

A 10x10 grid with a small 'x' mark in the 3rd row, 8th column.

*N.M.O.C.*  
OIL CON. COM.  
DIST 3  
UNITED

U. S. LAND OFFICE Santa Fe  
SERIAL NUMBER SP-0700535  
LEASE OR PERMIT TO PROSPECT \_\_\_\_\_

5F 078855

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

# LOG OF OIL OR GAS WELL

## LOCATE WELL CORRECTLY

Company Humble Oil & Refining Company Address Box 1266, Farmington, New Mexico  
Lessor or Tract South Chaco Unit W/C Field So. Chaco Unit W/C State New Mexico  
Well No. 4 Sec. 10 T. 22N R. 8W Meridian - County San Juan  
Location 1130 ft. NE of N Line and 1130 ft. NE of E Line of Section 10 Elevation 6858  
(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.

SO far as can be determined from an available records.

Signed J. M. LILLY Original Signed J. M. LILLY  
Date October 9, 1957 Title District Superintendent

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

Commenced drilling May 25, 1957 Finished drilling TD June 27, 1957

## OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 5637 to 5644 No. 4, from \_\_\_\_\_ to \_\_\_\_\_  
 No. 2, from \_\_\_\_\_ to \_\_\_\_\_ 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"      | 36              | 8R               | Ingsta | 299    | Hall.        |                     |            |      |            |
| 5-1/2"      | 14-15.5         | 8R               | Ingsta | 504.5  | Hall.        |                     | 5697       | 5644 | Production |

## MUDDING AND CEMENTING RECORD

| Size casing | Where set | Number sacks of cement | Method used | Mud gravity | Amount of mud used |
|-------------|-----------|------------------------|-------------|-------------|--------------------|
| 9-5/8"      | 302       | 300                    | Pumped      |             |                    |
| 5-1/2"      | 5854      | 650                    | Pumped      |             |                    |
|             |           |                        |             |             |                    |
|             |           |                        |             |             |                    |

## PLUGS AND ADAPTERS

Heaving plug—Material \_\_\_\_\_ Length \_\_\_\_\_ Depth set \_\_\_\_\_  
Adapters—Material \_\_\_\_\_ Size \_\_\_\_\_

## SHOOTING RECORD

[illegible]

## TOOLS USED

Rotary tools were used from 575 feet to 5855 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

Cable tools were used from 0 feet to 575 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

## DATES

September 16, 1957 Put to producing September 16, 1957

The production for the first 24 hours was 14 barrels of fluid of which 70% was oil; \_\_\_\_\_% emulsion; 30% water; and \_\_\_\_\_% sediment. Gravity, °Bé. 43

If gas well, cu. ft. per 24 hours ..... Gallons gasoline per 1,000 cu. ft. of gas .....

Rock pressure, lbs. per sq. in. -----

## EMPLOYEES

\_\_\_\_\_

|                   |           |                       |           |
|-------------------|-----------|-----------------------|-----------|
| <u>J. Turner</u>  | , Driller | <u>L. H. Lassater</u> | , Driller |
| <u>M. Blakely</u> | , Driller |                       | , Driller |

## FORMATION RECORD

| FROM—                      | TO—  | TOTAL FEET | FORMATION            |
|----------------------------|------|------------|----------------------|
| 0                          | 307  | 307        | Shale                |
| 307                        | 3875 | 3568       | Sand and shale       |
| 3875                       | 4125 | 250        | Sand                 |
| 4125                       | 4556 | 431        | Sand and shale       |
| 4556                       | 4679 | 123        | Sand                 |
| 4679                       | 5595 | 916        | Sand and shale       |
| 5595                       | 5675 | 80         | Shale                |
| 5675                       | 5694 | 19         | Sand and shale       |
| 5694                       | 5855 | 161        | Shale                |
| <u>ATOPS OF FORMATIONS</u> |      |            |                      |
|                            |      |            | Pictured Cliffs 1093 |
|                            |      |            | Lewis 1237           |
|                            |      |            | Mesa Verde 1463      |
|                            |      |            | Point Lookout 3518   |
|                            |      |            | Mancos 3658          |
|                            |      |            | Lower Gallup 4570    |
|                            |      |            | Sanostee 6801        |
|                            |      |            | Greenhorn 5374       |
|                            |      |            | Graneros 5429        |
|                            |      |            | Dakota 5542          |
|                            |      |            | Morrison 5793        |



**HISTORY OF OIL OR GAS WELL**  
**South Chaco Unit #4**

The well was drilled to a total depth of 5855', w/a completion depth of 5668.

Set 299' of 9-5/8" csg at 302' w/300 sax of reg neat cement w/3% calcium chloride mixed.

**DST RECORD**

| DST # | INTERVAL TESTED | TOP CHK | BOT. CHK | TOOL OPEN MINS | RECOVERY |      |       | TEST SAT? | REMARKS             |
|-------|-----------------|---------|----------|----------------|----------|------|-------|-----------|---------------------|
|       |                 |         |          |                | MUD      | OIL  | WATER |           |                     |
| 1     | 3586-3614       | 1"      | 3/4"     | 30             | 10'      |      |       | No        | Clocks not working. |
| 2     | 3735-3782       | 1"      | 3/4"     | 30             | 10'      |      |       | Yes       | -                   |
| 3     | 4249-4360       | 1"      | 1"       | 30             |          |      |       | Yes       | -                   |
| 4     | 4603-4656       | 1"      | 3/4"     | 30             | 10'      |      |       | Yes       | -                   |
| 5     | 4644-4706       | 1"      | 3/4"     | 30             | 10'      |      |       | Yes       | -                   |
| 6     | 4707-4808       | 1"      | 3/4"     | 30             | 25'      |      |       | Yes       | -                   |
| 7     | 5252-5350       | 1"      | 3/4"     | 30             | 15'      |      |       | Yes       | -                   |
| 8     | 5442-5510       | 1"      | 3/4"     | 30             | 35'      |      |       | Yes       | -                   |
| 9     | 5636-5675       | 1"      | 3/4"     | 90             | 60'      | 480' | 310'  | Yes       | -                   |
| 10    | 5637-5644       | 1"      | 3/4"     | 90             | 35'      | 400' |       | Yes       | Excluded water.     |
| 11    | 5689-5725       | 1"      | 3/4"     | 90             | 60'      |      | 2170' | Yes       | -                   |

**CORING RECORD**

| CORE # | INTERVAL |      | CUT | REC. | DESCRIPTION                                                                                        |
|--------|----------|------|-----|------|----------------------------------------------------------------------------------------------------|
|        | FROM     | TO   |     |      |                                                                                                    |
| 1      | 4485     | 4506 | 21  | 21   | hard, grey, fine grained, very shaley sandstone, NS.                                               |
| 2      | 4506     | 4556 | 50  | 50   | black sandy shale, light grey, fine grained, very shaley sandstone, NS.                            |
| 3      | 4556     | 4606 | 50  | 50   | black sandy shale, light grey, fine grained, shaley sandstone, NS.                                 |
| 4      | 4606     | 4658 | 52  | 52   | sandstone and shale, slightly bleeding oil in spots.                                               |
| 5      | 4658     | 4708 | 50  | 50   | light grey, fine grained shaley sandstone, very slightly bleeding oil.                             |
| 6      | 4708     | 4758 | 50  | 50   | light grey, fine grained shaley sandstone, slightly bleeding oil in spots.                         |
| 7      | 4758     | 4808 | 50  | 50   | light grey, fine grained shaley sandstone, black sandy shale, very slightly bleeding oil in spots. |
| 8      | 4808     | 4858 | 51  | 51   | black sandy shale, very slightly bleeding oil in spots.                                            |
| 9      | 5460     | 5510 | 50  | 50   | black shale, light grey fine grained, shaley sandstone.                                            |
| 10     | 5540     | 5591 | 51  | 51   | black shale, light grey, fine to medium grained sandstone, w/shale streaks, NS.                    |
| 11     | 5625     | 5675 | 50  | 43   | black shale, whitish medium grained sandstone, very slightly bleeding gas.                         |
| 12     | 5675     | 5725 | 50  | 49   | black shale, grey and white, fine to medium grained sandstone, NS.                                 |

Set 5843' of 5-1/2" csg. at 5854' w/400 sax of 12% gel, and 250 sax of reg. neat cnt, did not circ.

Perf'd 5-1/2" csg from 5688-5704 w/4 bullet shots per foot. Ran 2" tubing to 5720' w/packer set at 5657'. Swabbed at rate of 4 bbls/hour. Acidised thru perfs w/500 gals of mud acid, broke formation w/1500#. Swabbed at rate of 10-12 bbls water/hr. Set retainer at 5668', squeezed perfs from 5688-5704 w/175 sax of neat cnt. Pulled tubing.

Perf'd 5-1/2" csg from 5637-5644 w/4 bullet shots/ft. Set 2" tubing at 5657' w/packer at 5627'. Swabbed load water, then started swabbing 4 bbls pipeline oil per hr. Well continued making oil and water. Loaded hole w/water oil, pulled tbq, set cast iron retainer at 4800', perf'd 5-1/2" csg from 4684-4698, 4704-4724, and from 4738-4746 w/4 bullet shots/ft. Ran 2" tbq to 4848' w/packer at 4666', swab dry, washed perfs w/500 gals mud acid, swabbed dry, pulled tbq.

Sandfraced through perfs w/18,500 gals diesel and 20,000# sand, avg, inj. rate 33.7 bbls/min at 1650, well kicked off, flowed some load oil, then stopped. Ran 2" tbq to 4675', swabbed load oil, then put on pumping unit. Recovered all but 45 bbls load oil in that zone. Pulled rods and tbq, set Baker Cast Iron retainer, at 4655', ran tbq and squeezed perfs from 4684-4698, 4704-4724, 4738-4746 w/150 sax reg neat cnt.

Set 2" tbq at 5663' w/Sweet tbq anchor at 5622', ran rods and pump, put on pump test. Completed as a pumping oil well through perfs in 5-1/2" csg from 5637-5644 in the Dakota formation.

abandoning vehicles 22/w removed from car to see 008/w '008 to 210 "3/2-9 to '998 150  
 .bexia

| TEST | INTERVAL  | TOP | TOP | TOOL | RECOVERY | TEST |
|------|-----------|-----|-----|------|----------|------|
| W    | TIME      | CH  | CH  | TIME | W        | W    |
| 1    | 3588-3592 | 1"  | 1"  | 30   | 10       | No   |
| 2    | 3592-3595 | 1"  | 1"  | 30   | 10       | Yes  |
| 3    | 3595-3600 | 1"  | 1"  | 30   | 10       | Yes  |
| 4    | 3600-3603 | 1"  | 1"  | 30   | 10       | Yes  |
| 5    | 3603-3606 | 1"  | 1"  | 30   | 10       | Yes  |
| 6    | 3606-3607 | 1"  | 1"  | 30   | 12       | Yes  |
| 7    | 3607-3622 | 1"  | 1"  | 30   | 12       | Yes  |
| 8    | 3622-3630 | 1"  | 1"  | 30   | 32       | Yes  |
| 9    | 3630-3635 | 1"  | 1"  | 30   | 30       | Yes  |
| 10   | 3635-3640 | 1"  | 1"  | 30   | 32       | Yes  |
| 11   | 3640-3645 | 1"  | 1"  | 30   | 30       | Yes  |

| LOCALITY | SECTION | THICKNESS | DESCRIPTION                                                                                                          |
|----------|---------|-----------|----------------------------------------------------------------------------------------------------------------------|
| 15       | 30      | 40        | Black shale, grey and white, fine to medium grained sand-<br>bleeding gas.                                           |
| 16       | 30      | 40        | Black shale, white medium grained sandstone, very slightly<br>w/shale streaks, etc.                                  |
| 17       | 30      | 40        | Black shale, light grey, fine to medium grained sandstone,<br>black shale, light grey fine grained, shaly sandstone. |
| 18       | 30      | 40        | Black sandy shale, very slightly bleeding oil in spots.                                                              |
| 19       | 30      | 40        | Shale, very slightly bleeding oil in spots.                                                                          |
| 20       | 30      | 40        | Light grey, fine grained shaly sandstone, black sandy<br>bleeding oil in spots.                                      |
| 21       | 30      | 40        | Light grey, fine grained shaly sandstone, slightly<br>bleeding oil.                                                  |
| 22       | 30      | 40        | Light grey, fine grained shaly sandstone, very slightly<br>bleeding oil.                                             |
| 23       | 30      | 40        | Light grey, fine grained shaly sandstone, very slightly<br>bleeding oil.                                             |
| 24       | 30      | 40        | Light grey, fine grained shaly sandstone, very slightly<br>bleeding oil.                                             |
| 25       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |
| 26       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |
| 27       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |
| 28       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |
| 29       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |
| 30       | 30      | 40        | Black sandy shale, light grey, fine grained, very shaly<br>sandstone, etc.                                           |

Completed as a pumping oil well through peris in 5-1/2" csg from 5637-5641 in the  
set 2" tbg at 5663' w/ sweet tbg anchor at 5612'. ran rods and pump, put on pump test.  
sax reg next cut.  
at 4655', ran tbg and squeezed peris from 4654-4698, 4701-4734, 4736-4746 w/ 500  
45 bbls load oil in that zone. filled rods and tbg, set Baker Great Iron retainer,  
tbg to 4675', swapped load oil, then put on pumping unit. uncovered all tbg.  
bbls/min at 1610, well kicked oil, flowed some load oil, then stoppered. Ran 2"  
landed through peris w/ 18,500 gals diesel and 20,000 sand, avg. infl. rate 33.7  
bty, washed peris w/ 500 gals mud acid, swapped bty, killed tbg.  
from 4738-4746 w/ 1/4 bullet shot/ft. Ran 2" tbg to 4848' w/ packer at 4846', wash  
east from retainer at 4800', peris'd 5-1/2" csg from 4684-4698, 4701-4734, and  
well continued making oil and water. Loaded hole w/ water oil, pulled tbg, set  
at 5627'. Swapped load water, then started washing 4 bbls pipeline oil out per  
Period 1-1/2" csg from 5637-5644 w/ 1/4 bullet shot/ft. Set 2" tubing at 5637' w/ cement  
sum of next cut. Trilled tubing.  
bbls water/ft. Set retainer at 5648', squeezed peris from 5638-5704 w/ 500  
w/ 500 gals of mud acid, broke formation w/ 1500#. Swapped at rate of 10-12  
w/ packer set at 5677'. Swapped at rate of 1 bbl/hour. Isolated three peris  
cut, did not cure.  
Set 2" tbg at 5675' w/ 1/4 bullet shot/ft. Ran 2" tubing to 5675'  
Set 2" tbg at 5675' w/ 1/2" csg. at 5684' w/ 400 sack of 12 1/2 gal. and 150 sack of reg. cement.