

PIPELINE DEEP UNIT
LEA COUNTY, NEW MEXICO

Deletion of Units L and M, consisting of approximately 80 acres in Section 7, Township 19 South, Range 34 East, Lea County, New Mexico from the participating area for production from the Pipeline Unit Federal, Quail Ridge Morrow Gas Pool, Lea County, New Mexico.

GEOLOGICAL REPORT

The Union Oil Company of California No. 5 Pipeline Deep Unit Federal well in Unit L, 1980 feet from the south line and 660 feet from the west line of Section 7, Township 19 South, Range 34 East, Lea County, New Mexico was drilled to 13,570 feet and penetrated the entire sand section of the Pennsylvanian. Permeable gas-bearing sands were not present, and the well was plugged and abandoned.

Formation tops on the subject well as follows (elevation 3768' DF):

Rustler	1,584
Yates	3,228
Queen	4,411
San Andres	5,113
Delaware	5,842
Bone Spring	7,819
Wolfcamp	10,797
Cisco	11,821
Canyon	12,012
Strawn	12,113
Atoka	12,374
Upper Morrow	12,902
Middle Morrow	13,144
Lower Morrow	13,412
Mississippian	13,542

The sands in the Morrow are tan to white, fine to coarse-grained, poorly sorted angular to subrounded quartz sand with some calcite and kaolinite in the matrix. They occur in ledges interbedded with shale. Testing of the subject well included perforations 13,435-44, from which interval was obtained gas too small to measure; perforations 13,524-527, from which water and a small amount of gas was swabbed; and perforations of five ledges, 13,054-13,288, from which gas too small to measure was recovered.

On the lower Morrow top the subject well is 159 feet low to the Chama Petroleum Company No. 2 Pennzoil-Federal well 1/2 mile to the northwest and is 72 feet low to the Union Oil Company No. 2 Pipeline Deep Unit Federal well 3/4 of a mile to the southeast. It is in a southward plunging syncline between these two wells.

Gas accumulation in this area is controlled by structure and by stratigraphy. In the subject well the Morrow sands are either too impermeable for gas production or they are water bearing. The portion of the Pipeline Deep Federal Unit participating area condemned by this well should be deleted from the participating area.

C E Singletary
C. E. Singletary
Geologist
Union Oil Co. of California

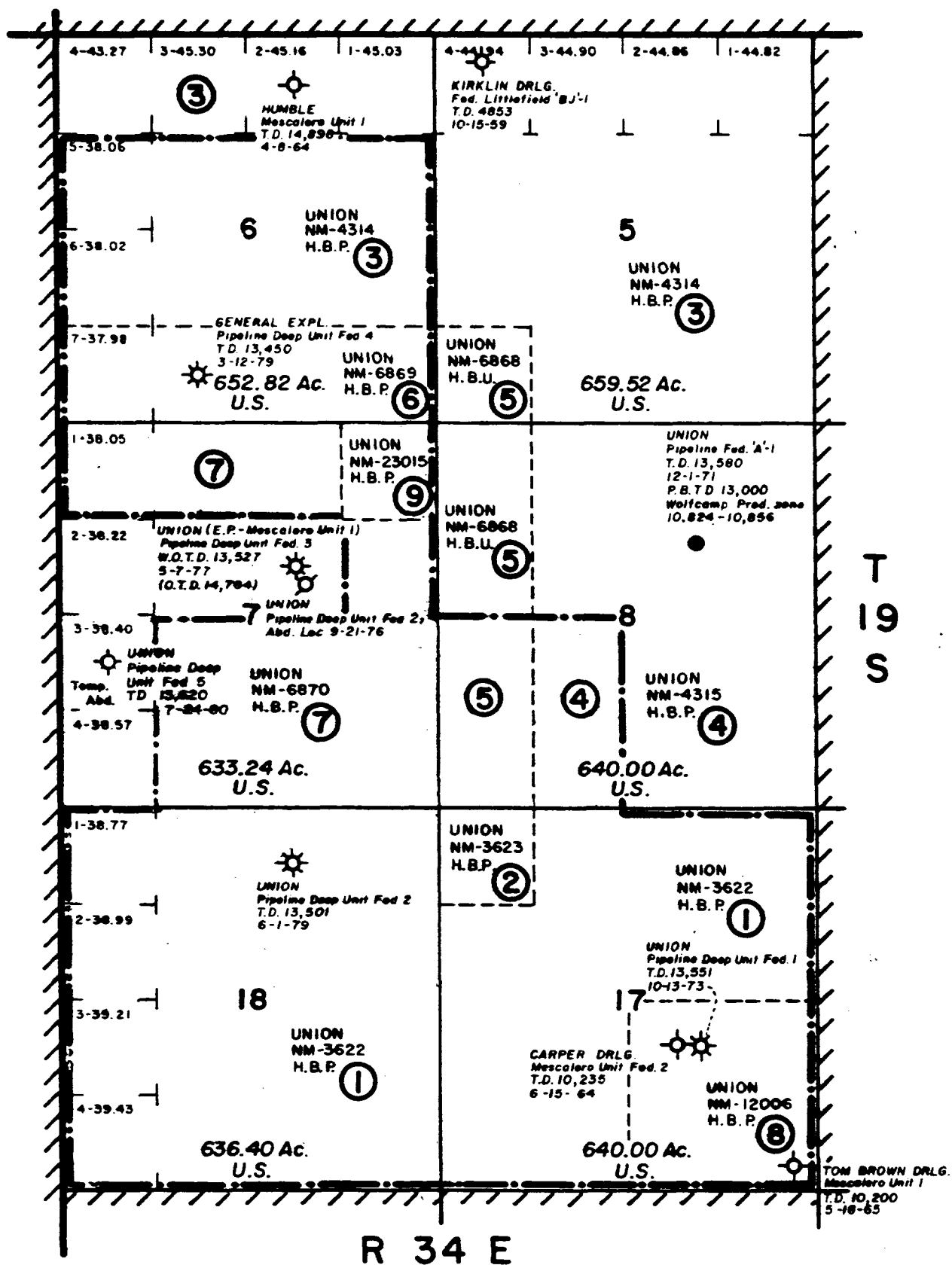
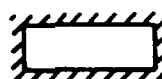
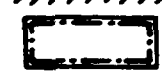


EXHIBIT "A" - (REVISED)
LAND OWNERSHIP MAP - PIPELINE DEEP UNIT
 (AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979)
 LEA COUNTY, NEW MEXICO

-  ORIGINAL UNIT BOUNDARY
-  REVISED UNIT BOUNDARY & PARTICIPATING AREA
- ② TRACT-NUMBER-INDEX TO EXHIBIT "B"

SCALE: 1" = 2000'

Revised Nov. 4, 1980

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE AUGUST 1, 1980

TRACT	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
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FEDERAL LANDS

1	Sec. 17: NE/4, E/2 NW/4, 1076.40 SW/4 NW/4, SW/4		NM-3622 12-31-79	USA - All (12.5%)	Union Oil Company of California	Easton E. Brodsky 5%	Union: All
	Sec. 18: Lots 1,2,3,4, E/2, E/2 W/2						
2	Sec. 17: NW/4 NW/4	40.00	NM-3623 10-31-77	USA - All (12.5%)	Union Oil Company of California	Lucretia C. Goldsmith 5%	Union: All
3	Sec. 6: Lots 5,6, S/2 NE/4, SE/4 NW/4 NE/4 SW/4, N/2 SE/4	316.08	NM-4314 1-31-78	USA - All (12.5%)	Union Oil Company of California	Wm. A. Jurkiewicz 3%	FROM SURFACE TO 13,245 FEET Sunmark Expl. Company .1416750

Martin B.
Sereatean
.0244043

B. Jackson
Bandy
.0244043

Gifford E.
Joseph
.0069726

Kenat Oil &
Gas, Inc.
.0150563

Frank O.
Elliot Living
Trust
.0619828

REVISED EXHIBIT "g"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE AUGUST 1, 1980

TRACT	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
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FEDERAL LANDS - (Continued)

FROM SURFACE
TO 13,245 FEET

Edna Ione Hall
Living Trust
.0619828

McKay Oil Corp
.0212513

Resource Partners
.0070837

C&K Petroleum,
Inc.
.0070837

Frederick H.
Prince
.0354188

Robert E.
Landreth
.0177094

C.W. Trainer
.0333334

David M.
Trainer
.0333333

Marvin C.
Gross
.0333333

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE AUGUST 1, 1980

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FEDERAL LANDS - (Continued)

FROM SURFACE
TO 13,245 FEET

Stephen A.
Wells
.0708375

Charles E.
Nearburg
.0708375

Union Oil Co.
of California
.3333000

BELOW 13,245
FEET

Union: ALL

Sec. 8: E/2 SW/4 80.00 NM-4315 1-31-78 USA - ALL
(12.5%) Union Oil Company of California Ray O. Traylor 3.33% Union
Tom Hoover 1.67% 90.44296%

Getty
9.55704%

5 Sec. 8: W/2 SW/4 80.00 NM-6868 7-31-73 USA - ALL
(12.5% to 25%) Union Oil Company of California None Union
90.44296%

Getty
9.55704%

6 Sec. 6: Lot 7, 157.98 NM-6869 7-31-73 USA - ALL
SE/4 SW/4, (12.5% to 25%) Union Oil Company of California None FROM SURFACE
S/2 SE/4 TO 13,245 FEET
Sunmark Explo.
Company
.1416750

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE AUGUST 1, 1980

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FEDERAL LANDS - (Continued)

FROM SURFACE
TO 13,245 FEET

Martin B.
Seretean
.0244043

B. Jackson
Bandy
.0244043

Gifford E.
Joseph
.0069726

Kenal Oil &
Gas, Inc.
.0150563

Frank O.
Elliot Living
Trust
.0619828

Edna Ione Hall
Living Trust
.0619828

McKay Oil Corp
.0212513

Resource Partners
.0070837

REVISED EXHIBIT "B"

PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East

AS CONTRACTED EFFECTIVE AUGUST 1, 1980

TRACT	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
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FEDERAL LANDS - (Continued)

FROM SURFACE
TO 13,245 FEET

C&K Petroleum,
Inc.
.0070837

Frederick H.
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Robert E.
Landreth
.0177094

C. W. Trainer
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David M.
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Union Oil Co.
of California
.3333000

REVISED EXHIBIT "B"
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 TOWNSHIP 19 South, Range 34 East
 AS CONTRACTED EFFECTIVE AUGUST 1, 1980

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FEDERAL LANDS - (Continued)

BELOW 13,245
FEET

7	Sec. 7: Lots 1, NE/4 NW/4, NW/4 NE/4, SE/4 NE/4, E/2 SW/4, SE/4	398.05	NM-6870 7-31-73	USA - All (12.5% to 25%)	Union Oil Company of California	None	Union: All
8	Sec. 17: SE/4	160.00	NM-12006 8-31-75	USA - All (12.5% to 25%)	Union Oil Company of California 50% Getty Oil Company 50%	None	Union: 50% Getty: 50%
9	Sec. 7: NE/4 NE/4	40.00	NM-23015 1-31-79	USA - All	Union Oil Company of California	None	Union: All

Nine (9) Federal Tracts 2,348.51 acres

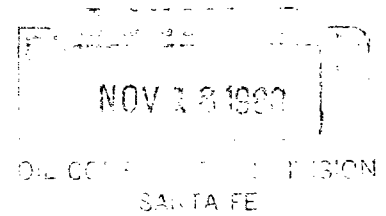
Union Oil and Gas Division: Central Region

Union Oil Company of California
500 North Marienfeld, Midland, Texas 79701
P.O. Box 671, Midland, Texas 79702
Telephone (915) 682-9731



Robert V. Lockhart
District Land Manager
Midland District

November 13, 1980



Oil & Conservation Division
Energy & Mineral Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey, Director

Gentlemen:

Case No. 4985
Order No. R-4552
Pipeline Deep Unit Area ✓
Lea County, New Mexico
(U.S.G.S. Contract #14-08-0001-12402)

In accordance with my telephone conversation yesterday, I am enclosing the following items:

- 1.) U.S.G.S. letter dated September 6, 1979, together with an approved application for approval of the first revision of the participating area of the Morrow formation dated June 14, 1979;
- 2.) U.S.G.S. letter dated February 25, 1980, together with an approved copy of application for approval of the second revision of the participating area of the Morrow formation;
- 3.) U.S.G.S. letter dated August 13, 1980, together with approved application to contract the Pipeline Deep Unit effective September 1, 1979.

As I stated in my telephone conversation with you, I am at a loss as to why we failed to submit these items to you at an earlier date. We will do our best to prevent this in the future. Thank you for your cooperation in this matter.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

A handwritten signature in cursive script, appearing to read "Robert V. Lockhart".
Robert V. Lockhart
District Land Manager

RVL:ib
Encls: 3



United States Department of the Interior

GEOLOGICAL SURVEY

South Central Region

P. O. Box 26124

Albuquerque, New Mexico 87125

13 AUG 1980

RECEIVED

AUG 18 1980

MIDLAND - LLD

RECEIVED

AUG 19 1980

Union Oil Company of California

Attn: John Hanson

500 North Marienfeld

Midland, Texas 79701

NOV 18 1980

OIL CO. & NATURAL GAS DIVISION
SANTA FE

MIDLAND DISTRICT LAND

Gentlemen:

Your letter of March 5, 1980, accompanied by revised Exhibits A and B, correctly describes the lands automatically eliminated from the Pipeline Deep unit agreement, Lea County, New Mexico, pursuant to Section 2(e) of the unit agreement. The lands so eliminated have been described as containing 1,436.50 acres, which constitutes all legal subdivisions, no part of which is included in the 2,425.48-acre Morrow participating area which is the resultant unit area.

Federal lands remaining within the contracted unit area are embraced in the following leases:

NM 3622	NM 4315*	NM 6870*
NM 3623	NM 6868*	NM 12006
NM 4314*	NM 6869	NM 23015

* Indicates leases which cover lands inside the unit area, as well as lands eliminated from the unit area.

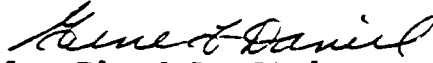
No lease has been entirely eliminated from the unit area.

The initial Morrow participating area was effective October 12, 1973, which set the date of October 12, 1978 when automatic contraction provisions of Section 2(e) became operative. Since diligent drilling operations were in progress on nonparticipating lands on October 12, 1978 the automatic elimination provisions were extended for so long as drilling operations were continued diligently, with not more than 90 days time elapsing between the completion of one well and the commencement of the next well. Our records show that well No. 2 was completed on June 2, 1979 which set September 1, 1979 as the automatic elimination date.

We hereby concur with your description of lands automatically eliminated from the Pipeline Deep unit agreement effective September 1, 1979. You have complied with the requirement of

Section 2(e) to our satisfaction, provided you notify all parties in interest. Enclosed is one copy of the approved notification.

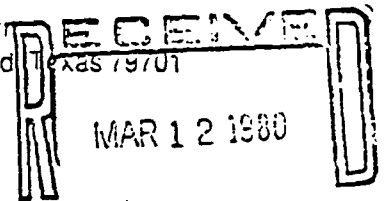
Sincerely yours,


for Floyd L. Stelzer
Acting Deputy Conservation
Manager
Oil and Gas

Enclosure

AA Lopez:gsh:8/11/80

Union Oil Company of California
500 North Marientfeld, Midland, Texas 79701
Telephone (915) 682-9731



union 76

U.S. GEOLOGICAL SURVEY
ALBUQUERQUE, NEW MEXICO

March 5, 1980

Midland District

Director U.S. Geological Survey
Department of the Interior
Washington, D. C. 20025

Attn: Supervisor U.S. Geological Survey
P. O. Box 26124
Albuquerque, New Mexico 87125

Dear Sir:

Pipeline Deep Unit
Lea County, New Mexico
N. 14-08-0001-12402
Automatic Contraction to Pipeline
Deep Participating Area
Effective September 1, 1979

Pursuant to Subsection 2(e) of the Pipeline Deep Unit Agreement, approved by the Supervisor of the United States Geological Survey July 26, 1973, Union Oil Company of California, as Unit Operator, submits for your approval the following description of lands eliminated from said Agreement as a result of the automatic contraction of the Unit, effective as of September 1, 1979:

<u>Township 19 South, Range 34 East</u>	<u>Acres</u>
Section 5: Lots 1,2,3,4, S/2 N/2, S/2, being the entire Section	659.52
Section 6: Lots 1,2,3, and 4	178.76
Section 7: Lot 2, SE/4 NW/4, SW/4 NE/4	118.22
Section 8: NE/4, NW/4, SE/4	480.00
TOTAL (All Federal Land)	<u>1,436.50</u>

Attached and also submitted for your approval are revised Exhibits "A" and "B" for the Final Pipeline Deep Unit, as contracted.

Cont'd. next pg.-

Applicant respectfully requests approval of the elimination, effective as of September 1, 1979, of the above described lands from the Pipeline Deep Unit Agreement and also requests approval of the attached revised Exhibits "A" and "B" for the Final Pipeline Deep Unit, as contracted. Upon receipt of such approval, we shall send appropriate notification of the foregoing to all other parties in interest as required by Subsection 2(e) of the Unit Agreement.

Very truly yours,

UNION OIL COMPANY OF CALIFORNIA

By: John Hansen
Attorney-in-Fact

IA

/ib

Attach: 6

Approved 13 AUG 1980

James C. Daniel
Deputy Conservation Manager, O&G
South Central Region

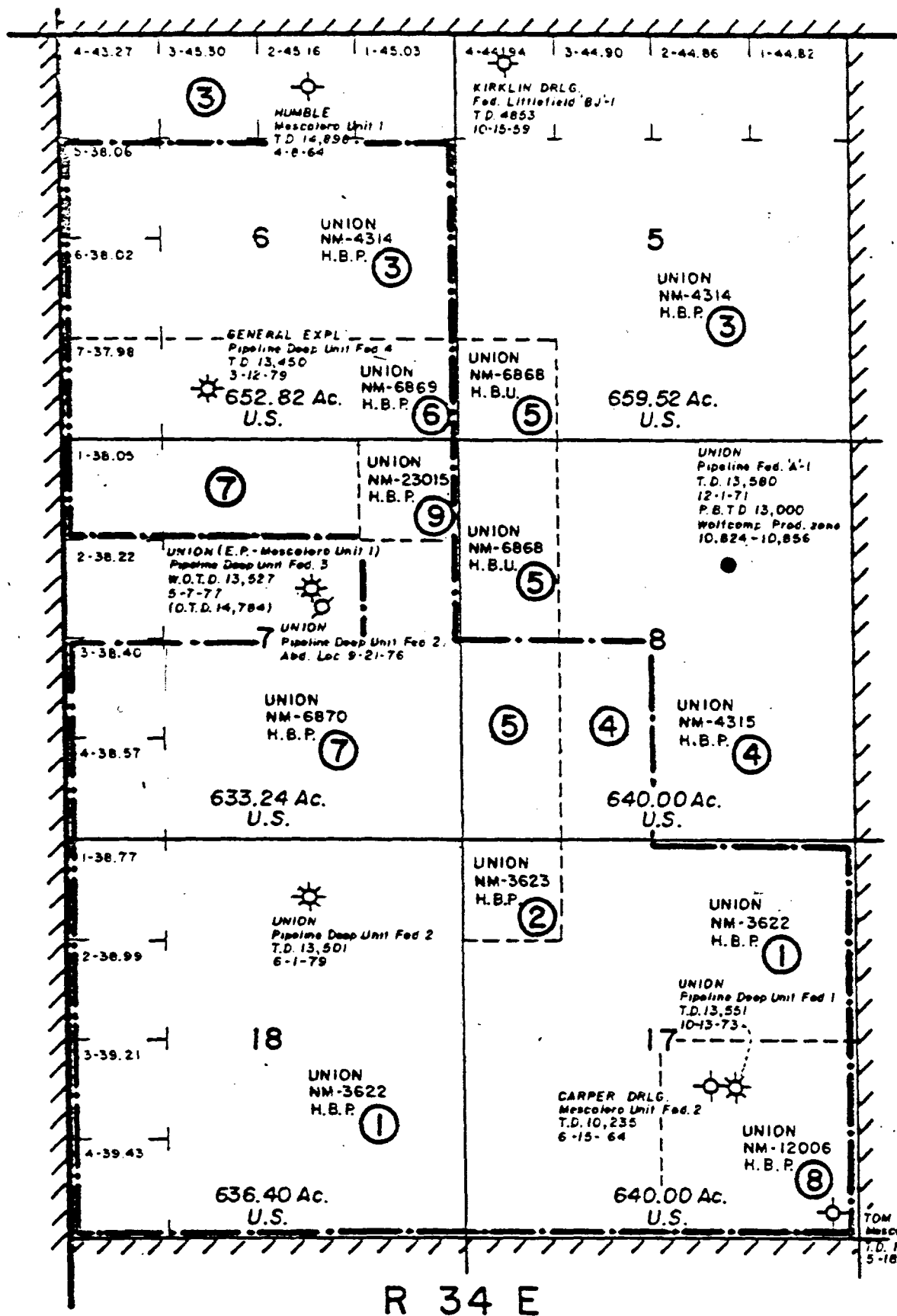
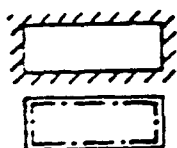


EXHIBIT "A" - (REVISED)

LAND OWNERSHIP MAP - PIPELINE DEEP UNIT

(AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979)

LEA COUNTY, NEW MEXICO



ORIGINAL UNIT BOUNDARY

REVISED UNIT BOUNDARY & PARTICIPATING AREA

②

TRACT NUMBER-INDEX TO EXHIBIT "B"

SCALE: 1" = 2000'

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

TRACT	DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
FEDERAL LANDS							
Sec. 17:	NE/4, E/2 NW/4, 1076.40 SW/4 NW/4, SW/4		NM-3622 12-31-79	USA - All (12.5%)	Union Oil Company of California	Easton E. Brodsky 5%	Union: All
Sec. 18:	Lots 1,2,3,4, E/2, E/2 W/2						
Sec. 17:	NW/4 NW/4	40.00	NM-3623 10-31-77	USA - All (12.5%)	Union Oil Company of California	Lucretia G. Goldsmith 5%	Union: All
Sec. 6:	Lots 5,6, S/2 NE/4, SE/4 NW/4, NE/4 SW/4, N/2 SE/4	316.08	NM-4314 1-31-78	USA - All (12.5%)	Union Oil Company of California	Wm. A.Jurkiewicz 3%	FROM SURFACE TO 13,245 FEET Sunmark Expl. Company .1416750
							Martin B. Sereteen .0244043
							B. Jackson Bandy .0244043
							Gifford E. Joseph .0069726
							Kenal Oil & Gas, Inc. .0150563
							Frank O. Elliott Living Trust .0619828

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
FEDERAL LANDS -- (Continued)						
					FROM SURFACE TO 13,245 FEET	
					Edna Ione Hall/ Living Trust .0619828	
					McKay Oil Corp .0212513	
					Resource Part- ners .0070837	
					C&K Petroleum, Inc. .0070837	
					Frederick H. Prince .0354188	
					Robert E. Landreth .0177094	
					C.W. Trainer .0333334	
					David M. Trainer .0333333	
					Marvin C. Gross .0333333	

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
FEDERAL LANDS - (Continued)						
Sec. 8: E/2 SW/4	80.00	NM-4315 1-31-78	USA - All (12.5%)	Union Oil Company of California	Ray O.Traylor 3.33% Tom Hoover 1.67%	Union 90.44296%
Sec. 8: W/2 SW/4	80.00	NM-6868 7-31-73	USA - All (12.5% to 25%)	Union Oil Company of California	None	Union 90.44296%
Sec. 6: Lot 7, SE/4 SW/4, S/2 SE/4	157.98	NM-6869 7-31-73	USA - All (12.5% to 25%)	Union Oil Company of California	None	Union 90.44296%
FROM SURFACE TO 13,245 FEET						Stephen A. Wells .0708375
						Charles E. Nearburg .0708375
						Union Oil Co. of California .3333000
						BELOW 13,245 FEET
						Union: All
						Getty 9.55704%
						Getty 9.55704%
						FROM SURFACE TO 13,245 FEET
						Sunmark Explo. Company .1416750

REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES	WORKING INT. AND PERCENTAGE
FEDERAL LANDS - (Continued)						
FROM SURFACE TO 13,245 FEET						
Martin B. Sereteen .0244043						
B. Jackson Bandy .0244043						
Clifford E. Joseph .0069726						
Kenal Oil & Gas, Inc. .0150563						
Frank O. Elliott Living Trust .0619828						
Edna Ione Hall Living Trust .0619828						
McKay Oil Corp .0212513						
Resource Part- ners .0070837						

REVISED EXHIBIT "D"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

DESCRIPTION OF LAND	NUMBER OF ACRES	SERIAL NO. & EXPIRATION DATE OF LEASE	BASIC ROYALTY AND OWNERSHIP PERCENTAGE	LESSEE OF RECORD	OVERRIDING ROYALTY OR PRODUCTION PAYMENT & PERCENTAGES		WORKING INT. AND PERCENTAGE	

FEDERAL LANDS - (Continued)

FROM SURFACE
TO 13,245 FEET

C&K Petroleum,
Inc.
.0070837

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REVISED EXHIBIT "B"
PIPELINE DEEP UNIT AREA - LEA COUNTY, NEW MEXICO
TOWNSHIP 19 South, Range 34 East
AS CONTRACTED EFFECTIVE SEPTEMBER 1, 1979

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FEDERAL LANDS - (Continued)						
Sec. 7: Lots 1,3,4, NE/4 NW/4, NW/4 NE/4, SE/4 NE/4, E/2 SW/4, SE/4	475.02	NM-6870 7-31-73	USA - All (12.5% to 25%)	Union Oil Company of California	None	BELOW 13,245 FEET Union: All
Sec. 17: SE/4	160.00	NM-12006 8-31-75	USA - All (12.5% to 25%)	Union Oil Company of California 50% Getty Oil Company 50%	None	Union: 50% Getty: 50%
Sec. 7: NE/4 NE/4	40.00	NM-23015 1-31-79	USA - All	Union Oil Company of California	None	Union: All

Nine (9) Federal Tracts 2,425.48 acres



United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
P. O. Box 26124
Albuquerque, New Mexico 87125

25 FEB 1980

Union Oil Company of California
Attention: Mr. Richard R. Oelze
P. O. Box 671
Midland, Texas 79702

RECEIVED

FEB 26 1980

Gentlemen:

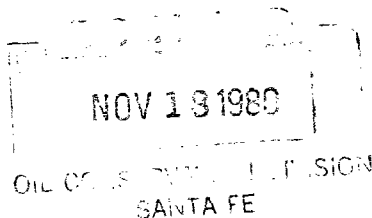
MIDLAND DISTRICT LAND

Your application dated September 26, 1979 requesting approval of the second revision of the Morrow participating area, Pipeline Deep unit agreement, Lea County, New Mexico, was approved by the Oil and Gas Supervisor, U.S. Geological Survey, effective June 2, 1979.

The second Morrow participating area adds 1,113.37 acres to the existing participating area for a total of 2,425.48 acres. Such participating area is based on the completion of unit well No. 2 in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ of sec. 18, T. 19 S., R. 34 E., N.M.P.M. Well No. 2 was completed on June 2, 1979 and determined to be commercial as a paying well pursuant to section 9 of the unit agreement by letter of September 6, 1979.

Copies of the approved application are being distributed to the appropriate Federal offices and one copy is returned herewith. You are requested to furnish all interested parties with evidence of this approval.

Our records show that the initial Morrow participating area for the Pipeline Deep unit agreement was established effective October 13, 1973. This effective date set the date of October 12, 1978 as the time when the automatic elimination provision contained in section 2(e) of the subject unit agreement became operative. Drilling operations were in progress on the unitized land within the Pipeline Deep unit area outside the approved participating area on October 12, 1978. Therefore, automatic elimination was deferred so long as such drilling operations were continued diligently with not more than ninety days elapsing between the completion of one well and the commencement of the next well. On



ONE HUNDRED YEARS OF EARTH SCIENCE IN THE PUBLIC SERVICE



June 2, 1979 well No. 2 was completed and no further drilling operations were commenced within ninety days, therefore, all unit nonparticipating lands were automatically eliminated effective September 1, 1979.

As unit operator you are required to submit to this office within ninety days a description of lands so eliminated with appropriate revised exhibits A and B.

Sincerely yours,

for Jack Willock

James W. Sutherland
Oil and Gas Supervisor, SRMA

Enclosure

Copy: John Hansen 2/28/80

Pipeline Deep Unit Area
Lea County, New Mexico

Application for
approval of the
second
revision of the
participating area
of the Morrow
formation.

Supervisor
United States Geological Survey
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Jack Willock
Acting Oil and Gas Supervisor, SRMA

Union Oil Company of California, as unit operator for the Pipeline Deep unit agreement, approved by the Regional Conservation Manager of the U. S. Geological Survey, effective July 23, 1973, pursuant to the provisions of section 11 thereof, respectfully submits for your approval the selection of the following described land to constitute the Second revision of the participating area for the Morrow producing zone or formation, to wit:

Township 19 South, Range 34 East, N.M.P.M.
Section 7: Lots 3 & 4; E/2 SW/4; SE/4
Section 8: SW/4
Section 18: All
Containing 1,113.37 acres, more or less

In support of this application the following numbered items are attached hereto and made a part hereof:

(1) An ownership map marked Exhibit "A" showing thereon the boundary of the unit area, the participating area as heretofore established, and the boundary of the proposed revision herein.

(2) A schedule showing the lands entitled to participation in the unitized substances produced from the Morrow formation, with the percentages of participation of each lease or tract indicated thereon.

Applicant is submitting separately in triplicate a geological report with accompanying maps supporting and justifying the proposed selection of the Second revision of the participating area.

This proposed Second revision of the participating area is predicated upon the knowledge and information first obtained upon completion in paying quantities under the terms of the unit agreement on June 2, 1979, of unit well No. 2 in NW/4 NE/4, Section 18, T-19-S, R-34-E, with an initial production of CAOF 6.080 MMCF/D plus 68.5 BCPMCFG from the Morrow formation at a depth of 13,388 to 13,402 feet. The well went on stream at 10:00 a.m. September 24, 1979, and produced 875 MCF/D plus 150 B/D of condensate. For the day ending September 25, 1979, the well produced 1600 MCF/D plus 140 B/D of condensate, flowing tubing pressure of 2500 PSIG. The effective date of this Second revision shall be June 1, 1979, pursuant to section 11 of the unit agreement.

Consequently, applicant respectfully requests your approval of the herein above selection of lands to constitute the Second revision of the participating area to be effective June 1, 1979.

Dated this 26th day of September, 1979.

APPROVED 25 FEB 1980

for Jack Willock
AREA OIL AND GAS SUPERVISOR, SRMA
U.S. GEOLOGICAL SURVEY

UNION OIL COMPANY OF CALIFORNIA

by: Robert V. Lockhart
Robert V. Lockhart
District Land Manager

EXHIBIT "B"
SECOND REVISION MORROW FORMATION
PARTICIPATING AREA
PIPELINE DEEP UNIT AGREEMENT
LEA COUNTY, NEW MEXICO

TRACT NO.	LEASE NO.	DESCRIPTION	PARTICIPATING ACRES	PERCENT OF PARTICIPATION	WORKING INTEREST OWNER
All Lands are in T-19-S, R-34-E, N.M.P.M.					
1	NM-3622	Sec 17: NE/4, E/2 NW/4, SW/4 NW/4, SW/4	1,076.40	44.378845	Union Oil Co. of California
		Sec 18: Lots 1, 2, 3, & 4 E/2 W/2, E/2			
2	NM-3623	Sec 17: NW/4 NW/4	40.00	1.649158	Union Oil Co. of California
3	NM-4314	Sec 6: Lots 5 & 6 S/2 NE/4, N/2 SE/4, NE/4 SW/4, SE/4 NW/4	316.08	13.031647	Union Oil Co. of California
4	NM-4315	Sec 8: E/2 SW/4	80.00	3.298316	Union Oil Co. of California
5	NM-6868	Sec 8: W/2 SW/4	80.00	3.298316	Union Oil Co. of California
6	NM-6869	Sec 6: Lot 7, SE/4 SW/4, S/2 SE/4	157.98	6.513350	Union Oil Co. of California
7	NM-6870	Sec 7: Lots 1, 3 & 4, NE/4 NW/4, NW/4 NE/4, SE/4 NE/4, E/2 SW/4, SE/4	475.02	19.584577	Union Oil Co. of California
8	NM-12006	Sec 17: SE/4	160.00	6.596633	Union Oil Co. of California <i>Getty Oil Co.</i>
9	NM-23015	Sec 7: NE/4 NE/4	40.00	1.649158	Union Oil Co. of California
			2,425.48	100.000000	

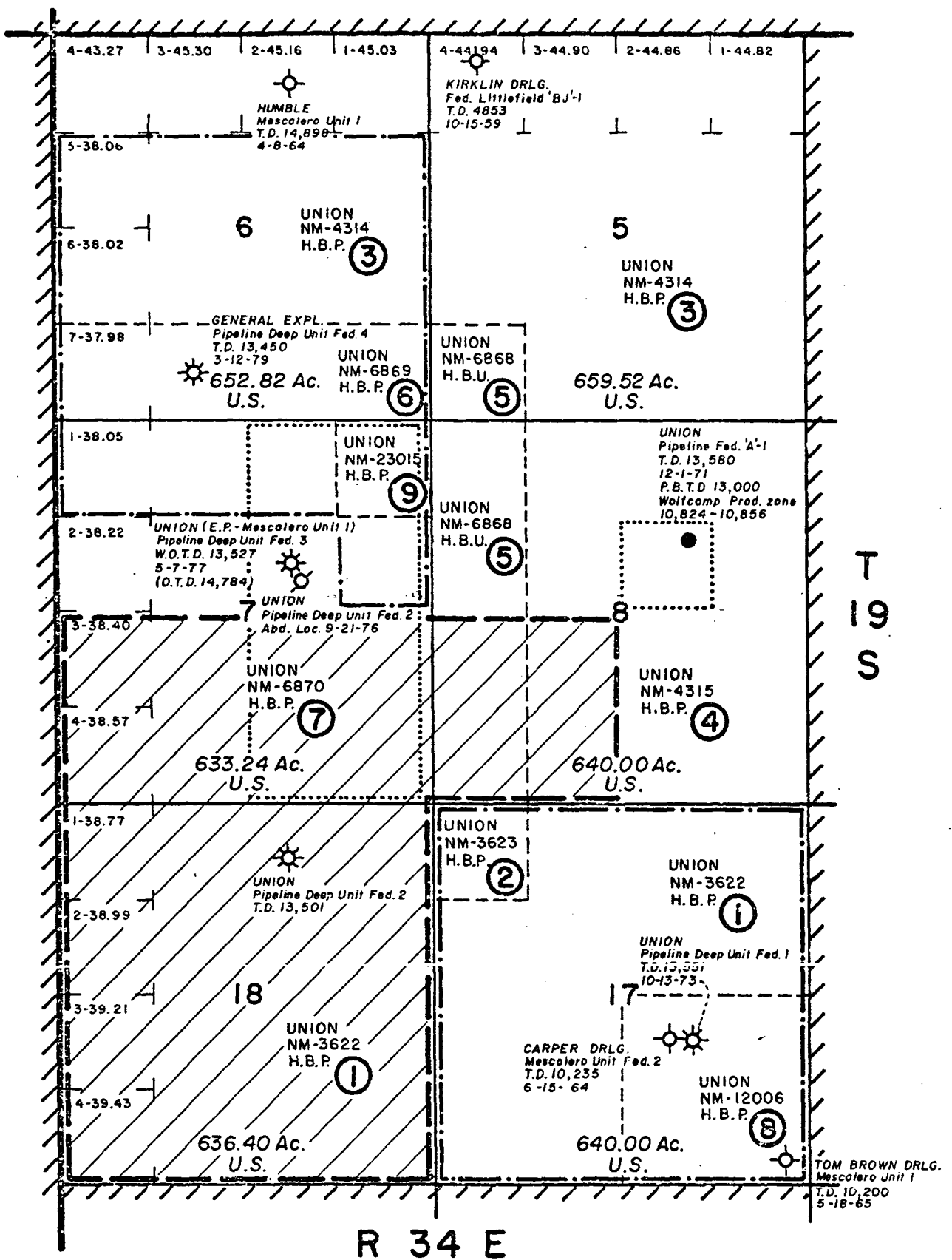
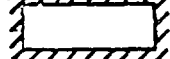





EXHIBIT "A"

LAND OWNERSHIP MAP - PIPELINE DEEP UNIT

LEA COUNTY, NEW MEXICO

SCALE: 1" = 2000'

-  UNIT BOUNDARY-ALL FEDERAL LANDS-3861.98 Ac. — (5) TRACT NUMBER
-  EXISTING PARTICIPATING AREA-PIPELINE DEEP UNIT FED. No. 1 & No. 4 (effective March 1, 1979)
-  EXISTING PRORATION UNITS - NON UNIT WELLS
-  PROPOSED PARTICIPATING AREA-PIPELINE DEEP UNIT FED. No. 2

PIPELINE DEEP UNIT
LEA COUNTY, NEW MEXICO

Participating Area for Production from the Pipeline Deep Unit Federal Well No. 2 from the Morrow Formation, Quail Ridge Morrow Gas Pool, Lea County, New Mexico

GEOLOGICAL REPORT

The Union Oil Company of California No. 2 Pipeline Deep Unit Federal well in Unit B, 660 feet from the north line and 1980 feet from the east line of section 18, Township 19 south, Range 34 east, Lea County, New Mexico, was drilled to a total depth of 13,501 feet which penetrated the entire Morrow section of the Pennsylvanian. Subject well was completed June 1, 1979 from the Morrow formation for CAOF 6,080 MCF gas per day with a gas liquid hydrocarbon ratio of 14.583 MCF per barrel.

Formation tops on subject well as follows (elevation 3,757 DF):

Rustler	1,614
Yates	3,257
Queen	4,360
San Andres	5,053
Delaware	5,740
Bone Spring	7,840
Wolfcamp	10,806
Cisco	11,806
Canyon	11,996
Strawn	12,096
Atoka	12,353
Morrow	12,842
Lower Morrow	13,334
Mississippian	13,454

Gas production in the No. 2 Pipeline Deep Unit Federal well is from perforations 13,388 to 13,402 feet in a lower Morrow sand. The accumulation appears to be controlled both by structure and stratigraphy.

The reservoir rock is a tan, coarse-grained, quartz sand. Some kaolinite particles were observed in the cuttings. A total of 40 feet of clean sand is present in the lower Morrow being in two units of 30 feet and 10 feet. Porosity calculations from wireline logs range up to 13.5 percent. Shut in bottom hole pressure is 6,184 psi at 13,318 feet.

Subject well ran 8 feet high to the No. 3 Pipeline Deep Unit Federal well located approximately 3/4 mile to the north and ran 46 feet high to the No. 1 Pipeline Deep Unit Federal well located approximately 1-1/4 mile to the southeast. Subject well is located on the west flank of the Pipeline Deep structure approximately 100 feet below the crest.



J. B. Jordan
Area Development Geologist
Union Oil Company of California



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Box 26124
Albuquerque, New Mexico 87125

RECEIVED

SEP 9 1979

MIDLAND DISTRICT LAND

SEP 06 1979

Union Oil Company of California
Attention: Mr. Robert V. Lockhart
P. O. Box 671
Midland, Texas 79702

Gentlemen:

Your letter of June 20, 1979, indicates that as unit operator of the Pipeline Deep unit agreement, Lea County, New Mexico, you have determined that unit well No. 2 in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ section 18, T. 19 S., R. 34 E., N.M.P.M., is capable of producing unitized substances in paying quantities.

Unit well No. 2 was tested on June 2, 1979, from the Morrow interval 13,388 to 13,402 feet for a CAOF of 6.080 MMCF/D plus 68.5 barrels of condensate.

This office concurs with your determination that such well is capable of producing unitized substances in paying quantities from the Morrow formation pursuant to section 9 of the unit agreement. You are also requested, pursuant to section 11 of the unit agreement, to submit an application for the revision of the existing Morrow participating area at your earliest convenience.

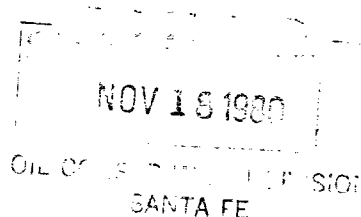
Sincerely yours,

Jack Willock
Acting Oil and Gas Supervisor, SRMA

Enclosure

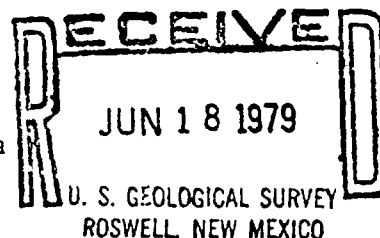


Copy: Contracts



In Re: Pipeline Deep Unit Area
Lea County, New Mexico

Application for
approval of the
Second ~~first~~
revision of the
participating area
of the Morrow
formation.



Supervisor
United States Geological Survey
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Jack Willock
Acting Oil and Gas Supervisor, SRMA

Union Oil Company of California, as unit operator for the Pipeline Deep unit agreement, approved by the Regional Conservation Manager of the U. S. Geological Survey, effective July 26, 1973, pursuant to the provisions of section 11 thereof, respectfully submits for your approval the selection of the following described land to constitute the ~~Second~~ ^{first} revision of the participating area for the Morrow producing zone or formation, to wit:

Township 19 South, Range 34 East, N.M.P.M.
Section 6: Lots 5, 6 & 7; S/2 NE/4; SE/4;
E/2 SW/4; and SE/4 NW/4
Section 7: Lot 1; NE/4 NW/4; N/2 NE/4;
and SE/4 NE/4,
Containing 672.11 acres, more or less

In support of this application the following numbered items are attached hereto and made a part hereof:

(1) An ownership map marked Exhibit "A" showing thereon the boundary of the unit area, the participating area as heretofore established, and the boundary of the proposed revision herein.

(2) A schedule showing the lands entitled to participation in the unitized substances produced from the Morrow formation, with the percentages of participation of each lease or tract indicated thereon.

(3) Xerox copies of the New Mexico Oil Conservation Commission Operator's Monthly Report Form C-115 for the months of March and April, 1979.

Applicant is submitting separately in triplicate a geological report with accompanying maps supporting and justifying the proposed selection of the ~~Second~~ ^{first} revision of the participating area.

This proposed ~~Second~~ ^{first} revision of the participating area is predicated upon the knowledge and information first obtained upon completion in paying quantities under the terms of the unit agreement on March 12, 1979, of unit well No. 4, in SE/4 SW/4, Sec. 6, T-19-S, R-34-E, with an initial production of AOF 2918 MCF/GPD (with a gas/liquid hydrocarbon ratio of 153.77 MCF/bbl of condensate) from the Morrow formation at a depth of 13,065 to 13,245 feet. The effective date of this ~~Second~~ ^{first} revision shall be March 12, 1979, pursuant to section 11 of the unit agreement. ~~first~~

Consequently, applicant respectfully requests your approval of the herein above selection of lands to constitute the ~~Second~~ ^{first} revision of the participating area to be effective March 12, 1979.

Dated this 14th day of June, 1979.

UNION OIL COMPANY OF CALIFORNIA

by: Robert V. Lockhart
Robert V. Lockhart
District Land Manager

APPROVED

Jack Willock
SEP 08 1979

ACTING AREA OIL AND GAS SUPERVISOR, SRMA
U.S. GEOLOGICAL SURVEY

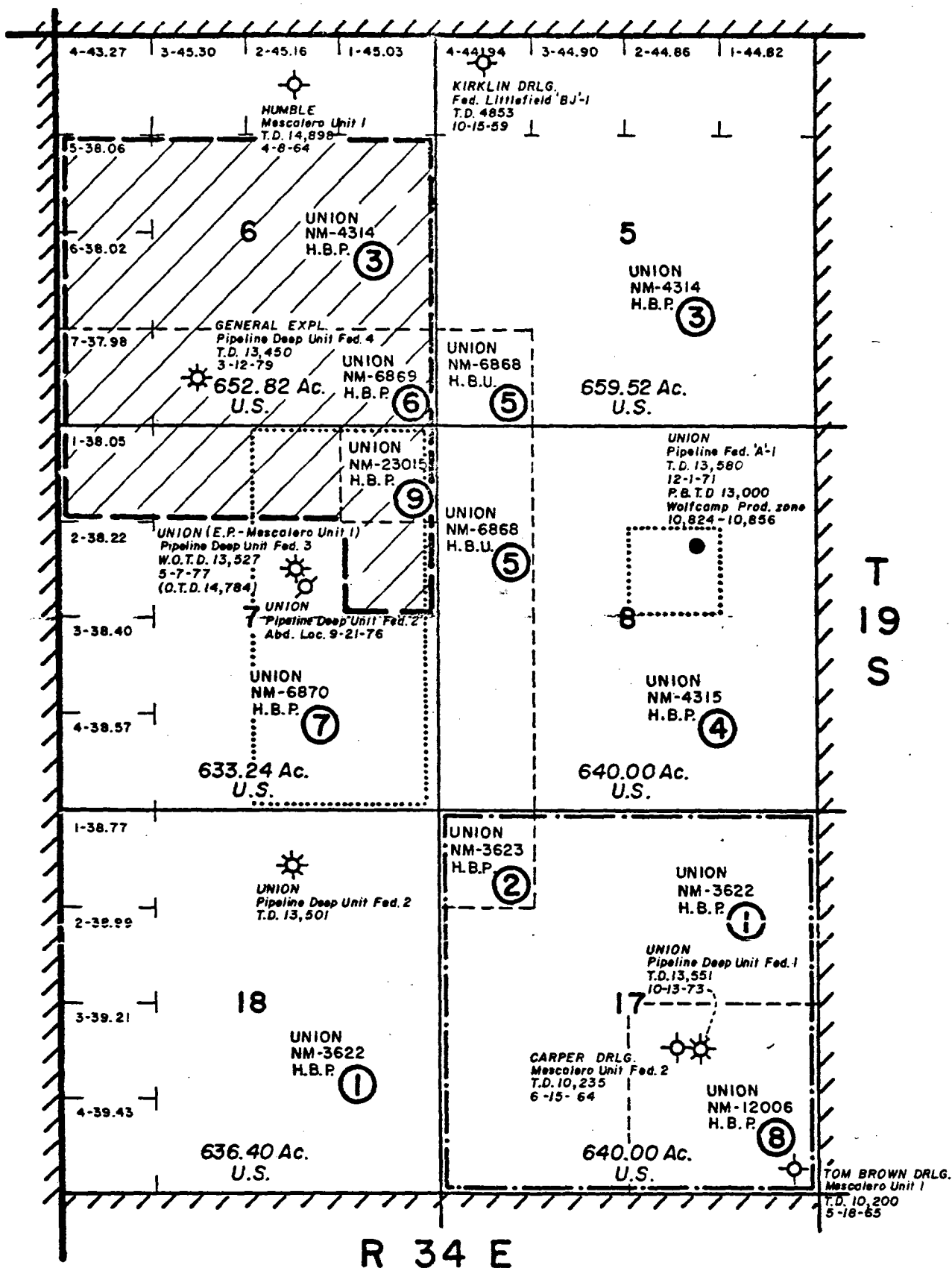


EXHIBIT "A"

LAND OWNERSHIP MAP - PIPELINE DEEP UNIT
LEA COUNTY, NEW MEXICO
SCALE: 1" = 2000'

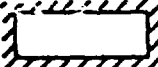

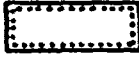

-  UNIT BOUNDARY-ALL FEDERAL LANDS-3861.98 Ac — (5) TRACT NUMBER
-  EXISTING PARTICIPATING AREA-PIPELINE DEEP UNIT FED. No. 1
-  EXISTING PRORATION UNITS - NON UNIT WELLS
-  PROPOSED PARTICIPATING AREA-PIPELINE DEEP UNIT FED. No. 4

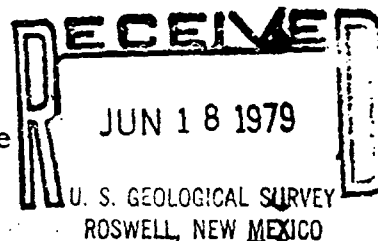
EXHIBIT "B"
FIRST REVISION MORROW FORMATION
PARTICIPATING AREA
PIPELINE DEEP UNIT AGREEMENT
LEA COUNTY, NEW MEXICO

TRACT NO.	LEASE NO.	DESCRIPTION	PARTICIPATING ACRES	PERCENT OF PARTICIPATION	WORKING INTEREST OWNER
		All Lands are in T-19-S, R-34-E, N.M.P.M.			
1	NM-3622	Sec. 17: NE/4, E/2 NW/4, SW/4 NW/4, SW/4	440.00	33.53377	Union Oil Company of California
2	NM-3623	Sec. 17: NW/4 NW/4	40.00	3.04853	Union Oil Company of California
3	NM-4314	Sec. 6: Lots 5&6, S/2 NE/4, N/2 SE/4, NE/4 SW/4, SE/4 NW/4	316.08	24.08944	Union Oil Company of California
6	NM-6869	Sec. 6: Lot 7, S/2 SE/4 SE/4 SW/4	157.98	12.04015	Union Oil Company of California
7	NM-6870	Sec. 7: Lot 1, NE/4 NW/4, NW/4 NE/4, SE/4 NE/4	158.05	12.04548	Union Oil Company of California
8	NM-12006	Sec. 17: SE/4	160.00	12.19410	Union Oil Company of California
9	NM-23015	Sec. 7: NE/4 NE/4	40.00	3.04853	Getty Oil Co. Union Oil Company of California
			1,312.11	100.00000	

June 6, 1979

PIPELINE DEEP UNIT
LEA COUNTY, NEW MEXICO

Participating Area for production in the Pipeline Deep Unit No. 4 well from the Morrow formation, Quail Ridge North Morrow Gas pool, Lea County, New Mexico.



GEOLOGICAL REPORT

Morrow production was established from the Union Oil Company of California (General Exploration Company) #4 Pipeline Deep Unit Federal well in Unit N, 660 feet from the south line and 1980 feet from the west line of Section 6, Township 19 south, Range 34 east, Lea County, New Mexico. Subject well was drilled to a total depth of 13,450 feet. It was completed for C.A.O.F. of 5,700 MCF of gas per day on March 12, 1979.

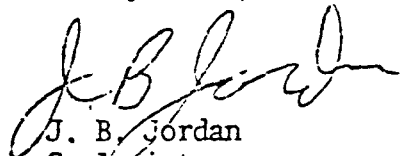
Formation tops on subject well as follows: (Elevation 3800'DF)

Rustler	1,567'
Yates	3,159'
Queen	4,435'
San Andres	5,065'
Delaware	5,783'
Bone Spring	7,550'
Wolfcamp	10,723'
Cisco	11,773'
Canyon	11,960'
Strawn	12,060'
Atoka	12,317'
Morrow	12,823'
Lower Morrow	13,301'

Gas production in the #4 Pipeline Deep Unit Federal well is from selected perforations between 13,065' and 13,245' in the Middle Morrow. The trapping mechanism appears to be controlled by both stratigraphy and structure (see enclosed structure map). The structure map is contoured at 50 foot intervals on top of the Lower Morrow sand. Scale of map is 1" = 2,000'. Producing horizons are color coded.

The reservoir consists of three white to tan coarse to fine grained sands separated by shale streaks within a gross interval of 180 feet in the Middle Morrow. Forty-five feet of net porosity is present which ranges from 7 to 12%. A 43 hour shut-in bottom hole pressure of 6,474 psig was recorded at 13,155 feet.

Subject well ran 115 feet high to the dry hole in the NE/4 of Section 6 and ran 96 feet high to the well in the NE/4 of Section 7. This is the highest well on the Pipeline Deep Unit structure. Isopach mapping of the porosity within the zones of the Morrow indicate that the porosity trends in a north-west-southeast direction.


J. B. Jordan
Geologist
Union Oil Company of California

JBj/skp

4219 Sigma Rd., Dallas, Texas:

75234

March 1979

Page 1 of 1

1. NAME (Underline) *Lease Name UNIT NO UNIT SEC TYP RNC	2. WELL STATUS	3. INJECTION		4. TOTAL LIQUIDS PRODUCED			5. GAS PRODUCED (MCF)	6. DAYS PROD.	7. DISPOSITION OF GAS			8. DISPOSITION OF OIL				
		VOLUME	PRESS.	MONTHLY OIL ALLOWABLE	ACTUAL BARRELS PRODUCED	BARRELS OF WATER PRODUCED			SOLD	TRANS-PORTER	OTHER	OIL ON HAND AT BEG. OF MONTH	BARRELS TO TRANS-PORTER	TRANS-PORTER	OTHER	OIL ON HAND AT END OF MONTH
Indesignated Pipeline Deep Unit #4 SA NM 6869	F			N/A	2544	21	19420	15	19420	EPHC			0	2048	Have	496

STATUS CODE

F.....FLOWING

P.....PUMPING

G.....GAS LIFT

S.....SHUT IN

T.....TEMP ABANDONED

I.....INJECTION

OTHER- GAS DISPOSITION CODE

N.....USED OFF LEASE

O.....USED FOR DRILLING

C.....GAS LIFT

L.....LOST (MCF ESTIMATED)

E.....EXPLANATION ATTACHED

R.....REPRESSURING OR

OTHER- OIL DISPOS. T. ON CODE

C.....CIRCULATING OIL

L.....LOST

S.....SEGMENTATION (BSCV)

E.....EXPLANATION ATTACHED

I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

Shelia J. Seltz

Production Secretary

Page 1 of 1

L NAME (Underline) *Lease Name CL MO UNIT SEC TYP RNG	WELL STATUS	INJECTION		TOTAL LIQUIDS PRODUCED		GAS PRODUCED (MCF)	DAYS PROD.	DISPOSITION OF GAS		DISPOSITION OF OIL									
		VOLUME	PRESS.	MONTHLY OIL ALLOWABLE	ACTUAL BARELS PRODUCED			BARELS OF WATER PRODUCED	SOLD	TRANS POR-TER	OTHER	C O D E	OIL ON HAND AT BEG. OF MONTH	BARELS TO TRANS-PORTER	TRANS POR-TER	OTHER	C O D E	OIL ON HAND AT END OF MONTH	
Designated peline Deep Unit A NM 6869 N6 19S 34E	F			N/A	6730	38	62,524	80	62,524	EPNG			496	7024	Navejo		202		
yield = 108 bbl/mm.																			
STATUS CODE F.....FLOWING P.....PUMPING G.....GAS LIFT S.....SHUT IN T.....TEMP ABANDONED I.....INJECTION D.....DISCONTINUED		OTHER - GAS DISPOSITION CODE X.....USED OFF LEASE O.....USED FOR DRILLING L.....GAS LIFT E.....LOST (MCF ESTIMATED) R.....EXPLANATION ATTACHED N.....REPRESSURING OR P.....PRESSURE MAINTENANCE V.....VENTED						OTHER - OIL DISPOSITION CODE C.....CIRCULATING OIL L.....LOST S.....SEDIMENTATION (BS&W) E.....EXPLANATION ATTACHED						I HEREBY CERTIFY THAT THE INFORMATION GIVEN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE Sheila J. Seitz Production Secretary (6611) (b6) 5-18-79					