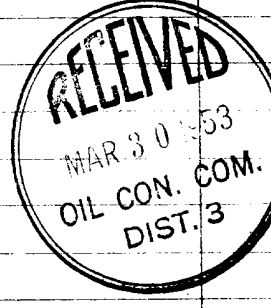


## Geological & Electrical Well Logging

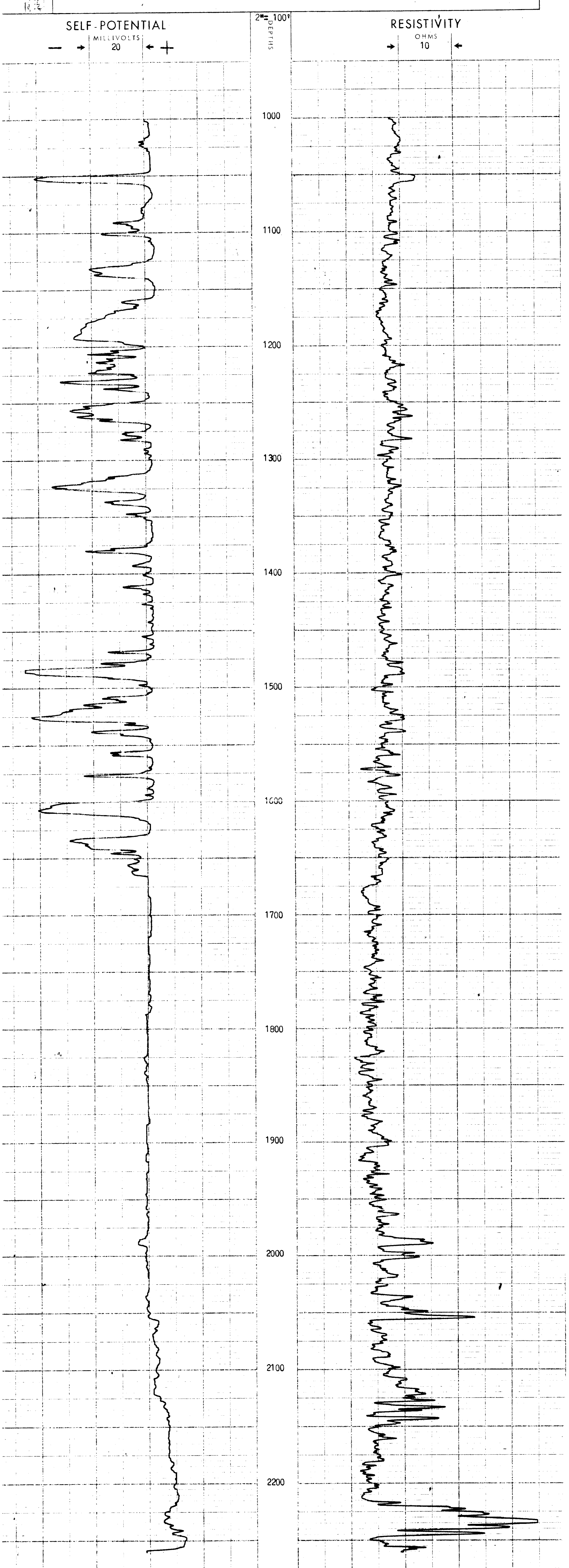
COMPANY BOLACK OIL & GAS COMPANY  
 WELL BOLACK FEDERAL #1  
 FIELD AZTEC PICTURED CLIFFS  
 LOCATION SEC. 10-30N-11W  
 COUNTY SAN JUAN STATE NEW MEXICO

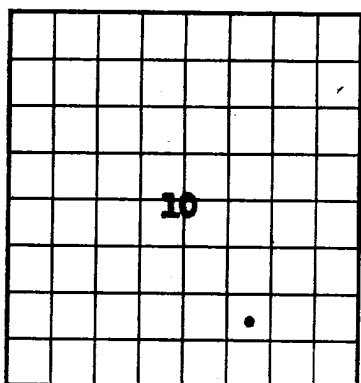
|            |                                 |                     |
|------------|---------------------------------|---------------------|
| COMPANY    | <u>Bolack Oil &amp; Gas Co.</u> | ELEVATION           |
| WELL       | <u>Bolack Federal #1</u>        | G. L. <u>5799</u>   |
| COUNTY     | <u>SAN JUAN</u>                 | D. F. <u>5799</u>   |
| STATE      | <u>NEW MEXICO</u>               | K. B.               |
| LOCATION   | <u>SEC. 10-30N-11W</u>          | DEPTH               |
|            | <u>1000' FR. S/L</u>            | DRILLER <u>2261</u> |
|            | <u>1650' FR. E/L</u>            | LOGGER <u>2259</u>  |
| FILING NO. |                                 | T. D.               |

| Run           | ONE                      | TOPS      |         |
|---------------|--------------------------|-----------|---------|
|               |                          | Formation | Feet    |
| Date          | <u>3/26/53</u>           |           |         |
| First Reading | <u>2259</u>              |           | Surface |
| Last Reading  | <u>1000</u>              |           |         |
| Total Feet    | <u>1259</u>              |           |         |
| Csg. Gls.     | <u>117</u>               |           |         |
| Csg. Driller  | <u>117</u>               |           |         |
| Depth Datum   | <u>RDB</u>               |           |         |
| Mud           | <u>GEL-QUEB-SODA ASH</u> |           |         |
| Density       | <u>9.5</u>               |           |         |
| Viscosity     | <u>55</u>                |           |         |
| Temperature   | <u>60°F</u>              |           |         |
| Resistance    | <u>2.8</u>               |           |         |
| Bit Size      | <u>7-7/8"</u>            |           |         |



Witnessed by: T. BOLACK Logged by: McCONATHY Geologist: T. BOLACK  
 Remarks:





LOCATE WELL CORRECTLY



U. S. LAND OFFICE Santa Fe  
SERIAL NUMBER 078243  
LEASE OR PERMIT TO PROSPECT \_\_\_\_\_

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Tom Bolack Address 1010 N. Dustin, Farmington, N.M.  
Lessor or Tract Hazel Bolack Field Altec P.C. State New Mexico  
Well No. 1 Sec. 10 T. 30N R. 11W Meridian N.M.P.M. County San Juan  
Location 1000 ft. S Line and 1650 ft. W of E Line of Sec. 10 Elevation 5799  
(Denote foot 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 Tom Bolack

Date May 12, 1953 Title Owner

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

Commenced drilling March 18, 1953 Finished drilling April 10, 1953

OIL OR GAS SANDS OR ZONES  
(Denote gas by G)

No. 1, from 2258 to 2340 (G) 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- |                    |
| <u>5/8 36</u> | <u>36</u>       | <u>8</u>         | <u>National 102</u> | <u>2258</u> | <u>2340</u>  |                     |            |     | <u>Surface</u>     |
| <u>1/2 15</u> | <u>15</u>       | <u>8</u>         | <u>Howco</u>        | <u>2340</u> | <u>2340</u>  |                     |            |     | <u>Flow Casing</u> |
| <u>1</u>      |                 |                  |                     | <u>2335</u> |              |                     |            |     | <u>siphon</u>      |

MUDDING AND CEMENTING RECORD

| Size casing     | Where set | Number sacks of cement | Method used  | Mud gravity | Amount of mud used          |
|-----------------|-----------|------------------------|--------------|-------------|-----------------------------|
| <u>5/8 102</u>  |           | <u>110</u>             | <u>HOWCO</u> |             | <u>circulated</u>           |
| <u>1/2 2258</u> |           | <u>100</u>             | <u>HOWCO</u> |             | <u>std float &amp; plug</u> |

PLUGS AND ADAPTERS

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

SHOOTING RECORD

| Size         | Shell used     | Explosive used | Quantity   | Date           | Depth shot       | Depth cleaned out |
|--------------|----------------|----------------|------------|----------------|------------------|-------------------|
| <u>4 1/2</u> | <u>regular</u> | <u>SNG</u>     | <u>150</u> | <u>4-14-53</u> | <u>2268-2340</u> | <u>2340</u>       |

TOOLS USED

Rotary tools were used from 0 feet to 2258 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet  
Cable tools were used from 2258 feet to 2340 feet, and from \_\_\_\_\_ feet to \_\_\_\_\_ feet

DATES

4-24-, 1953 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 820,000 Gallons gasoline per 1,000 cu. ft. of gas \_\_\_\_\_  
Rock pressure, lbs. per sq. in. 684

EMPLOYEES

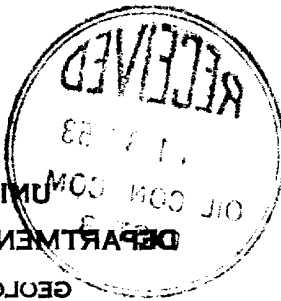
\_\_\_\_\_, Driller \_\_\_\_\_, Driller  
\_\_\_\_\_, Driller \_\_\_\_\_, Driller

FORMATION RECORD

| FROM- | TO-  | TOTAL FEET | FORMATION                           |
|-------|------|------------|-------------------------------------|
| 0     | 500  | 500        | Gray shale & sand stringers         |
| 500   | 777  | 277        | Sand and shale                      |
| 777   | 929  | 152        | Hard sand and shale streaks         |
| 929   | 950  | 21         | Hard sand                           |
| 950   | 1000 | 50         | Shale                               |
| 1000  | 1010 | 10         | Sand                                |
| 1010  | 1150 | 140        | Gray shale with soft sand stringers |
| 1150  | 1190 | 40         | Sand                                |
| 1190  | 1275 | 85         | Sandy shale                         |
| 1275  | 1310 | 35         | Shale                               |
| 1310  | 1350 | 40         | Sand                                |
| 1350  | 1375 | 25         | Shale                               |
| 1375  | 1475 | 100        | Shale with thin sand streaks        |
| 1475  | 1490 | 15         | Sand                                |
| 1490  | 1505 | 15         | Shale                               |
| 1505  | 1555 | 50         | Sand                                |
| 1555  | 1600 | 45         | Shale with thin gray sand stringers |
| 1600  | 1615 | 15         | Farmington sand                     |
| 1615  | 1625 | 10         | Shale                               |
| 1625  | 1655 | 30         | Lower Farmington sand               |
| 1655  | 2215 | 560        | Kirtland Fruitland (shale)          |
| 2215  | 2245 | 30         | coal                                |
| 2245  | 2255 | 10         | shale                               |
| 2255  | 2340 | 44         | Pictured cliffs sand.               |

U.S. LAND OFFICE  
SERIAL NUMBER  
LEASE OR PERMIT TO PROSPECT

DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
UNITED STATES



LOCATE WELL CORRECTLY

|  |  |  |  |  |  |  |  |  |  |
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LOG OF OIL OR GAS WELL

Company: ...  
Lessor or Tract: ...  
Well No.: ...  
Location: ...  
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.

Date: ...  
Title: ...  
The summary on this page is for the condition of the well at above date.  
Commenced drilling: ...  
Finished drilling: ...

OIL OR GAS SANDS OR ZONES

No. 1, from ... to ...  
No. 2, from ... to ...  
No. 3, from ... to ...

IMPORTANT WATER SANDS

No. 1, from ... to ...  
No. 2, from ... to ...

CASING RECORD

| Size casing | Weight per foot | Thread per foot | Make | Material | Kind of shoe | Cut and pulled from | Direction | Purpose |
|-------------|-----------------|-----------------|------|----------|--------------|---------------------|-----------|---------|
|             |                 |                 |      |          |              |                     |           |         |

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was added or left in the well, give its size and location. If it has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in the well, state kind of material used, position, and results of pumping or pulling.

HISTORY OF OIL OR GAS WELL

10-4994-1 U.S. GOVERNMENT PRINTING OFFICE

MUDDING AND CEMENTING RECORD

| Size | Weight per sack | Number sacks of cement | Method used | Kind and quantity | Amount of mud used |
|------|-----------------|------------------------|-------------|-------------------|--------------------|
|      |                 |                        |             |                   |                    |

PLUGS AND ADAPTERS

| Material | Size | Depth set |
|----------|------|-----------|
|          |      |           |

SHOOTING RECORD

| Size | Shell used | Explosive used | Quantity | Date | Depth shot | Depth cleared out |
|------|------------|----------------|----------|------|------------|-------------------|
|      |            |                |          |      |            |                   |

TOOLS USED  
Rotary tools were used from ... feet to ... feet, and from ... feet to ... feet.  
Cable tools were used from ... feet to ... feet, and from ... feet to ... feet.

DATES  
The production for the first 24 hours was ... barrels of fluid of which ... % was oil; ... Put to producing ... 19...  
If gas well, cu. ft. per 24 hours ...  
Rock pressure, lbs. per sq. in. ...  
emulsion; ... water; and ... sediment.

EMPLOYEES  
Driller, ...  
Driller, ...

FORMATION RECORD

| FROM | TO   | TOTAL FEET | FORMATION |
|------|------|------------|-----------|
| 0    | 20   | 20         | ...       |
| 20   | 40   | 40         | ...       |
| 40   | 60   | 60         | ...       |
| 60   | 80   | 80         | ...       |
| 80   | 100  | 100        | ...       |
| 100  | 120  | 120        | ...       |
| 120  | 140  | 140        | ...       |
| 140  | 160  | 160        | ...       |
| 160  | 180  | 180        | ...       |
| 180  | 200  | 200        | ...       |
| 200  | 220  | 220        | ...       |
| 220  | 240  | 240        | ...       |
| 240  | 260  | 260        | ...       |
| 260  | 280  | 280        | ...       |
| 280  | 300  | 300        | ...       |
| 300  | 320  | 320        | ...       |
| 320  | 340  | 340        | ...       |
| 340  | 360  | 360        | ...       |
| 360  | 380  | 380        | ...       |
| 380  | 400  | 400        | ...       |
| 400  | 420  | 420        | ...       |
| 420  | 440  | 440        | ...       |
| 440  | 460  | 460        | ...       |
| 460  | 480  | 480        | ...       |
| 480  | 500  | 500        | ...       |
| 500  | 520  | 520        | ...       |
| 520  | 540  | 540        | ...       |
| 540  | 560  | 560        | ...       |
| 560  | 580  | 580        | ...       |
| 580  | 600  | 600        | ...       |
| 600  | 620  | 620        | ...       |
| 620  | 640  | 640        | ...       |
| 640  | 660  | 660        | ...       |
| 660  | 680  | 680        | ...       |
| 680  | 700  | 700        | ...       |
| 700  | 720  | 720        | ...       |
| 720  | 740  | 740        | ...       |
| 740  | 760  | 760        | ...       |
| 760  | 780  | 780        | ...       |
| 780  | 800  | 800        | ...       |
| 800  | 820  | 820        | ...       |
| 820  | 840  | 840        | ...       |
| 840  | 860  | 860        | ...       |
| 860  | 880  | 880        | ...       |
| 880  | 900  | 900        | ...       |
| 900  | 920  | 920        | ...       |
| 920  | 940  | 940        | ...       |
| 940  | 960  | 960        | ...       |
| 960  | 980  | 980        | ...       |
| 980  | 1000 | 1000       | ...       |

LOG D 103