

[illegible]

U. S. LAND OFFICE Santa Fe, N.M.
SERIAL NUMBER SF-078061
LEASE OR PERMIT TO PROSPECT _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company Shell Oil Company Address Post Office Box 1200, Farmington, N.M.
Lessor or Tract Carson Unit Field Bisti State New Mexico
Well No. W-4 Sec. 20 T. 25N R. 11W Meridian NMPM County San Juan
Location 44.6 ft. S. of N. Line and 2105.2 E. of W. Line of Section 20 Elevation 6417.58 KB

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.

Original Signed By
W. M. MARSHALL
W. M. Marshall

Date _____ Title Division Exploitation Engineer

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

Commenced drilling June 25, 1961 Finished drilling July 1, 1961

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from ----- to ----- 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 2806 to 3326 No. 3, from _____ to _____
No. 2, from 3525 to 3812 No. 4, from _____ to _____

CASING RECORD

[illegible]

MUDDING AND CEMENTING RECORD

| Size casing | Where set | Number sacks of cement | Method used | Mud gravity | Amount of mud used |
|-------------|-----------|------------------------|--------------|-------------|--------------------|
| 10-3/4 | 72 | 50 | Displacement | | |
| 7 | 3847 | 275 | Displacement | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

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 |
|------|------------|----------------|----------|------|------------|-------------------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

TOOLS USED

Rotary tools were used from 0 feet to 3850 feet, and from _____ feet to _____ feet
Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

-----, 19----- Put to producing ~~August 23~~-----, 19 ~~61~~

The production for the first 24 hours was ~~3400~~ barrels of fluid of which -----% was oil; -----% emulsion; ~~100~~ % water; and -----% sediment. Gravity, °Bé. -----

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

Rock pressure, lbs. per sq. in. _____

EMPLOYEES

_____, Driller **Great Western Drilling Co.,** _____, Driller
_____, Driller _____, Driller

FORMATION RECORD

[illegible]

See attached drilling history.

SHELL OIL COMPANY

Water Well
WELL NO. W-4

DRILLING REPORT

FOR PERIOD ENDING

7-1-61

20

(SECTION OR LEASE)

T. 25 N., R. 11 W.

(TOWNSHIP OR RANCHO)

Bisti

(FIELD)

San Juan, New Mexico

(COUNTY)

| DAY | DEPTHS | | REMARKS |
|--------------------|--------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | FROM | TO | |
| | | | Location: 44.6' S., 2105.2' E. of NW corner Section 20, T. 25 N., R. 11 W., N.M.P.M., San Juan County, New Mexico. |
| | | | Elevations: KB 6417.58 DF 6415.48 GR 6408.38 |
| 6-25 to 6-26 | 0 | 1760 | Spudded 5:00 A.M. 6-25-61. Ran and cemented 10-3/4", H-40, 40.5# conductor pipe at 72' with 50 sacks cement treated with 2% calcium chloride. Good cement returns to surface. Flanged up and waited on cement. |
| 6-27 to 7-1 | 1760 | 3850 (TD) | Drilled 2090'. Ran Induction Electrical Survey and Microlog. Ran and cemented 7", J-55, 23# ST & C casing at 3847' with 225 sacks cement treated with 20% Diacel D and 2% calcium chloride followed by 50 sacks cement treated with 2% calcium chloride. Bumped plug with 1500 psi, o.k. Released rig at 8:00 P.M. 7-1-61. |
| | | | <u>Mud Summary</u> Wt. 9.6-9.8#/gal. Vis. 40-80 sec. WL 8.2-8.8 cc. FC 2/32" |
| | | | Contractor: Great Western Drilling Co. Contract Pusher: E. H. Leseberg Drillers: B. O. Talent G. G. Ellis L. B. Wells Company Pusher: J. E. Dozier, Jr. |
| | | | End |

CONDITION AT BEGINNING OF PERIOD

| HOLE | | | CASING SIZE | DEPTH SET |
|------------------------|----------|--------------|---------------|--------------|
| SIZE | FROM | TO | | |
| 13-3/4" 9" | 0 72' | 72' 3850' | 10-3/4" 7" | 72' 3847' |
| DRILL PIPE SIZES 4" | | | | |

J. L. Thurber

977

SHELL OIL COMPANY

WELL NO. W-4

Bisti
 (FIELD)
 San Juan, New Mexico
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
 8-17-61

Sec. 20
 (SECTION OR LEASE)
 T. 25 N., R. 11 W.
 (TOWNSHIP OR RANCHO)

| DAY | DEPTHS | | REMARKS |
|------|--------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | FROM | TO | |
| 8-16 | 3815 T.D. | | Rigged up to perforate Point Lookout. Installed BOPE. Ran Lane Wells Gamma Ray-Collar Log. Bullet perforated with 2, 1/2" holes per foot, interval 3525-3812 (193 feet of perforations - 386 holes). |
| 8-17 | 3815 | | <p><u>Stage I</u></p> <p>Rigged up lines, pressure tested to 3500 psi. Sand-water fractured Point Lookout with 61,600 gallons formation water (from water well W-3), using 46,000 lbs. 10-20 mesh sand followed with 6,000 lbs. 8-12 mesh sand. Maximum surface pressure was 1000 psi., average - 500 psi. Dropped 100 rubber balls, 50 after 20,000 gallons water, 17,000 lbs. 10-20 mesh sand, and 3000 lbs. 8-12 mesh sand. Dropped 50 balls toward end of treatment and received no effect with 70 B/M injection rate and 500 psi. Pumped 8000 lbs. 8-12 mesh sand at 5.3 lbs./gal. for plug and displaced with 5000 gals. water. Immediate shut in pressure was 600 psi. but dropped to zero in one minute.</p> <p>Found sand fill at 3753 with perforating gun. Bullet perforated Lower Allison Menefee with 2 1/2" holes per foot, interval 2806-3326 (216 feet of perforations - 432 holes). Pumped in 5800 lbs. 10-20 mesh sand at 5 lbs./gal. at maximum 500 psi, flushed with 1000 gallons water. After 1 hour found fill at 3543. Pumped in 1400 lbs. 10-20 mesh sand at 5 lbs./gal. and 800 psi. followed with 1000 gallons water at 0 psi. After 45 minutes found fill at 3529. Hand dumped 1200 lbs. 10-20 mesh sand, found fill after 2-1/2 hours at 3496.</p> |
| 8-17 | 3815 | | <p><u>Stage II</u></p> <p>Pressure tested lines to 3500 psi. Sand-water fractured Lower Allison Menefee with 72,900 gallons formation water, 60,000 lbs. 10-20 mesh sand, and 10,000 lbs. 8-12 mesh sand. Maximum pressure - 2800 psi. minimum - 1375 psi, breakdown - 2300 psi. Dropped 50 rubber balls after 20,000 gallons water and 20,000 lbs. (Total) sand. Dropped 50 rubber balls after additional 10,000 gallons water and 10,000 lbs. sand. Dropped 50 balls after 10,000 gallons water and 10,000 lbs. sand. Pressure rose to 2800 psi., broke back to 2500 psi., then to 2300 psi. Flushed with 4500 gallons water. Immediate shut in pressure 1100 psi, 620 psi. in 30 min. 460 psi in 1 hour and 320 psi in 1-1/2 hour. Shut in over night. Pressure dropped to zero.</p> <p>End</p> |

| CONDITION AT BEGINNING OF PERIOD | | | | |
|----------------------------------|------|------|-------------|-----------|
| HOLE | | | CASING SIZE | DEPTH SET |
| SIZE | FROM | TO | | |
| 13-3/4" | 0 | 72' | 10-3/4" | 72' |
| 9" | 72 | 3850 | 7" | 3847' |
| DRILL PIPE SIZES | | | | |

J. D. McLehaney

SIGNED

SHELL OIL COMPANY

WELL NO. W-4

Bisti
 (FIELD)
 San Juan, New Mexico
 (COUNTY)

DRILLING REPORT
 FOR PERIOD ENDING
 September 8, 1961

Sec. 20
 (SECTION OR LEASE)
 T. 25 N., R. 11 W.
 (TOWNSHIP OR RANCHO)

| DAY | DEPTHS | | REMARKS |
|-------------------|--------|------|---------------------------------------------------------------------------------------------------------------------|
| | FROM | TO | |
| 8-18 | | 3815 | Ran in 2-3/8" E.U. tubing. Found fill at 3229. Circulated clean to bottom. |
| 8-19 | | 3833 | Checked for fill 8 hours after circulating clean to 3833. Found none pulled and laid down 2" tubing. |
| 8-22 | | | Ran B-J pump with intake at 2723', Maihak at 2692'. Bottom of pump unit 2750: Static fluid level 520' from surface. |
| 8-23 | | | Started pumping at 3400 B/D rate with 820 psi. TP. |
| 8-24 to 9-8 | | | Testing Pump. Representative Rate 3280 B/D |
| | | | End |

CONDITION AT BEGINNING OF PERIOD

| HOLE | | | CASING SIZE | DEPTH SET |
|------------------|----------|-------------|---------------|-------------|
| SIZE | FROM | TO | | |
| 13-3/4" 9" | 0 72' | 72' 3850 | 10-3/4" 7" | 72' 3847 |
| DRILL PIPE SIZES | | | | |

SIGNED