



2421

RAY POWELL, M.S., D.V.M.
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

310 OLD SANTA FE TRAIL P.O. BOX 1148

SANTA FE, NEW MEXICO 87504-1148

(505) 827-5760
FAX (505) 827-5766

January 4, 1996

Strata Production Company
Post Office Drawer 1030
Roswell, New Mexico 88201

Attn: Ms. Jo McInerney

Re: Designation of Successor Unit Operator
Northeast Caprock Queen Unit
Lea and Chaves Counties, New Mexico

Dear Ms. McInerney:

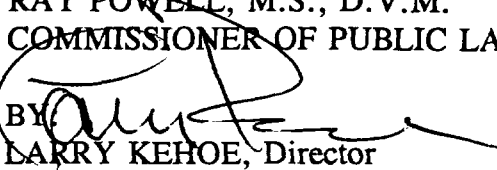
The Oil, Gas & Minerals Division received a designation of successor unit operator, wherein Murphy Operating Corporation resigned as unit operator of the Northeast Caprock Queen Unit, and designated Secondary Oil Company as the successor unit operator.

The Commissioner of Public Lands has this date approved the designation described herein. This change in operators is effective November 1, 1995. In accordance with this approval, Secondary Oil Company is now responsible for all operations and the reporting of all production from the unit.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY 
LARRY KEHOE, Director
Oil, Gas & Minerals Division
(505) 827-5744

RP/LK/cpm

Enclosures

xc: Reader File
OCD-Roy Johnson

Murphy Operating Corporation
Commissioner's File

TRD



MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

September 23, 1994

Ms. Leslie Cone, District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Mr. William J. LeMay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Mr. Floyd O. Prando
Director, Oil and Gas Division
Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

9-27-94
D-Unit letter
Tax

Re: Plan of Operation for 1994-1995
Northeast Caprock Queen Unit (the "Unit")
Lea County, New Mexico

Ladies and Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC"), Unit Operator of the Northeast Caprock Queen Unit, Lea County, New Mexico respectfully submits for your consideration and approval this Plan of Operation for the secondary recovery of oil by waterflood on the subject unitized land.

- I. Review of 1992 Unit Activity: During 1992, a total of seven (7) wells were active. These seven (7) wells consisted of three (3) injectors (#3, #5 and #21) and four (4) producers (#2, #9, #22, and #35Y). During the months of January, February, March, April, November and December, Unit production activities were curtailed due to producing problems caused by cold weather (see copy enclosed of correspondence dated January 3, 1990 for additional information).
- II. Review of 1993 Unit Activity: During 1993, a total of seven (7) wells were active. These seven (7) wells consisted of three (3) injectors (#3, #5, and #21) and four (4) producers (#2, #9, #22, and #35Y). During the months of January, February, March, November, and December, Unit production activities were curtailed due to producing problems caused by cold weather. In late August, 1993 one (1) well (#24) was plugged and abandoned. This well was plugged in a manner which will allow it to be re-entered and reactivated, if necessary. Also, one (1) well (#32) was temporarily abandoned. Well #32 will either be reactivated and/or deepened due to the indicated presence of additional pay interval. Both wells were an operational nuisance as a result of the wellhead leaking of small quantities of produced fluids.

- III. Summary of 1994 Unit Activity: Three (3) producing wells (#2, #9, and #35Y) and one (1) injector (#21) have been intermittently active during the months of January through July, 1994. Unit activity was largely curtailed due to cold weather during the months of January through March and low crude oil prices. In August, 1994, four (4) producing wells (#2, #9, #22, and #35Y) and two (2) injectors (#5 and #21) were reactivated. Unit production is expected to average between 250 and 300 barrels of oil per month.
- IV. Proposed Plan of Operation for 1994 and 1995: MOC anticipates that four (4) producers and two (2) injectors will remain active until November or December 1994. We anticipate that Unit activity will be curtailed during the months of December 1994 and January, February, and March 1995, depending upon crude oil prices and the severity of the producing problems caused by cold weather. As a result of the analysis by MOC and the New Mexico Petroleum Recovery Research Center ("PRRC") we believe that CO₂ flooding is the most optimum future oil recovery method. I enclose a copy of PRRRC's correspondence dated March 13, 1992 which sets forth a preliminary estimate of the remaining oil reserves. MOC is currently discussing the possibility of a joint venture with Shell Western E & P, Incorporated. We anticipate utilizing CO₂ from Shell's Cortez pipeline, located 8 miles northeast of the Unit, as a potential CO₂ source for a pilot project.

In order to maintain reservoir pressure, MOC will continue to re-inject the available produced water supplemented with freshwater from the existing water well in Section 3, T-12-S, R-32-E. MOC will also continue to monitor all active injection wells by daily rate and pressure readings. Monthly fluid level readings and production tests of the active producing wells will also be performed.


- V. Further Development: MOC has investigated the potential for establishing production from horizons deeper than the Unitized Interval (Queen Sandstone) on the lands encompassed within this Unit. Our review indicates that the prospect for establishing production from deeper horizons has, in all likelihood, been fully explored and exhausted. As you are aware, production from the Wolfcamp and Devonian formations has been established in the eastern portion of the Unit. The deeper horizons have apparently been tested in the western portion of the Unit and condemned by the drilling of Union Oil Company's Texaco-Sun State #1 which was drilled to a total depth of 11,987' and was declared dry and abandoned on May 11, 1976. This well is located in Unit A of Section 20, T-12-S, R-32-E. A review of commercial seismic data and subsurface mapping together with the drilling of the deep test wells throughout the Unit indicates that the potential for establishing production from horizons below the Queen Sandstone interval is remote.

Development will continue in an orderly fashion to recover additional oil and gas reserves and to maximize revenues to the parties of the Unit and Unit Operating Agreement. As previously discussed, this development may include the implementation of an enhanced oil recovery project. All workover, drilling and other types of operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and the Bureau of Land Management.

VI. Modification: Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interest of all parties to the Unit Agreement.

Sincerely,

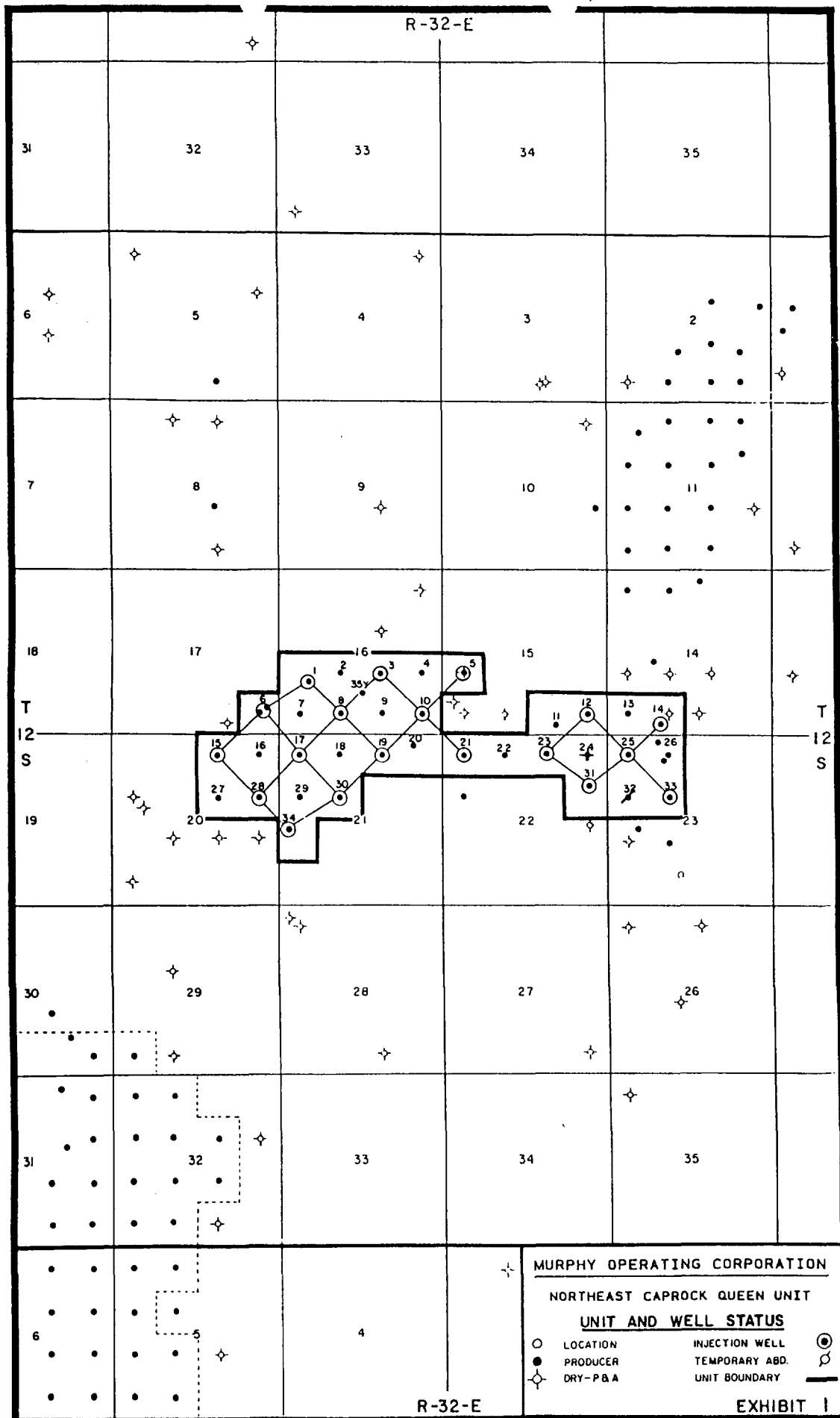
MURPHY OPERATING CORPORATION


Mark B. Murphy
President

MBM/js

Enclosures: Exhibit 1 - Northeast Caprock Queen Unit Well Status Map;
Exhibit 2 - Northeast Caprock Queen Unit Reservoir Performance Curve;
Exhibit 3 - MOC correspondence dated January 3, 1990;
Exhibit 4 - New Mexico Petroleum Recovery Research Center correspondence dated March 13, 1992.

xc: Ms. Alexis Swoboda, BLM Roswell office



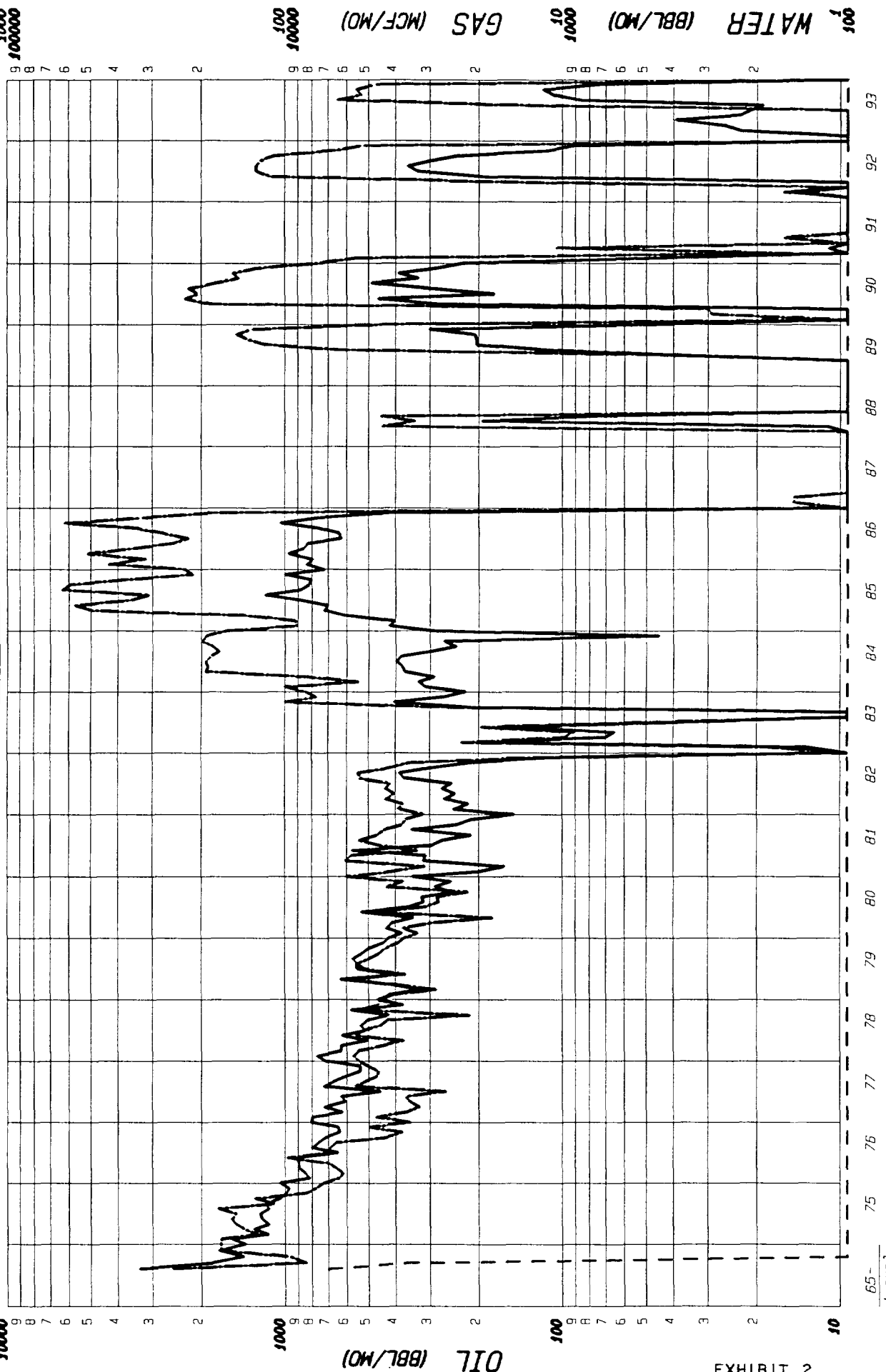
Lease: NORTHEAST CAPROCK QUEEN UNIT

Dwight's ENERGYDATA Inc.

Retrieval Code: 000, 000, SUMMARY

10000
1000
100
10

10000
1000
100
10



County: LEA State: NM
Field: CAPROCK (QUEEN) QN
Reservoir: QUEEN
Operator: MURPHY OPERATING CORP
Oil Cum: 2862207 Gas Cum: 173995
Location: 12S 32E

F.P. Date 03-84

Date: 08-09-94



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

January 3, 1990

Ms. Susan Howarth
Oil and Gas Division
New Mexico State Land Office
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Re: Northeast Caprock Queen Unit (the "Unit")
Lea County, New Mexico
Supplemental Information
Plan of Operation 1989-1990.

Dear Susan:

Pursuant to our discussion enclosed find the field-wide cross-section of the above-referenced unit. As we discussed, MOC will continue to reactivate certain producing and injection wells as outlined in the Plan of Operation. In addition, MOC plans to test additional "behind pipe" reserves believed to be located in the SE/4 NE/4, Section 22, T12S-R32E and the SW/4 NW/4, Section 23, T12S-R32E. These tests should commence in the second or third quarter of 1990.

As we discussed, the Unit exhibits certain producing problems such as a high chloride produced water (see Water Analysis enclosed). The presence of this high chloride water results in salt deposition in the flowlines and producing facilities. To alleviate this problem, fresh water is circulated down the tubing-casing annulus thereby lowering the chloride content of the produced water. This system works very well except when low outside temperatures are encountered. Freezing temperatures make this system inoperable because the fresh water lines freeze, therefore the producing wells must be shut down. During November, 1989, we had essentially no problems with the fresh water system. However, cold temperatures in the first half of December, 1989 resulted in the Unit being shut in for approximately one week and we expect that for the months of December, 1989, January and February, 1990 the Unit may be produced less than half the time. Obviously, this may result in decreased production volumes for these months. By late February or early March, 1990 outside temperatures are expected to be high enough to return the Unit to fully active production and injection.

Thank you for your cooperation and if you have any further questions, comments or suggestions, please do not hesitate to contact me at the number listed above.

Sincerely,

MURPHY OPERATING CORPORATION

Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: Northeast Caprock Queen Unit Field-wide Cross Section
Permian Treating Chemicals, Inc. Water Analysis
dated 12-05-89.

**MURPHY OPERATING COMPANY
NORTHEAST CAPROCK QUEEN UNIT**

ENGINEERED BY BERTRAM H. MURPHY

DRAFTED BY R. S. ESCOBEDO

PERMIAN

Treating Chemicals, Inc.

P. O. BOX 815
TATUM, NM 88267
PHONE (505) 398-4111

WATER ANALYSIS REPORT

Company Murphy Operating Corporation Date Samples 12-5-89
Field Caprock Queen County Lea
Lease Northeast Caprock Queen Unit State NM
Well 35Y Sec 16 T 12S R 32E Formation Queen
Type of Water Produced Water, B/D 257
Sampling Point Well Head Sampled By Nailon

DISSOLVED SOLIDS

CATIONS	mg/l		meq/l
Sodium, Na+(Calc)	<u>77234</u>	\div 23	<u>3358</u>
Calcium, Ca++	<u>2600</u>	\div 20	<u>1300</u>
Magnesium, Mg++	<u>4593</u>	\div 12.2	<u>376</u>
Barium, Ba++	<u></u>	\div 68.7	<u></u>
Iron, Fe (Total	<u></u>		<u></u>
<u></u>	<u></u>		<u></u>
<u></u>	<u></u>		<u></u>

OTHER PROPERTIES

PH 6.1
Specific Gravity 1.170
H₂S Positive
Total Dissolved Solids 263,884
Total Hardness 25400

ANIONS

Chloride, Cl-	<u>177000</u>	\div 35.5	<u>4986</u>
Sulfate, SO ₄ =	<u>1725</u>	\div 48	<u>36</u>
Carbonate, CO ₃ =	<u></u>	\div 30	<u></u>
Bicarbonate, HCO ₃ -	<u>732</u>	\div 61	<u>12</u>
<u></u>	<u></u>		<u></u>

Remarks and Recommendations



New Mexico Petroleum Recovery Research Center

A Division of
New Mexico Institute of Mining and Technology
Telephone (505) 835-5142

Socorro, NM 87801
Facsimile (505) 835-6031
Verify (505) 835-5406

March 13, 1992

Mr. Mark Murphy
Murphy Operating Company
P.O. Drawer 2648
Roswell, NM 88202-2648

Dear Mr. Murphy:

This letter is to advise you of the status of our study of the Northeast Caprock Queen Unit. The purpose of the study is to determine the feasibility of applying an Enhanced Oil Recovery process to the unit.

To date, we know that the reservoir contains about 65% of the original oil-in-place, which is an EOR target of 7,200,000 barrels of oil. We are in the process of history matching the waterflood performance. The results of the computer history match will be used to evaluate polymerflooding and CO₂ flooding as potential EOR processes.

I urge you to take all means available to preserve the current wells. Re-drilling a field for EOR purposes is impossible to justify at foreseeable oil prices. The current wellbores are a significant asset and must be maintained to ensure an economic EOR process.

It is of interest that the NM Oil & Gas Engineering Committee estimates cumulative recovery from all Caprock Queen Units to be about 73,000,000 barrels of oil. Assuming that your NE Caprock Queen Unit is representative of the others, the remaining oil-in-place for all of the Caprock Queen Units is 142,500,000 STB. I suspect that any technology that is developed for your unit can be transferred to the others.

The Petroleum Recovery Research Center appreciates your support. We look forward to our continued work on this project.

Sincerely,

A handwritten signature in cursive script that reads "Bill Weiss".

W. W. Weiss
Field Petroleum Engineer

WWW:kb



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

OIL CONSERVATION DIVISION
RECEIVED
TELEPHONE
505 623-7210
'91 SEP 24 AM 9 05

September 23, 1991

#2421

CERTIFIED - RETURN RECEIPT REQUESTED

State of New Mexico
Commissioner of Public Lands
P.O. Box 1148
Santa Fe, New Mexico 87504-1148

Attention: Floyd O. Prondo, Director
Oil and Gas Division

Re: NORTHEAST CAPROCK QUEEN UNIT
Lea County, New Mexico

Gentlemen:

On August 6, 1986, Murphy Operating Corporation, as Operator of the Northeast Caprock Queen Unit, submitted for approval to the State of New Mexico ("the State") a new Unit Agreement and Unit Operating Agreement.

On August 28, 1986, we received correspondence from the State (copy attached) requesting that Ratifications be executed on behalf of the Lessees of Record under each lease in the Unit, approving the substitution of the new unit agreements.

We are hereby submitting executed Ratifications and a substitute page no. 3, as requested in your letter under paragraph #15. I hope this is everything required in order to receive approval of the unit documents.

Also enclosed for your further information is correspondence dated September 8, 1986 from the Bureau of Land Management approving the Unit Agreement and Unit Operating Agreement.

If you have any questions or need anything further, please don't hesitate to contact this office.

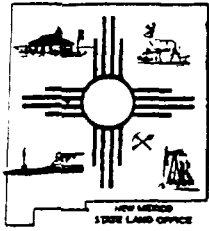
Sincerely,

Debi Rodgers
Lease Records Analyst

dr

Enclosures: as stated.

xc: Oil Conservation Division



State of New Mexico
Commissioner of Public Lands

#2421

W. R. Humphries
COMMISSIONER

Advisory Board April 23, 1990

George Clark
Chairman

Kristin Conniff
Vice Chairman

Melvin Cordova

Joe Kelly

Robert Portillos

Nancy Lynch Vigil

Rex Wilson

Murphy Operating Corporation
P.O. Box 2648
Roswell, New Mexico 88202-2648

ATTN: Mr. Mark Murphy

RE: Northeast Caprock Queen Unit
1990 Plan of Development

Gentlemen:

The Commissioner of Public Lands has this date approved the 1990 Plan of Development for the Northeast Caprock Queen Unit. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the Unit may exist. You will be contacted at a later date regarding these possibilities.

Enclosed is an approved copy of the 1990 Plan of Development for your files. If we may be of further help, please do not hesitate to contact this office at (505) 827-5746.

Very truly yours,

W.R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*

FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5746

cc: OCD - Santa Fe, New Mexico
BLM
Unit Correspondence File
Unit P.O.D. File

WRH/FOP/SMH



MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

#2421

April 12, 1990

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Armando Lopez, Branch Chief
Branch of Fluids

Mr. William J. LeMay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Attention: Mr. Michael E. Stogner, Examiner

Mr. Floyd O. Prando
Director, Oil and Gas Division
Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Attention: Susan Howarth, Phd, Unitization Manager

Re: Substitute Pages for Plan of Operation
Correspondence dated April 10, 1990
~~Northeast Caprock Queen Unit~~ (the "Unit")
Lea County, New Mexico

Gentlemen:

Recently you received the above-referenced correspondence. Unfortunately, the first paragraph was omitted from the text. Enclosed please find corrected replacement pages, please substitute these pages for those originally provided. We regret any inconvenience this may have caused and appreciate your cooperation.

Sincerely,

MURPHY OPERATING CORPORATION

Jeanette Sons

Jeanette Sons
Assistant to the President

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240

Mr. Vince Balderaz
Bureau of Land Management
Post Office Box 1157
Hobbs, New Mexico 88240



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Re: PLAN OF OPERATION FOR 1990
Northeast Caprock Queen Unit (the "Unit")
Lea County, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC"), Unit Operator of the Northeast Caprock Queen Unit, Lea County, New Mexico respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

- I. Review of 1989: During 1989 a total of seven (7) wells were active. These seven (7) wells consisted of four (4) injectors (#3, #5, #19, and #21) and three (3) producers (#2, #22, and #35Y). In December, 1989, the Unit produced only about one-half of the month due to producing problems caused by cold weather (see attached correspondence dated January 3, 1990 for additional information).
- II. Proposed Plan of Operation for 1990: As of late March and early April, 1990, a total of nine (9) wells were active. These nine (9) wells consisted of six (6) producing wells (Wells #2, #4, #9, #20, #22, and #35Y) and three (3) injection wells (Wells #3, #5, and #21.)

As discussed in the January 3, 1990 correspondence, MOC plans to test the lower Queen interval in the SE/NE of Section 22, and the SW/NW of Section 23 of T12S-R32E. MOC plans to perforate additional interval and acidize and isolate the lower Queen interval in Wells #31 and #32. Log and core analysis as well as oil recovery from this equivalent interval in Well #13 indicates that this lower zone may not be fully depleted. MOC plans to initiate workover operations on Well #32 in July, 1990. Depending upon the results, Well #31 then may be tested. If commercial production can be established from the lower Queen interval, additional opportunities are immediately apparent throughout Section 22 and 23, T12S-R32E.

In order to maintain reservoir pressure, MOC will continue to reinject the available produced water supplemented with fresh water from the existing water well in Section 3, T12S-R32E. MOC will also continue to monitor all active injection wells by daily rate and pressure readings. Monthly fluid level readings and production tests of the active producing wells will also be performed.

- III. Further Development: Development will continue in an orderly fashion to recover additional oil and gas reserves and to maximize revenues to the parties of the Unit and Unit Operating Agreement. This development may include the implementation of an enhanced oil recovery (tertiary) project and/or infill drilling. All workover, drilling and other types of operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and the Bureau of Land Management.
- IV. Modification: Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Sincerely,

MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: Correspondence dated January 3, 1990;
Exhibit 1 - Northeast Caprock Queen Unit Well Status Map;
Exhibit 2 - Northeast Caprock Queen Unit Reservoir
Performance Curve;
Exhibit 3 - Northeast Caprock Queen Unit 1988 Tabulated Production
and Injection Data;
Exhibit 4 - Northeast Caprock Queen Unit 1989 Tabulated Production
and Injection Data;
Exhibit 5 - Northeast Caprock Queen Unit Agreement, Exhibit A; and
Exhibit 6 - Northeast Caprock Queen Unit Agreement, Exhibit B.

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240

Mr. Vince Balderaz
Bureau of Land Management
Post Office Box 1157
Hobbs, New Mexico 88240



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
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ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

April 12, 1990

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United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Armando Lopez, Branch Chief
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State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
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Mr. Floyd O. Prando
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MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/js

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cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240

Mr. Vince Balderaz
Bureau of Land Management
Post Office Box 1157
Hobbs, New Mexico 88240



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Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC"), Unit Operator of the Northeast Caprock Queen Unit, Lea County, New Mexico respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

- I. Review of 1989: During 1989 a total of seven (7) wells were active. These seven (7) wells consisted of four (4) injectors (#3, #5, #19, and #21) and three (3) producers (#2, #22, and #35Y). In December, 1989, the Unit produced only about one-half of the month due to producing problems caused by cold weather (see attached correspondence dated January 3, 1990 for additional information).
- II. Proposed Plan of Operation for 1990: As of late March and early April, 1990, a total of nine (9) wells were active. These nine (9) wells consisted of six (6) producing wells (Wells #2, #4, #9, #20, #22, and #35Y) and three (3) injection wells (Wells #3, #5, and #21.)

As discussed in the January 3, 1990 correspondence, MOC plans to test the lower Queen interval in the SE/NE of Section 22, and the SW/NW of Section 23 of T12S-R32E. MOC plans to perforate additional interval and acidize and isolate the lower Queen interval in Wells #31 and #32. Log and core analysis as well as oil recovery from this equivalent interval in Well #13 indicates that this lower zone may not be fully depleted. MOC plans to initiate workover operations on Well #32 in July, 1990. Depending upon the results, Well #31 then may be tested. If commercial production can be established from the lower Queen interval, additional opportunities are immediately apparent throughout Section 22 and 23, T12S-R32E.

In order to maintain reservoir pressure, MOC will continue to reinject the available produced water supplemented with fresh water from the existing water well in Section 3, T12S-R32E. MOC will also continue to monitor all active injection wells by daily rate and pressure readings. Monthly fluid level readings and production tests of the active producing wells will also be performed.

- III. Further Development: Development will continue in an orderly fashion to recover additional oil and gas reserves and to maximize revenues to the parties of the Unit and Unit Operating Agreement. This development may include the implementation of an enhanced oil recovery (tertiary) project and/or infill drilling. All workover, drilling and other types of operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and the Bureau of Land Management.
- IV. Modification: Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Sincerely,

MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: Correspondence dated January 3, 1990;
Exhibit 1 - Northeast Caprock Queen Unit Well Status Map;
Exhibit 2 - Northeast Caprock Queen Unit Reservoir
Performance Curve;
Exhibit 3 - Northeast Caprock Queen Unit 1988 Tabulated Production
and Injection Data;
Exhibit 4 - Northeast Caprock Queen Unit 1989 Tabulated Production
and Injection Data;
Exhibit 5 - Northeast Caprock Queen Unit Agreement, Exhibit A; and
Exhibit 6 - Northeast Caprock Queen Unit Agreement, Exhibit B.

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240

Mr. Vince Balderaz
Bureau of Land Management
Post Office Box 1157
Hobbs, New Mexico 88240



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

April 10, 1990

4-18-90

D-
UNIT LETTER
TH 179

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Joe Lara,
Assistant District Manager of Minerals

Mr. Floyd O. Prando
Director, Oil and Gas Division
Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. LeMay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: PLAN OF OPERATION FOR 1990
Northeast Caprock Queen Unit (the "Unit")
Lea County, New Mexico

Gentlemen:

- I. Review of 1989: During 1989 a total of seven (7) wells were active. These seven (7) wells consisted of four (4) injectors (#3, #5, #19, and #21) and three (3) producers (#2, #22, and #35Y). In December, 1989, the Unit produced only about one-half of the month due to producing problems caused by cold weather (see attached correspondence dated January 3, 1990 for additional information).
- II. Proposed Plan of Operation for 1990: As of late March and early April, 1990, a total of nine (9) wells were active. These nine (9) wells consisted of six (6) producing wells (Wells #2, #4, #9, #20, #22, and #35Y) and three (3) injection wells (Wells #3, #5, and #21.)

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In order to maintain reservoir pressure, MOC will continue to reinject the available produced water supplemented with fresh water from the existing water well in Section 3, T12S-R32E. MOC will also continue to monitor all active injection wells by daily rate and pressure readings. Monthly fluid level readings and production tests of the active producing wells will also be performed.

- III. Further Development: Development will continue in an orderly fashion to recover additional oil and gas reserves and to maximize revenues to the parties of the Unit and Unit Operating Agreement. This development may include the implementation of an enhanced oil recovery (tertiary) project and/or infill drilling. All workover, drilling and other types of operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and the Bureau of Land Management.
- IV. Modification: Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Sincerely,

MURPHY OPERATING CORPORATION



Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: Correspondence dated January 3, 1990;
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and Injection Data;
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and Injection Data;
Exhibit 5 - Northeast Caprock Queen Unit Agreement, Exhibit A; and
Exhibit 6 - Northeast Caprock Queen Unit Agreement, Exhibit B.

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240

Mr. Vince Balderaz
Bureau of Land Management
Post Office Box 1157
Hobbs, New Mexico 88240



MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

January 3, 1990

Ms. Susan Howarth
Oil and Gas Division
New Mexico State Land Office
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Re: Northeast Caprock Queen Unit (the "Unit")
Lea County, New Mexico
Supplemental Information
Plan of Operation 1989-1990.

Dear Susan:

Pursuant to our discussion enclosed find the field-wide cross-section of the above-referenced unit. As we discussed, MOC will continue to reactivate certain producing and injection wells as outlined in the Plan of Operation. In addition, MOC plans to test additional "behind pipe" reserves believed to be located in the SE/4 NE/4, Section 22, T12S-R32E and the SW/4 NW/4, Section 23, T12S-R32E. These tests should commence in the second or third quarter of 1990.

As we discussed, the Unit exhibits certain producing problems such as a high chloride produced water (see Water Analysis enclosed). The presence of this high chloride water results in salt deposition in the flowlines and producing facilities. To alleviate this problem, fresh water is circulated down the tubing-casing annulus thereby lowering the chloride content of the produced water. This system works very well except when low outside temperatures are encountered. Freezing temperatures make this system inoperable because the fresh water lines freeze, therefore the producing wells must be shut down. During November, 1989, we had essentially no problems with the fresh water system. However, cold temperatures in the first half of December, 1989 resulted in the Unit being shut in for approximately one week and we expect that for the months of December, 1989, January and February, 1990 the Unit may be produced less than half the time. Obviously, this may result in decreased production volumes for these months. By late February or early March, 1990 outside temperatures are expected to be high enough to return the Unit to fully active production and injection.

Thank you for your cooperation and if you have any further questions, comments or suggestions, please do not hesitate to contact me at the number listed above.

Sincerely,

MURPHY OPERATING CORPORATION

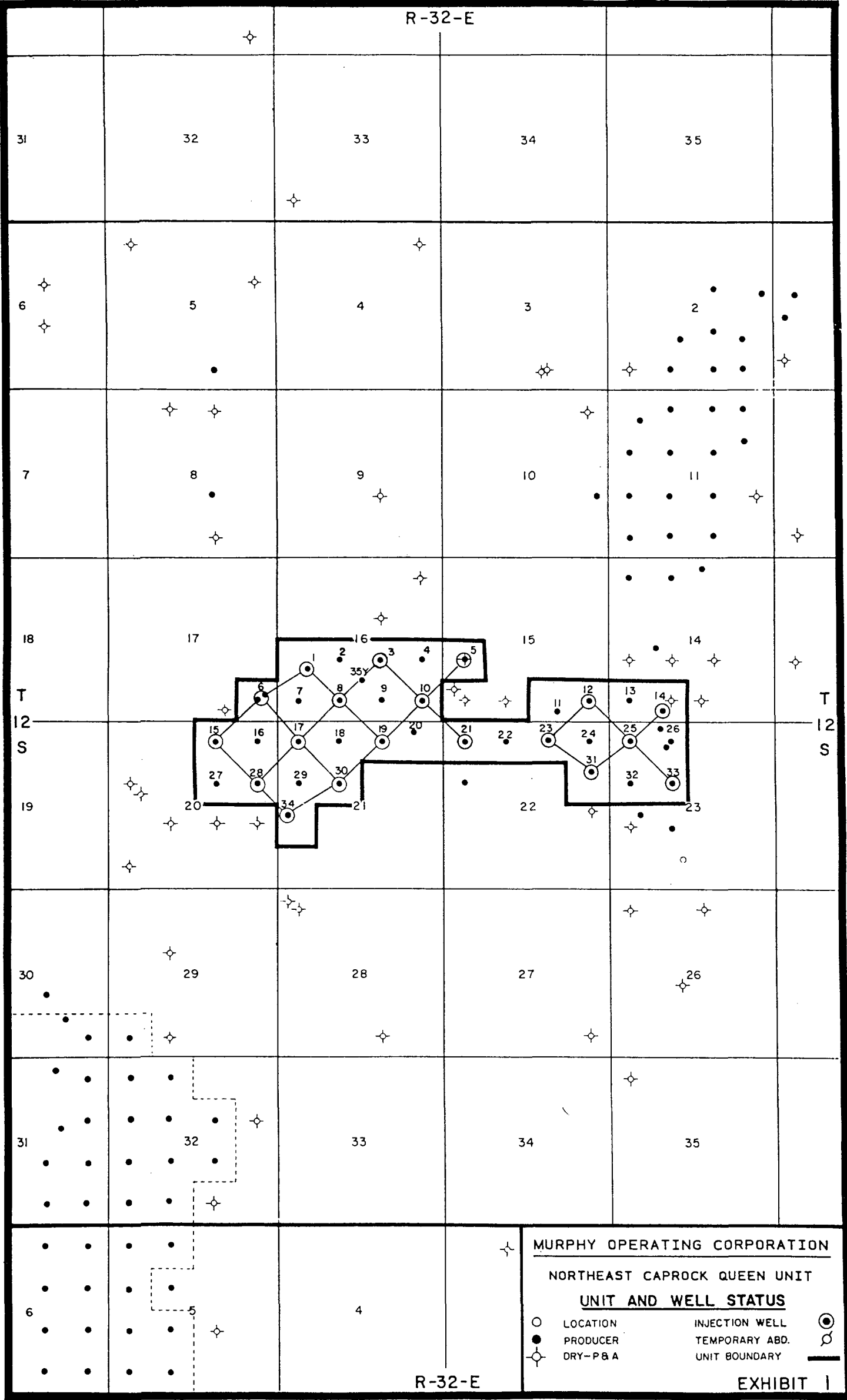
Mark B. Murphy
President and Chief Operating Officer

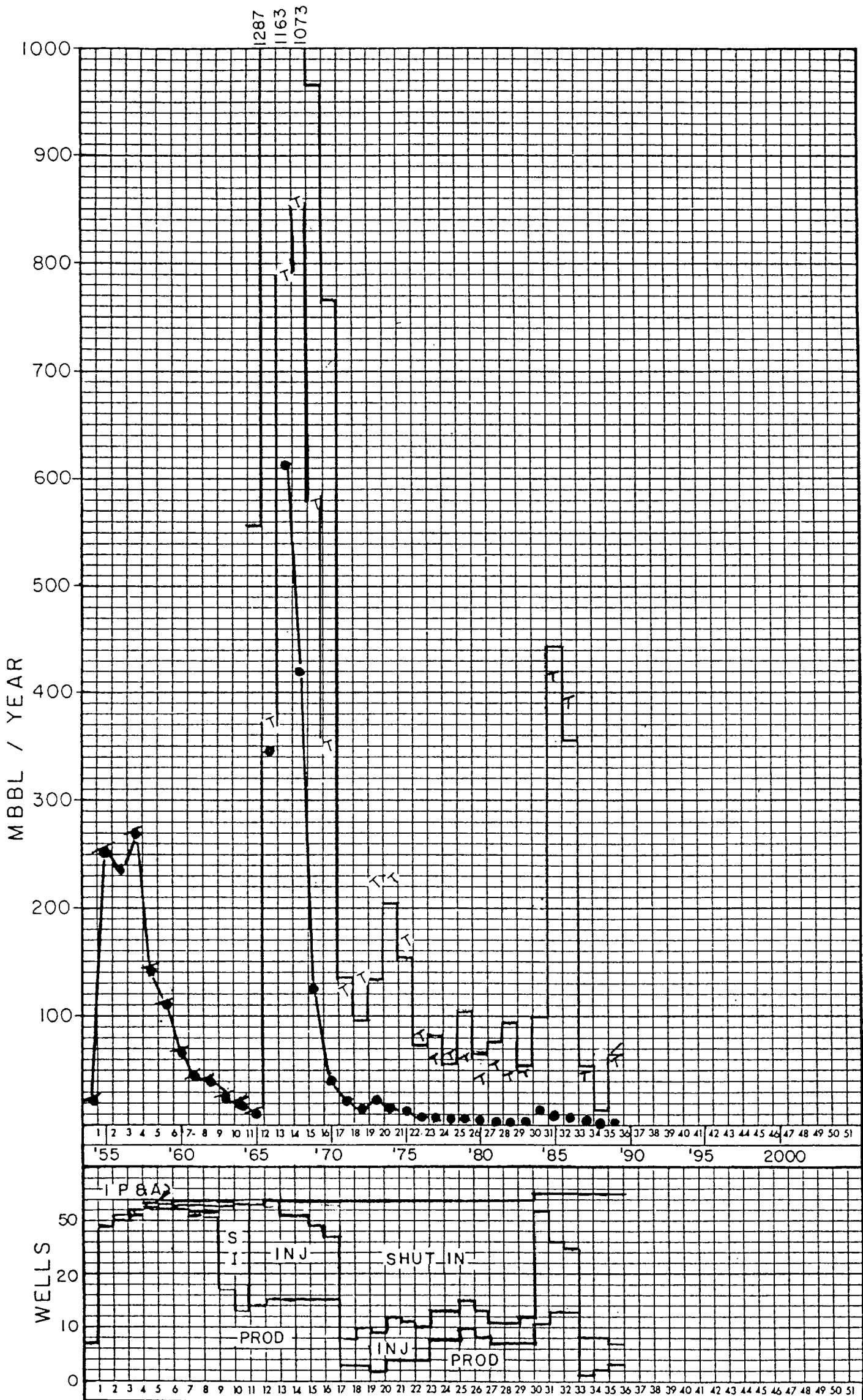
MBM/js

Enclosures: Northeast Caprock Queen Unit Field-wide Cross Section
Permian Treating Chemicals, Inc. Water Analysis
dated 12-05-89.

MURPHY OPERATING COMPANY
NORTHEAST CAPROCK QUEEN UNIT
ENGINEERED BY BERTRAM H. MURPHY

DRAFTED BY R. S. ESCOBEDO





MURPHY OPERATING CORP.

NORTHEAST CAPROCK QUEEN UNIT

PERFORMANCE

— I P & A

∧ ... TOTAL FLUID PRODUCED

● ... OIL PRODUCED

EXHIBIT 2

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION			CAPROCK QUEEN		Computer LEASE NAME,		CUMULATIVE		1988												1988		CUM.	
Well #	WELL	S	T	R	STATUS	THRU 12/31/87	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS	TOTAL	TOTAL	TOTALS	TOTALS
Fed.LC 069224 145002 19 B	21-T12S-R32E	I	OIL	5,356	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,356	0
145001 20 A	21-T12S-R32E	S	OIL	98,565	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98,565	0
Fed.LC 068747 145003 21 D	22-T12S-R32E	I	OIL	24,875	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,875	0
145004 22 C	22-T12S-R32E	P	OIL	202,760	0	0	0	0	0	0	0	76	3	3	0	0	0	0	0	0	0	0	203,047	0
State B-10142 145005 6 P	17-T12S-R32E	S	OIL	221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221	0
State E-1274 145006 27 G	20-T12S-R32E	T	OIL	146,865	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	146,865	0
145007 26 C	23-T12S-R32E	T	OIL	121,074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121,074	0
145008 33 F	23-T12S-R32E	T	OIL	33,218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33,218	0
			GAS	8,020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,020	0
			WAT	9,690	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,690	0
			INJ	87,710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87,710	0

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

NORTHEAST CAPROCK QUEEN UNIT

CAPROCK QUEEN																			
Computer LEASE NAME,				CUMULATIVE				1988											
Well #	S	T	R	STATUS	THRU 12/31/87	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS
State E-6927																			
145017	2	K	16-T112S-R32E	P	OIL	69,841	3	3	0	0	0	0	0	3	3	3	3	21	69,862
					GAS	3,051	0	0	0	0	0	0	0	0	0	0	0	0	3,051
					WAT	76,385	0	0	0	0	0	0	0	0	0	0	0	0	76,385
145018	3	J	16-T112S-R32E	I	OIL	16,155	0	0	0	0	0	0	0	0	0	0	0	0	16,155
					GAS	745	0	0	0	0	0	0	0	0	0	0	0	0	745
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					INJ	618,322	0	0	0	546	851	0	0	0	0	0	0	0	0
							0	0	0	0	0	0	0	0	0	0	0	1,397	619,719
145019	9	O	16-T112S-R32E	S	OIL	154,009	0	0	0	0	0	0	0	0	0	0	0	0	154,009
					GAS	6,203	0	0	0	0	0	0	0	0	0	0	0	0	6,203
					WAT	164,331	0	0	0	0	0	0	0	0	0	0	0	0	164,331
State E-7049-2																			
145020	29	E	21-T112S-R32E	T	OIL	198,206	0	0	0	0	0	0	0	0	0	0	0	0	198,206
					GAS	11,552	0	0	0	0	0	0	0	0	0	0	0	0	11,552
					WAT	440,992	0	0	0	0	0	0	0	0	0	0	0	0	440,992
145021	16	A	20-T112S-R32E	S	OIL	126,529	0	0	0	0	0	0	0	0	0	0	0	0	126,529
					GAS	7,254	0	0	0	0	0	0	0	0	0	0	0	0	7,254
					WAT	168,286	0	0	0	0	0	0	0	0	0	0	0	0	168,286
145022	30	F	21-T112S-R32E	I	OIL	6,818	0	0	0	0	0	0	0	0	0	0	0	0	6,818
					GAS	1,086	0	0	0	0	0	0	0	0	0	0	0	0	1,086
					WAT	126	0	0	0	0	0	0	0	0	0	0	0	0	126
					INJ	238,837	0	0	0	580	1658	0	0	0	0	0	0	0	241,075
							0	0	0	0	0	0	0	0	0	0	0	0	0
State E-3626																			
145023	35Y	N	16-T112S-R32E	S	OIL	3,578	0	0	0	0	0	0	0	0	0	0	0	0	3,578
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					WAT	236,922	0	0	0	0	0	0	0	0	0	0	0	0	236,922
145024	8	N	16-T112S-R32E	S	OIL	59,809	0	0	0	0	0	0	0	0	0	0	0	0	59,809
					GAS	6,978	0	0	0	0	0	0	0	0	0	0	0	0	6,978
					WAT	4,862	0	0	0	0	0	0	0	0	0	0	0	0	4,862
					INJ	449,022	0	0	0	0	0	0	0	0	0	0	0	0	449,022
							0	0	0	0	0	0	0	0	0	0	0	0	0
State B 9946																			
145025	15	B	20-T112S-R32E	T	OIL	14,685	0	0	0	0	0	0	0	0	0	0	0	0	14,685
					GAS	2,281	0	0	0	0	0	0	0	0	0	0	0	0	2,281
					WAT	9,720	0	0	0	0	0	0	0	0	0	0	0	0	9,720
					INJ	350,156	0	0	0	0	0	0	0	0	0	0	0	0	350,156

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

NORTHEAST CAPROCK QUEEN UNIT

[illegible]

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION		CUMULATIVE 1988												1988	CUM.
CAPROCK QUEEN		Computer LEASE NAME, Well #													
Well #	Computer LEASE NAME, S T R STATUS	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	TOTALS
Fee Leases continued -															
145033	13 M 14-T12S-R32E S	OIL 195,327	0	0	0	0	0	0	0	0	0	0	0	0	195,327
		GAS 14,735	0	0	0	0	0	0	0	0	0	0	0	0	14,735
		WAT 147,917	0	0	0	0	0	0	0	0	0	0	0	0	147,917
145034	14 N 14-T12S-R32E S	OIL 26,287	0	0	0	0	0	0	0	0	0	0	0	0	26,287
		GAS 0	0	0	0	0	0	0	0	0	0	0	0	0	0
		WAT 0	0	0	0	0	0	0	0	0	0	0	0	0	0
		INJ 471,356	0	0	0	0	0	0	0	0	0	0	0	0	471,356
145035	34 L 21-T12S-R32E T	OIL 2,395	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0	2,395
		GAS 0	0	0	0	0	0	0	0	0	0	0	0	0	0
		WAT 134	0	0	0	0	0	0	0	0	0	0	0	0	134
		INJ 152,272	0	0	0	0	0	0	0	0	0	0	0	0	152,272
NEC QUEEN UNIT TOTAL		OIL 2,855,491	3	3	11	194	76	3	3	3	3	3	3	308	2,855,799
		GAS 173,995	0	0	0	0	0	0	0	0	0	0	0	0	173,995
		WAT 3,626,417	0	0	4434	3410	4480	0	0	0	0	0	0	12,324	3,638,741
		INJ 8,103,226	0	0	4434	3410	4480	0	0	0	0	0	0	12,324	8,115,550
AVERAGE BBLS/WELL			3	3	11	194	76	3	3	3	3	3	3		

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1990

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION		CAPROCK QUEEN		Computer LEASE NAME,		CUMULATIVE		1989												1989		CUM.
Well #	WELL	S	T	R	STATUS	THRU 12/31/88	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS		
Fed.LC 069224																						
145002	19 B	21-T12S-R32E	S		OIL	5,356	0	0	0	0	0	0	0	0	0	0	0	0	0	5,356		
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					WAT	200	0	0	0	0	0	0	2496	0	0	0	0	0	0	200		
					INJ	268,946	0	0	0	0	0	0	@1150	0	@0	@0	@0	@0	2,496	271,442		
145001 20 A																						
145001	20 A	21-T12S-R32E	S		OIL	98,565	0	0	0	0	0	0	0	0	0	0	0	0	0	98,565		
					GAS	2,104	0	0	0	0	0	0	0	0	0	0	0	0	0	2,104		
					WAT	207,457	0	0	0	0	0	0	0	0	0	0	0	0	0	207,457		
Fed.LC 068747																						
145003	21 D	22-T12S-R32E	I		OIL	24,875	0	0	0	0	0	0	0	0	0	0	0	0	0	24,875		
					GAS	1,379	0	0	0	0	0	0	0	0	0	0	0	0	0	1,379		
					WAT	3,069	0	0	0	0	0	0	0	0	0	0	0	0	0	3,069		
					INJ	699,412	0	0	0	0	0	0	910	4361	4248	3459	2730	1008	16,716	716,128		
145004 22 C																						
145004	22 C	22-T12S-R32E	P		OIL	203,047	0	0	0	0	3	0	@1250	@1300	@1300	@1500	@1400	@1400	8,150	8,150		
					GAS	8,955	0	0	0	0	0	0	62	78	60	62	118	17	437	203,484		
					WAT	419,261	0	0	0	0	0	168	2713	6366	7267	6916	13156	2420	39,006	458,267		
State B-1274																						
145005	6 P	17-T12S-R32E	S		OIL	221	0	0	0	0	0	0	0	0	0	0	0	0	0	221		
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					WAT	13,309	0	0	0	0	0	0	0	0	0	0	0	0	0	13,309		
					INJ	322,064	0	0	0	0	0	0	0	0	0	0	0	0	0	322,064		
State E-1274																						
145006	27 G	20-T12S-R32E	T		OIL	146,865	0	0	0	0	0	0	0	0	0	0	0	0	0	146,865		
					GAS	10,487	0	0	0	0	0	0	0	0	0	0	0	0	0	10,487		
					WAT	317,042	0	0	0	0	0	0	0	0	0	0	0	0	0	317,042		
145007 26 C																						
145007	26 C	23-T12S-R32E	T		OIL	121,074	0	0	0	0	0	0	0	0	0	0	0	0	0	121,074		
					GAS	10,221	0	0	0	0	0	0	0	0	0	0	0	0	0	10,221		
					WAT	96,378	0	0	0	0	0	0	0	0	0	0	0	0	0	96,378		
145008 33 F																						
145008	33 F	23-T12S-R32E	T		INJ	420,786	0	0	0	0	0	0	0	0	0	0	0	0	0	33,218		
					OIL	33,218	0	0	0	0	0	0	0	0	0	0	0	0	0	8,020		
					GAS	8,020	0	0	0	0	0	0	0	0	0	0	0	0	0	9,690		
					WAT	9,690	0	0	0	0	0	0	0	0	0	0	0	0	0	87,710		
					INJ	87,710	0	0	0	0	0	0	0	0	0	0	0	0	0	87,710		

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1990

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION		CAPROCK QUEEN		CUMULATIVE												CUM.		
Computer LEASE NAME,				THRU 12/31/88												TOTALS		
Well #	WELL	S	T	R	STATUS	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1989	TOTAL
State B-9946 continued -																		
145026	23 B	22-T12S-R32E		I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	28,166
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	5,696
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	2,118
					INJ	0	0	0	0	0	0	0	0	0	0	0	0	530,491
						@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0
145027	24 A	22-T12S-R32E		S	OIL	0	0	0	0	0	0	0	0	0	0	0	0	171,452
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	12,891
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	130,377
					INJ	0	0	0	0	0	0	0	0	0	0	0	0	364,360
145028	28 H	20-T12S-R32E		T	OIL	0	0	0	0	0	0	0	0	0	0	0	0	25,060
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	2,471
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0
					INJ	0	0	0	0	0	0	0	0	0	0	0	0	271,953
145029	31 H	22-T12S-R32E		S	OIL	0	0	0	0	0	0	0	0	0	0	0	0	9,532
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	5,003
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	5,620
					INJ	0	0	0	0	0	0	0	0	0	0	0	0	557,482
Fee Leases																		
145030	11 O	15-T12S-R32E		S	OIL	0	0	0	0	0	0	0	0	0	0	0	0	171,609
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	13,303
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	284,937
145031	12 P	15-T12S-R32E		I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	57,855
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	3,634
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	405
					INJ	0	0	0	0	0	0	0	0	0	0	0	0	255,077
						@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0
145032	5 L	15-T12S-R32E		I	OIL	0	0	0	0	0	0	0	0	0	0	0	0	14,546
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	1,113
					INJ	0	0	0	0	0	2184	3820	0	0	0	1230	405	7,639
						@0	@0	@0	@0	@0	@1250	@1400	@0	@0	@1450	@1500	@1500	5,600

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1990

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION		CAPROCK QUEEN		CUMULATIVE		1989												CUM.	
Computer LEASE NAME,		Well #		THRU 12/31/88		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1989 TOTAL	TOTALS
Well #	WELL	S	T	R	STATUS	S	T	R	STATUS	S	T	R	STATUS	S	T	R	STATUS	S	T
Fee Leases continued -																			
145033	13 M	14-T12S-R32E	S		OIL	195,327	0	0	0	0	0	0	0	0	0	0	0	0	195,327
					GAS	14,735	0	0	0	0	0	0	0	0	0	0	0	0	14,735
					WAT	147,917	0	0	0	0	0	0	0	0	0	0	0	0	147,917
145034	14 N	14-T12S-R32E	S		OIL	26,287	0	0	0	0	0	0	0	0	0	0	0	0	26,287
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					INJ	471,356	0	0	0	0	0	0	0	0	0	0	0	0	471,356
145035	34 L	21-T12S-R32E	T		OIL	2,395	0	0	0	0	0	0	0	0	0	0	0	0	2,395
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					WAT	134	0	0	0	0	0	0	0	0	0	0	0	0	134
					INJ	152,272	0	0	0	0	0	0	0	0	0	0	0	0	152,272
NEC QUEEN UNIT TOTAL						OIL 2,855,799	3	3	3	3	40	109	202	203	205	299	46	1,119	2,856,918
						GAS 173,995	0	0	0	0	0	0	0	0	0	0	0	0	173,995
						WAT 3,638,741	0	0	0	0	373	6240	11587	13460	14870	13300	4510	64,340	3,703,081
						INJ 8,115,550	3	3	3	3500	6240	6240	11587	13460	14870	14400	4840	68,897	8,184,447
AVERAGE BBLs/WELL							3	3	3	3	20	55	101	102	102	149	23	567	567

EXHIBIT "A"

NORTHEAST CAPROCK QUEEN UNIT
COUNTY OF LEA, STATE OF NEW MEXICO

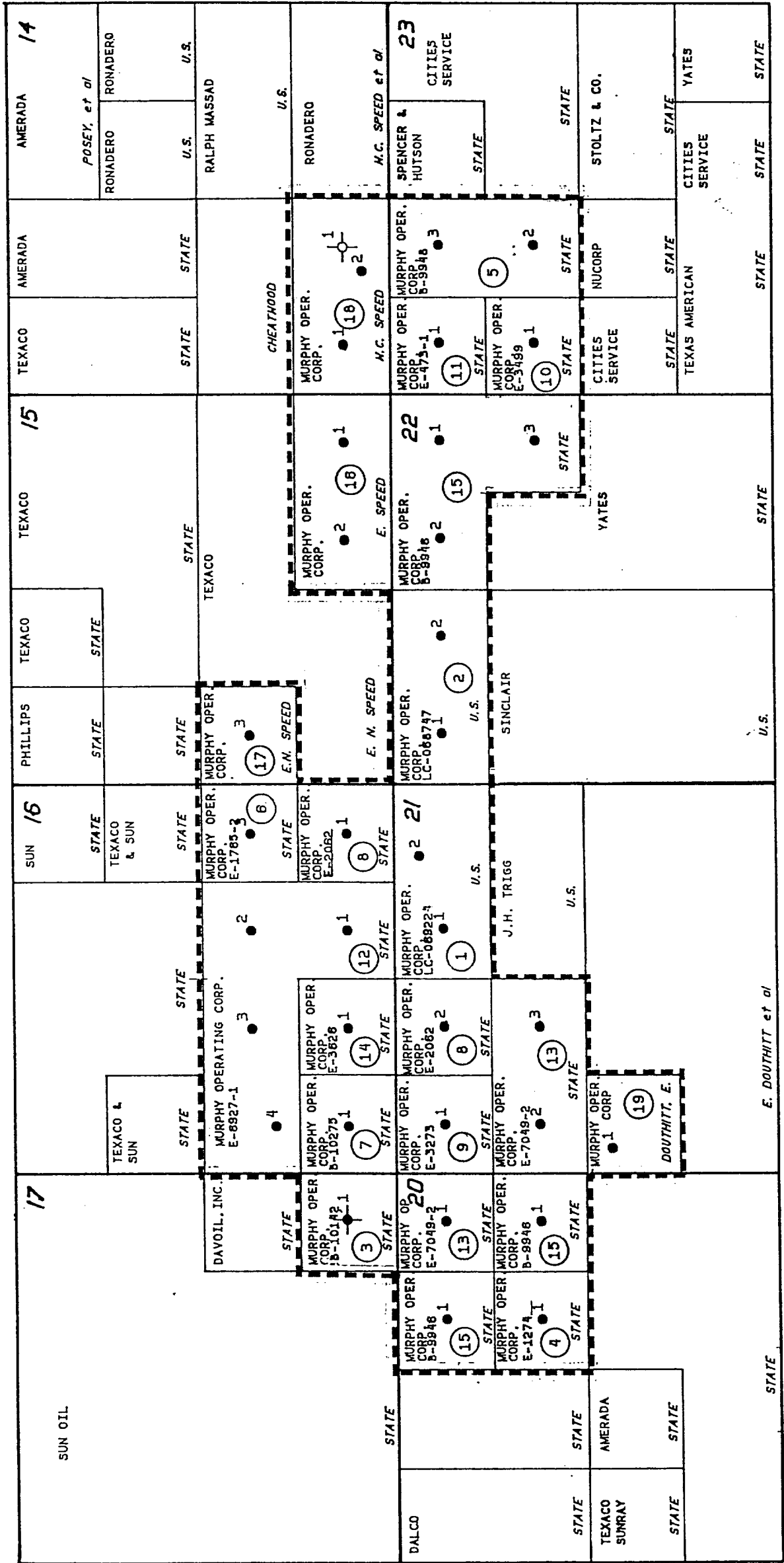


EXHIBIT "B" TO UNIT AGREEMENT
NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Tract No.	Description of Land and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Interest Owner	Percent Ownership	W.I. Owner	W.I. Percent Ownership*	Percent Unit Participation*
1.	T-12-S, R-32-E Sec. 21: N½NEX 80.0 acres	LC-069224 05/01/51	John H. Trigg	USA 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECO, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 <u>12.50000</u> 100.00000	0.02934 0.45064 0.25349 0.08802 <u>0.11735</u> 0.93884
2.	T-12-S, R-32-E Sec. 22: N½NW¼ 80.0 acres	LC-068747 03/01/49	Atlantic Richfield Company	USA 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECO, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 <u>12.50000</u> 100.00000	0.15090 2.31789 1.30381 0.45272 <u>0.60362</u> 4.82894
3.	T-12-S, R-32-E Sec. 17: SE½EX 40.0 acres	B-10142 03/10/43	Great Western Drilling Company	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECO, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 <u>12.50000</u> 100.00000	0.03482 0.53483 0.30084 0.10446 <u>0.13928</u> 1.11423
4.	T-12-S, R-32-E Sec. 20: SW¼NEX 40.0 acres	E-1274-5 04/10/47	Sabine Corporation	State of N.M. 12.5%	Ralph Nix Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	10.00000% 1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECO, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 <u>12.50000</u> 100.00000	0.09105 1.39849 0.78665 0.27314 <u>0.36419</u> 2.91352

*Subject to the terms of those certain Letter Agreements dated May 15, 1986.

EXHIBIT "B" TO UNIT AGREEMENT
NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Tract No.	Description of Land and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Interest Owner	Percent Ownership	W.I. Owner	W.I. Percent Ownership*	Percent Unit Participation*
5.	T-12-S, R-32-E Sec. 23: E½NW¼ 80.0 acres	B-9948-6 12/10/42	Ronadero Company, Inc.	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.17765 2.72865 1.53487 0.53294 0.71058 5.68469
6.	T-12-S, R-32-E Sec. 16: NE½SE¼ 40.0 acres	E-1765-2 03/10/48	Union Oil Company of California	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.09519 1.46213 0.82245 0.28557 0.38076 3.04610
7.	T-12-S, R-32-E Sec. 16: SW½SW¼ 40.0 acres	B-10275-4 05/10/43	Sun Exploration and Production Company	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.23054 3.54107 1.99185 0.69161 0.92215 7.37722
8.	T-12-S, R-32-E Sec. 16: SE½SE¼ Sec. 21: NE½NW¼ 80.0 acres	E-2062-2 08/10/48	Texas American Oil Corporation	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.18464 2.83612 1.59532 0.55393 0.73858 5.90859

*Subject to the terms of those certain Letter Agreements dated May 15, 1986.

EXHIBIT "B" TO UNIT AGREEMENT
NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Tract No.	Description of Land and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Interest Owner	Percent Ownership	W.I. Owner	W.I. Percent Ownership*	Percent Unit Participation*
9.	T-12-S, R-32-E Sec. 21: NW¼NW¼ 40.0 acres	E-3273-2 02/10/50	Texas American Oil Corporation	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.13521 2.07690 1.16826 0.40565 0.54086 4.32688
10.	T-12-S, R-32-E Sec. 23: SW¼NW¼ 40.0 acres	E-3499-2 05/10/50	Texas American Oil Corporation	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.12861 1.97550 1.11122 0.38584 0.51446 4.11563
11.	T-12-S, R-32-E Sec. 23: NW¼NW¼ 40.0 acres	E-473-10 08/10/45	Mobil Producing Tx. & NM, Inc.	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.17665 2.71335 1.52626 0.52995 0.70660 5.65281
12.	T-12-S, R-32-E Sec. 16: N¼SW¼, W¼SE¼ 160.0 acres	E-6927-3 02/10/53	Texaco, Inc. Sun Exploration & Production, Inc.	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.24133 3.70685 2.08510 0.72399 0.96532 7.72259

*Subject to the terms of those certain Letter Agreements dated May 15, 1986.

EXHIBIT "B" TO UNIT AGREEMENT
NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Tract No.	Description of Land and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Interest Owner	Percent Ownership	W.I. Owner	W.I. Percent Ownership*	Percent Unit Participation*
13.	T-12-S, R-32-E Sec. 20: NE¼NE¼ Sec. 21: S¼NW¼ 120.0 acres	E-7049-3 04/10/53	Texaco, Inc. Sun Exploration & Production, Inc.	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.24846 3.81635 2.14670 0.74538 0.99384 7.95073
14.	T-12-S, R-32-E Sec. 16: SE¼SW¼ 40.0 acres	E-3626-4 06/10/50	Texaco, Inc. Sun Exploration & Production, Inc.	State of N.M. 12.5%	H. L. Brown W. R. Wheeler Estate Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	3.12500 3.12500 1.64793% 1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.16659 2.55880 1.43932 0.49977 0.66635 5.33083
15.	T-12-S, R-32-E Sec. 20: NW¼NE¼, SW¼NE¼ Sec. 22: N¼NE¼, SE¼NE¼ 200.0 acres	B-9946 12/10/42	Texaco, Inc.	State of N.M. 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.40421 6.20859 3.49233 1.21262 1.61682 12.93457
16.	T-12-S, R-32-E Sec. 15: S¼SE¼ 80.0 acres	N/A 01/08/45	Murphy Operating Corporation	Ellis Speed 12.5%	Socony Mobil Oil Co., Inc. Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	3.12500 1.64793% 1.64793% 1.64793% .61798% .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.34205 5.25386 2.95529 1.02614 1.36819 10.94553

*Subject to the terms of those certain Letter Agreements dated May 15, 1986.

EXHIBIT "B" TO UNIT AGREEMENT
NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Tract No.	Description of Land and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Interest Owner	Percent Ownership	W.I. Owner	W.I. Percent Ownership*	Percent Unit Participation*
17.	T-12-S, R-32-E Sec. 15: NW $\frac{1}{4}$ SW $\frac{1}{4}$ 40.0 acres	N/A 09/21/46	Murphy Operating Corporation	Ella N. Speed, a widow 12.5%	Amerada Petroleum Corp. Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	5.46875 1.64793% 1.64793% 1.64793% .61798% - .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.03691 0.56687 0.31886 0.11072 0.14762 1.18098
18.	T-12-S, R-32-E Sec. 14: S $\frac{1}{2}$ SW $\frac{1}{4}$ 80.0 acres	N/A 06/30/54	Murphy Operating Corporation	Will C. Speed, et ux 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% - .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.24450 3.75544 2.11244 0.73348 0.97798 7.82384
19.	T-12-S, R-32-E Sec. 21: NW $\frac{1}{4}$ SW $\frac{1}{4}$ 40.0 acres	N/A 02/14/59	Murphy Operating Corporation	Elgen Douthitt, et al 12.5%	Bert H. Murphy Ann J. Murphy Mark B. Murphy Matthew B. Murphy Murphy Operating Corp.- Employee Royalty Pool Derry W. Moore Jo McInerney	1.64793% 1.64793% 1.64793% .61798% - .61798% .50000% .34269%	Daniel Varel Murphy Operating Corp. NECQ, Ltd. Petroleum Ventures of Texas, Inc. PVT 85 Ltd.	03.12500 48.00000 27.00000 09.37500 12.50000 100.00000	0.00635 0.09767 0.05494 0.01908 0.02544 0.20348

ACRES:	Federal	-	160.00	PERCENTAGE:	Federal	-	11.76
	State	-	960.00		State	-	70.59
	Fee	-	240.00		Fee		17.65
	Total		<u>1,360.00</u>		Total		<u>100.00</u>

*Subject to the terms of those certain Letter Agreements dated May 15, 1986.



MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

OK 'd 87
6-13-87
RJD

May 24, 1989

RECEIVED

MAY 25 1989

OIL CONSERVATION DIV.
SANTA FE

#2421

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Joe Lara,
Assistant District Manager of Minerals

Mr. Floyd O. Prando
Director, Oil and Gas Division
Commissioner of Public Lands
State of New Mexico
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. LeMay, Director
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Re: Plan of Operation 1989-1990
Northeast Caprock Queen Unit ("the Unit")
Lea County, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11 of the Unit Agreement, Murphy Operating Corporation ("MOC"), Unit Operator of the Northeast Caprock Queen Unit, Lea County, New Mexico respectfully submits for your consideration and approval this plan of operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Review of 1988.

During 1988, MOC produced two wells intermittently, Wells #2 and #22. The following injection wells were utilized intermittently during the year: Wells #3, #19, #21, #22, #23, and #30. In the fall of 1988, most of the above-listed producers and injectors were temporarily shut in because of the Unit's history of producing problems caused by cold weather and other winter weather conditions.

II. Proposed Plan of Operation for 1989.

MOC is currently in the process of reactivating two producing wells, Wells #22 and #35Y. In addition to reactivating these wells, MOC will initiate injection into at least one and possibly as many as three injection wells, Wells #3, #19 and #21. MOC plans to utilize available produced water supplemented as necessary by fresh water from an existing water well in Section 31, T12S-R32E which provides the Unit with a supplemental source of injection water.

MOC will continue to monitor all active injection wells by daily rate and pressure checks. Monthly fluid level and production tests of active producing wells will also be continued.

III. Further Development.

MOC is continuing its engineering and reservoir evaluation of the Unit. Preliminary results indicate that approximately 60% (6 million barrels) of the original 10 million barrels of oil in place remains unrecovered. The Unit

exhibits reservoir conditions of an average net pay of 12.3 feet, an average permeability to air of 145.24 millidarcys and average porosities of 18 to 20 percent suggesting that the Unit is an excellent candidate for an enhanced oil recovery program. MOC is currently evaluating a variety of enhanced oil recovery methods to determine the optimum means of maximizing the oil recovery from this Unit. Preliminary results indicate that a miscible CO₂ project is now technically feasible due to reservoir depth and temperature, oil gravity and proximity to the Cortez CO₂ line. However, current economic conditions will not justify the substantial investment required to initiate this type of project. For technical and legal reasons, MOC strongly believes that it is in the best interest of all of the parties in interest to maintain this Unit in an active status so that an enhanced oil recovery program may be initiated when it becomes practical to do so.

IV. Modification.

Subject to approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Sincerely,

MURPHY OPERATING CORPORATION

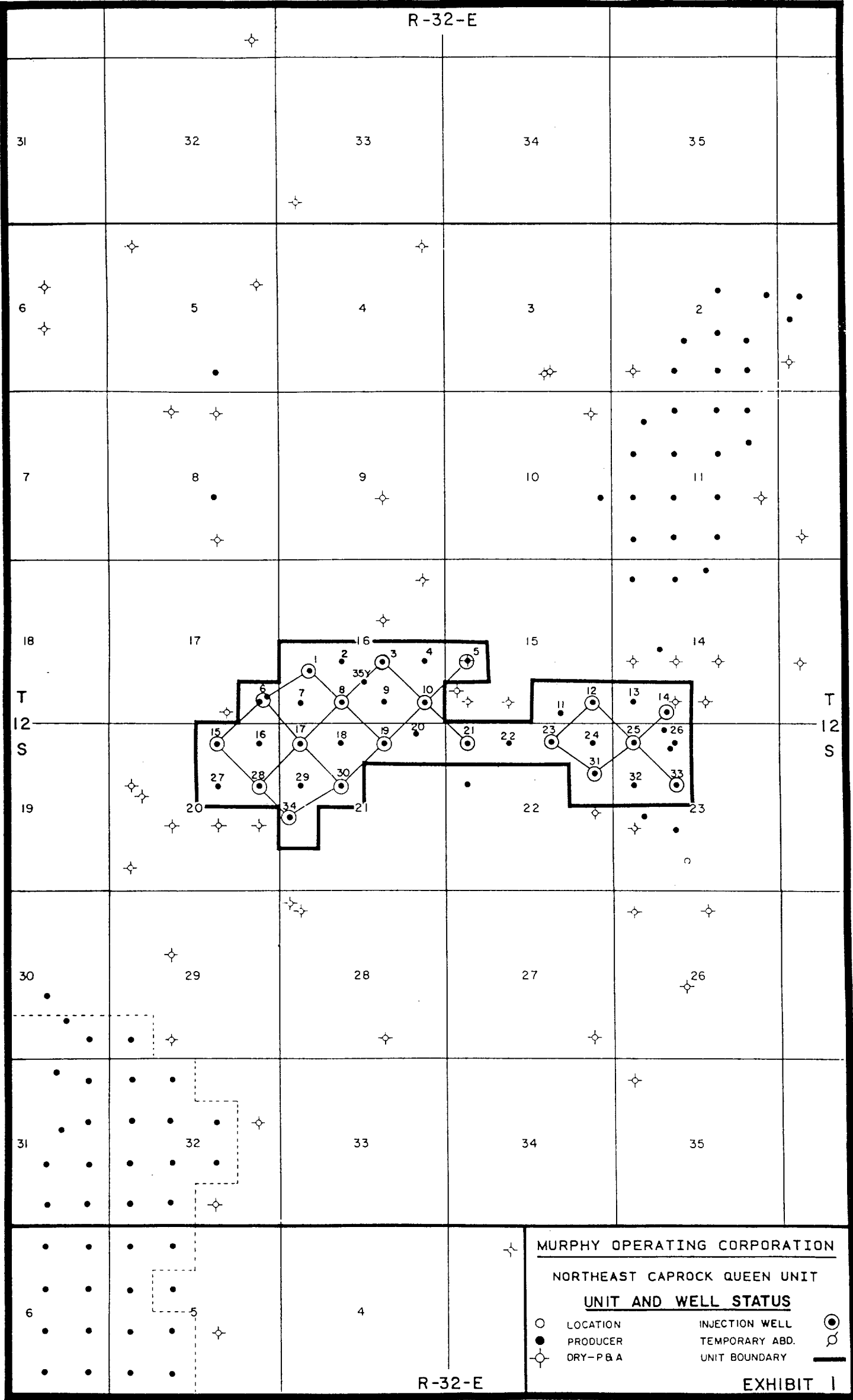


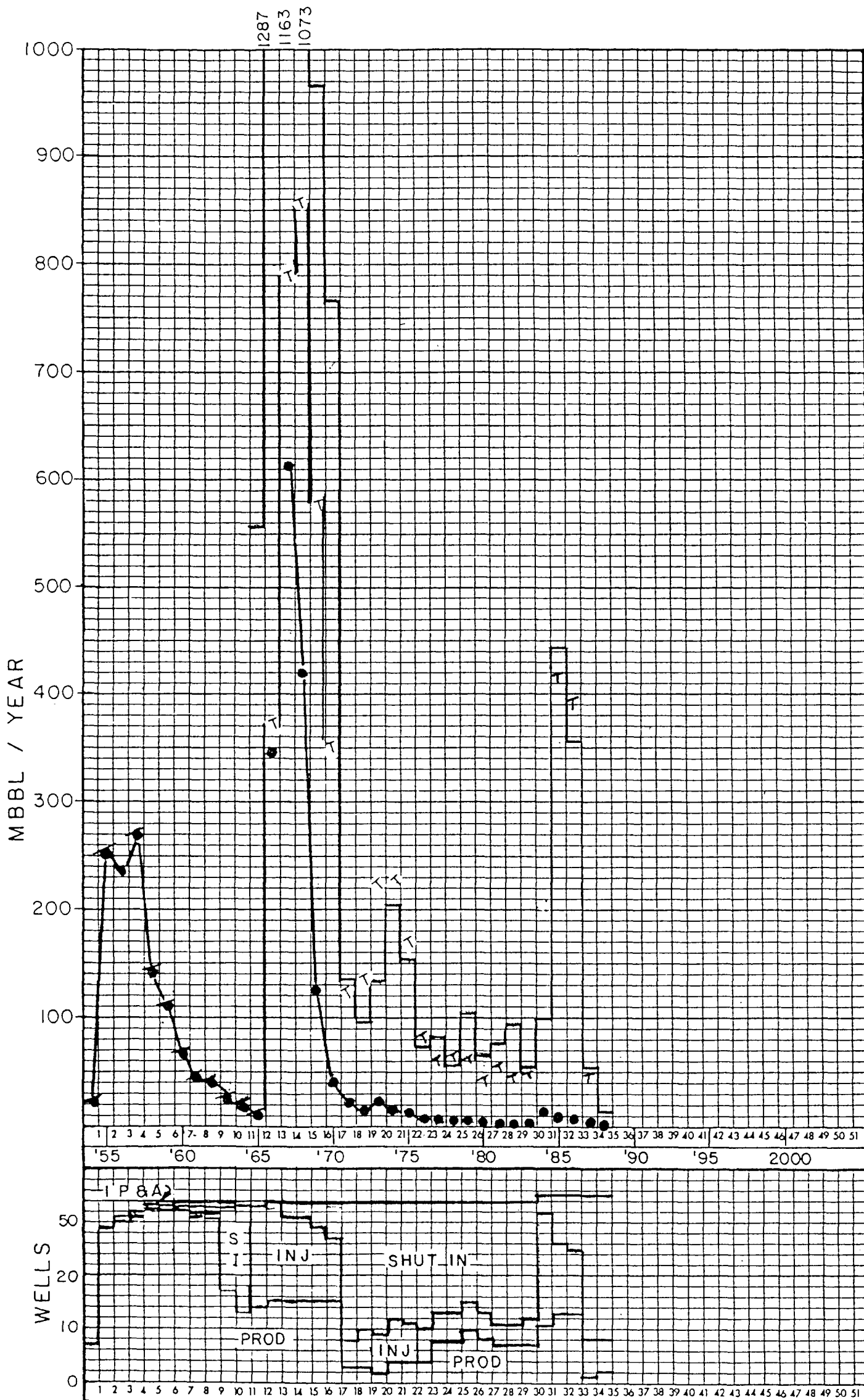
Mark B. Murphy
President and Chief Operating Officer

MBM/js

Enclosures: Exhibit 1 - Northeast Caprock Queen Unit Well Status Map;
Exhibit 2 - Northeast Caprock Queen Unit Reservoir
Performance Curve; and
Exhibit 3 - Northeast Caprock Queen Unit 1988 Tabulated Production
and Injection Data.

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240





MURPHY OPERATING CORP.

NORTHEAST CAPROCK QUEEN UNIT

PERFORMANCE

/...INJECTION

\...TOTAL FLUID PRODUCED

•...OIL PRODUCED

EXHIBIT 2

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION																						
CAPROCK QUEEN																						
Computer LEASE NAME, Well # WELL						CUMULATIVE 1988 THRU 12/31/87																
	S	T	R	STATUS		JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	1988 TOTAL	CUM. TOTALS			
Fed.LC 069224 145002 19 B	21-T12S-R32E	I	OIL GAS WAT INJ	5,356 0 200 266,396	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,356			
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	
					0	0	0	0	579	1971	0	0	0	0	0	0	0	0	0	0	2,550	268,946
					@0	@0	@500	@1050	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0
145001 20 A	21-T12S-R32E	S	OIL GAS WAT	98,565 2,104 207,457	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	98,565		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,104	
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,104
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	207,457
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fed.LC 068747 145003 21 D	22-T12S-R32E	I	OIL GAS WAT INJ	24,875 1,379 3,069 697,621	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24,875		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,379	
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3,069
					0	0	0	0	682	0	0	0	0	0	0	0	0	0	0	0	1,791	699,412
					@0	@0	@1250	@0	@1250	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0
145004 22 C	22-T12S-R32E	P	OIL GAS WAT	202,760 8,955 406,937	0	0	0	11	194	76	3	3	0	0	0	0	0	0	287	203,047		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,955	
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,955
					0	0	0	4434	3410	4480	0	0	0	0	0	0	0	0	0	0	12,324	419,261
					@0	@0	@1250	@0	@1250	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	@0	0
State B-10142 145005 6 P	17-T12S-R32E	S	OIL GAS WAT INJ	221 0 13,309 322,064	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13,309
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13,309
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
State E-1274 145006 27 G	20-T12S-R32E	T	OIL GAS WAT INJ	146,865 10,487 317,042 121,074 10,221 96,378 420,786	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	146,865		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,487
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	317,042
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121,074
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,221
145007 26 C	23-T12S-R32E	T	OIL GAS WAT INJ	10,221 96,378 420,786	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96,378		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	420,786
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33,218
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,020
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,690
145008 33 F	23-T12S-R32E	T	OIL GAS WAT INJ	33,218 8,020 9,690 87,710	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33,218		
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8,020	
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,690
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87,710
					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87,710

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1989

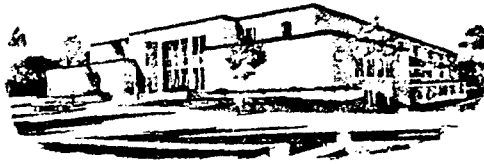
NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION										CAPROCK QUEEN										CUMULATIVE 1988										1988		CUM. TOTALS
Computer LEASE NAME, Well #										THRU 12/31/87										JAN.										1988		
STATUS										FEB.										MAR.										1988		
S T R										APR.										MAY										1988		
JUN.										JUL.										AUG.										1988		
SEP.										OCT.										NOV.										1988		
DEC.										TOTAL										1988												
TOTALS										1988																						
State E 1765	145009	4	I	16-T12S-R32E	S	OIL	159,588	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	159,588								
						GAS	9,453	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9,453								
						WAT	365,603	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	365,603								
State 259	145010	7	M	16-T12S-R32E	S	OIL	170,495	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	170,495								
						GAS	1,978	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,978								
						WAT	213,331	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	213,331								
State E 2062	145011	10	P	16-T12S-R32E	S	OIL	29,570	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	29,570								
						GAS	4,284	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4,284								
						WAT	77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	77								
						INJ	516,563																	516,563								
145012	18	C		21-T12S-R32E	S	OIL	175,768	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	175,768								
						GAS	10,868	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10,868								
						WAT	133,641	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	133,641								
State E 3273	145013	17	D	21-T12S-R32E	T	OIL	51,347	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	51,347								
						GAS	1,981	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1,981								
						WAT	800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	800								
						INJ	348,232																	348,232								
State E 3499	145014	32	E	23-T12S-R32E	S	OIL	195,643	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195,643								
						GAS	5,139	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5,139								
						WAT	182,216	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	182,216								
State E 473-1	145015	25	D	23-T12S-R32E	I	OIL	67,415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	67,415								
						GAS	31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31								
						WAT	2,422	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,422								
						INJ	455,757	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	455,757								
								00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00									
State E 6927	145016	1	L	16-T12S-R32E	I	OIL	20,872	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20,872								
						GAS	2,212	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,212								
						WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
						INJ	505,852	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	505,852								
								00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00									

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION										CUMULATIVE 1988												1988		CUM.
SAPROCK QUEEN										Computer LEASE NAME,												TOTAL		TOTALS
Well #	WELL	S	T	R	STATUS	THRU 12/31/87	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.						
State E-6927																								
145017	2	K	16-T12S-R32E	P	OIL	69,841	3	3	3	0	0	0	0	0	3	3	3	3	21	69,862				
					GAS	3,051	0	0	0	0	0	0	0	0	0	0	0	0	0	3,051				
					WAT	76,385	0	0	0	0	0	0	0	0	0	0	0	0	0	76,385				
145018	3	J	16-T12S-R32E	I	OIL	16,155	0	0	0	0	0	0	0	0	0	0	0	0	0	16,155				
					GAS	745	0	0	0	0	0	0	0	0	0	0	0	0	0	745				
					WAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
					INJ	618,322	0	0	0	546 @500	851 @1050	0	0	0	0	0	0	0	1,397	619,719				
145019	9	O	16-T12S-R32E	S	OIL	154,009	@0	@0	@0	@0	@500	@1050	@0	@0	@0	@0	@0	@0	0	154,009				
					GAS	6,203	0	0	0	0	0	0	0	0	0	0	0	0	0	6,203				
					WAT	164,331	0	0	0	0	0	0	0	0	0	0	0	0	0	164,331				
State E-7049-2																								
145020	29	E	21-T12S-R32E	T	OIL	198,206	0	0	0	0	0	0	0	0	0	0	0	0	0	198,206				
					GAS	11,552	0	0	0	0	0	0	0	0	0	0	0	0	0	11,552				
					WAT	440,992	0	0	0	0	0	0	0	0	0	0	0	0	0	440,992				
145021	16	A	20-T12S-R32E	S	OIL	126,529	0	0	0	0	0	0	0	0	0	0	0	0	0	126,529				
					GAS	7,254	0	0	0	0	0	0	0	0	0	0	0	0	0	7,254				
					WAT	168,286	0	0	0	0	0	0	0	0	0	0	0	0	0	168,286				
145022	30	F	21-T12S-R32E	I	OIL	6,818	0	0	0	0	0	0	0	0	0	0	0	0	0	6,818				
					GAS	1,086	0	0	0	0	0	0	0	0	0	0	0	0	0	1,086				
					WAT	126	0	0	0	0	0	0	0	0	0	0	0	0	0	126				
					INJ	238,837	0	0	0	580 @500	1658 @1050	0	0	0	0	0	0	0	2238	241,075				
State E-3626																								
145023	35Y	N	16-T12S-R32E	S	OIL	3,578	0	0	0	0	0	0	0	0	0	0	0	0	0	3,578				
					GAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
					WAT	236,922	0	0	0	0	0	0	0	0	0	0	0	0	0	236,922				
145024	8	N	16-T12S-R32E	S	OIL	59,809	0	0	0	0	0	0	0	0	0	0	0	0	0	59,809				
					GAS	6,978	0	0	0	0	0	0	0	0	0	0	0	0	0	6,978				
					WAT	4,862	0	0	0	0	0	0	0	0	0	0	0	0	0	4,862				
					INJ	449,022	0	0	0	0	0	0	0	0	0	0	0	0	0	449,022				
State B 9946																								
145025	15	B	20-T12S-R32E	T	OIL	14,685	0	0	0	0	0	0	0	0	0	0	0	0	0	14,685				
					GAS	2,281	0	0	0	0	0	0	0	0	0	0	0	0	0	2,281				
					WAT	9,720	0	0	0	0	0	0	0	0	0	0	0	0	0	9,720				
					INJ	350,156														350,156				

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

May 4, 1989

Murphy Operating Corporation
P.O. Drawer 2648
Roswell, New Mexico 88201

RE: Northeast Caprock Queen Unit
Lea County, New Mexico

Gentlemen:

While conducting a review of monthly unit production reports, it was noted that the Northeast Caprock Queen Unit currently produces an average of 3 barrels of oil a month with no water injection. In order to hold the Unit, oil or gas must be produced in paying quantities. The current minimal oil production rates on this unit do not appear to justify economic production.

In accordance with Section 10 of the Unit Agreement, you are required to submit periodic plans of operation and development for the unit in addition to monthly production and injection reports. We would like to know what your plans are for further development and economic justification for continued operation of the unit. We request that a Plan of Development be submitted for the Northeast Caprock Queen Unit within 60 days.

If you have any questions, please contact Susan Howarth at (505) 827-5791.

Very truly yours,

W.R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

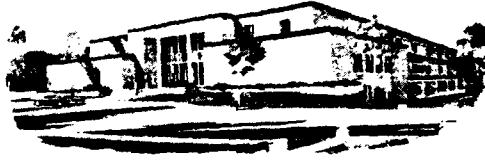
BY:

Floyd O. Prando
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

July 26, 1989

Murphy Operating Corporation
P.O. Box 2648
Roswell, New Mexico 88202-2648

ATTN: Mark B. Murphy

RE: 1989 Plan of Operations
Northeast Caprock Queen Unit
Lea County, New Mexico

Gentlemen:

We received your 1989 Plan of Operations for the Northeast Caprock Queen Unit dated May 24, 1989. We regret to inform you that we cannot approve the Plan of Operations as submitted.

Because the Unit has been producing at low rates, a more detailed Plan of Operations is required. Specifically, the Plan should include the following:

1. Dates for the reactivation of the injection and producing wells as indicated in the May 24, 1989 letter.
2. Any additional information, including economic justification, which would support continued operation of this Unit.

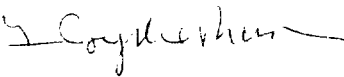
Please be advised that, according to the Unit Agreement, production must be in "paying quantities". The present rate of oil production, 3 barrels of oil per month, does not appear to meet this requirement.

If you have any questions, please do not hesitate to call on us.

Very truly yours,

W.R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY:


FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5749

cc: BLM - Roswell, New Mexico
Unit Correspondence File

WRH/FOP/smh

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

October 2, 1989

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

Murphy Operating Corporation
P.O. Box 2648
Roswell, NM 88202-2648

ATTN: Mr. Mark B. Murphy

RE: Northeast Caprock Queen Unit
Lea County, New Mexico
1989 Plan of Development

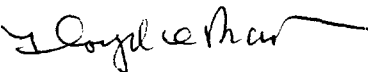
Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned 1989 Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files. If we may be of further help, please do not hesitate to contact Susan Howarth at (505) 827-5791.

Very truly yours,

W.R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5749

cc: OCD - Santa Fe, New Mexico
BLM
Unit Correspondence File
Unit P.O.D. File

WRH/FOP/SMH



MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

May 3, 1988

Mr. Francis R. Cherry, Jr., District Manager
United States of America
Department of the Interior
Bureau of Land Management
Post Office Box 1397
Roswell, New Mexico 88202-1397
Attention: Mr. Joe Lara,
Assistant District Manager of Minerals

Mr. Floyd O. Prando
Director, Oil & Gas Division
State of New Mexico
Commissioner of Public Lands
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Mr. William J. Lemay, Director
State of New Mexico ✓
Energy and Minerals Department
Oil Conservation Division
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

D -
Unit letter
Thx Ry

Re: Plan of Operation 1987-1988,
Northeast Caprock Queen Unit ("the Unit"),
Lea County, New Mexico.

Gentlemen:

Pursuant to the provisions of Section II of the Unit Agreement, Murphy Operating Corporation ("MOC"), operator of the Northeast Caprock Queen Unit, Lea County, New Mexico respectfully submits for your consideration and approval, this Plan of Operation for the secondary recovery of oil by waterflood at the North East Caprock Queen Unit, Lea County, New Mexico.

I. Review of 1987. During 1987, MOC continued to produce one well, Well #2. The following injection wells were utilized intermittently during the year: Wells #1, #3, #5, #12, #19, #25 and #30.

II. Proposed Plan of Operation for 1988. In April 1988, MOC reactivated producing Well #22 and injection Wells #21 and #23. MOC plans to continue injection into Wells #21 and #23 utilizing available produced water supplemented as necessary by fresh water from an existing water well in Section 31, T-12-S, R-32-E which provides to the Unit a supplemental source of injection water.

MOC will continue to reactivate certain producing and injection wells on a well-by-well basis as needed to properly maintain and enhance the recovery of oil from this Unit for the benefit of all parties of interest to the Unit Agreement. This process may require the conversion of certain wells from producers to injectors and conversely to realign the injection pattern for a more efficient waterflood pattern. The proposed realignment should result in the recovery of previously unrecoverable oil and gas reserves.

MOC will continue to monitor all active injection wells by daily rate and pressure checks. Monthly fluid level and production tests of active producing wells will also be continued.

III. Further Development. Preliminary engineering studies indicate that this Unit originally contained approximately 10 million barrels of oil in place of which some 40% has probably been recovered through conventional primary recovery and secondary recovery by the waterflood method. Possibly 60% (6 million barrels) of the Unit's oil in place is yet to be produced. MOC is currently analyzing a variety of enhanced oil recovery methods to determine the optimum means of maximizing the oil recovery from this Unit (including the injection of polymers, surfactants and CO₂).

Additionally, MOC is now evaluating the feasibility of drilling (at legal locations) a well or wells to test certain previously untested porosity zones within the unitized interval at the following location:

<u>LOCATION</u>	<u>PROPOSED STATUS</u>
T-12-S, R-32-E, NMPM Lea County, New Mexico	
Unit H, Section 22	Producer
Unit E, Section 23	Producer

IV. Modification. Subject to your approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions or to protect the interests of all parties to the Unit Agreement.

Sincerely,

MURPHY OPERATING CORPORATION

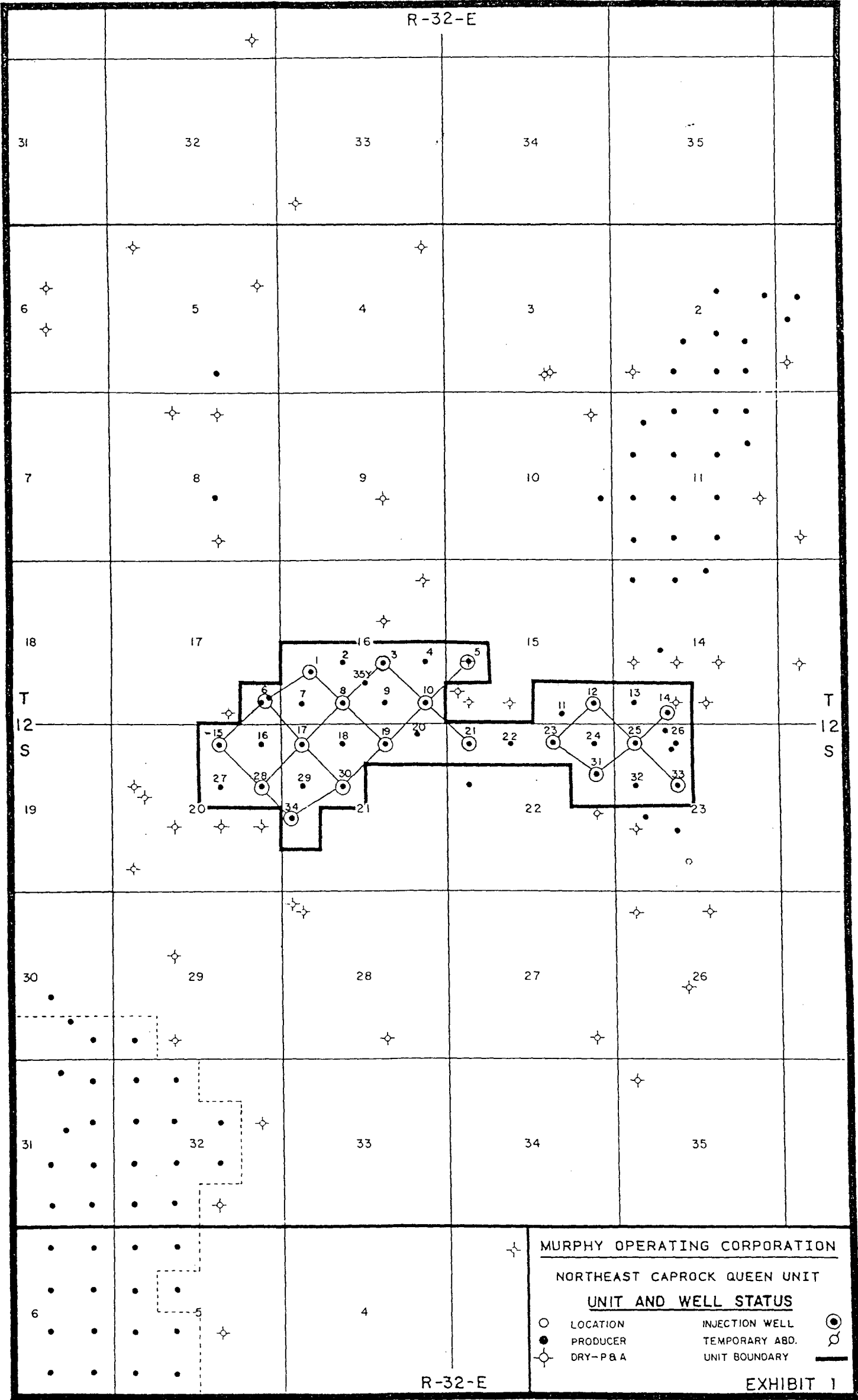

Mark B. Murphy
President and Chief Operating Officer

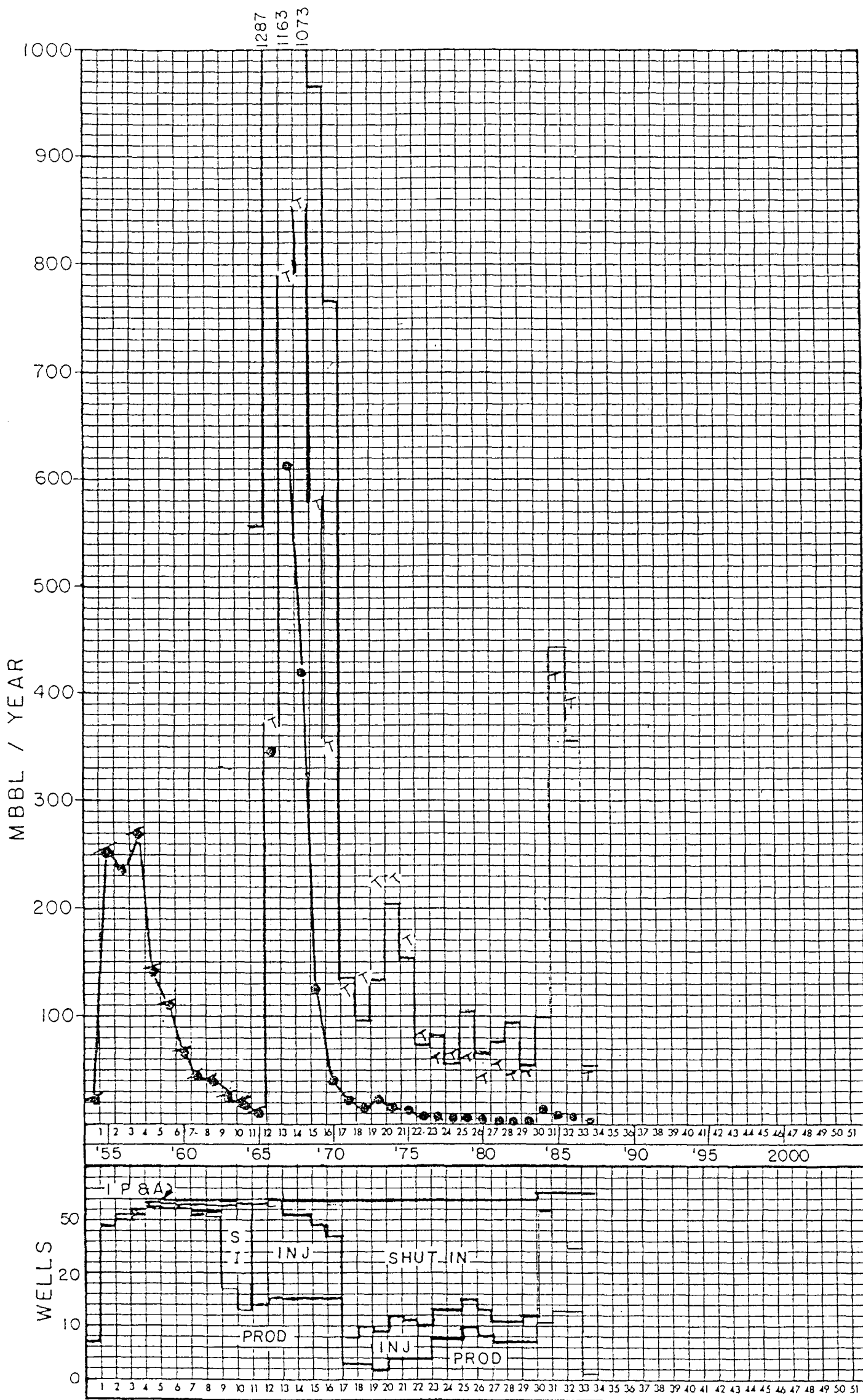
MBM/msl

Enclosures:

Exhibit 1 - Northeast Caprock Queen Unit Well Status Map;
Exhibit 2 - Northeast Caprock Queen Unit Reservoir Performance Curve; and
Exhibit 3 - Northeast Caprock Queen Unit 1987 Tabulated Production and
Injection Data.

cc: Mr. Jerry E. Sexton, Supervisor
State of New Mexico
Energy and Minerals Department
Post Office Box 1980
Hobbs, New Mexico 88240





MURPHY OPERATING CORP.

NORTHEAST CAPROCK QUEEN UNIT

— INJECTION

— TOTAL FLUID PRODUCED

• OIL PRODUCED

PERFORMANCE

EXHIBIT 2

NORTHEAST CAPROCK QUEEN UNIT

[illegible]

NORTHEAST CAPROCK QUEEN UNIT

PRODUCTION																									
CAPROCK QUEEN																									
Computer LEASE NAME,																									
Well #	WELL	S	T	R	STATUS	THRU 12/31/86	CUMULATIVE	1987												1987		CUM.			
Well #	WELL	S	T	R	STATUS	THRU 12/31/86	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL	TOTALS					
State E-6927																									
145017	2	K	16	-T12S-R32E	P	OIL	69,808	3	3	3	3	3	3	3	3	0	3	3	3	33	69841				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		147	146	0	0	0	0	0	0	0	0	0	0	293					
145018	3	J	16	-T12S-R32E	I	OIL	16,155	0	0	0	0	0	0	0	0	0	0	0	0	0	16155				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						INJ	611,302	641	1658	4721	0	0	0	0	0	0	0	0	0	7020	618322				
								@758	@1450	@1319	@0	@0	@0	@0	@0	@0	@0	@0	@0	0	154009				
145019	9	O	16	-T12S-R32E	S	OIL	154,009	0	0	0	0	0	0	0	0	0	0	0	0	0	154009				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
State E-7049-2																									
145020	29	E	21	-T12S-R32E	T	OIL	198,206	0	0	0	0	0	0	0	0	0	0	0	0	0	198206				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
145021	16	A	20	-T12S-R32E	S	OIL	126,529	0	0	0	0	0	0	0	0	0	0	0	0	0	126529				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
145022	30	F	21	-T12S-R32E	I	OIL	6,818	0	0	0	0	0	0	0	0	0	0	0	0	0	6818				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						INJ	236,775	0	521	1541	0	0	0	0	0	0	0	0	0	2062	238837				
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State E-3626																									
145023	35	Y	N	16	-T12S-R32E	S	OIL	3,578	0	0	0	0	0	0	0	0	0	0	0	0	3578				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
145024	8	N	16	-T12S-R32E	S	OIL	59,809	0	0	0	0	0	0	0	0	0	0	0	0	0	59809				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
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State B 9946																									
145025	15	B	20	-T12S-R32E	T	OIL	14,685	0	0	0	0	0	0	0	0	0	0	0	0	0	14685				
						GAS		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						WAT		0	0	0	0	0	0	0	0	0	0	0	0	0	0				
						INJ	350,156	0	0	0	0	0	0	0	0	0	0	0	0	0	350156				

MURPHY OPERATING CORPORATION
4TH QUARTER PRODUCTION REPORT
JANUARY 01, 1988

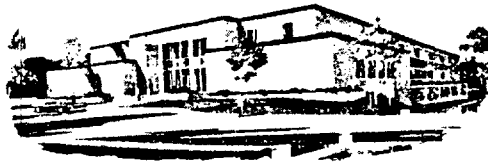
NORTHEAST CAPROCK QUEEN UNIT

[illegible]

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

SLO REF NO OG-778

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

May 9, 1988

Murphy Operating Corporation
Attn: Mr. Mark B. Murphy
P. O. Box 2648
Roswell, New Mexico 88202-2648

Re: 1988 Plan of Development
Northeast Caprock Queen Unit
Lea County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved your 1988 Plan of Development for the above captioned unit area.

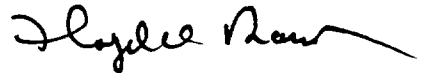
Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/pm
encls.
cc: OCD
BLM

State of New Mexico

#2421



JIM BACA
COMMISSIONER

Commissioner of Public Lands

April 26, 1985

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery User
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

Murphy Minerals Corporation
P. O. Drawer 2164
Roswell, New Mexico 88201

Re: Change in Unit Operator
by Assignment
Northeast Caprock Queen Unit
Lea County, New Mexico

ATTENTION: Ms. Laura M. Puntch

Gentlemen:

This will acknowledge receipt of your Change in Unit Operator by Assignment by which M R Oil Company resigns as Unit Operator and Murphy Operating Company accepts and assumes the obligations of Unit Operator for the Northeast Caprock Queen Unit Agreement, Lea County, New Mexico.

The Commissioner of Public Lands has this date approved the Resignation of M R Oil Company as operator of the Northeast Caprock Queen Unit Area and approved the Designation of Murphy Operating Company as the successor Unit Operator. Our approval is subject to like approval by the Bureau of Land Management.

Please advise this office when the Bureau of Land Management approves this document.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Ray D. Graham*
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico

Attn: Fluids Branch
Attn: Mr. Armando Lopez

CHANGE IN UNIT OPERATOR BY ASSIGNMENT

STATE OF NEW MEXICO)
)
COUNTY OF LEA)

This indenture, dated as of November 1, 1984, by and between M R OIL COMPANY, hereinafter designated as "First Party", and MURPHY OPERATING CORPORATION, hereinafter designated as "Second Party".

WITNESSETH: Whereas under the authorization of the Legislature, as set forth in Sec. 7-11-47, New Mexico Statutes, Annotated, 1955 Laws, the Commission of Public Lands of the State of New Mexico approved a unit agreement for the Northeast Caprock Queen Unit, wherein the First Party is now designated as Unit Operator; and

Whereas the First Party desires to transfer, assign, release, and quitclaim, and the Second Party desires to assume all the rights, duties and obligations of Unit Operator under the unit agreement; and


Whereas for sufficient and valuable consideration, the receipt whereof is hereby acknowledged, the First Party has transferred, conveyed, and assigned all its rights under certain operating agreements involving lands within the area set forth in said unit agreement unto the Second Party;

Now, therefore, in consideration of the premises hereinbefore set forth, the First Party does hereby transfer, assign, release, and quitclaim unto the Second Party all of First Party's rights, duties, and obligations as Unit Operator under said unit agreement; and

Second Party hereby accepts this assignment and hereby covenants and agrees to fulfill the duties and assume the obligations of Unit Operator under and pursuant to all the terms of said unit agreement to the full extent set forth in this assignment, effective upon approval of this indenture by the Commissioner of Public Lands of the State of New Mexico; said unit agreement being hereby incorporated herein by reference and made a part hereof as fully and effectively as though said unit agreement were expressly set forth in this instrument.

In witness whereof, the parties hereto have executed this instrument as of the date hereinabove set forth.

M R OIL COMPANY



D. E. RAMSEY, General Partner

R. T. MCDANIEL
R. T. MCDANIEL, General Partner

ATTEST:

MURPHY OPERATING CORPORATION

Nadine Reed
Nadine Reed, Secretary

A. J. Murphy
A. J. MURPHY, President

I hereby approve the foregoing indenture designating MURPHY OPERATING CORPORATION as Unit Operator under the unit agreement for the Northeast Caprock Queen Unit this 26th day of April, 1985.

Jim Baca
Commissioner of Public Lands
State of New Mexico

MAIN OFFICE CCC

HUMBLE OIL & REFINING COMPANY

SOUTHWEST REGION

P. O. BOX 1597

ROSWELL, NEW MEXICO

April 4, 1962

1962 APR 15 PM 1:17

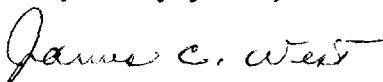
Mrs. Ida Rodriguez
New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Dear Ida:

Enclosed are the exhibits from your unit files on
case numbers 2293 and 2421.

Thanks for letting us borrow them. Please let me
know when we can help you.

Very truly yours,



James C. West

JCW:eh
Enclosures

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

MAIN OFFICE 0001

AUG 9 AM 11:10

TEXACO
INC.

PETROLEUM PRODUCTS



P. O. BOX 3109
MIDLAND, TEXAS

August 3, 1965

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We are pleased to advise that water injection commenced in the Northeast Caprock Queen Unit on July 26, 1965.

The final work of installing a building over the pump and motor should be accomplished prior to the 15th of August. Both water supply wells in the North Caprock Unit are in operation.

Since we have successfully commenced the injection of water, we will consider this the final monthly report as to the progress in waterflooding this unit area as requested by your letter of January 8, 1965.

Yours very truly,

J. H. Moore
J. H. Moore
Assistant Division Manager

TWD:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
P. O. Drawer 2088
Santa Fe, New Mexico

TEXACO
INC.

PETROLEUM PRODUCTS



DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

P. O. BOX 3109
MIDLAND, TEXAS

July 7, 1965

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We wish to provide you with the following information concerning the progress during the month of June, 1965, with regard to the development of a waterflood for the Northeast Caprock Queen Unit.

The water supply line from the two wells in the North Caprock Unit has been laid to the two 500-barrel water tanks in the Northeast Caprock Queen Unit. From this point the water injection lines have been laid to all injection wells. The injection wells are being connected to the injection lines while the consolidation of the tank batteries is being accomplished.

A similar report will be submitted in August covering the progress made during the month of July.

Yours very truly,

J. H. Moore
Assistant Division Manager

TWD:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
P. O. Drawer 2088
Santa Fe, New Mexico

TEXACO
INC.

PETROLEUM PRODUCTS



DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

P. O. BOX 3109
MIDLAND, TEXAS

June 3, 1965

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We would like to provide you with the following information concerning the progress made during the month of May, 1965, for developing the waterflood for the Northeast Caprock Queen Unit.

Texaco is actively engaged in construction operations to develop the waterflood. We have started clearing rights-of-way, have started ditching and all materials have been ordered. All pipe has been received and will be installed shortly. A similar report will be submitted in July on the progress made in initiating waterflood operations during the month of June.

Yours very truly,

A handwritten signature in cursive script, appearing to read "J. H. Moore".

J. H. Moore
Assistant Division Manager

TWD:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission ✓
P. O. Drawer 2088
Santa Fe, New Mexico

TEXACO
INC.

PETROLEUM PRODUCTS



DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

24-1
P. O. BOX 3109
MIDLAND, TEXAS

May 5, 1965

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We wish to provide you with the following information on progress made during the month of April, 1965, in developing a waterflood for the Northeast Caprock Queen Unit.

Texaco has now obtained essentially all of the rights-of-way needed for the water supply line to serve the unit and firm agreements for the remaining rights-of-way needs are expected to be reached within the next week. Specifications for the waterflood facilities have been prepared and are being submitted to contractors with invitations to bid on the construction.

A similar report will be submitted in June on the progress made in initiating waterflood operations during the month of May.

Yours very truly,

J. H. Moore
Assistant Division Manager

RRMc:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission ✓
P. O. Drawer 2088
Santa Fe, New Mexico

APR 12 1965

TEXACO INC.

24-1

PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION



P. O. BOX 3109
MIDLAND, TEXAS

April 1, 1965

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We wish to provide you with the following information on progress made during the month of March, 1965, in developing a waterflood for the Northeast Caprock Queen Unit.

Texaco's application for the relocation of an existing water appropriation to serve the Northeast Caprock Queen Unit was approved by the State Engineer's Office on March 12, 1965. This action should assure the unit of an adequate water supply necessary to conduct waterflood operations. Texaco is currently in the process of acquiring the rights-of-way needed for the water supply line.

A similar report will be submitted in May on the progress made in initiating waterflood operations during the month of April.

Yours very truly,

A handwritten signature in cursive script, appearing to read "J. H. Moore".

J. H. Moore
Assistant Division Manager

RRMc:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
P. O. Drawer 2088
Santa Fe, New Mexico

15 MAR 15 1965
DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

TEXACO
INC.

PETROLEUM PRODUCTS



2421
P. O. BOX 3109
MIDLAND, TEXAS

March 10, 1965

NORTHWEST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

We wish to provide you with the following information on progress made during the month of February, 1965, in developing a waterflood for the Northeast Caprock Queen Unit.

Texaco is completing arrangements for the acquisition of a water supply source to serve the Northeast Caprock Queen Unit. An application was filed with the State Engineer during January providing for the withdrawal points of an existing water appropriation to be moved to the location of two water wells being acquired from the North Caprock Queen Unit. Publication of this application was made on February 9th, 16th and 23rd. The State Engineer's office reports that no protests to Texaco's application have been received and we anticipate final approval in the near future.

A similar report will be submitted in April on the progress made in initiating waterflood operations during the month of March.

Yours very truly,

A handwritten signature in cursive script, appearing to read "J. H. Moore".

J. H. Moore
Assistant Division Manager

RRMc:jh
cc: United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico
New Mexico Oil Conservation Commission ✓
P. O. Drawer 2088
Santa Fe, New Mexico

TEXACO
INC.

PETROLEUM PRODUCTS



DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

February 1, 1965

P. O. BOX 3109
MIDLAND, TEXAS

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

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

Attention: Mr. Ted Bilberry, Director
Oil and Gas Department

Gentlemen:

In response to your request for a monthly report on the progress made in developing a waterflood for the Northeast Caprock Queen Unit, we provide the following information as to action taken during the month of January, 1965.

As noted in Texaco's letter of January 4, 1965, arrangements are being made to obtain a water supply source from the North Caprock Queen Unit, operated by Graridge. An agreement providing for the acquisition of this water source has been approved by the working interest owners in both units and has been executed by Graridge and Texaco. A surface easement has also been obtained permitting Texaco's operation of two water wells from which the water supply is to be obtained.

Texaco has an existing water appropriation in T-12-S, R-32-E which will be adequate to meet the needs of the Northeast Caprock Unit. An application was filed with the State Engineer during January providing that the withdrawal points for this appropriation be relocated to the two water wells being acquired from the North Caprock Queen Unit. We

Mr. Ted Bilberry

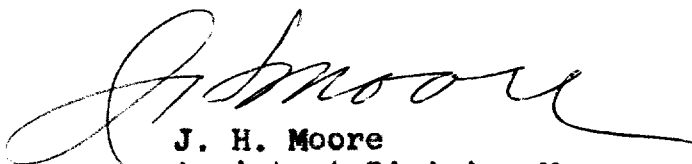
-2-

February 1, 1965

anticipate approval of this application during February.

A similar report will be submitted in March on the progress made in initiating waterflood operations during the month of February.

Yours very truly,



J. H. Moore
Assistant Division Manager

RRMc:jh

cc: United States Geological Survey /
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission ✓
P. O. Drawer 2088
Santa Fe, New Mexico

65 JAN 11 PM 11

2421

January 8, 1965

Texaco Inc.
P. O. Box 3109
Midland, Texas

Re: Northeast Caprock Queen Unit
Lea County, New Mexico

Attention: Mr. J. H. Moore

Gentlemen:

We acknowledge your letter of January 4, 1965, and your report concerning your difficulties encountered in commencing water injection in the Northeast Caprock Queen Unit Area.

We have discussed Sections 10 and 27 of this agreement with Mr. Oscar Jordan, our attorney and he agrees that your continuous concerted efforts to obtain a water supply for secondary recovery and your failure to do so constitutes matters beyond the reasonable control of the Unit Operator as provided for under Section 27. Therefore, we consider the Unit Operator has maintained the Unit in force.

May we have a monthly report as to the progress you are making in waterflooding this Unit Area.

RECEIVED
JAN 11 PM 11 11

2421

January 8, 1965

Texaco Inc.
P. O. Box 3109
Midland, Texas

Re: Northeast Caprock Queen Unit
Lea County, New Mexico

Attention: Mr. J. H. Moore

Gentlemen:

We acknowledge your letter of January 4, 1965, and your report concerning your difficulties encountered in commencing water injection in the Northeast Caprock Queen Unit Area.

We have discussed Sections 10 and 27 of this Agreement with Mr. Oscar Jordan, our attorney and he agrees that your continuous concerted efforts to obtain a water supply for secondary recovery and your failure to do so constitutes matters beyond the reasonable control of the Unit Operator as provided for under Section 27. Therefore, we consider the Unit Operator has maintained the Unit in force.

May we have a monthly report as to the progress you are making in waterflooding this Unit Area.

ILLEGIBLE

Texaco Inc.
Attention: Mr. J. H. Moore
January 8, 1965
- page 2 -

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil & Gas Department

GBH/mar/v
cc:

United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 2086
Santa Fe, New Mexico

1964 JAN 13 AM 11 1421

January 9, 1964

**NORTHEAST CAPROCK (QUEEN) UNIT
TERMINATION OF PHASE I PARTICIPATION**

Commissioner of Public Lands
P. O. Box 791
Santa Fe, New Mexico

Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attn: Mrs. M. M. Rhea

U. S. Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

Attn: Mr. John A. Anderson

Gentlemen:

Under Article I, Paragraph 1.2.1 of the Unit Operating Agreement for the Northeast Caprock (Queen) Unit, the unit area remaining primary reserves were defined as being 102,000 barrels of oil as of January 1, 1961. The last barrel of these remaining primary reserves was produced from the Northeast Caprock (Queen) Unit during the month of July, 1963.

This terminated the Phase I participation factors as of July 31, 1963, as specified in the Unit Operating Agreement, Section 2, Paragraph (p). Phase II participation became effective on August 1, 1963 and, as of that date, the allocation of produced unitized substances will be made on the basis of the Phase II participations as shown in Exhibit B of the Unit Agreement.

Yours very truly,


J. H. Moore

RRMc:jb

2471

TEXACO
INC.

PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION



P. O. BOX 3109
MIDLAND, TEXAS

August 13, 1963

NORTHEAST CAPROCK QUEEN UNIT
LEA COUNTY, NEW MEXICO

Regional Oil & Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands
State of New Mexico
Capitol Annex Building
Santa Fe, New Mexico

Oil Conservation Commission ✓
P. O. Box 871
Santa Fe, New Mexico

Gentlemen:

The following is a brief report of the operations
in the Northeast Caprock Queen Unit, Lea County, New Mexico.

Activities since June 1, 1962: Immediately following
unitization, an intensive search for a source of Ogallala
water was initiated. This entire area is within the Lea
County underground water basin and the use of all water is
subject to appropriation by the State Engineer.

The first area investigated was a commercial water
lease owned by Texaco in the N/2 of Section 15, T-12-S, R-32-E,
adjoining the Unit to the north. After drilling five
stratigraphic test holes and two test water wells, it was found
that insufficient water was available. Further exploratory
work was then performed in Sections 30 and 31 in the same town-
ship. Here, a total of three Ogallala test wells were drilled,
two in Section 30 and one in Section 31. Insufficient water
was found in those three test wells. At this point, appli-
cation was made to the State Engineer for an appropriation of

August 13, 1963

water from Section 25, T-11-S, R-32-E, and Section 30, T-11-S, R-33-E approximately five miles northeast of the Unit. The applications were protested and a hearing was held before a representative of the State Engineer's office on August 1, 1963. A ruling from the State Engineer is expected by October 1, 1963.

Future Actions: If the pending water appropriation is approved by the State Engineer's office, development of water wells and construction of waterflood injection facilities will commence as soon as possible after receipt of such approval. It is anticipated that in such event construction will be completed and water injection started by or before December 31, 1963.

Waterflood facilities have been designed to deliver 5000 barrels of water per day at a maximum injection pressure of 2000 psi. The reservoir is to be waterflooded on an 80-acre five spot pattern as shown on the attached plat. There will initially be 18 wells converted from producer to injection service and an additional well drilled for injection service. The additional well drilled for injection will be located in Unit P, Section 17, T-12-S, R-32-E and this well will be drilled as soon as possible after injection operations begin.

Yours very truly,

Original Signed by

J. H. MOORE

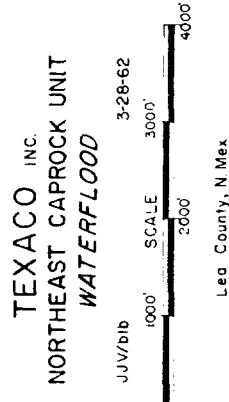
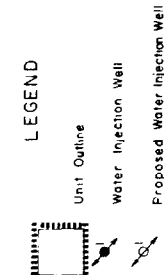
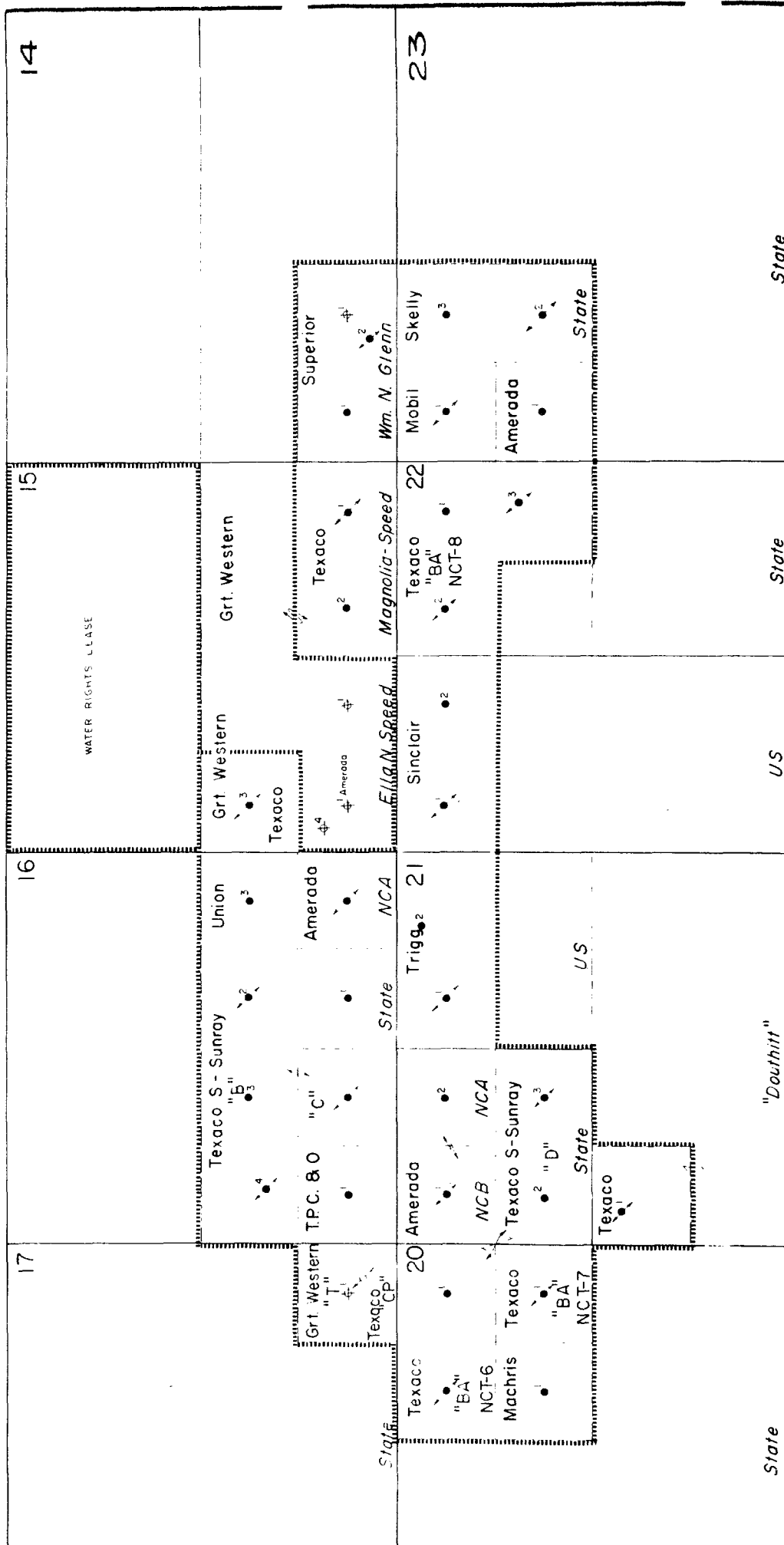
J. H. Moore *WCP*

Assistant Division Manager

CHM:bl
Attach.

R-32-E

T 12 S



2421

March 30, 1962

Texaco Inc.
P. O. Box 3109
Midland, Texas

Re: Northeast Caprock Queen
Unit, Lea County,
New Mexico

Attention: Mr. B. E. Hellman

Gentlemen:

The Commissioner of Public Lands has of this date approved the Northeast Caprock Queen Unit Agreement and we are enclosing herewith ten Certificates of Approval.

Also enclosed is Official Receipt No. 87103 in the amount of \$40.00 which covers the filing fee.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

PV:

(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/umr/v
cc: Oil Conservation Commission
Santa Fe, New Mexico

U. S. Geological Survey
Roswell, New Mexico

C
O
P
Y

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

P. O. BOX 871
SANTA FE

Gilbert, White & Gilbert
P. O. Box 787
Santa Fe, New Mexico

December 13, 1961

Attention: Mr. L. C. White

Gentlemen:

Enclosed herewith is Commission Order No. R-2133, entered in Case No. 2421, approving ~~the~~ Texaco's Northeast Caprock Queen Water Flood Project.

According to our calculations, when all of the authorized injection wells have been placed on active injection, the maximum allowable which this project will be eligible to receive under the provisions of Rule 701-E-3 is 1428 barrels per day.

Please report any error in this calculated maximum allowable immediately, both to the Santa Fe office of the Commission and the appropriate District proration office.

In order that the allowable assigned to the project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project area, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the project and the wells therein will be appreciated.

Very truly yours,

ALP/DSN/esr
Enclosure

A. L. PORTER, Jr.
Secretary-Director

cc: Oil Conservation Commission - Hobbs
Mr. J. E. Kapteina, Oil Conservation Commission - Santa Fe

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION

TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International
Letter Telegram

The filing time shown in the date line on domestic telegrams is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination.

.LA157 SSD219

100 NOV 28 PM 5 54

L HBA057 PD=HOBBS NMEX 28 331P MST=

NEW MEXICO OIL CONSERVATION COMMISSION, DAN NUTTER=
SANTA FE NMEX=

REFERENCE CASE NUMBER 2421 SOCONY MOBIL OIL CO INC
RECOMMENDS THE APPROVAL OF THE NORTH EAST CAPROCK
(QUEEN) UNIT AGREEMENT AND UNIT-WIDE WATER FLOOD AS
PROPOSED BY TEXACO INCORP=

C F UNDERINER JR PRODUCING SUPT SOCONY MOBIL OIL
CO HOBBS NMEX...I

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE