

TEXACO
INC.

PETROLEUM PRODUCTS



April 10, 1970

10 APR 13 AM 8 41

DRAWER 728

HOBBS, NEW MEXICO 88240

WAX - 338
See May 3

REQUEST TO CONVERT WELLS TO INJECTION
NORTHEAST CAPROCK QUEEN UNIT No.s 24 & 26
CAPROCK QUEEN POOL - LEA COUNTY, NEW MEXICO

New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

TEXACO Inc. respectfully requests administrative approval of the Oil Conservation Commission to convert to water injection Well No.s 24 and 26 in the Northeast Caprock Queen Unit Waterflood Project. Well No. 24 is located in Unit A, Section 22, and Well No. 26 is located in Unit C, Section 23, all in T-12-S, R-32-E, Lea County, New Mexico. Water injection in the Northeast Caprock Queen Unit was authorized by Order No. R-2133 dated December 13, 1961.

Response to water injection, which commenced in July, 1965, was almost immediate as noted on the attached performance curve for the unit. Peak production occurred in the latter part of 1966 and was maintained until 1968 at which time the production began to decline. The project is currently producing an average of 125 barrels of oil and 600 barrels of water per day, and is approaching its economic limit.

Conversion of the two subject wells to injection is expected to recover additional oil trapped in the unswept portions of the five-spot pattern which is currently being used by cross-flooding the reservoir. Cross-flooding is a technique whereby additional wells are converted to injection to completely sweep the entire injection pattern. After Well No.s 24 and 26 are converted, injection Well No.s 12, 14, 23, 25, 31 and 33 will be shut in and Well No.s 11, 13 and 32 will be produced so as to create a maximum pressure differential across the unswept areas toward the producing wells.

New Mexico Oil Conservation Commission

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Infill drilling in other Queen waterfloods in the area has been successful in recovering additional oil in unswept areas. It is anticipated that cross-flooding in the Northeast Caprock Queen Unit will achieve comparable results as infill drilling with a much smaller expenditure. Water injection facilities and source wells currently in use in the unit will be utilized to inject 350 barrels of water per day per well at a pressure of 2000 psi.

In compliance with Rule 701, attached is a plat of the area color coded to show the producing zone within a two-mile radius, a diagrammatic sketch of the proposed injection wells, and a log of Well No. 24. No logs are available for Well No. 26. Also attached is a Form C-116 showing current well tests in addition to test data prior to and after response to water injection.

All offset operators, as listed on the attached sheet, are being furnished copies of this application today. Copies are also being mailed to the Commissioner of Public Lands and the U.S.G.S.

Yours very truly,



W. E. Morgan
District Superintendent

BRH-dh

VSP

Commissioner of Public Lands -Santa Fe
U.S.G.S. -Hobbs

Attachments

OFFSET OPERATORS
NORTHEAST CAPROCK QUEEN UNIT WELL NO.s 24 and 26

Cities Service Oil Co.
P.O. Box 69
Hobbs, New Mexico 88240

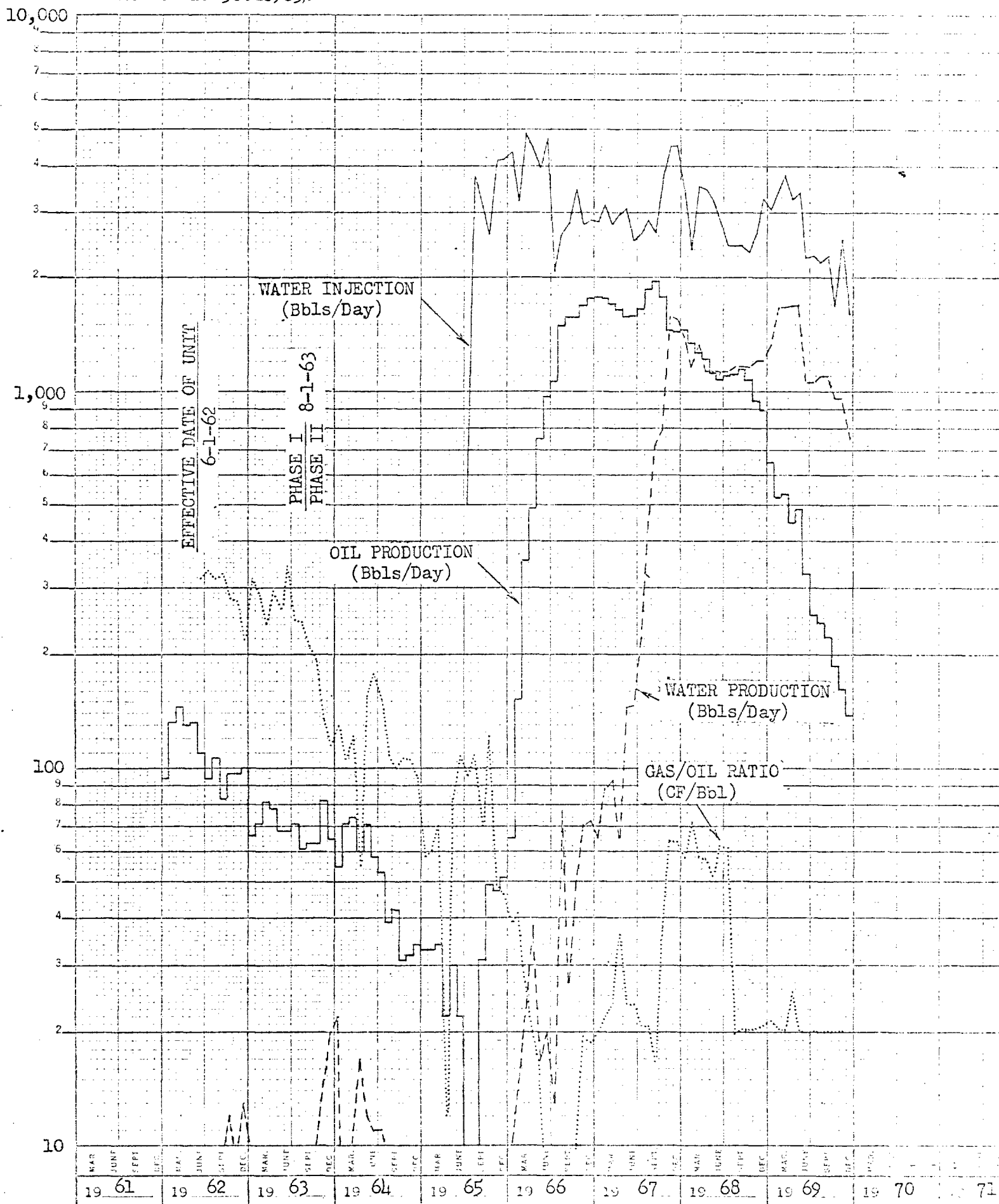
Xplor
c/o Oil Reports
P.O. Box 763
Hobbs, New Mexico 88240

Stoltz and Company
P.O. Box 1714
Midland, Texas 79701

U.S. Geological Survey*
P.O. Box 1157
Hobbs, New Mexico 88240
Attn: Mr. Arthur R. Brown

Commissioner of Public Lands*
P.O. Box 1148
Santa Fe, New Mexico 87501

*Indicates royalty interest owner only.



OPERATOR: TEXACO Inc.

NORTHEAST CAPROCK QUEEN UNIT
NORTHEAST CAPROCK QUEEN FIELD
LEA COUNTY, NEW MEXICO

**NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS**

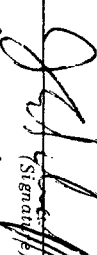
C-116
Revised 1-1-65

| | | | | | | | | | | | | | | |
|------------------------------|----------|---------------------------------------|----|----|--------------|---|------------|-------------|------------------|----------------------|-------------------|-----------|-----------------------------|------------|
| Operator | | Pool | | | | County | | | | | | | | |
| TEXACO Inc. | | Caprock Queen | | | | Lea | | | | | | | | |
| Address | | P.O. Box 728, Hobbs, New Mexico 88240 | | | | Type of Test - (X) | | | | | | | | |
| | | | | | | Scheduled <input type="checkbox"/> | | | | | | | | |
| | | | | | | Completion <input type="checkbox"/> | | | | | | | | |
| | | | | | | Special <input checked="" type="checkbox"/> | | | | | | | | |
| LEASE NAME | WELL NO. | LOCATION | | | DATE OF TEST | STATUS | CHOKE SIZE | TBG. PRESS. | DAILY ALLOW-ABLE | LENGTH OF TEST HOURS | PROD. DURING TEST | | GAS - OIL RATIO CU.FT./BBL. | |
| | | U | S | T | R | | | | | | WATER BBL.S. | GRAV. OIL | OIL BBL.S. | GAS M.C.F. |
| Northeast Caprock Queen Unit | 24 | A | 24 | 12 | 32 | P | | | | 24 | 0 | 41.6 | 0 | TSTM |
| Northeast Caprock Queen Unit | 24 | A | 24 | 12 | 32 | P | | | | 24 | 1 | 41.6 | 209 | TSTM |
| Northeast Caprock Queen Unit | 24 | A | 24 | 12 | 32 | P | | | | 24 | 160 | 41.6 | 3 | TSTM |
| Northeast Caprock Queen Unit | 26 | C | 23 | 12 | 32 | P | | | | 24 | 0 | 41.6 | 0 | TSTM |
| Northeast Caprock Queen Unit | 26 | C | 23 | 12 | 32 | P | | | | 24 | 0 | 41.6 | 121 | TSTM |
| Northeast Caprock Queen Unit | 26 | C | 23 | 12 | 32 | P | | | | 24 | 100 | 41.6 | 3 | TSTM |

These are tests prior to and after waterflood response. Also shown are current tests.

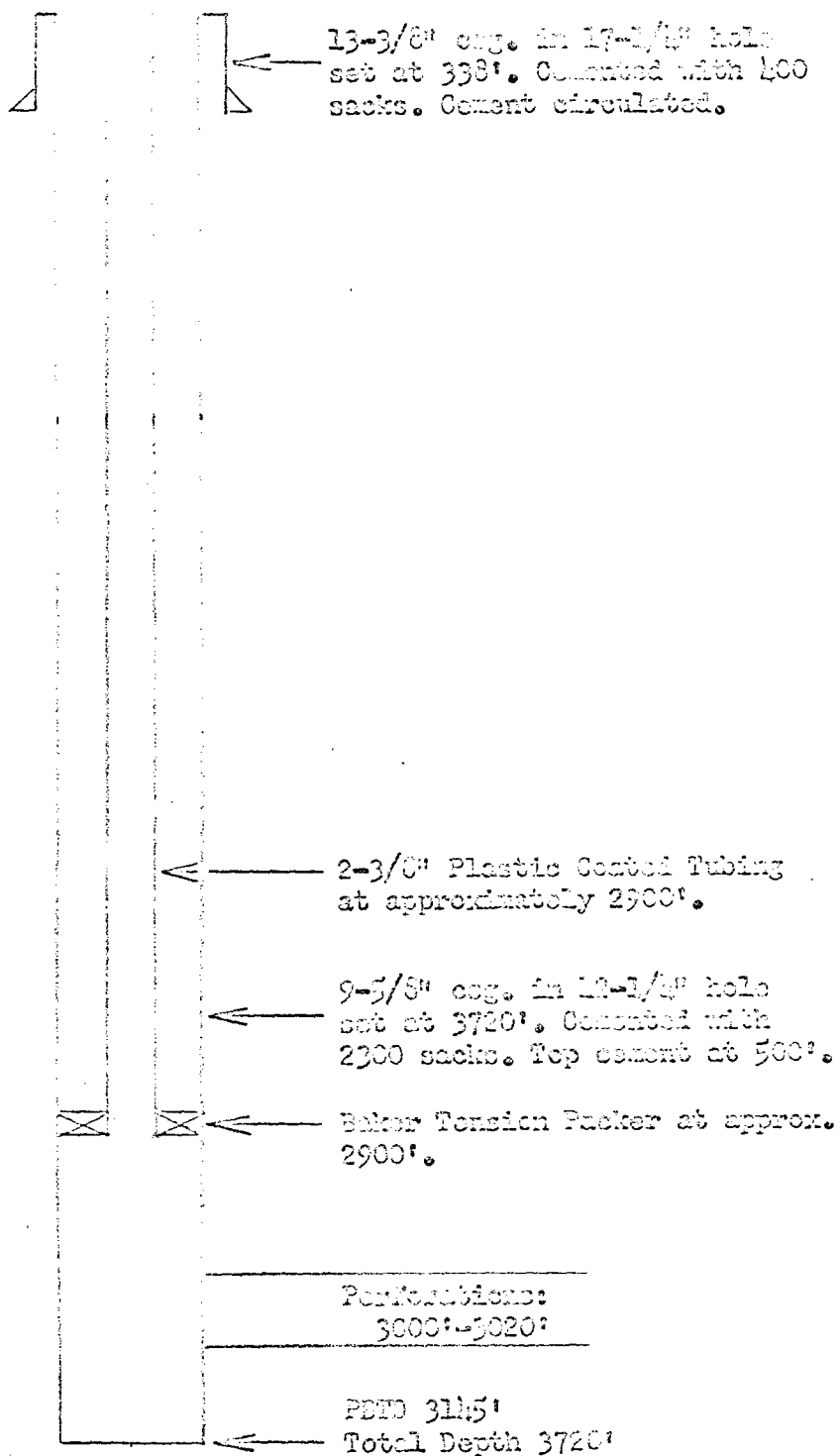
No well will be assigned an allowable greater than the amount of oil produced on the official test.
 During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.
 Gas volumes must be reported in MCF measured at a pressure base of 15,025 psia and a temperature of 60° F. Specific gravity base will be 0.60.
 Report casing pressure in lieu of tubing pressure for any well producing through casing.
 Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

I hereby certify that the above information is true and complete to the best of my knowledge and belief.


 (Signature)
Assistant District Superintendent
 (Title)
 April 10, 1970
 (Date)

SCHEMATIC DIAGRAM OF PROPOSED INJECTION WELL

Casing - Tubing annulus loaded with inhibited water, equipped with pressure gauge at surface.

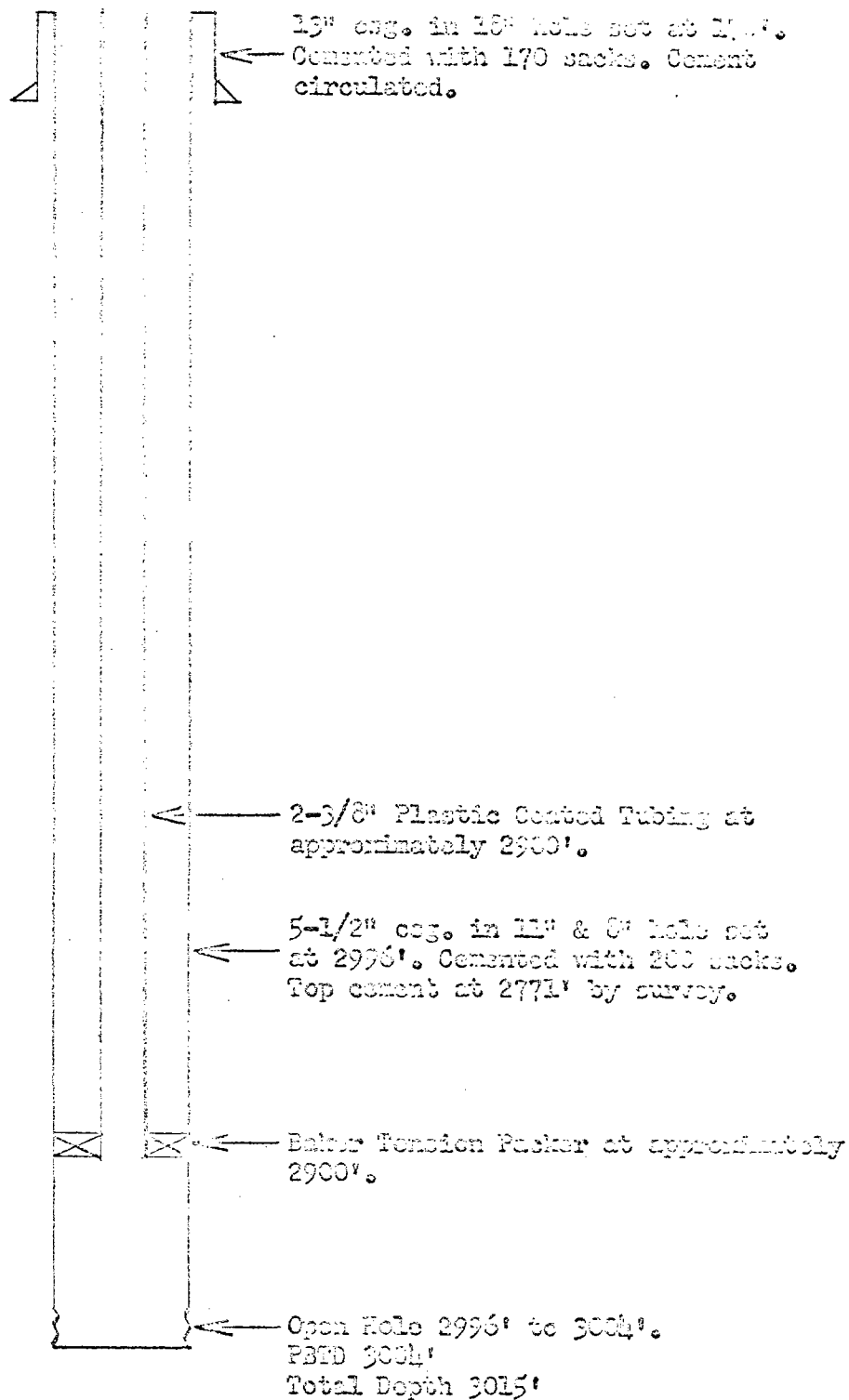


TEXACO INCORPORATED

NORTHEAST CAPROCK QUEEN UNIT WELL NO. 24
NORTHEAST CAPROCK QUEEN POOL
LEA COUNTY, NEW MEXICO

SCHEMATIC DIAGRAM OF PROPOSED INJECTION WELL

Casing - Tubing annulus loaded with inhibited water, equipped with pressure gauge at surface.



TEXACO INCORPORATED

NORTHEAST CAPROCK QUEEN UNIT WELL NO. 26
NORTHEAST CAPROCK QUEEN POOL
LEA COUNTY, NEW MEXICO



RADIOACTIVITY LOG

WELEX JET SERVICES, INC.

LICENSED BY: WELL SURVEYS, INC.

FILE NO.

Location of Well
Unit No. 24

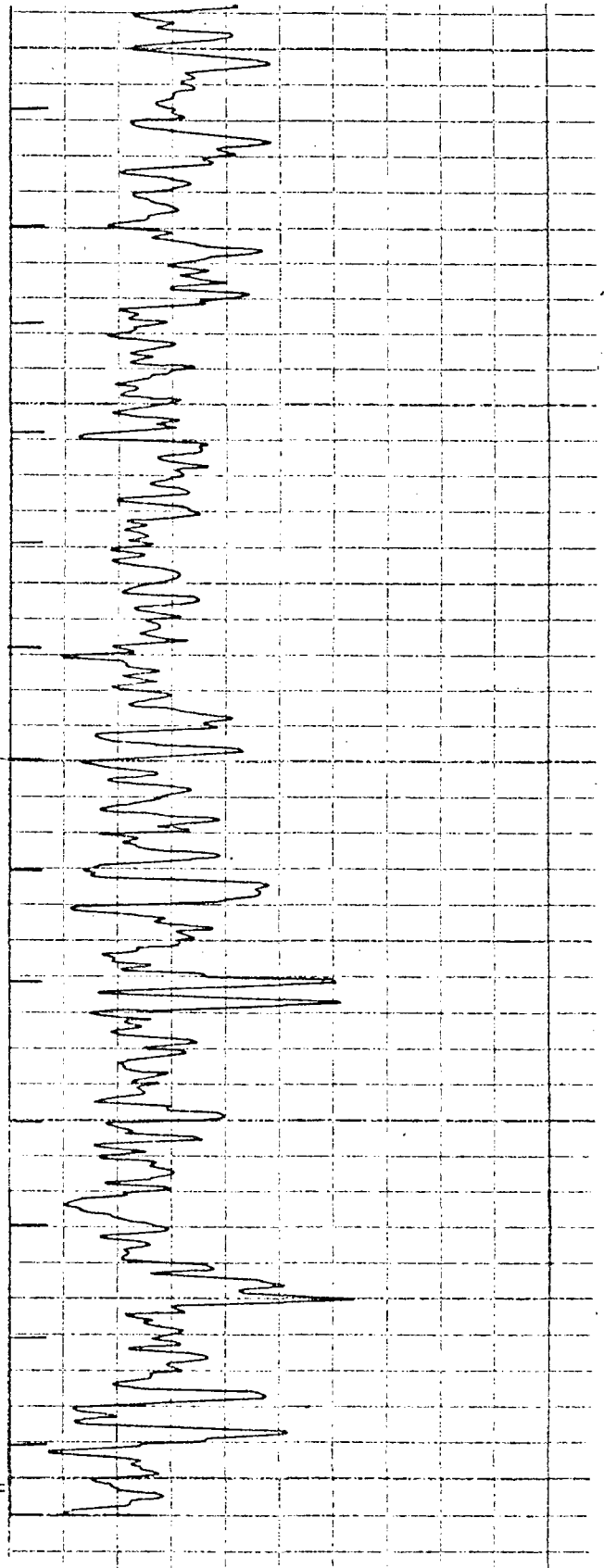
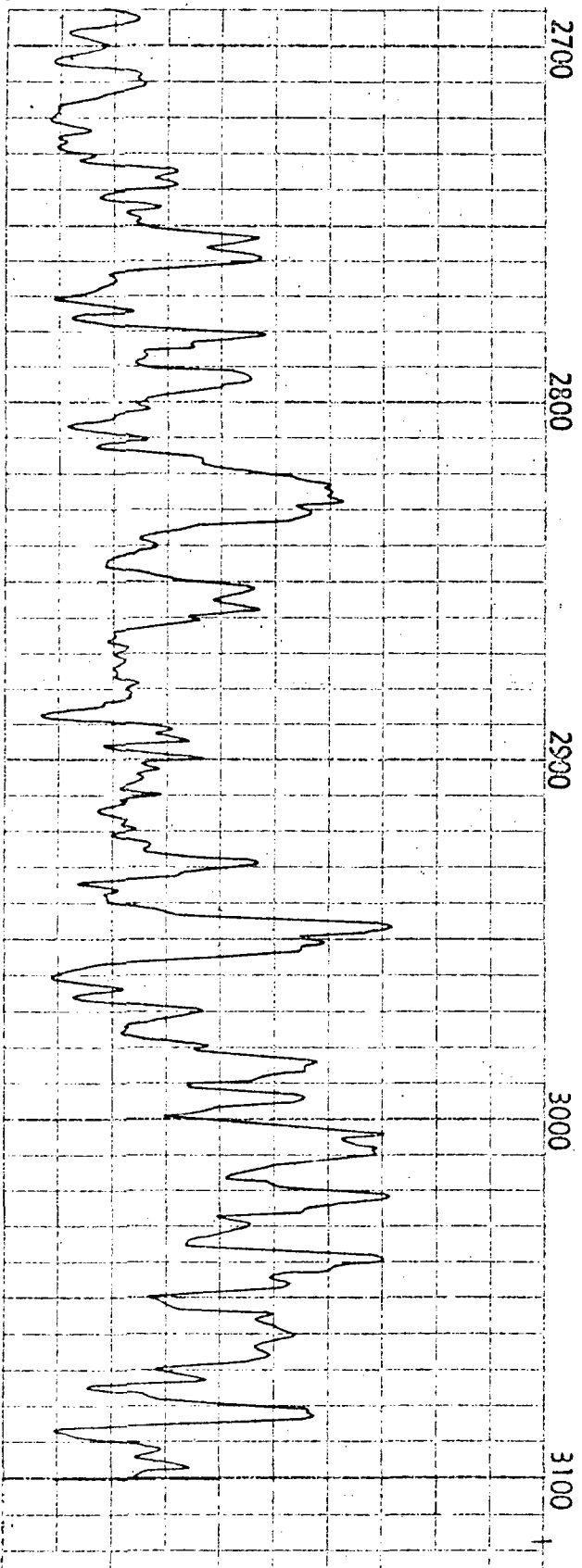
COMPANY THE TEXAS COMPANY
STATE OF NEW MEXICO BA
WELL (NCT-8) WELL # 1
FIELD NORTH CAPROCK (QUEENS) #24
COUNTY LEA STATE MEXICO
LOCATION 660' FNL & FEL OF SEC. 22
T-12-S R-32-E

COMPANY THE TEXAS COMPANY
STATE OF NEW MEXICO BA
WELL (NCT-8) WELL # 1
FIELD NORTH CAPROCK (QUEENS)
COUNTY LEA STATE MEXICO
LOCATION 660' FNL & FEL OF SEC. 22
T-12-S R-32-E

LOG MEAS. FROM 10' ABOVE GROUND LEVEL ELEV. 4356
DRLG. MEAS. FROM 10' ABOVE GROUND LEVEL ELEV. 4356
PERM. DATUM GROUND LEVEL ELEV. 4346

TYPE OF LOG
RUN NO.
DATE

GAMMA RAY
1
4-16-55
NEUTRON
1
4-16-55



9-5/8"

LARGE FORMAT
EXHIBIT HAS
BEEN REMOVED
AND IS LOCATED
IN THE NEXT FILE