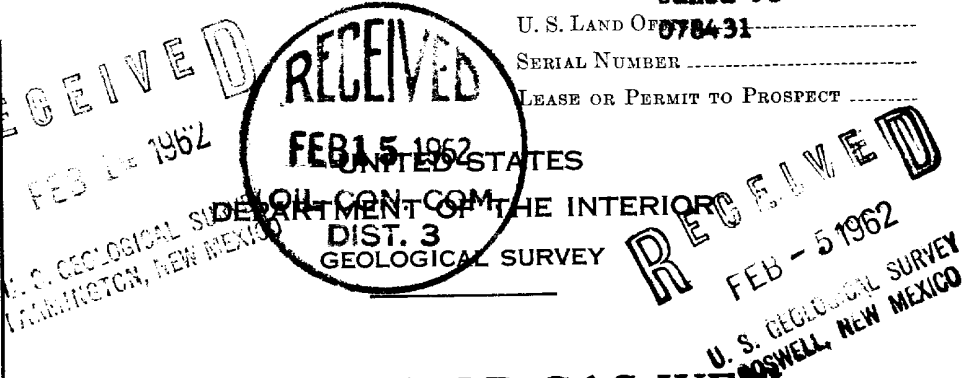
U. S. LAND OFFICE 078431

SERIAL NUMBER

LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY



## LOG OF OIL OR GAS WELL

Company **Consolidated Oil & Gas, Inc.** Address **2112 Tower Building, Denver, Colo.**  
Lessor or Trust **Consolidated-Hale** Field **Callard Pictured Cliffs** State **New Mexico**  
Well No. **S26 20N 30E** Meridian **NMPM** County **San Juan**  
Location **990** ft. **N 78° E** Line **790** ft. **E** of **Sec. 26** Elevation **6920'** (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed

Chief Engineer

Date **February 1, 1962**

The summary on this page is for the condition of the well at above date.

Commenced drilling **November 28**, 19**62** Finished drilling **January 2**, 19**62**

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

G No. 1, from **2751'** to **2784'** No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
G No. 2, from **7050'** to **7250'** No. 5, from \_\_\_\_\_ to \_\_\_\_\_  
No. 3, from \_\_\_\_\_ to \_\_\_\_\_ No. 6, from \_\_\_\_\_ to \_\_\_\_\_

## IMPORTANT WATER SANDS

No. 1, from \_\_\_\_\_ to \_\_\_\_\_ No. 3, from \_\_\_\_\_ to \_\_\_\_\_  
No. 2, from \_\_\_\_\_ to \_\_\_\_\_ No. 4, from \_\_\_\_\_ to \_\_\_\_\_

## CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
9 5/8"	32	8	H-40	358	Guide	See below			Surface
5 1/2"	17.5	8	1-55	7270	Float				Production
U.S. GEOLOGICAL SURVEY, DIST. 3, GEOSWELL, NEW MEXICO									

## MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
5/8"	358	200	Pump & plug		
1/2"	7270	200 ex. plus 100 ex. strata-crete thru shoe			
		150 ex. 50/50 Permex thru stage collar at 2806'			

## PLUGS AND ADAPTERS

Heaving plug—Material **Cement** Length **16'** Depth set **7254'**  
Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

## SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
2754' - 2783'	45,000# sand, 35,000 gal. water					
7053' - 7244'	155,000# sand, 139,500 gal. water, 1,000 gal. acid					

## TOOLS USED

Rotary tools were used from **0** feet to **7277'** feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Cable tools were used from \_\_\_\_\_ feet to \_\_\_\_\_ feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

**January 23**, 19**62** Initial Potential Put to producing \_\_\_\_\_, 19\_\_\_\_

The production for the first 24 hours was \_\_\_\_\_ barrels of fluid of which \_\_\_\_\_% was oil; \_\_\_\_\_% emulsion; \_\_\_\_\_% water; and \_\_\_\_\_% sediment. Gravity, °Bé. \_\_\_\_\_

If gas well, cu. ft. per 24 hours **DK 2755 MCFD** Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_

Rate Rock pressure, lbs. per sq. in. **DK 2185**  
**PC 635**

## EMPLOYEES

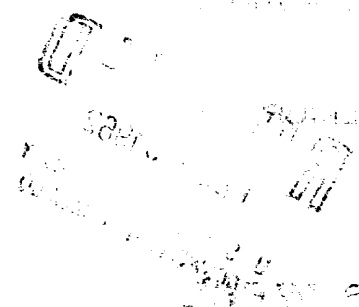
**Huron Drilling Co.** \_\_\_\_\_, Driller \_\_\_\_\_, Driller  
\_\_\_\_\_, Driller \_\_\_\_\_, Driller

## FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
PERFORATIONS:			FORMATION TOPS: (log)
7053	7084		Pictured Cliffs Fm. 2654' (#4266)
7122	7132		Sd. 2713' (#4207)
7138	7152		Mesaverde
7183	7186		Cliffhouse 4235' (#2685)
7200	7205		Menelee 4483' (#2437)
7221	7244		Pt. Lookout 4948' (#1972)
			Mandos 5155' (#1765)
			Gallup 6045' (#875)
			Greenhorn 6952' (- 32)
2754	2783		Dakota 7050' (- 130)

[OVER]

16-42004-3



# HISTORY OF OIL OR GAS WELL

[illegible]

**FORMATION RECORD—Continued**

# DRILLING AND COMPLETION HISTORY

CONSOLIDATED OIL & GAS, INC.

CONSOLIDATED-HALE NO. 3-26

San Juan County, New Mexico  
January 31, 1962

Location: 990' F/NL & 790' F/EL Section 26  
T26N-R8W NMPM

Elevation: 6908' Ground  
6920' KB - all measurements from KB

Spud: November 28, 1961

Drilling Completed: December 23, 1961  
Well Completed: January 2, 1962

Total Depth: 7277' Drilled  
7254' Plug Back

Casing:

Surface - 9 5/8" 32# H-40 cemented at 358'  
w/200 sx. 2% HA5 cement.

Production - 5 1/2" 15.5# & 17# J-55 cemented at  
7270' w/200 sx. 4% gel cement w/1/2  
cu. ft. Strata-Crete per sack thru  
shoe and 150 sx. 4% gel 50-50 Pozmix  
cement thru stage collar at 2806'.

Tubing- 1 1/2" EUE J-55 set in Model "D" packer  
at 7004'  
1" regular hung at 2027'

Logs: Schlumberger Induction-Electric

Cores and Drillstem Tests: None

Formation Tops: (Log)

Pictured Cliffs Fm.	2654'	(+ 4266)
Sd.	2713'	(+ 4207)
Mesaverde		
Cliffhouse	4235'	(+ 2685)
Menefee	4483'	(+ 2437)
Pt. Lookout	4948'	(+ 1972)
Mancos	5155'	(+ 1765)
Gallup	6045'	(- 875)
Greenhorn	6952'	(- 32)
Dakota	7050'	(- 130)

Producing Perforations:

DK	PC
7053' - 7084'	2754' - 2783'
7122' - 7132'	
7138' - 7152'	
7183' - 7186'	
7200' - 7205'	
7221' - 7244'	

Treatment:

Dakota - Sand water frac with 155,000#  
10-20 and 20-40 mesh sand, 139,500 gal.  
water, 1000 gal. acid in three stages.

Pictured Cliffs - 45,000# 10-20 mesh  
sand and 35,000 gal. water.

Initial Potential:

Flow volume thru 3/4" choke:  
Dakota - 2755 MCFD  
Pictured Cliffs - 722 MCFD

WELL: CON-HALE 3-26  
 990' P/ML & 790' F/EL, Section 26-T26N-R8W  
 FIELD: Basin Dakota - Ballard Pictured Cliffs  
 COUNTY: San Juan STATE: New Mexico  
 ELEVATIONS: 6908' GD  
 6920' KB

11/29/61

Depth 180'. Drilling 13 3/4" hole, spudded at 10 p.m. 11/28/61. Mud 8.9. Vis. 60. Dev. 1/2° at 100'.

11/30/61

Depth 445'. Drilled 358' of 13 3/4" surface hole. Ran 345' of 9 5/8" casing set at 355' KB. Cemented with 200 sx. regular with 2% HAS. Plug down at 3 p.m. Good circulation throughout job.

12/1/61

Depth 2173'. Tripping for Bit 3. Drilled 1728' of sand and shale. Drilling with water. Dev. 2° at 950', 1 3/4° at 1400', 1 3/4° at 1900'.

12/2/61

Depth 3103'. Drilling with Bit 4. Drilled 930' of sand and shale. Drilling with Water. Dev. 1/2° at 2400', 1 1/4° at 2900'.

12/3/61

Depth 3233'. Drilling with Bit 7. Drilled 120' of sand and shale. Mud 9.5. Vis. 45. Water loss 9.2. (Lost cone on bit, fish to recover, mudded up while fishing.)

12/4/61

Depth 3636'. Tripping for Bit 9. Drilled 432' of sand and shale. Mud 9.3. Vis. 38. Water loss 12.

12/5/61

Depth 3940'. Tripping for Bit 11. Drilled 304' of sand and shale. Mud 9.6. Vis. 36. Water loss 12. Dev. 1 1/4° at 3600'.

12/6/61

Depth 4137'. Drilling with Bit 12. Drilled 197' of sand and shale. Mud 9.5. Vis. 36. Water loss 11. Mud cake 2/32. PH 8.

WELL: CON-HALE NO. 3-26

12/16/61

Depth 6473'. Tripping for Bit 28. Drilled 213' of sand and shale. Mud 10. Vis. 52. Water loss 11.2.

12/17/61

Depth 6597'. Drilling with Bit 29. Drilled 124' of sand and shale. Mud 10. Vis. 47. Water loss 11.8.

12/18/61

Depth 6793'. Drilling with Bit 30. Drilled 197' of sand and shale. Mud 10. Vis. 46. Water loss 11. Mud cake 2/32. PH 10. Sand content 1/2%.

12/19/61

Depth 7005'. Drilling with Bit 31. Drilled 212' of sand and shale. Mud 10. Vis. 45. Water loss 13.7. Mud cake 2/32. PH 10.

12/20/61

Depth 7148'. Drilled 143' of sand. Tripping for Bit 33. Mud 10. Vis. 67. Water loss 10. PH 8. Estimated top of Graneros by drilling time, 7004'.

12/21/61

Depth 7220'. Drilled 72' of sand. Drilling with Bit 34. Mud 10.2. Vis. 65. Water loss 10.6. Mud cake 2/32. PH 8.5. Projected TD 7240'.

12/22/61

Depth 7261'. Tripping for Bit 36. Mud 10. Vis. 75. Water loss 7.8. Mud cake 2/32. PH 8. Drilled to 7240' (driller's TD), rigged up Schlumberger, ran IES log. Logger's TD 7248', log top of Graneros 7050'. Logged to surface. Went back in with bit drilled 21' of hard sand, drilling time varying from 9 to 30 minutes per foot.

WELL: CON-HALE NO. 3-26

12/7/61

Depth 4369'. Drilling with Bit 14. Drilled 232' of sand and shale. Mud 9.8. Vis. 36. Water loss 11.6. Mud cake 2/32. PH 8.

12/8/61

Depth 4601'. Tripping for Bit 16. Drilled 232' of sand and shale. Mud 9.6. Vis. 36. Water loss 12.2. Mud cake 2/32. PH 8.2.

12/9/61

Depth 4890'. Drilled 289' of sand and shale. Drilling with Bit 18. Mud 9.8. Vis. 36. Water loss 12.4. Dev. 1 3/4° at 4725'.

12/10/61

Depth 5151'. Drilled 261' of sand and shale. Tripping for Bit 20. Mud 9.9. Vis. 36. Water loss 12.4.

12/11/61

Depth 5391'. Drilled 240' of sand and shale. Drilling with Bit 21. Mud 10. Vis. 42. Water loss 12.4.

12/12/61

Depth 5595'. Drilled 212' of sand and shale. Drilling with Bit 22. Mud 10. Vis. 50. Water loss 9.

12/13/61

Depth 5832'. Drilled 237' of sand and shale. Mud 10. Vis. 52. Water loss 8.9. Drilling with Bit 23.

12/14/61

Depth 6010'. Drilled 178' of sand and shale. Drilling with Bit 25. Mud 9.7. Vis. 47. Water loss 13.6.

12/15/61

Depth 6260'. Drilling with Bit 26. Drilled 250' of sand and shale. Mud 9.9. Vis. 48. Water loss 13.2.

Well: CON-HALE NO. 3-26

12/23/61

Depth 7270'. Drilled 9' of sand and shale. Bit torquing up would not make any more hole. Pulled bit, found one cone locked. Ran Schlumberger log. Logger's TD 7277'. Came out of hole laying down drillpipe.

12/24/61

Ran 219 joints, 5 1/2" casing. 113 joints (3808.98') 17# on bottom, 83 joints (2659.77') 15.5# S.T.& C., 21 joints (752.48') 15.5# L.T.& C., 2 joints (86.40') 17# L.T.& C. for a total of 7289.61'. Cut off 30.31' for total of 7259.31' set at 7270.31' KB. Float shoe at 7268.81', float collar at 7201.52', stage collar at 2869.41'.

Hit small bridge at approximately 100' off bottom, worked through bridge found TD at 7274'. Backed off 4' off bottom to hook up circulating head, after hooking up circulating head, pipe was stuck, broke circulation at 650 PSIG, good circulation at 450 PSIG. Circulated for 45 minutes while attempting to free pipe. Could not free pipe. Cemented lower stage with 200 sx. regular cement with 4% gel. with 1/2 cu. ft. Strata-Crete per sack, good circulation throughout job. Over displaced plug 2 bbls. Did not bump, released pressure float held OK. Plug down at 6 p.m. Cemented second stage Pictured Cliffs formation through stage collar with 150 sx. 50-50 Pozmix with 4% gel. Good circulation throughout job, bumped plug with 2200 PSIG, held OK. Released pressure, held OK. Plug down at 10 p.m. Cut off pipe, released rig at 12 midnight.

12/25/61

WOC.

12/26/61

WOC. Hauling frac water.

12/27/61

Rigging up rotary rig for completion. Preparing to go in hole with tubing to clean out to PHTD.

WELL: CON-HALE NO. 3-26

12/28/61

Drilling on hard cement at 7225'. Picked up tubing, found 15' of cement on top of DV collar. Drilled DV collar at 2860'. (By tubing measurement 2866'). Pressured up on casing to 1800 PSIG by rig pump, held OK. Pressured up with Dowell to 2500 PSIG, held OK. Ran tubing to bottom, found 25' of cement on top of float collar, drilled float collar at 7200'. (By tubing measurement 7204'.)

12/29/61

Rigging up Dowell to frac second stage. Cleaned out to PBTD of 7254', pressure up to 3500 PSIG for 10 minutes, held OK. Spotted 1,000 gal. 15% mud acid, came out of hole with tubing. Ran cement and correlation logs over Dakota and Pictured Cliffs formations. Found good cement over both sections. Perforated from 7221'-7244', 7200'-7205' with 4 jets and 2 bullets per foot. Soaked away acid in three stages 20 minutes apart, with injection pressures as follows: breakdown, 2200-1800 PSIG; first stage 1700 PSIG; second stage 1750 PSIG; third stage 1400 PSIG. Fraced lower Dakota as follows:

All pumps on line, 2800 PSIG, 40 BPM. Broke back to 2600 PSIG, started sand at 1/2 lb. per gal. for 2 minutes then went to 1 lb. per gal. Sand on perfs, broke back to 2500 PSIG, 42 BPM. 10,000# sand in, 2550 PSIG, 32 BPM. Lost one Allison, air locked, using three only. 20,000# sand in, 2300 PSIG, 34 BPM. 30,000# sand in, 2150 PSIG, 35 BPM, dropped 20 balls. Balls on perfs, 100# increase, dropped 10 more balls. 40,000# sand in, 2400 PSIG, 33 BPM, second stage balls on, no action, dropped 10 more balls. 50,000# sand in, 2450 PSIG, 32 BPM, dropped ten balls. Third stage balls on, got 100# increase to 2550 PSIG. 60,000# sand in, started flush at 2550 PSIG. Fourth stage balls on, no action. Finished flush at 2850 PSIG, instant shut-in pressure 2000 PSIG, 15 minute shut-in 1650 PSIG.

Frac Summary:

10,000# 40-60 mesh sand  
50,000# 20-40 mesh sand  
61,500 gal. water treated with J-100 gel  
50 frac balls in four stages  
Minimum pressure 2150 PSIG  
Maximum pressure 2850 PSIG  
Average rate 33 BPM

WELL: CON-HALE NO. 3-26

12/29/61 Cont'd.

Ran Guiberson bridge plug set at 7193'. Perforated from 7183'-7186', 7138'-7152', 7122'-7132' with 2 jets and 2 bullets per foot. Had communication.

12/30/61

Fraced middle Dakota as follows:

All pumps on line, 3100 PSIG, 35 BPM. Broke back to 2900 PSIG. Started sand at 1 lb. per gal. 10,000# sand in, 2600 PSIG, 42 BPM. 20,000# sand in, 2650 PSIG, 41 BPM, went to 1 1/2 lbs. per gal. 33,000# sand in, dropped 20 balls, 2600 PSIG, 42 BPM. At 40,000# sand in, 2700 PSIG, no ball action. At 45,000# sand in, 2750 PSIG, 39 BPM. At 50,000# sand in, 2800 PSIG. At 60,000# sand in, 2900 PSIG, 38 BPM. Started flush, lost two pumps, flushed with two pumps at 22 BPM and 2700 PSIG, finished flush at 2750 PSIG. Instant shut-in pressure 1800 PSIG, 15 minute shut-in, 1600 PSIG.

Frac Summary:

60,000# 20-40 mesh sand  
44,000 gal. water treated with J-100 gel.  
Minimum pressure 2600 PSIG  
Maximum pressure 2900 PSIG  
Average rate 37.5 BPM  
20 frac balls in one stage

Bridge plug at 7100'. Shut down rig, waiting on frac water.

12/31/61

Waiting on frac water.

1/1/62

Broke tower at 7 a.m. Went in hole with 2 1/2" tubing, found sand at 6980', 120' of fill up. Circulated out sand, cleaned out to 7100'. Spotted 750 gal. 15% mud acid, perforated with 2 jets and 2 bullets per foot 7053'-7084' (no apparent communication). Squeezed acid in 3 stages 20 minutes apart. Break down 2200 PSIG to 1800 PSIG, second stage 1800 PSIG, third stage 1600 PSIG. Fraced upper Dakota as follows: (3 Allison's)

WELL: CON-HALE NO. 3-26

1/1/62 Cont'd.

All pumps on line, 2600 PSIG, 30 BPM, started sand at 1# per gal. Sand on perforations 2400 PSIG, 32 BPM. 10,000# sand in, 2400 PSIG, 32 BPM. Dropped 10 balls. 15,000# sand in, 2500 PSIG, 31 BPM, dropped 10 balls. First stage balls on perfs, 100# increase to 2600 PSIG. Second stage balls on, 100# increase to 2700 PSIG. 22,000# sand in, rate 28.5 BPM, dropped 10 balls. 25,000# sand in, 2800 PSIG, dropped 5 balls. Balls on perfs, increase to 3000 PSIG, 26 BPM. 30,000# sand in, stopped 20-40 sand started 10-20 at 1# per gal., rate 25 BPM, 3100 PSIG. At 31,000# sand in, pressure broke back to 3000 PSIG, last frac balls on perfs, 3400 PSIG, 24 BPM. 35,000# sand in, started flush, 3400 PSIG, 23.5 BPM. Finished flush 3400 PSIG. Instant shut-in 2700 PSIG, 15 minute shut-in 2000 PSIG.

Frac Summary:

30,000# 20-40 mesh sand  
5,000# 10-20 mesh sand  
34,000 gal. water treated with J-100 gel.  
Minimum pressure 2400 PSIG  
Maximum pressure 3450 PSIG  
Average rate 26 BPM  
Dropped 35 frac balls in four stages

Lubricated in bridge plug, set at 2900'. Perforated Pictured Cliffs 2754'-2783'. Fraced PC as follows:

Break down 1700 PSIG, all pumps on line, 1400 PSIG, 40 BPM. Started sand at 1# per gal. 5,000# sand in, 1100 PSIG, 48 BPM. 10,000# sand in, 1100 PSIG, 48 BPM, dropped 10 balls. Went to 1 1/2# per gal., no action on balls. 20,000# sand in, 1050 PSIG, 50 BPM, went to 2# per gal. Dropped 10 balls, no action. 40,000# sand in, 1000 PSIG, 50 BPM. 45,000# sand in, 1000 PSIG, started flush. Finished flush at 1000 PSIG. Instant shut-in 550 PSIG, 15 minute shut-in 400 PSIG.

Frac Summary:

45,000# 10-20 mesh sand  
35,000 gal. water treated with J-100 gel.  
Minimum pressure 1000 PSIG  
Maximum pressure 1400 PSIG  
Average rate 48 BPM  
Dropped 30 balls in three stages

WELL: CON-HALE NO. 3-26

1/1/62 Cont'd.

Left well shut-in for one hour while rigging up. Went in with 2 1/2" EUE to clean out to PBTD. Drilled bridge plug at 2900'. PC took approximately 100 bbls. water, got some flow back while drilling plugs at 7100' and 7193'. Cleaned out to PBTD of 7254', during clean out lost approximately 250 bbls. water.

1/2/62

Running 1 1/2" tubing. Came out of hole laying down 2 7/8" tubing, ran Baker Model "D" packer set at 7010'.

1/3/62

Shut-in, waiting on swabbing unit. Ran 214 joints (6856.13') 1 1/2" EUE tubing plus 8.36' subs and mandrill for a total of 6993.46' set at 7004.49' KB, in Baker Model D packer set at 7010' KB by wire line measurements. (Note: Had to reset correlation log 5' deep to tie in with open hole log.) Found 8' of sand on top of packer, circulated off sand, landed with 7000# tubing weight on packer. DK dead after landing, lost 150 bbls. water to Pictured Cliffs while running tubing. Pictured Cliffs taking water and kicking strongly. Ran 82 joints (2710.68') of 1" regular tubing set at 2721.08' KB. Jet collars at 2325' and 2027' KB. Released rig at 11 p.m. Dakota and Pictured Cliffs dead and shut-in.

1/4/62

Shut-in, dead. Tearing down and moving off rig. Unable to get swabbing rig to location, bad roads. Will move on tomorrow after moving off completion rig.

1-5-62

Both zones are shut in. Yesterday the Dakota kicked off by itself. Flowing strongly -- very wet. Picture Cliff also gasing slightly. Had to shut both zones in while moving off rig. Will reopen day after rig completes move.

1-6-62

Moving out rotary rig. Blew Dakota four hours. Well heading making heavy amounts of oil and water. Unable to obtain good gauge. Picture Cliff dead. Twenty pounds casing pressure.

