

YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3559

ARTESIA, NEW MEXICO 88210

May 24, 1982

PEYTON YATES,

PRESIDENT

S. P. YATES,

VICE PRESIDENT

B. W. HARPER,

SEC. TREAS.

JACK W. MCCAUL,

ASST. SEC. TREAS.

TO: OVERRIDING ROYALTY OWNERS
ADDRESSEE LIST ATTACHED

Re: Proposed South Loco Hills (Grayburg) Unit

Ladies and Gentlemen:

Our records show you own an overriding royalty interest in our proposed South Loco Hills (Grayburg) Waterflood unit area which is identified by the map included as Exhibit "A" in the enclosed agreement. After the unit becomes effective, we propose to inject water into the wells identified by triangles on the map and later to expand the injection pattern to include the wells marked with squares.

We believe the waterflood will increase the ultimate production from the area by 609,000 barrels, approximately equal to the total production from the Loco Hills and Grayburg formations in the unit area through 1981.

Attached is one copy of the unit agreement, together with appropriate signature pages. If you elect to join this unit, please execute and return ten (10) copies of the signature pages to our office within thirty days.

Please contact us if you need any additional information to expedite your decision.

Yours very truly,

Dave Boneau

D. F. Boneau
Engineering Manager

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering any lands within the unit area in which the undersigned may be found to have an oil or gas interest.

This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this _____ day of _____, 1982.

STATE OF _____)
 : §
COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by _____

My Commission Expires: _____
Notary Public

C. A. & G. C. Denton
Box 1252
Artesia, N. M. 88210

Marjorie W. Lester Quayle
Rural Route #1
Winslow, Arkansas 72207

Lucille E. McCrary
Box 4431
Santa Fe, N. M. 87501

L. Jay Root
P. O. Box 1165
Albuquerque, N.M. 87103

Lucretia Conlon
3900 16th St., NW
Apt. 626
Washington, D.C. 20011

Fred & Julia Brainard
P. O. Box 145
Artesia, N.M. 88210

E. C. Higgins Trust
691 Mntn. View Circle
Gainesville, Georgia 30501

K. U. McCrary
Box 4431
Santa Fe, N. M. 87501

Nell McCrary
Box 4431
Santa Fe, N. M. 87501

Carol McCrary Odell
Box 4431
Santa Fe, N.M. 87501

Patricia M. Shaffer
105 Siconono
Santa Fe, N.M. 87501

John H. Trigg
Box 520
Roswell, N. M. 88201

Violet Shipp Young
c/o C. C. Young
735 N. 85th St., #1A
Seattle, WA 98103

Billie L. Kruse
c/o Barbara K. Frankenfield
1006 Ellendale Drive
Las Cruces, N.M. 88001

Jimmy M. Joy, Trustee
P. O. Box 1331
Artesia, N.M. 88210

Mary C. Johnston
667 Yosemite Drive
Indianapolis, Indiana
46217

Chas. M. Fuchtman
Box 703
Huntsville, Alabama 35804

Olen F. Featherstone
1717 W. Second
Roswell, N.M. 88201

W. T. Wynn
1603 West Dengar
Midland, TX 79701

George McCrary
Box 4431
Santa Fe, N.M. 87501

Harvey Yates
Box 1933
Roswell, N.M. 88201

George Ferriman
1505 W. Washington
Artesia, N.M. 88210

Louise D. Yates
919 Security Nat'l Bank Bldg.
Roswell, N.M. 88201

Robert F. Travis, Sr.
Robert F. Travis, Jr.
Rt. 4, Box 73H
Columbia, MO 65201

Eudora Hawley Heilman
468 Cambridge
Claremont, CA 91711

Josephine D. Hawley
21 Goldenridge Ct.
San Mateo, CA 94402

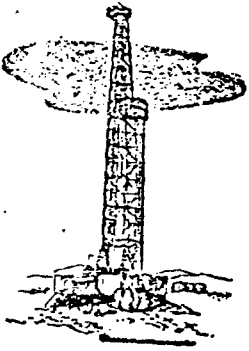
Jack McCaw
Box 127
Artesia, N.M. 88210

John Lucas
4024 Hamilton
El Paso, Texas 79900

Yates Brothers
207 South Fourth
Artesia, N.M. 88210

Bonnie M. Morrison
P. O. Box 1858
Roswell, N.M. 88201

Lloyd & Julia K. Wright



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

ARTESIA, NEW MEXICO - 88210

PEYTON YATES.
PRESIDENT

S. P. YATES.
VICE PRESIDENT

B. W. HARPER.
SEC.-TREAS.

JACK W. MCCAUL.
ASST. SEC.-TREAS.

May 20, 1982

TO: WORKING INTEREST OWNERS

Re: Proposed South Loco Hills
(Grayburg) Unit

Ladies and Gentlemen:

Our letter of February 19, 1982 furnished copies of the engineering report and information copies of the unit and unit operating agreement drafts. Since that time we have received certain language changes required by the Minerals Management Service in Albuquerque by its preliminary approval letter.

Attached is one copy of the unit agreement and unit operating agreement which contain changes from the drafts submitted before. Please return ten executed copies of the signature pages to the agreement to this office within 30 days, if possible, or advise us of your decision not to commit.

Please contact this office if we can be of any help to expedite your decision on unit joinder.

Very truly yours,

Dave Boneau

D. F. Boneau
Engineering Manager

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT

ADDRESSEE LIST

✓
PAULINE HEWITT
Drawer Q
Hagerman, New Mexico 88232

DEPCO, INC.
1025 Petroleum Club Building
Denver, Colorado 80202

✓
GLADYS KELLY
504 W. Quay St.
Artesia, New Mexico 88210

✓
ANADARKO PRODUCTION COMPANY
P. O. Box 2497
Midland, Texas 79702

✓
SOUTHLAND ROYALTY COMPANY
1100 Wall Towers West
Midland, Texas 79701

HUSKY OIL COMPANY
600 South Cherry Street
Denver, Colorado 80222

✓
G. C. and C. A. DENTON
P. O. Box 1252
Artesia, New Mexico 88210

YATES DRILLING COMPANY
MARTIN YATES, III
FRANK YATES
207 South 4th Street
Artesia, New Mexico 88210

May 19, 1982

TO: Dave Boneau
FROM: Carl Traywick
SUBJECT: Denton Tract in Proposed South Loco Hills Unit

I talked to Gladys Kelley 746-2263 on the South Loco Hills today as you requested and advised her of the hearing on May 26. She requested that I call Al or Pauline Hewitt in Hagerman at 752-3598 to explain the unit and that she would do whatever the Hewitt's did as to execution of the unit.

I talked to Al Hewitt, Hagerman, 752-3598 at length about the unit and explained the dilution of his current income that would occur for the first 2 years and the later benefits to him from the waterflood after the initial expenses were amortized by unit production. They receive about \$1000/year and would hate to lose any of this income temporarily. He is undecided as to what his position would be and requested that I talk to Bob Boling. I advised Al of the hearing type and date.

I talked to Bob Boling--advised him of my above described calls and of the hearing date. He will give the situation some study, talk to the Hewitt's and probably to George Denton, and get back to you or me with an opinion as to the tentative commitment decision of the owners of the Denton tract.

May 20, 1982

Note on Denton Lease in Proposed South Loco Hills Unit

I asked Kathy Colbert to get names and addresses of the owners of overriding royalties on the Denton Massie Lease. She called the Denton Operations office in Artesia on February 3, 1982 and was told that the Operations Office did not have that type of records. On February 17 and 18, 1982, Kathy talked with Juanita Denton Branum who is the sister of George Denton and works as his office manager and bookkeeper. Juanita said her brother did not want to join the unit and Juanita did not want to give out information on the overriding royalties lest it commit the Dentons to the proposed unit. Juanita finally gave out the names of the overriding royalty owners. On February 23, 1982, Juanita called Kathy to say that the Hewitt's copy of the old and new Engineering reports had come to her. She gave Kathy a new address for Mr. Hewitt and said she would forward the reports to the Hewitts. Juanita asked why Yates kept sending them papers when the Dentons wanted nothing to do with the unit.

LAW OFFICES
LOSEE, CARSON & DICKERSON, P. A.
300 AMERICAN HOME BUILDING
P. O. DRAWER 239
ARTESIA, NEW MEXICO 88211-0239

AREA CODE 505
746-3508

A. J. LOSEE
JOEL M. CARSON
CHAD DICKERSON
DAVID R. VANDIVER

May 19, 1982

Mr. Joe D. Ramey, Director
Energy and Minerals Department
Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Case Nos. 7596 and 7597
5/26/82 Examiner Hearing

Dear Mr. Ramey:

Enclosed for filing in the above cases, please find Affidavits of Mailing reflecting the mailing of copies of the Applications and the docket to interested parties.

Thank you.

Sincerely yours,

LOSEE, CARSON & DICKERSON, P.A.

Chad Dickerson

CD:pvm
Enclosures

cc w/enclosures: Mr. Dave Boneau

BEFORE THE OIL CONSERVATION DIVISION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF :
YATES DRILLING COMPANY FOR THE COM- :
PULSORY UNIT OPERATION OF A POOL, : Case No. 7596
SOUTH LOCO HILLS (GRAYBURG) UNIT :
AREA, EDDY COUNTY, NEW MEXICO :
_____ :

AFFIDAVIT OF MAILING

STATE OF NEW MEXICO)
 : SS.
COUNTY OF EDDY)

The undersigned, being first duly sworn, upon oath, states that on the 19th day of May, 1982, the undersigned did mail in the United States Post Office at Artesia, New Mexico, true copies of the following instruments:

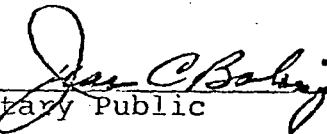
1. Application for the Compulsory Unit Operation of a Pool, South Loco Hills (Grayburg) Unit Area, Eddy County, New Mexico (without exhibits).
2. Docket reflecting hearing on such Applications at the Oil Conservation Division in Santa Fe, New Mexico, on the 26th day of May, 1982;

in securely sealed postage prepaid, certified mail, return receipt requested, envelopes addressed to the following named parties:

| <u>NAME</u> | <u>ADDRESS</u> |
|---------------------------|--|
| Denton Oil Company | P. O. Box 1252 Artesia, NM 88210 |
| Southland Royalty Company | 1100 Wall Towers West Midland, TX 79701 |
| Ms. Gladys Kelly | 504 West Quay Artesia, NM 88210 |
| Ms. Pauline F. Hewitt | P. O. Box Q Hagerman, NM 88232 |


Patti Menefee

SUBSCRIBED AND SWORN TO before me this 19th day of
May, 1982.



Notary Public

My commission expires:



6-22-85

BEFORE THE OIL CONSERVATION DIVISION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF :
YATES DRILLING COMPANY FOR AUTHORI- :
ZATION TO INJECT, SOUTH LOCO HILLS- : Case No. 7597
(GRAYBURG) UNIT AREA, EDDY COUNTY, :
NEW MEXICO :
:

AFFIDAVIT OF MAILING

STATE OF NEW MEXICO)
: ss.
COUNTY OF EDDY)

The undersigned, being first duly sworn, upon oath, states that on the 19th day of May, 1982, the undersigned did mail in the United States Post Office at Artesia, New Mexico, true copies of the following instruments:

1. Application for Authorization to Inject, South Loco Hills (Grayburg) Unit Area, Eddy County, New Mexico.
2. Docket reflecting hearing on such Applications at the Oil Conservation Division in Santa Fe, New Mexico, on the 26th day of May, 1982;

in securely sealed postage prepaid, certified mail, return receipt requested, envelopes addressed to the following named parties:

| <u>NAME</u> | <u>ADDRESS</u> |
|-----------------------------|--|
| Bureau of Land Management | P. O. Drawer 1397 Roswell, NM 88201 |
| DEPCO, Inc. | Suite 875, Plaza Empire Midland, TX 79701 |
| Denton Oil Company | P. O. Box 1252 Artesia, NM 88210 |
| Anadarko Production Company | P. O. Box 2497 Midland, TX 79702 |
| Mr. Ray Westall | P. O. Box 4 Loco Hills, NM 88255 |
| Hondo Oil & Gas Company | P. O. Box 1610 Midland, TX 79701 |
| Mr. John H. Trigg | P. O. Box 520 Roswell, NM 88201 |
| Mr. T. J. Sivley | P. O. Drawer GG Artesia, NM 88210 |

Husky Oil Company

600 South Cherry Street
Denver, CO 80222

Southland Royalty Company

1100 Wall Towers West
Midland, TX 79701

Mr. W. T. Wynn

P. O. Box 1075
Artesia, NM 88210

Mr. Harvey E. Yates

P. O. Box 1933
Roswell, NM 88201

Mr. Robert E. Boling

202 American Home Building
Artesia, NM 88210

Patti Menefee
Patti Menefee

SUBSCRIBED AND SWORN TO before me this 19th day of
May, 1982.

James C. Boling
Notary Public

My commission expires:

1-27-85

A. J. LOSEE
JOEL M. CARSON
CHAD DICKERSON
DAVID R. VANDIVER
ELIZABETH LOSEE

LAW OFFICES
LOSEE, CARSON & DICKERSON, P. A.
300 AMERICAN HOME BUILDING
P. O. DRAWER 239
ARTESIA, NEW MEXICO 88211-0239

AREA CODE 505
746-3508

May 18, 1982

Mr. Joe D. Ramey, Director
Oil Conservation Division
Energy and Minerals Department
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Yates Drilling Company
Case No. 7597
May 26, 1982 Examiner Hearing

C
O
P
Y
Dear Mr. Ramey:

Pursuant to Rule 701, enclosed for filing in the above case, please find two copies of Yates Drilling Company's Application for Authorization to Inject, South Loco Hills (Grayburg) Unit Area, Eddy County, New Mexico.

Thank you.

Sincerely yours,

LOSEE, CARSON & DICKERSON, P.A.



Chad Dickerson

CD:pvm
Enclosures

cc w/enclosure: New Mexico Oil Conservation Division
P. O. Drawer DD
Artesia, New Mexico 88210

cc: Mr. Dave Boneau



United States Department of the Interior

MINERALS MANAGEMENT SERVICE
South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125

APR 30 1982

Yates Drilling Company
Attention: David F. Boneau
207 South Fourth Street
Artesia, New Mexico 88210

Gentlemen:

Your application of February 19, 1982, filed with the Deputy Minerals Manager, Oil and Gas, Albuquerque, New Mexico, requests the designation of the South Loco Hills Grayburg unit area, embracing 1063.67 acres, more or less, Eddy County, New Mexico, as logically subject to operation under the unitization provisions of the Minerals Leasing Act as amended.

Pursuant to unit plan regulations 30 CFR 226, the land requested as outlined on your plat marked Exhibit "A", proposed South Loco Hills Grayburg Unit, Eddy County, New Mexico, is hereby designated as a logical unit area.

Your basis for allocation of unitized substances is acceptable and your proposed form of unit agreement is acceptable with the following modifications:

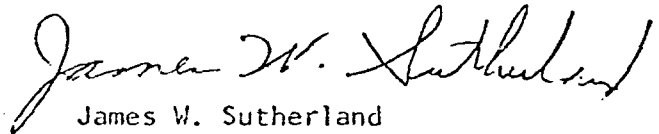
1. In section 2, change "Director of the United States Geological Survey" to "Director of the Minerals Management Service" and "Oil and Gas Supervisor of the United States Geological Survey" to "Deputy Minerals Manager, Oil and Gas". Also, change the word "Supervisor" to "Deputy" wherever it occurs in the agreement.
2. Production should be through 1980 as that is what the participation factor calculations are based on.
3. Insert the following sentence after the first sentence in section 8:
If a majority, but less than 75 percent of the working interests qualified to vote are owned by one party to this agreement, a concurring vote of one or more additional working interest owners shall be required to select a new operator.
4. In section 14, page 10, omit the last two sentences of the first paragraph and the last sentence of the second paragraph.
5. Omit section 36 entirely.

If conditions are such that further modification of said standard form is deemed necessary, three copies of the proposed modifications with appropriate justification must be submitted to this office through the Deputy Minerals Manager, Oil and Gas, for preliminary approval.

In the absence of any other type of land requiring special provisions or of any objections not now apparent, a duly executed agreement identical with said form, modified as outlined above, will be approved if submitted in approvable status within a reasonable period of time. However, notice is hereby given that the right is reserved to deny approval of any executed agreement submitted which, in our opinion, does not have the full commitment of sufficient lands to afford effective control of operations in the unit area.

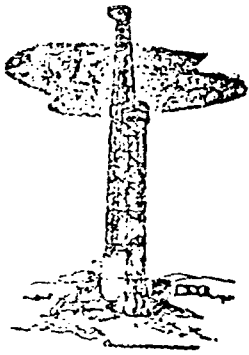
When the executed agreement is transmitted to the Deputy Minerals Manager, Albuquerque, New Mexico, for approval, include the latest status of all acreage. In preparation of Exhibits "A" and "B", follow closely the format of the sample exhibits attached to the standard form of unit agreement for unproved areas.

Sincerely yours,

A handwritten signature in cursive script, reading "James W. Sutherland".

James W. Sutherland
Minerals Manager
For the Director

Enclosure



YATES DRILLING COMPANY

YATES BUILDING -- 207 SOUTH 4TH ST. -- (505) 746-3558

ARTESIA, NEW MEXICO 88210

PEYTON YATES,

PRESIDENT

S. P. YATES,

VICE PRESIDENT

B. W. HARPER,

SEC. TREAS

JACK W. MCCAUL,

ASST. SEC. TREAS.

February 19, 1982

Mr. James W. Sutherland
Regional Manager
Minerals Management Service
P. O. Box 26124
Albuquerque, New Mexico 87125

Dear Mr. Sutherland:

Yates Drilling Company requests designation of the South Loco Hills (Grayburg) Unit area as logically subject to secondary recovery operations under the appropriate unit plan regulations of 30 CFR 226. The proposed unit area, comprising 1064.28 acres of Federal leases, is outlined on Exhibit A and described on an individual tract basis by Exhibit B of the unit agreement. Preliminary approval of the unit agreement form and participation formula is also requested.

Representatives of this office conferred with members of your staff on February 17, 1982, to discuss the engineering report and related information on the proposed waterflood project and unitization details. Two copies of the engineering report and one copy of the unit agreement form were submitted at such meeting and two additional copies of the unit agreement form are enclosed herewith.

Unitization will be limited by the terms of the unit agreement to the stratigraphic interval from the top of the Grayburg Formation to 30 feet below the base of the Loco Hills sandstone as shown by the type log in the engineering report. Participation will be based solely on cumulative production through 1980, since the primary recovery is virtually exhausted. The waterflood project is expected to result in the additional recovery of 609,000 barrels of oil.

Mr. James W. Sutherland
February 19, 1982

Please contact this office if any additional information is needed in connection with your consideration of this unit proposal.

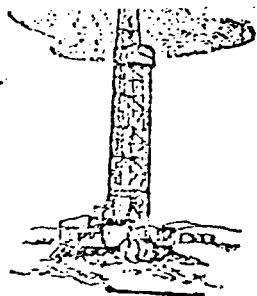
Sincerely,

Dave Boneau

D. F. BONEAU
Reservoir Engineering Supervisor

DFS:cvg

Encls.



ARTESIA, NEW MEXICO - 88210

DFB--24--19

February 19, 1982

Proposed South Loco Hills
(Grayburg) Unit, T18S R29E,
Eddy County, New Mexico

All Working Interest Owners

Ladies and Gentlemen:

This letter reports on the current status of the effort to form the subject Unit. A new engineering report has been prepared to update the original 1969 Engineering Committee Report. A copy of the new report is attached. In addition, the proposed Unit has been submitted to the Minerals Management Services (formerly the U.S.G.S.) for preliminary approval and the probable requirements for replugging certain wells in and around the proposed Unit have been discussed with the New Mexico Oil Conservation Division.

A conference was held with the Minerals Management Service in Albuquerque on February 17, 1982, to discuss the unit area, participation basis, and unitization procedures. The questions arising in the conference were all adequately answered by explanation of the data in the engineering report and the way was cleared to file the unit for formal designation and preliminary acceptance of the unit agreement form. Our letter with attachments to accomplish this action has been submitted to the Minerals Management Service.

A copy of the unit agreement and operating agreement is attached for information purposes only at this time. Please check the record title, working interest, and override ownership information shown on Exhibit B for your tracts and advise us if it is correct according to your records. We have been unable to obtain overriding royalty ownership information for tracts 6, 7, and 7b and we are requesting Anadarko Production Company to furnish us this ownership information as soon as convenient.

All Working Interest Owners

February 19, 1982

-2-

Upon receipt of the ownership verification and information needed to complete Exhibit B and after receiving formal designation of the unit and notification of any changes that the Minerals Management Service will require in the unit agreement form, we will send the unit agreement and operating agreement to all parties in interest for formal execution. We expect preliminary approval from the Minerals Management Service within about a month and we plan a hearing before the New Mexico Oil Conservation Division in mid April.

Please contact this office if any additional information is needed or we can be of any help.

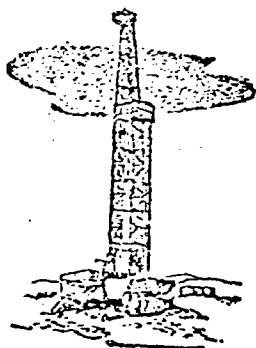
Sincerely,

Dave Boneau

D. F. BONEAU
Reservoir Engineering Supervisor

DFB:cvg

Encls.



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

ARTESIA, NEW MEXICO 88210

*complete
except for unit top agreement*
PEYTON YATES,
PRESIDENT

S. P. YATES,
VICE PRESIDENT

B. W. HARPER,
SEC. TREAS.

JACK W. MCCAUL,
ASST. SEC. TREAS.

September 17, 1980


WORKING INTEREST OWNERS
PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

Ladies & Gentlemen:

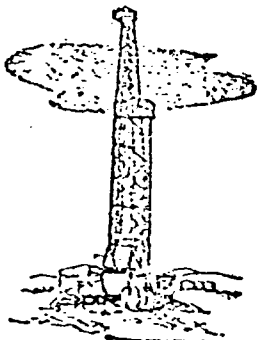
Map No. 1 attached to our letter of September 3, 1980, regarding the proposed South Loco Hills Unit Waterflood, incorrectly indicated that the Hondo Drilling Company No. 2 Wright Federal Com well in unit G of Section 29 would have to be replugged. The well that should have been identified by this notation is the Martin Yates No. 1 Wright well located 2310' FSL and 2310' FEL, Section 29-18S-29E. This well, which will probably have to be replugged before Phase I injection commences, is not covered by our maps 1 or 2 but is included as item No. 11 in the replugging cost estimate attached to our letter.

Please note the above correction for record purposes. Thank you.

Yours truly,


Peyton Yates

PY:lab



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

ARTESIA, NEW MEXICO 88210

September 3, 1980

PEYTON YATES.
PRESIDENT

S. P. YATES.
VICE PRESIDENT

B. W. HARPER.
SEC. TREAS.

JACK W. MCCAUL.
ASST. SEC. TREAS.

WORKING INTEREST OWNERS
PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

Ladies & Gentlemen:

Our letter of April 13, 1979, submitted the proposed flood pattern with collateral economics and recommended that participation be based solely on cumulative production as of 12-31-78 (which should now be up-dated to 12-31-79). Depco and Husky have accepted this participation basis. A copy of this letter with attachments is included for convenient reference purposes.

We had an information meeting with New Mexico Oil Conservation Division officials to discuss application of the injection rules that require all wells within 1/2 mile of a proposed injection well to be adequately cemented to prevent communication from the injection zone into other formations. This meeting verified the need to re-enter nine wells outside the unit area and one well inside the unit area for replugging purposes. Our letter of August 16, 1979, reported this development (we erroneously said seven wells rather than nine) and advised that we would submit recommendations concerning continuation of waterflood plans or an alternative proposal. Attached is a map (No. 1) that identifies by red circles the wells that would have to be replugged if the unit converted to injection the wells as per our previous letter. Also attached is a tabulation of the plugging report summary and estimated costs to replug these wells, if no unusual problems are encountered in the re-entry operations. As shown, the estimated cost to the unit would be approximately \$164,000. It may be appropriate to anticipate a significant contingency factor to cover problems that are likely to occur in replugging old wells. We would recommend a 50% contingency to cover the high risk of replugging, which would bring the estimated cost to \$246,000.

In view of the expense involved in initiating the full scale injection pattern with the plugging requirements involved and the need to evaluate the waterflood performance, we recommend that the proposed ultimate flood pattern be accomplished by two separate development programs. Phase I would defer the conversion of four injection wells and require the replugging of only four wells outside the unit area and one well inside the unit area. The attached map (No. 2) shows the Phase I pattern on a iso-cumulative base. The wells required to be replugged and the four injection wells to be deferred under Phase I are identified by red circles or triangles, respectively. Phase II would be the full pattern to be accomplished after waterflood potential can be evaluated by performance data. The replugging cost for Phase I, without contingency consideration, is \$45,435 (\$68,150 with contingency) compared to \$246,000 (with contingency) for the full scale project. In addition, the plugged and abandoned Anadarko Travis "B" No. 9 well in unit H,

August 13, 1980

Page Two -

WORKING INTEREST OWNERS

PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

Section 19-18S-29E, may have to be re-plugged (at a cost comparable to the other wells which require replugging) or completed as a producer in order to initiate the Phase I pattern.

Copies of the proposed unit agreement and unit operating agreement are attached. The agreement participation is based solely on cumulative production which has been up-dated to 12-31-79, to achieve a more contemporary basis than previously proposed. Attached is a tabulation of cumulative production by leases through years 1978 and 1979 for comparative purposes. This tabulation was compiled from the New Mexico Oil and Gas Engineering Committee 1979 Annual Report and includes certain cumulative production corrections through 1978 for the Anadarko Travis "B" lease which were incorrectly reported in the tabulation attached to our letter of April 13, 1979. Please note that the unit operating agreement has been conditioned to define the expenses incurred in required replugging operations outside and inside the unit area as unit expense items. We request that you check the cumulative production figures and lease ownership from your records and advise us of any discrepancies.


We need your recommendation or concurrence as to:

1. Phase I and II injection patterns and the participation formula (first priority). A ballot is attached for your convenient response.
2. Unit and unit operating agreement (second priority).

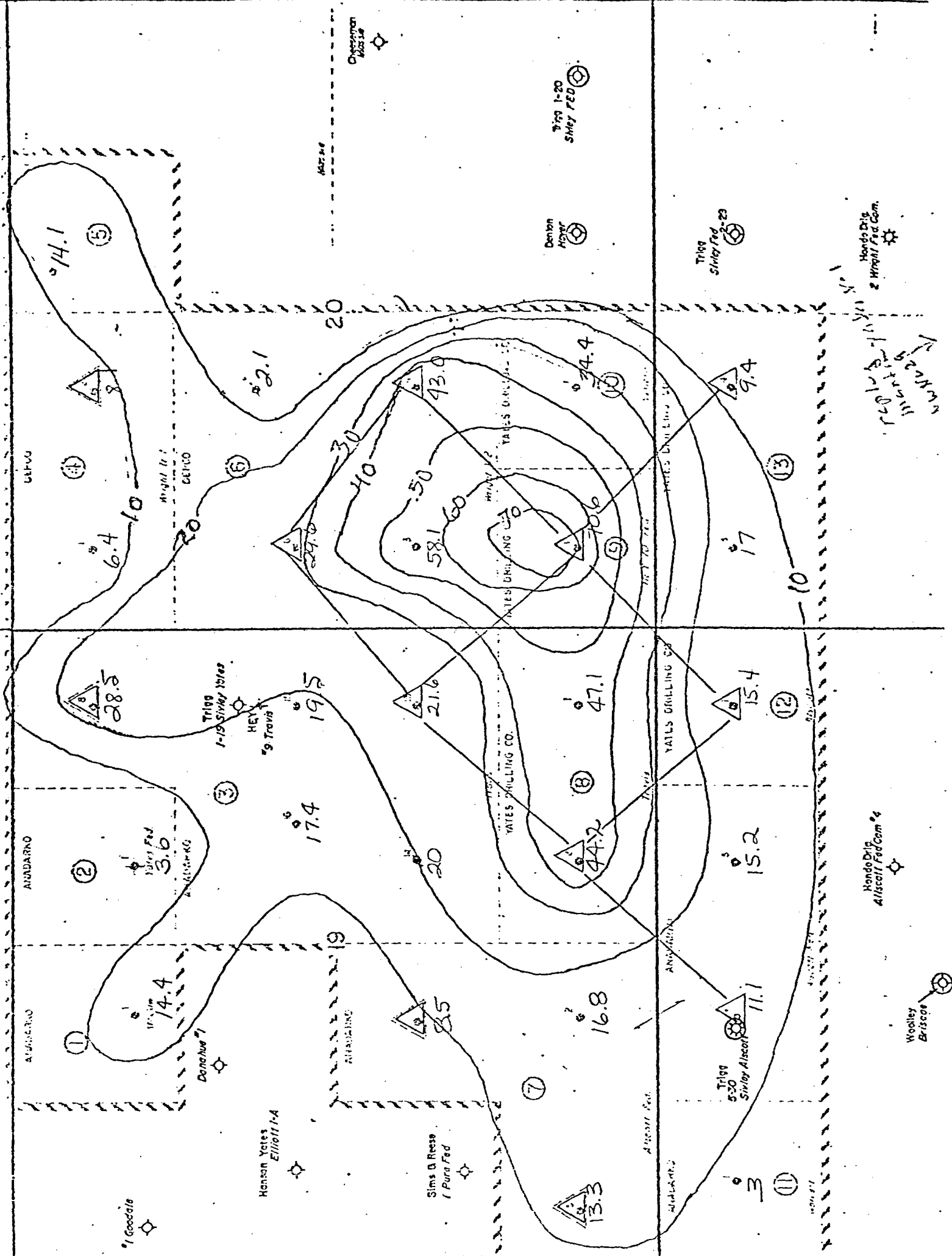
Upon receipt of your recommendations or concurrence, we will be in position to arrange a conference with the U.S.G.S. and a hearing before the New Mexico Oil Conservation Division. One of the questions that will come up at the hearing will be the injection pressure limitation that should be established by the New Mexico Oil Conservation Division order. Please furnish us any treating pressure records on your wells that show the hydraulic fracturing or breakdown pressures that could be introduced as evidence.

Yours truly,

YATES DRILLING COMPANY


Peyton Yates
President




PY:lab
Encls.



ISO. CUMULATIVE MAP
CONTROL FIGURES
THOUSANDS OF BARRELS
Map No. 2

PROPOSED SOUTH LOCO HILLS GRAYBURG UNIT
Eddy County, New Mexico

Proposed Phase I Injection Pattern

-  phase I injection wells
-  phase II injection wells
-  anticipated wells that will require replugging before phase I injection begins

| LEASE | OPERATOR | WELL | CUMULATIVE PROD. | | CUMULATIVE PERCENTAGE | |
|--|----------------|------|------------------|-----------------|-----------------------|-----------|
| | | | through 1978 | through 1979 | 1978 | 1979 |
| Alscott | Anadarko | 1 | 8540 | 8540 | | |
| | | 2 | 16841 | 17204 | | |
| | | 3 | 15155 | 15357 | | |
| | | 4 | 11106 | 11106 | | |
| | | 5 | 13271 | 13271 | | |
| | Lease Total | | 64913 | 65478 | .1089975 | .108776 |
| McCaw | Anadarko | 1 | 14422 | 14649 | .0242163 | .024336 |
| Garrett | Anadarko | 1 | 3055 | 3087 | .0051302 | .005128 |
| Pravis B | Anadarko | 8 | 28843* | 28843 | | |
| | | 9 | 2468* | 2468 | | |
| | | 13 | 21617* | 21617 | | |
| | | 14 | 19885* | 19885 | | |
| | | 15 | 19464* | 19464 | | |
| | Lease Total | 16 | 17373* | 17416 | | |
| | | | 109650 | 109693 | .1841170 | .182229 |
| * Corrected from figures shown in tabulation accompanying our letter of 4-13-79. | | | | | | |
| Yates B | Anadarko | 1 | 3617 | 3617 | .0060730 | .006009 |
| | COMPANY TOTAL | | | | .3285340 | .326480 |
| Lassie | Denton | 1 | 14132 | 14533 | .0237290 | .024143 |
| Bright r. 1 | Depco | 1 | 6428 | 6562 | | |
| | | 2 | 8096 | 8243 | | |
| | Lease Total | | 14524 | 14805 | .0243880 | .024595 |
| Bright r. 2 | Depco | 3 | 58140 | 59118 | | |
| | | 4 | 42949 | 43259 | | |
| | | 5 | 2141 | 2141 | | |
| | | 6 | 29632 | 29958 | | |
| | Lease Total | | 132862 | 134476 | .2230920 | .223401 |
| | COMPANY TOTAL | | | | .2474810 | .247996 |
| Livley | Yates Drilling | 3 | 17043 | 17210 | | |
| | | 4 | 9353 | 9647 | | |
| | Lease Total | | 26396 | 26857 | .0443220 | .044616 |
| Alscott | Yates Drilling | 1 | 15488 | 15691 | .0260060 | .026066 |
| BY 70 | Yates Drilling | 1 | 70632 | 71469 | .1186004 | .1187291 |
| Pravis | Yates Drilling | 1 | 47069 | 47825 | | |
| | | 2 | 44389 | 44979 | | |
| | Lease Total | | 91458 | 92804 | .1535700 | .1541723 |
| Western | Yates Drilling | | 34397 | 34791 | .0577571 | .0577972 |
| | COMPANY TOTAL | | | | .4002560 | .401383 |
| | GRAND TOTAL | | 595546 | 601950 | 1.0000000 | 1.0000000 |

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attention: Mr. Peyton Yates

Re: Proposed South Loco Hills
(Grayburg) Unit
Eddy County, New Mexico

Gentlemen:

In response to your letter of September 3, 1980, we wish to cast the following vote on your proposals for the above referenced unit.

| | <u>YES</u> | <u>NO</u> |
|-----------------------------|------------|---------------|
| Two Phase Injection Pattern | <u>✓</u> | <u> </u> |
| Participation formula | <u>✓</u> | <u> </u> |

Comments, if appropriate:

Very truly yours,

DEPCO Inc.
Company

ck CD Crump
By

June 4, 1981
Date

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attention: Mr. Peyton Yates

SEP 26 1980

Re: Proposed South Loco Hills
(Grayburg) Unit
Eddy County, New Mexico

Gentlemen:

In response to your letter of September 3, 1980, we wish to cast the following vote on your proposals for the above referenced unit.

| | <u>YES</u> | <u>NO</u> |
|-----------------------------|------------|-----------|
| Two Phase Injection Pattern | _____ | _____X |
| Participation formula | _____ | _____X |

Comments, if appropriate:

Very truly yours,

Denton oil Co.
Company

G.C. Denton
By

Sept 24, 1980
Date

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attention: Mr. Peyton Yates

Re: Proposed South Loco Hills
(Grayburg) Unit
Eddy County, New Mexico

Gentlemen:

In response to your letter of September 3, 1980, we wish to cast the following vote on your proposals for the above referenced unit.

| | <u>YES</u> | <u>NO</u> |
|-----------------------------|------------|-----------|
| Two Phase Injection Pattern | <u>X</u> | |
| Participation formula | <u>X</u> | |

Comments, if appropriate:

Comments re UNIT Agreement & Unit
Operating agreement should be
submitted in the near future.
JLS

Very truly yours,

Hess Oil Co.
Company

J. C. Currell
By

Oct 23, 1980
Date

Yates Petroleum Corporation
207 South Fourth Street
Artesia, New Mexico 88210

Attention: Mr. Peyton Yates

Re: Proposed South Loco Hills
(Grayburg) Unit
Eddy County, New Mexico

Gentlemen:

In response to your letter of September 3, 1980, we wish to cast the following vote on your proposals for the above referenced unit.

| | <u>YES</u> | <u>NO</u> |
|-----------------------------|------------|-----------|
| Two Phase Injection Pattern | _____ | <u>X</u> |
| Participation formula | _____ | <u>X</u> |

Comments, if appropriate:

We are not interested in participating in a unit in
any way due to our age.

Very truly yours,

Denton No. 1 Massey
Company

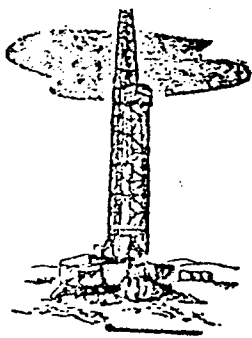
Pauline F. Archer Hewitt

By Pauline F. Archer Hewitt

Gladys Kelly
Gladys Kelly

Date

P.O. Drawer Q
Hagerman, New Mexico 88232



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3358

ARTESIA, NEW MEXICO - 88210

April 13, 1979

PEYTON YATES
PRESIDENT
S. P. YATES.
VICE PRESIDENT
B. W. HARPER.
SEC.-TREAS.
JACK W. MCCAIV
ASST. SEC.-TREAS

WORKING INTEREST OWNERS
PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

Re: Proposed Participation Formula
Economics, Flood Pattern

Ladies & Gentlemen:

Yates Drilling Company has prepared the attached data on the proposed South Loco Hills Unit Waterflood for your consideration. As shown on the attached map, the unit would consist of approximately 1080 acres, with 28 wells, two of which are plugged and abandoned. Present production from the unit area runs around 19 BOPD. Production is from the Loco Hills Sand and Grayburg oolitic dolomite zones immediately above the Loco Hills; cumulative production as of 12-31-78 was 613,021 barrels of oil.

Flood Reservoirs & Patterns

The original 1969 Engineering Report and Economic Evaluation prepared by an Engineering Committee recommended that injection be limited to the Loco Hills Sand and that the Grayburg dolomite zone above the Loco Hills be squeezed off prior to injection. However, based on our recent discussions with Anadarko personnel and the results of their flooding in the nearby Ballard Grayburg SA Unit and the Far West Loco Hills Unit, we are recommending that we proceed with the intent to initiate water injection into both the Grayburg dolomite and Loco Hills reservoirs. There are eight wells (four injectors) which will require perforating the Grayburg; similarly, there are eight injection wells which would require a cement squeeze of the Grayburg dolomite - if that zone were to be excluded from injection. Anadarko reports very limited success with attempts to squeeze off the dolomite, and, also, test results indicate a considerable portion of their production is being contributed by the dolomite.

We have indicated on the attached map our recommended injection pattern. The pattern results in three complete five-spot patterns in the areas of maximum primary recovery, and an inverted nine-spot throughout the remainder of the flood, with the exception of the irregular sand deposition area to the northwest. Re-entry of the P&A well in NW NE/4 of Section 19, or expansion of injection to the Northwest would not be considered until nearby injectivity and flood response could be evaluated. The economics discussed below do not include re-entry of the P&A well in the NE/4 of Section 19.

April 13, 1979
Page Two -
WORKING INTEREST OWNERS
PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

Economics

We enclose revised economic figures for the proposed flood which utilize the predicted production response of the original 1969 Engineering Report and Economic Evaluation. That report estimated secondary reserves to be approximately 530,000 stock tank barrels. We have estimated waterflood response to be two years from date of unitization; and have changed the first two years of estimated production to reflect the present yearly decline rate of 10% and the conversion of 12 wells to water injection.

The cost of waterflood installation and well conversion is shown on the attached Estimated Investment Requirement worksheet. It is estimated that approximately \$500,000 will be required to fully implement the waterflood.

As shown on economic flow sheet, it is anticipated that undiscounted before tax cumulative net earnings will total \$4,727,000 and, if discounted at 10%, will total \$2,964,000.

Proposed Formula

We are proposing herein that the unit be unitized on a basis of 100% cumulative production as of 12-31-78. Attached are three tables showing:

- I. Cumulative Production by Operator/Well/Lease
- II. Working Interest Ownership and Percent of Cumulative
- III. Summary Proposed Participation Factor by Working Interest Owners

We request that you check the cumulative production figures and lease ownership according to your records. If there are discrepancies, please let us know.

Miscellaneous

We have had preliminary meetings with the USGS office in Roswell. Once we have reached agreement among the working interest owners, we will schedule another meeting with the USGS prior to formal submittal of the proposed unit. It appears at this time that we will be able to establish sufficient data to justify reasonable injection pressure limitations just below the fracture pressure gradient.

We will submit a proposed unit agreement and operating agreement soon. We have in stock both the electric motor and triplex pumps for the injection plant.

April 13, 1979

Page Three -

WORKING INTEREST OWNERS

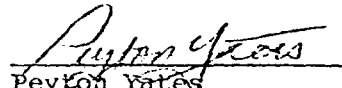
PROPOSED SOUTH LOCO HILLS UNIT WATERFLOOD

It is our understanding that some of the leases operated by Anadarko are K.G.S. type leases, with sliding scale royalties. However, it appears that these type leases are allowed to revert to a basic 1/8 royalty for secondary purposes. We will check into the matter further and let you know the results.

In addition, it is extremely important that all leases be clearly certified as "stripper", leases under present regulations, so that the pricing will be uniform throughout the unit. We would recommend that the unit owners establish a method of confirming the stripper certification. Let us know your thoughts.

Yours truly,

YATES DRILLING COMPANY


Peyton Yates
President

PY:jg
Encls.

ADDRESSEE LIST - PROPOSED SOUTH LOCO HILLS UNIT, EDDY COUNTY, N.M.

Anadarko Production Company
Two Fifteen West Wall
P. O. Box 2497
Midland, Texas 79702
ATTN: Mr. J. D. Christner

Husky Oil Company
600 South Cherry Street
Denver, Colorado 80222
ATTN: Mr. J. L. Corkill

Southland Royalty Company
1100 Wall Towers West
Midland, Texas 79701
ATTN: Mr. Richard W. Petrie

Mr. George Denton
P. O. Box 1252
Artesia, New Mexico 88210

✓ John H. Trigg Company
P. O. Box 520
Roswell, New Mexico 88201

✓ Mr. T. J. Sivley
P. O. Drawer GG
Artesia, New Mexico 88210

Depco, Inc.
1025 Petroleum Club Building
Denver, Colorado 80202
ATTN: Mr. Charlie Crump

PROPOSED SOUTH LOCO HILLS GRAYBURG UNIT
 Eddy County, New Mexico
 Yates Drilling Company

| OPERATOR/LEASE | TR. # | WELL # | CUM. PROD. 12/31/77 | 1-78 | 2-78 | 3-78 | 4-78 | 5-78 | 6-78 | 7-78 | 8-78 | 9-78 | 10-78 | 11-78 | 12-78 | CUM. PROD. 12-31-78 | CUM. % |
|-----------------------|-------|--------|------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------------------------|--------|
| Anadarko/Alscott #1 | 7 | 12 | 8522 | 16 | 2 | - | - | - | - | - | - | - | - | - | - | 8540 | |
| #2 | 7 | 18 | 16541 | 17 | 7 | 57 | 21 | 9 | 10 | 31 | 30 | 39 | 37 | 23 | 19 | 16841 | |
| #3 | 7 | 26 | 14882 | 17 | 8 | 54 | 20 | 9 | 9 | 25 | 26 | 34 | 33 | 21 | 17 | 15155 | |
| #4 | 7 | 24 | 11106 | - | - | - | - | - | - | - | - | - | - | - | - | 11106 | |
| #5 | 7 | 17 | 13253 | 16 | 2 | - | - | - | - | - | - | - | - | - | - | 13271 | |
| LEASE TOTAL | | | 64304 | 66 | 19 | 111 | 41 | 18 | 19 | 56 | 56 | 73 | 70 | 44 | 36 | 64913 | .1059 |
| Anadarko/McCaw #1 | 1 | 1 | 14136 | 31 | 28 | 31 | 34 | 31 | 34 | 27 | 27 | 28 | 15 | - | - | 14422 | .0235 |
| Anadarko/Garrett #1 | 11 | 23 | 3007 | 9 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 3055 | .0050 |
| Anadarko/Travis B #8 | 3 | 3 | 28839 | 4 | 28 | - | - | - | - | - | - | - | - | - | - | 28871 | |
| #9 | 3 | 8 | 19809 | - | - | - | - | - | - | - | - | - | - | - | - | 19809 | |
| #13 | 3 | 14 | 21613 | 4 | 28 | - | - | - | - | - | - | - | - | - | - | 21645 | |
| #14 | 3 | 13 | 19881 | 4 | 28 | - | - | - | - | - | - | - | - | - | - | 19913 | |
| #15 | 3 | 9 | 19460 | 4 | 28 | - | - | - | - | - | - | - | - | - | - | 19492 | |
| #16 | 3 | 7 | 17287 | 20 | 28 | 3 | 6 | 6 | 9 | 6 | 6 | 7 | 6 | 5 | 6 | 17395 | |
| LEASE TOTAL | | | 126889 | 36 | 140 | 3 | 6 | 6 | 9 | 6 | 6 | 7 | 6 | 5 | 6 | 127125 | .2074 |
| Anadarko/Yates B #1 | 2 | 2 | 3617 | - | - | - | - | - | - | - | - | - | - | - | - | 3617 | .0059 |
| COMPANY TOTAL | | | 211953 | 142 | 193 | 148 | 84 | 58 | 65 | 92 | 92 | 111 | 94 | 55 | 45 | 213132 | .3477 |
| Anton/Massie #1 | 5 | 6 | 13734 | 52 | 16 | 33 | 33 | 31 | 30 | 31 | 33 | 36 | 34 | 33 | 36 | 14132 | .0231 |
| Depco/Wright Tr. 1 #1 | 4 | 4 | 6311 | 10 | 8 | 4 | 5 | 4 | 6 | 10 | 16 | 14 | 14 | 10 | 16 | 6428 | |
| #2 | 4 | 5 | 7911 | 26 | 22 | 15 | 14 | 14 | 23 | 16 | 9 | 8 | 14 | 14 | 10 | 8096 | |
| LEASE TOTAL | | | 14222 | 36 | 30 | 19 | 19 | 18 | 29 | 26 | 25 | 22 | 28 | 24 | 26 | 14524 | .0237 |
| Depco/Wright Tr. 2 #3 | 6 | 15 | 57103 | 77 | 74 | 90 | 88 | 88 | 78 | 85 | 85 | 86 | 83 | 94 | 109 | 58140 | |
| #4 | 6 | 16 | 42590 | 25 | 25 | 30 | 29 | 29 | 13 | 28 | 28 | 29 | 54 | 32 | 37 | 42949 | |
| #5 | 6 | 11 | 2141 | - | - | - | - | - | - | - | - | - | - | - | - | 2141 | |
| #6 | 6 | 10 | 29289 | 25 | 24 | 30 | 29 | 29 | 26 | 28 | 28 | 29 | 28 | 31 | 36 | 29632 | |
| LEASE TOTAL | | | 131123 | 127 | 123 | 150 | 146 | 146 | 117 | 141 | 141 | 144 | 165 | 157 | 182 | 132862 | .2167 |
| COMPANY TOTAL | | | 145345 | 163 | 153 | 169 | 165 | 164 | 146 | 167 | 166 | 166 | 193 | 181 | 208 | 147386 | .2404 |

TABLE 1 (Cont'd)

CUMULATIVE PRODUCTION BY OPERATOR/WELL/LEASE
PROPOSED SOUTH LOCO HILLS GRAYBURG UNIT
Eddy County, New Mexico
Yates Drilling Company

| OPERATOR/LEASE | TR. # | WELL # | CUM. PROD. 12-31-77 | 1-78 | 2-78 | 3-78 | 4-78 | 5-78 | 6-78 | 7-78 | 8-78 | 9-78 | 10-78 | 11-78 | 12-78 | CUM. PROD. 12-31-78 | CUM. % |
|---------------------------|-------|--------|------------------------|------|------|------|------|------|------|------|------|------|-------|-------|-------|------------------------|--------|
| Yates Drilg./Sivley #3 #4 | 13 | 28 | 16914 | 10 | 7 | 11 | 10 | 24 | 11 | 8 | 9 | 9 | 10 | 8 | 12 | 17043 | |
| | 13 | 29 | 8909 | 37 | 26 | 41 | 35 | 84 | 39 | 28 | 33 | 32 | 35 | 22 | 32 | 9353 | |
| LEASE TOTAL | | | 25823 | 47 | 33 | 52 | 45 | 108 | 50 | 36 | 42 | 41 | 45 | 30 | 44 | 26396 | .0431 |
| Yates Drilg./Alscott #1 | 12 | 27 | 15203 | 32 | 19 | 25 | 28 | 22 | 25 | 22 | 19 | 18 | 44 | 6 | 25 | 15488 | .0253 |
| Yates Drilg./HEY 70 #1 | 9 | 21 | 69847 | 82 | 62 | 79 | 70 | 54 | 14 | 72 | 50 | 37 | 115 | 81 | 69 | 70632 | .1152 |
| Yates Drilg./Travis #1 #2 | 8 | 20 | 46507 | 38 | 57 | 56 | 43 | 43 | 49 | 35 | 50 | 7 | 54 | 64 | 66 | 47069 | |
| | 8 | 19 | 43859 | 38 | 57 | 55 | 43 | 43 | 49 | 35 | 50 | 6 | 46 | 55 | 53 | 44389 | |
| LEASE TOTAL | | | 90366 | 76 | 114 | 111 | 86 | 86 | 98 | 70 | 100 | 13 | 100 | 119 | 119 | 91458 | .1492 |
| Yates Drilg./Western #1 | 10 | 22 | 33952 | 47 | 39 | 41 | 24 | 39 | 28 | 33 | 38 | 44 | 37 | 36 | 39 | 34397 | .0560 |
| COMPANY TOTAL | | | 235191 | 284 | 267 | 308 | 253 | 309 | 215 | 233 | 249 | 153 | 341 | 272 | 296 | 238371 | .3888 |
| GRAND TOTAL | | | 606223 | 641 | 629 | 658 | 535 | 562 | 456 | 523 | 540 | 466 | 662 | 541 | 585 | 613021 | 1.0000 |

TABLE 2

HOUSING INTEREST OWNERSHIP & % OF CUMULATIVE

PROPOSED SOUTH LOCO HILLS GRAYBURG UNIT

Eddy County, New Mexico
Yates Drilling Company

| <u>TRACT NAME</u> | <u>OPERATOR</u> | <u>TRACT NO.</u> | <u>TRACT & CUM.</u> | <u>WORKING INTEREST OWNERS</u> | <u>% OF OWNERSHIP</u> | <u>% OF PARTICIPATION & CUMULATIVE</u> |
|-------------------|-----------------|------------------|-------------------------|--|-----------------------|--|
| McCaw Fed. | Anadarko | 1 | 2.35 | Anadarko Southland Royalty | 50 50 | 1.175 1.175 |
| Yates Fed. B | Anadarko | 2 | .59 | Anadarko Southland Royalty | 50 50 | .295 .295 |
| Travis B Fed. | Anadarko | 3 | 20.74 | Anadarko Southland Royalty | 50 50 | 10.370 10.370 |
| Wright Fed. Tr. 1 | Depco | 4 | 2.37 | Depco Husky Oil | 50 50 | 1.185 1.185 |
| Nassie | Denton | 5 | 2.31 | Denton | 100 | 2.310 |
| Wright Fed. Tr. 2 | Depco | 6 | 21.67 | Depco Husky Oil | 50 50 | 10.835 10.835 |
| Alscott Fed. | Anadarko | 7 | 10.59 | Anadarko Southland Royalty | 50 50 | 5.295 5.295 |
| Travis Fed. | Yates Drlg. Co. | 8 | 14.92 | Yates Drlg. Co. Martin Yates III Frank Yates | 50 33.33 16.67 | 7.4600 4.9728 2.4872 |
| HEY 70 Fed. | Yates Drlg. Co. | 9 | 11.52 | Yates Drlg. Co. Martin Yates III Frank Yates | 50 33.33 16.67 | 5.7600 3.8396 1.9204 |
| Western Fed. | Yates Drlg. Co. | 10 | 5.60 | Yates Drlg. Co. Martin Yates III Frank Yates | 50 33.33 16.67 | 2.8000 1.8665 .9335 |
| Garrett | Anadarko | 11 | .50 | Anadarko Southland Royalty | 50 50 | .25 .25 |
| Alscott Fed. | Yates Drlg. Co. | 12 | 2.53 | Yates Drlg. Co. Martin Yates III Frank Yates | 50 33.33 16.67 | 1.2650 .8432 .4218 |
| Wiley Alscott | Yates Drlg. Co. | 13 | 4.31 | Yates Drlg. Co. | 100 | 4.3100 100.0000 |

PROPOSED PARTICIPATION FACTOR BY WORKING INTEREST OWNERS

| <u>WORKING INTEREST OWNERS</u> | <u>TRACT NO.</u> | <u>% OF PARTICIPATION</u> |
|--------------------------------|------------------|---------------------------|
| Anadarko | 1 | 1.1750 |
| | 2 | .2950 |
| | 3 | 10.3700 |
| | 7 | 5.2950 |
| | 11 | .2500 |
| | | <u>17.3850</u> |
| Southland Royalty | 1 | 1.1750 |
| | 2 | .2950 |
| | 3 | 10.3700 |
| | 7 | 5.2950 |
| | 11 | .2500 |
| | | <u>17.3850</u> |
| Depco | 4 | 1.1850 |
| | 6 | <u>10.8350</u> |
| | | 12.020 |
| Husky Oil | 4 | 1.1850 |
| | 6 | <u>10.8350</u> |
| | | 12.020 |
| Denton | 5 | 2.3100 |
| Yates Drilling Company | 8 | 7.4600 |
| | 9 | 5.7600 |
| | 10 | 2.8000 |
| | 12 | 1.2650 |
| | 13 | <u>4.3100</u> |
| | | 21.5950 |
| Martin Yates III | 8 | 4.9728 |
| | 9 | 3.8396 |
| | 10 | 1.8665 |
| | 12 | <u>.8432</u> |
| | | 11.5221 |
| Frank Yates | 8 | 2.4872 |
| | 9 | 1.9204 |
| | 10 | .9335 |
| | 12 | <u>.4218</u> |
| | | 5.7629 |
| | TOTAL | 100.0000 |

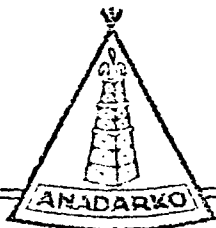
ESTIMATED ECONOMIC FLOW SHEET
 PROPOSED SOUTH LOCO HILLS UNIT
 EDDY COUNTY, NEW MEXICO
 YATES DRILLING COMPANY

| GROSS PROD. YEAR | NET REV. \$11.96/b1 BO | # PROD. WELLS | OPRTG. COSTS \$850/well/mo. | INTANGIBLE EXPEN. | CAPITAL EXPEN. | TOTAL EXPEN. | CUM. EXPEN. | NET * EARNINGS | CUM. NET EARNINGS | DISCOUNTED NET EARNINGS (10% mid-year) | CUM. DISC. NET EARNINGS (10%) |
|------------------------|------------------------------|------------------|--------------------------------|----------------------|-------------------|-----------------|----------------|-------------------|----------------------|--|-------------------------------------|
| 1 | 5400 | 15 | 153000 | 66800 | 429150 | 648950 | 648950 | (584366) | (584366) | (557170) | (557170) |
| 2 | 5400 | 15 | 153000 | | | 153000 | 801950 | (88416) | (76640) | (76640) | (633810) |
| 3 | 82500 | 15 | 153000 | 50000 | 25000 | 228000 | 1029950 | 758700 | 85918 | 597850 | (35960) |
| 4 | 220000 | 15 | 153000 | 50000 | 50000 | 253000 | 1282950 | 2378200 | 2464118 | 1703620 | 1667660 |
| 5 | 102000 | 15 | 153000 | 25000 | 25000 | 203000 | 1485950 | 1016920 | 3481038 | 662250 | 2329910 |
| | 51000 | 15 | 153000 | | | 153000 | 1638950 | 456960 | 3937998 | 270534 | 2600444 |
| | 33600 | 10 | 102000 | | | 102000 | 1740950 | 299856 | 4237854 | 161387 | 2761831 |
| | 24600 | 8 | 81600 | | | 81600 | 1822550 | 212616 | 4450470 | 94570 | 2856401 |
| | 18600 | 6 | 61200 | | | 61200 | 1883750 | 161256 | 4611726 | 65200 | 2901601 |
| 0 | 13980 | 5 | 51000 | | | 51000 | 1934750 | 116200 | 4727926 | 42710 | 2964311 |
| TOTALS 557080 | \$6662676 | | \$1213800 | \$191800 | \$529150 | \$1934750 | \$1934750 | \$4727926 | \$4727926 | \$2964311 | \$2964311 |
| SALVAGE AFTER P&A | | | | | | | | \$100000 | \$100000 | \$33418 | \$33418 |
| TOTAL AFTER SALVAGE | | | | | | | | \$4827926 | \$4827926 | \$2997729 | \$2997729 |

Years from date of unitization
 Unit oil price - \$14.70/BO (Stripper) x .875 (RI) x (1 - .07 Prod. tax) = \$11.96/BO
 Operating costs include estimated makeup water purchase costs which will be offset in later years by lifting costs for produced water
 Unit earning prior to Income Tax
 Tangible expenses are those for major well workovers
 Capital expenses in years 3, 4, 5 are for larger pump jacks

PROPOSED SOUTH LOCO HILLS UNIT
YATES DRILLING COMPANY
Estimated Investment Requirements
3/15/79

| <u>ITEM</u> | <u>DESCRIPTION</u> | | |
|-------------|--|---------------|-----------------|
| 1. | <u>Water Plant & Storage</u> | | |
| | a. 24'x32'x10' Metal Bldg. Cond B | | |
| | Move bldg; erect windows | \$ 2000 | |
| | b. Foundation, Incl Labor | 14340 | |
| | c. 2-Gardner-Denver Model TA-4 Triplex | | |
| | 85 hp Pumps w/suction stabilizers w/2 | | |
| | 100 hp Marathon elec motors, skid mounted.. | 32000 | |
| | d. Miscellaneous electric & pipe connection .. | 6500 | |
| | e. Miscellaneous labor | 2500 | |
| | f. 2-210 bbl welded tanks, plastic coated | 12000 | |
| | g. Dirt work | 5160 | |
| | | | <u>\$ 74500</u> |
| 2. | <u>Injection System:</u> | | |
| | a. 3,600' 2-7/8" plastic lined new tubing ... | \$13800 | |
| | b. 17,400' 2-3/8" new plastic lined tbg | 57110 | |
| | c. Miscellaneous connections, piping | 2500 | |
| | d. Ditching 21,000' injection line | 18000 | |
| | e. Coating, lay, connection | 10000 | |
| | | | <u>\$101410</u> |
| 3. | <u>Injection Well Conversions:</u> | | |
| | a. 12-Chas Wheatley Inj HD & Master Valve, | | |
| | Rockwell Meter, Cemco Choke | \$14400 | |
| | b. 28,900' 2-3/8" plastic lined new tbg | 87580 | |
| | c. 12-Baker Model AD-1 Tension Packers | 6270 | |
| | d. WI wells - perf, frac Grayburg | | |
| | w/contingency; run inj tbg, tie-in well... | 66800 | |
| | e. 8-Run Injection tbg, tie in wells to | | |
| | Injection System (\$12850) w/1 cmt squeeze | | |
| | contingency | 50690 | |
| | | | <u>\$225740</u> |
| 4. | <u>Gathering System & Tank Battery:</u> | | |
| | a. 5-250 bbl bolted steel tanks, plastic | | |
| | coated | \$ 5000 | |
| | b. 1-welded 14x28 used Heater Treater | | |
| | plastic coated | 5000 | |
| | c. Flow line replenishment | 7500 | |
| | d. Miscellaneous Roustabout work | 5000 | |
| | e. Well testing system | 5000 | |
| | | | <u>\$ 27500</u> |
| 5. | <u>Producing Well Preparation</u> | | |
| | Perf & frac Grayburg zone - 4 wells | \$66800 | |
| | | | <u>\$ 66800</u> |
| | | INTANGIBLE | \$ 66800 |
| | | CAPITAL COSTS | \$429150 |
| | | TOTAL | <u>\$495950</u> |



ANADARKO PRODUCTION COMPANY

3109 WINTHROP AVENUE P. O. BOX 9317 FORT WORTH, TEXAS 76107

CABLE ADDRESS: ANADARK

September 15, 1969

Working Interest Owners
Proposed South Loco Hills (Grayburg) Unit,
Loco Hills Field,
Eddy County, New Mexico

RE: Engineering Report and Economic
Evaluation
Proposed South Loco Hills (Grayburg)
Unit, Loco Hills Field, Eddy County,
New Mexico

Gentlemen:

Enclosed for your consideration is the Engineering Report and Economic Evaluation for the Proposed South Loco Hills (Grayburg) Unit, Loco Hills Field, Eddy County, New Mexico as submitted by the Engineering Committee in accordance to the charges made by the Operator's Committee January 16, 1969.

Very truly yours,

ANADARKO PRODUCTION COMPANY

W.C. Young
Chairman, Engineering Committee
Proposed South Loco Hills (Grayburg) Unit
Eddy County, New Mexico

WCY/nl

Encl:

DEC 09 1977



Southland Royalty Company

December 6, 1977

Anadarko Production Co.
Box 9317
Fort Worth, Texas 76107
Attn: Mr. W.C. Young

Yates Drilling Co.
207 South 4th Street
Artesia, New Mexico 88210

Attn: Mr. Peyton Yates

re: Proposed South Loco Hills
Waterflood Unit
Eddy County, New Mexico

Gentlemen:

For several years Southland has encouraged unitizing and waterflooding leases in Secs. 19, 20, 29 and 30, T18S, R29E, Eddy County. Recently there has been an apparent total lack of interest in such a project.

Southland proposes that one of three options be exercised immediately:

- (1) The Unit be formed and waterflooding begun;
- (2) The wells in which Southland has an interest be plugged as uneconomical;
- (3) Interested parties contact Southland with regard to purchasing our interest.

Yours very truly,

Robert J. Cook

RJC/bh

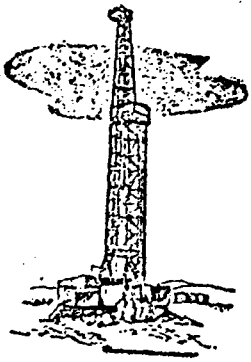
cc: T. W. Morris

*Called Cook 1-6-78
Told him our progress.*

*Mail
address*

1600 FIRST NATIONAL BUILDING (817) 336-9301 FORT WORTH, TEXAS 76102

*390-9200
This # has been changed*



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

S. P. YATES,
PRESIDENT

B. W. HARPER,
SEC. TREAS.

JACK W. MCGAW,
ASST. SEC. TREAS.

ARTESIA, NEW MEXICO 88210

February 28, 1975

WORKING INTEREST OWNERS

Re: Proposed South Loco Hills
Waterflood Unit
Eddy County, New Mexico

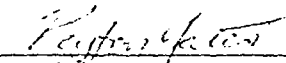
Gentlemen:

Yates Drilling Company is interested in revitalizing efforts to unitize the Loco Hills zone in portions of Sections 19, 20, 29 and 30 of Township 18S Range 29E, Eddy County, New Mexico for the purpose of secondary recovery by waterflooding. A land ownership plat of the area of interest is enclosed.

We are calling a meeting of working interest owners at 10:00 a.m. (MDT) on Tuesday, April 8, 1975, at the Yates offices in Artesia, to discuss the possibility of forming the proposed unit. We will have updated decline curves available on all wells. If your firm has any pertinent well information that may be of use to an engineering committee, we would appreciate your bringing it with you at that time.

Yours truly,

YATES DRILLING COMPANY

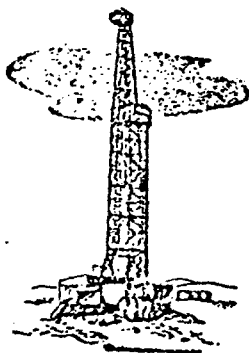


Peyton Yates
Engineer

PY/jg

Enclosure

cc: Working Interest Owners



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

ARTESIA, NEW MEXICO 88210

S. P. YATES,
PRESIDENT

B. W. HARPER,
SEC. TREAS.

JACK W. MCCAIG
ASST. SEC. TREAS.

May 6, 1975

Re: Proposed South Loco Hills Unit

Gentlemen:

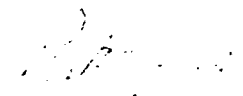
Please find enclosed a copy of the minutes of the April 17, 1975 meeting of Working Interest Owners in the Proposed South Loco Hills Unit.

Yates Drilling Company is presently assembling cumulative production figures and preparing recommendations on unsettled matters referred to in the minutes. We have had preliminary contacts with USGS personnel and expect to have at least one more meeting with them prior to making our recommendations. On questioning the USGS no one seems to know for sure why the 0.4 psi/ft limitation exists. However, it appears that we can request a variance with that magic number and with adequate backup data can obtain a more reasonable maximum pressure limitation.

We will keep you posted as to our progress.

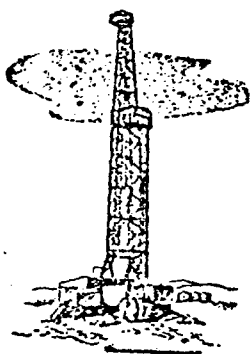
Yours truly,

YATES DRILLING COMPANY


Peyton Yates
Engineer

PY/jg
Encl.

Mailing list attached



YATES DRILLING COMPANY

YATES BUILDING - 207 SOUTH 4TH ST. - (505) 746-3558

S. P. YATES,
PRESIDENT

B. W. HARPER,
SEC. TREAS.

JACK W. MCCAW
ASST. SEC. TREAS.

ARTESIA, NEW MEXICO 88210

May 6, 1975

Re: Minutes - Proposed South
Loco Hills Unit Meeting

Gentlemen:

The referenced meeting was convened in the Yates offices in Artesia, New Mexico at 10:00 a.m. April 17, 1975. The following individuals were present:

Representative

D. G. Kernaghan
Jerry E. Buckles
John Strader
L. A. Patterson
Jack Corkill
Harvey Carr
Peyton Yates

Representing

Anadarko Production Company, Houston
Anadarko Production Company, Loco Hills
Depco, Inc., Denver
Husky Oil Operations, Calgary
Husky Oil Operations, Calgary
Southland Royalty Company, Midland
Yates Drilling Company &
Martin Yates, III, Artesia

A brief discussion was held concerning existing floods in the Loco Hills area, including Newmont's West Loco Hills Unit and Anadarko's Far West Loco Hills and Ballard Grayburg SA Units. All of those present were in general agreement that unitization attempts should proceed again on the proposed South Loco Hills Unit.

Discussion then turned to the 1969 Engineer Committee Report on the proposed Unit. It was the general consensus of those present that there appeared to be no need to form another engineering sub-committee and that the general accumulation of data in the report was acceptable to those present. It was then left to Yates Drilling Company to make specific recommendations concerning certain aspects of the proposed Unit, that is, whether or not to include the Grayburg dolomite in the flood project, the flood pattern itself, and, whether the poor recovery from the Loco Hills zone in the Hanson Yates #1-B (NWNE 19-18-29) and the thin Loco Hills pay in the Anadarko (formerly Hanson) McCaw #1 (NENW 19-18-29) precluded the need for either or both of those wells to be in the proposed Unit.

Page Two
May 6, 1975

Re: Minutes - Proposed South Loco Hills Unit Meeting

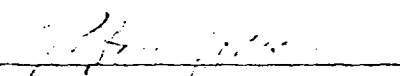
Recently updated production decline curves (up to 1-1-75) were reviewed for each lease. Because of the depleted state of the Loco Hills reservoir, and because some of the temporarily abandoned wells have recently been returned to production (which makes difficult an equitable allocation based on rate or ultimate recovery), there was a general feeling that a unitization formula based entirely on cumulative production might be the simplest approach. Yates Drilling Company was to compile cumulative production figures and make a recommendation to the Working Interest Owners. Mr. Kernaghan, with Anadarko, noted that the Anadarko Travis #8 cumulative production should be reduced by 17635 barrels of oil, that being the quantity produced from the Grayburg dolomite prior to its recompletion in the Loco Hills Sand.

It was also pointed out that the U.S.G.S. apparently has a ruling concerning maximum water injection pressures in Federally approved units. The reported maximum pressure is 0.4 psi of surface pressure per foot of depth to the pay zone. Several parties present stated emphatically that such a restrictive number would make any attempt at waterflooding the proposed Unit a guaranteed economic failure. Yates stated that the matter would be investigated thoroughly prior to committing any party to the Unit.

In closing the meeting, Peyton Yates stated that Yates Drilling would investigate and make recommendations on those matters previously discussed and would assemble cumulative production figures up to 1-1-75 for use as possible participation factors. Operators were asked to provide up to date lease ownership information.

Yours truly,

YATES DRILLING COMPANY


Peyton Yates
Engineer

PY/jg

MAILING LIST
PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Anadarko Production Company
Two Greenway Plaza East, Suite 410
Houston, Texas 77046
ATTN: D. G. Kernaghan

Depco, Inc.
1025 Petroleum Club Building
Denver, Colorado 80202
ATTN C. D. Crump

Husky Oil Operations Ltd.
815 - 6th S.W.
Calgary, Alberta, Canada T2P 1Y1
ATTN: L. A. Patterson

Rest Conn
Southland Royalty Company
1405 Wilco Building
Midland, Texas 79701
ATTN: Harvey Carr

George Denton
Box 1252
Artesia, New Mexico 88210

John H. Triqq Company
P.O. Box 520
Roswell, New Mexico 88201

T. J. Sivley
P.O. Drawer GG
Artesia, New Mexico 88210

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico
Yates Drilling Company
Economic Flow Sheet
Table VII

| Yr | Gross Prod BBLs | Net Rev. \$20.75/BBL | No. Prod Wells | Operating Cost \$1150/mo | Intangible Expense | Capital Expense | Water Costs | Total Expense | Cum Expense | Net Earnings | Cum Net Earnings | Discounted Net Earnings 14% Mid-Year | Cum Net Earnings 14% |
|--------|-----------------------|-------------------------|----------------------|--------------------------------|-----------------------|--------------------|----------------|------------------|----------------|-----------------|---------------------|--|----------------------------|
| 82 | 6400 | \$ 132800 | 18 | \$ 248400 | ^a 528569 | \$470135 | \$ 5280 | \$1252384 | \$1252384 | (\$1119584) | (\$1119584) | (\$1048586) | (\$1048586) |
| 83 | 14000 | 290500 | 18 | 248400 | | | 21040 | 269440 | 1521824 | 21060 | (1098524) | 17302 | (1031284) |
| 84 | 66000 | 1369500 | 18 | 248400 | ^b 75000 | | 16160 | 339560 | 1861384 | 1029940 | (68584) | 742249 | (289035) |
| 85 | 126000 | 2614500 | 18 | 248400 | ^b 75000 | ^d 20000 | 11520 | 354920 | 2216304 | 2259580 | 2190996 | 1428436 | 1139401 |
| 86 | 102200 | 2120650 | 18 | 248400 | ^b 40000 | ^d 20000 | 6800 | 315200 | 2531504 | 1805450 | 3996446 | 1001183 | 2140584 |
| 87 | 73400 | 1523050 | 14 | 193200 | ^c 163600 | ^d 75000 | 15680 | 447480 | 2978984 | 1075570 | 5072016 | 523193 | 2663777 |
| 88 | 88800 | 1842600 | 14 | 193200 | | ^d 40000 | 17520 | 250720 | 3229704 | 1591880 | 6663896 | 679249 | 3343026 |
| 89 | 69200 | 1435900 | 11 | 151800 | | | 11800 | 163600 | 3393304 | 1272300 | 793196 | 476215 | 3819241 |
| 90 | 45600 | 946200 | 8 | 110400 | | | 6400 | 116800 | 3510104 | 829400 | 8765596 | 272316 | 4091557 |
| 91 | 18000 | 373500 | 6 | 82800 | | | 1500 | 84300 | 3594404 | 289200 | 9054796 | 83292 | 4174849 |
| 92 | 9000 | 186750 | 4 | 55200 | | | 0 | 55200 | 3649604 | 131550 | 9186346 | 33235 | 4208084 |
| TOTALS | 618600 | \$12835950 | | \$2028600 | \$ 882169 | \$625135 | \$113700 | \$3649604 | \$3649604 | \$9186346 | \$9186346 | \$4208084 | \$4208084 |

Net Oil Price = \$30/BO (stripper) x .875 (RI) - (\$1.50 prod tax + \$4/BBL average W. P. Tax)
Net Earnings are before Income Tax

- a) Includes replugging costs for 5 wells w/contingency
- b) Major well workover costs
- c) Replugging costs for 5 wells w/contingency
- d) Larger pump jacks

OIL CONSERVATION DIVISION
RECEIVED

'91 APR 26 AM 10 29

UNIT AGREEMENT
SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO
INDEX

| <u>SECTION</u> | | <u>PAGE</u> |
|----------------|--|-------------|
| 1 | Enabling Act and Regulation. | 1 |
| 2 | Unit Area and Definitions. | 2 |
| 3 | Exhibits | 4 |
| 4 | Expansion. | 4 |
| 5 | Unitized Land and Unitized Substances. | 5 |
| 6 | Unit Operator. | 5 |
| 7 | Resignation or Removal of Unit Operator. | 5 |
| 8 | Successor Unit Operator. | 6 |
| 9 | Accounting Provisions and Unit Operating Agreement . . . | 6 |
| 10 | Rights and Obligations of Unit Operator. | 7 |
| 11 | Easements or Use of Surface. | 7 |
| 12 | Plan of Operation. | 7 |
| 13 | Tract Participation. | 8 |
| 14 | Tracts Qualified for Participation | 9 |
| 15 | Allocation of Unitized Substances. | 10 |
| 16 | Royalty Settlement | 12 |
| 17 | Rental Settlement. | 13 |
| 18 | Conservation | 13 |
| 19 | Drainage | 13 |
| 20 | Leases and Contracts Conformed and Extended. | 13 |
| 21 | Mathematical Errors. | 14 |
| 22 | Covenants Run with Land. | 15 |
| 23 | Effective Date and Term. | 15 |
| 24 | Rate of Prospecting, Development and Production. . . . | 16 |
| 25 | Nondiscrimination. | 16 |
| 26 | Appearances. | 17 |
| 27 | Notices. | 17 |
| 28 | No Waiver of Certain Rights. | 17 |
| 29 | Equipment and Facilities - Fixtures Attached to Realty . | 17 |
| 30 | Unavoidable Delay. | 17 |
| 31 | Loss of Title. | 17 |
| 32 | Non-Joinder and Subsequent Joinder | 18 |
| 33 | Oil in Lease Tankage on Effective Date | 19 |
| 34 | Counterparts | 19 |
| 35 | Taxes. | 19 |
| 36 | No Partnership | 20 |
| 37 | Border Agreements. | 20 |

EXHIBIT "A" (MAP OF UNIT AREA)
EXHIBIT "B" (SCHEDULE OF OWNERSHIP)
EXHIBIT "C" (SCHEDULE OF TRACT PARTICIPATION)
EXHIBIT "D" (THERE IS NO EXHIBIT "D")

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE
SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO

THIS AGREEMENT, entered into as the 20th day of May, 1982, by and between the parties subscribing, ratifying or consenting hereto, and herein referred to as "parties hereto":

WITNESSETH:

WHEREAS, the parties hereto are the owners of working, royalty, or other oil or gas interests in the Unit Area subject to this Agreement; and

WHEREAS, the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico, is authorized by law (Chap. 72, Laws of 1935, as amended by Chap. 193, Laws of 1937, Chap. 166, Laws of 1941, and Chap. 168, Laws of 1949, Chap. 65, Art. 3, Sec. 14, N.M.S., 1953 anno) to approve this Agreement, and the conservation provisions hereof; and

WHEREAS, the Mineral leasing Act of February 25, 1920, 41 Stat. 437, as amended 30 U.S.C. Sections 181 et seq., authorizes Federal lessees and their representatives to unite with each other, or jointly or separately with others, in collectively adopting and operating a cooperative or unit plan of development or operation of any oil or gas pool, field or like area, or any part thereof for the purpose of more properly conserving the natural resources thereof whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest; and

WHEREAS, the parties hereto hold sufficient interests in the South Loco Hills (Grayburg) Unit Area covering the land hereinafter described to give reasonably effective control of operation therein; and

WHEREAS, it is the purpose of the parties hereto, to enable institution and consummation of secondary recovery operations, conserve natural resources, prevent waste and secure the other benefits obtainable through development and operation of the area subject to this Agreement under the terms, conditions, and limitations herein set forth;

NOW, THEREFORE, in consideration of the premises, the mutual agreements and the promises herein contained, the parties hereto commit to this Agreement their entire respective interests in the below defined Unit Area, and agree severally among themselves as follows:

SECTION 1. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder and valid, pertinent and reasonable regulations hereafter issued thereunder are accepted and made a part of this Agreement as to Federal lands, provided such regulations are not inconsistent with the terms of this Agreement.

SECTION 2. UNIT AREA AND DEFINITIONS. The area described by Tracts in Exhibit "B" and depicted on Exhibit "A" attached hereto is hereby designated and recognized as constituting the Unit Area containing 1063.67 acres, more or less, in Eddy County, New Mexico. Said land is described as follows:

Township 18 South, Range 29 East, N.M.P.M.

Section 19: E/2, NE/4 NW/4, E/2 SW/4, Lot 4

Section 20: W/2, NW/4 NE/4

Section 29: N/2 NW/4

Section 30: N/2 NE/4, NE/4 NW/4, Lot 1

For the purpose of the Agreement, the following terms and expressions as used herein shall mean:

- (a) "Commission" is defined as the Oil Conservation Division, Energy and Minerals Department, of the State of New Mexico.
- (b) "Director" is defined as the Director of the Minerals Management Service.
- (c) "Secretary" is defined as the Secretary of the Interior of the United States of America.
- (d) "Department" is defined as the Department of the Interior of the United States of America.
- (e) "Deputy" is defined as the Oil and Gas Deputy of the Minerals Management Service for the region in which the Unit Area is situated.
- (f) "Unitized Formation" is defined as that stratigraphic interval underlying the Unit Area extending from the top of the Grayburg formation to thirty (30) feet below the base of the Loco Hills Sand formation, said interval being more specifically the equivalent of the continuous interval occurring between the depth of 2,272 feet and 2,429 feet as shown on the Schlumberger Well Surveying Corporation Gamma Ray-Neutron log run on July 21, 1961, in S. P. and Martin Yates' Alscott Federal No. 1 well located 660 feet from the north line and 660 feet from the east line of Section 30, T-18-S, R-29-E, Eddy County, New Mexico. Said log was measured from a Kelly Bushing elevation of 3,517 feet above sea level.
- (g) "Unitized Substances" is defined as all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate and all associated and constituent liquid or liquefiable hydrocarbons produced from the Unitized Formation underlying unitized land.

- (h) "Tract" is defined as each parcel of land described as such and given a Tract number in Exhibit "B".
- (i) "Tract Participation" is defined as that percentage of Unitized Substances which is allocated to a Tract under this Agreement.
- (j) "Unit Participation" is defined as the sum of the percentages obtained by multiplying each Working Interest Owner's fractional Working Interest in each Tract by the Tract Participation of each such Tract.
- (k) "Working Interest" is defined as the right to search for, produce, acquire Unitized Substances whether held as an incident of ownership of mineral fee simple title, under an oil and gas lease, or otherwise held.
- (l) "Working Interest Owner" is defined as and shall mean any party hereto owning a Working Interest, including a carried Working Interest, whether by virtue of a lease, operating agreement, fee title or otherwise, whose interest is chargeable with and obligated to pay or bear, either in cash or out of production, or otherwise, all or a portion of the cost of drilling, developing, and producing the Unitized Substances from the Unitized Formation.
- (m) "Royalty Interest" or "Royalty" is defined as an interest other than a Working Interest in or right to receive a portion of the Unitized Substances or the proceeds thereof and includes the royalty interest reserved to a lessor by an oil and gas lease and any overriding royalty interest, oil payment interest or any other payment or burden which does not carry with it the right to search for and produce Unitized Substances.
- (n) "Royalty Owner" is defined as and shall mean the owner of a Royalty Interest.
- (o) "Unit Operating Agreement" is defined as and shall mean any agreement or agreements (whether one or more) entered into (separately or collectively) by and between the Unit Operator and the Working Interest Owners as provided in Section 9 (ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT), infra, and shall be styled "Unit Operating Agreement, South Loco Hills (Grayburg) Unit, Eddy County, New Mexico."
- (p) "Paying Quantities" is defined as production of Unitized Substances in quantities sufficient to pay for the cost of producing same from wells on the Unitized Land.
- (q) "Unit Manager" is defined as the person or corporation appointed by the Working Interest Owners to perform the duties of the Unit Operator until the selection and qualification of a Successor Unit Operator as provided for in Section 8 hereof.
- (r) "Tract Cumulative Production" is defined as the total number of barrels of oil produced from the Unitized Formation under such tract through December 31, 1980, as officially reported to the Commission.

- (s) "Unit Cumulative Production" is defined as the total number of barrels produced through December 31, 1980, from all tracts within the unit area which are qualified under the terms of this agreement, as officially reported to the Commission.

SECTION 3. EXHIBITS. Exhibit "A" attached hereto is a map showing the Unit Area and the boundaries and identity of tracts and leases in said Unit Area to the extent known to the Unit Operator, Exhibit "B" attached hereto is a schedule showing, to the extent known to the Unit Operator the acreage comprising each Tract, percentages and kind of ownership of oil and gas interest in all land in the Unit Area. Exhibit "C" attached hereto shows the Tract Participation of each Tract in the Unit Area. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedule as owned by such party. There is no Exhibit "D". Exhibits "A", "B" and "C" shall be revised by the Unit Operator whenever changes in the Unit Area render such revision necessary or when requested by the Deputy, and not less than five copies shall be filed with the Deputy.

SECTION 4. EXPANSION. The above described Unit Area may, when practicable, be expanded to include therein any additional Tract or Tracts regarded as reasonably necessary or advisable for the purposes of this Agreement. Such expansion shall be effected in the following manner:

- (a) The Working Interest Owner or Owners of a Tract or Tracts desiring to commit such Tract or Tracts hereto shall file an application therefor with Unit Operator requesting such admission.
- (b) Unit Operator shall circulate a notice of the proposed expansion to each Working Interest Owner in the Unit land in the Tract or Tracts proposed to be included in the Unit, setting out the basis for admission, the proposed participation to be assigned to each such Tract, and other pertinent data. After negotiation (at Working Interest Owner's meeting or otherwise), if ninety percent (90%) of the Working Interest Owners (on basis of Unit Participation) have agreed to the addition of such Tract or Tracts, then Unit Operator shall, after preliminary concurrence by the Director:
 - (1) Prepare a notice of proposed expansion describing the contemplated changes in the boundaries of the Unit Area, the reason therefor, the basis for admission of the additional Tract or Tracts, the Tract participation to be assigned each such Tract and proposed effective date thereof, preferably 7:00 a.m. on the first day of a month subsequent to the date of notice; and
 - (2) Furnish copies of said notice to the Deputy, the NMOCD, and each Working Interest Owner, lessee, and lessor whose interests are affected and advising such parties that thirty (30) days will be allowed for submission to the Unit Operator of any objections to such expansion; and

(3) File, upon the expiration of said thirty (30) day period as set out in (2) immediately above, with the Director and the Commission, the following:

- (i) Evidence of mailing said notice of expansion
- (ii) An application for such expansion in sufficient number, appropriate approval and distribution; and
- (iii) An instrument containing the appropriate joinders in compliance with the participation requirements of Section 14 (TRACTS QUALIFIED FOR PARTICIPATION) and Section 32 (NON-JOINDER AND SUBSEQUENT JOINDER), infra; and
- (iv) a copy of any objections received.

The expansion shall, after due consideration of all pertinent information and upon approval by the Deputy and the Commission, become effective as of the date prescribed in the notice thereof or on such other appropriate date as may be set by the Deputy and the Commission in the order or instrument approving such expansion. The revised Tract Participation of the respective Tracts committed to the Unit Agreement prior to any such enlargement shall remain in the same ratio one to the other.

SECTION 5. UNITIZED LAND AND UNITIZED SUBSTANCES. All land committed to this Agreement as to the Unitized Formation shall constitute land referred to herein as "Unitized Land" or "Land Subject to this Agreement." All oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate, and all associated and constituent liquid or liquefiable hydrocarbons produced from the Unitized Formation underlying Unitized Land are unitized under the term of this Agreement and herein are called "Unitized Substances."

SECTION 6. UNIT OPERATOR. Yates Drilling Company, a New Mexico corporation, is hereby designated as Unit Operator, and, by signing this instrument as Unit Operator, it agrees and consents to accept the duties and obligations of Unit Operator for the operation, development and production of Unitized Substances as herein provided. Whenever reference is made herein to the Unit Operator, such reference means the Unit Operator acting in that capacity and not as an owner of interest in Unitized Substances, and the term "Working Interest Owner" when used herein shall include or refer to Unit Operator as the owner of a Working Interest when such an interest is owned by it.

Unit Operator shall have a lien upon the interest of the owners of Working Interests in the Unitized Land to the extent provided in the Unit Operating Agreement.

SECTION 7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. Unit Operator shall have the right to resign at any time, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate Unit Operator's rights as such for a period of six (6) months after written notice of intention to resign has been given by Unit Operator to all Working Interest Owners and the Deputy, and until all unit wells are placed in a condition satisfactory for suspension, abandonment, or operations, whichever is required by the Deputy, unless a new Unit Operator shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

The Unit Operator shall, upon default or failure in the performance of its duties or obligations hereunder, be subject to removal of not less than sixty-five (65) percent of the committed Working Interest (on the basis of Unit Participation) exclusive of any Working Interest owned by the Unit Operator. Such removal shall be effective upon notice thereof to the Deputy.

In all such instances of resignation or removal, until a successor to Unit Operator is selected and approved as hereinafter provided, the Working Interest Owners shall be jointly responsible for the performance of the duties of the Unit Operator and shall, not later than thirty (30) days before such resignation or removal becomes effective, appoint a Unit Manager to represent them in any action to be taken hereunder.

The resignation or removal of Unit Operator under this Agreement shall not terminate its right, title or interest as the owner of a Working Interest or other interest in Unitized Substances; but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all wells, equipment, books and records, materials, appurtenances and any other assets used in conducting the Unit Operations and owned by the Working Interest Owners (including any and all data and information which it might have gained or assembled by reason of its operation of the Unitized Land) to the new duly qualified successor Unit Operator or to the Unit Manager if no such new Unit Operator is elected, to be used for the purpose of conducting Unit Operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment and appurtenances needed for the preservation of any wells. Nothing herein contained shall be construed to relieve or discharge any Unit Operator who resigns or is removed hereunder for any liability or duties accruing or performable by it prior to the effective date of such resignation or removal.

SECTION 8. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender its resignation as Unit Operator or shall be removed as hereinabove provided, the Working Interest Owners shall select a successor Unit Operator by a majority vote of the Working Interest Owners (on the basis of Unit Participation); provided no Working Interest Owner who has been removed as Unit Operator may vote for self-succession. If a majority, but less than seventy-five percent (75%) of the working interests qualified to vote are owned by one party to this agreement, a concurring vote of one or more additional working interest owners shall be required to select a new operator. Such selection shall not become effective until (a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator; and (b) the selection shall have been approved by the Deputy. If no successor Unit Operator is selected and qualified as herein provided, the Director, at his election, may declare this Agreement terminated.

SECTION 9. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT. Costs and expenses incurred by Unit Operator in conducting Unit Operations hereunder shall be paid, apportioned among, and borne by the Working Interest Owners in accordance with the Unit Operating Agreement; however, no such Unit Operating Agreement shall be deemed either to modify any of the terms and conditions of this Unit Agreement or to relieve the Unit Operator of any right or obligation established under this Agreement, and in case of any inconsistency or conflict between this Agreement and the Unit Operating Agreement, this Agreement shall prevail. Three true

copies of any Unit Operating Agreement executed pursuant to this Section shall be filed with the Deputy prior to approval of this Agreement.

SECTION 10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, the exclusive right, privilege and duty of exercising any and all rights of the parties hereto which are necessary or convenient for prospecting for, producing, storing, allocating and distributing the Unitized Substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. The parties hereto, to the extent they have the right to do so, grant to Unit Operator the use of brine or water or both from any formation in and under the Unitized Land for injection into the Unitized Formation. Upon request, acceptable evidence of title to said rights shall be deposited with said Unit Operator and, together with this Agreement, shall constitute and define the rights, privileges, and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title of any land or to any lease or operating agreement, it being understood that under this Agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

SECTION 11. EASEMENTS OR USE OF SURFACE.

- (a) The parties hereto, to the extent of their rights and interests, hereby grant to Working Interest Owners the right to use as much of the surface of the unitized land as may reasonably be necessary for Unit Operations and the removal of Unitized Substances therefrom; provided that nothing herein shall be construed as leasing or otherwise conveying to Working Interest Owners a site for a water, gas injection, processing or other plant, or campsite.
- (b) Working Interest Owners shall have and are hereby granted free use of water from the Unitized Land for Unit Operations, except water from any well, lake, pond, or irrigation ditch of a Royalty Owner.
- (c) Working Interest Owners shall pay the owner for damages to growing crops, timber, fences, improvements, and structures on the Unit Area that result from Unit Operations.

SECTION 12. PLAN OF OPERATION. It is recognized and agreed by the parties hereto that all of the land subject to this Agreement is reasonably proved to be productive of Unitized Substances in paying quantities and that the object and purpose of this Agreement is to formulate and put into effect a secondary recovery project in order to effect the greatest recovery of Unitized Substances, prevent waste and conserve natural resources consistent with good engineering practices expected of a prudent operator. The parties hereto agree that the Unit Operator may, subject to the consent and approval of a plan of operation by the Working Interest Owners, the Deputy, and the Commission, inject into the Unitized Formation, through any well or wells completed therein, brine, water, air, gas, oil, liquid petroleum gases, and any one or more other substances or combination thereof whether produced from the Unitized Formation or not, and that the location of input wells and the rates of injection therein and the rate of production shall be governed by standards of good geologic and petroleum engineering practices and conservation methods. After com-

mencement of secondary operations, Unit Operator shall furnish the Commission and the Deputy monthly injection and production reports for each Unit Well.

The Working Interest Owners, the Deputy, and the Commission shall be furnished periodic reports on the progress of the plan of operations. A revision of the plan of operation involving a deviation from the approved plan of operation shall be subject to consent and approval of the Working Interest Owners, the Deputy, and the Commission.

The initial plan of operation shall be filed with the Deputy and the Commission concurrently with the filing of this Unit Agreement for final approval. Said initial plan of operation and all revisions thereof shall be as complete and adequate as the Deputy and the Commission may determine to be necessary for timely operation consistent herewith. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for like approval a plan for an additional specified period of operation. Reasonable diligence shall be exercised in complying with the obligations of the approved plan of operation.

Notwithstanding anything to the contrary herein contained, if Unit Operator fails to commence Unit Operations for the secondary recovery of Unitized Substances from the Unit Area within six (6) months after the effective date of this Agreement or any extension thereof approved by the Deputy and the NMOCD, this agreement shall terminate automatically upon the expiration of said six (6) month period. After such operations are commenced, Unit Operator shall carry on such operations as would a reasonably prudent operator under the same or similar circumstances.

SECTION 13. TRACT PARTICIPATION. In Exhibit "B" attached hereto there are listed and numbered the various Tracts within the Unit Area, and set forth in Exhibit "C" opposite each Tract number are figures which represent the Tract Participation percentages allocated to that Tract, calculated on the basis of all Tracts within the Unit Area being committed to this Agreement as of the effective date hereof. The Tract Participations of each Tract within the Unit Area as set forth in Exhibit "C" shall govern the allocation of Unitized Substances produced from the Unit Area from and after the effective date hereof, subject to any revision or revisions of the Unit Area or the Exhibits to this Agreement in accordance with the provisions hereof.

The percentage of Tract Participations set forth in Exhibit "C" for each Tract within the Unit Area have been calculated and determined in accordance with the following factors and formulas:

$$\begin{array}{lcl} \text{Percentage Participation} & & \\ \text{of each Tract} & = & 100\% \quad \frac{\text{Tract Cumulative Production}}{\text{Unit Cumulative Production}} \end{array}$$

In the event less than all of the Tracts within the Unit Area are committed to this Agreement as of the effective date hereof, Unit Operator shall promptly prepare revised Exhibits "B" & "C" setting forth opposite each of the qualified Tracts (as determined from Section 14, Tracts qualified for participation), the revised Tract Participations, which shall be calculated and determined by using the factors and formulas set forth above, but applying the same only to the qualified Tracts. Unit Operator shall promptly file copies of such revised Exhibits "B" & "C" with the Deputy; and,

unless such revised Exhibits "B" & "C" are disapproved by the Deputy within sixty (60) days after such filing, the revised Exhibits "B" & "C" shall be effective as of the effective date of this Agreement and shall thereafter govern the allocation of all Unitized Substances, subject, however, to any further revision or revisions of Exhibits "B" & "C" in accordance with the provisions hereof (Sections 3, 4, 31, and 32).

SECTION 14. TRACTS QUALIFIED FOR PARTICIPATION. On and after the effective date hereof the Tracts within the Unit Area which shall be entitled to participate in the production of Unitized Substances shall be those Tracts more particularly described in Exhibit "B" that corner or have a common boundary (Tracts separated only by a public highway or a railroad right of way shall be considered to have a common boundary) and that otherwise qualify as follows:

- (a) Each Tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest therein have become parties to this Agreement and as to which Royalty Owners owning eighty-five percent (85%) or more of the Royalty Interest therein created by the basic leases have become parties to this Agreement.
- (b) Each Tract to which Working Interest Owners owning one hundred percent (100%) of the Working Interest therein have become parties to this Agreement, and as to which Royalty Owners owning less than eighty-five percent (85%) of the Royalty Interest therein created by the basic leases have become parties to this Agreement, and as to which: (1) All Working Interest Owners in any such Tract have joined in a request for the acceptance of such Tract as qualified for participation under this Agreement, and as to which (2) Eighty percent (80%) of the combined "voting interests" of working Interest Owners in all Tracts that meet with requirements of Section 14 (a) have voted in favor of the acceptance of such Tract. For the purpose of this Section 14 (b) the "voting interest" of a Working Interest Owner shall be equal to the ratio expressed as a percentage that its Unit Participation in all Tracts that qualify under Section 14 (a) above bears to the total Unit Participation of all Working Interest Owners in all Tracts that qualify under Section 14 (a).
- (c) Each Tract as to which Working Interest Owners owning less than one hundred percent (100%) of the Working Interest therein have become parties to this Agreement, regardless of the percentage of Royalty Interest therein created by the basic leases that is committed hereto; and as to which: (1) The Working Interest Owner who operates the Tract and all of the other Working Interest Owners in such Tract who have become parties to this Agreement have joined in a request for acceptance of such Tract, and have executed and delivered an indemnity agreement indemnifying and agreeing to hold harmless the other Working Interest Owners that are parties hereto, their successors and assigns, against all claims and demands that may be made by the owners of Working Interests in such Tract who are not parties to this Agreement, and which arise out of the acceptance of the Tract as qualified for participation under this Agreement; and as to which (2) Eighty percent (80%) of the combined "voting interests" of

Working Interest Owners in all Tracts that meet the requirements of Sections 14 (a) and 14 (b) above have voted in favor of the acceptance of such Tract and to accept the indemnity agreement. For the purpose of this Section 14 (c), the "voting interest" of each Working Interest Owner shall be equal to the ratio expressed as a percentage that its Unit Participation in all Tracts that qualify under Sections 14 (a) and 14 (b) above bears to the total Unit Participation of all Working Interest Owners to all Tracts that qualify under Sections 14 (a) and 14 (b). Upon the acceptance of such a Tract as qualified for participation under this Agreement, the Unit Participation that would have been attributed to the non-subscribing owners of the Working Interest in Such Tract, had they become parties to this Agreement and the Unit Operating Agreement, shall be attributed to the Working Interest Owners in such Tract who have become parties to such Agreements, in proportion to their respective Working Interests in the Tract.

If, on the effective date of this Agreement, there is any Tract or Tracts in the Unit Area which have not been qualified as above provided, then such Tract or Tracts shall not be entitled to participate hereunder. Unit Operator shall, when submitting this Agreement for final approval by the Department, file therewith a schedule of those Tracts which are entitled to participate in the production of Unitized Substances. Said schedule shall set forth opposite each qualified Tract the assigned Tract number, the lease or assignment number, the owner of record of the lease, and the Tract Participation percentage which shall be computed according to the participation formula set out in Section 13 (Tract Participation) above.

SECTION 15. ALLOCATION OF UNITIZED SUBSTANCES. All Unitized Substances produced and saved (less, save and except any part of such Unitized Substances unavoidably lost or used in conformity with good operating practices on Unitized Land for drilling, operating, camp and other production or development purposes and for pressure maintenance) shall be apportioned among and allocated to the qualified Tracts in accordance with the respective Tract Participation, as set forth in the then effective schedule of participation in Exhibit "C" or any revision thereof. The amount of Unitized Substances so allocated to each Tract, and only that amount (regardless of whether it be more or less than the amount of actual production of Unitized Substances from the well or wells, if any, on such Tract, shall, for all intents, uses and purposes, be deemed to have been produced from such Tract.

The Unitized Substances allocated to each Tract shall be distributed among, or accounted for to, the parties executing, consenting to or ratifying this Agreement entitled to share in the production from such Tract in the same manner, in the same proportions, and upon the same conditions as they would have participated and shared in the production from such Tract, or in the proceeds thereof, had this Agreement not been entered into, and with the same legal force and effect.

No Tract committed to this Agreement and qualified for participation as above provided shall be subsequently excluded from participation hereunder contained, except as provided in Section 33 hereof, shall be construed as requiring any retroactive adjustment for production obtained prior to the effective date of the joinder of any Tract.

If the Working Interest or the Royalty Interest in any Tract, as of the effective date hereof or thereafter becomes divided with respect to separate parcels or portions of such Tract, the percentages of Tract Participation assigned to such Tract shall, in the absence of a recordable instrument executed by all owners and fixing the division of ownership, be divided among the owners of such parcels or portions in proportions to the number of surface acres in each parcel or portion.

Subject to the provisions of Section 16 (Royalty Settlement), the Unitized Substances allocated to each Tract shall be delivered in kind to the respective Working Interest Owners and parties entitled thereto by virtue of the ownership of oil and gas rights therein. Each Working Interest Owner and the parties entitled thereto shall have the continuing right to receive such production in kind at a common point within the Unit Area and to sell or dispose of the same as it sees fit. Each such party shall have the right to construct, maintain, and operate all necessary facilities for that purpose on Unitized Land, provided the same are so constructed, maintained and operated as not to interfere with operations carried on pursuant hereto. Any extra expenditure incurred by Unit Operator by reason of the delivery in kind of any portion of the Unitized Substances shall be borne by the party responsible for the payment of such expense.

In the event any party hereto shall fail to take in kind or separately dispose of its proportionate share of the Unitized Substances, then so long as such conditions continue, Unit Operator, for the account and at the expense of such party, and in order to avoid curtailing the operation of the Unit Area, may sell or otherwise dispose of such production to itself or others on a day-to-day basis at not less than the prevailing market price in the area for like production; and the account of such party shall be charged therewith as having received such production. Unit Operator shall not make a sale into interstate commerce of any other party's share of gas production without first giving such other party ninety (90) days notice of such intended sale. The net proceeds, if any, of the Unitized Substances so disposed of by the Unit Operator shall be paid to the parties entitled thereto.

Any Working Interest Owner receiving in kind or separately disposing of all or any part of the Unitized Substances allocated to any Tract, or receiving the proceeds therefrom if the same is sold or purchased by Unit Operator, shall be responsible for the payment of all royalty on the lease or leases affected; and each such party shall hold each other party harmless against all claims, demands, and causes of action for the payment of such Royalty.

If, after the effective date of this Agreement, there is any Tract or Tracts subsequently committed hereto, as provided in Section 4 (EXPANSION) hereof, or if any Tract or Tracts within the Unit Area are not qualified hereunder as of the effective date hereof are subsequently qualified for participation under the provision of Section 14 (TRACTS QUALIFIED FOR PARTICIPATION) and Section 32 (NON-JOINDER AND SUBSEQUENT JOINDER), or if any Tract is excluded from this Agreement as provided for in Section 31 (LOSS OF TITLE), the schedule of participation as shown in the current Exhibit "C" shall be revised by the Unit Operator and distributed to the Working Interest Owners and the Deputy to show the new Tract Participations of all the then qualified Tracts; and the revised Exhibit "C", upon appro-

val by the Deputy, shall govern the allocation of Unitized Substances produced on and after the effective date thereof until the effective date of a new schedule so approved by the Deputy. In any such revision of Exhibit "C" pursuant to this paragraph the Tract Participations of the previously qualified Tracts shall remain in the same ratio one to the other.

SECTION 16. ROYALTY SETTLEMENT. The United States of America and all Royalty Owners who, under an existing contract, are entitled to take in kind a share of the Unitized Substances produced from any Tract unitized hereunder, shall continue to be entitled to such right to take in kind their share of the Unitized Substances allocated to such Tract; and the Unit Operator shall make deliveries of such Royalty share taken in kind in conformity with the applicable contracts, laws, and regulations. Settlement for Royalty Interest not taken in kind shall be made by Working Interest Owners responsible therefor under existing contracts, laws and regulations, on or before the last day of each month for Unitized Substances produced during the preceding calendar month; provided however, that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any Royalty due under their leases, except that such Royalty shall be computed in accordance with the terms of this Unit Agreement.

If gas obtained from lands or formations not subject to this Agreement is introduced into the Unitized Formation for use in repressuring, stimulation of production, or increasing ultimate recovery in conformity with a plan approved pursuant to Section 12 (PLAN OF OPERATION), a like amount of gas, less appropriate deduction for loss from any cause, may be withdrawn from the Unitized Formation royalty free as to dry gas but not as to products extracted therefrom; provided that such withdrawal shall be at such time as may be provided in the approved plan of operation or as otherwise may be consented to by the Deputy as conforming to good petroleum engineering practices. If liquid petroleum gases obtained from lands or formations not subject to this Agreement are introduced into the Unitized Formation for the purpose and under the conditions set forth in the preceding sentence, then part or all of such liquid petroleum gases may be withdrawn royalty free pursuant to such conditions and formulas as may be prescribed or approved by the Deputy. The right of withdrawal contained in this Section shall terminate as of the effective date of termination of this Unit Agreement.

All Royalty due the Royalty Owners hereunder other than the United States of America shall be computed and paid on the basis of all Unitized Substances allocated to the respective Tract or Tracts of Unitized Land in lieu of actual production from such Tract or Tracts.

Royalty due the United States shall be computed as provided in the operating regulations and paid in value or delivered in kind as to all Unitized Substances on the basis of the amounts thereof allocated to Unitized Federal land as provided herein at the rates specified in the respective Federal leases, or at such lower rates as may be authorized by law or regulation, provided that for leases on which the royalty rate depends on the daily average production per well, said average production shall be determined in accordance with the operating regulations as though the Unitized Land were a single consolidated lease.

Each Royalty Owner (other than the United States of America) that executed this Agreement represents and warrants that it is the owner of a Royalty Interest in a Tract or Tracts within the Unit Area as its interest appears in Exhibit "B" attached hereto. If any Royalty Interest in a Tract or Tracts should be lost by title failure or otherwise in whole or in part, during the term of this Agreement, then the Royalty Interest of the party representing himself to be the owner thereof shall be reduced proportionately and the interest of all parties in the affected Tract or Tracts shall be adjusted accordingly.

SECTION 17. RENTAL SETTLEMENT. Rentals or minimum royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor under existing contracts, laws and regulations, provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any rental or minimum royalty in lieu thereof, due under their leases. Rental or minimum royalty for lands of the United States of America subject to this Agreement shall be paid at the rate specified in the respective leases from the United States of America, unless rental or minimum royalty is waived, suspended, or reduced by law or by approval of the Secretary or his duly authorized representative.

SECTION 18. CONSERVATION. Operations hereunder and production of Unitized Substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to Federal and State laws and regulations.

SECTION 19. DRAINAGE. The Unit Operator shall take appropriate and adequate measures to prevent drainage of Unitized Substances from Unitized Land by wells on land not subject to this Agreement.

SECTION 20. LEASES AND CONTRACTS CONFORMED AND EXTENDED. The terms, conditions and provisions of all leases, subleases and other contracts relating to exploration, drilling, development or operation for oil or gas on lands committed to this Agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect; and the parties hereto consent that the Secretary shall, and by his approval hereof, or by the approval hereof by his duly authorized representative, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum royalty and royalty requirements of Federal leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this Agreement.

Without limiting the generality of the foregoing, all leases, subleases and contracts are particularly modified in accordance with the following:

- (a) The development and operation of lands subject to this Agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each and every part or separately owned tract subject to this Agreement, regardless of whether there is any development of any particular part or Tract of the Unit Area, notwithstanding anything to the contrary in any lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

- (b) Drilling, producing or secondary recovery operations performed hereunder upon any Tract of Unitized Land shall be accepted and deemed to be performed upon and for the benefit of each and every Tract of Unitized Land; and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on land therein embraced.
- (c) Suspension of drilling or producing operations on any or all of the Unitized Land pursuant to direction or consent of the Secretary or his duly authorized representative shall be deemed to constitute such suspension pursuant to such direction or consent as to each Tract of Unitized Land, specified in the suspension order.
- (d) Each lease, sublease, or contract relating to the exploration, drilling, development or operation for oil and gas, which by its term might expire prior to the termination of this Agreement, is hereby extended beyond any such terms so provided therein, so that it shall be continued in full force and effect for and during the term of this Agreement.
- (e) Termination of this Agreement shall not affect any lease which, pursuant to the terms thereof or any applicable laws, shall continue in force and effect thereunder.
- (f) The segregation of any Federal lease committed to this Agreement is governed by the following provisions in the fourth paragraph of Section 17 (j) of the Mineral Leasing Act, as amended by the Act of September 2, 1960 (72 Stat. 781-784): "Any (Federal) lease heretofore or hereafter committed to any such (unit) plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as to the effective date of unitization: Provided, however, that any such lease as of the nonunitized portion shall continue in force and effect for the term thereof but for not less than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities."

SECTION 21. MATHEMATICAL ERRORS. It is hereby agreed by all parties to this Agreement that Unit Operator is empowered to correct any mathematical or clerical errors which might exist in the pertinent exhibits to this Agreement upon approval of such changes by the Deputy.

SECTION 22. COVENANTS RUN WITH LAND. The covenants herein shall be construed to be covenants running with the land with respect to the interest of the parties hereto and their successors in interest until this Agreement terminates, and any grant, transfer or conveyances of interest, land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee or other successor in interest. No assignment or transfer of any Working Interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument of transfer; and no assignment or transfer of and Royalty Interest subject hereto shall be binding upon the Working Interest Owner

responsible therefor until the first day of the calendar month after said Working Interest owner is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument of transfer.

SECTION 23. EFFECTIVE DATE AND TERM. This Agreement shall become binding upon each party who executes or ratifies it as of the date of execution or ratification by such party and shall become effective as of 7:00 a.m. on the first day of the month next following:

- (a) The execution or ratification of this Agreement and Unit Operating Agreement by Working Interest Owners owning a combined Unit Participation of at least ninety-five percent (95%), and the execution or ratification of this Agreement by Royalty Owners owning a combined interest of at least seventy-five percent (75%) of the Royalty Interest, in said Unit Area; and,
- (b) The approval of this Agreement by the Secretary or his duly authorized representative, and the Commission; and, provided, further, that if (a) and (b) above are not accomplished on or before August 1, 1982, this Agreement shall ipso facto expire on said date (hereinafter called "expiration date") and thereafter be of no further force or effect, unless prior thereto this Agreement has been executed or ratified by Working Interest Owners owning a combined unit participation of at least ninety percent (90%) and such Working Interest Owners have decided to extend said expiration date for a period not to exceed six (6) months (hereinafter called "extended expiration date"). If said expiration date is so extended and (a), and (b) are not accomplished on or before said extended expiration date, this Agreement shall ipso facto expire on said date and thereafter be of no further force or effect. For the purpose of this Section, ownership shall be computed on the basis of Unit Participation as determined from Exhibit "C" attached hereto.
- (c) Unit Operator shall, within thirty (30) days after the effective date of this Agreement, file for record in the offices where a counterpart of this Agreement is recorded, a certificate to the effect that this Agreement has become effective according to its terms and stating further the effective date.

The term of this Agreement shall be for and during the time that Unitized Substances are or can be produced in paying quantities from the Area and as long thereafter as drilling, reworking or other operations (including secondary recovery operations) are prosecuted thereon without cessation of more than ninety (90) consecutive days and so long thereafter as Unitized Substances can be produced as aforesaid, unless sooner terminated by Working Interest Owners in the manner hereinafter approved.

This Agreement may be terminated at any other time and for any other reason by the Working Interest Owners owning an aggregate of ninety percent (90%) or more of Unit Participation with the approval of the Commission and the Deputy. Notice of any such termination shall be given by the Unit Operator to all parties hereto within thirty (30) days after the effective date of termination.

Upon termination of this Agreement, the parties hereto shall be governed by the terms and provisions of the leases and contracts affecting the separate Tracts.

Unit Operator shall, within thirty (30) days after the termination date of this Agreement, file for record in the office where a counterpart of this Agreement is recorded, a certificate to the effect that this Agreement has terminated according to its terms, and stating further the termination date.

If not otherwise covered by the leases unitized under the Agreement, Royalty Owners hereby grant Working Interest Owners a period of six (6) months after termination of this Agreement in which to salvage, sell, distribute, or otherwise dispose of the personal property and facilities used in connection with Unit Operations.

SECTION 24. RATE OF PROSPECTING, DEVELOPMENT AND PRODUCTION.

The Director is hereby vested with the authority to alter or modify from time to time in his discretion the quantity and rate of production under this Agreement when such quantity and rate of production under this Agreement is not fixed pursuant to Federal or State law or does not conform to any statewide voluntary conservation or allocation program, which is established, recognized, and generally adhered to by the majority of operators in such State, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification. Without regard to the foregoing, the Director is also hereby vested with the authority to alter or modify from time to time, in his discretion, the rate of prospecting and development and the quantity and rate of production under this Agreement, when such alteration or modification is in the interest of attaining the conservation objectives stated in this Agreement and is not in violation of any applicable Federal or State Law.

Powers in this Section vested in the Director shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice.

SECTION 25. NON-DISCRIMINATION.

In connection with the performance of work under this Agreement, the Unit Operator agrees to comply with all of the provisions of Section 202 (1) to (7) inclusive of Executive Order 11246 (30 F.R. 12319) as amended, which are hereby incorporated by reference in this Agreement.

SECTION 26. APPEARANCES.

Unit Operator shall have the right to appear for or on behalf of any and all interests affected hereby before the Department, and to appeal from any order issued under the rules and regulations of the Department, or to apply for relief from any of said rules and regulations or in any proceedings relative to operations before the Department or any other legally constituted authority; provided, however, that any other interested party shall also have the right at his or its own expense to be heard in any such proceeding.

SECTION 27. NOTICES.

All notices, demands, objections or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if made in writing and personally delivered to the party or parties or sent by postpaid certified mail, addressed to such party

or parties at their respective addresses set forth in connection with the signature hereto or to the ratification or consent hereof or to such other address as any such party or parties may have furnished in writing to the party sending the notice, demand or statement.

SECTION 28. NO WAIVER OF CERTAIN RIGHTS. Nothing in this Agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any law of the State wherein said Unitized Lands are located, or rules or regulations issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive.

SECTION 29. EQUIPMENT AND FACILITIES-FIXTURES ATTACHED TO REALTY. Each Working Interest Owner has hereto placed and used on its Tract or Tracts committed to this Agreement various well and lease equipment and other property, equipment and facilities. It is also recognized that additional equipment and facilities may hereafter be placed and used upon the Unitized Land as now or hereafter constituted. Therefore, for all purposes of this Agreement, any and all such equipment shall be considered to be personal property and not fixtures attached to realty. Accordingly, said well and lease equipment and personal property is hereby severed from the mineral estates affected by this Agreement, and it is agreed that any and all such equipment and personal property shall be and remain personal property for all purposes.

SECTION 30. UNAVOIDABLE DELAY. All obligations under this Agreement requiring the Unit Operator to commence or continue secondary recovery operations or to operate on or produce Unitized Substances from any of the lands covered by this Agreement shall be suspended while, but only so long as, the Unit Operator, despite the exercise of due care and diligence, is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, Federal, State or municipal law or agency, unavoidable accident, open market, or other matters beyond the reasonable control of the Unit Operator whether similar to matter herein enumerated or not.

SECTION 31. LOSS OF TITLE. In the event title to any Tract of Unitized Land shall fail so as to render the Tract inoperable under this Agreement and the true owner cannot be induced to join this Unit Agreement, such Tract shall be automatically regarded as not committed hereto, effective as of 7:00 a.m. on the first day after such title failure is determined; and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title. In such event, Unit Operator shall recompute the Tract Participations of each of the Tracts remaining subject to this Agreement and shall revise Exhibits "B" and "C" accordingly. The revised Exhibits "B" and "C" shall be effective as of the first day of the calendar month in which such failure of title is finally determined. The participation percentages so recomputed for the qualified Tracts shall remain the same ratio one to the other as before the loss of title was determined. If title to a Working Interest fails, the rights and obligations of Working Interest Owners by reason of failure of title shall be governed by the Unit Operating Agreement. If title to a Royalty Interest fails, but the Tract to which it relates remains qualified, the parties whose title failed shall not be entitled to share hereunder with respect to such interest. In the event of a dispute as to title as to any Royalty,

Working Interest or other interest subject hereto, payment or delivery on account thereof may be withheld without liability or interest until the dispute is finally settled; provided that, as to Federal land or leases, no payments of funds due the United States of America shall be withheld, but such funds shall be deposited as directed by the Deputy to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

Unit Operator as such is relieved from any responsibility for any defect or failure of any title hereunder.

SECTION 32. NON-JOINDER AND SUBSEQUENT JOINDER. If the owner of any substantial interest in a tract within the Unit Area fails or refuses to subscribe, ratify, or consent in writing to this Agreement, the Working Interest Owner in that Tract who has executed or ratified this Agreement may withdraw said Tract from this Agreement by written notice to the Deputy and Unit Operator prior to the effective date of this Agreement. Joinder by any Royalty Owner, at any time, must be accompanied by appropriate joinder of the corresponding Working Interest Owner in order for the interest of such Royalty Owner to be regarded as effectively committed. Joinder to the Unit Agreement by a Working Interest Owner, at any time, must be accompanied by appropriate joinder to the Unit Operating Agreement in order for such interest to be regarded as effectively committed to this Unit Agreement.

Any oil or gas interest in the Unitized Substances not committed hereto prior to submission of this Agreement to the Deputy for final approval may thereafter be committed hereto upon compliance with the applicable provisions of this Section and of Section 14 (TRACTS QUALIFIED FOR PARTICIPATION) hereof, at any time up to the effective date hereof and for a period of and including six (6) months thereafter, on the same basis of participation as provided in said Section 13, by the owner or owners hereof subscribing, ratifying or consenting in writing to this Agreement and, if the interest is a Working Interest, by the owner of such interest subscribing also to the Unit Operating Agreement.

It is understood and agreed, however, that from and after six (6) months from the effective date hereof the right of subsequent joinder as provided in this Section shall be subject to such requirements or approvals and on such basis as may be agreed upon by Working Interest Owners having a combined unit participation of ninety percent (90%) or more with the approval of the Deputy. Such joinder by a proposed Working Interest Owner must be evidenced by his execution or ratification of this Agreement and the Unit Operating Agreement. Such joinder by a proposed Royalty Owner at any time must be evidenced by his execution, ratification or consent of this Agreement and must be consented to in writing by the Working Interest Owner responsible for the payment of any benefits that may accrue hereunder in behalf of such proposed Royalty Owner. Except as may be otherwise herein provided, subsequent joinders to this Agreement shall be effective at 7:00 a.m. on the first day of the month following the filing with the Deputy of duly executed counterparts of any and all documents necessary to establish effective commitment of any Tract or interest to this Agreement, unless objection to such joinder by the Deputy is duly made within sixty (60) days after such filing.

SECTION 33. OIL IN LEASE TANKAGE ON EFFECTIVE DATE. Unit Operator shall make a proper and timely gauge of all lease and other tanks on Unitized land in order to ascertain the amount of merchantable oil or other liquid hydrocarbons above the pipeline connection in such tanks as of 7:00 a.m. on the effective date hereof. Any such production which has been produced legally as part of the prior allowable of the well or wells from which produced shall be and remain the property of the Interest Owner entitled thereto the same as if the Unit had not been formed; and the Working Interest Owner shall promptly remove said oil from Unitized Land. Any such oil not promptly removed shall be sold by Unit Operator for the account of such Working Interest Owner who shall pay all royalty, overriding royalties, production payments, and all other payments under the terms and provisions of the applicable lease or leases and other contracts. All such oil as is in excess of the prior allowable of the well or wells from which the same was produced after the effective date hereof. If, as of the effective date hereof, any Tract overproduced with respect to the allowable of the well or wells on that Tract and the amount of such overproduction has been sold or otherwise disposed of, such overproduction shall be regarded and included as a part of the Unitized Substances produced after the effective date hereof.

SECTION 34. COUNTERPARTS. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties and may be ratified or consented to by separate instrument in writing specifically referring hereto, and shall be binding upon all those parties who have executed such a counterpart, ratification or consent hereto with the same force and effect as if all parties had signed the same document, and regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands within the above described Unit Area.

SECTION 35. TAXES. Each party hereto shall for its own account, render and pay its share of any taxes levied against or measured by the amount or value of the Unitized Land; provided, however, that, if it is required or if it be determined that the Unit Operator or the several Working Interest Owners must pay or advance said taxes for the account of the parties hereto, it is hereby expressly agreed that the parties so paying or advancing said taxes shall be reimbursed therefor by the parties hereto, including Royalty Owners, who may be responsible for the taxes on their respective allocated share of said Unitized Substances. No such taxes shall be charged to the United States, nor to any lessor who has a contract with a lessee which requires his lessee to pay such taxes.

SECTION 36. NO PARTNERSHIP. It is expressly agreed that the relation of the parties hereto is that of independent contractors and nothing in this Agreement contained, expressed or implied, or any operations conducted hereunder, shall create or be deemed to have created a partnership or association between the parties hereto or any of them.

SECTION 37. BORDER AGREEMENTS. Subject to the approval of the Deputy, the Unit Operator may enter into a border-protection agreement or agreements with the Working Interest Owners of adjacent lands along the exterior boundary of the Unit Area with respect to the operations in the border area for the maximum ultimate recovery, conservation purposes and proper protection of the parties and interests.

YATES DRILLING COMPANY

DATE: _____

6/29/82

By _____

Rayton Yates

Attorney-in-Fact

UNIT OPERATOR AND
WORKING INTEREST OWNER

STATE OF NEW MEXICO)

: §

COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this 29 day of June, 1982, by Rayton Yates Attorney-in-Fact for YATES DRILLING COMPANY, a New Mexico corporation, on behalf of said corporation.

My Commission Expires:

6-27-84

George Leroy Hodges
Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
AGREEMENT DATED May 20, 1982

MARTIN YATES, III

By: *M. Yates*
Attorney-in-Fact

M. Yates
FRANK YATES

STATE OF NEW MEXICO)
COUNTY OF EDDY) §

The foregoing instrument was acknowledged before me this 24th
day of May, 1982, by FRANK YATES, individually and as
Attorney-in-Fact for MARTIN YATES, III.

My Commission Expires:

6-27-84

James Alan Soder
Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
AGREEMENT DATED May 20, 1982

GLADYS KELLY

PAULINE HEWITT

ATTEST:

ANADARKO PRODUCTION COMPANY

By _____

A. D. Fleming

mae
est

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by GLADYS KELLY.

My Commission Expires:

Notary Public

STATE OF NEW MEXICO) -
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by PAULINE HEWITT.

My Commission Expires:

Notary Public

STATE OF TEXAS)
 : §
COUNTY OF *David*)

The foregoing instrument was acknowledged before me this 8th
day of July, 1982, by A. D. Fleming, Vice
President of ANADARKO PRODUCTION COMPANY, a Delaware corporation, on
behalf of said corporation.

My Commission Expires:

12-15-85

Notary Public

Sally Sentry

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
AGREEMENT DATED May 20, 1982

C. A. Denton
C. A. DENTON

G. C. DENTON

ATTEST:

SOUTHLAND ROYALTY COMPANY

By _____

STATE OF NEW MEXICO)
COUNTY OF Lincoln : §
~~EDDY~~)

The foregoing instrument was acknowledged before me this 6
day of July, 1982, by C. A. DENTON.

My Commission Expires:

June 10, 1984

Colleen Dean Wilson
Notary Public

STATE OF NEW MEXICO)
COUNTY OF EDDY : §
)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by G. C. DENTON.

My Commission Expires:

Notary Public

STATE OF TEXAS)
COUNTY OF : §
)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by _____, _____ President
of SOUTHLAND ROYALTY COMPANY, a _____ corporation, on behalf of said
corporation.

My Commission Expires:

Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
AGREEMENT DATED May 20, 1982

C. A. DENTON

G.C. Denton
G. C. DENTON

ATTEST:

SOUTHLAND ROYALTY COMPANY

By _____

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by C. A. DENTON.

My Commission Expires:

Notary Public

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this 2nd
day of July, 1982, by G. C. DENTON.

My Commission Expires:

March 1, 1986

Miriam A. Glavin
Notary Public

STATE OF TEXAS)
 : §
COUNTY OF)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by _____, _____ President
of SOUTHLAND ROYALTY COMPANY, a _____ corporation, on behalf of said
corporation.

My Commission Expires:

Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
 AGREEMENT DATED May 20, 1982

ATTEST:

By: *K. F. [Signature]*

Assistant Secretary

HUSKY OIL COMPANY

By: *C. A. Rystrom [Signature]*

Vice President

ATTEST:

By: _____

Secretary

DEPCO, INC.

By: _____

President

CORPORATE ACKNOWLEDGMENT

STATE OF COLORADO)
 : §
 COUNTY OF ARAPAHOE)

The foregoing instrument was acknowledged before me this 13th
 day of July, 1982, by C. A. Rystrom,
Vice President of Husky Oil Company,
 a Delaware corporation on behalf of said corporation.

My Commission Expires:
July 20, 1985

Mary [Signature]
 Notary Public
 6060 S. Willow Drive
 Englewood, CO 80111

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
AGREEMENT DATED May 20, 1982

ATTEST:

HUSKY OIL COMPANY

By: _____
Secretary

By: _____
President

ATTEST:

112 DEPCO, INC.

By: Michael D. Shepard
Michael D. Shepard, Secretary

By: C. D. Crump
C. D. Crump, Vice President

CORPORATE ACKNOWLEDGMENT

STATE OF COLORADO)
COUNTY OF DENVER) §

The foregoing instrument was acknowledged before me this 29th
day of June, 1982, by C. D. Crump,
Vice President of DEPCO, Inc.,
a Delaware corporation on behalf of said corporation.

My Commission Expires:
September 16, 1984.

William J. Cordes
Notary Public
1000 Petroleum Building
110 Sixteenth Street
Denver, Colorado 80202.

COUNTERPART SIGNATURE PAGE TO THAT CERTAIN SOUTH LOCO HILLS (GRAYBERG) UNIT
AGREEMENT DATED MAY 20, 1982 BY AND BETWEEN YATES DRILLING COMPANY (operator)
AND DEPCO, Inc. et al (non-operators).

EXHIBIT "B"
To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Page -1-

| Tract No. | Description | No. of Acres | Serial No. & Expiration Date of Lease | Basic Royalty Ownership & Percentage | Lessee of Record | Overriding Royalty Owner and Percentage | Working Interest Owner and Percentage |
|-----------|---|--------------|---------------------------------------|--------------------------------------|---|---|---------------------------------------|
| 1. | T18S-R29E Sec. 20: NW/4NE/4 | 40.00 | LC-062404 HBP | USA-12.5 | Gladys Kelly & Pauline Hewitt-1/2 C.A. Denton & G. C. Denton-1/2 | C. A. Denton .75000 G. C. Denton .75000 Marjorie W. Lester Quail .50000 | C. A. Denton & G. C. Denton - A11 |
| 2. | T18S-R29E Sec. 19: E/2SW/4, Lot 4 Sec. 30: NW/4NE/4, NE/4NW/4 | 191.76 | NM-0924 HBP | USA-12.5 | T. J. Sivley | Neil McCrary -.28125 Carol M. Odell -.09375 Patricia M. Shaffer-.09375 Keith U. McCrary -.18750 Helen A. Root -.86670 Mary C. Johnston -.06665 Charles M. Fuchtmann -.06665 Billie Kruse, TRSTE, Barbara Kruse Frankenfield Trust -.04167 Jimmie Marie Terry, TRSTE, Susan Terry Trust -.04166 Jimmie Marie Terry, TRSTE, Sandra Terry Trust -.04167 Violet Shipp Young-.09370 Higgins Trust, Inc.-.12500 T. J. Sivley -5.00000 Southland Royalty Company - 6.25000 | Anadarko - A11 to 3350' |

EXHIBIT "B"
To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Page -2-

| <u>Tract No.</u> | <u>Description</u> | <u>No. of Acres</u> | <u>Serial No. & Expiration Date of Lease</u> | <u>Basic Royalty Ownership & Percentage</u> | <u>Lessee of Record</u> | <u>Overriding Royalty Owner and Percentage</u> | <u>Working Interest Owner and Percentage</u> |
|------------------|-----------------------------------|---------------------|--|---|-------------------------|--|--|
| 2a. | T18S-R29E Sec. 30: NE/4NE/4 | 40.00 | NM-0924 | USA-12.5 | T. J. Sivley | Higgins Trust, Inc. Keith U. McCrary - .12500 Neil McCrary - .18750 Carol M. Odell - .28125 Helen A. Root - .09375 Patricia M. - .86670 Shaffer - .09375 T. J. Sivley -5.62500 John H. Trigg - .62500 Violet Shipp Young - .09375 Billie Kruse, TRSTE, Barbara Kruse Frankenfield Trust - .04167 Jimmie Marie Terry, TRSTE, Susan Terry Trust - .04166 Jimmie Marie Terry, TRSTE, Sandra Terry Trust - .04167 Mary C. Johnston - .06665 Charles M. Fuchtmann - .06665 | Yates Drilling Co.-3/6 Martin Yates III-2/6, and Frank Yates -1/6 to 3000' |

EXHIBIT "B"
To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Page -3-

| <u>Tract No.</u> | <u>Description</u> | <u>No. of Acres</u> | <u>Serial No. & Expiration Date of Lease</u> | <u>Basic Royalty Ownership & Percentage</u> | <u>Lessee of Record</u> | <u>Overriding Royalty Owner and Percentage</u> | <u>Working Interest Owner and Percentage</u> |
|------------------|----------------------------------|---------------------|--|---|-------------------------|--|--|
| 2b. | T18S-R29E Sec. 29: N/2NW/4 | 80.00 | NM-0924 | USA-12.5 | T. J. Sivley | <p>Neil McCrary - .28125 Keith U. McCrary-.18750 Patricia M. Shaffer - .09375 Carol M. Odell - .09375 Violet Shipp Young - .09375 Helen A. Root - .86670 Mary C. Johnston-.06665 Charles M. Fuchtmann -.06665 Billie Kruse, TRSTE, Barbara Kruse Frankenfield Trust -.04167 Jimmie Marie Terry, TRSTE, Susan Terry Trust -.04166 Jimmie Marie Terry, TRSTE, Sandra Terry Trust -.04167 Higgins Trust, Inc.-.12500 T. J. Sivley -7.06250 W. T. Wynn -.68750 John H. Trigg -2.75000</p> | <p>Yates Drilling Company - 3/6 Martin Yates III -2/6, and Frank Yates-1/6 to 2500'</p> |

EXHIBIT "B"
To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

| Tract No. | Description | No. of Acres | Serial No. & Expiration Date of Lease | Basic Royalty Ownership & Percentage | Lessee of Record | Overriding Royalty Owner and Percentage | Working Interest Owner and Percentage |
|--------------|--|-----------------|---|--|--|---|---|
| 3. | <u>T18S-R29E</u> Sec. 30: Lot 1 | <u>31.91</u> | <u>NM-0924A</u> HBP | <u>USA-12.5</u> | <u>T. J. Sivley-7/8</u> W. T. Wynn -1/8 | <u>Neil McCrary</u> -.75000 <u>Keith U. McCrary</u> -.50000 Patricia M. Shaffer -.25000 Carol M. Odell -.25000 Violet Shipp Young -.25000 Southland Royalty Company - 6.25000 | <u>Anadarko</u> - All to 3350' |
| 4. | <u>T18S-R29E</u> Sec. 20: E/2NW/4, W/2NW/4, N/2SW/4, | 240.00 | NM-0925 HBP | USA-12.5 | T. J. Sivley | Neil McCrary -.28125 Keith U. McCrary -.18750 Patricia M. Shaffer -.09375 Carol M. Odell -.09375 Violet Shipp Young -.09375 Helen A. Root -.86670 Billie Kruse, TRSTE, Barbara Kruse Frankenfield Trust -.04167 Jimmie Marie Terry, TRSTE, Susan Terry Trust -.04166 Jimmie Marie Terry, TRSTE, Sandra Terry Trust -.04167 Higgins Trust, Inc. -.12500 Mary C. Johnston-.06665 Charles M. Fuchtmann -.06665 G. C. Denton -3.0000 * T.J. Sivley -3.0000 | DEPCO, Inc.-1/2 Husky Oil Co.- 1/2 to 4000' |

*effective upon payout termination of production payment of Julia K. Wright and Lloyd Wright

EXHIBIT "B"

To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Page -5-

| Tract No. | Description | No. of Acres | Serial No. & Expiration Date of Lease | Basic Royalty Ownership & Percentage | Lessee of Record | Overriding Royalty Owner and Percentage | Working Interest Owner and Percent |
|--------------|--|-----------------|---|--|---|--|---|
| <u>4a.</u> | <u>T18S-R29E</u> | | | | | | |
| | Sec. 20: SE/4SW/4 | 40.00 | NM-0925 HBP | USA-12.5 | T. J. Sivley | Nell McCrary -.75000 Helen A. Root -.86670 Mary C. Johnston -.06665 Charles M. Fuchtmann -.06665 Higgins Trust, Inc. -.12500 Billie Kruse, TRSTE, Barbara Kruse Frankenfield Trust -.04167 Jimmie Marie Terry, TRSTE, Susan Terry Trust -.04166 Jimmie Marie Terry, TRSTE, Sandra Terry Trust -.04167 Lloyd Wright & Julia K. Wright -5.00000 G. C. Denton & Frances Denton -3.00000 | Yates Drilling Company-3/6 Martin Yates III-2/6 Frank Yates-1/6 to 2800' |
| 5. | <u>T18S-R29E</u> Sec. 20: SW/4SW/4 | 40.00 | NM-0593 | USA-12.5 | Yates Drilling Company - 1/2 Martin Yates III- 1/2 | George Ferriman - 2.00000 Higgins Trust, Inc. -.12500 Keith U. McCrary -.18750 Nell McCrary -.28125 Carol M. Odell -.09375 Helen A. Root -.09375 Patricia M. Shaffer -.09375 Louise D. Yates -2.08333 Violet Shipp Young -.09375 | Lessee - All |

EXHIBIT "B"
To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

Page -6-

| Tract No. | Description | No. of Acres | Serial No. & Expiration Date of Lease | Basic Royalty Ownership & Percentage | Lessee of Record | Overriding Royalty Owner and Percentage | Working Interest Owner and Percentage |
|--------------|-----------------------------------|-----------------|---|--|--|--|--|
| 5. | Continued | | | | | Billie Kruse, TRSTE, Barbara Kruse Frankenfild Trust -.04165 Jimmie Marie Terry, TRSTE, Susan Terry Trust -.04167 Jimmie Marie Terry, TRSTE, Sandra Terry Trust -.04167 Mary C. Johnston -.06665 Charles M. Fuchtmann-.06665 | |
| 6. | T18S-R29E Sec. 19: NE/4NW/4 | 40.00 | NM-05525B | USA-12.5 | Anadarko | Jack McGaw -3.25000 Bonnie B. Morrison -3.00000 | Lessee to 2450' |
| 7. | T18S-R29E Sec. 19: NW/4NE/4 | 40.00 | NM-23417 (Step-Scale) | USA-12.5 | Anadarko | Harvey Yates - 12.5000 | Anadarko - A1 to 2500' |
| 7a. | T18S-R29E Sec. 19: S/2SE/4 | 80.00 | NM-23417 (Step-Scale) | USA-12.5 | Yates Drilling Company -1/2 Martin Yates III -1/2 | Eudora Hawley Heilman- -.25000 James C. Hawley -.12500 Frank E. Hawley -.12500 Yates Brothers -.25000 Glen F. Featherstone- -.50000 | Yates Drilling Company - 3/5 Martin Yates 11 - 2/5 and Frank Yates-1/6 to 2898' |
| 7a. | Continued | | | | | | |

Page -7-

| Tract No. | Description | No. of Acres | Serial No. & Expiration Date of Lease | Basic Royalty Ownership & Percentage | Lessee of Record | Overriding Royalty Owner and Percentage | Working |
|-----------|---|--------------|---------------------------------------|--------------------------------------|--|---|-------------------------------|
| | | | | | | | Interest Owner and Percentage |
| 7a. | Continued | | | | | | |
| 7b. | T18S-R29E Sec. 19: N/2SE/4, S/2NE/4, NE/4NE/4 | 200.00 | NM-23417 (Step-Scale) | USA-12.5 | Anadarko Southland Royalty Co.-1/2 | Robert F. Travis, Jr.- -2.00000 Harvey Yates -1.00000 Southland Royalty Company - 6.25000 | Anadarko - All to 3300' |

EXHIBIT "C"

To Unit Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

January 26, 1982

| <u>Tract Number</u> | <u>Cumulative Production Thru 1980</u> | <u>Participation Percentage</u> |
|---------------------|--|-------------------------------------|
| 1 | 14,942 | 2.456233 |
| 2 | 66,098 | 10.865484 |
| 2a | 15,967 | 2.624727 |
| 2b | 27,286 | 4.485394 |
| 3 | 3,127 | .514030 |
| 4 | 150,985 | 24.819588 |
| 4a | 35,155 | 5.778935 |
| 5 | 72,218 | 11.871517 |
| 6 | 15,254 | 2.507521 |
| 7 | 3,617 | .594579 |
| 7a | 93,725 | 15.406934 |
| 7b | <u>109,956</u> | <u>18.075058</u> |
| | 608,330 | 100.000000 |

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering any lands within the unit area in which the undersigned may be found to have an oil or gas interest.

This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 2nd day of July, 1982.

DD

A. D. James

A. D. JAMES, ATTORNEY-IN-FACT for
Southland Royalty Company

STATE OF TEXAS)
COUNTY OF MIDLAND) §

The foregoing instrument was acknowledged before me this 2nd
day of July, 1982, by A. D. James, Attorney-in-Fact for
Southland Royalty Company.

My Commission Expires:

Kathy Bright
Notary Public

KATHY BRIGHT, NOTARY PUBLIC FOR
STATE OF TEXAS
COMMISSION EXPIRES 3-30-85

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering any lands within the unit area in which the undersigned may be found to have an oil or gas interest.

This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 6 day of July, 1982.

C. A. Denton
C. A. Denton
Ann Denton
ANN Denton, his wife.

STATE OF N. M.)
COUNTY OF Lincoln) §

The foregoing instrument was acknowledged before me this 6 day of July, 1982, by C. A. Denton and
ANN Denton, his wife.

My Commission Expires:

June 10, 1984

Colleen Dean Wilson
Notary Public


RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering any lands within the unit area in which the undersigned may be found to have an oil or gas interest.

This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

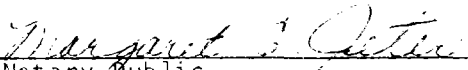
EXECUTED this 30th day of June, 1982.



STATE OF NEW MEXICO)
COUNTY OF CHAVES) §

The foregoing instrument was acknowledged before me this 30th
day of June, 1982, by John H. Trigg

My Commission Expires:
November 20, 1984



Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

This Ratification and Joinder shall be effective as to the undersigned's interests in any lands and leases, or interests therein, and royalties presently held or which may arise under existing option agreements or other interests in unitized substances, covering any lands within the unit area in which the undersigned may be found to have an oil or gas interest.

This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 2nd day of July, 1982.

G. C. Denton

STATE OF NEW MEXICO)
COUNTY OF Eddy) §

The foregoing instrument was acknowledged before me this 2nd day of July, 1982, by G. C. DENTON

_____.

My Commission Expires:
August 28, 1985

Juanita Branum
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 1st day of July, 1982.

Pauline F. Hewitt

STATE OF New Mexico)
COUNTY OF Eddy) §

The foregoing instrument was acknowledged before me this 1st day of July, 1982, by Pauline F. Hewitt

My Commission Expires:
March 1, 1986

William A. Glover
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 1st day of July, 1982.

Gladys Kelly

STATE OF New Mexico)
COUNTY OF Eddy) §

The foregoing instrument was acknowledged before me this 1st day of July, 1982, by Gladys Kelly

My Commission Expires:
March 1, 1986

William S. Dancer
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 23rd day of June, 1982.

Helen A. Root

STATE OF New Mexico)
COUNTY OF Bernalillo) §

The foregoing instrument was acknowledged before me this 23rd day of June, 1982, by Helen A. Root

My Commission Expires: _____



Donna S. Nicholas
Notary Public
OFFICIAL SEAL
DONNA S. NICHOLAS
NOTARY PUBLIC - NEW MEXICO
Notary Bond Filed with Secretary of State
My Commission Expires 9-8-84

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 9th day of June, 1982.

Carol M. Odell



OFFICIAL SEAL

Fred S. Saltschell
NOTARY PUBLIC

NOTARY PUBLIC - STATE OF NEW MEXICO

My Commission Expires 7-10-83

STATE OF New Mexico)
COUNTY OF Santa Fe) §

The foregoing instrument was acknowledged before me this 9th day of June, 1982, by Carol M. Odell

My Commission Expires:

Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 9th day of June, 1982.

Neil McCrory

OFFICIAL SEAL

Charles Hill
C. HILL

STATE OF New Mexico)

COUNTY OF Hart)

§

NOTARY PUBLIC - STATE OF NEW MEXICO

My Commission Expires 7-20-83

The foregoing instrument was acknowledged before me this 9th day of June, 1982, by Neil McCrory

My Commission Expires:

Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 16 day of June, 1982.

Patricia M. Shaffer

STATE OF New Mexico)
COUNTY OF Santa Fe) §

The foregoing instrument was acknowledged before me this 16th day of June, 1982, by Patricia M. Shaffer

My Commission Expires:
June 20, 1984

Diego L. Serrano
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 16 day of June, 1982.

[Signature]

STATE OF New Mexico §
COUNTY OF Chaves

The foregoing instrument was acknowledged before me this 16 day of June, 1982, by Celia T. Leatherstock

My Commission Expires:

10/5/82

[Signature]
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 11 day of June, 1982.

Violet Shipp Young

STATE OF Washington
COUNTY OF KING) §

The foregoing instrument was acknowledged before me this 11
day of JUNE, 1982, by VIOLET SHIPP YOUNG

My Commission Expires:
7/22/85

Boyd E. Lawrence
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this _____ day of _____, 1982.

Nell T. Michel

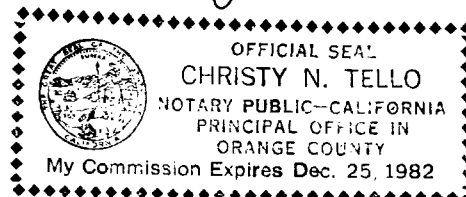
STATE OF California)
 : §
COUNTY OF Orange)

The foregoing instrument was acknowledged before me this 8th
day of June, 1982, by Nell T. Michel

_____.

My Commission Expires:
12-25-82

Christy N. Tello
Notary Public



RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 8th day of June, 1982.

Gladys Travis, Trustee

STATE OF Texas)
COUNTY OF El Paso) §

The foregoing instrument was acknowledged before me this 8th
day of June, 1982, by Gladys Travis, Trustee

My Commission Expires:
9-30-84

R. D. Smith
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 9 day of June, 1982.

James C. Hawley

STATE OF Colorado)
COUNTY OF Denver) §

The foregoing instrument was acknowledged before me this 5th day of June, 1982, by James C. Hawley.

My Commission Expires:
9-1-85

Charles W. Hawley
Notary Public
3102 S. Shandon
Denver Co

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 7th day of June, 1982.

Billie L. Kruse

STATE OF New Mexico)
COUNTY OF Dona Ana) §

The foregoing instrument was acknowledged before me this 7th day of June, 1982, by Billie L. Kruse, Trustee

My Commission Expires:
12-30-83

Judy Cunningham
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 1st day of June, 1982.

Mary C. Johnston

STATE OF Indiana)
COUNTY OF Johnson) §

The foregoing instrument was acknowledged before me this _____
day of 1st of June, 1982, by Mary C. Johnston.

My Commission Expires:
May 26, 1985

Barbara Benson
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 26th day of May, 1982.



JACK MC CAW

STATE OF NEW MEXICO)

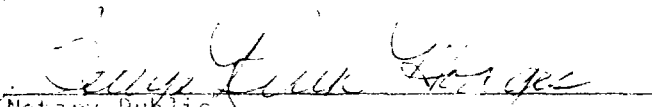
COUNTY OF EDDY)

§

The foregoing instrument was acknowledged before me this 26th day of May, 1982, by JACK McCaw.

My Commission Expires:

6-27-84



Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 1st day of June, 1982.

SUSAN TERRY TRUST AND SANDRA TERRY WORLEY TRUST

By: *Jimmie Marie Terry*
Jimmie Marie Terry (formerly Jimmie Marie Joy), Trustee

STATE OF NEW MEXICO)
COUNTY OF EDDY) §

The foregoing instrument was acknowledged before me this 1st day of June, 1982, by JIMMIE MARIE TERRY (formerly Jimmie Marie Joy), Trustee for Susan Terry Trust and Sandra Terry Worley Trust.

My Commission Expires:
June 27, 1984

Bettye Ruth Hodges
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this _____ day of _____, 1982.

Eudora Hawley Hillman

STATE OF Eddy)
COUNTY OF Los Angeles) §

The foregoing instrument was acknowledged before me this 28
day of May, 1982, by Eudora Hawley Hillman

My Commission Expires:
1-14-83

Cheryl Nelson
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 27th day of May, 1982.

W. J. Wynne

STATE OF Texas
COUNTY OF Midland §

The foregoing instrument was acknowledged before me this 27th day of May, 1982, by W. J. Wynne

My Commission Expires:
10/16/82

Sharon L. Bacon
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 28 day of MAY, 1982.

Robert F. Travis, Jr.

464-05-8042

STATE OF Missouri)
COUNTY OF Boone) §

The foregoing instrument was acknowledged before me this 28
day of MAY, 1982, by Robert F. Travis, Jr.

My Commission Expires: _____

Donald R. Stevens
Notary Public

DONALD R. STEVENS
NOTARY PUBLIC STATE OF MISSOURI
BOONE CO.
MY COMMISSION EXPIRES FEB 20 1986

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 26th day of May, 1982.

YATES BROTHERS

By: 

Partner

STATE OF NEW MEXICO)


COUNTY OF EDDY)

§

The foregoing instrument was acknowledged before me this 26th day of May, 1982, by John A. Yates
Partner in YATES BROTHERS, a Partnership

My Commission Expires:

6-27-84


Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 15th day of June, 1982.

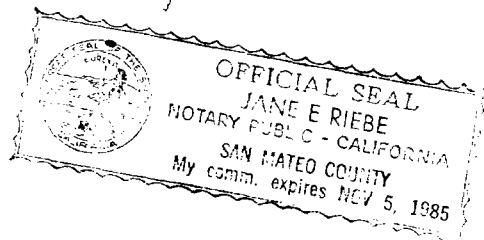
Frank E. Hickey

STATE OF California)
COUNTY OF San Mateo) §

The foregoing instrument was acknowledged before me this 15th
day of June, 1982, by Frank E. Hickey

My Commission Expires:

Jane E. Riebe
Notary Public



RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 4th day of June, 1982.

George H. Ferriman

STATE OF New Mexico)
COUNTY OF Eddy) §

The foregoing instrument was acknowledged before me this 4th
day of June, 1982, by George H. Ferriman

My Commission Expires:
9-23-85

William B. McLean
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 28th day of May, 1982.

Bonnie M. Morrison

STATE OF NEW MEXICO)
COUNTY OF CHAVES) §

The foregoing instrument was acknowledged before me this 28th day of May, 1982, by Bonnie M. Morrison

My Commission Expires:
December 7, 1985

[Signature]
Notary Public

RATIFICATION AND JOINDER OF UNIT AGREEMENT

In consideration of the execution of the Unit Agreement for the Development and Operation of the South Loco Hills (Grayburg) Unit, County of Eddy, State of New Mexico, dated May 20, 1982, in form approved on behalf of the Secretary of the Interior, the undersigned hereby expressly ratifies, approves and adopts and confirms said Unit Agreement as fully as though the undersigned had executed the original instrument.

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This Ratification and Joinder shall be binding upon the undersigned and the heirs, devisees, assigns or successors in interest of the undersigned.

EXECUTED this 16th day of July, 1982.

Keith McCrary

STATE OF California)
COUNTY OF Sacramento) §

The foregoing instrument was acknowledged before me this 16th day of July, 1982, by Keith McCrary

My Commission Expires:
April 8, 1986

Christine Schuemperli
Notary Public



UNIT OPERATING AGREEMENT
SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO

| | <u>INDEX</u> | <u>PAGE</u> |
|-----------|--|-------------|
| ARTICLE 1 | CONFIRMATION OF UNIT AGREEMENT | |
| | 1.1 Confirmation of Unit Agreement | 1 |
| ARTICLE 2 | EXHIBITS | |
| | 2.1 Exhibits | 1 |
| | 2.2 Revision of Exhibits | 2 |
| | 2.3 Reference to Exhibits. | 2 |
| ARTICLE 3 | SUPERVISION OF OPERATIONS BY WORKING INTEREST OWNERS | |
| | 3.1 Overall Supervision. | 2 |
| | 3.2 Specific Authorities and Duties. | 2 |
| ARTICLE 4 | MANNER OF EXERCISING SUPERVISION | |
| | 4.1 Designation of Representatives | 4 |
| | 4.2 Meetings | 4 |
| | 4.3 Voting Procedure | 4 |
| ARTICLE 5 | INDIVIDUAL RIGHTS OF WORKING INTEREST OWNERS | |
| | 5.1 Reservation of Rights. | 5 |
| | 5.2 Specific Rights. | 5 |
| ARTICLE 6 | UNIT OPERATOR | |
| | 6.1 Unit Operator. | 5 |
| | 6.2 Resignation or Removal & Selection of Successor | 5 |
| ARTICLE 7 | AUTHORITIES AND DUTIES OF UNIT OPERATOR | |
| | 7.1 Exclusive Right to Operate Unit. | 5 |
| | 7.2 Workmanlike Conduct. | 6 |
| | 7.3 Liens and Encumbrances | 6 |
| | 7.4 Employees. | 6 |
| | 7.5 Records. | 6 |
| | 7.6 Reports to Working Interest Owners | 6 |
| | 7.7 Reports to Governmental Authorities. | 6 |
| | 7.8 Engineering and Geological Information | 6 |
| | 7.9 Expenditures | 6 |
| | 7.10 Wells Drilled by Unit Operator | 6 |
| | 7.11 Mathematical Errors. | 6 |
| | 7.12 Border Agreement | 7 |
| | 7.13 Conflict of Supervision | 7 |

| | | |
|------------|--|----|
| ARTICLE 8 | TAXES | |
| 8.1 | Ad Valorem Taxes | 7 |
| 8.2 | Other Taxes. | 7 |
| ARTICLE 9 | INSURANCE | |
| 9.1 | Insurance. | 7 |
| ARTICLE 10 | ADJUSTMENT OF INVESTMENTS | |
| 10.1 | Personal Property Taken Over. | 8 |
| 10.2 | Inventory and Evaluation of Personal Property | 8 |
| 10.3 | Investment Adjustment | 8 |
| 10.4 | General Facilities. | 8 |
| 10.5 | Ownership of Personal Property & Facilities . | 9 |
| ARTICLE 11 | UNIT EXPENSE | |
| 11.1 | Basis of Charge to Working Interest Owners. . | 9 |
| 11.2 | Budgets | 9 |
| 11.3 | Advance Billings. | 9 |
| 11.4 | Commingling of Funds. | 10 |
| 11.5 | Lien and Security Interest of Unit Operator and Working Interest Owners | 10 |
| 11.6 | Unpaid Unit Expense | 10 |
| 11.7 | Carved-Out Interest | 10 |
| 11.8 | Uncommitted Royalty | 11 |
| 11.9 | Salvage Credit. | 11 |
| 11.10 | Rentals | 11 |
| ARTICLE 12 | NON-UNITIZED FORMATIONS | |
| 12.1 | Right to Operate. | 11 |
| ARTICLE 13 | TITLES | |
| 13.1 | Warranty and Indemnity. | 11 |
| 13.2 | Failure Because of Unit Operations. | 12 |
| ARTICLE 14 | LIABILITY, CLAIMS AND SUITS | |
| 14.1 | Individual Liability | 12 |
| 14.2 | Settlements. | 12 |
| ARTICLE 15 | LAWS AND REGULATIONS | |
| 15.1 | Internal Revenue Provision. | 12 |
| 15.2 | Statutory Unitization | 13 |
| ARTICLE 16 | NOTICES | |
| 16.1 | Notices | 13 |

| | | |
|------------|---|----|
| ARTICLE 17 | WITHDRAWAL OF WORKING INTEREST OWNER | |
| | 17.1 Withdrawal. | 13 |
| ARTICLE 18 | ABANDONMENT OF WELLS | |
| | 18.1 Rights of Former Owners | 14 |
| | 18.2 Plugging. | 14 |
| ARTICLE 19 | EFFECTIVE DATE AND TERM | |
| | 19.1 Effective Date. | 15 |
| | 19.2 Term. | 15 |
| ARTICLE 20 | ABANDONMENT OF OPERATIONS | |
| | 20.1 Termination | 15 |
| ARTICLE 21 | EXECUTION | |
| | 21.1 Original, Counterpart, or Other Instrument . | 15 |
| ARTICLE 22 | SUCCESSORS AND ASSIGNS | |
| | 22.1 Successors and Assigns. | 16 |

UNIT OPERATING AGREEMENT
SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO

THIS AGREEMENT, entered into as the _____ day of _____, 1982, by and between the parties who have signed the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto,

WITNESSETH:

WHEREAS, the parties hereto as Working Interest Owners have executed, as of the date hereof, an Agreement entitled "Unit Agreement, South Loco Hills (Grayburg) Unit, Eddy County, New Mexico, "herein referred to as "Unit Agreement," which, among other things, provides for a separate agreement to be entered into by Working Interest Owners to provide for Unit Operations as therein defined.

NOW, THEREFORE, in consideration of the mutual agreements herein set forth, it is agreed as follows:

ARTICLE 1

CONFIRMATION OF UNIT AGREEMENT

1.1 Confirmation of Unit Agreement. The Unit Agreement is hereby confirmed and by reference made a part of this Agreement. The definitions in the Unit Agreement are adopted for all purposes of this Agreement. If there is any conflict between the Unit Agreement and this Agreement, the Unit Agreement shall govern.

ARTICLE 2

EXHIBITS

2.1 Exhibits. The following exhibits are incorporated herein by reference:

2.1.1 Exhibits "A", "B", and "C", of the Unit Agreement.
There is no Exhibit "D".

2.1.2 Exhibit "E", attached hereto, is a schedule showing the Unit Participation of each Working Interest Owner. Exhibit "E", or a revision thereof, shall not be conclusive as to the information therein, except it may be used as showing the Unit Participations of Working Interest Owners for purposes of this Agreement until shown to be in error or revised as herein authorized.

2.1.3 Exhibit "F", attached hereto, is the Accounting Procedure applicable to Unit Operations. If there is any conflict between this Agreement and Exhibit "F", this Agreement shall govern.

2.1.4 Exhibit "G", attached hereto, contains insurance provisions applicable to Unit Operations.

2.2 Revision of Exhibits. Whenever Exhibits "A", "B" or "C" are revised, Exhibit "E" shall be revised accordingly and be effective as of the same date. Unit Operator shall also revise Exhibit "E" from time to time as required to conform to changes in ownership of which Unit Operator has been notified as provided in the Unit Agreement.

2.3 Reference to Exhibits. When reference is made herein to an exhibit, it is to the exhibit as originally attached or if revised, to the last revision.

ARTICLE 3

SUPERVISION OF OPERATIONS BY WORKING INTEREST OWNERS

3.1 Overall Supervision. Working Interest Owners shall exercise overall supervision and control of all matters pertaining to Unit Operations pursuant to this Agreement and the Unit Agreement. In the exercise of such authority, each Working Interest Owner shall act solely in its own behalf in the capacity of an individual owner and not on behalf of the owners as an entirety.

3.2 Specific Authorities and Duties. The matters with respect to which Working Interest Owners shall decide and take action shall include, but not be limited to, the following:

3.2.1 Method of Operation. The method of operation, including the type or types of pressure maintenance, secondary recovery, or other recovery program to be employed.

3.2.2 Drilling of Wells. The drilling of any well whether for production of Unitized Substances, for use as an injection well, or for other purposes.

3.2.3 Well Recompletion and Change of Status. The re-completion, abandonment, or permanent change of status of any well, or the use of any well for injection or other purposes. The Unit Operator shall be responsible for performing such work and such work shall be done at Unit Expense.

3.2.4 Expenditures. The making of any single expenditure in excess of Thirty Thousand Dollars (\$30,000.00); however, approval by Working Interest Owners of the drilling, reworking, deepening, or plugging back of any well shall include approval of all necessary, expenditures required therefore, and for completing, testing and equipping the well, including necessary flow lines, separators, and lease tankage; provided however, that in case of blowout, explosion, fire, flood or other sudden emergencies, Unit Operator may take steps and incur such expenses as in its opinion are required to deal with the emergency and to safeguard life

or property but that Unit Operator shall, as promptly as possible, report the emergency to the Working Interest Owners.

3.2.5 Disposition of Unit Equipment. The selling or otherwise disposing of any major item of surplus Unit Equipment, if the current price of new equipment similar thereto is Five Thousand Dollars (\$5,000.00) or more.

3.2.6 Appearance Before a Court or Regulatory Agency. The designating of a representative to appear before any court or regulatory agency in matters pertaining to Unit Operations; however, such designation shall not prevent any Working Interest Owner from appearing in person or from designating another representative in its own behalf.

3.2.7 Audits. The auditing of the accounts of Unit Operator pertaining to Unit Operations hereunder; however, the audits shall

(a) not be conducted more than once each year except upon the resignation or removal of Unit Operator, and

(b) be made upon the approval of the owner or owners of a majority of Working Interest other than that of Unit Operator, at the expense of all Working Interest Owners other than Unit Operator, or

(c) be made at the expense of those Working Interest Owners requesting such audit, if owners of less than a majority of Working Interest, other than that of Unit Operator, request such an audit, and

(d) be made upon not less than thirty (30) days written notice to Unit Operator.

3.2.8 Inventories. The taking of periodic inventories under the terms of Exhibit "F".

3.2.9 Technical Services. The authorizing of charges to the Joint Account of services by consultants or Unit Operator's technical personnel not covered by the overhead charges provided by Exhibit "F".

3.2.10 Assignments to Committees. The appointment of committees to study any problems in connection with Unit Operations.

3.2.11 The removal of Unit Operator and the selection of a successor.

3.2.12 The enlargement of the Unit Area.

3.2.13 The adjustment and readjustment of investments.

3.2.14 The termination of the Unit Agreement.

ARTICLE 4

MANNER OF EXERCISING SUPERVISION

4.1 Designation of Representatives. Each Working Interest Owner shall inform Unit Operator in writing of the names and addresses of the representative and alternate who are authorized to represent and bind such Working Interest Owner with respect to Unit Operations. The representative or alternate may be changed from time to time by written notice to Unit Operator.

4.2 Meetings. All meetings of Working Interest Owners shall be called by Unit Operator upon its own motion or at the request of two (2) or more Working Interest Owners having a total Unit Participation then in effect of not less than ten percent (10%). No meeting shall be called on less than fourteen (14) days advance written notice, with agenda for the meeting attached. Working Interest Owners who attend the meeting may amend items included in the agenda and may act upon an amended item or other items presented at the meeting. The representative of Unit Operator shall be chairman of each meeting.

4.3 Voting Procedure. Working Interest Owners shall decide all matters coming before them as follows:

4.3.1 Voting Interest. Each Working Interest Owner shall have a voting interest equal to its Unit Participation in effect at the time of the vote.

4.3.2 Vote Required. Unless otherwise provided herein or in the Unit Agreement, Working Interest Owners shall determine all matters by the affirmative vote of four or more Working Interest Owners having a combined voting interest of at least sixty-five percent (65%); however, should any one Working Interest Owner have more than thirty-five percent (35%) voting interest, its negative vote or failure to vote shall not defeat a motion, and such motion shall pass if approved by Working Interest Owners having a majority voting interest, unless three or more Working Interest Owners having a combined voting interest of at least five percent (5%) likewise vote against the motion or fail to vote.

4.3.3 Vote at Meeting by Nonattending Working Interest Owner. Any Working Interest Owner not represented at a meeting may vote on any agenda item by letter or telegram addressed to the representative of Unit Operator if its vote is received prior to the vote at the meeting, provided the agenda items are not amended.

4.3.4 Poll Votes. Working Interest Owners may vote on

and decide, by letter or telegram, any matter submitted in writing to Working Interest Owners. If a meeting is not requested, as provided in Section 4.2, within seven (7) days after a written proposal is sent to Working Interest Owners, the vote taken by letter or telegram shall become final. Unit Operator will give prompt notice of the results of such voting to all Working Interest Owners.

ARTICLE 5

INDIVIDUAL RIGHTS OF WORKING INTEREST OWNERS

5.1 Reservation of Rights. Working Interest Owners severally reserve to themselves all their rights, except as otherwise provided in this Agreement and the Unit Agreement.

5.2 Specific Rights. Each Working Interest Owner shall have among others, the following specific rights:

5.2.1 Access to Unit Area. Access to the Unit Area at all reasonable times to inspect Unit Operations, all wells, and the records and data pertaining thereto.

5.2.2 Reports. The right to receive from Unit Operator, upon written request, copies of all reports to any governmental agency, reports of crude oil runs and stocks, inventory reports, and all other information pertaining to Unit Operations. The cost of gathering and furnishing information not ordinarily furnished by Unit Operator to all Working Interest Owners shall be charged to the Working Interest Owner that requests the information.

5.3 Undrilled Locations. Unit Operator shall have the option to drill any undrilled locations on tracts committed to the Unit Area at Unit Expense.

ARTICLE 6

UNIT OPERATOR

6.1 Unit Operator. Yates Drilling Company, a New Mexico corporation, is hereby designated as Initial Unit Operator.

6.2 Resignation or Removal and Selection of Successor. The resignation or removal of Unit Operator and the selection of a successor shall be governed by the provisions of the Unit Agreement.

ARTICLE 7

AUTHORITIES AND DUTIES OF UNIT OPERATOR

7.1 Exclusive Right to Operate Unit. Subject to the provisions of this Agreement and to instructions from Working Interest Owners, Unit Operator shall have the exclusive right and be obligated to conduct Unit Operations.

7.2 Workmanlike Conduct. Unit Operator shall conduct Unit Operations in a good and workmanlike manner as would a prudent operator under the same or similar circumstances. Unit Operator shall freely consult with Working Interest Owners and keep them informed of all matters which Unit Operator, in the exercise of its best judgment, considers important. Unit Operator shall not be liable to Working Interest Owners for damages, unless such damages result from its gross negligence or willful misconduct.

7.3 Liens and Encumbrances. Unit Operator shall endeavor to keep the lands and leases in the Unit Area and Unit Equipment free from all liens and encumbrances occasioned by Unit Operations, except the lien and security interest of Unit Operator and Working Interest Owners granted hereunder.

7.4 Employees. The number of employees used by Unit Operator in conducting Unit Operations, their selection, hours of labor, and compensation shall be determined by Unit Operator. Such employees shall be the employees of Unit Operator.

7.5 Records. Unit Operator shall keep correct books, accounts, and records of Unit Operations.

7.6 Reports to Working Interest Owners. Unit Operator shall furnish Working Interest Owners periodic reports of Unit Operations.

7.7 Reports to Governmental Authorities. Unit Operator shall make all reports to governmental authorities that it has the duty to make as Unit Operator.

7.8 Engineering and Geological Information. Unit Operator shall furnish to a Working Interest Owner, upon written request, a copy of all logs and other engineering and geological data pertaining to wells drilled for Unit Operations.

7.9 Expenditures. Unit Operator is authorized to make single expenditures not in excess of Thirty Thousand Dollars (\$30,000.00) without prior approval of Working Interest Owners. If an emergency occurs, Unit Operator may immediately make or incur such expenditures as in its opinion are required to deal with the emergency. Unit Operator shall report to Working Interest Owners, as promptly as possible, the nature of the emergency and the action taken.

7.10 Wells Drilled by Unit Operator. All wells drilled by Unit Operator shall be at the usual rates prevailing in the area. Unit Operator may employ its own tools and equipment, but the charge therefor shall not exceed the usual rates prevailing in the area, and the work shall be performed by Unit Operator under the same terms and conditions as are usual in the area in contracts of independent contractors doing work of a similar nature.

7.11 Mathematical Errors. Unit Operator is empowered to correct any mathematical errors which might exist in the pertinent exhibits to this Agreement.

7.12 Border Agreement. Subject to the provisions and conditions in the Unit Agreement, Unit Operator shall have the right and authority to enter into border protection agreements.

7.13 Conflict of Supervision. Neither the Unit Operator nor the Working Interest Owners, nor any of them, shall be subject to any forfeiture, termination or expiration of any rights hereunder or under any leases or contracts subject hereto, or to any penalty or liability on account of delay or failure in whole or in part to comply with any applicable provisions thereof to the extent that the said Unit Operator or the Working Interest Owners, or any of them, are hindered, delayed or prevented from complying therewith by reason of failure of the Unit Operator to obtain, in the exercise of due diligence, the concurrence of proper representatives of the United States and of the State of New Mexico in and about any matters or things concerning which it is required herein that such concurrence be obtained.

ARTICLE 8

TAXES

8.1 Ad Valorem Taxes. Beginning with the first calendar year after the Effective Date hereof, Unit Operator shall make and file all necessary ad valorem tax renditions and returns with the proper taxing authorities with respect to all property of each Working Interest Owner used or held by Unit Operator for Unit Operations. Unit Operator shall settle assessments arising therefrom. Any Working Interest Owner dissatisfied with any proposed rendition or assessment of its interest in property shall have the right, at its own expense, to protest and resist the same. All such ad valorem taxes shall be paid by Unit Operator and charged to the joint account; however, if the interest of a Working Interest Owner is subject to a separately assessed overriding royalty interest, production payment, or other interest in excess of one-eighth (1/8) royalty, such Working Interest Owner shall notify Unit Operator of such interest prior to the rendition date and shall be given credit for the reduction in taxes paid resulting therefrom.

8.2 Other Taxes. Each Working Interest Owner shall pay or cause to be paid all production, severance, gathering, and other taxes imposed upon or with respect to the production or handling of its share of Unitized Substances.

ARTICLE 9

INSURANCE

9.1 Insurance. Unit Operator, with respect to Unit Operations, shall:

- (a) comply with the Workmen's Compensation Laws of the State,

(b) carry Employer's Liability and other insurance required by the laws of the State, and

(c) provide other insurance as set forth in Exhibit "G".

ARTICLE 10

ADJUSTMENT OF INVESTMENTS

10.1 Personal Property Taken Over. Upon the Effective Date, Working Interest Owners shall deliver to Unit Operator the following:

10.1.1 Wells. All wells completed in the Unitized Formation.

10.1.2 Well and Lease Equipment. The casing and tubing in each such well, the wellhead connections thereon, and all other lease and operating equipment that is used in the operation of such wells which Working Interest Owners determine is necessary or desirable for conducting Unit Operations.

10.1.3 Records. A copy of all production and well records for such wells.

10.2 Inventory and Evaluation of Personal Property. Working Interest Owners shall at Unit Expense inventory and evaluate, as determined by Working Interest Owners, the personal property taken over by Unit Operator under Section 10.1.2. Such inventory shall include and be limited to those items of equipment considered controllable under Exhibit "F" except, upon determination of Working Interest Owners, items considered noncontrollable may be included in the inventory in order to be included in the inventory for record purposes, but shall be excluded from evaluation and investment adjustment.

10.3 Investment Adjustment. Upon approval by Working Interest Owners of the inventory and evaluation, each Working Interest Owner shall be credited with the value, as determined in accordance with Section 10.2 above, of its interest in all personal property taken over by Unit Operator under Section 10.1.2. and charged with an amount equal to that obtained by multiplying the total value of all such personal property taken over the Unit Operator under Section 10.1.2. by such Working Interest Owner's Unit Participation. If the charge against any Working Interest Owner is greater than the amount credited to such Working Interest Owner, the resulting net charge shall be paid and in all other respects be treated as any other item of Unit Expense chargeable against such Working Interest Owners. If the credit to any Working Interest Owner is greater than the amount charged against such Working Interest Owner, the resulting net credit shall be paid to such Working Interest Owner by Unit Operator out of funds received by it in settlement of the net charges described above.

10.4 General Facilities. The acquisition of warehouses, warehouse stocks, lease houses, camps, facility system, and office buildings

necessary for Unit Operations shall be by negotiation by the owners thereof and Unit Operator, subject to the approval of Working Interest Owners.

10.5 Ownership of Personal Property and Facilities. Each Working Interest Owner, individually, shall by virtue hereof own an undivided interest, equal to its Unit Participation, in all personal property and facilities taken over or otherwise acquired by Unit Operator pursuant to this agreement.

ARTICLE 11

UNIT EXPENSE

11.1 Basis for Charge to Working Interest Owners. Unit Operator initially shall pay all Unit Expenditures. Each Working Interest Owner shall reimburse Unit Operator for its share of Unit Expenditures. Each Working Interest Owner's share of such Unit Expenditures shall be the same as its Unit Participation for:

- (a) items in the nature of capital assets including, without limitation, real property if acquired;
- (b) acquiring, drilling, redrilling, equipping and re-equipping water injection wells, replugging or converting oil wells to water injection wells, pumping and pipeline facilities for such wells, and changing any injection interval in any such well;
- (c) re-entry and replugging of wells outside the unit area as necessary to permit water injection into appropriate wells within the unit area;
- (d) gathering lines and facilities and common tank batteries utilized or acquired for Unit Operations, and
- (e) water purchased or otherwise obtained for injection purposes and the costs of injection thereof into the Unit Area.

Each Working Interest Owner's share of all other Unit Expenditures shall be the same as its Unit Participation in effect at that time. All charges, credits and accounting for Unit Expenditures shall be in accordance with Exhibit "F".

11.2 Budgets. Before or as soon as practical after the Effective Date, Unit Operator shall prepare a budget of estimated Unit Expense for the remainder of the calendar year and on or before the first day of each October thereafter shall prepare such a budget for the ensuing calendar year. Budgets shall be estimates only, and shall be adjusted or corrected by Working Interest Owners and Unit Operator whenever an adjustment or correction is proper. A copy of each budget and adjusted budget shall be furnished promptly to each Working Interest Owner.

11.3 Advance Billings. Unit Operator shall have the right, without prejudice to other rights or remedies, to require Working Interest

Owners to advance their respective share of estimated Unit Expense by submitting to Working Interest Owners, on or before the 15th day of any month, an itemized estimate thereof for the succeeding month, with a request for payment in advance. Within fifteen (15) days after receipt of the estimate, each Working Interest Owner shall pay to Unit Operator its share of such estimate. Adjustments between estimated and actual Unit Expense shall be made by Unit Operator at the close of each calendar month, and the accounts of Working Interest Owners shall be adjusted accordingly.

11.4 Commingling of Funds. Funds received by Unit Operator under this agreement need not be segregated or maintained by it as a separate fund, but may be commingled with its own funds.

11.5 Lien and Security Interest of Unit Operator and the Working Interest Owners. Each Working Interest Owner grants to Unit Operator a lien upon its Oil and Gas Rights in each Tract and a security interest in its share of Unitized Substances when extracted and its interest in all Unit Equipment to secure payment of its share of Unit Expense, together with interest thereon at the rate of twelve percent (12%) per annum, with the further provision that Unit Operator grants a like lien to Working Interest Owners. To the extent that Unit Operator has a security interest under the Uniform Commercial Code of the State of New Mexico, Unit Operator shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of a judgment by Unit Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any Working Interest Owners in the payment of its share of Unit Expense, Unit Operator shall have the right, without prejudice, to other rights or remedies, to collect from the purchaser the proceeds from the sale of such Working Interest Owner's share of Unitized Substances until the amount owed by such Working Interest Owners, plus interest, has been paid. Each purchaser shall be entitled to rely upon Unit Operator's written statement concerning the amount of any default. The rights herein granted the Unit Operator shall in like manner apply to the other Working Interest Owners.

11.6 Unpaid Unit Expense. If any Working Interest Owner fails to pay its share of Unit Expense within sixty (60) days after rendition of a statement therefor by Unit Operator, each Working Interest Owner agrees upon request by Unit Operator, to pay its proportionate part of the unpaid share of Unit Expense of the defaulting Working Interest Owner. Working Interest Owners that pay the share of Unit Expense of a defaulting Working Interest Owner shall be reimbursed by Unit Operator for the amount so paid, plus any interest collected thereon, upon receipt by Unit Operator of any past due amount collected from the defaulting Working Interest Owners. Any Working Interest Owner so paying a defaulting Working Interest Owner's share of Unit Expense shall, to obtain reimbursement thereof, be subrogated to the lien and other rights herein granted Unit Operator.

11.7 Carved-Out Interest. If any Working Interest Owners shall, after executing this agreement, create an overriding royalty, production payment, net proceeds interest, carried interest, or any other interest out of its Working Interest, such carved-out interest shall be subject to the

terms and provisions of this agreement, specifically including, but without limitation, Section 11.5 hereof entitled "Lien of Unit Operator." If the Working Interest Owner creating such carved-out interest (a) fails to pay any Unit Expense chargeable to such Working Interest Owner under this agreement, and the production of Unitized Substances accruing to the credit of such Working Interest Owner is insufficient for that purpose, or (b) withdraws from this agreement under the terms and provisions of Article 17 hereof, the carved-out interest shall be chargeable with a pro rata portion of all Unit Expense incurred hereunder, the same as though such carved-out interest were a Working Interest, and Unit Operator shall have the right to enforce against such carved-out interest the lien and all other rights granted in Section 11.5 for the purpose of collecting the Unit Expense chargeable to the carved-out interest.

11.8 Uncommitted Royalty. Should an owner of a Royalty Interest in any Tract fail to become a party to the Unit Agreement, and, as a result thereof, the actual Royalty Interest payments with respect to such Tract are more or less than the Royalty Interest payments computed on the basis of the Unitized Substances that are allocated to such Tract under the Unit Agreement, the difference to be borne by or inure to the benefit of Working Interest Owners shall not exceed an amount computed on the basis of one-eighth (1/8) of the difference between the Unitized Substances allocated to the Tract and the Unitized Substances produced from the Tract. Such adjustments shall be made by charges and credits to the joint account.

11.9 Salvage Credit. Credit for Unit Equipment salvaged during shall be divided in the same proportion as the Unit Participation.

11.10 Rentals. The Working Interest Owners in each Tract shall pay all rentals, minimum royalty, advance rentals or delay rentals due under the lease thereon and shall concurrently submit to the Unit Operator evidence of payment.

ARTICLE 12

NON-UNITIZED FORMATIONS

12.1 Right to Operate. Any Working Interest Owner that now has or hereafter acquires the right to drill for and produce oil, gas, or other minerals, from a formation underlying the Unit Area other than the Unitized Formation, shall have the right to do so notwithstanding this Agreement or the Unit Agreement. In exercising the right, however, the Working Interest Owner shall exercise care to prevent unreasonable interference with Unit Operations. No Working Interest Owner shall produce Unitized Substances through any well drilled or operated by it. If any Working Interest Owner drills any well into or through the Unitized Formation, the Unitized Formation shall be protected in a manner satisfactory to Working Interest Owners so that the production of Unitized Substances will not be affected adversely.

ARTICLE 13

TITLES

13.1 Warranty and Indemnity. Each Working Interest Owner repre-

sents and warrants that it is the owner of the respective working interests set forth opposite its name in Exhibit "B" of the Unit Agreement, and agrees to indemnify and hold harmless the other Working Interest Owners from any loss due to failure, in whole or in part, of its title to any such interest, except failure of title arising out of Unit Operations; however, such indemnity and any liability for breach of warranty shall be limited to an amount equal to the net value that has been received from the sale or receipt of Unitized Substances attributed to the interest as to which title failed. Each failure of title will be deemed to be effective, insofar as this Agreement is concerned, as of 7:00 a.m. on the first day of the calendar month in which such failure is finally determined, and there shall be no retroactive adjustment of Unit Expense, or retroactive allocation of Unitized Substances or the proceeds therefrom, as a result of title failure.

13.2 Failure Because of Unit Operations. The failure of title of any Working Interest in any Tract because of Unit Operations, including nonproduction from such Tract, shall not change the Unit Participation of the Working Interest Owner whose title failed in relation to the Unit Participations of the other Working Interest Owners at the time of the title failure.

ARTICLE 14

LIABILITY, CLAIMS, AND SUITS

14.1 Individual Liability. The duties, obligations, and liabilities of Working Interest Owners shall be several and not joint or collective; and nothing herein shall ever be construed as creating a partnership of any kind, joint venture, association, or trust among Working Interest Owners.

14.2 Settlements. Unit Operator may settle any single damage claim or suit involving Unit Operations if the expenditure does not exceed Fifteen Thousand Dollars (\$15,000.00) and if the payment is in complete settlement of such claim or suit. If the amount required for settlement exceeds the above amount, Working Interest Owners shall assume and take over the further handling of the claim or suit, unless such authority, is delegated to Unit Operator. All costs and expense of handling, settling, or otherwise discharging such claim or suit shall be an item of Unit Expense. If a claim is made against any Working Interest Owner or if any Working Interest Owner is sued on account of any matter arising from Unit Operations over which such Working Interest Owner individually has no control because of the rights given Working Interest Owners and Unit Operator by this Agreement and the Unit Agreement, the Working Interest Owner shall immediately notify Unit Operator, and the claim or suit shall be treated as any other claim or suit involving Unit Operations.

ARTICLE 15

LAWS AND REGULATIONS

15.1 Internal Revenue Provision. Notwithstanding any provisions herein that the rights and liabilities of the parties hereunder are several and not joint or collective, or that this Agreement and operations hereunder

shall not constitute a partnership, if for Federal income tax purposes this Agreement and the operations hereunder are regarded as a partnership then each of the parties hereto elects to be excluded from the application of all of the provisions of Subchapter K, Chapter 1, Subtitle A, of the Internal Revenue Code of 1954, as permitted and authorized by Section 761 of the Code and the regulations promulgated thereunder. Unit Operator is hereby authorized and directed to execute on behalf of each of the parties hereto such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by Federal Regulations 1.761-1(a). Should there be any requirement that each party hereto further evidence this election, each party hereto agrees to execute such documents and furnish such other evidence as may be required by the Federal Internal Revenue Service or as may be necessary to evidence this election. Each party hereto further agrees not to give any notices or take any other action inconsistent with the election made hereby. If any present or future income tax laws of the state or states in which the Unit Area is located, or any future income tax of the United States, contain provisions similar to those in Subchapter K, Chapter 1, Subtitle A, of the Internal Revenue Code of 1954, under which an election similar to that provided by Section 761 of the Code is permitted, each of the parties agrees to make such election as may be permitted, or required by such laws. In making this election, each of the parties states that the income derived by such party from the operations under this Agreement can be adequately determined without the computation of partnership taxable income.

15.2 Statutory Unitization. If Working Interest Owners owning at least seventy-five percent (75%) of the Unit Participation have become parties to this Agreement and if Royalty Interest Owners owning at least seventy-five percent (75%) of the Royalty Interest have become parties hereto, the Unit Operator may make application to the New Mexico Oil Conservation Division of the Energy and Minerals Department for statutory unitization of the uncommitted interests.

ARTICLE 16

NOTICES

16.1 Notices. All notices required hereunder shall be in writing and shall be deemed to have been properly served when sent by mail or telegram to the address of the representative of each Working Interest Owner as furnished to Unit Operator in accordance with Article 4.

ARTICLE 17

WITHDRAWAL OF WORKING INTEREST OWNER

17.1 Withdrawal. A Working Interest Owner may withdraw from this Agreement by transferring, without warranty of title, either express or implied, to the other Working Interest Owners, all its Oil and Gas Rights, exclusive of Royalty Interests, together with its interest in all Unit Eq-

uipment and in all wells used in Unit Operations. The instrument of transfer may be delivered to Unit Operator for the transferees. Such transfer shall not relieve the Working Interest Owner from any obligation or liability incurred prior to the date of the delivery of the instrument of transfer; however, the tender has to be accepted unless Working Interest Owners decide within ninety (90) days to terminate the Unit. The interest transferred shall be owned by the transferees in proportion to their respective Unit Participations then in effect. The transferees, in proportion to the respective interests so acquired, shall pay transferor, for its interest in Unit Equipment, the net salvage value thereof as determined by Working Interest Owners. In the event such withdrawing party's interest in the aforesaid fair salvage value after deducting the estimated cost of salvaging same is less than the withdrawing party's share of the estimated cost of plugging and abandoning all wells then being used or held for Unit Operations, then the withdrawing party, as a condition precedent to withdrawal, shall pay in cash to the party or parties succeeding to its interest a sum equal to the deficiency. After the date of delivery of the instrument of transfer, the withdrawing Working Interest Owner shall be relieved from all further obligations and liability hereunder and under the Unit Agreement, and the rights of such Working Interest Owner hereunder and under the Unit Agreement shall cease insofar as they existed by virtue of the interest transferred.

ARTICLE 18

ABANDONMENT OF WELLS

18.1 Rights of Former Owners. If Working Interest Owners decide to permanently abandon any well within the Unit Area prior to termination of the Unit Agreement, Unit Operator shall give written notice thereof to the Working Interest Owners of the Tract on which the well is located, and they shall have the option for a period of ninety (90) days after the sending of such notice to notify Unit Operator in writing of their election to take over and own the well. Within ten (10) days after the Working Interest Owners of the Tract have notified Unit Operator of their election to take over the well, they shall pay Unit Operator, for credit to the joint account, the amount determined by Working Interest Owners to be the net salvage value of the casing and equipment in on the well. The Working Interest Owners of the Tract, by taking over the well, agree to seal off the Unitized formation, and upon abandonment to plug the well in compliance with applicable laws and regulations.

18.2 Plugging. If the Working Interest Owners of a Tract do not elect to take over a well located within the Unit Area that is proposed for abandonment, Unit Operator shall plug and abandon the well in compliance with applicable laws and regulations.

ARTICLE 19

EFFECTIVE DATE AND TERM

19.1 Effective Date. This Agreement shall become effective when the Unit Agreement becomes effective.

19.2 Term. This Agreement shall continue in effect so long as the Unit Agreement remains in effect, and thereafter until (a) all Unit wells have been plugged and abandoned or turned over to Working Interest Owners in accordance with Article 20; (b) all Unit Equipment and real property acquired for the joint account have been disposed of by Unit Operator in accordance with instructions of Working Interest Owners; and (c) there has been a final accounting.

ARTICLE 20

ABANDONMENT OF OPERATIONS

20.1 Termination. Upon termination of the Unit Agreement, the following will occur:

20.1.1 Oil and Gas Rights. Oil and Gas Rights in and to each separate Tract shall no longer be affected by this Agreement, and thereafter the parties shall be governed by the terms and provisions of the leases, contracts and other instruments affecting the separate Tracts.

20.1.2 Right to Operate. Working Interest Owners of any Tract that desire to take over and continue to operate wells located thereon may do so by paying Unit Operator, for credit to the joint account, the net salvage values, as determined by Working Interest Owners, of the casing and equipment in and on the wells taken over and by agreeing upon abandonment to plug each well in compliance with applicable laws and regulations.

20.1.4 Cost of Abandonment. The cost of abandonment of Unit Operations shall be Unit Expense.

20.1.5 Distribution of Assets. Working Interest Owners shall share in the distribution of Unit Equipment, or the proceeds thereof, in proportion to their Unit Participations.

ARTICLE 21

EXECUTION

21.1 Original, Counterpart, or other Instrument. An owner of a Working Interest may become a party to this Agreement by signing the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto. The signing of any such instrument shall have the same effect as if all parties had signed the same instrument.

ARTICLE 22

SUCCESSORS AND ASSIGNS

22.1 Successors and Assigns. This Agreement shall extend to, be binding upon, and inure to the benefit of the parties hereto and their respective heirs, devisees, legal representative, successors, and assigns, and shall constitute a covenant running with the lands, leases, and interests covered hereby.

No party hereto shall assign or convey less than his entire interest in any Tract committed hereto unless such leased interest, if any, is an undivided interest in such entire tract; and, should any interest committed hereto be or become owned by three (3) or more parties, then all of such parties shall be obligated to appoint a single agent to represent such interest for the purpose of accepting billings and receiving payments, if any, arising hereunder, or under the Unit Agreement, and for voting upon any matter which is the subject of determination of by the Working Interest Owners.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the dates opposite their respective signatures.

YATES DRILLING COMPANY
Unit Operator and Working Interest Owner

By: _____
Attorney-in-Fact

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT OPERATING
AGREEMENT DATED May 20, 1982

MARTIN YATES, III

By:

[Signature]
Attorney-in-Fact

[Signature]
FRANK YATES

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this 14th
day of July, 1982, by FRANK YATES, individually and as
Attorney-in-Fact for MARTIN YATES, III.

My Commission Expires:

6-27-84

[Signature]
Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
OPERATING AGREEMENT DATED May 20, 1982

GLADYS KELLY

PAULINE HEWITT

ATTEST:

ANADARKO PRODUCTION COMPANY

By

A. D. Fleming

MAG
OK

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by GLADYS KELLY.

My Commission Expires:

Notary Public

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by PAULINE HEWITT.

My Commission Expires:

Notary Public

STATE OF TEXAS)
 : §
COUNTY OF Harris)

The foregoing instrument was acknowledged before me this 8th
day of July, 1982, by A. D. Fleming, Vice
President of ANADARKO PRODUCTION COMPANY, a Delaware corporation, on
behalf of said corporation.

My Commission Expires:

12-15-85

Sally Gentry
Notary Public

ATTEST:

HUSKY OIL COMPANY

By: *[Signature]*
Assistant Secretary

By: *[Signature]*
Vice President

ATTEST:

DEPCO, INC.

By: _____
Secretary

By: _____
President

CORPORATE ACKNOWLEDGMENT

STATE OF COLORADO)
COUNTY OF ARAPAHOE) §

The foregoing instrument was acknowledged before me this 13th
day of July, 1982, by C. A. Rystrom,
Vice President of Husky Oil Company,
a Delaware corporation on behalf of said corporation.

My Commission Expires:

July 20, 1985.

[Signature]
Notary Public
6060 S. Willow Drive
Englewood, CO

ATTEST:

HUSKY OIL COMPANY

By: _____
Secretary

By: _____
President

ATTEST:

DEPCO, INC.

By: Michael D. Shepard
Michael D. Shepard, Secretary

By: C. D. Crump
C. D. Crump, Vice President

CORPORATE ACKNOWLEDGMENT

STATE OF COLORADO)
 : §
COUNTY OF DENVER)

The foregoing instrument was acknowledged before me this 29th
day of June, 1982, by C. D. Crump,
Vice President of DEPCO, Inc.,
a Delaware corporation on behalf of said corporation.

My Commission Expires:

September 16, 1984.

Rosalynne J. Condit
Notary Public
1000 Petroleum Building
110 Sixteenth Street
Denver, Colorado 80202.

COUNTERPART SIGNATURE PAGE TO THAT CERTAIN SOUTH LOCO HILLS (GRAYBERG) UNIT
OPERATING AGREEMENT DATED MAY 20, 1982 BY AND BETWEEN YATES DRILLING COMPANY
(operator) AND DEPCO, Inc. et al (non-operators).

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
OPERATING AGREEMENT DATED May 20, 1982

C. A. Denton
C. A. DENTON

G. C. DENTON

ATTEST:

SOUTHLAND ROYALTY COMPANY

By _____

STATE OF NEW MEXICO)
COUNTY OF LINCOLN : §
~~EDDY~~)

The foregoing instrument was acknowledged before me this 4
day of July, 1982, by C. A. DENTON.

My Commission Expires:

June 10, 1984

Colleen Dean Wilson
Notary Public

STATE OF NEW MEXICO)
COUNTY OF EDDY : §
)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by G. C. DENTON.

My Commission Expires:

Notary Public

STATE OF TEXAS)
COUNTY OF : §
)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by _____, President
of SOUTHLAND ROYALTY COMPANY, a _____ corporation, on behalf of said
corporation.

My Commission Expires:

Notary Public

SIGNATURE PAGE TO SOUTH LOCO HILLS (GRAYBURG) UNIT
OPERATING AGREEMENT DATED May 20, 1982

C. A. DENTON

G. C. Denton
G. C. DENTON

ATTEST:

SOUTHLAND ROYALTY COMPANY

By _____

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by C. A. DENTON.

My Commission Expires:

Notary Public

STATE OF NEW MEXICO)
 : §
COUNTY OF EDDY)

The foregoing instrument was acknowledged before me this 7th
day of July, 1982, by G. C. DENTON.

My Commission Expires:

August 28, 1985

Juanita Branum
Notary Public

STATE OF TEXAS)
 : §
COUNTY OF)

The foregoing instrument was acknowledged before me this _____
day of _____, 1982, by _____, _____ President
of SOUTHLAND ROYALTY COMPANY, a _____ corporation, on behalf of said
corporation.

My Commission Expires:

Notary Public

EXHIBIT "E"
To Unit Operating Agreement
SOUTH LOCO HILLS (GRAYBURG) UNIT
Eddy County, New Mexico

| <u>Working Interest Owner</u> | <u>Tract No.</u> | <u>Cumulative Production Thru 1980</u> | <u>Participation Percentage</u> |
|---|------------------|--|-------------------------------------|
| C. A. Denton & G. C. Denton | 1 | 14942.0 | 2.456232 |
| Anadarko Production Company | 2 | 66098.0 | |
| | 3 | 3127.0 | |
| | 6 | 15254.0 | |
| | 7 | 3617.0 | |
| | 7b | <u>109956.0</u> | |
| COMPANY TOTAL | | 198052.0 | 32.556672 |
| Yates Drilling Company | 2a | 7983.5 | |
| | 2b | 27286.0 | |
| | 4a | 17577.5 | |
| | 5 | 36109.0 | |
| | 7a | <u>46862.5</u> | |
| COMPANY TOTAL | | 135818.5 | 22.326451 |
| Martin Yates, III and Frank Yates | 2a | 7983.5 | |
| | 4a | 17577.5 | |
| | 5 | 36109.0 | |
| | 7a | <u>46862.5</u> | |
| COMPANY TOTAL | | 108532.5 | 17.841057 |
| DEPCO, Inc. | 4 | 75492.5 | 12.409794 |
| Husky Oil Company | 4 | <u>75492.5</u> | <u>12.409794</u> |
| TOTALS | | <u>608330.0</u> | <u>100.000000</u> |

CUMS

EXHIBIT " F "

Attached to and made a part of Unit Operating Agreement, South
Loco Mills (Grayburg) Unit, Eddy County, New Mexico

**ACCOUNTING PROCEDURE
JOINT OPERATIONS**

I. GENERAL PROVISIONS

1. Definitions

"Joint Property" shall mean the real and personal property subject to the agreement to which this Accounting Procedure is attached.

"Joint Operations" shall mean all operations necessary or proper for the development, operation, protection and maintenance of the Joint Property.

"Joint Account" shall mean the account showing the charges paid and credits received in the conduct of the Joint Operations and which are to be shared by the Parties.

"Operator" shall mean the party designated to conduct the Joint Operations.

"Non-Operators" shall mean the parties to this agreement other than the Operator.

"Parties" shall mean Operator and Non-Operators.

"First Level Supervisors" shall mean those employees whose primary function in Joint Operations is the direct supervision of other employees and/or contract labor directly employed on the Joint Property in a field operating capacity.

"Technical Employees" shall mean those employees having special and specific engineering, geological or other professional skills, and whose primary function in Joint Operations is the handling of specific operating conditions and problems for the benefit of the Joint Property.

"Personal Expenses" shall mean travel and other reasonable reimbursable expenses of Operator's employees.

"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.

"Controllable Material" shall mean Material which at the time is so classified in the Material Classification Manual as most recently recommended by the Council of Petroleum Accountants Societies of North America.

2. Statement and Billings

Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of the Joint Account for the preceding month. Such bills will be accompanied by statements which identify the authority for expenditure, lease or facility, and all charges and credits, summarized by appropriate classifications of investment and expense except that items of Controllable Material and unusual charges and credits shall be separately identified and fully described in detail.

3. Advances and Payments by Non-Operators

Unless otherwise provided for in the agreement, the Operator may require the Non-Operators to advance their share of estimated cash outlay for the succeeding month's operation. Operator shall adjust each monthly billing to reflect advances received from the Non-Operators.

Each Non-Operator shall pay its proportion of all bills within fifteen (15) days after receipt. If payment is not made within such time, the unpaid balance shall bear interest monthly at the rate of twelve percent (12%) per annum or the maximum contract rate permitted by the applicable usury laws in the state in which the Joint Property is located, whichever is the lesser, plus attorney's fees, court costs, and other costs in connection with the collection of unpaid amounts.

4. Adjustments

Payment of any such bills shall not prejudice the right of any Non-Operator to protest or question the correctness thereof; provided, however, all bills and statements rendered to Non-Operators by Operator during any calendar year shall conclusively be presumed to be true and correct after twenty-four (24) months following the end of any such calendar year, unless within the said twenty-four (24) month period a Non-Operator takes written exception thereto and makes claim on Operator for adjustment. No adjustment favorable to Operator shall be made unless it is made within the same prescribed period. The provisions of this paragraph shall not prevent adjustments resulting from a physical inventory of Controllable Material as provided for in Section V.

5. Audits

A. Non-Operator, upon notice in writing to Operator and all other Non-Operators, shall have the right to audit Operator's accounts and records relating to the Joint Account for any calendar year within the twenty-four (24) month period following the end of such calendar year; provided, however, the making of an audit shall not extend the time for the taking of written exception to and the adjustments of accounts as provided for in Paragraph 4 of this Section I. Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct joint or simultaneous audits in a manner which will result in a minimum of inconvenience to the Operator. Operator shall bear no portion of the Non-Operators' audit cost incurred under this paragraph unless agreed to by the Operator.

6. Approval by Non-Operators

Where an approval or other agreement of the Parties or Non-Operators is expressly required under other sections of this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, Operator shall notify all Non-Operators of the Operator's proposal, and the agreement or approval of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

II. DIRECT CHARGES

Operator shall charge the Joint Account with the following items:

1. Rentals and Royalties

Lease rentals and royalties paid by Operator for the Joint Operations.

2. Labor

A. (1) Salaries and wages of Operator's field employees directly employed on the Joint Property in the conduct of Joint Operations.

(2) Salaries of First Level Supervisors in the field.

(3) Salaries and wages of Technical Employees directly employed on the Joint Property if such charges are excluded from the Overhead rates.

B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II. Such costs under this Paragraph 2B may be charged on a "when and as paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Paragraph 2A of this Section II. If percentage assessment is used, the rate shall be based on the Operator's cost experience.

C. Expenditures or contributions made pursuant to assessments imposed by governmental authority which are applicable to Operator's costs chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II.

D. Personal Expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II.

3. Employee Benefits

Operator's current costs of established plans for employees' group life insurance, hospitalization, pension, retirement, stock purchase, thrift, bonus, and other benefit plans of a like nature, applicable to Operator's labor cost chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II shall be Operator's actual cost not to exceed twenty per cent (20%), or percentage most recently recommended by COPAS.

4. Material

Material purchased or furnished by Operator for use on the Joint Property as provided under Section IV. Only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use and is reasonably practical and consistent with efficient and economical operations. The accumulation of surplus stocks shall be avoided.

5. Transportation

Transportation of employees and Material necessary for the Joint Operations but subject to the following limitations:

A. If Material is moved to the Joint Property from the Operator's warehouse or other properties, no charge shall be made to the Joint Account for a distance greater than the distance from the nearest reliable supply store, recognized barge terminal, or railway receiving point where like material is normally available, unless agreed to by the Parties.

B. If surplus Material is moved to Operator's warehouse or other storage point, no charge shall be made to the Joint Account for a distance greater than the distance to the nearest reliable supply store, recognized barge terminal, or railway receiving point unless agreed to by the Parties. No charge shall be made to the Joint Account for moving Material to other properties belonging to Operator, unless agreed to by the Parties.

C. In the application of Subparagraphs A and B above, there shall be no equalization of actual gross trucking cost of \$200 or less excluding accessoril charges.

6. Services

The cost of contract services, equipment and utilities provided by outside sources, except services excluded by Paragraph 9 of Section II and Paragraph 1. ii of Section III. The cost of professional consultant services and contract services of technical personnel directly engaged on the Joint Property if such charges are excluded from the Overhead rates. The cost of professional consultant services or contract services of technical personnel not directly engaged on the Joint Property shall not be charged to the Joint Account unless previously agreed to by the Parties.

7. Equipment and Facilities Furnished by Operator

A. Operator shall charge the Joint Account for use of Operator owned equipment and facilities at rates commensurate with costs of ownership and operation. Such rates shall include costs of maintenance, repairs, other operating expense, insurance, taxes, depreciation, and interest on investment not to exceed eight per cent (8%) per annum. Such rates shall not exceed average commercial rates currently prevailing in the immediate area of the Joint Property.

B. In lieu of charges in Paragraph 7A above, Operator may elect to use average commercial rates prevailing in the immediate area of the Joint Property less 20%. For automotive equipment, Operator may elect to use rates published by the Petroleum Motor Transport Association.

8. Damages and Losses to Joint Property

All costs or expenses necessary for the repair or replacement of Joint Property made necessary because of damages or losses incurred by fire, flood, storm, theft, accident, or other cause, except those resulting from Operator's gross negligence or willful misconduct. Operator shall furnish Non-Operator written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

9. Legal Expense

Expense of handling, investigating and settling litigation or claims, discharging of liens, payment of judgments and amounts paid for settlement of claims incurred in or resulting from operations under the agreement or necessary to protect or recover the Joint Property, except that no charge for services of Operator's legal staff or fees or expense of outside attorneys shall be made unless previously agreed to by the Parties. All other legal expense is considered to be covered by the overhead provisions of Section III unless otherwise agreed to by the Parties, except as provided in Section I, Paragraph 3.

• 10. Taxes

All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

11. Insurance

Net premiums paid for insurance required to be carried for the Joint Operations for the protection of the Parties. In the event Joint Operations are conducted in a state in which Operator may act as self-insurer for Workmen's Compensation and/or Employers Liability under the respective state's laws, Operator may, at its election, include the risk under its self-insurance program and in that event, Operator shall include a charge at Operator's cost not to exceed manual rates.

12. Other Expenditures

Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator in the necessary and proper conduct of the Joint Operations.

III. OVERHEAD

I. Overhead - Drilling and Producing Operations

- i. As compensation for administrative, supervisory, office services and warehousing costs, Operator shall charge drilling and producing operations on either:

(☒) Fixed Rate Basis, Paragraph 1A, or
() Percentage Basis, Paragraph 1B.

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 2A, Section II. The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting or matters before or involving governmental agencies shall be considered as included in the Overhead rates provided for in the above selected Paragraph of this Section III unless such cost and expense are agreed to by the Parties as a direct charge to the Joint Account.

- ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property shall () shall not (☒) be covered by the Overhead rates.

A. Overhead - Fixed Rate Basis

- (1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate \$ 2800.00
Producing Well Rate \$ 280.00

- (2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

- [1] Charges for onshore drilling wells shall begin on the date the well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days.
[2] Charges for offshore drilling wells shall begin on the date when drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location or rig is released, whichever occurs first, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days.
[3] Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig, commence through date of rig release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive days.

(b) Producing Well Rates

- [1] An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.
[2] Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.
[3] An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.
[4] A one-well charge may be made for the month in which plugging and abandonment operations are completed on any well.
[5] All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.
(3) The well rates shall be adjusted as of the first day of April each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Fields Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

B. Overhead - Percentage Basis

(1) Operator shall charge the Joint Account at the following rates:

(a) Development

_____ Percent (%) of the cost of Development of the Joint Property exclusive of costs provided under Paragraph 9 of Section II and all salvage credits.

(b) Operating

_____ Percent (%) of the cost of Operating the Joint Property exclusive of costs provided under Paragraphs 1 and 9 of Section II, all salvage credits, the value of injected substances purchased for secondary recovery and all taxes and assessments which are levied, assessed and paid upon the mineral interest in and to the Joint Property.

(2) Application of Overhead - Percentage Basis shall be as follows:

For the purpose of determining charges on a percentage basis under Paragraph 1B of this Section III, development shall include all costs in connection with drilling, redrilling, deepening or any remedial operations on any or all wells involving the use of drilling crew and equipment; also, preliminary expenditures necessary in preparation for drilling and expenditures incurred in abandoning when the well is not completed as a producer, and original cost of construction or installation of fixed assets, the expansion of fixed assets and any other project clearly discernible as a fixed asset, except Major Construction as defined in Paragraph 2 of this Section III. All other costs shall be considered as Operating.

2. Overhead - Major Construction

To compensate Operator for overhead costs incurred in the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly discernible as a fixed asset required for the development and operation of the Joint Property, Operator shall either negotiate a rate prior to the beginning of construction, or shall charge the Joint Account for Overhead based on the following rates for any Major Construction project in excess of \$25,000 _____:

- A. 6 % of total costs if such costs are more than \$25,000 but less than \$100,000; plus
B. 6 % of total costs in excess of \$100,000 but less than \$1,000,000; plus
C. 5 % of total costs in excess of \$1,000,000.

Total cost shall mean the gross cost of any one project. For the purpose of this paragraph, the component parts of a single project shall not be treated separately and the cost of drilling and workover wells shall be excluded.

3. Amendment of Rates

The Overhead rates provided for in this Section III may be amended from time to time only by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. PRICING OF JOINT ACCOUNT MATERIAL PURCHASES, TRANSFERS AND DISPOSITIONS

Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for all material movements affecting the Joint Property. Operator shall provide all Material for use on the Joint Property; however, at Operator's option, such Material may be supplied by the Non-Operator. Operator shall make timely disposition of idle and/or surplus Material, such disposal being made either through sale to Operator or Non-Operator, division in kind, or sale to outsiders. Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus condition A or B Material. The disposal of surplus Controllable Material not purchased by the Operator shall be agreed to by the Parties.

1. Purchases

Material purchased shall be charged at the price paid by Operator after deduction of all discounts received. In case of Material found to be defective or returned to vendor for any other reason, credit shall be passed to the Joint Account when adjustment has been received by the Operator.

2. Transfers and Dispositions

Material furnished to the Joint Property and Material transferred from the Joint Property or disposed of by the Operator, unless otherwise agreed to by the Parties, shall be priced on the following bases exclusive of cash discounts:

A. New Material (Condition A)

- (1) Tubular goods, except line pipe, shall be priced at the current new price in effect on date of movement on a maximum carload or barge load weight basis, regardless of quantity transferred, equalized to the lowest published price f.o.b. railway receiving point or recognized barge terminal nearest the Joint Property where such Material is normally available.
- (2) Line Pipe
 - (a) Movement of less than 30,000 pounds shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store nearest the Joint Property where such Material is normally available.
 - (b) Movement of 30,000 pounds or more shall be priced under provisions of tubular goods pricing in Paragraph 2A (1) of this Section IV.
- (3) Other Material shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store or f.o.b. railway receiving point nearest the Joint Property where such Material is normally available.

B. Good Used Material (Condition B)

Material in sound and serviceable condition and suitable for reuse without reconditioning:

- (1) Material moved to the Joint Property
 - (a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV.
- (2) Material moved from the Joint Property
 - (a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as new Material, or

COPIES

(b) at sixty-five percent (65%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as good used Material at seventy-five percent (75%) of current new price.

The cost of reconditioning, if any, shall be absorbed by the transferring property.

C. Other Used Material (Condition C and D)

(1) Condition C

Material which is not in sound and serviceable condition and not suitable for its original function until after reconditioning shall be priced at fifty percent (50%) of current new price as determined by Paragraph 2A of this Section IV. The cost of reconditioning shall be charged to the receiving property, provided Condition C value plus cost of reconditioning does not exceed Condition B value.

(2) Condition D

All other Material, including junk, shall be priced at a value commensurate with its use or at prevailing prices. Material no longer suitable for its original purpose but usable for some other purpose, shall be priced on a basis comparable with that of items normally used for such other purpose. Operator may dispose of Condition D Material under procedures normally utilized by the Operator without prior approval of Non-Operators.

D. Obsolete Material

Material which is serviceable and usable for its original function but condition and or value of such Material is not equivalent to that which would justify a price as provided above may be specially priced as agreed to by the Parties. Such price should result in the Joint Account being charged with the value of the service rendered by such Material.

E. Pricing Conditions

(1) Loading and unloading costs may be charged to the Joint Account at the rate of fifteen cents (15¢) per hundred weight on all tubular goods movements, in lieu of loading and unloading costs sustained, when actual hauling cost of such tubular goods are equalized under provisions of Paragraph 5 of Section II.

(2) Material involving erection costs shall be charged at applicable percentage of the current knocked-down price of new Material.

3. Premium Prices

Whenever Material is not readily obtainable at published or listed prices because of national emergencies, strikes or other unusual causes over which the Operator has no control, the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in providing such Material, in making it suitable for use, and in moving it to the Joint Property; provided notice in writing is furnished to Non-Operators of the proposed charge prior to billing Non-Operators for such Material. Each Non-Operator shall have the right, by so electing and notifying Operator within ten days after receiving notice from Operator, to furnish in kind all or part of his share of such Material suitable for use and acceptable to Operator.

4. Warranty of Material Furnished by Operator

Operator does not warrant the Material furnished. In case of defective Material, credit shall not be passed to the Joint Account until adjustment has been received by Operator from the manufacturers or their agents.

V. INVENTORIES

The Operator shall maintain detailed records of Controllable Material.

1. Periodic Inventories, Notice and Representation

At reasonable intervals, Inventories shall be taken by Operator of the Joint Account Controllable Material. Written notice of intention to take inventory shall be given by Operator at least thirty (30) days before any inventory is to begin so that Non-Operators may be represented when any inventory is taken. Failure of Non-Operators to be represented at an inventory shall bind Non-Operators to accept the inventory taken by Operator.

2. Reconciliation and Adjustment of Inventories

Reconciliation of a physical inventory with the Joint Account shall be made, and a list of overages and shortages shall be furnished to the Non-Operators within six months following the taking of the inventory. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable only for shortages due to lack of reasonable diligence.

3. Special Inventories

Special Inventories may be taken whenever there is any sale or change of interest in the Joint Property. It shall be the duty of the party selling to notify all other Parties as quickly as possible after the transfer of interest takes place. In such cases, both the seller and the purchaser shall be governed by such inventory.

4. Expense of Conducting Periodic Inventories

The expense of conducting periodic Inventories shall not be charged to the Joint Account unless agreed to by the Parties.

EXHIBIT "G"

ATTACHED TO AND MADE A PART OF
UNIT OPERATING AGREEMENT
SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO

ADDITIONAL INSURANCE PROVISIONS

Operator, during the term of this agreement, shall carry insurance for the benefit and at the expense of the parties hereto, as follows:

- (A) Workmen's Compensation Insurance as contemplated by the state in which operations will be conducted, and Employer's Liability Insurance with limits of not less than \$100,000.00 per employee.
- (B) Public Liability Insurance:
Bodily Injury - \$500,000.00 each occurrence.
- (C) Automobile Public Liability Insurance:
Bodily Injury - \$250,000.00 each person.
\$500,000.00 each occurrence.

Property Damage - \$100,000.00 each occurrence.

Except as authorized by this Exhibit "G", Operator shall not make any charge to the joint account for insurance premiums. Losses not covered by Operator's insurance (or by insurance required by this agreement to be carried for the benefit and at the expense of the parties hereto) shall be charged to the joint account.

Plan of Development
South Loco Hills (Grayburg) Unit

The attached map shows our proposed injection pattern to be accomplished in two phases by converting existing wells to water injection service. This plan of development will cover phase one only and a supplemental plan will be submitted to cover phase two operations. The attached map shows the locations of the phase one injection wells by triangles and the phase two injectors by squares.

Upon approval of the unit by the Minerals Management Service and the NMOCD we plan to replug the plugged wells that penetrated the unitized formation within $\frac{1}{2}$ mile of our phase one injectors which are not deemed adequately plugged to prevent possible vertical migration of fluid in the well bore. According to NMOCD Orders R-7011 and R-7012, these wells are described as follows:

| <u>Well Name</u> | <u>Location</u> | <u>Item Number on Map</u> |
|--------------------------------|-----------------|---------------------------|
| Denton Hover #1 | O-20-18-29 | 3 |
| Trigg Fed Sivley Wright #2-29 | B-29-18-29 | 4 |
| Yates Wright #1 | J-29-18-29 | 6 |
| Hondo Alscott Com #4 | G-30-18-29 | 7 |
| Wooley Briscoe #1 | F-30-18-29 | 8 |
| Trigg Fed Sivley Alscott #5-30 | C-30-18-29 | 9 |
| Sims & Reese Pure Fed #1 | L-19-18-29 | 10 |
| Heyco Travis #9 | H-19-18-29 | 13 |

The jurisdictional agencies may decide that the Hondo Alscott Com #4 is already adequately plugged.

Details of the plugging records for these wells are shown by the attached tabulation and schematics. The above tabulated wells are all on leased Federal land and it is understood that permission must be obtained from the lessees of record to reenter the wells for replugging purposes. We propose to obtain a unit bond, conditioned to cover the necessary operations outside the unit area, in order to protect the lease owners involved. The notices to reenter and plugging programs will be submitted to the Roswell MMS office for approval.

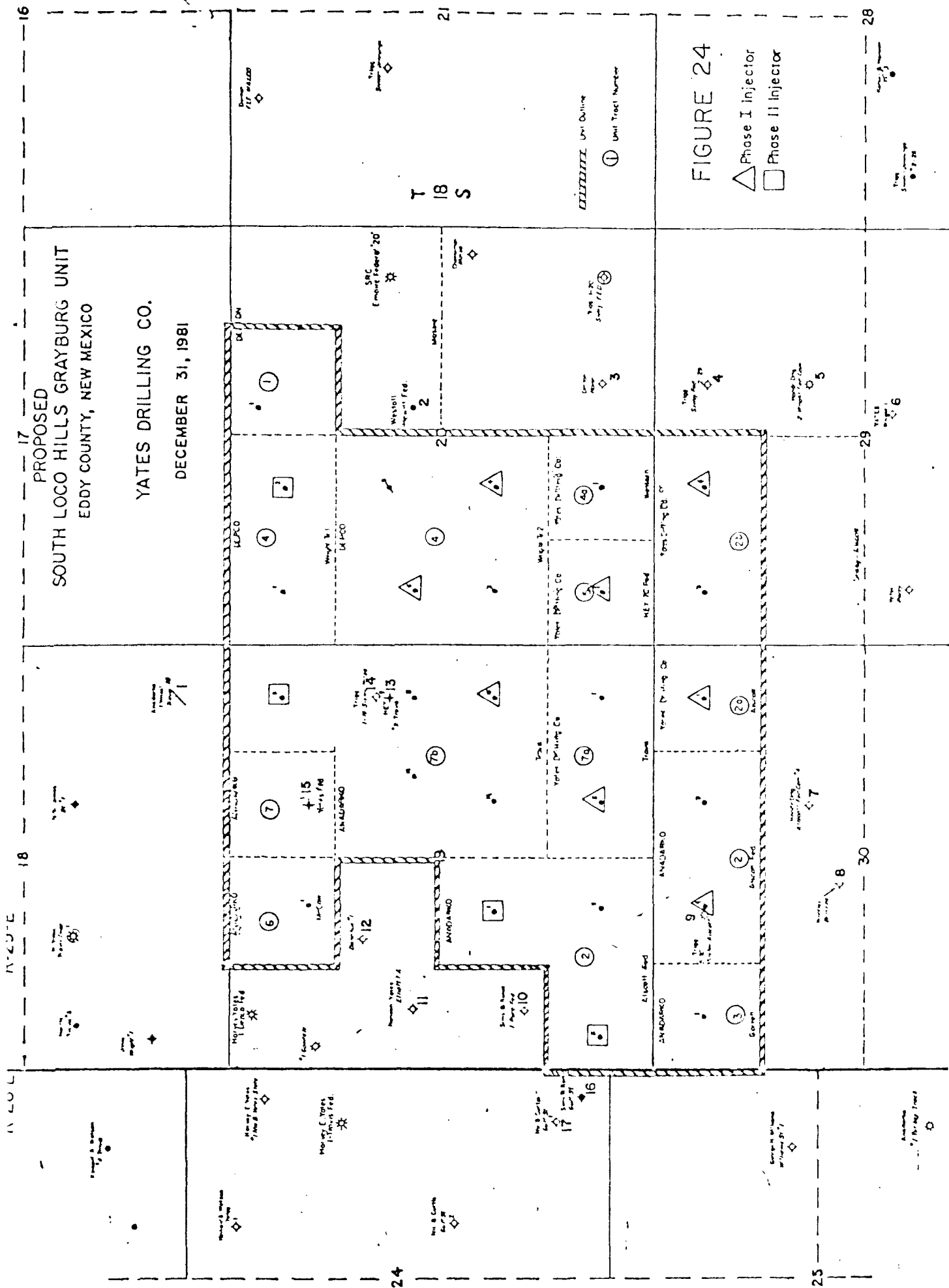
We propose to inject water into the existing perforations in the well converted to injection status, after 1000 gal acid treatment. The individual injection well detail is presented by the attached schematics. The casing-tubing annulus will be filled with an inert and chemically inhibited fluid. Injection profiles will be run within a year after the start of injection.

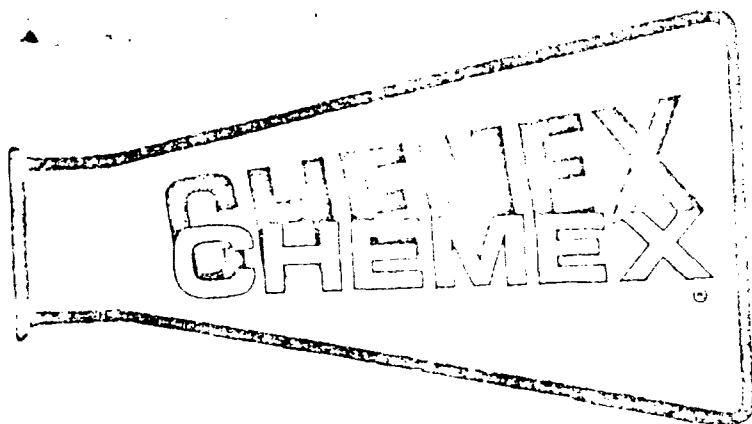
Plan of Development
South Loco Hills (Grayburg) Unit

-2-

We plan to inject at an average rate of 200 to 250 bbls per well using a closed system. The source of injection fluid will be Ogallala fresh water supplied by Yucca Water Company. An analysis of the produced Loco Hills water and the injection water is attached. In our opinion the two waters are compatible based on their use in the West Loco Hills Unit.

Any significant deviation from this plan of development will be covered by an amended or supplemental plan.





P. O. Box 8, 1
Altoona, N. M. 88006

WATER ANALYSIS REPORT

Company Yates Drilling Company Date May 17, 1982
 Field _____ County Eddy State N.M.
 Lease and Well No. HEY-70 Prod. Formation _____
 Source of Sample _____
 Sample of Prod. Water Inj. Water Other
 Date Collected 5-17-82 Analyst J. Dudley

WATER ANALYSIS PATTERN

NUMBER BESIDE ION SYMBOL INDICATES MILLIEQUIVALENT

| | | | | | | | | | |
|--------------------|----|----|---|---|---|----|----|----|-------------------------------|
| Na ⁺ 20 | 15 | 10 | 5 | 0 | 5 | 10 | 15 | 20 | Cl ⁻ |
| Ca ⁺⁺ | | | | | | | | | HCO ₃ ⁻ |
| Mg ⁺⁺ | | | | | | | | | SO ₄ ⁻² |
| Fe ⁺⁺⁺ | | | | | | | | | CO ₃ ⁻² |

Dissolved Solids

| Constituent | MG/L (PPM) |
|------------------------|------------------|
| Calcium | 1,600 mg/l |
| Magnesium | 3,200 mg/l |
| Sodium | 33,400 est. mg/l |
| Iron | 0 |
| Chloride | 63,000 mg/l |
| Bicarbonate | 0 = |
| Carbonate | 80 mg/l |
| Sulfate | 1,500 mg/l |
| Total Hardness | 4,800 mg/l |
| Total Dissolved Solids | 60,300 mg/l |
| Hydrogen Sulfide | 0 |
| Oxygen | 1+ mg/l |

EPM

| |
|------|
| 80 |
| 262 |
| 1756 |
| 1776 |
| 0 |
| 24 |

ph 7.65

Sp. Gravity _____

Remarks:

KCL = 0

RESULTS OF WATER ANALYSES

SAMPLE RECEIVED 6/30/81 RESULTS REPORTED 7/13/81 LABORATORY NO. 2041-2043

| | | | | | |
|---|---|----------|----------------------|-------|-------|
| COMPANY | COPT | | | | |
| FIELD NO. | LEASE | | | | |
| SECTION | TWP | RCF | COUNTY | STATE | |
| SOURCE OF SAMPLE AND DATE TAKEN: | | | | | |
| No. 1 | 2041 - Fresh Water | | 10012-52-1 | | |
| No. 2 | 2041 - Produced Water | | 10012-52-2 | | |
| No. 3 | 2041 - Injection Water | | 10012-52-3 | | |
| No. 4 | | | | | |
| No. 5 | | | | | |
| CHEMICAL AND PHYSICAL PROPERTIES | | | | | |
| | NO. 1 | NO. 2 | NO. 3 | NO. 4 | NO. 5 |
| SPECIFIC GRAVITY @ 60/60° F | 1.000 | 1.008 | 1.040 | | |
| pH | 7.4 | 7.4 | 7.3 | | |
| TOTAL ALKALINITY AS CaCO ₃ | | | | | |
| SATURATED ALKALINITY AS CaCO ₃ | | | | | |
| UNSATURATED ALKALINITY AS CaCO ₃ | | | | | |
| CALCIUM | 48. | 2,400. | 1,880. | | |
| MAGNESIUM | 12. | 2,900. | 1,320. | | |
| SODIUM | 31. | 46,400. | 17,100. | | |
| BARIUM | | | | | |
| SULFATE | 28. | 5,400. | 5,000. | | |
| CHLORIDE | 36. | 79,800. | 22,900. | | |
| SILICA | | | | | |
| TOTAL IRON | 0 | 0 | 0 | | |
| ALUMINUM | | | | | |
| TURBIDITY AS SiO ₂ | | | | | |
| Calcium as CaCO ₃ | 0 | 0 | 0 | | |
| Magnesium as CaCO ₃ | 100. | 203. | 1,030. | | |
| TOTAL DISSOLVED SOLIDS | 345. | 135,000. | 55,000. | | |
| CARBON DIOXIDE | | | | | |
| HYDROGEN SULFIDE | | | | | |
| DISSOLVED OXYGEN | | | | | |
| REMARKS: | <p style="text-align: center;">↑</p> <p style="text-align: center;">FRESH WATER</p> | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| INJECTION RATE: | B/D | | PRODUCED WATER RATE: | B/D | |
| TREATMENT: | | | | | |
| NOTE: N. D. = NOT DETERMINED. ALL RESULTS REPORTED AS MILLIGRAMS PER LITER UNLESS OTHERWISE MARKED. | | | | | |

400 W ILLINOIS
MIDLAND TEXAS 79701
PHONE 683-4521

To: Mr. Charles Joy
P. O. Box 1505, Artesia, N. M.

LABORATORY NO. 97256
SAMPLE RECEIVED 9-6-72
RESULTS REPORTED 9-14-72

COMPANY Newmont Oil Company LEASE Young
FIELD OR POOL Square Lake
SECTION BLOCK SURVEY COUNTY Eddy STATE N. M.
SOURCE OF SAMPLE AND DATE TAKEN

no. 1 Supply water - taken from raw water line (after 3656 treatment), 9-6-72

no. 2 Produced water - taken from new water line. 9-6-72

no. 3 Treated water - taken from injection pump discharge. 9-6-72

no. 4 Injection water - taken from input fl. 9-6-72

REMARKS: Flood Water System

| | NO. 1 | NO. 2 | NO. 3 | |
|--|--------|--------|--------|--------|
| Sp. Gr. for Gravity at 60° F. | 1.0206 | 1.0291 | 1.0291 | 1.0291 |
| pH When Sampled | 6.9 | 7.1 | 7.2 | 8.1 |
| pH When Recrystallized | 7.0 | 7.45 | 7.4 | 7.95 |
| Hardness as CaCO_3 | 181 | 254 | 268 | 361 |
| Supersaturation as CaCO_3 | - | 4 | 0 | 36 |
| Undersaturation as CaCO_3 | 4 | - | - | - |
| Total Alkalinity as CaCO_3 | 162 | 6,600 | 7,000 | 7,200 |
| Calcium as Ca | 46 | 890 | 880 | 950 |
| Magnesium as Mg | 12 | 1,063 | 1,166 | 1,172 |
| Sulfate and Sulfate Equivalent | 43 | 12,131 | 12,464 | 13,124 |
| Sulfate as SO_4 | 57 | 692 | 799 | 852 |
| Chloride as Cl | 34 | 22,726 | 23,436 | 24,502 |
| Iron as Fe | 0.26 | 1.7 | 3.3 | 21.3 |
| Barium as Ba | 0 | 0 | 0 | 0 |
| Turbidity, Electric | 1.3 | 8.3 | 61.9 | 44.0 |
| Color as Pt | 0 | 16 | 204 | 166 |
| Total Solids, Calculated | 371 | 37,756 | 39,013 | 40,961 |
| Temperature $^{\circ}\text{F}$. | 73 | 73 | 85 | 78 |
| Carbon Dioxide, Calculated | 22 | 33 | 29 | 5 |
| Dissolved Oxygen, Winkler | 0.24 | 0.17 | 0.24 | 0.03 |
| Hydrogen Sulfide | 0.0 | 0.2 | 0.0 | 0.4 |
| Refr. St. Ind. (D ₅₈₉) at 72° F. | 21.05 | 0.325 | 0.323 | 0.320 |
| Suspended Solids | | 17 | 54 | 4.0 |
| Filtration Solids as mg/l | 0.78 | 6.9 | 17.2 | 53.0 |
| Volume Filtered, ml | 6,000 | 1,700 | 950 | 400 |

Results Reported As Milligrams Per Liter

Additional Determinations And Remarks

FRESH WATER

PROPOSED SMITH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS
TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Plugging Record | Proposed Action |
|--------------------|---------------------|----------|--------------------------------------|--|--|---------------------------------|
| 1 | Travis #10 | Anadarko | 660 FSL 660 FEL P 18-18S-29E | 2374-2430 | Well TA - 5½ 3305/500 sacks, perf. 940-47, 1261-66, 1627-30, 1652-56, 1665-68, 1712-23, 1746-54 2544-50, 2708-18, 2722-26, 3000-04, 3670-74 3162-65, 3174-78, 3182-86, 3216-20, 3252-56. | Loco Hills not perforated OK |
| 2 | Hawitt Fed #1 | Westhall | 2310 FNL 2310 FEL P 20-18S-29E | 2428-2512 | Producing oil well TD 3100 8 5/8" 361/350 sacks 4½" 3084/85 sacks, perf 2770-2800, 2470-2612 (includes water fluid interval); completed 09-01-81 40 BOPD from Grayburg San Andres. | OK |
| 3 | Hover #1 | Denton | 660 FSL 1980 FEL O 20-18S-29E | No log available | TD 2823, cement plug 675-750, 330-405 | Replug |
| 4 | Sivley Wright #2-29 | Trigg | 660 FNL 1980 FEL B 29-18S-29E | 2430-2504 | 8 5/8" casing at 955'/500 sacks dry hole P & A TD 9262, 35 sacks 8581-8681, 35 sacks, 6524-6624, 35 sacks, 4981-5081, 35 sacks, 2803-2903, 35 sacks, 2803-2903, 35 sacks, 1956-2056, 35 sacks 919-1019. | Replug |
| 5 | Wright Fed #2 | Hondo | 1980 FNL 1980 FEL G 29-18S-29E | Log starts below Grayburg | Completed 06-01-48 Morrow gas well TD 11,300, 13 3/8" 405/375, 8 5/8 3015/1350 sacks, 5½ 11,300/750 sacks cement calculates as circulated behind 8 5/8" casing. | OK |
| 6 | Wright #1 | M. Yates | 2310 FSL 2310 FEL J 29-18S-29E | 2385-2420 | 7" stub at 3530 10 sack plug 3160-3185, 10 sack plug at 2620, 10 sack plug at 830, 10 sack plug at 325 | Replug |

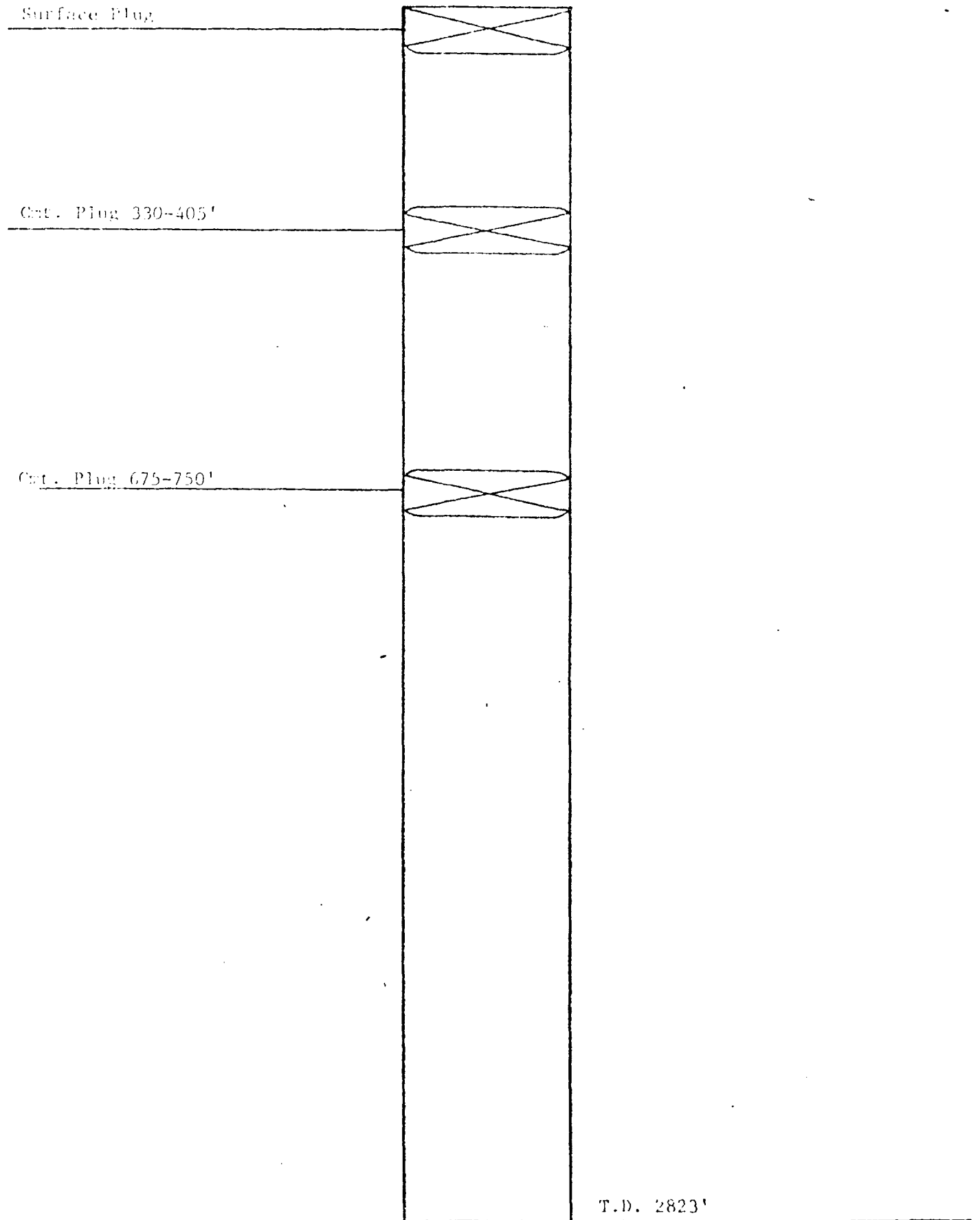
PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS
TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Pulping Record | Proposed Action |
|--------------------|---------------------------|-----------------|--------------------------------------|--|--|-----------------|
| 7 | Federal Alscott Com #4 | Hondo | 1980 FNL 1980 FNL G 30-18S-29E | 2241-2355 | TD 11204 - P & A 8 5/8 3015/1600 sacks, 13 3/8 - 92/425 sacks cement plugs 10650-10859, 9450-9600, 7650-7850, 5850-6000, 4450-4550, 2970-3070 (across 8 5/8" shoe). | OK |
| 8 | Briscoe #1 | Woolley | 2970 FSL 2970 FSL F 30-18S-29E | No Log available | TD 3095 8 5/8" casing at 395, 8 5/8" stub at 220' 15 sack plug on bottom, 10 sack plug at base of salt, 10 sack plug at base of 8 5/8". | Replug |
| 9 | Sivley Alscott #5-30 | Trigg | 660 FNL 1913 FNL L 30-18S-29E | 2261-2392 | TD 9601 P & A 8 5/8" 3653/450 sacks (calculated top of cement - 2330) 13 3/8" casing 400/400 sacks: 30 sack plug 9390-9490, 30 sack plug 8470-8570, 30 sack plug 7100-7200, 30 sack plug 4800-4900, 50 sack plug 4400-4600, 30 sack plug 3718-3626, 60 sack plug 743- 843, 60 sack plug 337-437, 8 5/8 stub at 1922'. | Replug |
| 10 | #1 Pure Fed | Sims & Reese | 1650 FSL 715 FNL L 19-18S-29E | 2250-2365 | Perf. 2304-46, 5½" stub at 1619 - 15 sack plug over perfs, cement plug 700-800, cement plug 275-375, 5½" casing at 2350/100 sacks. | Replug |
| 11 | Elliott A #1 | Hanson | 2310 FNL 720 FNL E 19-18S-29E | 2276-2350 | Open hole - 23 sacks cement 2296-2396, 23 sacks cement 1300-1400, 23 sacks 670-770, 30 sacks 265- 365, 15 sacks at surface. | Replug |

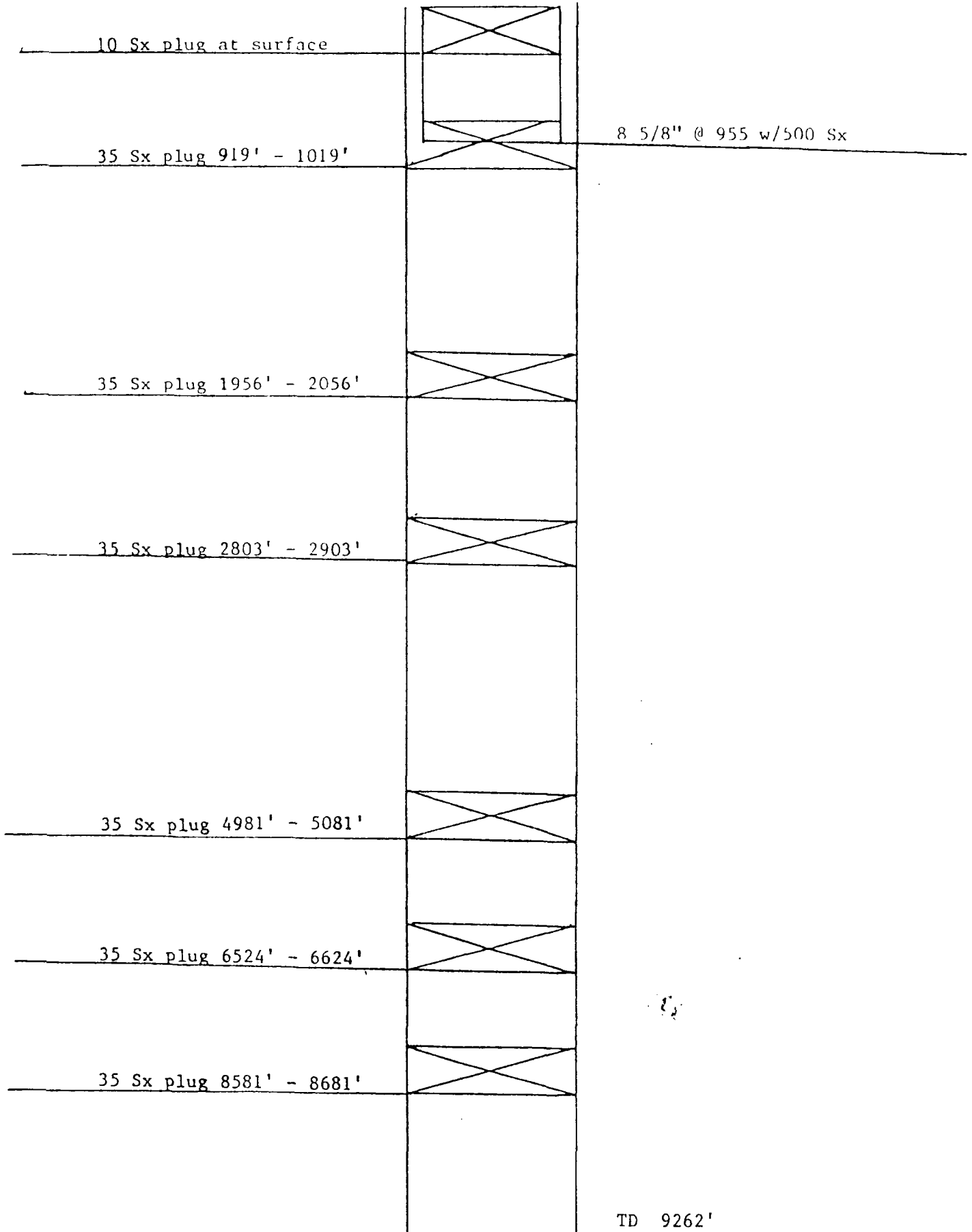
PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS
TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Plugging Record | Proposed Action |
|--------------|--------------------|--------------|--------------------------------------|--|---|-----------------|
| 12 | Donohue #1 | HEYOO | 1650 FNL 1650 FNL F 19-18S-29E | No log available | Open hole - 10 sacks cement 3000-3062 (on bottom) 15 sacks plug at base of salt at 975. | Replug |
| 13 | Travis #9 | HEYOO | 1980 FNL 660 FEL H 19-18S-29E | 2308-2404 | 5½ - 2520/175 sacks perf 2355-65, 5½ sub at 1500 16 sacks cement 2300-2400 inside 5½, 33 sacks cement 1350-1450, 33 sacks plug 760-860, 33 sacks plug 350-450. | Replug |
| 14 | Sivley Yates #1-19 | Trigg | 1880 FNL 660 FEL H 19-18S-29E | 2369-2420 | 4½ casing stub at 7585; 10 sacks plug 8874-9000, 30 sacks plug 7000-7112, 30 sacks plug 5200-5312, 60 sacks plug 3000-3225, 30 sacks plug 2300-2412, 30 sacks plug 1370-1482, 30 sacks plug 950-1050. | Probably OK |
| 15 | Yates Fed #1 | Hanson | 990 FNL 1980 FEL B 19-18S-29E | 2324-2429 | Shot 5½ at 1905, 20 sacks plug at 1930 across stub, 20 sacks plug 2289-2468, 20 sacks plug 723-790 base of salt, 20 sacks plug 360-427 top of salt, 20 sacks plug at top of hole. 5½ at 2460/100 sacks, perf 2378- 2426 | OK |
| 16 | Gulf State #1 | Sims & Reese | 330 FSL 330 FEL P 24-18S-28E | 2214-2315 | 5½ 2324/100 sacks, stub 1731, perfs 2261-81, cement plug 2261-81. | Replug |
| 17 | Gulf State #1 | HEYOO | 660 FSL 660 FEL P 24-18S-28E | 2210-2330 | OTD 3015 (6-5-54) rethril 2-16-55 - 5½ 2367-75, perf 2272-94, 5½ stub at 1700', 10 sacks cement from 2170-2250 (inside pipe) 10 sacks 695-725, 10 sacks from 360-380. | Replug |

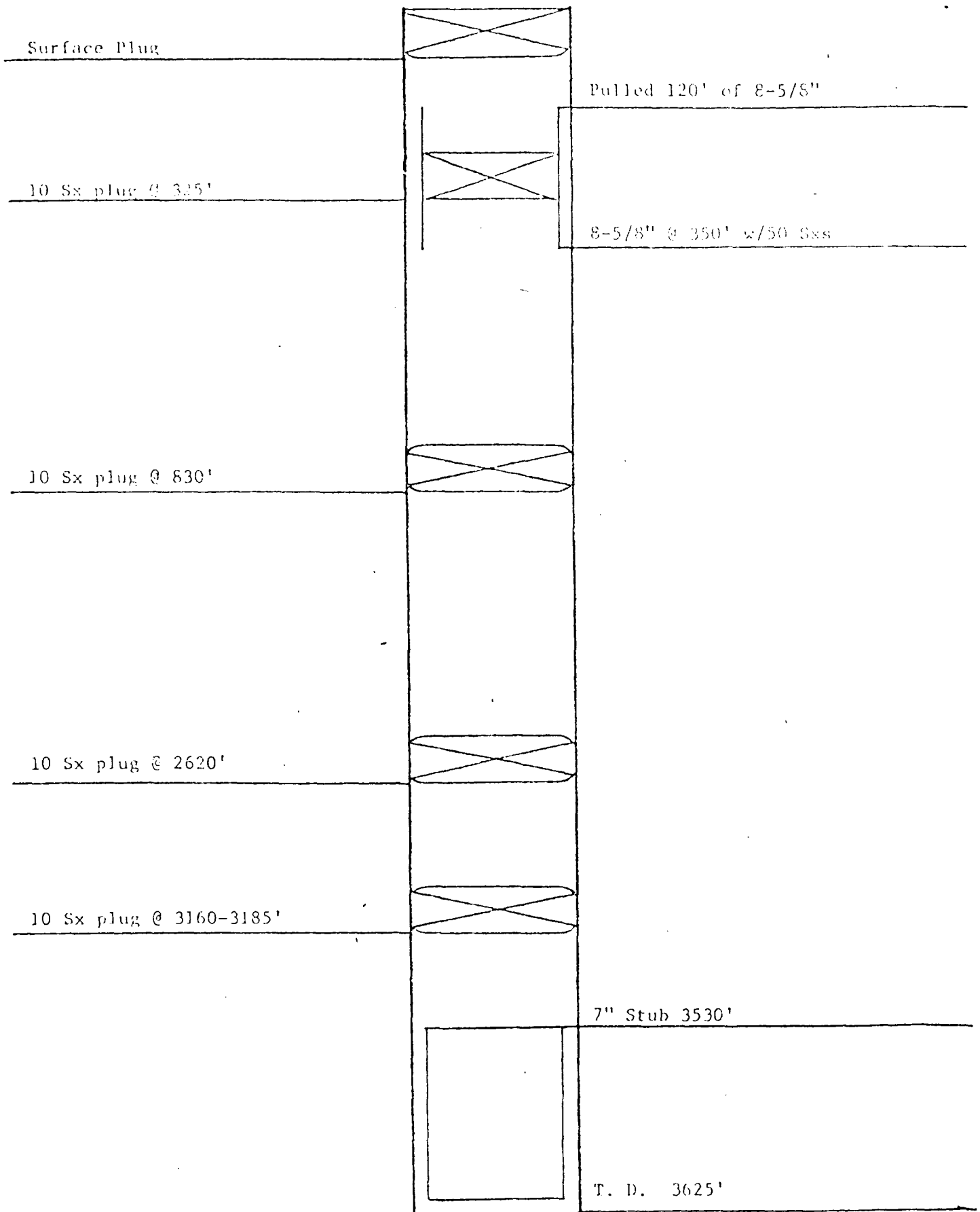
DENTON OIL CO. #1 BOVER
660' FSL, 1980' FEL
Unit 0 - Section 20-18S-29E
LC-076132



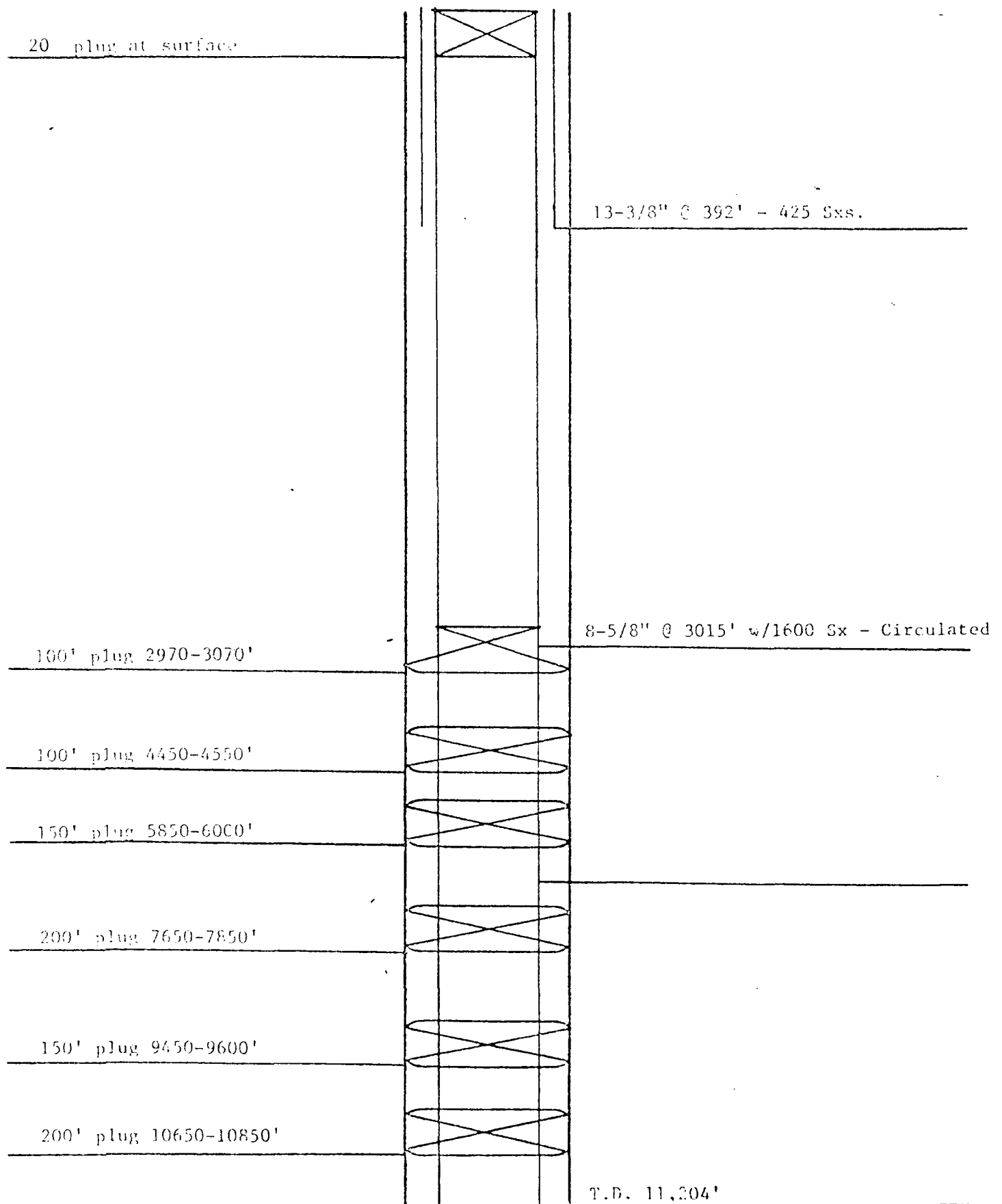
JOHN H. TRIGG #2-29 - FEDERAL SIVLEY WRIGHT
660' FNL, 1980' FEL
Unit B - Section 29-18S-29E
NM-0925



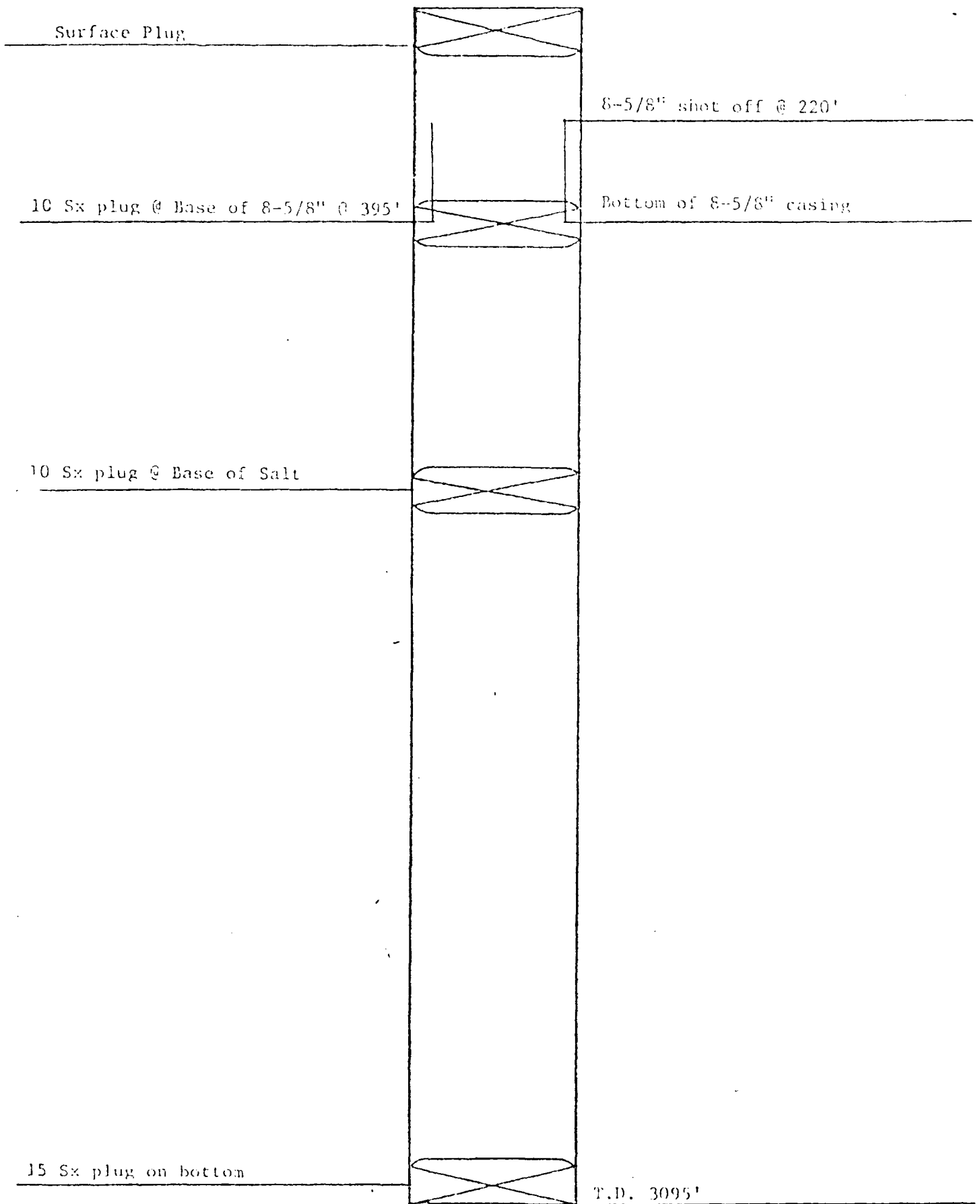
YATES #1 - WRIGHT
 2310' FSL, 2310' FEL
 Unit J - Section 29-18N-29E
 LC-067132



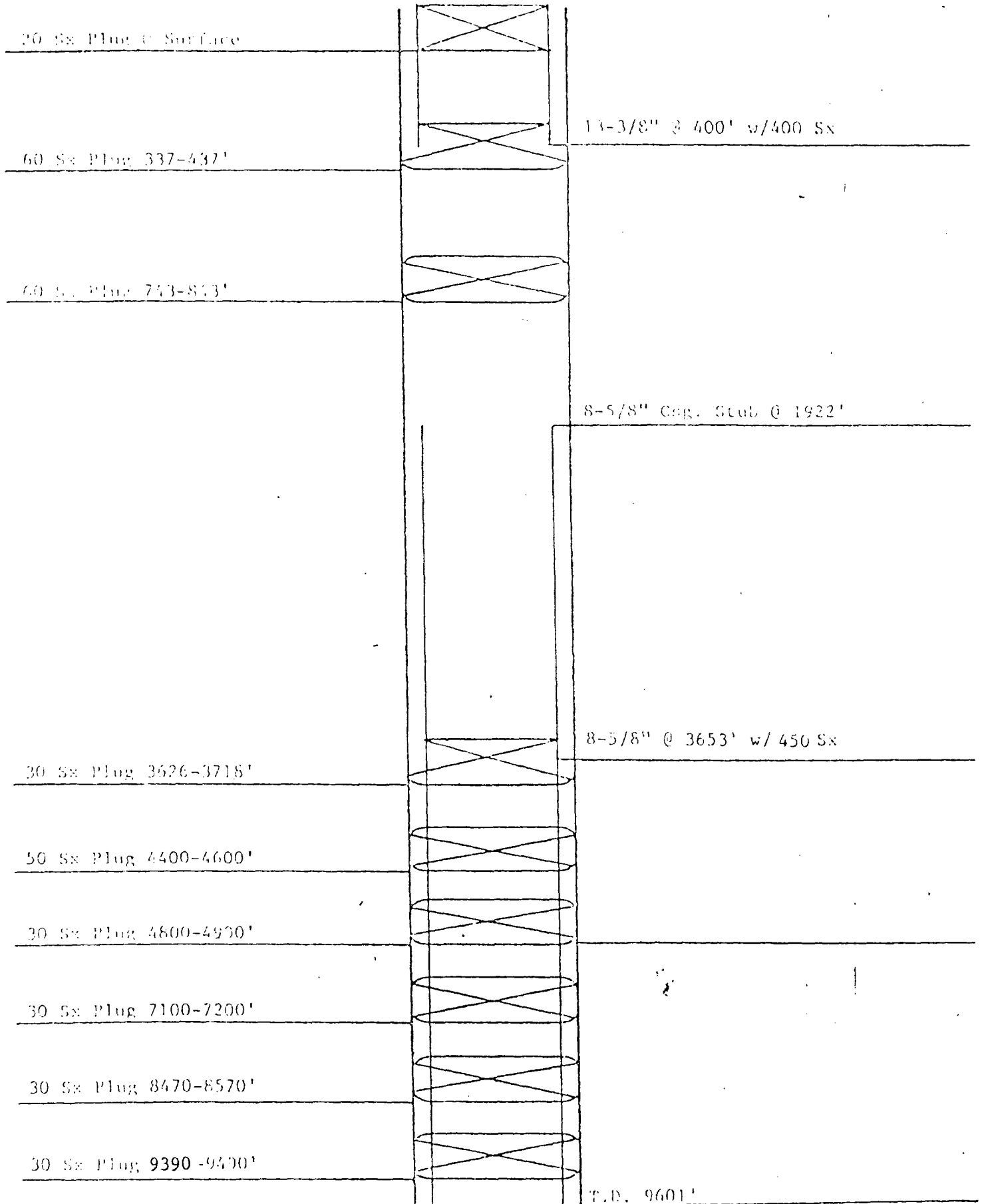
HONDO DRILLING CO. 44 ALSCOTT FEDERAL COR.
1930' FNL, 1980' FEL
Unit C - Section 30-183-29E
NW-0924



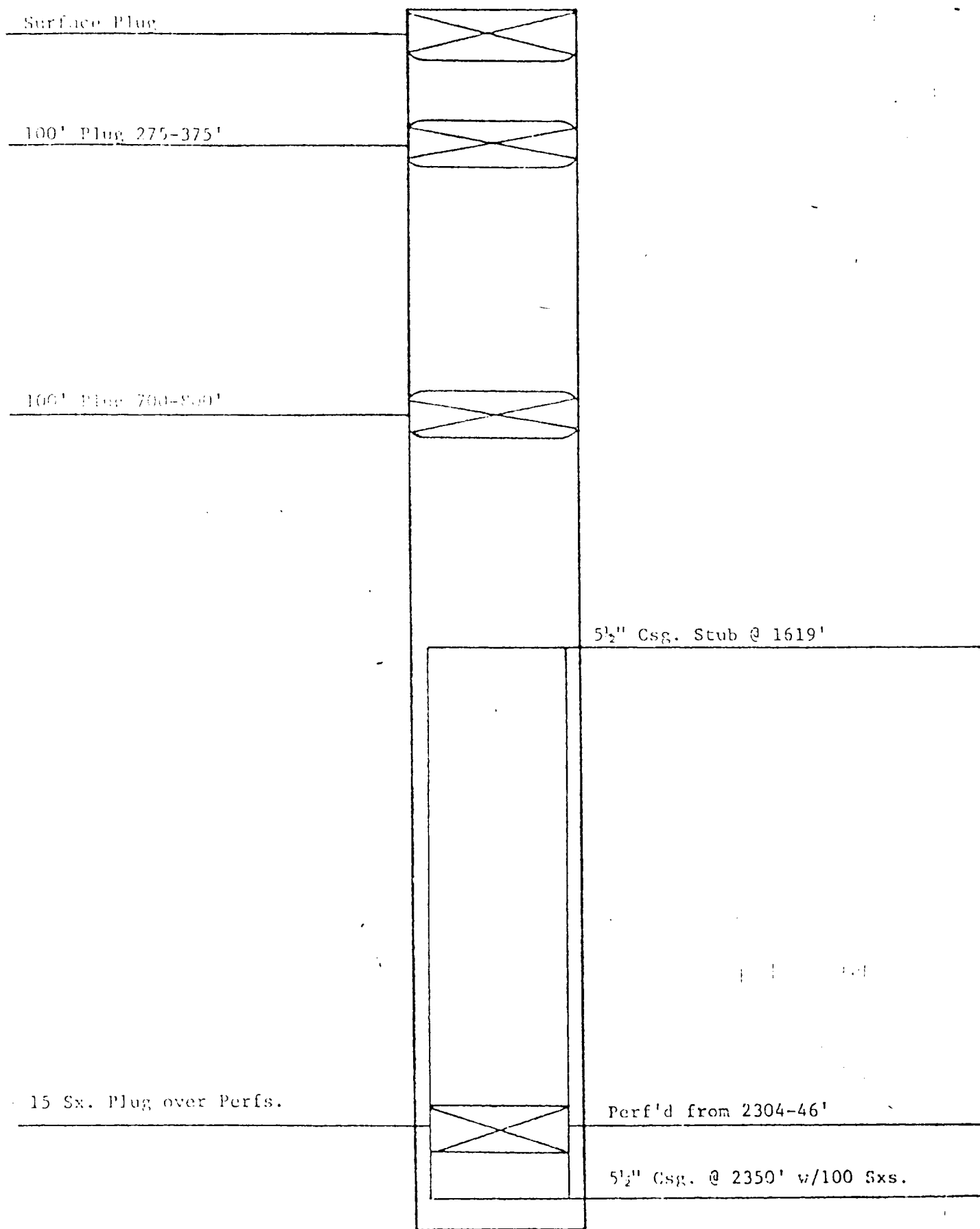
ROLAND RICH WOOLEY - #1 - BRISCOE
 2970' FSL, 2970' FHL
 Unit F., Section 30-18S-29E
 RT-0914



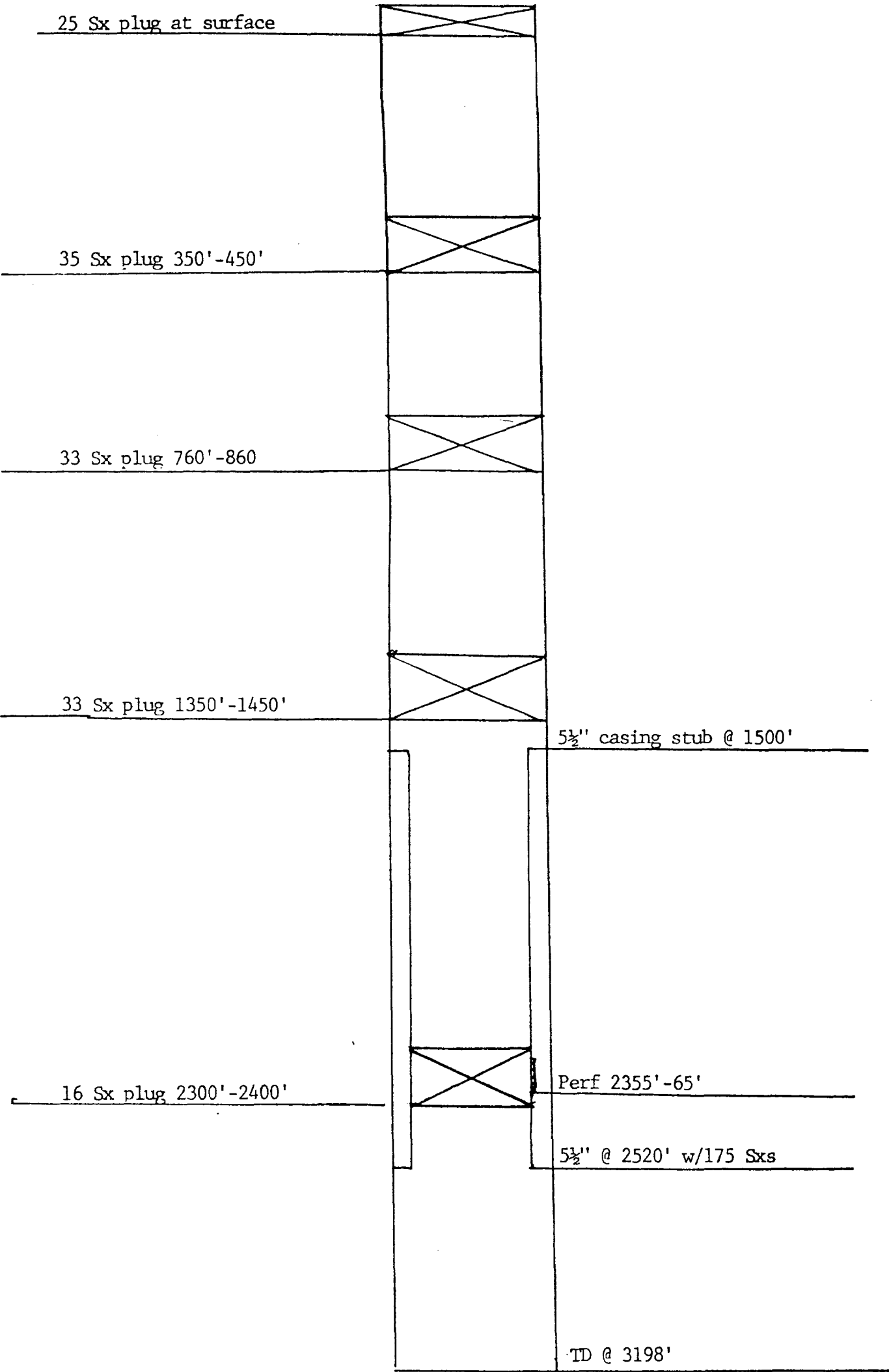
JOHN H. TRASK 25-30 - FIDELITY S/VLEY ALBERT
 600' FNL, 1513' FNL
 Unit 1 - Section 30-18S-29E
 NM-0924



SIMS AND REESE #1 PURE FEDERAL
1650' FSL, 715' FWL
Unit L, Section 19-18S-29E
NM-31185



Harvey E. Yates No 9 Travis
1980' FNL & 660' FEL
Unit H Sec 19 T18S R29E



Yates Drilling Co. Alscott
 OPERATOR CASE
 1 660 FNL & 660 FFL 30 18S 29E
 WELL NO. FOOTAGE LOCATION SECTION TOWNSHIP RANGE

Geologic

Tabular Data

Surface Casing

Size 7" Cemented with 75 cc.

IOC 78 feet determined by calculation

Hole size 9 7/8" (assumed--not available from NMOCD records)

Intermediate Casing

Size " Cemented with cc.

IOC feet determined by

Hole size

Long string

Size 4 1/2" Cemented with 175 cc.

IOC 298' feet determined by calculation

Hole size 6 1/2" (assumed--not available from NMOCD records)

Total depth 2603'

Injection interval

2392 feet to 2400 feet perforate
 (perforated or open-hole, indicate which)

7" casing
17 ft

4 1/2" casing - 2403' / 175 SKS

tubing packer
to be set at 2342'

perforated Loco Hills
2392 - 2400'

4 1/2" casing - 2403' / 175 SKS
TD 2603'

To be run before injection begins

tubing size 2 3/8" lined with plastic set in a
 (material)

plastic coated Baker AD 1 Tension packer at 2342 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation Loco Hills

2. Name of field or Pool (if applicable) Loco Hills Queen Grayburg San Andres

3. Is this a new well drilled for injection? 17 Yes X No

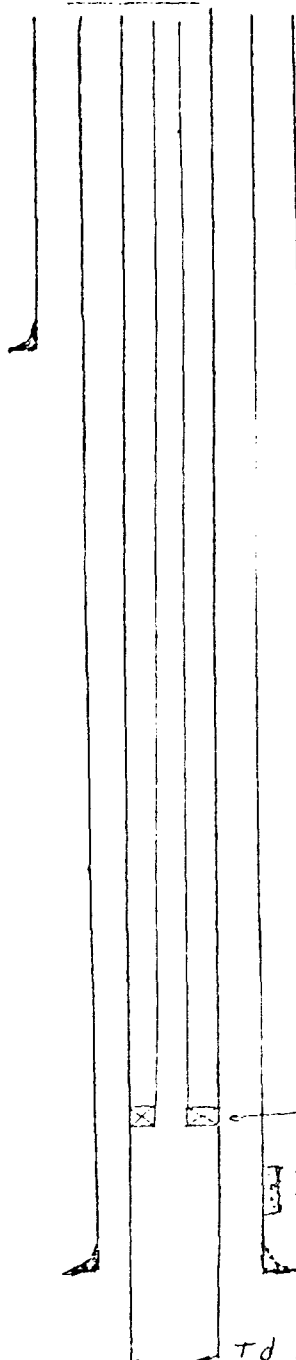
If no, for what purpose was the well originally drilled? oil producer

4. Has the well ever been perforated in any other zone(s)? list all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Sever Rivers 1293, Queen 1915, Penrose 2066, Metex 2546, San Andres 2660, Bone Spring 6595, Wolfcamp 8260, Penn 9350

| | | | | |
|-----------|--------------------|---------|----------|-------|
| Well No. | 660 FNL & 3300 FEL | 30 | 18S | 29E |
| OPERATION | FORGE INJECTION | SECTION | TOWNSHIP | RANGE |

Schematic



Tabular Data

Surface Casing

Size 7 " Cemented with 50 ss.
 TOC 120 feet determined by calculation
 Hole size 9 7/8

Intermediate Casing

Size 7 1/2 " Cemented with ss.
 TOC 375 feet determined by
 Hole size

Long string

Size 4 1/2 " Cemented with 100 ss.
 TOC 1072 feet determined by calculation
 Hole size 6 1/2
 Total depth 2403

Injection interval

2306 feet to 2372 feet
 (perforated or open-hole, indicate which)
perforated

Tubing packer 2250'
 Perforations 2306'-2372'
 Loco Hills and Grayburg Dolomite
 4 1/2 in. casing 2388'/100 sks

Td 2403

To be run before injection begins

Tubing size 2 3/8 " lined with plastic (material) set in a
plastic coated Baker AD 1 Tension packer at 2250 feet
 (brand and model)
 (or describe any other casing-tubing seal).

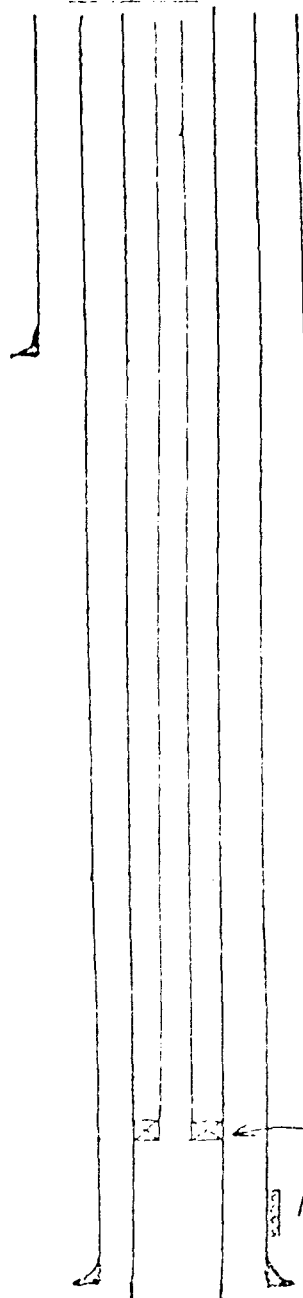
Other Data

- Name of the injection formation Loco Hills & Grayburg Dolomite
- Name of field or pool (if applicable) Loc Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? oil production
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (bags of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Seven Rivers 1280, Queen 1890, Penrose 2036, San Andres 2700, Bone Spring 6500, Wolfcamp 8750, Penn 9350

Yates Drilling Co. Federal Sivley Alscott
 OPERATOR TITLE
 4 660 ENL & 1980 IWL 29 18S 29E
 WELL NO. LOCATION SECTION TOWNSHIP RANGE

General

Tabular Data



Surface Casing

Size 7 " Cemented with 100 sv.100 circulated feet determined by calculationHole size 9 7/8" (assumed--not shown by available records)

Intermediate Casing

Size _____ " Cemented with _____ sv.

100 _____ feet determined by _____

Hole size _____

Long string

Size 4 1/2 " Cemented with 100 sv.100 1141 feet determined by calculationHole size 6 1/2" (assumed--not shown by available records)Total depth 2460

Injection interval

2414 feet to 2421 feet
 (perforated or open-hole, indicate which)
perforated

← Tubing Packer 2365
 ← Perforated 2414-2421
 Loco Hills
 ← 4 1/2" J-55 casing
 2457' / 100 sv.
 TD-2460

To be run before injection begins

Tubing size 2 3/8" lined with plastic set in a

(material)

plastic coated Baker AD 1 Tension packer at 2342 feet

(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Loco Hills
- Name of field or Pool (if applicable) Loco Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? oil producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (blocks of cement or bridge plug(s) used) No
Yates 940', Queen 1940', Bone Spring 6630', Wolfcamp 8680', Penn 9460'
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

Yates Drilling Co.

HEY 70

Location

CLASS

1

660 FSL & 660 FSL

20

18S

29E

Well No.

YATES DRILLING

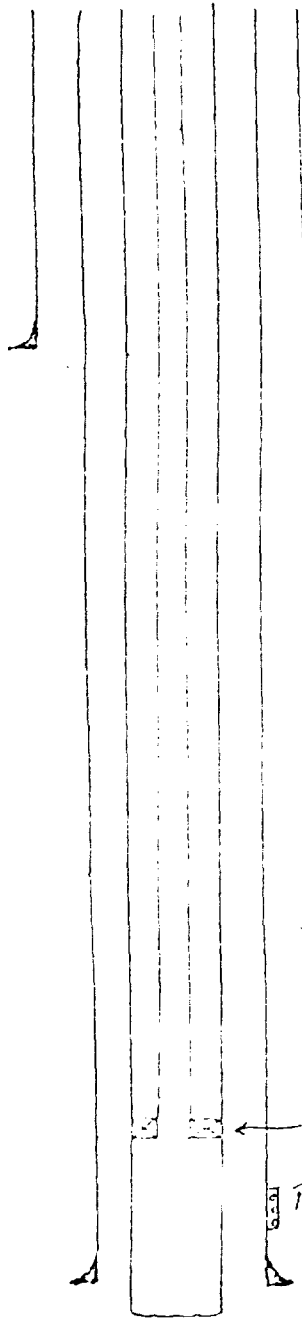
SECTION

1000000

1000000

Superficial

Labeler Data



Surface casing

Size 7 " Cemented with 75
 100 circulated feet determined by calculation
 Hole size 9 7/8 " (assumed--not shown by
 available records).

Intermediate casing

Size 7 " Cemented with 75
 100 circulated feet determined by calculation
 Hole size 9 7/8 " (assumed--not shown by
 available records).

Long string

Size 4 1/2 " Cemented with 175
 100 475 feet determined by calculation
 Hole size 6 1/2 " (assumed--not shown by
 available records).
 Total depth 2798

Injection interval

2387 feet to 2399 feet
 (perforated or open-hole, perforated or
 perforated)

Tubing Packer 2340'

perforations 2387-2399
 Loco Hills

4 1/2 casing 2778'/175 SKs

TD-2798

To be run before injection begins

Tubing size 2 3/8 " lined with plastic set in (material)

plastic coated Baker AD 1 Tension packer at 2340 feet

(or describe any other casing-tubing seal).

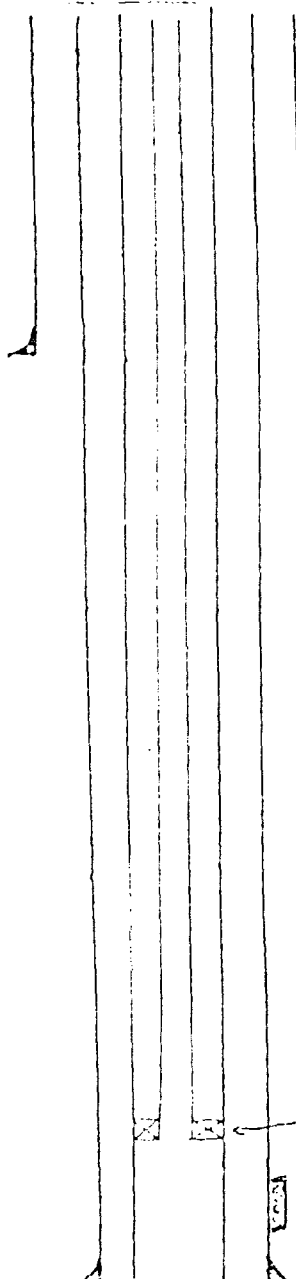
Other Data

- Name of the injection formation Loco Hills
- Name of field or pool (if applicable) Loco Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? oil producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Queen 1933, Penrose 2150', San Andres 2725', Bone Spring 60'
Wolfgang 8680', Penn 9460'

Yates Drilling Co. OPERATOR Travis 11651
 2 660 EST. & 1980 FEL 19 18S 29E
 WELL NO. FIELD LOCATION SECTION TOWNSHIP RANGE

Sketch

Tabular Data



Surface Casing

Size 7 " Cemented with 100 ss.
 IOC circulated feet determined by calculation
 Hole size 9 7/8" (Assumed--Not shown by available records)

Intermediate Casing

Size " Cemented with
 IOC feet determined by
 Hole size

Long string

Size 4 1/2 " Cemented with 100
 IOC 1108 feet determined by calculation
 Hole size 6 1/2" (assumed--not shown by available records)
 Total depth 2424

Injection interval

2344 feet to 2386 feet
 (perforated or open-hole, indicate which)
perforated

TD - 2424
 Tuning Packer 2244'
 perforations
 2344-2350, 2374-2386
 Grayburg Dolomite & Loco Hills
 4 1/2" 9.5 casing at 2424'
 100 sks

To be run before injection

tubing size 2 3/8" lined with plastic set in a
 (material)

plastic coated Baker AD 1 Tension packer at 2342 feet
 (brand and model)

(or describe any other casing-tubing seal).

Other Data

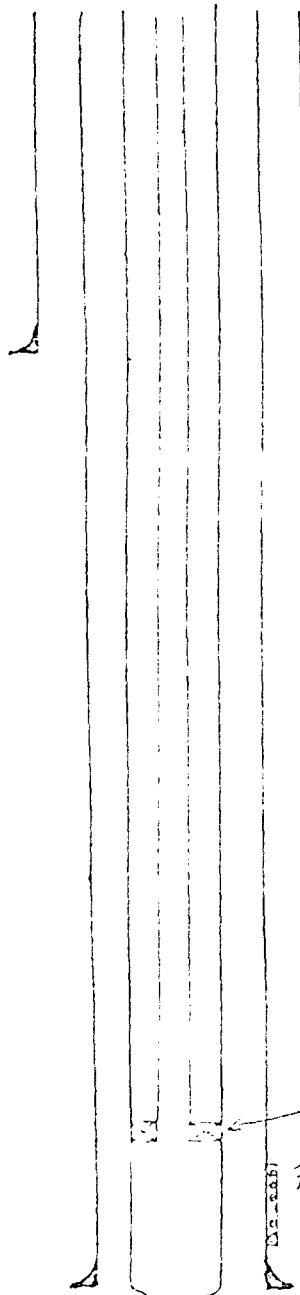
- Name of the injection formation Loco Hills
- Name of field or Pool (if applicable) Loco Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? oil producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (nugles) in this area. Yates 988', Seven Rivers 1300, Queen 1928', San Andres 2700', Bone Spring 6500', Wolcamp 8570', Penn 9350'

Depeco
WRIGHT FORD TRACT NO. 2

1980 FSL & 1980 FWL 20 18S 29E

WELL NO. LOCATION SECTION TOWNSHIP RANGE

Diagram



7" / 17 ft
casing
485' / 125 SKS

Tabular Data

Surface Casing

Size 7" Cemented with 125
100' circulated feet determined by calculation
Hole size 9 7/8" (assumed--not available from NMOCD Records)

Intermediate Casing

Size 7" Cemented with 125
100' feet determined by calculation
Hole size 9 7/8" (assumed--not available from NMOCD Records)

Log string

Size 4 1/2" Cemented with 100
100' 1183 feet determined by calculation
Hole size 6 1/2" (assumed--not available from NMOCD records)
Total depth 2500'

Injection interval

2440' feet to 2483' feet
(perforated or open-hole, indicate which)
perforated

Taking Packer 2340'
Perforations 2440'-2483'
Grayburg Dolomite and Loco Hills

4 1/2" 11.6 ft casing

TD-2500' 2449' / 180 SKS

Tubing size 2 3/8" lined with plastic (material)
plastic coated Baker AD 1 Tension packer at 2342 feet
(or describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg Dolomite and Loco Hills
- Name of Field or Pool (if applicable) Loco Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
If no, for what purpose was the well originally drilled? oil producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging details (blocks of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Yates 1018, Seven Rivers 1310, Queen 2000, San Andres 2740, Bone Spring 6445, Wolfcamp 8615, Penn 9395

Wright Fed Tract 2

Nepeco OPERATOR

WELL NO. 6

COILAGE LOCATION 2310 FNL & 660 FNL

SECTION 20

TOWNSHIP 18S

RANGE 29E

Logistics

Tabular Data

Surface Casing

Size 7 " Cemented with 100 %
 100 circulated feet determined by calculation
 Hole size 9 7/8 (assumed --not available
 from NMOCD records)

Intermediate Casing

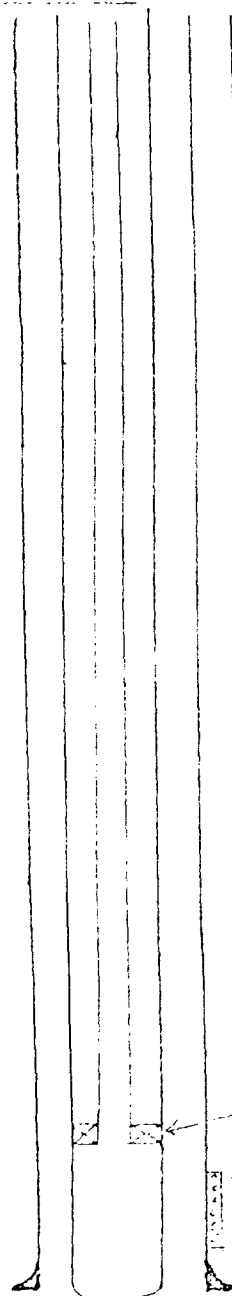
Size 7" 17# Cemented with 100 %
 100 circulated feet determined by calculation
 Hole size 4 1/2 (assumed --not available from NMOCD records)

Long string

Size 4 1/2 " Cemented with 100 %
 100 circulated feet determined by calculation
 Hole size 6 1/2 (assumed --not available from NMOCD records)
 Total depth 2440

Injection interval

2361 feet to 2410 feet
 (perforated or open-hole, indicate which)
 perforated



7" 17#
 casing
 443' / 100

Tubing Packer 2310'

perforations 2361-2410'
 Grayburg dolomite and Loco Hills

4 1/2" 116# casing

TD-2440' 2939' / 100 SKS

To be run before injection begins

Tubing size 2 3/8" lined with plastic set in a
 (material)
plastic coated Baker AD-1 Tension packer at 2310 feet
 (for describe any other casing-tubing seal).

Other Data

- Name of the injection formation Grayburg Dolomite and Loco Hills
- Name of field or Pool (if applicable) Loco Hills Queen Grayburg San Andres
- Is this a new well drilled for injection? ☐ Yes ☒ No
 If no, for what purpose was the well originally drilled? oil producer
- Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (bags of cement or bridge plug(s) used) No
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Yates 968, Seven Rivers 1313, Queen 1940, San Andres 2740, Bone Springs 6445, Wolfcamp 8615, Penn 9395

(PROPOSED)
SOUTH LOCO HILLS (GRAYBURG) UNIT

ENGINEERING REPORT
AND
ECONOMIC EVALUATION

LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO

DECEMBER 1981

Yates Drilling Company
Statutory Unitization & Waterflood
Cases 7596 and 7597
May 26, 1982 Examiner Hearing
Exhibit No. 6

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
ENGINEERING REPORT AND ECONOMIC EVALUATION

LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO

PREPARED BY
YATES DRILLING COMPANY

D. F. BONEAU
December 31, 1981

TABLE OF CONTENTS

| | <u>Page Number</u> |
|------------------------------------|--------------------|
| BACKGROUND AND PURPOSE | 1 |
| DISCUSSION | 3 |
| Location. | 3 |
| Geology | 3 |
| Production History. | 4 |
| Reservoir Properties. | 6 |
| Fluid Properties. | 10 |
| Reserves. | 10 |
| Waterflood Development. | 11 |
| ECONOMICS. | 13 |
| PARTICIPATION PARAMETERS | 14 |
| CONCLUSIONS. | 15 |
| TABLES | 16 |
| FIGURES. | 61 |

TABLES

| | | <u>Page</u> |
|-------|------|--|
| TABLE | I | Data Sheet for Wells Within 16 Proposed Unit |
| TABLE | II | Production History of Leases. 22 Within Proposed Unit |
| TABLE | III | Wells Adjacent to Boundary of 52 Proposed Unit |
| TABLE | IV | Core Data for Loco Hills Sand 53 |
| TABLE | V | Core Data for Grayburg Dolomite 54 |
| TABLE | VI | Wells Within One-Half Mile of 55 Proposed Injection Wells |
| TABLE | VII | Economic Flow Sheet 58 |
| TABLE | VIII | Estimated Investment Requirements 59 |
| TABLE | IX | Participation Parameter by Tract. 60 |

FIGURES

| | |
|-----------|---|
| FIGURE 1 | Map of Total Loco Hills Field |
| FIGURE 2 | Base Map of Proposed Unit |
| FIGURE 3 | Type Log for Alscott Federal No. 1 |
| FIGURE 4 | Structure Map on Top of Loco Hills Sand |
| FIGURE 5 | Production History for Entire Proposed Unit |
| FIGURE 6 | Production History - Anadarko Alscott Federal Lease |
| FIGURE 7 | Production History - Anadarko Garrett Lease |
| FIGURE 8 | Production History - Anadarko McCaw Federal Lease |
| FIGURE 9 | Production History - Anadarko Travis Federal Lease |
| FIGURE 10 | Production History - Anadarko Yates B Lease |
| FIGURE 11 | Production History - Denton Massie Lease |
| FIGURE 12 | Production History - Depco Wright Federal Tract 1 |
| FIGURE 13 | Production History - Depco Wright Federal Tract 2 |
| FIGURE 14 | Production History - Yates Alscott Federal Lease |
| FIGURE 15 | Production History - Yates HEY-70 Federal Lease |
| FIGURE 16 | Production History - Yates Sivley-Alscott Lease |
| FIGURE 17 | Production History - Yates Travis Lease |
| FIGURE 18 | Production History - Yates Western Federal Lease |
| FIGURE 19 | Isopach of Net Loco Hills Sand |
| FIGURE 20 | Isopach of Net Grayburg Dolomite |
| FIGURE 21 | Cross Section A-A' (East-West) |
| FIGURE 22 | Cross Section B-B' (East-West) |
| FIGURE 23 | Cross Section C-C' (North-South) |
| FIGURE 24 | Injection Patterns for Phase I and Phase II |
| FIGURE 25 | Predicted Production from Proposed Waterflood |

BACKGROUND AND PURPOSE

The purpose of this report is to update the 1969 Engineering Committee report which recommended formation of a Unit and initiation of waterflood operations in a portion of the Loco Hills Field referred to as the "South Loco Hills (Grayburg) Unit."

The majority of the Loco Hills Field (Figure 1) has been waterflooded for many years. Newmont began its "Old Loco" flood in the northeastern portion of the field in 1958 and formed the West Loco Hills Unit in 1962 to waterflood the central portion of the Loco Hills Field. Anadarko began its flood in the Far West Loco Hills Unit in 1969. The Ballard Grayburg San Andres Unit is officially part of the Loco Hills field but its unitized interval does not include the Loco Hills sand that provides most of the production in the rest of the field.

A meeting of those operators with leases in the southwestern extension to the Loco Hills Field was held on January 16, 1969, to discuss a possible secondary recovery program for this portion of the field. An Engineering Committee was formed under the leadership of Mr. W. C. Young of Anadarko Production Company. This Engineering Committee issued a report on July 28, 1969, under the title "Proposed South Loco Hills (Grayburg) Unit--Engineering Report and Economic Evaluation." The Engineering report concluded that the southwestern extension was suitable for waterflood development and recommended that a secondary recovery unit be formed under some participation formula to be developed. The unit was not formed at that

BACKGROUND AND PURPOSE (Continued)

time, and some of the data in the Young report have become outdated after twelve years.

The present report is part of a renewed effort to unitize the southwestern extension to the Loco Hills Field. This report is meant to be a complete engineering discussion of the proposed South Loco Hills (Grayburg) Unit so that the reader can see all the data from a 1981 viewpoint in a single volume. Much of the material is taken from the following earlier works on the Loco Hills Field:

1. Engineering Study of the Grayburg No. 4 Sand Reservoir--A Portion of the Loco Hills Field, Eddy County, New Mexico. James A. Lewis Engineering, Inc.; April 21, 1961.
2. Proposed South Loco Hills (Grayburg) Unit-Engineering Report and Economic Evaluation; W. C. Young, Anadarko Production Company; July 28, 1969.
3. Geology of Loco Hills Sand, Loco Hills Field, Eddy County, New Mexico; Roy W. Foster, New Mexico Bureau of Mines and Mineral Resources; December, 1976.
4. A Reservoir Study for Implementation of Tertiary Recovery of Oil in Loco Hills Field, Eddy County, New Mexico; Anil Kumar, Javed Arshed and Kartikay Sonrexa, New Mexico Institute of Mining and Technology; November 1979.

DISCUSSION

LOCATION

The area involved in this study is the southwestern extension of the Loco Hills Field as shown in Figure 2. The area contains about 1080 acres located in portions of Sections 19, 20, 29 and 30, Township 18 South, Range 29 East, Eddy County, New Mexico. The interval to be unitized extends from the top of the Grayburg Formation to a depth of thirty (30) feet below the base of the "Loco Hills" Sand (Zone 4 of the Grayburg Formation). Figure 3 shows this interval on a type log for S. P. Yates and Martin Yates III's Alscott Federal No. 1, located 660' FNL and 660' FEL in Section 30, Township 18 South, Range 29 East, Eddy County, New Mexico.

GEOLOGY

The Loco Hills Field consists of one or more stratigraphic traps located on the south flank of an anticline known as the Artesia-Vacuum trend. The axis of this anticlinal trend extends eastward from near Artesia, New Mexico into Lea County, New Mexico. The structural dip in the Loco Hills Field is generally to the east at an average of 85 feet per mile. On a scale as small as the proposed South Loco Hills Unit, a structure map (Figure 4) appears to show an easterly dipping monocline with local anomalies.

Production in the area under study comes from two zones in the uppermost portion of the Grayburg formation of Permian age. One producing zone is the "Loco Hills" sand that extends throughout the Loco Hills Field. "Loco Hills" sand is an informal name used by the operators in the field. The

GEOLOGY (Continued)

"Loco Hills" sand corresponds to Zone 4 of the Grayburg as established by the U. S. Geological Survey in the Maljamar Field to the east. The second producing zone is the Grayburg dolomite located immediately above the Loco Hills sand. Within the study area, the depth to the top of the Grayburg varies from 2200 to 2400 feet while the Loco Hills sand occurs about 100 feet deeper.

The Loco Hills sand is a very fine grained, silty sandstone containing sandy dolomite and minor amounts of shale. The sand grains are white to medium gray and light brown in color. The amount of dolomite cementation appears to be the dominant factor in controlling porosity. The Grayburg dolomite is a light-colored, dense, very fine grained dolomite with some anhydrite. It contains oolitic porosity, pinpoint porosity and random fractures which may or may not be cemented.

PRODUCTION HISTORY

The first successful completion in the Loco Hills Field was the Martin Yates et al, Yates No. 1, located 1980' FSL and 660' FWL in Section 6, Township 18 South, Range 30 East. This well was completed on February 4, 1939, for 560 BOPD after being shot with 140 quarts of nitroglycerine.

The discovery well for the southwestern extension of the Loco Hills Field was the Denton Massie No. 1, completed June 1, 1955, at a location 330' FNL and 2310' FEL in Section 10, Township 18 South, Range 29 East. The Denton well was completed in the dolomite for 50 BOPD. The first well to produce

PRODUCTION HISTORY (Continued)

from the Loco Hills sand was the Black (now Depco) Wright No. 1, completed October 1, 1955, at a location 660' FNL and 660' FWL in Section 20, Township 18 South, Range 29 East. The productive area of the entire Loco Hills Field contains about 13,000 acres. At present, there are about 175 active producing wells, 135 injection wells and 150 abandoned wells in the Loco Hills Field.

The proposed unit area covers approximately 1080 acres and contains 28 wells (Table I) that have produced from the interval to be unitized. Three (3) of these wells were completed in 1955, two (2) in 1956, six (6) in 1961, fourteen (14) in 1962 and three (3) in 1963. The Yates "B" Federal #1 in Unit B of Section 19, Township 18 South, Range 29 East and the Travis Federal No. 9 in Unit H of Section 19, Township 18 South, Range 29 East have been plugged and abandoned. Of the remaining twenty-six (26) wells, nineteen (19) are active producers and seven (7) are presently shut in. Nine (9) wells are completed only in the Loco Hills sand, one (1) well is completed only in the Grayburg dolomite immediately above the sand and sixteen (16) wells are completed in both the Loco Hills sand in the Grayburg dolomite.

As of 1-1-81, cumulative recovery from the twenty-eight (28) wells within the proposed unit area was 607,948 barrels of oil. By 1-1-82, cumulative production was 614,124 barrels of oil. There were 19 active producers in 1981. The production history of each lease is detailed in Table II. Figure 5 summarizes the production history of the proposed Unit and Figures 6

PRODUCTION HISTORY (Continued)

thru 18 are plots of oil production for the individual leases.

RESERVOIR PROPERTIES

The proposed Unit area encloses the southwestern extension to the Loco Hills Field. This extension is an isolated stratigraphic trap separated from the main development of the Loco Hills sand (Zone 4 of the Grayburg Formation) to the northeast. At the edges of the proposed Unit, both porosity and permeability in the Loco Hills sand thin to non-commercial values. The Loco Hills sand reservoir is limited to the proposed Unit area by a circle of dry holes.

Table III is a list in clockwise order of wells that lie directly outside the boundary of the proposed Unit. Of these twenty-four (24) wells, only the Sims and Reese Gulf State No. 1 and the Sims and Reese Pure Federal No. 1 have produced from the interval proposed for unitization. The Gulf State No. 1 produced 1359 BO from Loco Hills perforations at 2261'-2281' before the well was plugged and abandoned as non-commercial in 1966. The Pure Federal No. 1 produced 628 BO from perforations at 2304'-2346' that included both the Grayburg dolomite and the Loco Hills sand. The Pure Federal No. 1 was plugged in 1964. Electric logs for several of the wells outside the proposed Unit show some porosity in the Loco Hills sand. The recently drilled Westhall Hewitt Federal No. 1 has perhaps 2 feet of porous Loco Hills sand, but the Loco Hills did not seem to produce on test. The log for the Anadarko Travis No. 10 shows about 4 feet of Loco Hills porosity but Anadarko has not tested the Loco Hills sand. Among the deep tests

RESERVOIR PROPERTIES (Continued)

in the area, the Trigg Sivley Federal 29 No. 2, the Hondo Alscott Federal No. 4, the Anadarko Turkey Track No. 1 and the Heyco Travis 24 No. 1 show 5, 16, 3 and 18 feet, respectively, of Loco Hills porosity. The available logs for the last three wells are compensated neutron logs taken through casing. The fact that the Heyco Travis 24 No. 1 lies in the midst of confirmed dry holes casts doubt on the existence of 18 feet of net Loco Hills pay. The through-casing logs are probably misleading because of the lack of caliper log and the difficulty of correcting for a shaly dolomitic sand. In any case, the operators did not test the Loco Hills in any of these deep wells. The Denton Hover No. 1, the Hanson Elliott A No. 1 and the Goodale No. 2 (drilled in 1926) all had oil shows in the Loco Hills, but again no completion was attempted. The proposed Unit includes the entire area where the southwestern extension of the Loco Hills Field produces oil in commercial quantities.

Analysis of core data from nineteen (19) wells is summarized in Tables IV and V. Net pay was based upon porosity cut-offs of three (3) percent for the Grayburg dolomite and nine (9) percent for the Loco Hills sand. The eighteen (18) wells with complete Loco Hills core data show an average of 9.9 feet of pay with average permeability of 3.6 md and average porosity of 12.2%. The fourteen (14) wells with complete core data for the Grayburg dolomite interval have an average of 8.7 feet of pay with average permeability of 7.0 md and average porosity of 6.4%.

The net Loco Hills sand isopach map in Figure 19 was based on core data as much as possible. A correlation was developed between core porosity

RESERVOIR PROPERTIES (Continued)

and neutron log porosity for the cored wells. The core porosity cut-off of nine (9) percent corresponded to twelve (12) percent log porosity. This cut-off of twelve (12) percent was used to find the net Loco Hills pay for those wells where no core data existed. The available logs are the old gamma-ray neutron type which must be internally calibrated into porosity units. Since there is no standard way to do this calibration accurately, the values for net Loco Hills pay can be only approximately correct. The isopach in Figure 19 contains 8111 acre-feet of Loco Hills pay within the boundary of the proposed Unit.

Figure 20 is an isopach map of the net Grayburg dolomite pay in the region of the proposed Unit. Here a three (3) percent porosity cut-off was used for both core and log data since comparison of core and log data from the cored wells indicated no correction was necessary in dolomite. The isopach in Figure 20 contains 7109 acre-feet of Grayburg dolomite pay within the Unit boundaries. However, cross sections (Figures 21, 22, & 23 referred to base map in Figure 2) show that individual dolomite intervals are not continuous across the proposed Unit. There is continuity of the Loco Hills sand within the proposed Unit, but several separate dolomite members have been seen. The dolomite isopach in Figure 20 is probably not quantitatively correct because construction of an isopach assumes continuous porosity development. The dolomite isopach does serve to highlight those portions of the proposed unit where significant dolomite porosity exists.

The Grayburg dolomite seemed to contribute to secondary recovery in Anadarko's waterfloods in the Loco Hills field, but exhibited only gross

RESERVOIR PROPERTIES (Continued)

channeling and premature water breakthrough in the West Loco Hills Unit. The dolomite may be a help or a hinderance at South Loco Hills. It is recommended that no changes be made in the perforated intervals before the start of water injection. It should be possible early in the waterflood to decide from injection surveys whether to add dolomite perforations to wells without them or to squeeze the dolomite perforations that already exist. The simplest approach is to let the waterflood itself decide this question.

The core data in Table IV show an average water saturation of 43.7% and an average oil saturation of 12.2%. These values are too high for connate water saturation and too low for residual oil saturation since the cores were flushed during the coring process. Relative permeability data for four core plugs from West Loco Hills Unit wells 13-9 and 13-11 indicate connate water saturations of 16.2, 18.2, 20.7 and 26.5 percent and residual oil saturations of 27.3, 34.9, 50.4 and 51.6 percent. The relative permeability data was measured by F. David Martin of New Mexico Tech. While the results may not apply exactly to South Loco Hills, they indicate that 26.5 percent is a better value for connate water saturation and 27.3 percent is a better value for residual oil saturation. The following characteristics are taken to represent the Loco Hills sand:

| | |
|-----------------------------|--------|
| Permeability | 3.6 md |
| Porosity (above 9% cut-off) | 12.2% |
| Water saturation | 26.5% |
| Residual oil saturation | 27.3% |

FLUID PROPERTIES

There are no records of early fluid samples from wells within the proposed Unit. However, a sample taken at a depth of 2750 feet in 1943 from the Canfield No. 3 located in Section 7, Township 18 South, Range 29 East (now within the Ballard Grayburg San Andres Unit) is thought to represent the crude oil in the Loco Hills Field. The Canfield sample was analyzed as follows:

| | |
|---|---|
| Gravity | 35 - 37° API |
| Original Viscosity | 1.5 cp. |
| Original Formation Volume Factor | 1.27 reservoir bbls/ stock tank bbls |
| Solution Gas-Oil Ratio | 420 cubic feet /bbl |
| Saturation Pressure | 898 psig |
| Sampling Pressure | 903 psig |
| Reservoir Temperature | 82° F |
| Estimated Original Reservoir Presssure | 1000 psig |

Current reservoir and fluid conditions are estimated to be:

| | |
|-------------------------|---|
| Reservoir Pressure | 50 psig |
| Gravity | 35° API |
| Formation Volume Factor | 1.02 Reservoir bbls/stock tank barrels |
| Viscosity | 2.5 cp. |

RESERVES

Original oil in place in the Loco Hills sand within the proposed Unit area is estimated to have been 4,443,000 stock tank barrels. This estimate

RESERVES (Continued)

is based upon a Loco Hills sand reservoir volume of 8111 acre-feet, average porosity of 12.2 percent, water saturation of 26.5 percent and formation volume factor of 1.27 reservoir barrels per stock tank barrel. It is difficult to calculate a value for the volume of oil originally present in the Grayburg dolomite because of the discontinuous intervals that are present. A rough estimate would be 1.5 million stock tank barrels.

There are essentially zero remaining primary reserves since all the wells in the proposed Unit area are operating right at the economic limit. During 1980, the average production was 0.92 BOPD per producer. In November of 1981, this average rate was 0.82 BOPD per producer. Ultimate primary recovery of 615,000 stock tank oil represents only about 14 percent of the original oil in the Loco Hills sand and only about 11 percent of the total oil originally in the Loco Hills sand and in the Grayburg dolomite. Secondary reserves are predicted to be 609,000 stock tank barrels. This estimate is based on a comparison with the waterfloods in the West Loco Hills Unit and in the Far West Loco Hills Unit.

WATERFLOOD DEVELOPMENT

Figure 24 shows the recommended pattern of development for the proposed waterflood. The basic arrangement is a 5-spot pattern to be developed in two stages. Initially eight wells would be converted to water injection wells in order to push oil toward the remaining 18 producers. Later four

WATERFLOOD DEVELOPMENT (Continued)

additional wells on the northwest periphery would be converted to injection service. This two-phase plan allows immediate development in the main portion of the reservoir while minimizing the number of nearby abandoned wells that might require remedial work to prevent loss of injected fluids. When the waterflood has proved itself, it can be expanded to the more marginal area of the reservoir.

In Phase I, the following wells will be converted to injection status:

1. Anadarko Alscott Federal No. 4
2. Anadarko Travis "B" Federal No. 13
3. Depco Wright Federal Tract 2 No. 4
4. Depco Wright Federal Tract 2 No. 6
5. Yates Alscott Federal No. 1
6. Yates HEY 70 Federal No. 1
7. Yates Sivley-Alscott Federal No. 4
8. Yates Travis No. 2

Additional injection wells to be added in Phase II are:

1. Anadarko Alscott Federal No. 1
2. Anadarko Travis "B" Federal No. 8
3. Anadarko Alscott Federal No. 5
4. Depco Wright Federal Tract 1 No. 2

Figure 25 shows the predicted response to the two-phase waterflood.

Maximum production of about 350 BOPD is predicted during the third year of the flood. The life of the flood is extended to about 11 years

WATERFLOOD DEVELOPMENT (Continued)

because of the delay in implementing Phase II. Of course, the delay will be balanced by the knowledge gained during Phase I.

Table VI lists the plugged and abandoned wells within one-half mile of any proposed injection well. It is important that no injected fluids escape via any of these abandoned wells. Some of them may have to be re-plugged as indicated in Table VI and these expenses have been included in the estimated costs of the waterflood project.

ECONOMICS

Table VII summarizes the economics of the proposed waterflood on a pre-tax basis. Over eleven (11) years, the project will generate estimated net revenue of \$13.78 million in return for total expenses of \$3.65 million. At a discount rate of 14%, cumulative net profits will be an estimated \$4.70 million. The average annual rate of return (AARR) is about fifty-nine (59) percent.

The economic calculations assumed a constant oil price of \$33 per barrel and an average windfall profit tax of \$5 per barrel over the life of the project. At present, the actual windfall profit tax for a major operator is about \$7 per barrel, but this will decrease in time if the oil price remains constant. In addition, the windfall profit tax on this oil is scheduled to be eliminated in 1983 for independent operators. Thus, actual economics for independent operators should be better than is shown in Table VII.

ECONOMICS (Continued)

First year expenses include estimated investment requirements of \$998,704 to set up the waterflood (Table VIII) plus operating expenses and water costs of \$253,680. Total first years costs are an estimated \$1,252,384. The project will pay out in about three years and then provide significant earnings.

PARTICIPATION PARAMETERS

It is recommended that participation in the proposed Unit be based solely on cumulative production through 1980. These production figures are a very good representation of ultimate primary recovery since all wells are now at the economic limit. In addition, secondary recovery should be approximately proportional to primary recovery and to cumulative production through 1980. A parameter such as acre-feet does not seem appropriate since any calculation of acre feet would be partially based on unreliable gamma-ray-neutron logs.

Table IX shows each Tract's contribution to cumulative production through 1980. There are minor differences between the production figures in Table II and the cumulative numbers in Table IX. The production numbers from the New Mexico Oil & Gas Engineering Committee Calendar Reports were used in Table IX because they are normally accepted as official. Current working interest owners include Anadarko, the Denton interests, Depco, Husky, Southland Royalty and Yates.

CONCLUSIONS

1. The area shown in Figure 2 should be unitized as the South Loco Hills (Grayburg) Unit with unitized interval extending from the top of the Grayburg formation to 30 feet below the base of the Loco Hills sand.
2. A waterflood within the proposed Unit will produce oil in economic quantities.
3. Participation in the proposed Unit should be based on cumulative production.

PROPOSED SOUTH 1000 HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | ANADARKO | ANADARKO | ANADARKO | ANADARKO |
|--------------------|-------------------------------------|------------------------|-------------------|------------------------|
| WELL NAME | Alscott Fed No. 1 | Alscott Fed No. 2 | Alscott Fed No. 3 | Alscott Fed No. 4 |
| LEASE NUMBER | NM 0924 | NM 0924 | NM 0924 | NM 0924 |
| LOCATION | K 19-18S-29E | N 19-18S-29E | B 30-18S-29E | C 30-18S-29E |
| DATE COMPLETED | 11-12-62 | 05-21-62 | 05-12-62 | 05-28-62 |
| TOTAL DEPTH | 3305 | 2425 | 2433 | 2403 |
| PLUG-BACK TD | 2570 | 2390 | 2416 | 2391 |
| ELEVATION & DATUM | 3541 DF | 3552 KB | 3535 KB | 3534 KB |
| TOP OF GRAYBURG | 2247 (+ 1294) | 2239 (+ 1313) | 2266 (+ 1269) | 2244 (+ 1290) |
| TOP OF LOCO HILLS | 2334 (+ 1207) | 2330 (+ 1222) | 2364 (+ 1171) | 2344 (+ 1190) |
| BASE OF LOCO HILLS | 2367 (+ 1174) | 2365 (+ 1187) | 2398 (+ 1137) | 2377 (+ 1157) |
| DOLomite PERFS | 2316-2319 2323-2325 2329-2331 | 2307-2313 | | 2300-2318 2328-2338 |
| LOCO HILLS PERFS | 2356-2364 | 2330-2332 2352-2364 | 2381-2388 | 2364-2372 |
| PRESENT STATUS | Shut-In | Pumping | Pumping | Shut-In |
| | | | | Shut-In |

PROPOSED SOUTH 1000 HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | ANADARKO | ANADARKO | ANADARKO | ANADARKO |
|--------------------|-------------------------------------|---------------------|---------------------|--------------------|
| WELL NAME | Garrett No. 1 | McCaw Fed No. 1 | Travis B. Fed No. 8 | Travis B Fed No. 9 |
| LEASE NUMBER | NM 0924-A | NM 05525-B | LC 058126 | LC 058126 |
| LOCATION | D 30-18S-29E | C 19-18S-29E | A 19-18S-29E | H 19-18S-29E |
| DATE COMPLETED | 07-19-62 | 08-26-63 | 02-12-56 | 05-01-56 |
| TOTAL DEPTH | 2385 | 2433 | 2847 | 3198 |
| PLUG-BACK TD | 2357 | 2432 | 2510 | 2520 |
| ELEVATION & DATUM | 3509 KB | 3554 DF | 3581 DF | 3568 DF |
| TOP OF GRAYBURG | 2218 (+ 1291) | 2293 (+ 1261) | 2335 (+ 1246) | 2292 (+ 1276) |
| TOP OF 1000 HILLS | 2318 (+ 1191) | Not Logged | 2433 (+ 1148) | 2386 (+ 1182) |
| BASE OF 1000 HILLS | 2351 (+ 1158) | Not Logged | 2449 (+ 1132) | 2404 (+ 1164) |
| DOLOMITE PERFS | 2271-2273 2288-2290 2305-2306 | 2358-2360 | 2390-2410 | 2355-2365 |
| 1000 HILLS PERFS | 2325-2327 2334-2344 | 2399-2402 2406.5 | 2438-2448 | 2354-2372 |
| PRESENT STATUS | Pumping | Pumping | Pumping | P & A Shut-In |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | ANADARKO | ANADARKO | ANADARKO | DENTON |
|--------------------|---------------------|-------------------------------------|-------------------------------------|------------------------|
| WELL NAME | Travis B Fed No. 14 | Travis B Fed No. 15 | Travis B Fed No. 16 | Massie No. 1 |
| LEASE NUMBER | LC 058126 | LC 058126 | LC 058126 | LC 062404 |
| LOCATION | J 19-18S-29E | H 19-18S-29E | G 19-18S-29E | B 20-18S-29E |
| DATE COMPLETED | 04-03-62 | 04-12-62 | 04-19-62 | 06-01-55 |
| TOTAL DEPTH | 2424 | 2451 | 2460 | 3350 |
| PLUG-BACK TD | 2412 | 2422 | 2454 | 2570 |
| ELEVATION & DATUM | 3570 KB | 3579 KB | 3583 KB | 3556 DF |
| TOP OF GRAYBURG | 2276 (+ 1294) | 2307 (+ 1272) | 2311 (+ 1272) | 2360 (+ 1196) |
| TOP OF LOCO HILLS | 2367 (+ 1203) | 2404 (+ 1175) | 2402 (+ 1181) | 2464 (+ 1092) |
| BASE OF LOCO HILLS | 2396 (+ 1174) | 2424 (+ 1155) | 2429 (+ 1154) | 2475 (+ 1081) |
| DOLOMITE PERFS | 2344-2348 | 2332-2334 2378-2384 2388-2390 | 2385-2389 2392-2394 | 2409-2421 2442-2452 |
| 1000 HILLS PERFS | 2386-2396 | 2412-2422 | 2404-2405 2417-2421 2426-2430 | |
| PRESENT STATUS | Shut-In | Pumping | Shut-In | Pumping |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | DEPOO | DEPOO | DEPOO | DEPOO |
|--------------------|-----------------------|-----------------------|------------------------|------------------------|
| WELL NAME | Wright Fed TR 1 No. 1 | Wright Fed TR 1 No. 2 | Wright Fed TR 2 No. 3 | Wright Fed TR 2 No. 4 |
| LEASE NUMBER | NM 0925 | NM 0925 | NM 0925 | NM 0925 |
| LOCATION | D 20-18S-29E | C 20-18S-29E | L 20-18S-29E | K 20-18S-29E |
| DATE COMPLETED | 05-04-55 | 09-30-55 | 02-18-62 | 03-07-62 |
| TOTAL DEPTH | 3255 | 2780 | 2412 | 2500 |
| PLUG-BACK TD | 2679 | | 2411 | 2490 |
| ELEVATION & DATUM | 3560 DF | 3561 DF | 3546 KB | 3555 KB |
| TOP OF GRAYBURG | 2317 (+ 1243) | 2360 (+ 1201) | 2282 (+ 1264) | 2364 (+ 1191) |
| TOP OF LOCO HILLS | 2406 (+ 1154) | 2448 (+ 1113) | 2376 (+ 1170) | 2455 (+ 1100) |
| BASE OF LOCO HILLS | 2428 (+ 1132) | 2471 (+ 1090) | 2404 (+ 1142) | 2488 (+ 1067) |
| DOLomite PERFS | 2384-2390 | | 2351-2354 | 2440-2446 |
| LOCO HILLS PERFS | 2402-2422 | 2455-2477 | 2385-2388 2397-2400 | 2479-2482 2491-2494 |
| PRESENT STATUS | Pumping | Pumping | Pumping | Pumping |
| | | | | Shut-In |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | DEPOO | YATES | YATES | YATES | YATES |
|--------------------|------------------------|-------------------|------------------|----------------------|----------------------|
| WELL NAME | Wright Fed TR 2 No. 6 | Alscott Fed No. 1 | HEY-70 Fed No. 1 | Sivley-Alscott No. 3 | Sivley-Alscott No. 4 |
| LEASE NUMBER | NM 0925 | NM 0924 | NM 0593 | NM 0924 | NM 0924 |
| LOCATION | E 20-18S-19E | A 30-18S-29E | M 20-18S-29E | D 29-18S-29E | C 29-18S-29E |
| DATE COMPLETED | 12-19-62 | 08-07-61 | 05-13-61 | 12-01-61 | 12-07-61 |
| TOTAL DEPTH | 2440 | 2603 | 2790 | 2442 | 2460 |
| PLUG-BACK TD | 2425 | 2573 | 2740 | 2427 | 2444 |
| ELEVATION & DATUM | 3553 GL | 3517 KB | 3531 KB | 3509 KB | 3500 KB |
| TOP OF GRAYBURG | 2290 (+ 1263) | 2272 (+ 1245) | 2278 (+ 1253) | 2284 (+ 1225) | 2298 (+ 1202) |
| TOP OF LOCO HILLS | 2386 (+ 1167) | 2369 (+ 1148) | 2372 (+ 1159) | 2380 (+ 1129) | 2396 (+ 1104) |
| BASE OF LOCO HILLS | 2411 (+ 1142) | 2400 (+ 1117) | 2404 (+ 1127) | 2413 (+ 1096) | 2425 (+ 1075) |
| DOLOMITE PERFS | 2361-2364 2373-2376 | | | | |
| LOCO HILLS PERFS | 2397-2400 2407-2410 | 2392-2400 | 2387-2399 | 2398-2408 | 2414-2421 |
| PRESENT STATUS | Pumping | Pumping | Pumping | Pumping | Pumping |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
WELL DATA SHEET
TABLE I

| OPERATOR | YATES | YATES | YATES |
|--------------------|---------------|---------------|-------------------|
| WELL NAME | Travis No. 1 | Travis No. 2 | Western Fed No. 1 |
| LEASE NUMBER | LC 058126 | LC 058126 | NM 0925 |
| LOCATION | P 19-18S-29E | O 19-18S-29E | N 20-18S-29E |
| DATED COMPLETED | 12-23-61 | 03-10-62 | 08-07-61 |
| TOTAL DEPTH | 2405 | 2424 | 2700 |
| PLUG-BACK TD | 2400 | 2394 | 2670 |
| ELEVATION & DATUM | 3541 KB | 3568 KB | 3529 KB |
| TOP OF GRAYBURG | 2260 (+ 1281) | 2274 (+ 1294) | 2332 (+ 1197) |
| TOP OF LOCO HILLS | 2355 (+ 1186) | 2366 (+ 1202) | 2430 (+ 1099) |
| BASE OF LOCO HILLS | 2384 (+ 1157) | 2396 (+ 1172) | 2456 (+ 1073) |
| DOLomite PERFS | 2338-2344 | 2344-2350 | |
| LOCO HILLS PERFS | 2374-2386 | 2374-2386 | 2446-2454 |
| PRESSENT STATUS | Permping | Permping | Permping |

PROPOSED SOUTH 1000 HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1955

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Carrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | | | | | | | | | | | | | |
| Anadarko Yates B | | | | | | | | | | | | | |
| Danton Massie | | | | | | 373 | 383 | 319 | 247 | 172 | 169 | 172 | 1,835 |
| Depco Wright Fed TR-1 | | | | | | | | 385 | 417 | 571 | 571 | 582 | 2,526 |
| Depco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates HEY-70 | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | | | | | | 373 | 383 | 704 | 664 | 743 | 740 | 754 | 4,361 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1956

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-------|-------|-------|-------|-------|-------|-----|------|-------|-------|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | | 990 | 940 | 1,057 | 1,106 | 1,082 | 749 | 700 | 180 | 1,368 | 1,105 | 366 | 9,643 |
| Anadarko Yates B | | | | | | | | | | | | | |
| Dutton Massie | 143 | 92 | 156 | 123 | 118 | 107 | 112 | 103 | 93 | 49 | 34 | 65 | 1,195 |
| Depco Wright Fed TR-1 | 96 | 185 | 296 | 292 | 250 | 204 | 185 | 154 | 153 | 171 | 83 | 138 | 2,207 |
| Depco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates MEY-70 | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 239 | 1,267 | 1,392 | 1,472 | 1,474 | 1,393 | 1,046 | 957 | 426 | 1,588 | 1,222 | 569 | 13,045 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
 PRODUCTION HISTORY
 TABLE 11

1957

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-----|-------|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 910 | 992 | 497 | 956 | 114 | 504 | 385 | 400 | 377 | 596 | 173 | 296 | 6,200 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 84 | 93 | 69 | 64 | 96 | 58 | 83 | 76 | 45 | 76 | 63 | 70 | 877 |
| Depco Wright Fed TR-1 | 110 | 166 | 62 | 115 | 101 | 104 | 95 | 45 | 80 | 101 | 77 | 83 | 1,139 |
| Depco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates HEY-70 Fed | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 1,104 | 1,251 | 628 | 1,135 | 311 | 666 | 563 | 521 | 502 | 773 | 313 | 449 | 8,216 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
 PRODUCTION HISTORY
 TABLE II

1958

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 323 | 288 | 317 | 320 | 292 | 259 | 273 | 277 | 247 | 161 | 119 | 172 | 3,048 |
| Anadarko Yates B | | | | | | | | | | | | | |
| Denton Massie | 66 | 29 | 100 | 71 | 75 | 81 | 64 | 62 | 51 | 78 | 62 | 56 | 795 |
| Depco Wright Fed TR-1 | 111 | 92 | 104 | 83 | 71 | 84 | 87 | 84 | 96 | 98 | 48 | 89 | 1,047 |
| Depco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates EBY-70 | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 500 | 409 | 521 | 474 | 438 | 424 | 424 | 423 | 394 | 337 | 229 | 317 | 4,890 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1959

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 118 | 231 | 194 | 129 | 177 | 168 | 78 | 156 | 76 | 117 | 126 | 121 | 1,691 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 64 | 51 | 68 | 60 | 57 | | 63 | 14 | 73 | 33 | 47 | 48 | 578 |
| Depco Wright Fed TR-1 | 77 | 64 | 84 | 71 | 32 | 69 | 36 | 54 | 76 | 57 | 58 | 79 | 757 |
| Depco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates HIX-70 Fed | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 259 | 346 | 346 | 260 | 266 | 237 | 177 | 224 | 225 | 207 | 231 | 248 | 3,026 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
 PRODUCTION HISTORY
 TABLE II

1960

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 72 | 60 | 125 | | | 231 | 104 | 81 | 12 | 111 | 98 | 104 | 998 |
| Anadarko Yates B | | | | | | | | | | | | | |
| Danton Massie | 48 | 20 | 58 | 49 | 22 | 30 | 50 | 41 | 53 | 44 | 43 | 36 | 494 |
| Depco Wright Fed JR-1 | 57 | 57 | 75 | 57 | 56 | 51 | 54 | 60 | 57 | 70 | 56 | 52 | 702 |
| Depco Wright Fed JR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | | | | | | |
| Yates HEY-70 | | | | | | | | | | | | | |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | | | | | | |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 177 | 137 | 258 | 106 | 78 | 312 | 208 | 182 | 122 | 225 | 197 | 192 | 2,194 |

PROPOSED SOUTH TAZOO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY

TABLE II

1961

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | | | | | | | | | | | | | |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 99 | 103 | 120 | 100 | 96 | 66 | 38 | 38 | 19 | 73 | 69 | 65 | 886 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 41 | 46 | 53 | 52 | 47 | 56 | 33 | 52 | 57 | 38 | -- | 33 | 508 |
| Denco Wright Fed TR-1 | 68 | 62 | 41 | 59 | 56 | 43 | 57 | 49 | 50 | 48 | 41 | 48 | 622 |
| Denco Wright Fed TR-2 | | | | | | | | | | | | | |
| Yates Alscott Fed | | | | | | | | 1,007 | 975 | 623 | 431 | 414 | 3,450 |
| Yates HEY-70 Fed | | | | | 850 | 916 | 891 | 1,086 | 965 | 929 | 930 | 1,060 | 7,627 |
| Yates Sivley-Alscott | | | | | | | | | | | | | |
| Yates Travis Fed | | | | | | | | 999 | 775 | 966 | 577 | 455 | 4,003 |
| Yates Western Fed | | | | | | | | | | | | | |
| TOTALS | 208 | 211 | 214 | 211 | 1,049 | 1,081 | 1,019 | 3,231 | 2,841 | 2,677 | 2,048 | 2,761 | 17,551 |

1962

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|-------|--------|---------|
| Anadarko Alscott Fed | | | | | 1,000 | 1,398 | 2,486 | 2,606 | 2,240 | 2,118 | 1,887 | 1,664 | 15,399 |
| Anadarko Garrett | | | | | | | | | | | | | |
| Anadarko McCaw Fed | | | | | | | | | | | | | |
| Anadarko Travis "B" Fed | 57 | -0- | 65 | 1,828 | 4,043 | 3,670 | 4,292 | 3,007 | 2,381 | 2,911 | 1,572 | 2,223 | 26,049 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 44 | 41 | 45 | 46 | 42 | 42 | 52 | 38 | 42 | 36 | 36 | 33 | 497 |
| Depco Wright Fed TR-1 | 62 | 43 | 27 | 48 | 198 | 42 | 51 | 40 | 44 | 50 | 43 | 44 | 692 |
| Depco Wright Fed TR-2 | | | 1,677 | 2,340 | 1,977 | 1,020 | 2,355 | 1,880 | 2,313 | 2,343 | 2,166 | 2,294 | 20,365 |
| Yates Alscott Fed | 11 | 356 | 198 | 266 | 539 | 155 | 312 | 82 | 120 | 163 | 203 | 393 | 2,798 |
| Yates HEY-70 Fed | 1,215 | 1,105 | 1,069 | 779 | 984 | 1,158 | 897 | 1,132 | 986 | 1,082 | 1,072 | 825 | 12,304 |
| Yates Sivley-Alscott | 656 | 992 | 1,022 | 679 | 593 | 527 | 500 | 500 | 427 | 438 | 386 | 410 | 7,130 |
| Yates Travis Fed | 1,114 | 934 | 1,924 | 1,636 | 1,717 | 2,043 | 1,789 | 1,994 | 2,280 | 2,274 | 2,040 | 2,160 | 21,905 |
| Yates Western Fed | 519 | 362 | 424 | 399 | 671 | 761 | 743 | 1,051 | 667 | 537 | 430 | 660 | 7,224 |
| TOTALS | 3,678 | 3,833 | 6,451 | 8,021 | 11,764 | 10,816 | 13,477 | 12,330 | 11,500 | 11,952 | 9,835 | 10,706 | 114,363 |

1963

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Anadarko Alscott Fed | 1,272 | 1,184 | 1,004 | 1,142 | 996 | 1,106 | 871 | 921 | 916 | 1,266 | 1,127 | 1,304 | 13,109 |
| Anadarko Garrett | | | | | 138 | 80 | 78 | 68 | 17 | 86 | 61 | 15 | 543 |
| Anadarko McCaw Fed | | | | | | | | 240 | 784 | 698 | 385 | 588 | 2,695 |
| Anadarko Travis "B" Fed | 2,501 | 2,022 | 1,115 | 1,515 | 1,706 | 1,370 | 1,655 | 1,113 | 1,281 | 1,000 | 740 | 1,527 | 17,545 |
| Anadarko Yates "B" | | | | | | | | | | | | 44 | 44 |
| Denton Massie | 28 | 45 | 94 | 128 | 88 | 79 | 64 | 59 | 47 | 66 | 7 | 63 | 768 |
| Depco Wright Fed TR-1 | 39 | 79 | 41 | 34 | 45 | 43 | 44 | 35 | 39 | 46 | 31 | 52 | 528 |
| Depco Wright Fed TR-2 | 3,352 | 2,834 | 3,436 | 3,241 | 2,883 | 2,525 | 2,759 | 2,838 | 2,916 | 2,436 | 2,523 | 2,230 | 33,973 |
| Yates Alscott Fed | 262 | 155 | 227 | 216 | 210 | 191 | 118 | 134 | 273 | 243 | 139 | 83 | 2,001 |
| Yates HEX-70 Fed | 1,036 | 1,018 | 1,036 | 1,059 | 1,204 | 965 | 676 | 716 | 722 | 865 | 740 | 612 | 10,649 |
| Yates Sivley-Alscott | 376 | 356 | 367 | 331 | 313 | 644 | 296 | 282 | 288 | 279 | 269 | 284 | 4,085 |
| Yates Travis Fed | 2,327 | 2,252 | 2,272 | 1,694 | 1,569 | 1,413 | 1,286 | 1,190 | 877 | 1,204 | 972 | 851 | 17,907 |
| Yates Western Fed | 509 | 411 | 467 | 605 | 256 | 363 | 438 | 403 | 374 | 338 | 273 | 410 | 4,847 |
| TOTALS | 11,702 | 10,356 | 10,059 | 9,965 | 9,408 | 8,779 | 8,285 | 7,999 | 8,284 | 8,527 | 7,267 | 8,063 | 108,694 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE VI

1964

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Aradarko Alscott Fed | 873 | 1,232 | 1,167 | 796 | 487 | 527 | 817 | 454 | 488 | 559 | 656 | 294 | 8,350 |
| Aradarko Garrett | 24 | 14 | 73 | 44 | 9 | 0 | 0 | 5 | 61 | 79 | 48 | 45 | 402 |
| Aradarko McGraw Fed | 493 | 357 | 522 | 350 | 305 | 234 | 191 | 183 | 178 | 192 | 46 | 26 | 3,027 |
| Aradarko Travis "B" Fed | 513 | 591 | 1,027 | 1,014 | 1,041 | 835 | 941 | 871 | 940 | 298 | 834 | 616 | 9,571 |
| Aradarko Yates "B" | 579 | 543 | 251 | 288 | 57 | 158 | 144 | 59 | 113 | 119 | 33 | 89 | 2,453 |
| Enron Vassie | 61 | 49 | 54 | 53 | 44 | 45 | 52 | 50 | 52 | 40 | 55 | 50 | 605 |
| Rapco Wright Fed TR-1 | 48 | 21 | 58 | 47 | 35 | 24 | 30 | 44 | 12 | 23 | 27 | 24 | 403 |
| Rapco Wright Fed TR-2 | 2,449 | 1,777 | 2,254 | 1,169 | 1,636 | 2,540 | 2,318 | 2,562 | 1,568 | 1,535 | 1,354 | 1,395 | 20,357 |
| Yates Alscott Fed | 44 | 70 | 76 | 104 | 33 | 83 | 116 | 94 | 133 | 99 | 62 | 85 | 999 |
| Yates HW-70 Fed | 561 | 906 | 1,050 | 922 | 722 | 745 | 393 | 853 | 607 | 558 | 465 | 605 | 8,396 |
| Yates Stanley-Alscott | 265 | 248 | 222 | 221 | 233 | 207 | 206 | 235 | 150 | 215 | 184 | 161 | 2,567 |
| Yates Travis Fed | 913 | 946 | 915 | 779 | 935 | 677 | 681 | 646 | 1,116 | 872 | 504 | 657 | 9,641 |
| Yates Western Fed | 141 | 174 | 24 | 30 | 0 | 0 | 0 | 260 | 228 | 685 | 396 | 464 | 2,402 |
| TOTALS | 6,964 | 6,918 | 7,702 | 6,457 | 5,537 | 5,075 | 5,089 | 5,316 | 5,646 | 5,274 | 4,694 | 4,401 | 69,173 |

PROPOSED SOUTH 1000 HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1965

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 448 | 478 | 301 | 440 | 541 | 622 | 414 | 309 | 372 | 218 | 201 | 274 | 4,618 |
| Anadarko Garrett | 6 | 6 | 23 | 28 | 55 | 12 | 46 | 42 | 57 | 44 | 10 | 9 | 338 |
| Anadarko McCaw Fed | 191 | 152 | 160 | 135 | 153 | 87 | 138 | 0 | 70 | 106 | 94 | 36 | 1,322 |
| Anadarko Travis "B" Fed | 620 | 552 | 581 | 454 | 567 | 430 | 447 | 536 | 435 | 438 | 351 | 459 | 5,870 |
| Anadarko Yates "B" | 85 | 9 | 85 | 3 | 10 | 20 | 47 | 48 | 41 | 40 | 43 | 43 | 474 |
| Denton Massie | 56 | 39 | 47 | 47 | 46 | 31 | 63 | 25 | 43 | 36 | 47 | 46 | 526 |
| Dapco Wright Fed TR-1 | 23 | 23 | 29 | 25 | 26 | 13 | 8 | | | | | | 147 |
| Dapco Wright Fed TR-2 | 1,328 | 1,104 | 1,199 | 1,156 | 1,127 | 1,048 | 1,052 | 1,057 | 987 | 968 | 890 | 842 | 12,758 |
| Yates Alscott Fed | 103 | 57 | 47 | 105 | 72 | 14 | 98 | 36 | 33 | 30 | 17 | 16 | 628 |
| Yates HEN-70 Fed | 680 | 549 | 557 | 597 | 576 | 544 | 392 | 434 | 523 | 507 | 462 | 474 | 6,295 |
| Yates Sivley-Alscott | 236 | 188 | 193 | 140 | 225 | 92 | 202 | 172 | 149 | 161 | 159 | 172 | 2,089 |
| Yates Travis Fed | 727 | 618 | 728 | 625 | 603 | 610 | 472 | 273 | 537 | 324 | 275 | 580 | 6,372 |
| Yates Western Fed | 225 | 363 | 424 | 275 | 295 | 293 | 269 | 161 | 234 | 123 | 211 | 339 | 3,272 |
| TOTALS | 4,728 | 4,138 | 4,374 | 4,030 | 4,296 | 3,816 | 3,648 | 3,093 | 3,481 | 2,995 | 2,820 | 3,290 | 44,709 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1966

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 136 | 145 | 117 | 162 | 165 | 92 | 113 | 45 | 92 | 133 | 15 | 182 | 1,397 |
| Anadarko Garrett | 38 | 41 | 40 | 4 | 22 | 36 | 16 | 44 | 0 | 14 | 3 | 18 | 276 |
| Anadarko McCaw Fed | 165 | 84 | 62 | 84 | 101 | 145 | 89 | 86 | 67 | 75 | 81 | 126 | 1,165 |
| Anadarko Travis "B" Fed | 531 | 444 | 196 | | 274 | 267 | 271 | 225 | 223 | 226 | 212 | 484 | 3,735 |
| Anadarko Yates "B" | 41 | 39 | 44 | 44 | 23 | 44 | 50 | 43 | 41 | 7 | 41 | 42 | 443 |
| Denton Missie | 39 | 36 | 41 | 44 | 33 | 36 | 46 | 41 | 44 | 41 | 36 | 26 | 463 |
| Depco Wright Fed TR-1 | | | | | | | | | | | | | |
| Depco Wright Fed TR-2 | 699 | 710 | 780 | 750 | 804 | 800 | 697 | 681 | 649 | 730 | 665 | 562 | 8,527 |
| Yates Alscott Fed | 10 | 5 | 19 | 47 | 105 | 35 | 32 | 79 | 80 | 82 | 113 | 22 | 629 |
| Yates HEY-70 Fed | 323 | 389 | 411 | 370 | 397 | 322 | 333 | 471 | 293 | 280 | 396 | 270 | 4,285 |
| Yates Sivley-Alscott | 174 | 141 | 144 | 140 | 162 | 123 | 134 | 141 | 124 | 135 | 124 | 135 | 1,677 |
| Yates Travis Fed | 347 | 554 | 451 | 572 | 551 | 474 | 383 | 423 | 367 | 430 | 419 | 398 | 5,369 |
| Yates Western Fed | 194 | 230 | 319 | 124 | 209 | 208 | 173 | 161 | 174 | 188 | 175 | 134 | 2,289 |
| TOTALS | 2,697 | 2,818 | 2,624 | 2,707 | 2,776 | 2,582 | 2,337 | 2,440 | 2,254 | 2,341 | 2,280 | 2,399 | 30,255 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1967

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 12 | 91 | 155 | 36 | 78 | 0 | 104 | 172 | 506 | 444 | 358 | 310 | 2,266 |
| Anadarko Garrett | 25 | 29 | 26 | 20 | 0 | 13 | 23 | 27 | 6 | 21 | 18 | 23 | 231 |
| Anadarko McCaw Fed | 87 | 76 | 84 | 84 | 46 | 81 | 93 | 111 | 84 | 100 | 81 | 71 | 998 |
| Anadarko Travis "B" Fed | 468 | 364 | 358 | 354 | 332 | 277 | 367 | 445 | 380 | 323 | 337 | 340 | 4,345 |
| Anadarko Yates "B" | 4 | 35 | 43 | 41 | 41 | 34 | 5 | | | | | | 203 |
| Denton Massie | 50 | 41 | 40 | 41 | 42 | 6 | 69 | 41 | 41 | 39 | 36 | 47 | 493 |
| Dupo Wright Fed TR-1 | | | | | | | | | | | | | |
| Dupo Wright Fed TR-2 | 545 | 575 | 602 | 598 | 564 | 511 | 475 | 494 | 478 | 487 | 463 | 410 | 6,202 |
| Yates Alscott Fed | 22 | 88 | 63 | 50 | 56 | 59 | 61 | 50 | 62 | 52 | 51 | 33 | 647 |
| Yates HBY-70 Fed | 267 | 387 | 404 | 339 | 441 | 269 | 395 | 214 | 245 | 341 | 285 | 277 | 3,664 |
| Yates Sivley-Alscott | 129 | 118 | 99 | 50 | 126 | 131 | 71 | 141 | 92 | 126 | 108 | 138 | 1,329 |
| Yates Travis Fed | 498 | 349 | 413 | 361 | 366 | 229 | 371 | 403 | 368 | 330 | 321 | 348 | 4,357 |
| Yates Western Fed | 207 | 112 | 155 | 143 | 139 | 114 | 114 | 136 | 104 | 132 | 125 | 93 | 1,574 |
| TOTALS | 2,314 | 2,265 | 2,442 | 1,917 | 2,231 | 1,724 | 2,148 | 2,234 | 2,366 | 2,395 | 2,183 | 2,090 | 26,309 |

PROPOSED SOUTH LOCO HILLS (GRAYBURN) UNIT
PRODUCTION HISTORY
TABLE II

1968

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 319 | 102 | 276 | 269 | 332 | 221 | 235 | 246 | 204 | 198 | 141 | 8 | 2,551 |
| Anadarko Garrett | 8 | 23 | 30 | 17 | 60 | 17 | 11 | 5 | 15 | 16 | 24 | 23 | 249 |
| Anadarko McCaw Fed | 132 | 127 | 75 | 60 | 70 | 78 | 84 | 46 | 72 | 65 | 62 | 60 | 931 |
| Anadarko Travis "B" Fed | 423 | 318 | 402 | 351 | 321 | 240 | 234 | 311 | 306 | 250 | 312 | 298 | 3,786 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Anton Massie | 50 | 41 | 23 | 39 | 52 | 32 | 50 | 39 | 41 | 11 | 33 | 6 | 417 |
| Dapco Wright Fed TR-1 | | | | | | | | | | | | | |
| Dapco Wright Fed TR-2 | 413 | 467 | 486 | 441 | 433 | 402 | 399 | 382 | 380 | 385 | 366 | 372 | 4,926 |
| Yates Alscott Fed | 69 | 58 | 57 | 37 | 47 | 42 | 68 | 54 | 60 | 42 | 51 | 51 | 636 |
| Yates HLY-70 Fed | 270 | 254 | 252 | 247 | 256 | 213 | 49 | 131 | 371 | 396 | 384 | 400 | 3,223 |
| Yates Sivley-Alscott | 76 | 107 | 105 | 115 | 91 | 105 | 85 | 102 | 80 | 112 | 84 | 108 | 1,170 |
| Yates Travis Fed | 352 | 230 | 474 | 597 | 643 | 486 | 687 | 103 | 313 | 234 | 217 | 365 | 4,701 |
| Yates Western Fed | 129 | 89 | 120 | 284 | 227 | 219 | 178 | 145 | 119 | 150 | 128 | 120 | 1,908 |
| TOTALS | 2,241 | 1,816 | 2,300 | 2,457 | 2,532 | 2,055 | 2,080 | 1,564 | 1,981 | 1,859 | 1,802 | 1,811 | 24,498 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1969

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 139 | 858 | 840 | 771 | 625 | 515 | 425 | 465 | 255 | 247 | 215 | 150 | 5,505 |
| Anadarko Garrett | 24 | 24 | 26 | 25 | 20 | 17 | 15 | 16 | 17 | 11 | 12 | 13 | 220 |
| Anadarko McCaw Fed | 72 | 61 | 84 | 63 | 58 | 65 | 63 | 42 | 48 | 44 | 50 | 59 | 709 |
| Anadarko Travis "B" Fed | 271 | 256 | 282 | 256 | 245 | 245 | 268 | 285 | 237 | 225 | 255 | 253 | 3,078 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Danton Missie | 66 | 47 | 46 | 44 | 42 | 11 | 61 | 38 | 0 | 33 | 33 | 38 | 459 |
| Dupco Wright Fed TR-1 | | | | | | | | | | | | | |
| Dupco Wright Fed TR-2 | 402 | 355 | 373 | 411 | 411 | 360 | 322 | 301 | 342 | 376 | 334 | 480 | 4,467 |
| Yates Alscott Fed | 29 | 44 | 50 | 50 | 23 | 71 | 35 | 40 | 41 | 36 | 33 | 39 | 491 |
| Yates HEY-70 Fed | 388 | 278 | 323 | 267 | 88 | 412 | 219 | 229 | 212 | 189 | 179 | 208 | 2,692 |
| Yates Sivley-Alscott | 54 | 0 | 92 | 69 | 70 | 52 | 66 | 90 | 88 | 89 | 77 | 46 | 793 |
| Yates Travis Fed | 462 | 378 | 423 | 345 | 307 | 328 | 298 | 294 | 266 | 278 | 267 | 275 | 3,921 |
| Yates Western Fed | 99 | 110 | 125 | 55 | 137 | 106 | 114 | 84 | 100 | 96 | 96 | 93 | 1,215 |
| TOTALS | 2,006 | 2,411 | 2,664 | 2,356 | 2,026 | 2,182 | 1,886 | 1,884 | 1,606 | 1,624 | 1,551 | 1,654 | 23,850 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1970

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 157 | 211 | 234 | 185 | 131 | 152 | 165 | 131 | 190 | 130 | 148 | 128 | 1,962 |
| Anadarko Garrett | 11 | 12 | 10 | 11 | 13 | 12 | 11 | 10 | 15 | 7 | 7 | 15 | 134 |
| Anadarko McCaw Fed | 73 | 39 | 47 | 41 | 51 | 25 | 59 | 41 | 13 | 21 | 38 | 43 | 491 |
| Anadarko Travis "B" Fed | 259 | 229 | 218 | 227 | 235 | 226 | 215 | 202 | 170 | 212 | 195 | 205 | 2,593 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Renton Missie | 36 | 42 | 52 | 38 | 47 | 44 | 39 | 29 | 44 | 41 | 33 | 43 | 488 |
| Dapco Wright Fed TR-1 | | | | | | | | | | | | | |
| Dapco Wright Fed TR-2 | 315 | 321 | 367 | 342 | 341 | 255 | 364 | 278 | 306 | 298 | 296 | 285 | 3,768 |
| Yates Alscott Fed | 93 | 41 | 35 | 33 | 34 | 54 | 35 | 57 | 41 | 32 | 31 | 36 | 522 |
| Yates HBY-70 Fed | 193 | 182 | 203 | 176 | 198 | 191 | 178 | 175 | 151 | 176 | 166 | 163 | 2,152 |
| Yates Sivley-Alscott | 134 | 74 | 77 | 61 | 68 | 88 | 69 | 57 | 91 | 88 | 53 | 78 | 938 |
| Yates Travis Fed | 274 | 255 | 254 | 227 | 227 | 272 | 234 | 275 | 320 | 249 | 255 | 195 | 3,037 |
| Yates Western Fed | 47 | 107 | 97 | 94 | 80 | 85 | 86 | 32 | 74 | 97 | 92 | 78 | 959 |
| TOTALS | 1,592 | 1,513 | 1,594 | 1,435 | 1,425 | 1,404 | 1,455 | 1,287 | 1,415 | 1,351 | 1,304 | 1,269 | 17,044 |

PROPOSED SOUTH LOCO HILLS (GRAYING) UNIT
PRODUCTION HISTORY
TABLE II

1971

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 112 | 97 | 124 | 119 | 124 | 109 | 150 | 168 | 139 | 127 | 107 | 90 | 1,466 |
| Anadarko Garrett | 12 | 11 | 8 | 11 | 9 | 4 | 9 | 8 | 12 | 11 | 14 | 11 | 120 |
| Anadarko McCaw Fed | 44 | 43 | 49 | 48 | 30 | 37 | 38 | 43 | 33 | 39 | 38 | 38 | 480 |
| Anadarko Travis "B" Fed | 155 | 99 | 94 | 194 | 206 | 196 | 189 | 188 | 178 | 225 | 214 | 190 | 2,128 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 44 | 31 | 35 | 40 | 41 | 33 | 36 | 33 | 36 | 45 | 38 | 36 | 448 |
| Dejco Wright Fed TR-1 | | | | | | | | | | | | | |
| Dejco Wright Fed TR-2 | 342 | 233 | 248 | 213 | 157 | 282 | 268 | 159 | 266 | 292 | 260 | 303 | 3,023 |
| Yates Alscott Fed | 31 | 28 | 28 | 35 | 59 | 33 | 32 | 31 | 33 | 71 | 46 | 16 | 443 |
| Yates HEN-70 Fed | 168 | 126 | 179 | 138 | 142 | 147 | 117 | 169 | 124 | 156 | 172 | 144 | 1,732 |
| Yates Sivley-Alscott | 85 | 19 | 112 | 50 | 83 | 35 | 54 | 76 | 52 | 72 | 63 | 54 | 755 |
| Yates Travis Fed | 230 | 175 | 159 | 235 | 232 | 182 | 236 | 177 | 215 | 179 | 188 | 204 | 2,412 |
| Yates Western Fed | 82 | 30 | 97 | 80 | 70 | 72 | 67 | 91 | 68 | 54 | 80 | 78 | 869 |
| TOTALS | 1,305 | 892 | 1,133 | 1,163 | 1,153 | 1,130 | 1,196 | 1,143 | 1,156 | 1,271 | 1,170 | 1,164 | 13,876 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1972

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 97 | 93 | 83 | 80 | 92 | 110 | 69 | 55 | 55 | 50 | 51 | 44 | 879 |
| Anadarko Garrett | 11 | 10 | 7 | 8 | 8 | 14 | 8 | 8 | 11 | 3 | 8 | 4 | 100 |
| Anadarko McGraw Fed | 41 | 37 | 39 | 38 | 41 | 37 | 38 | 32 | 35 | 33 | 38 | 38 | 447 |
| Anadarko Travis "B" Fed | 157 | 195 | 182 | 114 | 123 | 121 | 122 | 110 | 85 | 113 | 105 | 110 | 1,537 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Anton Nussle | 40 | 33 | 39 | 25 | 31 | 42 | 33 | 24 | 42 | 42 | 36 | 35 | 422 |
| Dupco Wright Fed TR-1 | | | | | | | | | | | | | |
| Dupco Wright Fed TR-2 | 304 | 259 | 257 | 261 | 260 | 254 | 281 | 274 | 244 | 101 | 62 | 145 | 2,702 |
| Yates Alscott Fed | 20 | 43 | 26 | 44 | 27 | 28 | 32 | 29 | 13 | 14 | 30 | 70 | 376 |
| Yates MEY-70 Fed | 128 | 130 | 125 | 113 | 118 | 149 | 134 | 130 | 115 | 100 | 107 | 105 | 1,454 |
| Yates Sivley-Alscott | 68 | 65 | 61 | 69 | 52 | 49 | 48 | 57 | 80 | 41 | 72 | 75 | 737 |
| Yates Travis Fed | 192 | 166 | 208 | 188 | 221 | 160 | 199 | 166 | 195 | 186 | 166 | 160 | 2,207 |
| Yates Western Fed | 58 | 63 | 70 | 71 | 58 | 57 | 56 | 63 | 61 | 69 | 56 | 56 | 738 |
| TOTALS | 1,116 | 1,094 | 1,097 | 1,011 | 1,031 | 1,021 | 1,020 | 948 | 936 | 752 | 731 | 842 | 11,599 |

1973

PROPOSED SOUTH LOCO HILLS (GRAYHUNG) UNIT
PRODUCTION HISTORY
TABLE II

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 63 | 68 | 58 | 99 | 165 | 126 | 103 | 79 | 104 | 112 | 123 | 145 | 1,245 |
| Anadarko Garrett | 3 | 6 | 15 | 17 | 13 | 14 | 11 | 11 | 17 | 11 | 11 | 2 | 131 |
| Anadarko McCaw Fed | 35 | 35 | 35 | 35 | 38 | 35 | 32 | 30 | 33 | 38 | 29 | 33 | 408 |
| Anadarko Travis "B" Fed | 98 | 102 | 95 | 94 | 86 | 65 | 75 | 79 | 50 | 42 | 21 | 168 | 975 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 34 | 12 | 44 | 36 | 39 | 39 | 33 | 30 | 37 | 33 | 33 | 33 | 403 |
| Depco Wright Fed TR-1 | | | | | | | | | | | | | |
| Depco Wright Fed TR-2 | 219 | 213 | 230 | 209 | 186 | 216 | 226 | 226 | 236 | 207 | 176 | 152 | 2,496 |
| Yates Alscott Fed | 30 | 17 | 34 | 26 | 32 | 32 | 32 | 41 | | | | | 244 |
| Yates HBY-70 Fed | 93 | 105 | 106 | 133 | 129 | 101 | 108 | 94 | 115 | 103 | 98 | 122 | 1,307 |
| Yates Sivley-Alscott | 31 | 57 | 65 | 47 | 58 | 60 | 65 | 16 | 60 | 50 | 63 | 41 | 613 |
| Yates Travis Fed | 163 | 155 | 172 | 143 | 147 | 155 | 171 | 182 | 145 | 157 | 130 | 150 | 1,870 |
| Yates Western Fed | 53 | 47 | 69 | 66 | 55 | 40 | 59 | 54 | 54 | 32 | 50 | 55 | 634 |
| TOTALS | 822 | 817 | 923 | 905 | 948 | 883 | 915 | 842 | 851 | 785 | 734 | 901 | 10,326 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1974

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Anadarko Alscott Fed | 153 | 138 | 184 | 223 | 214 | 215 | 176 | 168 | 168 | 206 | 209 | 174 | 2,228 |
| Anadarko Garrett | 11 | 11 | 9 | 11 | 1 | 10 | 9 | 9 | 8 | 7 | 10 | 11 | 107 |
| Anadarko McCaw Fed | 34 | 30 | 35 | 35 | 33 | 36 | 32 | 32 | 30 | 35 | 15 | 38 | 385 |
| Anadarko Travis "B" Fed | 218 | 184 | 264 | 180 | 174 | 135 | 162 | 177 | 165 | 169 | 184 | 165 | 2,177 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 34 | 36 | 33 | 30 | 33 | 27 | 27 | 30 | 34 | 6 | 49 | 31 | 370 |
| Dapco Wright Fed TR-1 | | | 150 | 122 | 434 | 278 | 138 | 158 | 133 | 122 | 99 | 106 | 1,740 |
| Dapco Wright Fed TR-2 | 193 | 146 | 167 | 153 | 174 | 153 | 148 | 171 | 172 | 177 | 176 | 141 | 1,971 |
| Yates Alscott Fed | | 8 | 112 | 49 | 55 | 18 | 34 | 36 | 40 | 30 | 32 | 25 | 439 |
| Yates HRY-70 Fed | 93 | 77 | 78 | 86 | 90 | 99 | 110 | 91 | 124 | 42 | 57 | 99 | 1,046 |
| Yates Sinyey-Alscott | 44 | 59 | 67 | 28 | 60 | 28 | 31 | 39 | 45 | 51 | 60 | 63 | 575 |
| Yates Travis Fed | 160 | 174 | 171 | 68 | 50 | 163 | 183 | 191 | 154 | 153 | 154 | 159 | 1,780 |
| Yates Western Fed | 59 | 60 | 57 | 48 | 52 | 40 | 43 | 38 | 39 | 41 | 62 | 41 | 580 |
| TOTALS | 999 | 923 | 1,327 | 1,033 | 1,370 | 1,202 | 1,093 | 1,140 | 1,112 | 1,039 | 1,107 | 1,053 | 13,398 |

PROPOSED SOUTH 1000 HILLS (GRAVBURG) UNIT
PRODUCTION HISTORY
TABLE II

1975

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-------|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 155 | 130 | 163 | 143 | 110 | 149 | 122 | 105 | 108 | 109 | 108 | 97 | 1,499 |
| Anadarko Garrett | 8 | 8 | 5 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 2 | 2 | 42 |
| Anadarko McCaw Fed | 33 | 26 | 33 | 32 | 34 | 33 | 32 | 33 | 29 | 26 | 35 | 30 | 376 |
| Anadarko Travis "B" Fed | 138 | 154 | 151 | 141 | 151 | 135 | 136 | 143 | 111 | 135 | 124 | 63 | 1,582 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Anton Messie | 36 | 30 | 28 | 25 | 22 | 25 | 30 | 36 | 30 | 38 | 33 | 33 | 366 |
| Dajco Wright Fed TR-1 | 99 | 80 | 90 | 75 | 77 | 51 | 64 | 47 | 33 | 61 | 49 | 49 | 775 |
| Dajco Wright Fed TR-2 | 191 | 156 | 160 | 172 | 161 | 170 | 172 | 159 | 179 | 168 | 163 | 181 | 2,032 |
| Yates Alscott Fed | 32 | 31 | 40 | 25 | 32 | 19 | 38 | 35 | 25 | 8 | 27 | 29 | 341 |
| Yates HBY-70 Fed | 106 | 97 | 87 | 81 | 99 | 86 | 80 | 81 | 92 | 80 | 77 | 76 | 1,042 |
| Yates Sivley-Alscott | 41 | 50 | 20 | 40 | 56 | 55 | 31 | 31 | 30 | 30 | 31 | 31 | 446 |
| Yates Travis Fed | 157 | 140 | 145 | 54 | 120 | 121 | 111 | 58 | 143 | 166 | 83 | 186 | 1,484 |
| Yates Western Fed | 36 | 53 | 51 | 31 | 51 | 47 | 34 | 22 | 44 | 47 | 44 | 47 | 507 |
| TOTALS | 1,032 | 955 | 973 | 822 | 916 | 893 | 852 | 751 | 827 | 871 | 776 | 824 | 10,492 |

PROPOSED SOUTH 1000 HILLS (GRAYBURG) UNIT
 PRODUCTION HISTORY
 TABLE II

1976

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 106 | 92 | 126 | 104 | 99 | 97 | 85 | 83 | 89 | 97 | 85 | 87 | 1,150 |
| Anadarko Garrett | 1 | 2 | 1 | 3 | 1 | 1 | 3 | 3 | 4 | 1 | 3 | 11 | 34 |
| Anadarko McCaw Fed | 23 | 35 | 19 | 8 | 41 | 35 | 35 | 34 | 33 | 19 | 24 | 30 | 336 |
| Anadarko Travis "B" Fed | 94 | 177 | 99 | 105 | 130 | 102 | 113 | 99 | 92 | 76 | 91 | 110 | 1,288 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 33 | 33 | 20 | 33 | 33 | 28 | 33 | 27 | 33 | 27 | 31 | 19 | 350 |
| Depco Wright Fed TR-1 | 61 | 49 | 55 | 49 | 50 | 47 | 40 | 49 | 42 | 22 | 39 | 44 | 547 |
| Depco Wright Fed TR-2 | 189 | 164 | 171 | 148 | 161 | 165 | 187 | 193 | 188 | 163 | 136 | 167 | 2,032 |
| Yates Alscott Fed | 40 | 29 | 23 | 25 | 30 | 29 | 36 | 15 | 17 | 22 | 17 | 26 | 309 |
| Yates HEN-70 Fed | 98 | 63 | 48 | 72 | 61 | 58 | 75 | 72 | 70 | 61 | 80 | 40 | 798 |
| Yates Sivley-Alscott | 31 | 31 | 31 | 30 | 31 | 31 | 31 | 31 | 30 | 15 | 15 | 30 | 337 |
| Yates Travis Fed | 138 | 141 | 114 | 125 | 33 | 123 | 130 | 116 | 113 | 66 | 181 | 128 | 1,408 |
| Yates Western Fed | 55 | 41 | 40 | 37 | 34 | 51 | 44 | 42 | 45 | 39 | 40 | 20 | 488 |
| TOTALS | 869 | 857 | 747 | 739 | 704 | 767 | 812 | 764 | 756 | 608 | 742 | 712 | 9,077 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1977

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 78 | 83 | 37 | 22 | 21 | 46 | 42 | 69 | 85 | 74 | 69 | 55 | 681 |
| Anadarko Carrett | 8 | 4 | 11 | 8 | 12 | 3 | 6 | 3 | 3 | 3 | 8 | 11 | 80 |
| Anadarko McCaw Fed | 32 | 15 | 38 | 32 | 38 | 38 | 20 | 34 | 31 | 27 | 27 | 34 | 366 |
| Anadarko Travis "B" Fed | 101 | 79 | 30 | 20 | 17 | 24 | 23 | 22 | 23 | 10 | 30 | 25 | 404 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Danton Massie | 33 | 31 | 27 | 39 | 33 | 22 | 29 | 36 | 33 | 33 | 30 | 31 | 377 |
| Deeco Wright Fed TR-1 | 33 | 39 | 30 | 13 | 39 | 41 | 33 | 33 | 33 | 26 | 33 | 33 | 386 |
| Deeco Wright Fed TR-2 | 182 | 156 | 145 | 124 | 115 | 131 | 141 | 126 | 115 | 102 | 107 | 80 | 1,524 |
| Yates Alscott Fed | 15 | 24 | 24 | 43 | 21 | 25 | 21 | 38 | 18 | 21 | 9 | 32 | 291 |
| Yates HBY-70 Fed | 45 | 65 | 49 | 92 | 80 | 75 | 63 | 37 | 122 | 97 | 72 | 83 | 880 |
| Yates Sivley-Alscott | 30 | 27 | 31 | | | 39 | 134 | 88 | 94 | 26 | 58 | 55 | 582 |
| Yates Travis Fed | 154 | 83 | 157 | 115 | 134 | 144 | 173 | 131 | 157 | 111 | 83 | 98 | 1,540 |
| Yates Western Fed | 47 | 39 | 39 | 33 | 32 | 41 | 43 | 32 | 42 | 42 | 10 | 43 | 443 |
| TOTALS | 758 | 645 | 618 | 541 | 542 | 629 | 728 | 649 | 756 | 572 | 536 | 580 | 7,554 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1978

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 66 | 19 | 111 | 41 | 18 | 19 | 56 | 56 | 73 | 70 | 44 | 36 | 609 |
| Anadarko Garrett | 9 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 6 | 3 | 48 |
| Anadarko McCaw Fed | 31 | 28 | 31 | 34 | 31 | 34 | 27 | 27 | 28 | 15 | | | 286 |
| Anadarko Travis "B" Fed | 36 | 6 | 3 | 6 | 6 | 9 | 6 | 6 | 7 | 6 | 5 | 6 | 102 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 52 | 16 | 33 | 33 | 31 | 30 | 31 | 33 | 36 | 34 | 33 | 36 | 398 |
| Deppo Wright Fed TR-1 | 36 | 30 | 19 | 19 | 18 | 29 | 26 | 25 | 22 | 28 | 24 | 26 | 302 |
| Deppo Wright Fed TR-2 | 127 | 123 | 150 | 146 | 146 | 117 | 141 | 141 | 144 | 165 | 157 | 182 | 1,739 |
| Yates Alscott Fed | 32 | 19 | 25 | 28 | 22 | 25 | 22 | 19 | 18 | 44 | 6 | 25 | 285 |
| Yates HEY-70 | 82 | 62 | 79 | 70 | 54 | 14 | 72 | 50 | 37 | 115 | 81 | 69 | 785 |
| Yates Sivilley-Alscott | 47 | 33 | 52 | 45 | 108 | 50 | 36 | 42 | 41 | 45 | 30 | 44 | 573 |
| Yates Travis Fed | 76 | 114 | 111 | 86 | 86 | 98 | 70 | 100 | 13 | 100 | 119 | 119 | 1,092 |
| Yates Western Fed | 47 | 39 | 41 | 24 | 39 | 28 | 33 | 38 | 44 | 37 | 36 | 39 | 445 |
| TOTALS | 641 | 495 | 658 | 535 | 562 | 456 | 523 | 540 | 466 | 662 | 541 | 585 | 6,664 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1979

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 82 | 60 | 34 | 16 | 6 | 22 | 47 | 50 | 93 | 49 | 53 | 53 | 565 |
| Anadarko Garrett | 3 | 3 | 3 | 3 | 2 | 3 | | 3 | 3 | 3 | 3 | 3 | 32 |
| Anadarko McCaw Fed | | | | | | 4 | 58 | 26 | 31 | 32 | 33 | 43 | 227 |
| Anadarko Travis "B" Fed | 5 | 5 | 3 | 3 | 6 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 43 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Danton Massie | 35 | 31 | 39 | 22 | 25 | 50 | 27 | 23 | 39 | 36 | 38 | 36 | 401 |
| Depco Wright Fed TR-1 | 25 | 33 | 28 | 24 | 11 | 14 | 17 | 6 | 24 | 41 | 36 | 22 | 281 |
| Depco Wright Fed TR-2 | 173 | 152 | 144 | 140 | 135 | 139 | 134 | 127 | 75 | 139 | 132 | 124 | 1,614 |
| Yates Alscott Fed | 24 | 17 | 6 | 7 | 17 | 19 | 27 | 9 | 11 | 17 | 19 | 30 | 203 |
| Yates HEY-70 | 75 | 73 | 57 | 64 | 70 | 72 | 65 | 68 | 65 | 66 | 76 | 86 | 837 |
| Yates Sivilly-Alscott | 49 | 72 | 47 | 35 | 22 | 25 | 47 | 17 | 48 | 30 | 36 | 33 | 461 |
| Yates Travis Fed | 152 | 125 | 99 | 104 | 118 | 144 | 117 | 91 | 90 | 124 | 82 | 100 | 1,346 |
| Yates Western Fed | 39 | 33 | 36 | 31 | 47 | 31 | 35 | 28 | 6 | 42 | 36 | 30 | 394 |
| TOTALS | 662 | 604 | 496 | 449 | 459 | 526 | 577 | 451 | 488 | 582 | 547 | 563 | 6,404 |

1980

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 55 | 52 | 70 | 44 | 20 | 50 | 67 | 67 | 46 | 66 | 31 | 52 | 620 |
| Anadarko Garrett | 3 | 2 | 4 | 2 | 3 | 3 | 4 | 3 | 1 | 2 | 6 | 7 | 40 |
| Anadarko McCaw Fed | 43 | 70 | 44 | 43 | 70 | 54 | 45 | 53 | 45 | 46 | 40 | 52 | 605 |
| Anadarko Travis "B" Fed | 20 | 6 | 11 | 22 | 30 | 3 | 6 | 17 | 7 | 12 | 9 | 120 | 263 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Nanton Massie | 41 | 30 | 34 | 35 | 22 | 34 | 33 | 36 | 38 | 31 | 39 | 36 | 409 |
| Dejco Wright Fed IR-1 | 22 | 53 | 29 | 22 | 36 | 25 | 39 | 33 | 23 | 22 | 31 | 25 | 360 |
| Dejco Wright Fed IR-2 | 115 | 128 | 102 | 113 | 86 | 119 | 90 | 127 | 105 | 115 | 115 | 129 | 1,344 |
| Yates Alscott Fed | 17 | 33 | 22 | 17 | 22 | 14 | 22 | 33 | 16 | | 30 | 50 | 276 |
| Yates HEN-70 | 70 | 73 | 68 | 67 | 62 | 67 | 52 | 50 | 61 | 63 | 55 | 61 | 749 |
| Yates Sivley-Alscott | 28 | 33 | 74 | 8 | 17 | 38 | 33 | 49 | 36 | 22 | 39 | 52 | 429 |
| Yates Travis Fed | 113 | 93 | 67 | 46 | 91 | 78 | 82 | 69 | 69 | 73 | 72 | 68 | 921 |
| Yates Western Fed | 21 | 7 | 53 | 36 | 38 | 28 | 33 | 26 | 27 | 34 | 30 | 31 | 364 |
| TOTALS | 548 | 580 | 578 | 455 | 497 | 513 | 506 | 563 | 474 | 486 | 497 | 683 | 6,380 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PRODUCTION HISTORY
TABLE II

1981

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEPT | OCT | NOV | DEC | TOTALS |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------|
| Anadarko Alscott Fed | 18 | 43 | 40 | 43 | 47 | 34 | 26 | 51 | 31 | 37 | 24 | 4 | 398 |
| Anadarko Garrett | 12 | 6 | 6 | 7 | 7 | 13 | 9 | 16 | 2 | 0 | 0 | 27 | 105 |
| Anadarko McCaw Fed | 44 | 52 | 36 | 41 | 45 | 31 | 49 | 42 | 42 | 39 | 41 | 30 | 492 |
| Anadarko Travis "B" Fed | 2 | 16 | 25 | 36 | 38 | 31 | 28 | 17 | 6 | 26 | 49 | 47 | 321 |
| Anadarko Yates "B" | | | | | | | | | | | | | |
| Denton Massie | 39 | 38 | 25 | 3 | 37 | 42 | 42 | 44 | 47 | 30 | 50 | 53 | 450 |
| Dupo Wright Fed TR-1 | 24 | 28 | 30 | 28 | 22 | 17 | 22 | 30 | 50 | 43 | 33 | 25 | 352 |
| Dupo Wright Fed TR-2 | 125 | 99 | 122 | 115 | 115 | 110 | 118 | 115 | 104 | 118 | 113 | 116 | 1,374 |
| Yates Alscott Fed | 25 | 19 | 11 | 25 | 25 | 14 | 19 | 17 | 27 | 11 | 28 | 14 | 235 |
| Yates MEY-70 Fed | 60 | 60 | 56 | 59 | 51 | 183 | 54 | 55 | 181 | 30 | 53 | 62 | 904 |
| Yates Sivley-Alscott | 27 | 32 | 19 | 28 | 33 | 22 | 28 | 33 | 28 | 29 | 25 | 3 | 307 |
| Yates Travis Fed | 67 | 124 | 89 | 69 | 104 | 108 | 100 | 138 | 50 | 47 | 42 | 8 | 946 |
| Yates Western Fed | 22 | 33 | 30 | 31 | 33 | 27 | 28 | 22 | 28 | 25 | 8 | 5 | 292 |
| TOTALS | 465 | 550 | 489 | 485 | 561 | 632 | 523 | 580 | 596 | 435 | 466 | 394 | 6,176 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
YEARLY PRODUCTION HISTORY
TABLE II

| | 1955 | 1956 | 1957 | 1958 | 1959 | 1960 | 1961 | 1962 | 1963 |
|-------------------------|-------|--------|-------|-------|-------|-------|--------|---------|---------|
| Anadarko Alscott Fed | | | | | | | | | |
| Anadarko Garrett | | | | | | | | 15,399 | 13,109 |
| Anadarko McCaw Fed | | | | | | | | | 543 |
| Anadarko Travis "B" Fed | | 9,643 | 6,200 | 3,048 | 1,691 | 998 | 886 | 26,049 | 2,695 |
| Anadarko Yates "B" | | | | | | | | | 17,545 |
| Denton Missie | 1,835 | 1,195 | 877 | 795 | 578 | 404 | 508 | 497 | 44 |
| Pepco Wright Fed | 2,526 | 2,207 | 1,139 | 1,047 | 757 | 702 | 622 | 21,057 | 768 |
| Yates Alscott Fed | | | | | | | 3,450 | 2,798 | 34,501 |
| Yates HBY-70 Fed | | | | | | | 7,627 | 12,304 | 2,001 |
| Yates Sivley-Alscott | | | | | | | | 7,130 | 10,649 |
| Yates Travis Fed | | | | | | | 455 | 21,905 | 4,085 |
| Yates Western Fed | | | | | | | 4,003 | 7,224 | 17,907 |
| TOTALS | 4,361 | 13,045 | 8,216 | 4,890 | 3,026 | 2,104 | 17,451 | 114,363 | 4,847 |
| | | | | | | | | | 108,694 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
YEARLY PRODUCTION HISTORY
TABLE II

| | 1964 | 1965 | 1966 | 1967 | 1968 | 1969 | 1970 | 1971 | 1972 |
|-------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Anadarko Alscott Fed | 8,350 | 4,618 | 1,397 | 2,266 | 2,551 | 5,505 | 1,962 | 1,466 | 879 |
| Anadarko Garrett | 402 | 338 | 276 | 231 | 249 | 220 | 134 | 120 | 100 |
| Anadarko McCaw Fed | 3,027 | 1,322 | 1,165 | 998 | 931 | 709 | 491 | 480 | 447 |
| Anadarko Travis "B" Fed | 9,571 | 5,870 | 3,735 | 4,345 | 3,786 | 3,078 | 2,593 | 2,128 | 1,537 |
| Anadarko Yates "B" | 2,453 | 474 | 443 | 203 | | | | | |
| Denton Massie | 605 | 526 | 463 | 493 | 417 | 459 | 488 | 448 | 422 |
| Depco Wright Fed | 20,760 | 12,905 | 8,527 | 6,202 | 4,926 | 4,467 | 3,768 | 3,023 | 2,702 |
| Yates Alscott Fed | 999 | 628 | 629 | 647 | 636 | 491 | 522 | 443 | 376 |
| Yates H&Y-70 Fed | 8,396 | 6,295 | 4,285 | 3,664 | 3,223 | 2,992 | 2,152 | 1,732 | 1,454 |
| Yates Sivley-Alscott | 2,567 | 2,089 | 1,677 | 1,329 | 1,170 | 793 | 938 | 755 | 737 |
| Yates Travis Fed | 9,641 | 6,372 | 5,369 | 4,357 | 4,701 | 3,921 | 3,037 | 2,412 | 2,207 |
| Yates Western Fed | 2,402 | 3,272 | 2,289 | 1,574 | 1,908 | 1,215 | 959 | 869 | 738 |
| TOTALS | 69,173 | 44,709 | 30,255 | 26,309 | 24,498 | 23,850 | 17,044 | 13,876 | 11,599 |

PROPOSED SOUTH LOCO HILLS (GRAVING) UNIT
YEARLY PRODUCTION HISTORY
TABLE II

| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | Total |
|-------------------------|--------|--------|--------|-------|-------|-------|-------|-------|-------|---------|
| Anadarko Alscott Fed | 1,245 | 2,278 | 1,499 | 1,150 | 681 | 609 | 565 | 620 | 398 | 66,497 |
| Anadarko Garrett | 131 | 107 | 42 | 34 | 80 | 48 | 32 | 40 | 105 | 3,232 |
| Anadarko McCaw Fed | 408 | 385 | 376 | 336 | 366 | 286 | 227 | 605 | 492 | 15,746 |
| Anadarko Travis "B" Fed | 975 | 2,177 | 1,582 | 1,288 | 404 | 102 | 43 | 263 | 321 | 109,858 |
| Anadarko Yates "B" | | | | | | | | | | 3,617 |
| Denton Masie | 403 | 370 | 366 | 350 | 377 | 198 | 401 | 409 | 450 | 15,392 |
| Depco Wright Fed | 2,496 | 3,711 | 2,807 | 2,579 | 1,910 | 2,041 | 1,895 | 1,704 | 1,726 | 152,707 |
| Yates Alscott Fed | 244 | 439 | 341 | 309 | 291 | 285 | 203 | 276 | 235 | 16,243 |
| Yates HEY-70 Fed | 1,307 | 1,046 | 1,042 | 798 | 880 | 785 | 837 | 749 | 904 | 73,121 |
| Yates Sivley-Alscott | 613 | 575 | 446 | 337 | 582 | 573 | 461 | 429 | 307 | 27,593 |
| Yates Travis Fed | 1,870 | 1,780 | 1,484 | 1,408 | 1540 | 1,092 | 1,346 | 921 | 946 | 94,671 |
| Yates Western Fed | 634 | 580 | 507 | 488 | 443 | 445 | 394 | 364 | 292 | 35,447 |
| TOTALS | 10,326 | 13,398 | 10,492 | 9,077 | 7,554 | 6,664 | 6,404 | 6,380 | 6,176 | 614,124 |

WELLS ADJACENT TO BOUNDARY OF PROPOSED UNIT
TABLE III

| OPERATOR/WEEL | LOCATION | DATE COMPLETED | TD | GROSS LOCO HILLS INTERVAL | PRESENT STATUS | REMARKS |
|---------------------------|------------|----------------|-------|---------------------------|----------------|---|
| SOUTHLAND/Empire Fed 20#1 | H 20-18-29 | 11-10-80 | 11355 | No Log | Morrow Gas | Log starts at 6000 ft - below Loco Hills |
| WESTHALL/Hewitt Fed #1 | G 20-18-29 | 09-01-81 | 3100 | 2494-2512 | San Andres Oil | Log shows 0-2 ft net pay; no oil on test |
| DENTON/Hover #1 | O 20-18-29 | 04-02-56 | 2823 | No Log | D & A | Show of oil 2472-94 probably Loco Hills |
| TRIGG/Sivley Fed 29 #2 | B 29-18-29 | 03-03-65 | 9262 | 2475-2501 | D & A | Log shows 5 ft net pay in Loco Hills |
| HONDO/Wright Fed #2 | G 29-18-29 | 06-01-78 | 11300 | No Log | Morrow Gas | Log starts at 4000 ft - below Loco Hills |
| M. YATES/Wright #1 | J 29-18-29 | 05-15-44 | 3625 | 2385-2420 | D & A | Old log subject to interpretation |
| YATES/Parry #1 | L 29-18-29 | 06-07-62 | 395 | No Log | D & A | Too shallow to test Loco Hills |
| HONDO/Allscott Fed #4 | G 30-18-29 | 03-03-79 | 11202 | 2326-2354 | D & A | Log through pipe shows 16 ft net pay |
| WADLEY/Priscoe #1 | F 30-18-29 | 11-01-49 | 3095 | No Log | D & A | |
| ARABERGO/Turkey Track #1 | I 25-18-28 | 12-31-77 | 11298 | 2298-2312 | Morrow Gas | Log through pipe shows 3 ft net pay |
| WILLIAMS/Williams St #1 | H 25-18-28 | 12-30-55 | 2720 | No Log | D & A | |
| SIMS & REESE/Gulf St #1 | P 24-18-28 | 12-23-62 | 2400 | 2256-2290 | P & A | Produced 1359 BO from 2261-81; plugged 1966 |
| NIX & CURTIS/Gulf St #1 | P 24-18-28 | 06-05-54 | 3015 | 2301-2330 | D & A | Delouire at 2272-94 tested by HECO in 1956 |
| SIMS & REESE/Pure Fed #1 | L 19-18-29 | 10-14-62 | 2367 | 2322-2354 | P & A | 628 BO from 2304-46; plugged 1964 |
| WAGGON/Elliott A #1 | E 19-18-29 | 09-27-63 | 2395 | 2330-2350 | D & A | Oil shows in samples from 2341-45 |
| HEYCO/Danahue #1 | F 19-18-29 | 05-06-55 | 3062 | No Log | D & A | No reported shows |
| HEYCO/Travis 24 #1 | H 24-18-28 | 01-15-81 | 11234 | 2365-2385 | Morrow Gas | Log through pipe shows 18 ft net pay |
| WAGGON/Gardale #2 | D 19-18-29 | 04-16-29 | 2518 | No Log | D & A | Drillers log recorded show in Sandy Line |
| HEYCO/Nix & Yates ST #1 | A 24-18-28 | 09-30-55 | 2728 | No Log | D & A | |
| HEYCO/Rico Fed #1 | D 19-18-29 | 12-12-78 | 1300 | No Log | Yates Gas | Too shallow to test Loco Hills |
| JONES/Wright Fed #1 | M 18-18-29 | 02-14-50 | 2983 | No Log | P & A | 6733 BO from 2960-83; plugged 1957 |
| REKRTS/Travis #3 | L 18-18-29 | 08-28-49 | 3030 | 2441-2451 | P & A | 3268 BO from 2960-3030; plugged 1951 |
| JONES/State #1 | J 18-18-29 | 11-03-50 | 3040 | No Log | P & A | Collar failed in 1954 completion attempt |
| ARABERGO/Travis #10 | P 18-18-29 | 07-20-57 | 3100 | | D & A | Many perforations but none in Loco Hills |
| | | 12-30-72 | 3305 | 2414-2434 | TA | Log shows 4 ft of net pay |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
SUMMATION OF LOCO HILLS SAND CORE DATA*

TABLE IV

| | Feet | ΣK (md) | \bar{K} (md) | $\Sigma \phi$ (%) | $\bar{\phi}$ (%) | ΣS_{or} (%) | \bar{S}_{or} (%) | ΣS_w (%) | \bar{S}_w (%) |
|--------------------------------|------------------------|-----------------|----------------|-------------------|------------------|---------------------|--------------------|------------------|-----------------|
| AVADARKO | | | | | | | | | |
| 1. Garrett No. 1 | 13 | 54.90 | 4.22 | 157.0 | 12.1 | 163.2 | 12.6 | 485.5 | 37.3 |
| 2. Alscott Federal No. 2 | 14 | 39.62 | 2.83 | 164.9 | 11.8 | 194.5 | 13.9 | 659.8 | 47.1 |
| 3. Alscott Federal No. 3 | 9 | 111.97 | 12.44 | 105.6 | 11.7 | 130.4 | 14.5 | 419.7 | 46.6 |
| 4. Alscott Federal No. 4 | Cored only in Nolomite | | | | | | | | |
| 5. Alscott Federal No. 5 | 16 | 61.20 | 3.83 | 210.4 | 13.2 | 184.7 | 11.5 | 736.9 | 46.1 |
| 6. Travis Federal No. 13 | 16 | 44.45 | 2.78 | 204.9 | 12.8 | 120.7 | 7.5 | 506.6 | 31.7 |
| 7. Travis Federal No. 14 | 7 | 32.13 | 4.59 | 94.2 | 13.5 | 110.7 | 15.8 | 276.9 | 39.6 |
| 8. Travis Federal No. 15 | 3 | 2.59 | 0.86 | 29.1 | 9.7 | 29.4 | 9.8 | 115.8 | 38.6 |
| 9. Travis Federal No. 16 | 2 | 2.50 | 1.25 | 23.3 | 11.7 | 23.2 | 11.6 | 63.6 | 31.8 |
| DEPOO | | | | | | | | | |
| 10. Wright Federal Tr. 2 No. 3 | 7 | 45.86 | 6.55 | 97.2 | 13.9 | 75.0 | 10.7 | 317.8 | 45.4 |
| 11. Wright Federal Tr. 2 No. 4 | 17 | 50.72 | 2.98 | 211.4 | 12.4 | 269.5 | 15.9 | 648.9 | 38.2 |
| 12. Wright Federal Tr. 2 No. 6 | 4 | 2.90 | 0.73 | 53.9 | 13.5 | 57.8 | 14.5 | 158.8 | 34.7 |
| YATES | | | | | | | | | |
| 13. Alscott No. 1 | 12 | 29.10 | 2.43 | 144.6 | 12.1 | 171.1 | 14.3 | 611.1 | 50.9 |
| 14. Federal 70 No. 1 | 11 | 38.78 | 3.53 | 124.1 | 11.3 | 192.0 | 17.5 | 523.3 | 47.6 |
| 15. Sivley-Alscott No. 3 | 9 | 53.70 | 5.97 | 103.0 | 11.4 | 99.8 | 10.8 | 517.5 | 57.5 |
| 16. Sivley-Alscott No. 4 | 8 | 13.30 | 1.66 | 116.4 | 14.6 | 74.1 | 9.3 | 361.1 | 45.1 |
| 17. Travis Federal No. 1 | 10 | 23.00 | 2.30 | 113.5 | 11.4 | 101.3 | 10.1 | 340.1 | 34.0 |
| 18. Travis Federal No. 2 | 9 | 14.72 | 1.64 | 100.8 | 11.2 | 107.3 | 11.9 | 520.3 | 57.8 |
| 19. Western Federal No. 1 | 12 | 15.51 | 1.29 | 134.3 | 11.2 | 86.0 | 7.2 | 529.8 | 44.2 |
| TOTALS | 179 | 636.95 | 3.56 | 2,188.6 | 12.2 | 2,187.7 | 12.2 | 7,823.5 | 43.7 |

* Nine (9) percent porosity cut off with permeability and oil saturation present.

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
SUMMATION OF GRAYBURG DOLOMITE CORE DATA
TABLE V

| | Feet | $\Sigma K(\text{md})$ | $\bar{K}(\text{md})$ | $\Sigma \phi(\%)$ | $\bar{\phi}(\%)$ | ΣS_{or} | $\bar{S}_{or}(\%)$ | ΣS_w | $\bar{S}_w(\%)$ |
|--------------------------------|-------------------------------|-----------------------|----------------------|-------------------|------------------|-----------------|--------------------|--------------|-----------------|
| ANADARKO | | | | | | | | | |
| 1. Garrett No. 1 | 7 | 2.99 | 0.43 | 25.2 | 3.6 | 120.5 | 17.2 | 327.0 | 46.7 |
| 2. Alscott Federal No. 2 | 16 | 91.82 | 5.74 | 139.9 | 8.7 | 193.0 | 12.1 | 635.4 | 39.7 |
| 3. Alscott Federal No. 3 | 1 | 0.09 | 0.09 | 5.4 | 5.4 | 14.8 | 14.8 | 57.8 | 57.8 |
| 4. Alscott Federal No. 4 | 13 | 11.12 | 0.86 | 83.3 | 6.4 | 178.3 | 13.7 | 497.6 | 38.3 |
| 5. Alscott Federal No. 5 | 4 | 8.85 | 2.21 | 15.3 | 3.8 | 74.6 | 18.7 | 163.7 | 40.9 |
| 6. Travis Federal No. 13 | 9 | 47.86 | 5.31 | 60.5 | 6.7 | 97.7 | 10.9 | 322.6 | 35.8 |
| 7. Travis Federal No. 14 | 4 | 8.10 | 2.03 | 20.7 | 5.2 | 47.3 | 11.8 | 129.4 | 32.4 |
| 8. Travis Federal No. 15 | 6 | 206.16 | 34.36 | 33.0 | 5.5 | 69.3 | 11.6 | 221.2 | 36.9 |
| 9. Travis Federal No. 16 | 11 | 94.71 | 8.61 | 64.5 | 5.9 | 183.3 | 16.7 | 430.8 | 39.2 |
| DEPCO | | | | | | | | | |
| 10. Wright Federal Tr. 2 No. 3 | 15 | 270.67 | 18.04 | 90.2 | 6.0 | 240.5 | 16.0 | 529.7 | 35.3 |
| 11. Wright Federal Tr. 2 No. 4 | 9 | 26.22 | 2.91 | 42.4 | 4.7 | 79.4 | 8.8 | 393.0 | 43.7 |
| 12. Wright Federal Tr. 2 No. 6 | 1** | 7.30 | 7.30 | 6.6 | 6.6 | 29.0 | 29.0 | 7.8 | 7.8 |
| YATES | | | | | | | | | |
| 13. Alscott No. 1 | Cored only in Loco Hills sand | | | | | | | | |
| 14. Federal 70 No. 1 | 11 | 2.93 | 0.27 | 72.4 | 6.6 | 147.2 | 13.4 | 571.2 | 51.9 |
| 15. Sivley Alscott No. 3 | Cored only in Loco Hills sand | | | | | | | | |
| 16. Sivley Alscott No. 4 | Cored only in Loco Hills sand | | | | | | | | |
| 17. Travis Federal No. 1 | 9 | 12.19 | 1.35 | 61.0 | 6.8 | 145.1 | 16.1 | 375.2 | 41.7 |
| 18. Travis Federal No. 2 | 7 | 67.50 | 9.64 | 63.1 | 9.0 | 75.5 | 10.8 | 267.2 | 38.2 |
| 19. Western Federal No. 1 | Cored only in Loco Hills sand | | | | | | | | |
| TOTALS | 123 | 858.51 | 6.98 | 783.5 | 6.4 | 1,695.5 | 13.8 | 4,929.6 | 40.1 |

* Three (3) percent porosity cut off with permeability and oil saturation present
** Partial core. Log shows 12 feet of dolomite pay

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS
TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Plugging Record | Proposed Action |
|--------------|---------------------|----------|--------------------------------------|--|---|---------------------------------|
| 1 | Travis #10 | Anadarko | 660 FSL 660 FEL P 18-185-29E | 2374-2430 | Well TA - 5½ 3305/500 sacks, perf. 940-47, 1261-66, 1627-30, 1652-56, 1665-68, 1712-23, 1746-54 2544-50, 2708-18, 2722-26, 3000-04, 3670-74 3162-65, 3174-78, 3182-86, 3216-20, 3252-56. | Loco Hills not perforated OK |
| 2 | Hewitt Fed #1 | Westhall | 2310 FNL 2310 FEL P 20-185-29E | 2428-2512 | Producing oil well TD 3100 8 5/8" 361/350 sacks 4½" 3084/85 sacks, perf. 2770-2800, 2470-2612 (includes water fluid interval); completed 09-01-81 40 BOPB from Grayburg San Andres. | OK |
| 3 | Hover #1 | Denton | 660 FSL 1980 FEL O 20-185-29E | No log available | TD 2823, cement plug, 675-750, 330-405 | Replug; |
| 4 | Sivley Wright #2-29 | Trigg | 660 FNL 1980 FEL B 29-185-29E | 2430-2504 | 8 5/8" casing at 955' /500 sacks dry hole P & A TD 9262, 35 sacks 8581-8631, 35 sacks, 6524-6624, 35 sacks, 4931-5081, 35 sacks, 2803-2903, 35 sacks, 2803-2903, 35 sacks, 1956-2056, 35 sacks 919-1019. | Replug; |
| 5 | Wright Fed #2 | Hondo | 1980 FNL 1980 FEL G 29-185-29E | Log starts below Grayburg | Completed 06-01-48 Morrow gas well TD 11,300, 13 3/8" 405/375, 8 5/8 3615/1350 sacks, 5½ 11,300/750 sacks cement calculates as circulated behind 8 5/8" casing. | OK |
| 6 | Wright #1 | M. Yates | 2310 FSL 2310 FEL J 29-185-29E | 2385-2420 | 7" stub at 3530 10 sack plug 3160-3185, 10 sack plug at 2620, 10 sack plug at 330, 10 sack plug at 325 | Replug; |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS
TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Pulping Record | Proposed Action |
|--------------------|---------------------------|-----------------|--------------------------------------|--|---|-----------------|
| 7 | Federal Alscott Cam #4 | Hondo | 1980 FNL 1980 FEL G 30-18S-29E | 2241-2355 | TD 11204 - P & A 8 5/8 3015/1600 sacks, 13 3/8 - 92/425 sacks cement plugs 10650-10859, 9450-9600, 7650-7850, 5850-6000, 4450-4550, 2970-3070 (across 8 5/8" shoe). | OK |
| 8 | Briscoe #1 | Woolley | 2970 FSL 2970 FEL F 30-18S-29E | No Log available | TD 3095 8 5/8" casing at 395, 8 5/8" stub at 220' 15 sack plug on bottom, 10 sack plug at base of salt, 10 sack plug at base of 8 5/8". | Replug |
| 9 | Sivley Alscott #5-30 | Trigg | 660 FNL 1913 FNL L 30-18S-29E | 2261-2392 | TD 9601 P & A 8 5/8" 3653/450 sacks (calculated top of cement - 2330) 13 3/8" casing 400/400 sacks: 30 sack plug 9390-9490, 30 sack plug 8470-8570, 30 sack plug 7100-7200, 30 sack plug 4600-4900, 50 sack plug 4400-4600, 30 sack plug 3218-3226, 60 sack plug 743-- 863, 60 sack plug 337-437, 8 5/8 stub at 1922'. | Replug |
| 10 | #1 Pure Fed | Sims & Reese | 1650 FSL 715 FNL L 19-18S-29E | 2250-2365 | Perf. 2304-46, 5 1/2" stub at 1619 - 15 sack plug over perfs, cement plug 700-800, cement plug 275-375, 5 1/2" casing at 2350/100 sacks. | Replug |
| 11 | Elliott A #1 | Hanson | 2310 FNL 720 FNL E 19-18S-29E | 2276-2350 | Open hole - 23 sacks cement 2296-2396, 23 sacks cement 1300-1400, 23 sacks 670-770, 30 sacks 265- - 365, 15 sacks at surface. | Replug |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
PLUGGED LOCO HILLS WELLS AND WELLS BELOW LOCO HILLS SAND
WITHIN ½ MILE OF PROPOSED INJECTION WELLS

TABLE VI

| Map Item No. | Well Name | Operator | Location | Interval Between Top Porosity in Dolomite & Base Loco Hills Sand | Casing Completion Interval Plugging Record | Proposed Action |
|--------------------|-----------------------|-----------------|--------------------------------------|--|---|-----------------|
| 12 | Donohue #1 | HEYCO | 1650 FNL 1650 FNL F 19-18S-29E | No log available | Open hole - 10 sacks cement 3000-3062 (on bottom) 15 sacks plug at base of salt at 975. | Replug |
| 13 | Travis #9 | HEYCO | 1980 FNL 660 FNL H 19-18S-29E | 2308-2404 | 5½ - 2520/175 sacks perf 2355-65, 5½ sub at 1500 16 sacks cement 2300-2400 inside 5½, 33 sacks cement 1350-1450, 33 sacks plug 760-860, 33 sacks plug 350-450. | Replug |
| 14 | Sivley Yates #1-19 | Triggs | 1880 FNL 660 FNL H 19-18S-29E | 2369-2420 | 4½ casing stub at 7585; 10 sacks plug 8874-9000, 30 sacks plug 7000-7112, 30 sacks plug 5200-5312, 60 sacks plug 3000-3225, 30 sacks plug 2300-2412, 30 sacks plug 1370-1480, 30 sacks plug 950-1050. | Probably OK |
| 15 | Yates Fed #1 | Hanson | 990 FNL 1980 FNL B 19-18S-29E | 2324-2429 | Shot 5½ at 1905, 20 sacks plug at 1930 across stub, 20 sacks plug 2289-2468, 20 sacks plug 723-790 base of salt, 20 sacks plug 360-477 top of salt, 20 sacks plug at top of hole. 5½ at 2460/100 sacks, perf 2378- 2426 | OK |
| 16 | Gulf State #1 | Sims & Reese | 330 FSL 330 FSL P 24-18S-28E | 2214-2315 | 5½ 2324/100 sacks, stub 1731, perfs 2261-81, cement plug 2261-81. | Replug |
| 17 | Gulf State #1 | HEYCO | 660 FSL 660 FSL P 24-18S-28E | 2210-2330 | OTD 3015 (6-5-54) redrill 2-16-55 - 5½ 2367-75, perf 2272-94, 5½ stub at 1700, 10 sacks cement from 2170-2250 (inside pipe) 10 sacks 645-725, 10 sacks from 360-390. | Replug |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
EDDY COUNTY, NEW MEXICO
YATES DRILLING COMPANY
ECONOMIC FLOW SHEET

TABLE VII

| Yr | Gross Prod BBLs | Net Rev. \$22.27/BBL | No. Prod Wells | Operating Cost \$1150/mo | Intangible Expense | Capital Expense | Water Costs | Total Expense | Op Expense | Net Earnings | Op Net Earnings | Discounted Net Earnings 14% Mid-Year | Op Net Earnings 14% |
|--------|-----------------------|-------------------------|----------------------|--------------------------------|-----------------------|--------------------|----------------|------------------|---------------|-----------------|--------------------|--|---------------------------|
| 82 | 6400 | \$ 142528 | 18 | \$ 248400 | a) 528569 | \$470135 | \$ 5280 | \$1252384 | \$1252384 | (\$ 1109856) | (\$ 1109856) | (\$1039480) | (\$1039480) |
| 83 | 14000 | 311780 | 18 | 248400 | | | 21040 | 269440 | 1521824 | 42340 | (1067516) | 34785 | (1004695) |
| 84 | 66000 | 1469820 | 18 | 248400 | b) 75000 | | 16160 | 339560 | 1861384 | 1130260 | 62744 | 814544 | (190151) |
| 85 | 126000 | 2806020 | 18 | 248400 | b) 75000 | d) 20000 | 11520 | 354920 | 2216304 | 2451100 | 2513844 | 1549511 | 1359360 |
| 86 | 102200 | 2275994 | 18 | 248400 | b) 40000 | d) 20000 | 6800 | 315200 | 2531504 | 1960794 | 4474638 | 1087300 | 2446660 |
| 87 | 73400 | 1634618 | 14 | 193200 | c) 163600 | d) 75000 | 15680 | 447480 | 2978984 | 1187138 | 5661776 | 577460 | 3024120 |
| 88 | 88800 | 1977576 | 14 | 193200 | | d) 40000 | 17520 | 250720 | 3229704 | 1726856 | 7388632 | 736849 | 3760969 |
| 89 | 69200 | 1441084 | 11 | 151800 | | | 11800 | 163600 | 3393304 | 1377484 | 8766116 | 515578 | 4276547 |
| 90 | 45600 | 1015512 | 8 | 110400 | | | 6400 | 116800 | 3510104 | 898712 | 9664828 | 295074 | 4571621 |
| 91 | 18000 | 400860 | 6 | 82800 | | | 1500 | 84300 | 3594404 | 316560 | 9981388 | 91172 | 4662793 |
| 92 | 9000 | | 4 | 55200 | | | 0 | 55200 | 3649604 | 145240 | 10126618 | 36690 | 4699483 |
| TOTALS | 609000 | \$13776222 | | \$2078600 | \$882169 | \$625135 | \$113700 | \$3649604 | \$3649604 | \$10126618 | \$10126618 | \$4699483 | \$4699483 |

Net Oil Price = \$33/80 (stripper) X .875 (RT) - (\$1.60 prod tax + \$5/BBL average W.P. Tax)
Net Earnings are before Income Tax

- a) Includes replugging costs for 5 wells w/contingency
- b) Major well workover costs
- c) Replugging costs for 5 wells w/contingency
- d) Larger pump jacks

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT

ESTIMATED INVESTMENT REQUIREMENTS

TABLE VIII

| Item | Description | Intangible Costs (\$) | Capital Costs (\$) | Total Costs (\$) |
|------|----------------------------|--------------------------|-----------------------|---------------------|
| 1. | Water Plant & Storage | \$ 42,234 | \$ 73,200 | \$115,434 |
| 2. | Injection System | 39,200 | 146,820 | 186,020 |
| 3. | Injection Well Conversions | 176,035 | 213,365 | 389,400 |
| 4. | Gathering System & Battery | 7,500 | 36,750 | 44,250 |
| 5. | Rework Producing Wells | 100,000 | --- | 100,000 |
| 6. | Plugging Costs | <u>163,600</u> | <u>---</u> | <u>163,600</u> |
| | TOTALS | \$528,569 | \$470,135 | \$998,704 |

PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
 PARTICIPATION PARAMETER BY TRACT
 TABLE IX

| <u>Tract Number</u> | <u>Cumulative Production Thru 1980</u> | <u>Participation Percentage</u> |
|---------------------|--|-------------------------------------|
| 1 | 14,942 | 2.456233 |
| 2 | 66,098 | 10.865484 |
| 2a | 15,967 | 2.624727 |
| 2b | 27,286 | 4.485394 |
| 3 | 3,127 | .514030 |
| 4 | 150,985 | 24.819588 |
| 4a | 35,155 | 5.778935 |
| 5 | 72,218 | 11.871517 |
| 6 | 15,254 | 2.507521 |
| 7 | 3,617 | .594579 |
| 7a | 93,725 | 15.406934 |
| 7b | <u>109,956</u> | <u>18.075058</u> |
| | 608,330 | 100.000000 |

R. 29 E. R. 30 E.

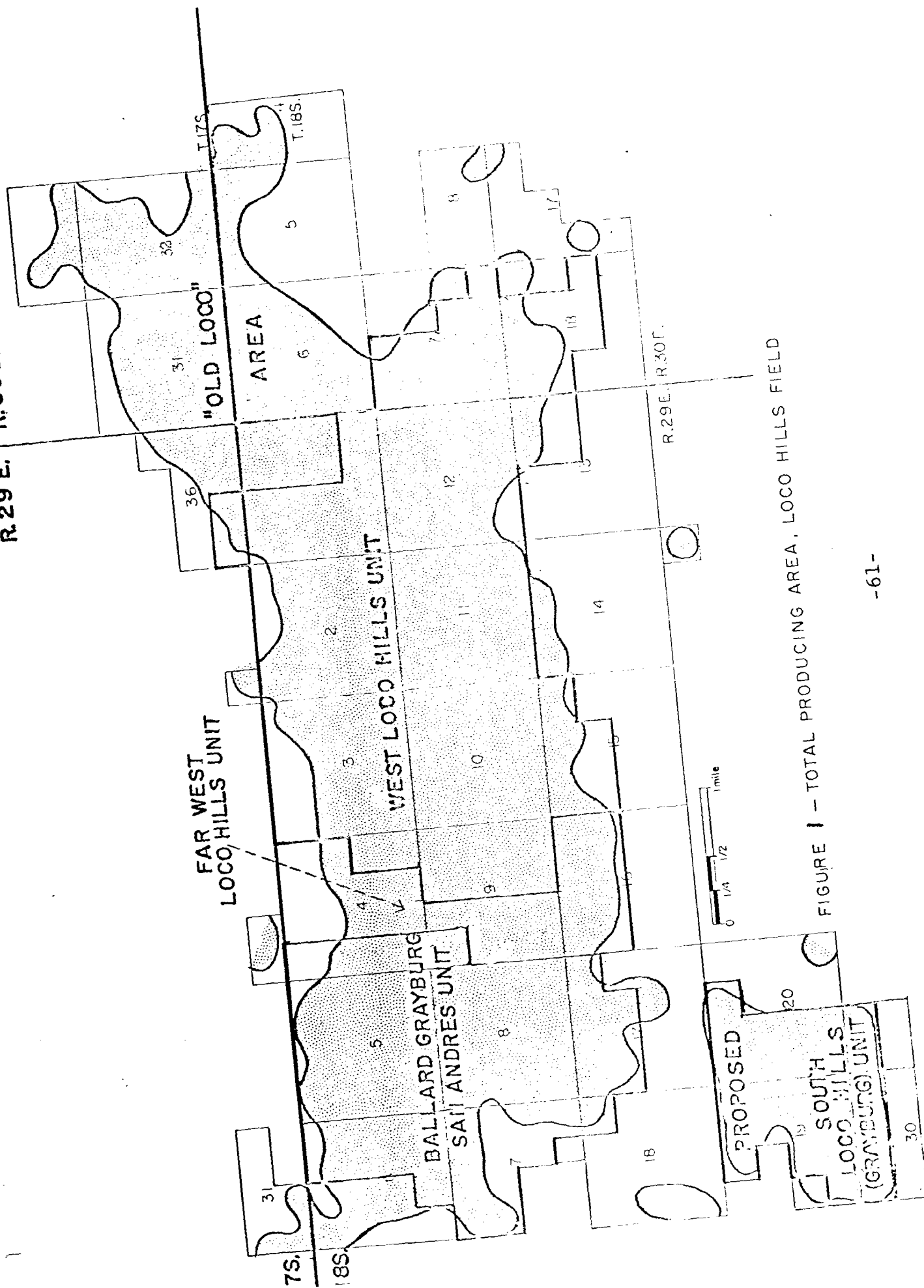
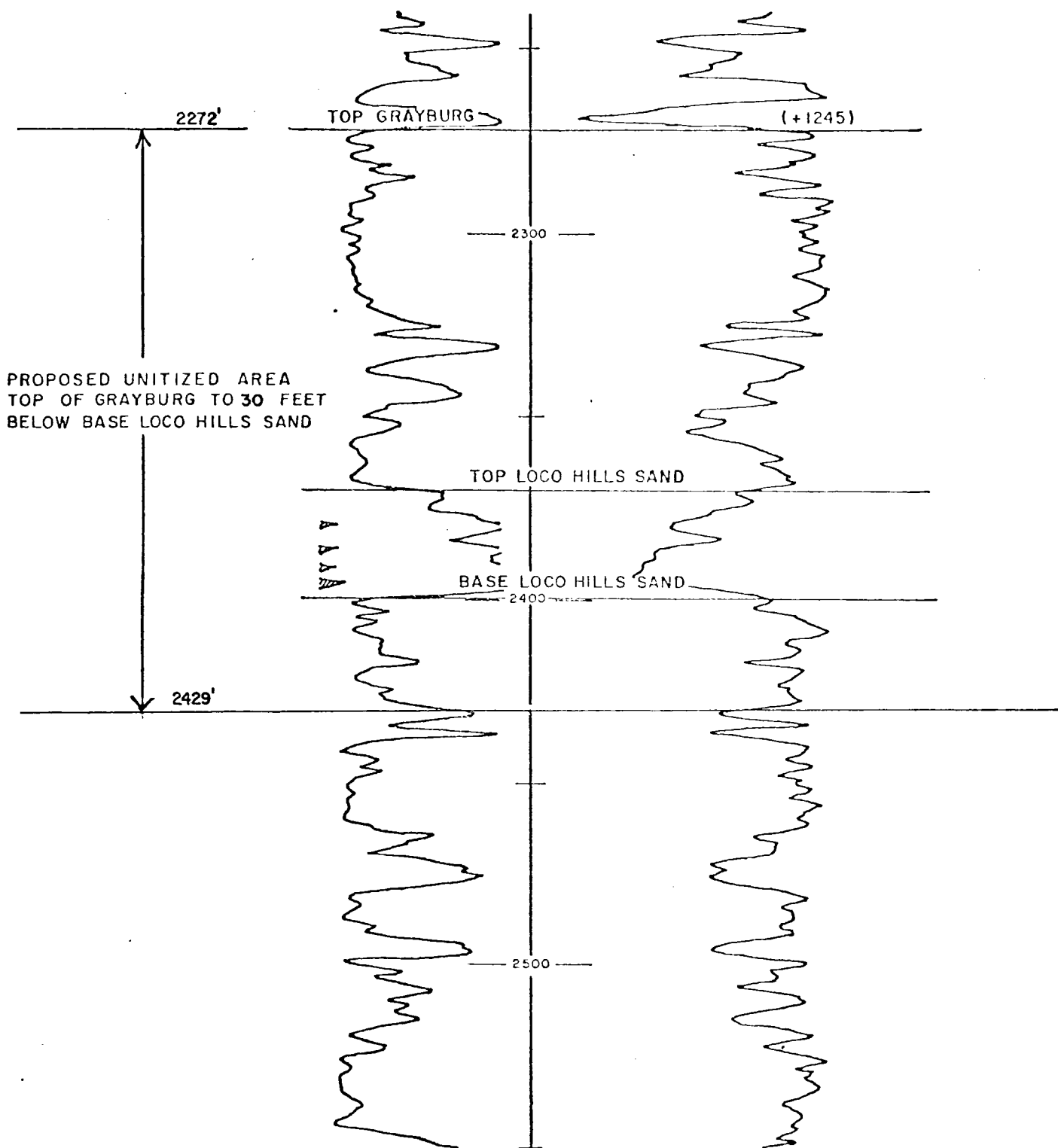


FIGURE 1 - TOTAL PRODUCING AREA, LOCO HILLS FIELD



S.P. & MARTIN YATES
ALSCOTT FEDERAL NO. 1
LOC. A - 30 - 18 - 29

TYPICAL LOG & PROPOSED SECTION
TO BE UNITIZED

SOUTH LOCO HILLS (GRAYBURG) UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO

FIGURE NO. 3

R-28-E

R-29-E

18

17

16

PROPOSED
SOUTH LOCO HILLS GRAYBURG UNIT
EDDY COUNTY, NEW MEXICO

YATES DRILLING CO.

DECEMBER 31, 1981

24

25

21

28

T 18 S

Unit Outline

① Unit Tract Number

Structure

Top Loco Hills Sands
Contour Interval 25 Feet

FIGURE 4

Produce & Water
at 11/15

Produce & Water
at 11/15

Produce & Water
at 11/15

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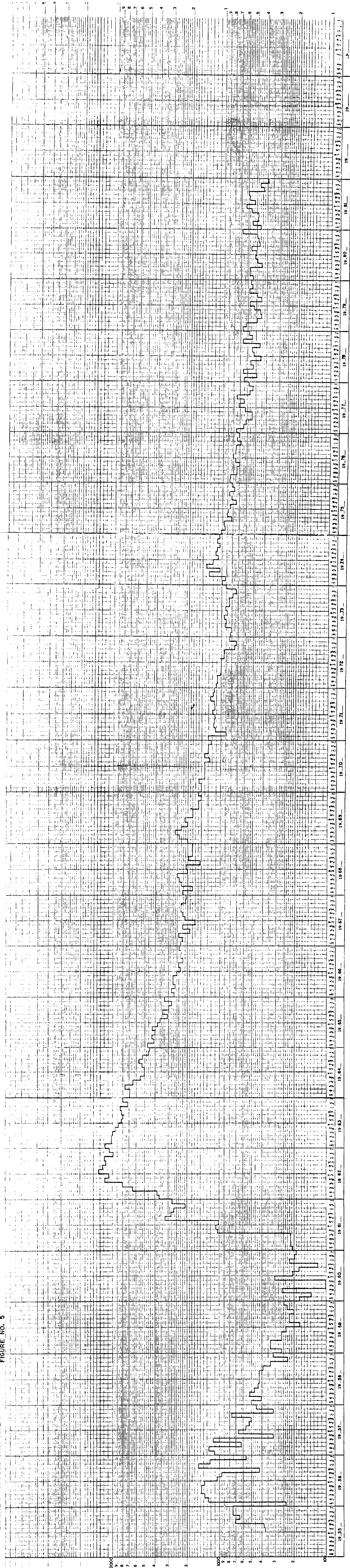
Produce & Water
at 11/15

Produce & Water
at 11/15

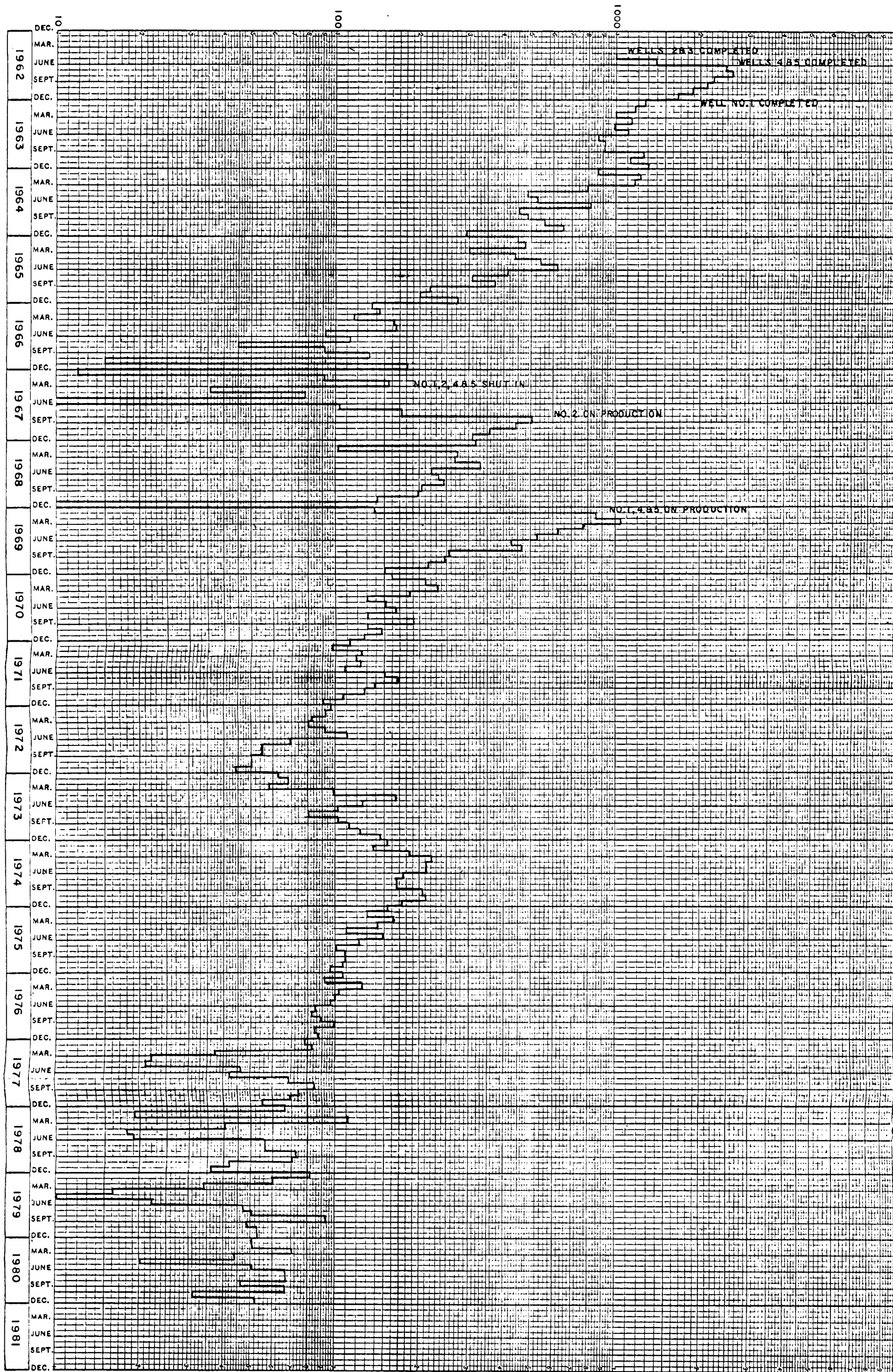
Produce & Water
at 11/15

SOUTH LOCO HILLS (GRAYBURG) UNIT
LOCO HILLS FIELD
LOCO COUNTY, NEW MEXICO
FIGURE NO. 5

OIL PRODUCTION
ENTIRE PROPOSED UNIT AREA



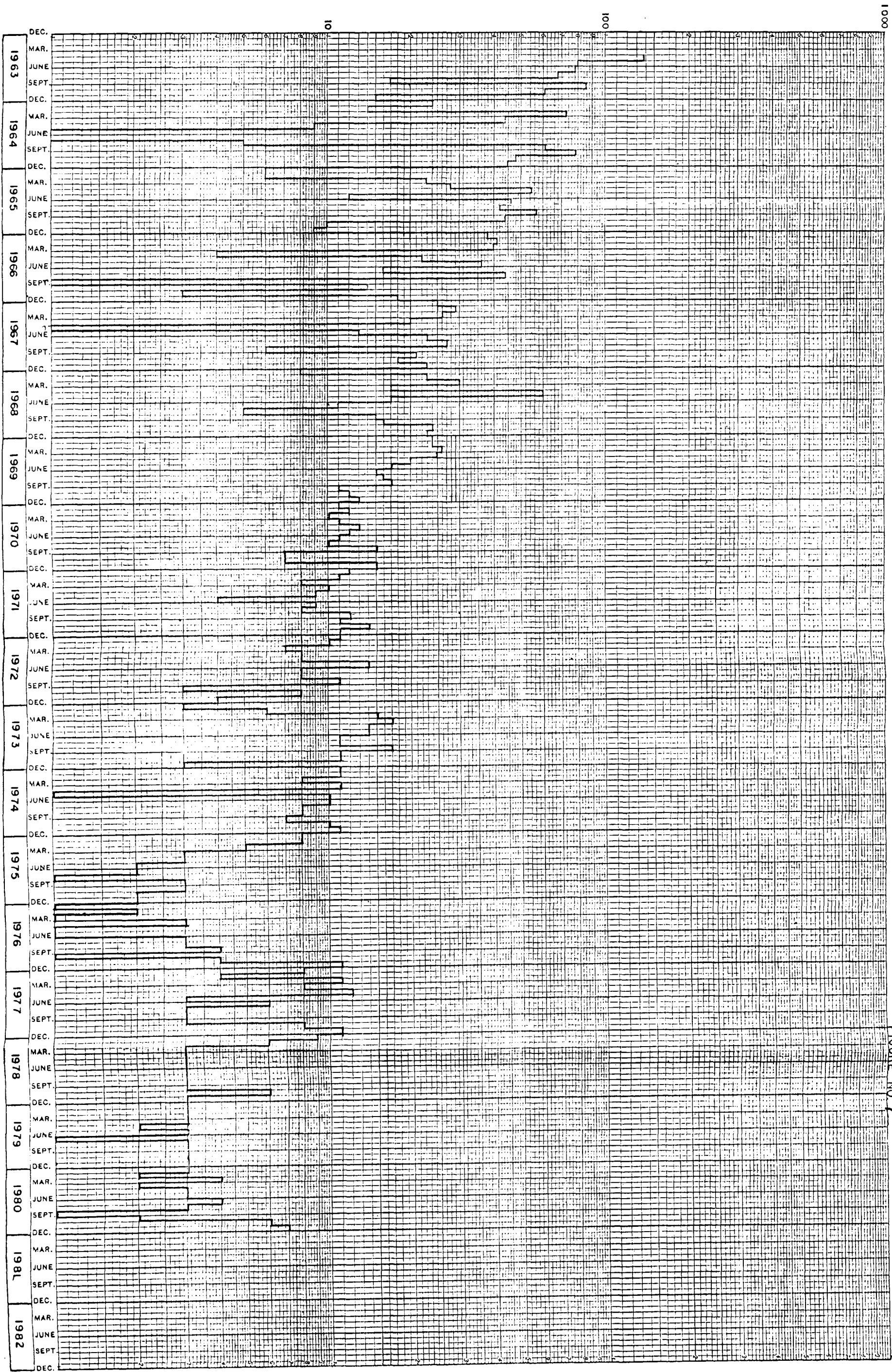
OIL PRODUCTION BPM



ANADARKO PRODUCTION COMPANY
ALSCOTT FEDERAL LEASE
S/2 SW/4 NE/4 SW/4 19-18S-29E
NE/4 NW/4 NW/4 NE/4 30-18S-29E
WELLS 1,2,3,4,5
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 6



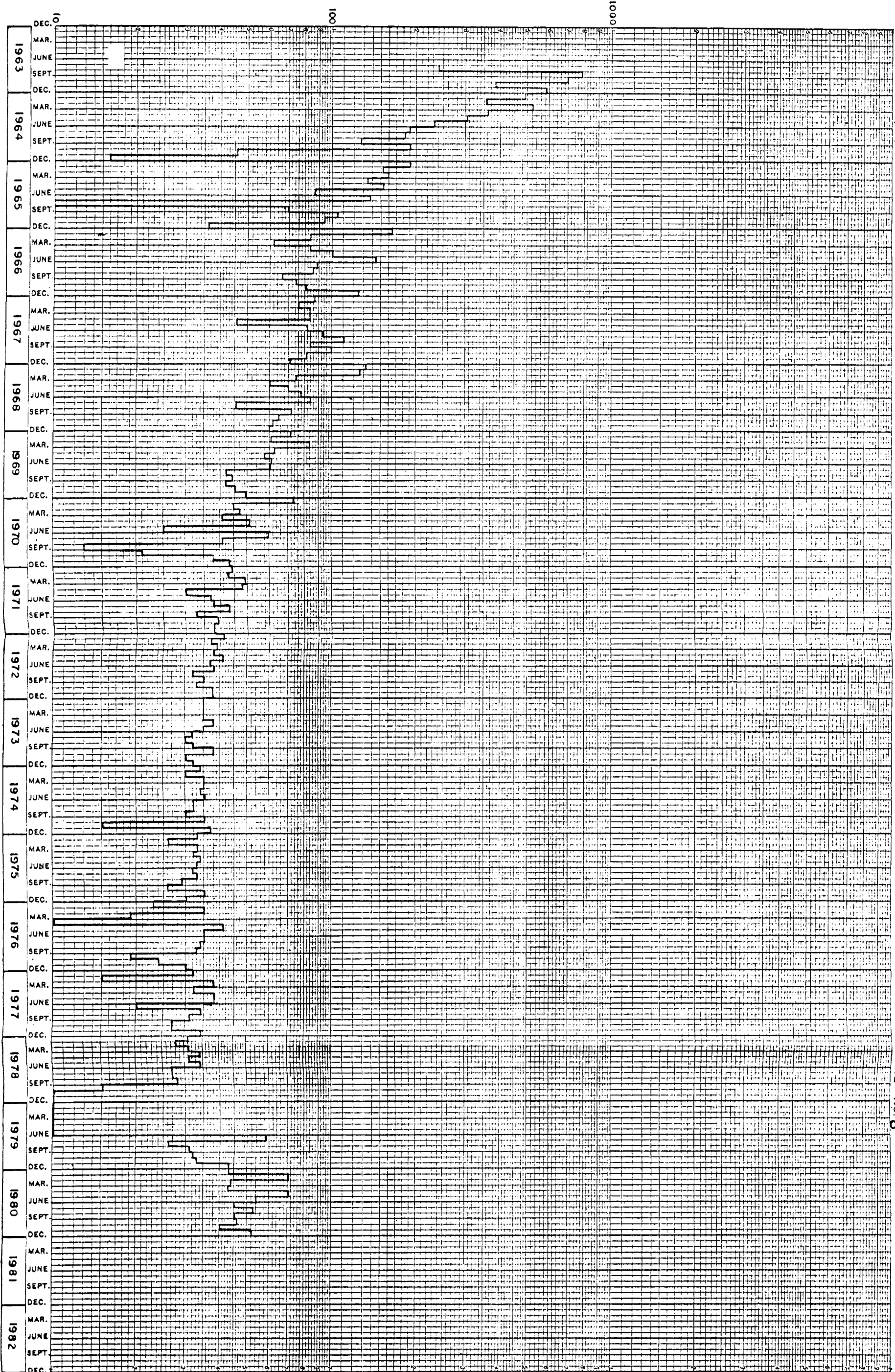
OIL PRODUCTION BPM



ANADARKO PRODUCTION COMPANY
GARRETT LEASE
NW/4 NW/4 30-185-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 1

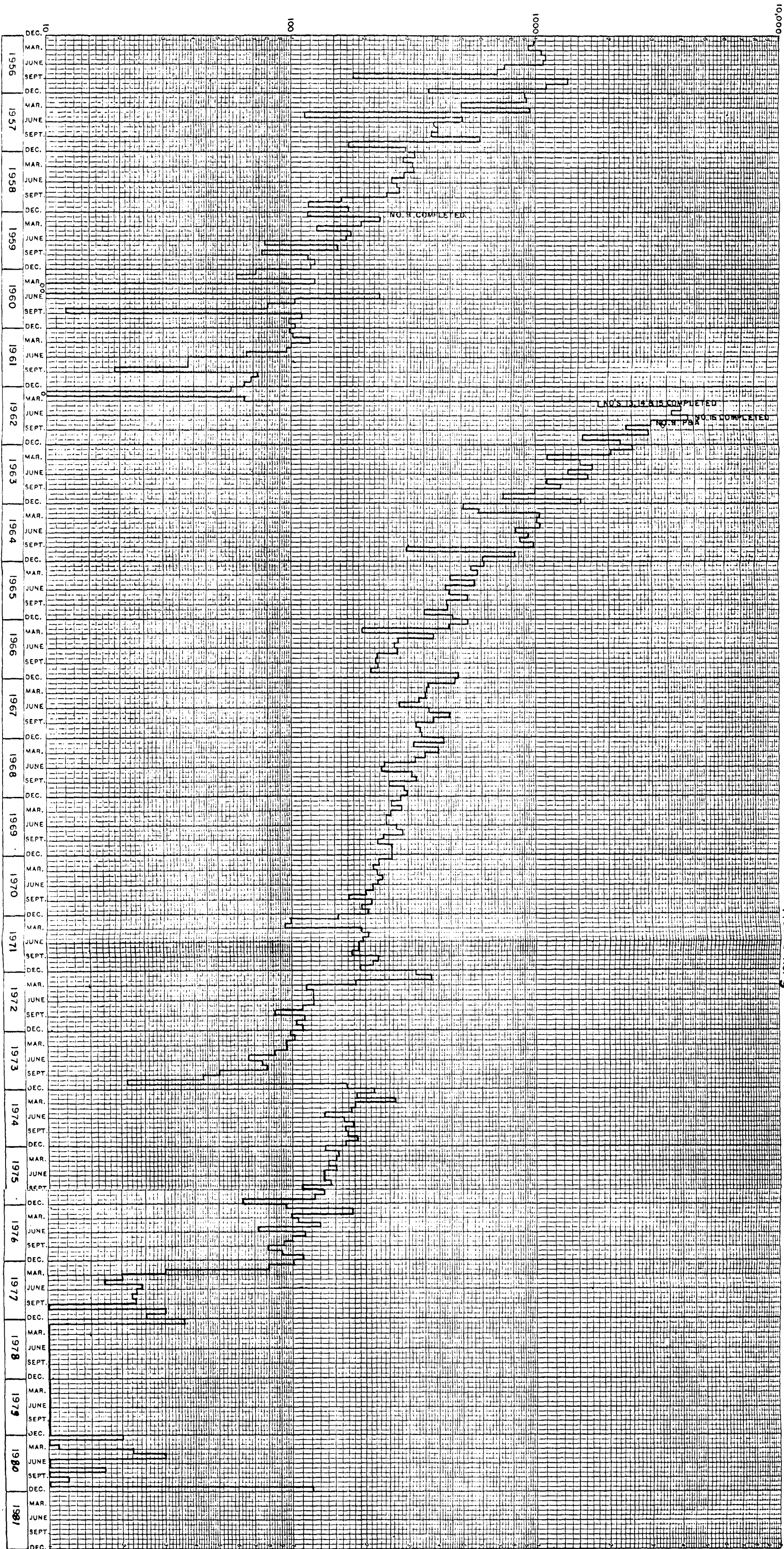


OIL PRODUCTION BPM



ERNEST A. HANSON
MACAW FEDERAL LEASE
NE/4 NW/4 19-18S-29E
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 8

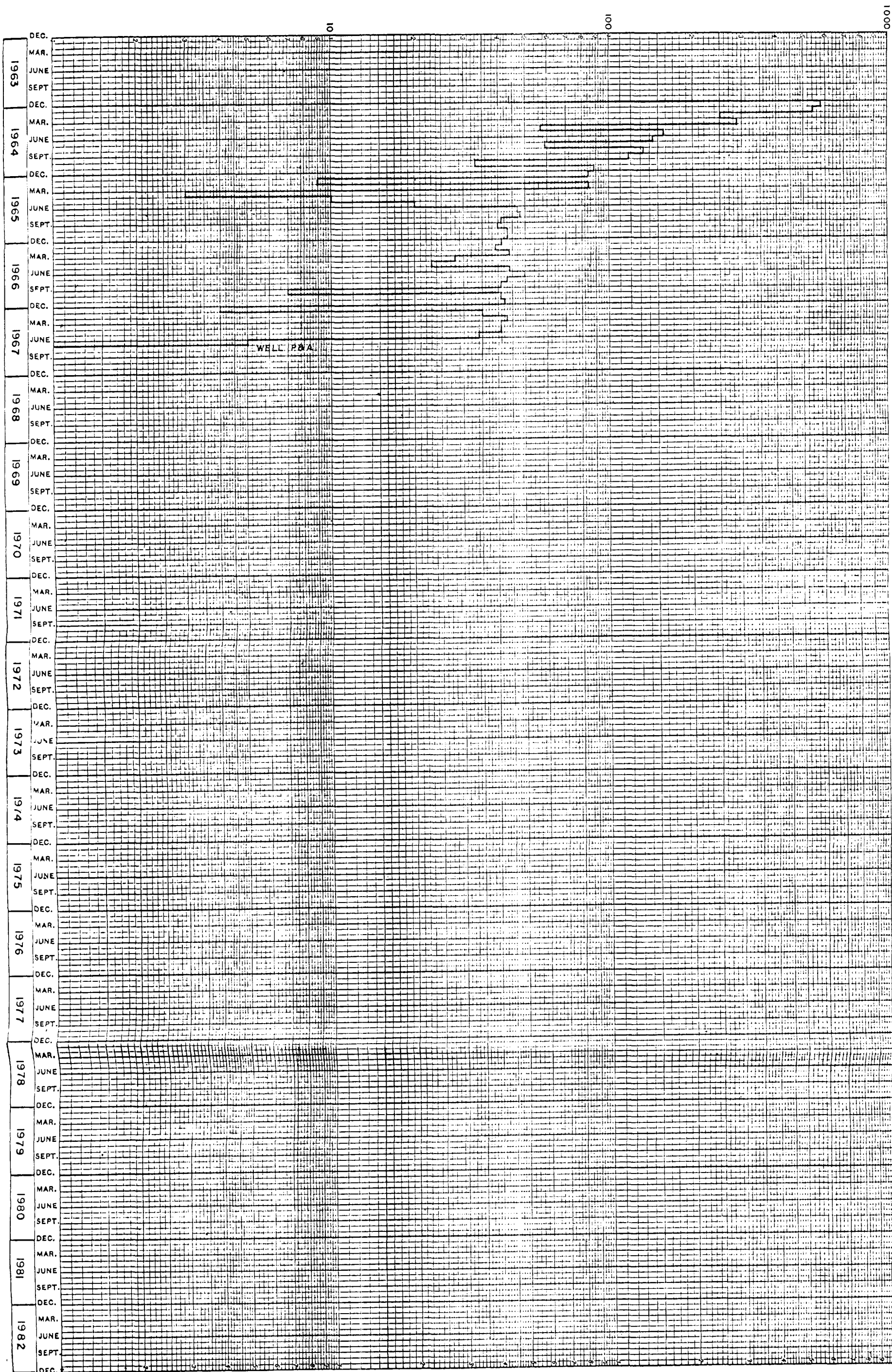
OIL PRODUCTION BPM



ANADARKO PRODUCTION COMPANY
TRAVIS FEDERAL LEASE
NE 1/4 NE 1/4 S 1/2 NE 1/4 N 1/2 SE 1/4 19-18S-29E
WELLS 8, 9, 13, 14, 15 & 16
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 9

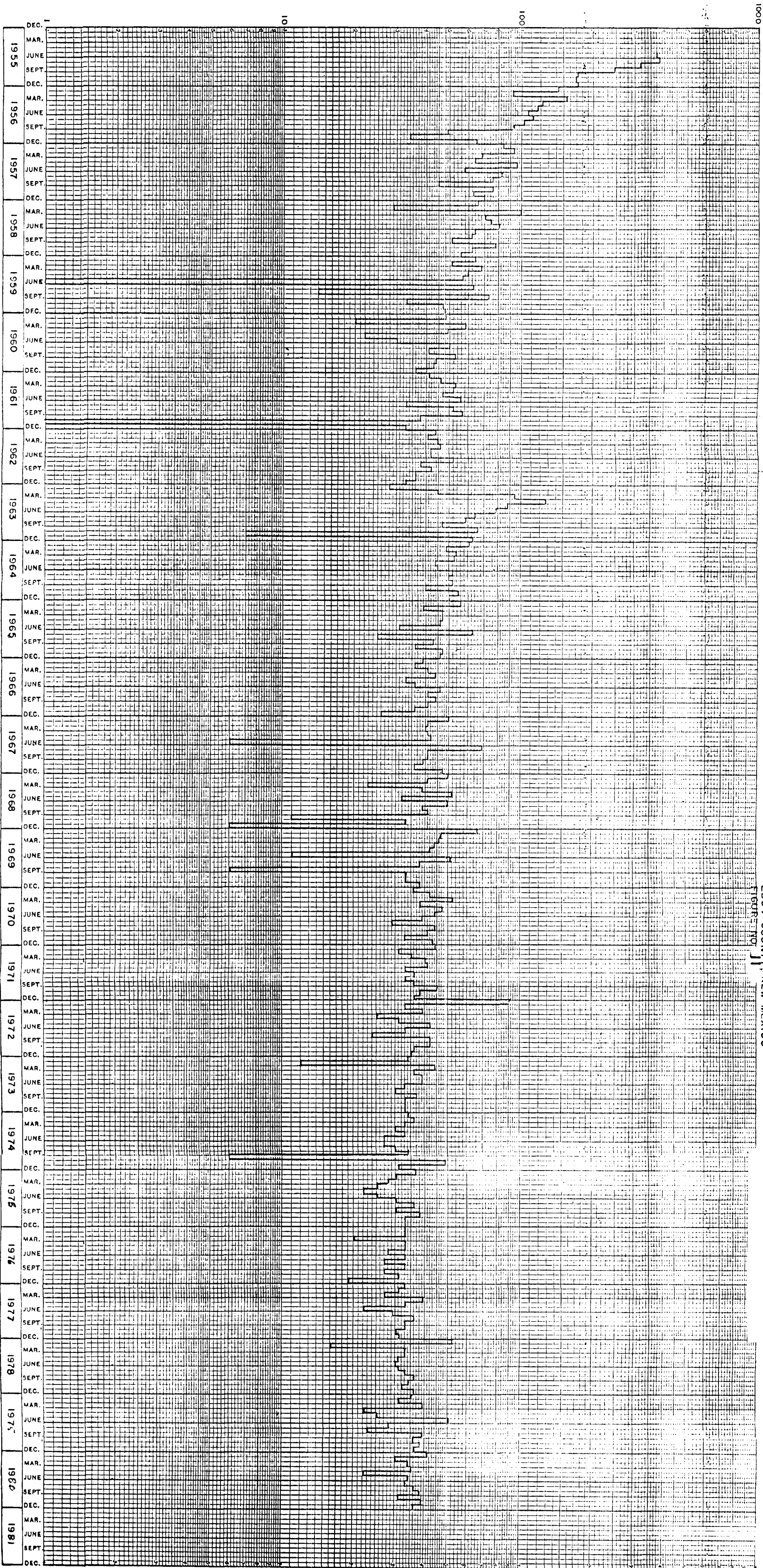


OIL PRODUCTION BPM



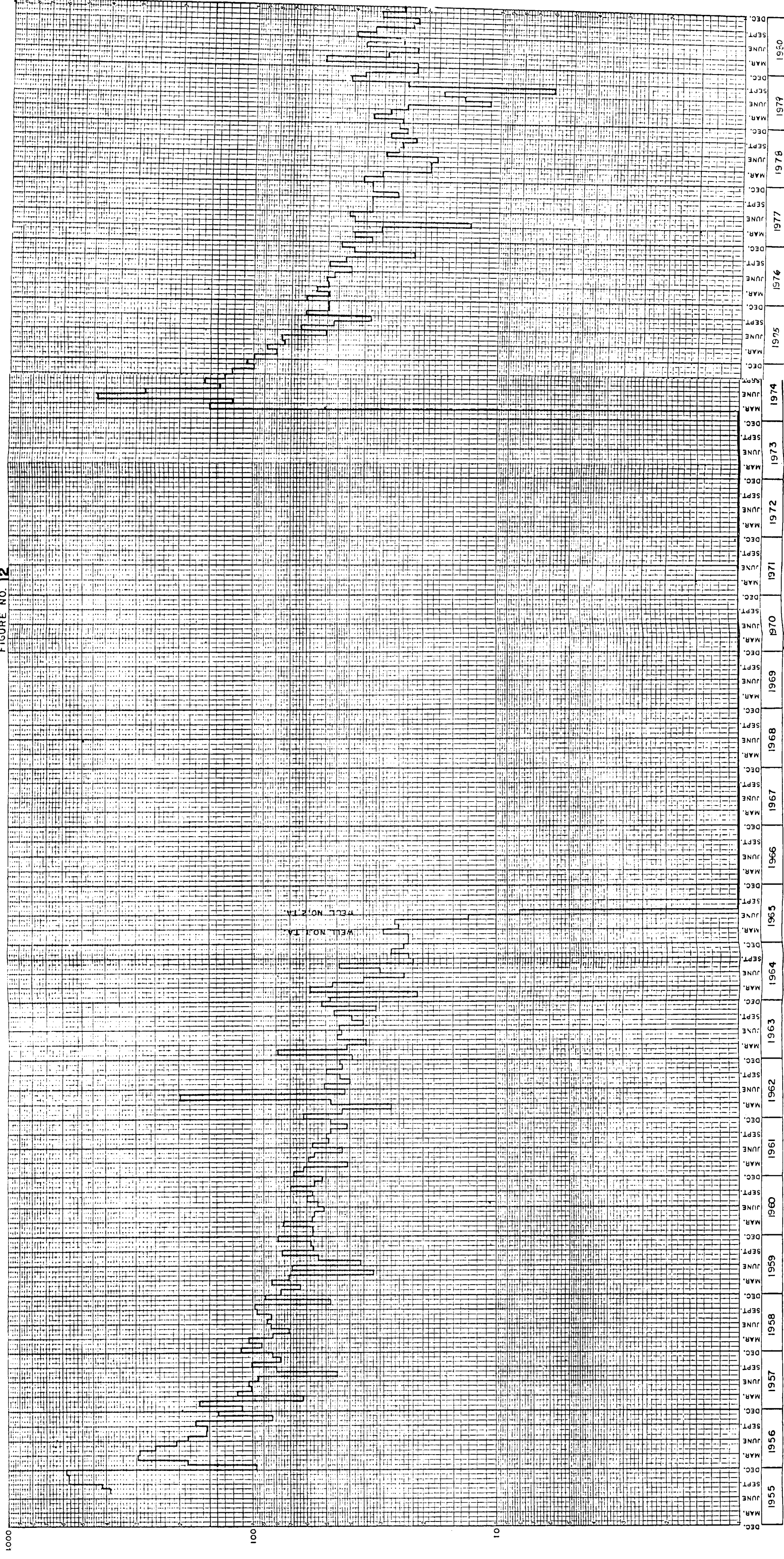
ERNEST A HANSON
YATES FEDERAL B LEASE
NW/4 NE/4 19-18S-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY NEW MEXICO
FIGURE NO. 10

OIL PRODUCTION BPM



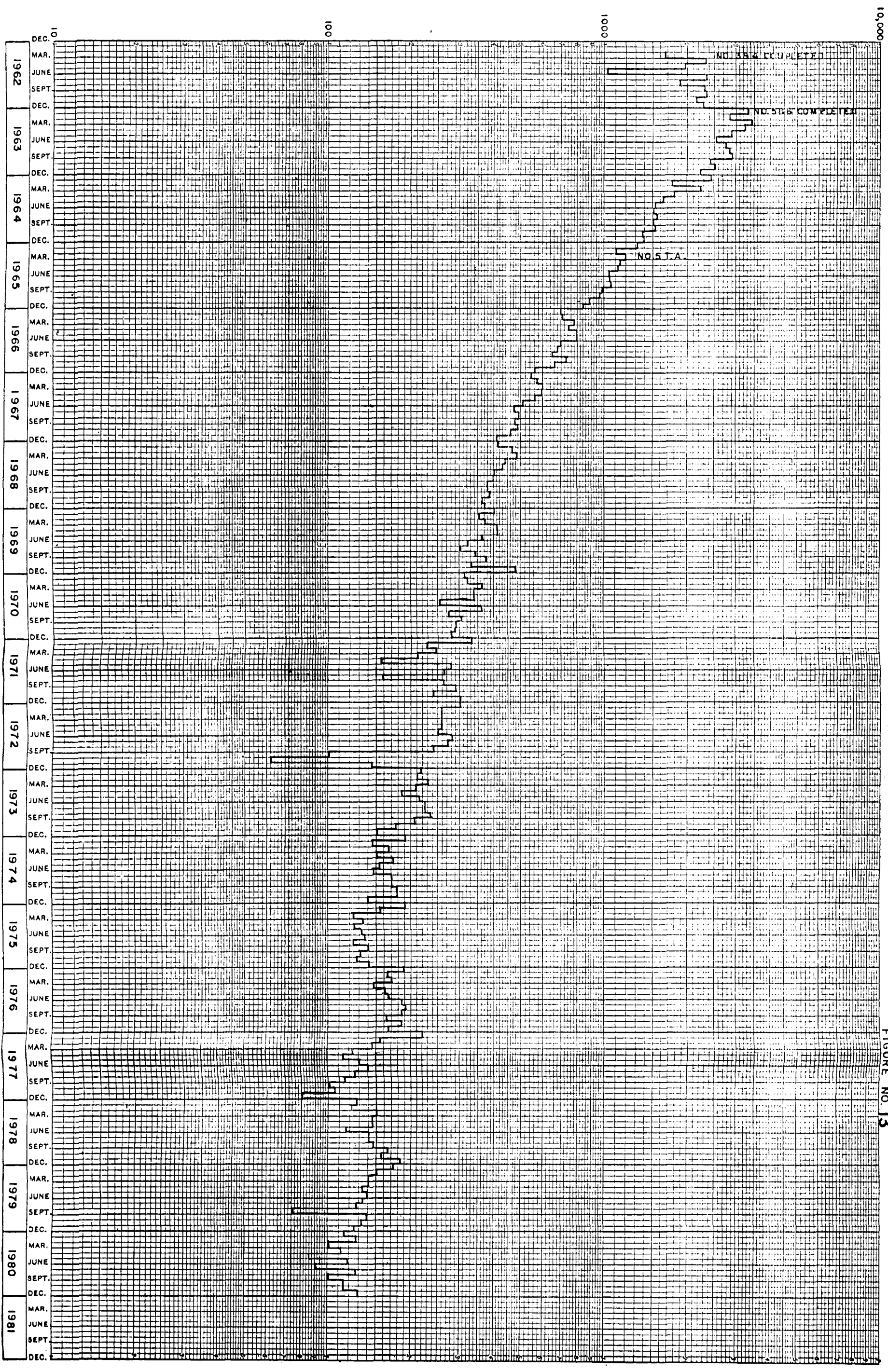
DETON OIL COMPANY
MASSIE LEASE
NE/4 20-88-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 1

10001





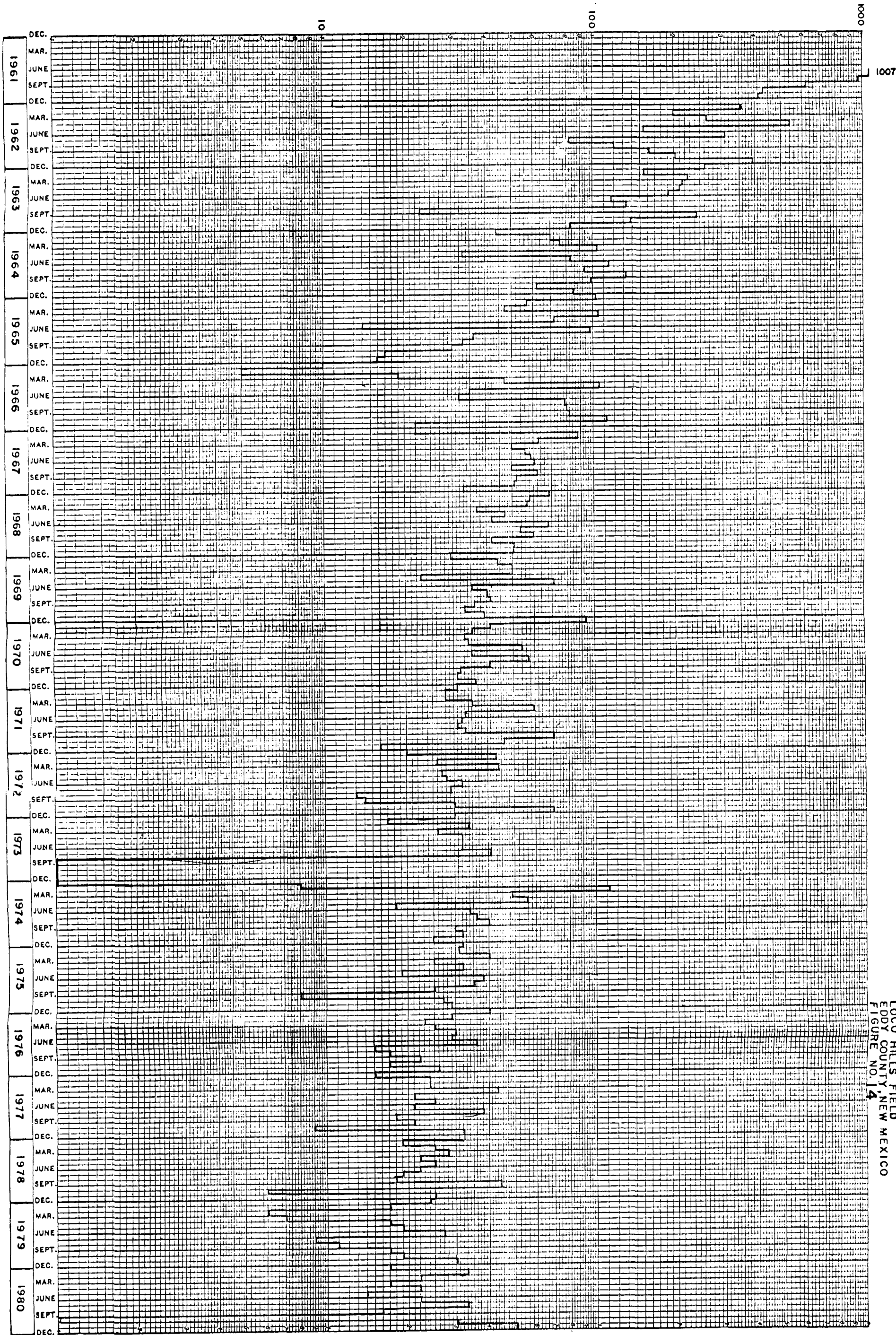
OIL PRODUCTION BPM



DEPCO, INC.
WRIGHT FEDERAL TRACT 2 LEASE
S/2 NW/4, N/2 SW/4 20-185-29E
WELLS 3, 4, 5 & 6
LOCO HILLS FIELD
EDDY COUNTY NEW MEXICO
FIGURE NO. 13



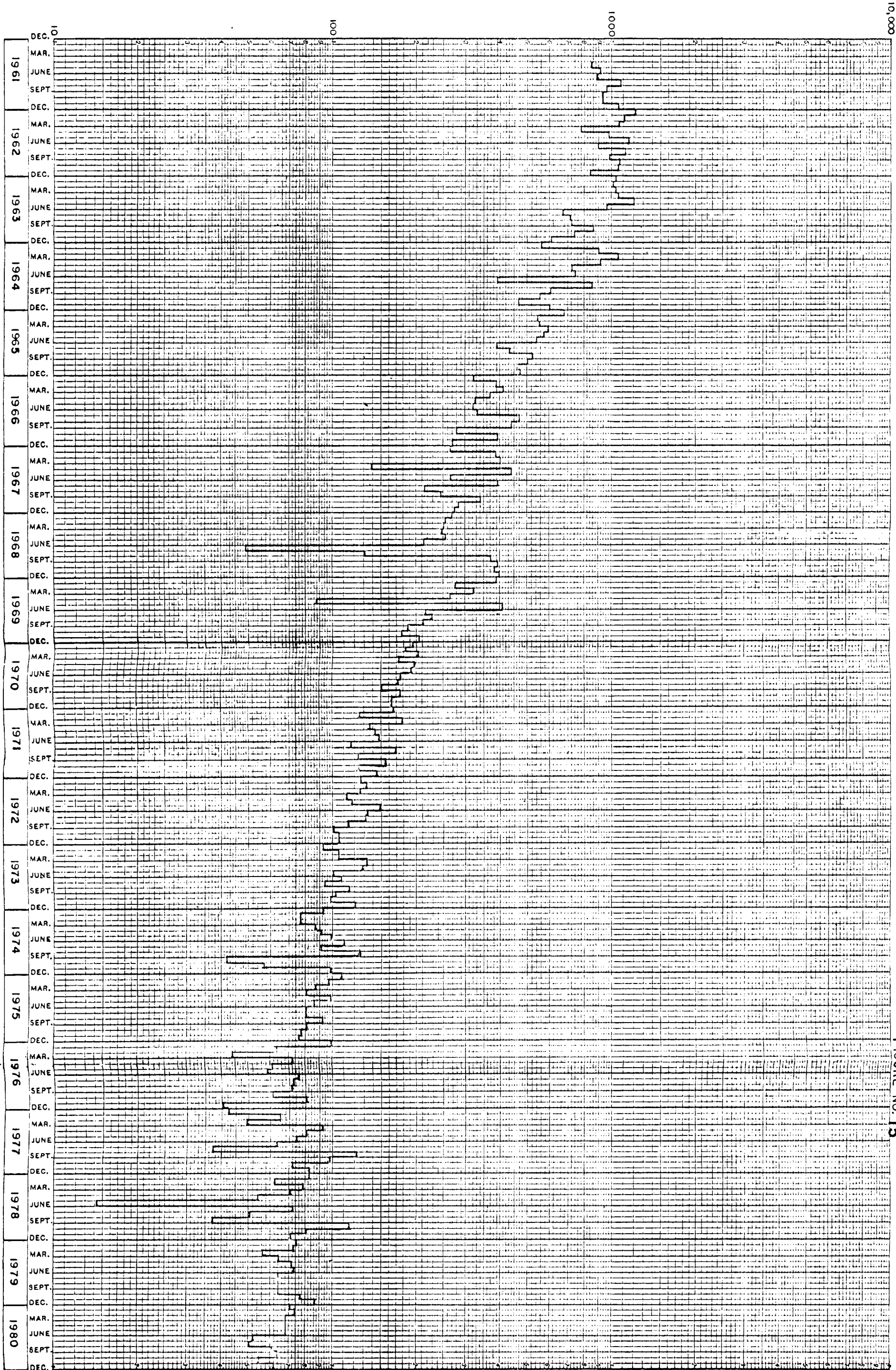
OIL PRODUCTION BPM



S. P. B. MARTIN YATES, III
ALSCOTT FEDERAL LEASE
NE/4 NE/4 30-18S-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 14



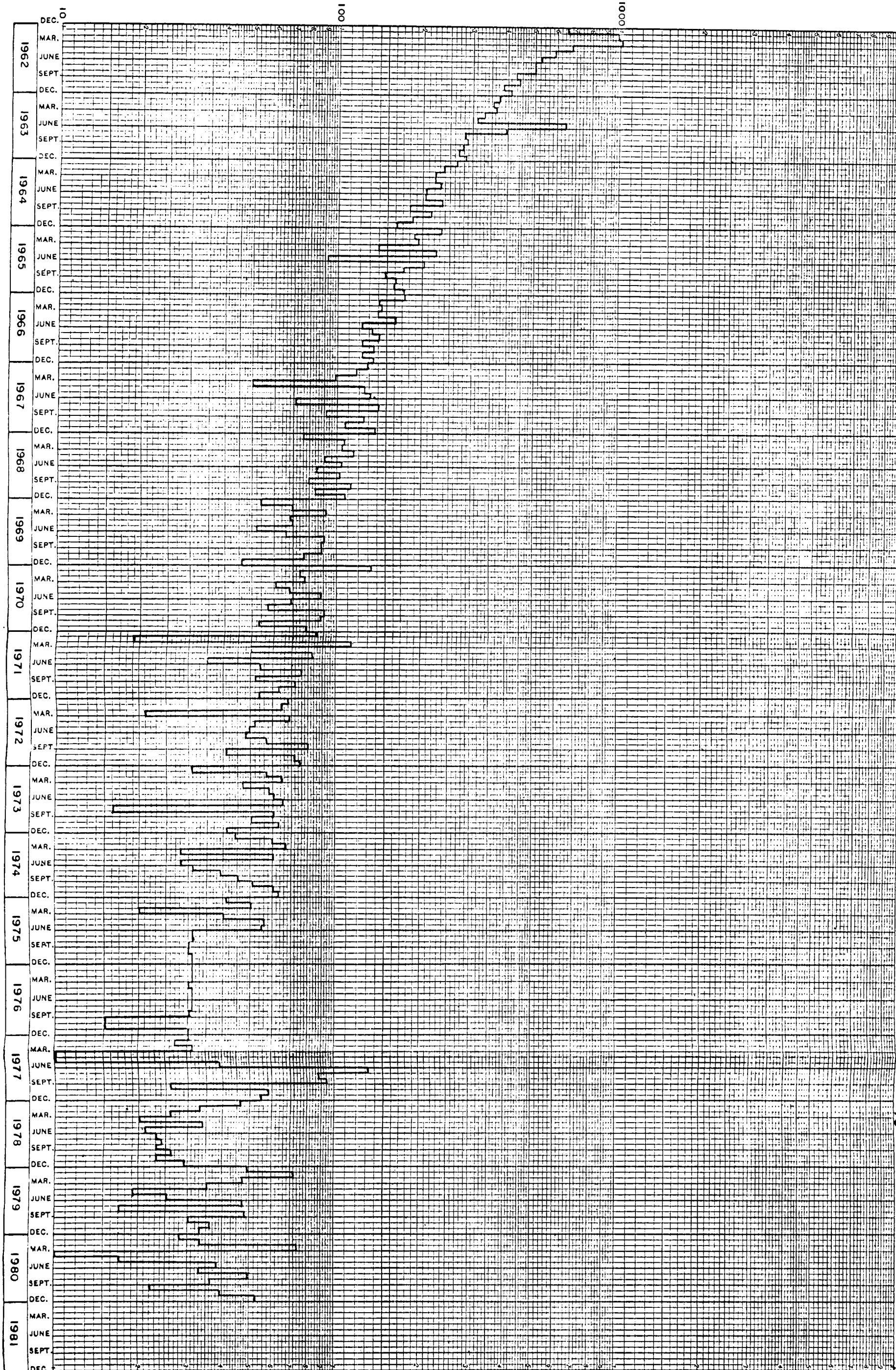
OIL PRODUCTION BPM



S. P. & MARTIN YATES III
HEY-70 FEDERAL LEASE
SW/4 SW/4 20-18S-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 15



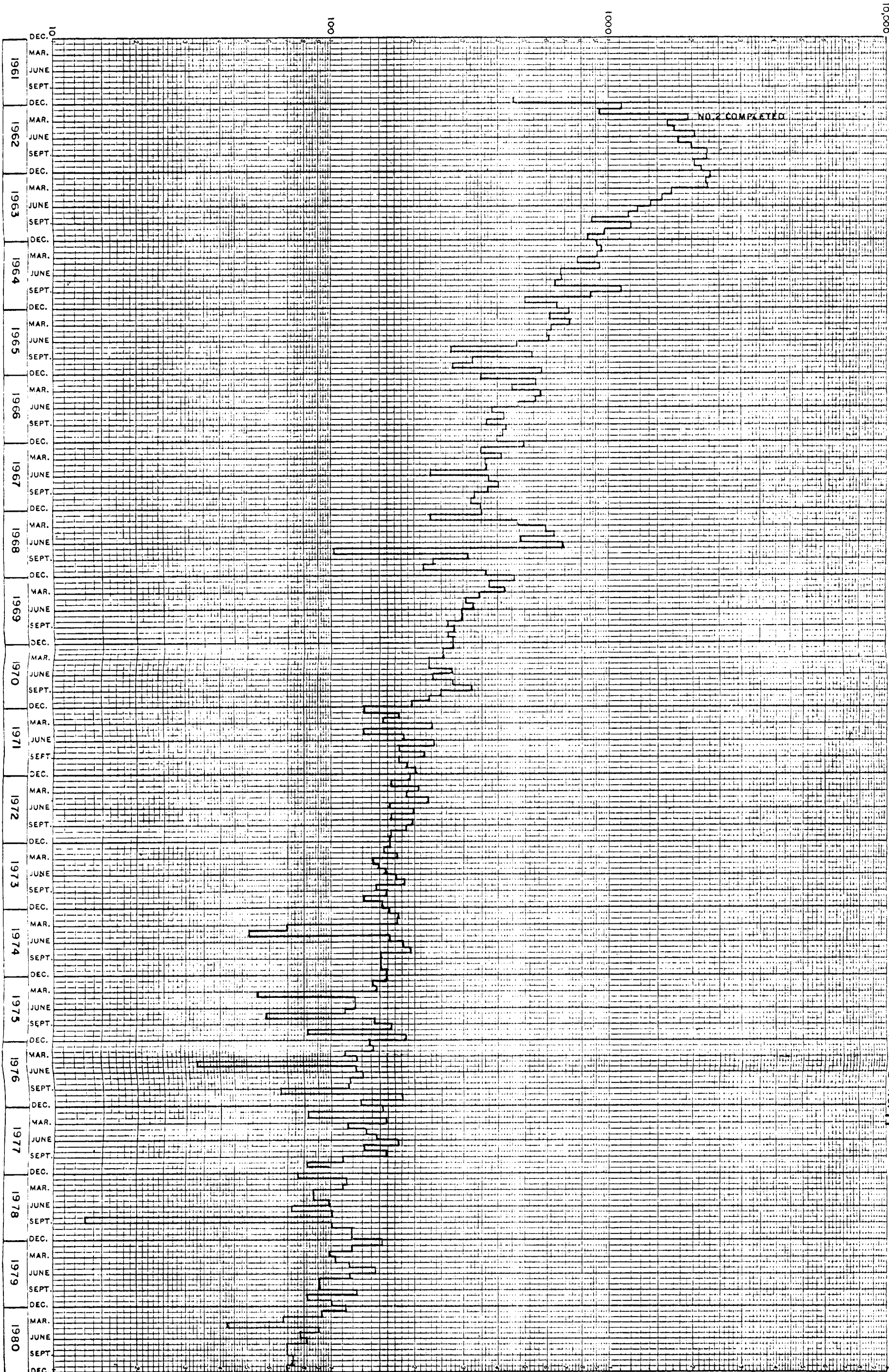
OIL PRODUCTION BPM



JOHN H. TRIGG
SIVLEY-ALSCOTT LEASE
NW/4 29-18S-29E
WELL NOS. 384
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 16



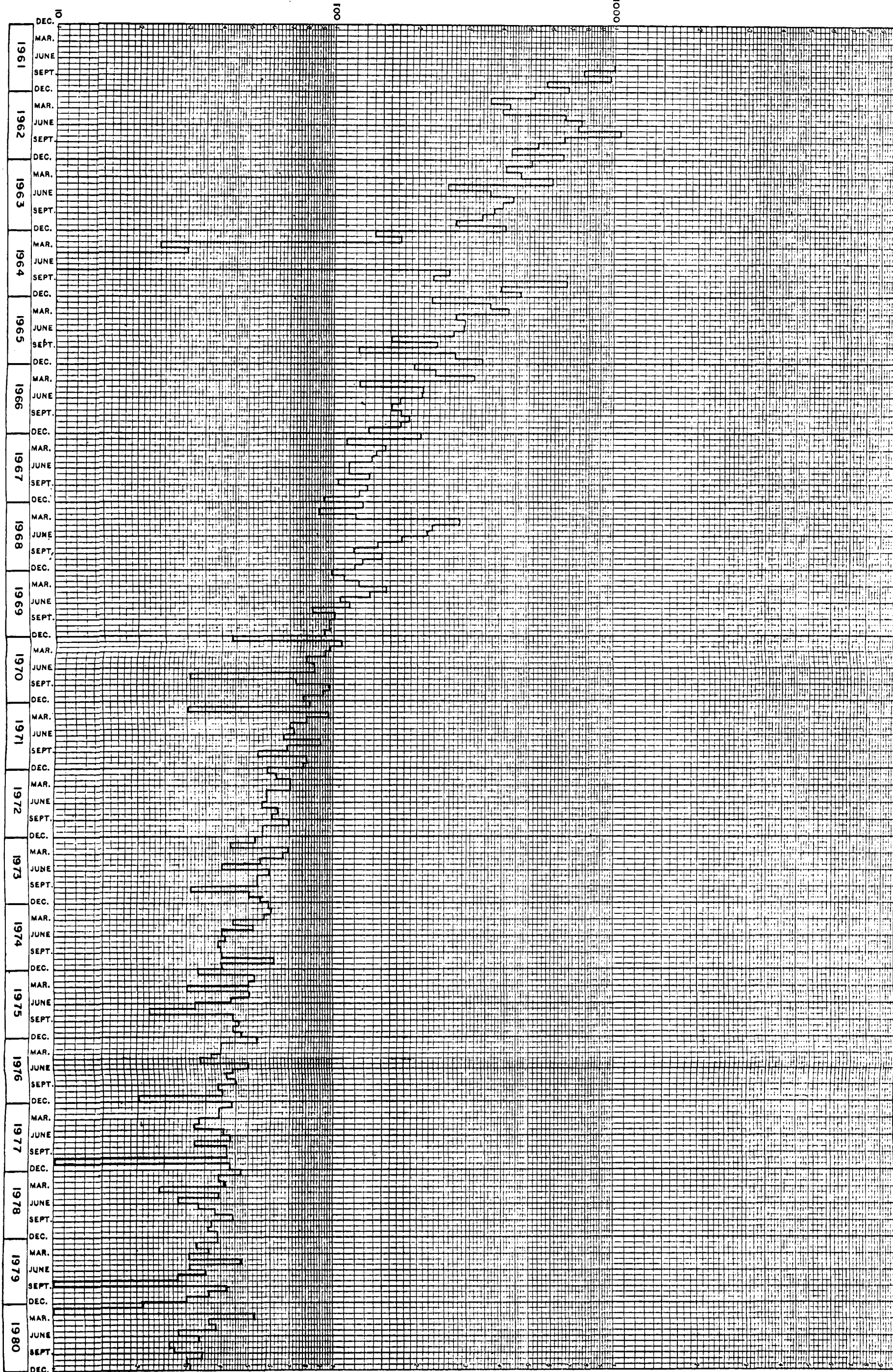
OIL PRODUCTION BPM



S.P. & MARTIN YATES III
TRAVIS LEASE
S/2 SE/4 19-18S-29E
WELL NO. S 182
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
FIGURE NO. 17



OIL PRODUCTION BPM



S. P. & MARTIN YATES, III
WESTERN FEDERAL LEASE
SE/4 SW/4 20-185-29E
WELL NO. 1
LOCO HILLS FIELD
EDDY COUNTY NEW MEXICO
FIGURE NO. 18

R-29-E

18

17

15

PROPOSED
SOUTH LOCO HILLS GRAYBURG UNIT
EDDY COUNTY, NEW MEXICO

YATES DRILLING CO.

DECEMBER 31, 1981

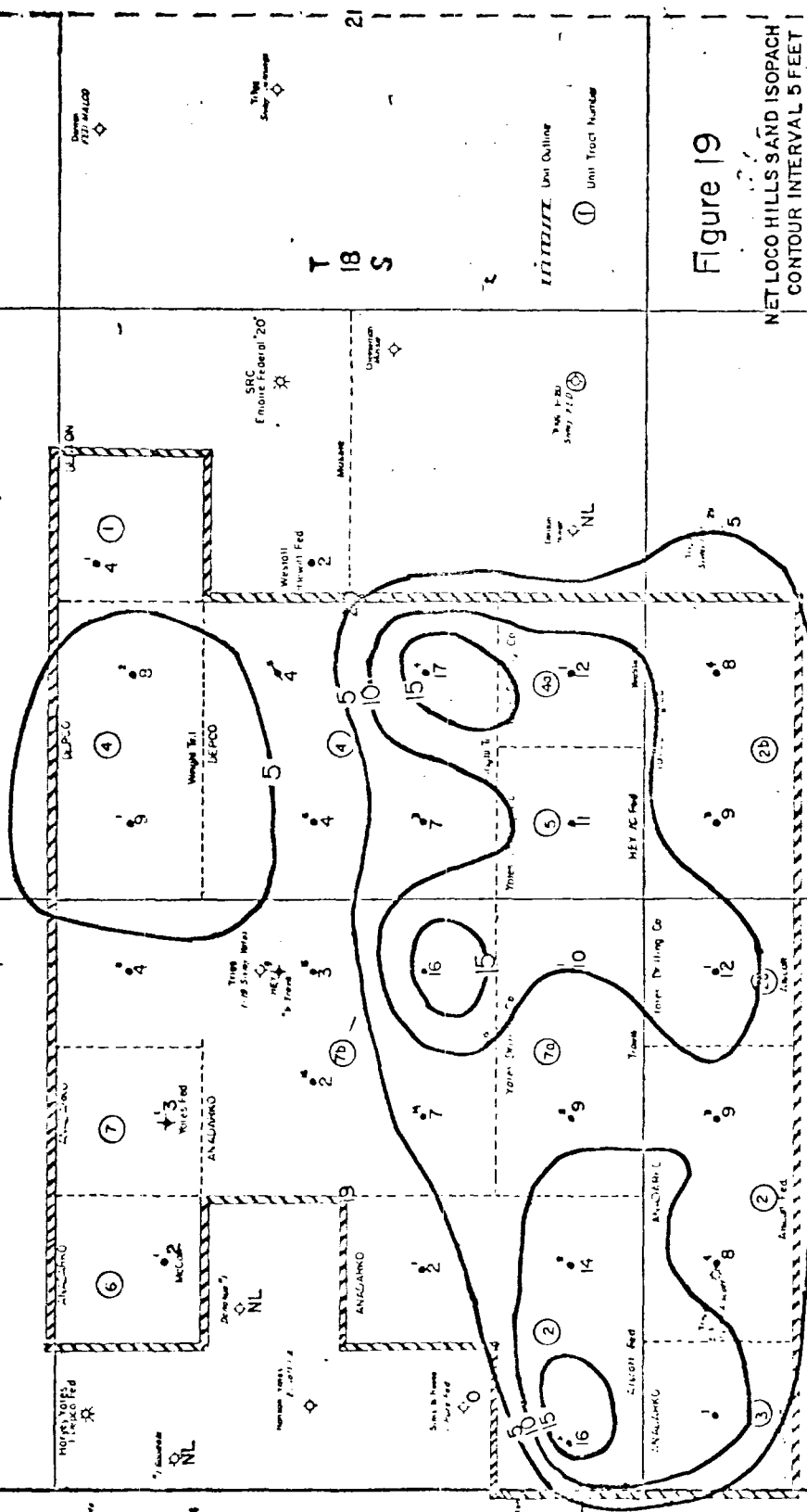


Figure 19

NET LOCO HILLS SAND ISOPACH
CONTOUR INTERVAL 5 FEET

29

28

30

R-28-E

25

24

R-29-E 13

R-28-E

PROPOSED
SOUTH LOCO HILLS CRAYBURG UNIT
EDDY COUNTY, NEW MEXICO
YATES DRILLING CO.
DECEMBER 31, 1981

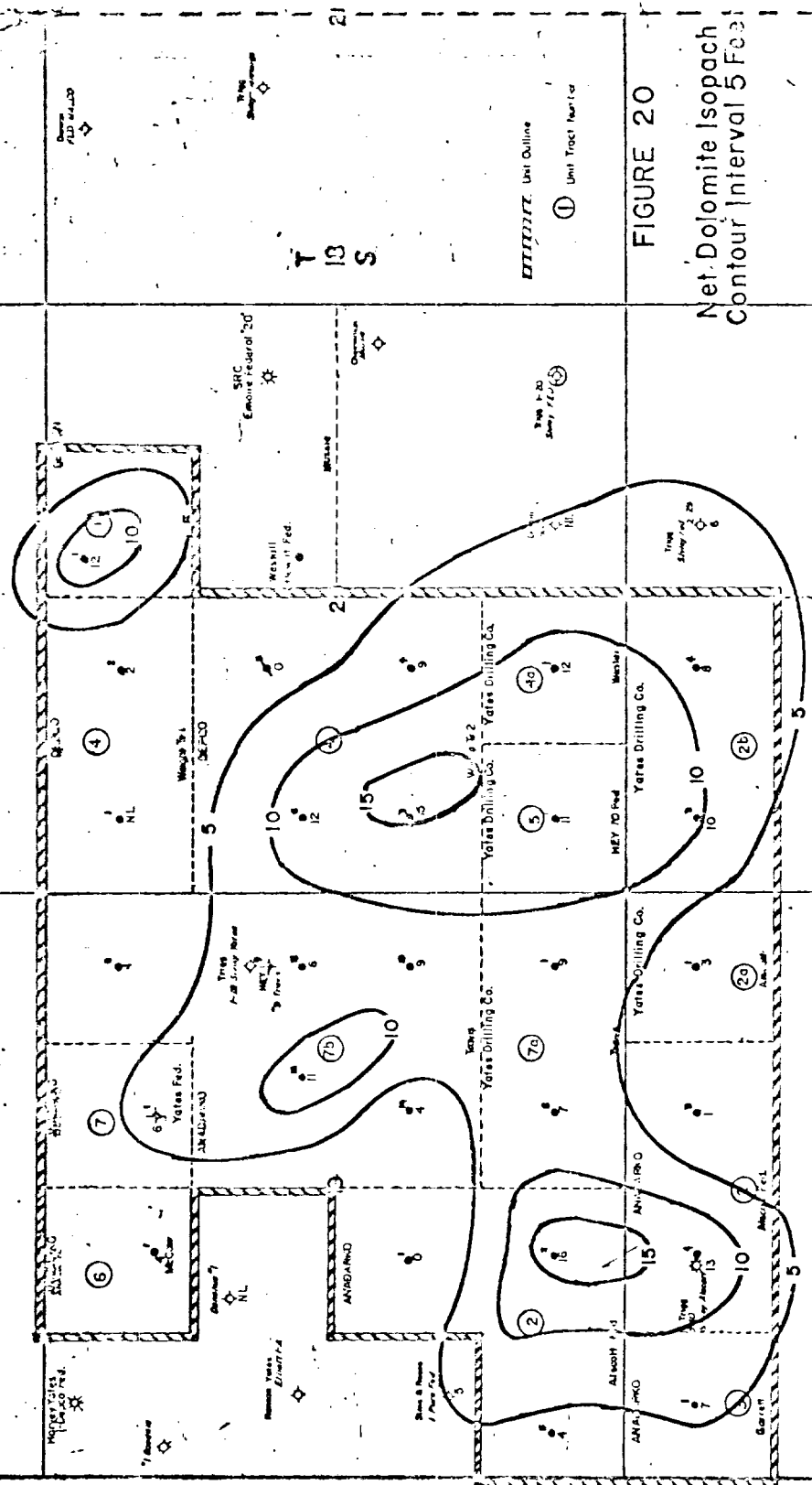
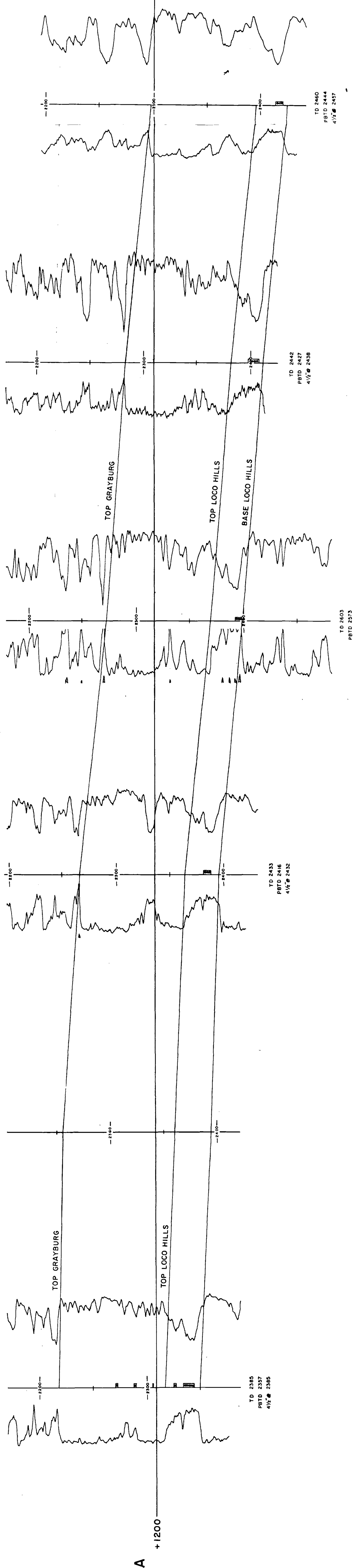


FIGURE 20
Net Dolomite Isopach
Contour Interval 5 Feet

FIGURE NO. 21



PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
LOCO HILLS FIELD
EDDY COUNTY, NEW MEXICO
CROSS SECTION B-B'
FIGURE NO. 22

ANADARKO PROD. CO.
ALSCOTT FEDERAL NO. 5
M 19-18S-29E
ELEV. 3532' K.B.

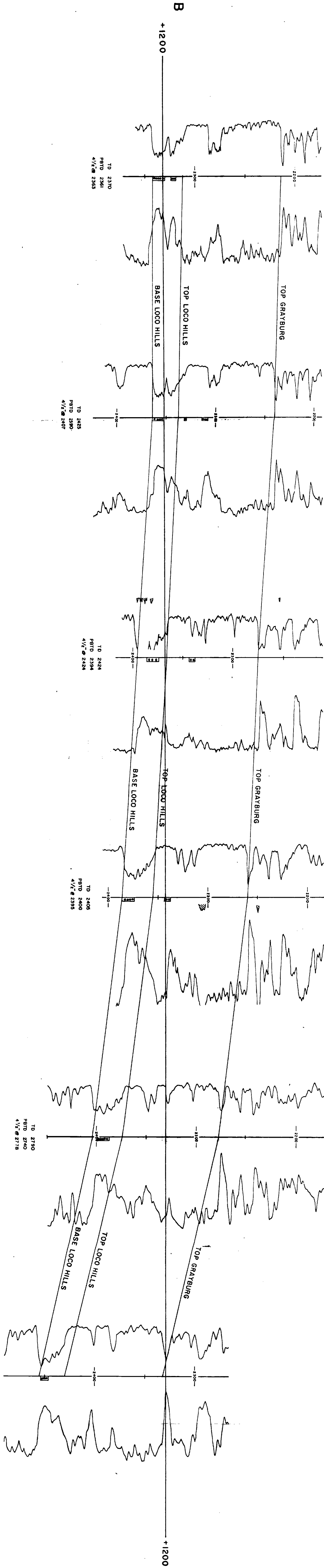
ANADARKO PROD. CO.
ALSCOTT FEDERAL NO. 2
N 19-18S-29E
ELEV. 3552' K.B.

S.P. & MARTIN YATES, III
TRAVIS FEDERAL NO. 2
O 19-18S-29E
ELEV. 3568' K.B.

S.P. & MARTIN YATES, III
TRAVIS FEDERAL NO. 1
P 19-18S-29E
ELEV. 3541' K.B.

S.P. & MARTIN YATES, III
FEDERAL NO. 1
M 20-18S-29E
ELEV. 3531' K.B.

S.P. & MARTIN YATES, III
WESTERN FEDERAL NO. 1
N 20-18S-29E
ELEV. 3529' K.B.



PROPOSED SOUTH LOCO HILLS (GRAYBURG) UNIT
 LOCO HILLS FIELD
 EDDY COUNTY, NEW MEXICO
 CROSS SECTION C-C'
 FIGURE NO. 23

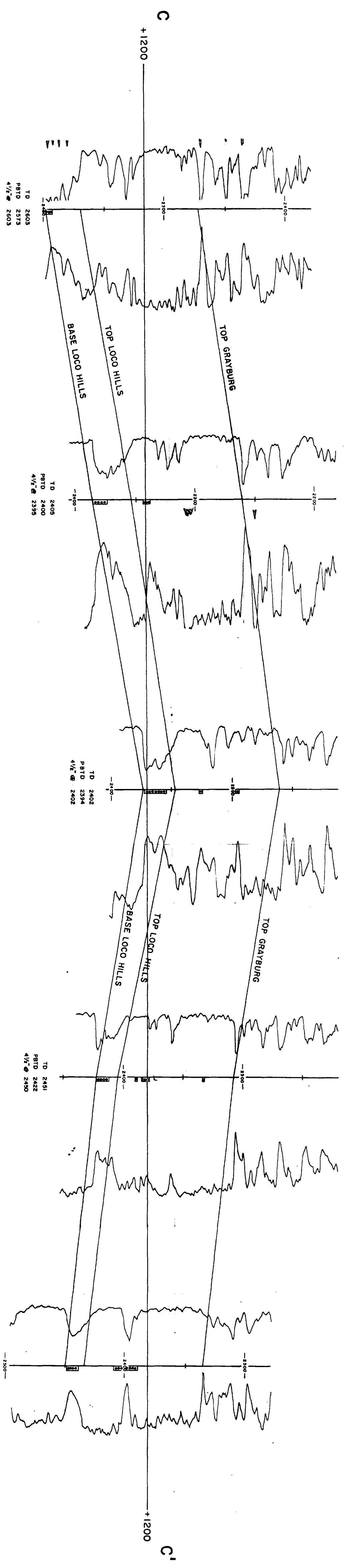
S. P. & MARTIN YATES, III
 ALSCOTT FEDERAL NO. 1
 A 30-185-29E
 ELEV. 3517' K. B.

S. P. & MARTIN YATES, III
 TRAVIS FEDERAL NO. 1
 P 19-185-29E
 ELEV. 3541' K. B.

ANADARKO PROD. CO.
 TRAVIS FEDERAL NO. 13
 M 19-185-29E
 ELEV. 3570' K. B.

ANADARKO PROD. CO.
 TRAVIS FEDERAL NO. 15
 H 19-185-29E
 ELEV. 3579' K. B.

ANADARKO PROD. CO.
 TRAVIS FEDERAL NO. 8
 A 19-185-29E
 ELEV. 3581' D. F.



SOUTH LOCO HILLS(GRAYBURG)UNIT
PREDICTED WATERFLOOD PRODUCTION

FIGURE 25

