

#9231

RECEIVED

MAY 13 2003

OIL CONSERVATION
DIVISION

PATRICK H. LYONS
COMMISSIONER

State of New Mexico
Commissioner of Public Lands

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

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766
www.nmstatelands.org

May 8, 2003

Apache Corporation
2000 Post Oak Boulevard
Suite 100
Houston, Texas 77056-4400

Attn: Ms. Jackie Chessher

Re: Northeast Drinkard Unit
Phase II Gas Interest Conversion
Lea County, New Mexico

Dear Ms. Chessher:

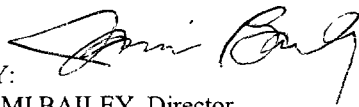
We are in receipt of your letter of March 6, 2003, together with the Oil and Gas Division Order for the Northeast Drinkard Unit.

It is our understanding that the Northeast Drinkard Unit Phase I gas participation will move to Phase II, effective January 1, 2003. The letter and division orders are accepted for record and have been filed as a part of the unit agreement.

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

Very truly yours,

PATRICK H. LYONS
COMMISSIONER OF PUBLIC LANDS

BY: 

JAMI BAILEY, Director
Oil/Gas and Minerals Division
(505) 827-5744

PL/JB/cpm

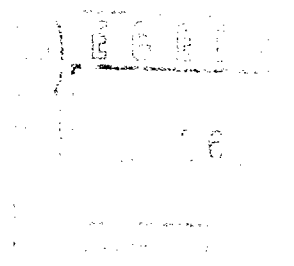
xc: Reader File

BLM

OCD

TRD

Royalty



State of New Mexico
Commissioner of Public Lands

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

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

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

January 21, 1998

Altura Energy Ltd.
P.O. Box 4294
Houston, Texas 77210-4294

Attn: Mr. WM. C. Irons

Re: Resignation/Designation of Successor Unit Operator
Northeast Drinkard Unit
Lea County, New Mexico

Dear Mr. Irons:

We are in receipt of your resignation/designation of successor unit operator, wherein Shell Western E & P Inc. has resigned as unit operator of the Northeast Drinkard Unit and designated Altura Energy Ltd. as the successor unit operator.

The Commissioner of Public Lands has this date approved the resignation of Shell Western E & P Inc. and the designation of Altura Energy Ltd. as the successor unit operator of this unit.

This change in operators is effective March 1, 1997. In accordance with this approval, Altura Energy Ltd. is now responsible for all operations and the reporting of all production from the unit. This approval is subject to like approval by the Bureau of Land Management.

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

Very truly yours,

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

A handwritten signature in cursive script, appearing to read "Jami Bailey".

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
xc: Reader File OCD-Roy Johnson TRD BLM Shell Western E & P Inc.

02D

Unit Name NORTHEAST DRINKARD UNIT (WATERFLOOD UNIT AGREEMENT)
 Operator SHELL WESTERN E & P INC.
 County LEA COUNTY, NEW MEXICO

STATUTORY UNITIZATION - WATERFLOOD UNIT AGREEMENT

DATE	OCC CASE NO.	9231	EFFECTIVE DATE	TOTAL ACREAGE	STATE	FEDERAL	INVENTORY-FEE	SEGREGATION CLAUSE	TERM
APPROVED	OCC ORDER NO.	R-8540							
OCD: 11/9/87	(Statutory Unitization)		11/10/87	4,937.71	1,669.12	708.67	2,560.00	Will extend all leases sharing from production	stat. uniti
BIM: 11/10/87									
CPL: October 30, 1987									

UNIT AREA

TOWNSHIP 21 SOUTH, RANGE 37 EAST

- Sec. 2: Lots 1 thru 16, S/2
- Sec. 3: Lots 1 thru 16, S/2
- Sec. 4: Lots 1,8,9,16
- Sec. 10: All
- Sec. 11: SW/4
- Sec. 14: NW/4
- Sec. 15: All
- Sec. 22: All
- Sec. 23: All

Unit Name
 Operator
 County

NORTHEAST DRINKARD UNIT
 SHELL WESTERN E & P, INC.
 LEA COUNTY, NEW MEXICO

STATE TRACT NO.	LEASE NO.	INSTI-TUTION	SEC.	TWP.	RGE.	SUBSECTION	DATE	RATIFIED	ACRES	ACREAGE	LESSEE
								ACRES	NOT RATIFIED		
2.	B-935-0	C. S.	10	21S	37E	SW/4, W/2SE/4, NE/4SE/4	9/9/87	280.00			Exxon Company
3.	B-1481-15	C. S.	15	21S	37E	S/2NW/4	8/13/87	80.00			Cities Service O&G
4.	B-1732-1	C. S.	2	21S	37E	Lots 1,2,7,8,9,10,15,16,SE/4	8/10/87	474.38			Chevron USA, Inc.
5.	B-9188-4	C. S.	15	21S	37E	S/2NE/4	6/19/87	80.00			Shell Western E&P
6.	B-9188-5	C. S.	10	21S	37E	SE/4SE/4					
7.	B-9745-2	C. S.	15	21S	37E	N/2N/2	9/21/87	200.00			Texaco, Inc.
8.	B-11349-0	C. S.	2	21S	37E	Lots 11,12,14,SW/4	6/19/87	280.00			Shell Western E&P
9.	B-11613-1	C. S.	10	21S	37E	W/2NW/4	8/6/87	80.00			Conoco, Inc.
			2	21S	37E	Lots 3,4,5,6,13	10/20/87	194.74			Southland Royalty

(MEXICO)

3-15-90

#9231



Shell Western E&P Inc.

A Subsidiary of Shell Oil Company

P.O. Box 576

Houston, TX 77001

NEW MEXICO OIL AND GAS DIVISION

90 MAR 15 AM 9 00

January 31, 1990

D-
UNIT LETTER
The
Ry

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1990 PLAN OF DEVELOPMENT AND 1989 REVIEW
~~NORTHEAST DRINKARD UNIT~~
LEA COUNTY, NEW MEXICO

Enclosed, in triplicate, is the 1990 Plan of Development and Review of 1989 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

J. H. Smitherman
Regulatory Supervisor
Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

Key:
See our telegram of
3-15-90 please find
Enclosure copy of our
1990 Plan of Development
for the subject unit.
J. H. Smitherman

NORTHEAST DRINKARD UNIT
REVIEW OF 1989 OPERATIONS

General

The injection and production facilities have been completed and are operating. Oil and gas production continue to exceed the initial (12/87) predicted rates.

Well Work

Oil Producers

Workovers have now been completed on 70 of the 91 oil producers.

Injectors

Thirty-six of the planned 37 injection wells have been worked on. Three of these wells (615W, 709W and 808W) will be converted to injectors when the CO-OP agreement with the Cone-Eubanks lease is approved. This CO-OP agreement was submitted to the NEDU WIO in December 1989.

Gas Producers

Six wells (201, 405, 602, 608, 710 and 920) have been completed in the NEDU Blinebry or Tubb gas zones. The initial test results from the Blinebry zones has been disappointing (0-65 MCFPD) and we are currently reviewing the overall gas well potential and development plans.

Water Source

One additional source well (820S) was completed in 1989. The combined average output from the current three San Andres source wells is in excess of 20,000 BWPD.

NORTHEAST DRINKARD UNIT BLINEBRY-TUBB-DRINKARD WATERFLOOD

1988 - 89 MONTHLY PRODUCTION AND INJECTION VOLUMES
(BBLS & MMCF)

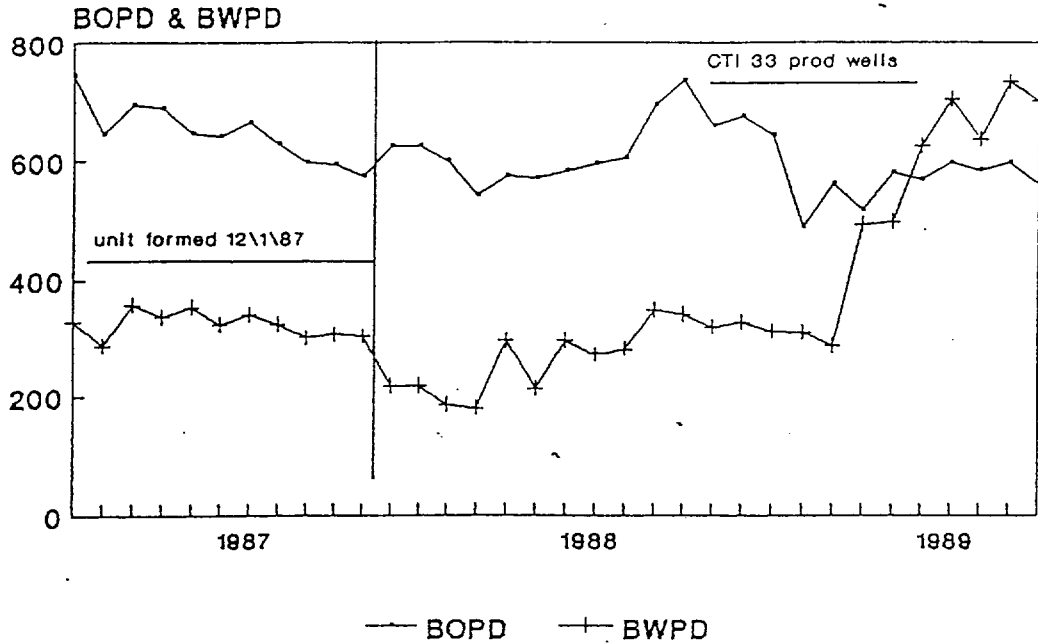
1988	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Prod Oil	19398	17421	16850	17270	17735	17549	18474	18800	20824	22804	19756	20805
Prod Gas	187	184	415	422	475	433	462	496	495	457	420	501
Prod Water	6789	5603	5610	8952	10407	8929	8485	8812	10509	10648	9624	9584
Inj Water	-	-	-	-	-	-	-	47139	149838	182352	264090	295135
<u>1989</u>												
Prod Oil	19942	13757	17437	15571	18048	17112	18536	18122	17941	17426	17500*	17500*
Prod Gas	421	344	398	343	392	385	425	387	395	387	390*	390*
Prod Water	9765	8773	8974	14856	15494	18755	21831	19649	21994	21711	22000*	22000*
Inj Water	428328	354965	402889	456652	621241	628985	728643	648893	527822	645975	650000*	650000*

CUMULATIVE VOLUMES AS OF 12-31-89
(BBLS & MMCF)

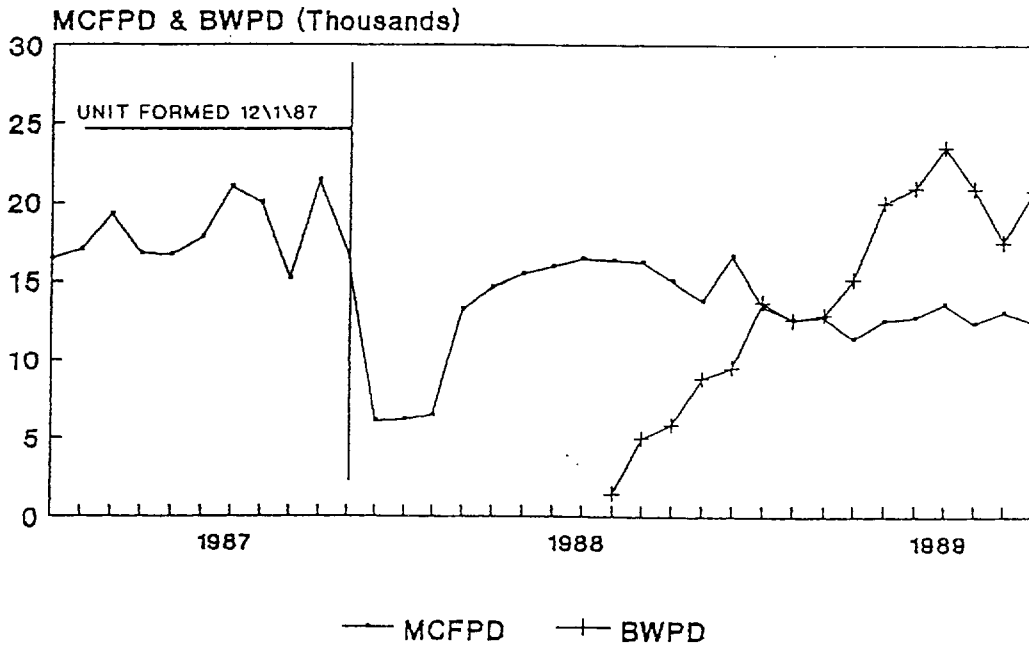
1.	From Discovery	
	Prod Oil	28,126,563
	Prod Gas	433,302
2.	From Unitization (12/1/87)	
	Prod Oil	455,948
	Prod Gas	9,790
	Prod Water	316,543
	Injected Water	6,614,510

* November & December 1989 volumes are estimates

NORTHEAST DRINKARD UNIT PERFORMANCE OIL & WATER (BBL\DAY)



NORTHEAST DRINKARD UNIT PERFORMANCE GAS PROD & WATER INJECTION



NORTHEAST DRINKARD UNIT
WELL STATUS AT END OF CALENDAR YEAR

<u>STATUS</u>	<u>YEAR-END 1988</u>	<u>YEAR-END 1989</u>
Producers	117	108
Injectors	20	33
Shut-In Prod	14	10
Shut-In Source	6	2
TA'd	0	3
Water Source	1	3
Disposal	0	0
	<hr/>	<hr/>
	158	159 (1)

- (1) Change in well count 1988-1989
(a) P&A 118
(b) added 920 (Arco Sarkeys #6)
(c) added 322w (Shell St Sec 2 #6)

NORTHEAST DRINKARD UNIT

WELL WORK 1988-1989

<u>TYPE OF OPERATION</u>	<u>NUMBER OF JOBS</u>	
	<u>1988</u>	<u>1989</u>
Oil Producers: Squeeze open gas intervals, open all oil intervals, and acid treat.	38	41
Injectors: Squeeze open gas intervals, open all oil intervals, acid treat, and convert to injection.	20	16
Water Source Wells: Abandon existing perfor- ations, open San Andres, and acid treat.	3	1
Gas Producers: Squeeze open oil intervals, open gas intervals, and acid treat.		6

NORTHEAST DRINKARD UNIT
1990 PLAN OF DEVELOPMENT

Well Work

The remaining well work to complete the initial (12/87) plans are:

1. Oil Wells

Twenty-one of the 91 unit oil wells have not been reconditioned. These wells will be worked on in 1990.

2. Injection Wells

Conversion of the final well (121W) of the initial 37 injection well plan is scheduled for 1990. This work has been deferred because it will require an extensive deepening operation.

3. Gas Wells

Based on initial plans, fourteen additional wells will need to be completed in the Blineby/Tubb gas zones. This number may change based on the result of the current gas zone study, but regardless of the outcome at least five additional gas wells will be completed in 1990.

4. Source Wells

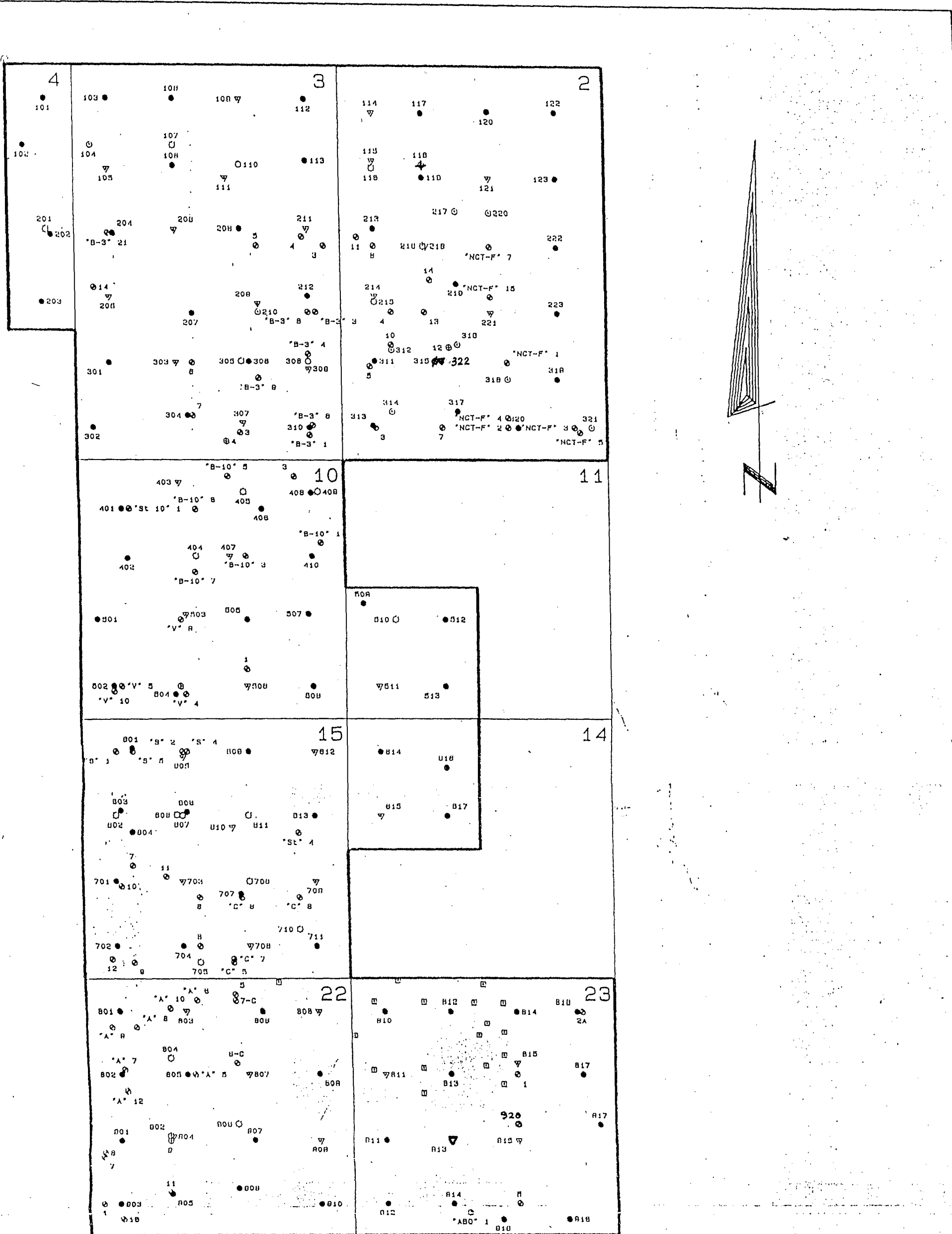
The two remaining San Andres water source wells (712S and 818S) will be worked on in 1990.

Drilling

A recommendation to drill NEDU 514 as a replacement for NEDU 501 will be submitted to the WIO during the first quarter 1990.

Peripheral Patterns w/CO-OP Injection

In order to fully develop the secondary potential of this unit, it will be necessary to add injectors around the periphery. There are 22+ potential CTI locations along the eastern, southern and western unit boundaries. Since this lease line development will require CO-OP agreements with offset lease operators the work has been spread over five years (1990-1994). Assuming CO-OP agreements can be obtained, we plan to CTI six line wells in 1990.



- : OIL PRODUCER
- ★ : GAS PRODUCER
- ▽ : INJECTION WELL
- ⊙ : WATER SOURCE WELL
- ⊕ : NON-UNIT WELLBORE

ATTACHMENT 5

SHELL WESTERN E. & P. INC.

NORTHEAST DRINKARD UNIT

UNIT AND NON UNIT WELLS

JOHN WEST ENGINEERING CO.
CONSULTANTS

HOBBS NEW MEXICO

Shell Western E&P Inc.
A Subsidiary of Shell Oil Company



RECEIVED
FEB 5 1 51 PM '90
O. Box 576
Houston, TX 77001
BUR. OF LAND MGMT
ROSWELL DISTRICT

January 31, 1990

United States Department of the Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

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Yours very truly,

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J. H. Smitherman
Regulatory Supervisor
Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

NORTHEAST DRINKARD UNIT
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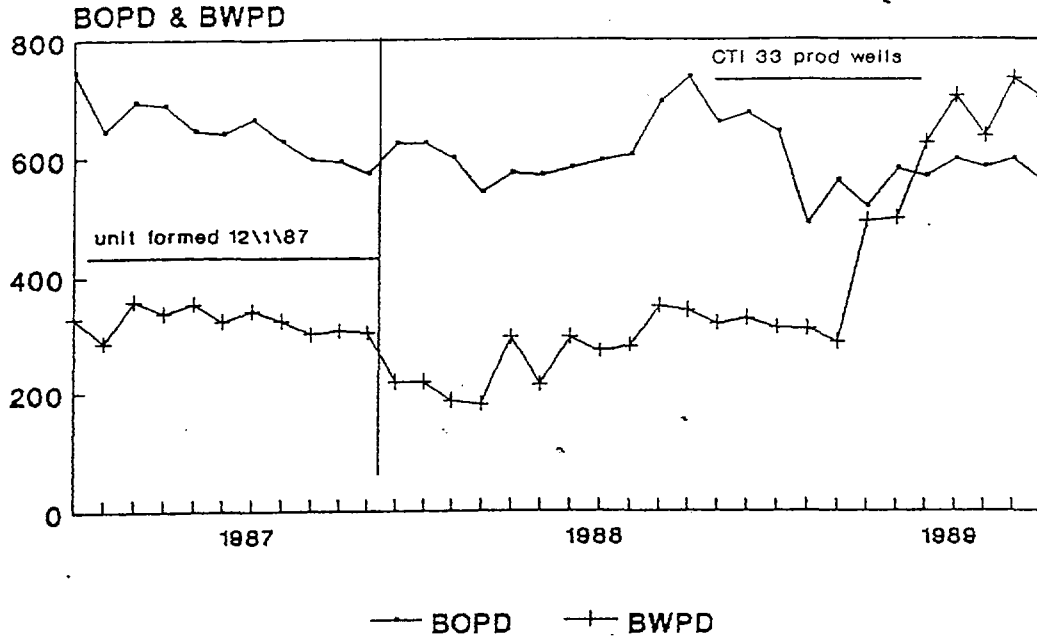
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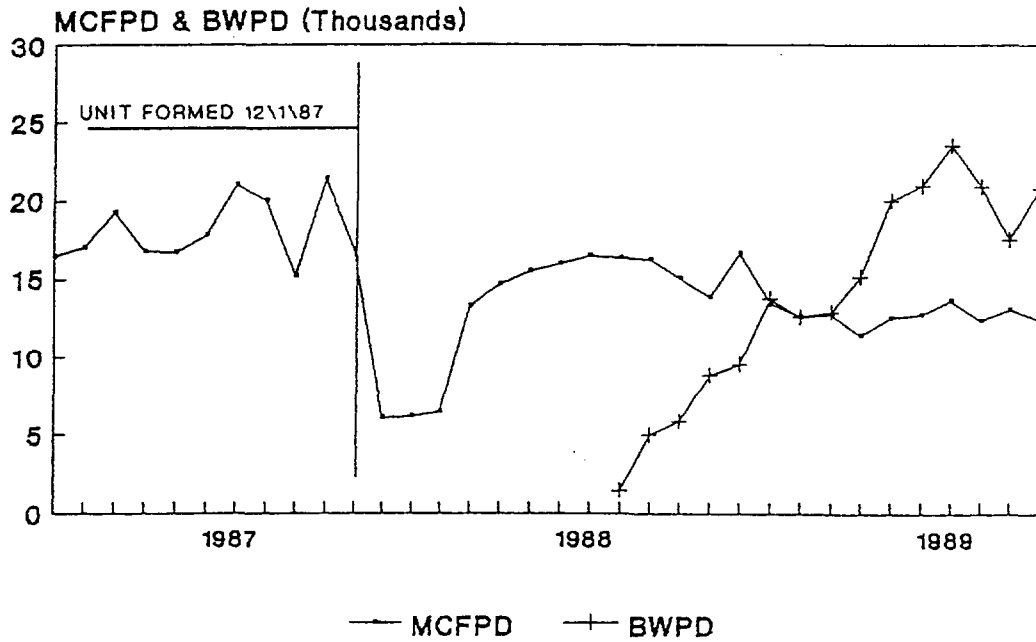
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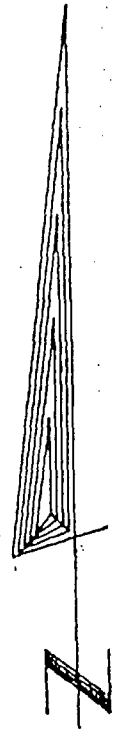
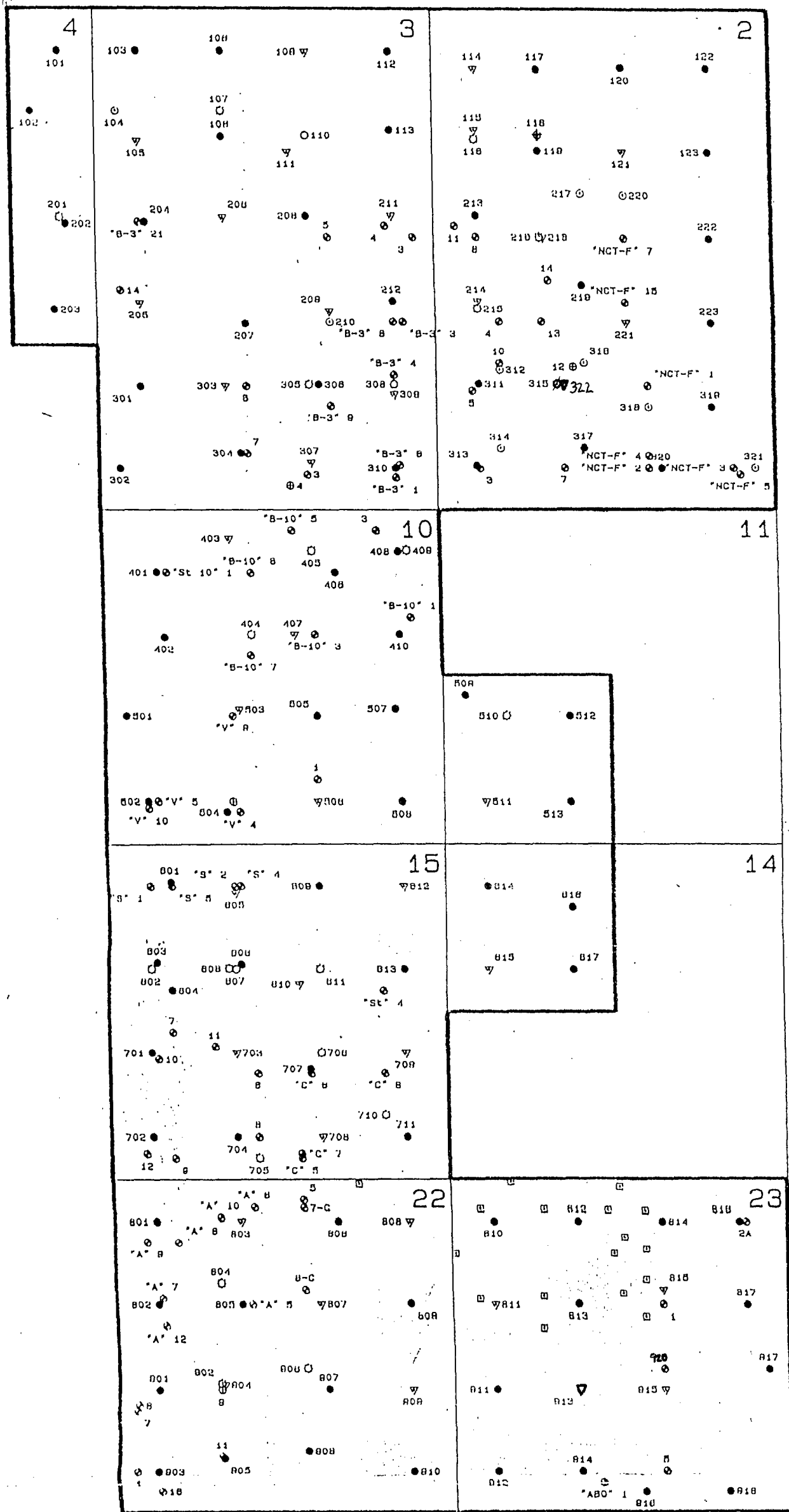
NORTHEAST DRINKARD UNIT PERFORMANCE GAS PROD & WATER INJECTION



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SHELL WESTERN E. & P. INC.

NORTHEAST DRINKARD UNIT

UNIT AND NON UNIT WELLS

JOHN WEST ENGINEERING CO.
CONSULTANTS

HOBBS NEW MEXICO

Surveyed By T. Auel	Drawn By J. Holmes	Last Rev Date	Drawing Number
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NORTHEAST DRINKARD UNIT

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NORTHEAST DRINKARD UNIT
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1 11 1990
J. J. Lora
Asst.

State of New Mexico

9231



SLO REF NO OG-779

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

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

May 9, 1988

Shell Western E&P Inc.
Attn: Mr. W. F. N. Kelldorf
P. O. Box 576
Houston, Texas 77001

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

Gentlemen:

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

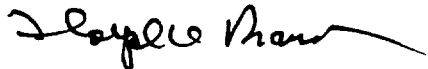
Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

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

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

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

WRH/FOP/pm
encls.
cc: OCD
BLM

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

April 28, 1988

*D -
Unit letter
Tlx 127*

Mr. David R. Catanach
New Mexico Oil Conservation Division
State Land Office Building
P. O. Box 2088
Santa Fe, New Mexico 87504

Gentlemen:

SUBJECT: NMOCD CASES 9230, 9231, AND 9232,
SHELL WESTERN E&P INC.
NORTHEAST DRINKARD UNIT, LEA COUNTY, NEW MEXICO

We are submitting herewith a copy of first "First Supplement - 1988" of the "Initial Plan of Operation" for the Northeast Drinkard Unit. This submittal is for your information in accordance with Section II of the Unit Agreement - Northeast Drinkard Unit. We have, this date, filed copies of "First Supplement - 1988" with the New Mexico Commissioner of Public Lands and the Bureau of Public Lands for their review and approval.

Yours very truly,

A handwritten signature in black ink, appearing to read "W. F. N. Kelldorf".

W. F. N. Kelldorf
Staff Production Engineer
Safety, Environmental, and Administration
Western Division

JHS:LGC

Enclosure

NORTHEAST DRINKARD UNIT

"First Supplement-1988" to the "Initial Plan of Operation"

Change in Water Source Strategy

It was the original intention of the NEDU Technical Committee to use ten "spare" wellbores in the northern portion of the Unit as water source wells, but the first well tested in that area failed to produce the desired volume of water. For that reason a test was performed in a well in the southern portion of the Unit, the NEDU 607, resulting in production of 4300 BWP. It is estimated that under final design conditions the well will be able to sustain a daily rate of over 6000 BWP.

Because there are no "spare" wellbores south of the NEDU 607, SWEPI decided to offer the following 5 expendable non-Unit wellbores to the Unit for use as source wells:

<u>Current Well No.</u>	<u>Proposed Unit Well No.</u>
Argo No. 10	NEDU No. 712S
Argo 'A' No. 5	NEDU No. 820S
Argo 'A' No. 9	NEDU No. 818S
Argo 'A' No. 10	NEDU No. 819S
Turner No. 16	NEDU No. 919S

Approval of this proposal was received from Unit Working Interest Owners April 25, 1988.

An evaluation into possible alternative uses for the original ten source wells is underway at this time. Following completion of the evaluation, estimated May 1988, a proposal will be drawn up for partner and regulatory approval.

ARCO Wellbore Donation

The Unit has accepted a wellbore, offered by ARCO, located very near the NEDU No. 915 in the southeastern corner of the Unit. Formerly the Sarkey's No. 6, the well will be utilized as a Blinbry/Tubb gas producer enabling the NEDU No. 913 to be used as an injector (Injection Well Data Sheet Attached). This will regularize our injection pattern in that portion of the field.

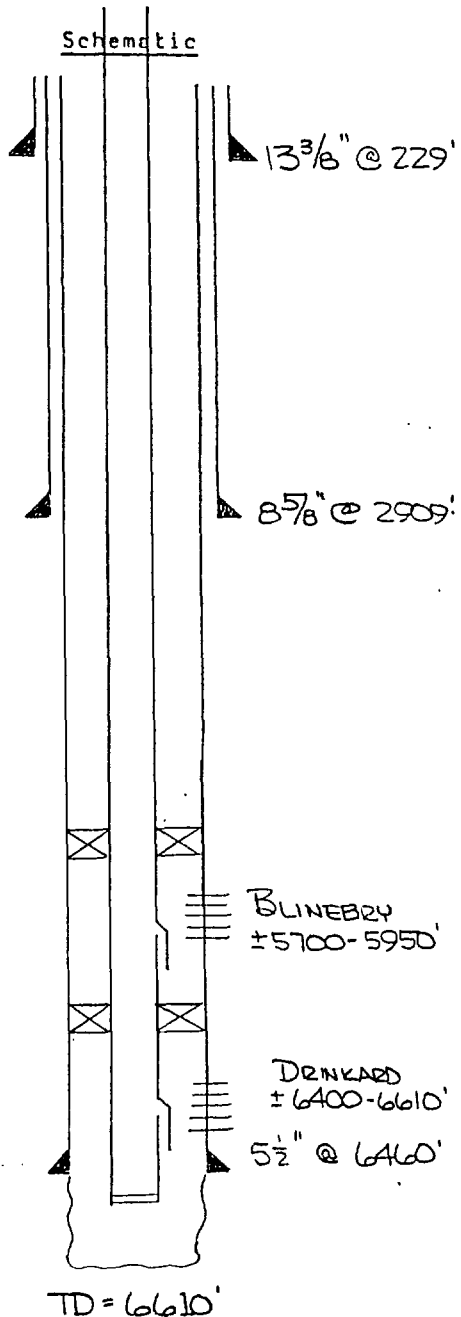
Other Deviations from Original Wellbore Utilization Scheme

In the original wellbore utilization strategy, the NEDU No. 216 (SWEPI State Section 2 No. 15) was to be an Upper Blinebry gas producer, while NEDU No. 218 (SWEPI State Section 2 No. 16) was to be a Lower Blinebry/Tubb/Drinkard injector. Due to questionable casing integrity across the lower intervals in the NEDU No. 218 however, it is now proposed that the 216 be used as the injector and the 218 as the gas producer. This will insure that no injection occurs into a gas interval. An injection well data sheet for the NEDU No. 216 is attached.

NEDU No. 607, originally labelled as a "spare" wellbore will be used as a San Andres Water Source Well, as discussed earlier.

INJECTION WELL DATA SHEET

OPERATOR SWEPI LEASE NORTHEAST DRINKARD UNIT (FORMERLY SWEPI'S) SARKER'S #2
 WELL NO. 913W FOOTAGE LOCATION 1980' FSL & 1980' FWL SECTION _____ TOWNSHIP 23-21S-37E RANGE _____



Tabular Data

<u>Surface Casing</u>	
Size <u>13³/₈</u> "	Cemented with <u>250</u> sx.
TOC <u>SURF</u>	feet determined by <u>CIRC</u>
Hole size <u>17</u> "	
<u>Intermediate Casing</u>	
Size <u>8⁵/₈</u> "	Cemented with <u>1500</u> sx.
TOC <u>SURF</u>	feet determined by <u>CIRC</u>
Hole size <u>11</u> "	
<u>Long string</u>	
Size <u>5¹/₂</u> "	Cemented with <u>1000</u> sx.
TOC <u>900</u>	feet determined by <u>FREE PT</u>
Hole size <u>7¹/₈</u> "	
Total depth <u>6610'</u> (CSG TO <u>6460'</u>)	
Injection interval	
<u>±5700</u> feet to <u>±6600</u> feet (perforated or open-hole, indicate which)	

* DOWNHOLE FLOW REGULATOR IN SIDEPCKET MANDREL OPPOSITE EACH ZONE.

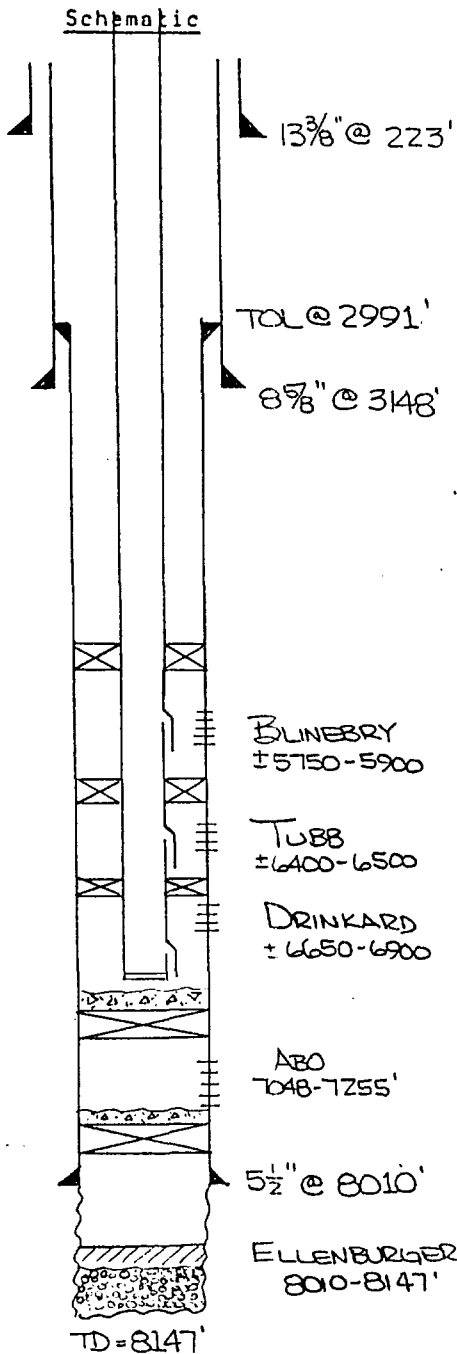
Tubing size 2³/₈ " lined with FIBERGLASS EPOXY (material) set in a BAKET LOK-SET (OR EQUIVALENT) packer at ±6350 feet, (or describe any other casing-tubing seal). w/ A 5¹/₂ " TENSION PLR AT ±5650'

- Other Data
- Name of the injection formation BLINERRY / DRINKARD
 - Name of Field or Pool (if applicable) N. EUNICE BLIN/TURP/DRINK OIL & GAS POOL
 - Is this a new well drilled for injection? Yes No
 If no, for what purpose was the well originally drilled? DRINKARD 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. _____

V3/4/88

INJECTION WELL DATA SHEET

OPERATOR SWEPT LEASE NORTHEAST DRINKARD UNIT (FORMERLY SWEPT'S)
 WELL NO. 216W FOOTAGE LOCATION 3546' FNL & 1650' FNL SECTION NORTHEAST DRINKARD UNIT TOWNSHIP 2-21S RANGE 37E
 STATE SECTION 2#15



Tabular Data

Surface Casing
 Size 13 3/8 " Cemented with 250 sx.
 TOC SURE feet determined by CIRC.
 Hole size 17 1/2 "

Intermediate Casing
 Size 8 7/8 " Cemented with 1300 sx.
 TOC SURE feet determined by CIRC.
 Hole size 11 "

Long string
 Size 5 1/2 LINER " Cemented with 400 sx.
 TOC TOL @ 2991' feet determined by CIRC.
 Hole size 7 7/8 "

Total depth 8147' (LINER TO 8010')

Injection interval
±5750 feet to ±6950 feet (PERF'D)
 (perforated or open-hole, indicate which)

* FLOW REGULATOR IN SIDEPCKET MANDREL OPPOSITE EACH ZONE.

Tubing size 2 3/8 " lined with FIBERGLASS EPOXY (material) set in a BAKER LOK-SET (OR EQUIVALENT) packer at ±6600 feet
 (brand and model)
 (or describe any other casing-tubing seal). w/ TENSION PKRS AT ±6350 AND ±5700

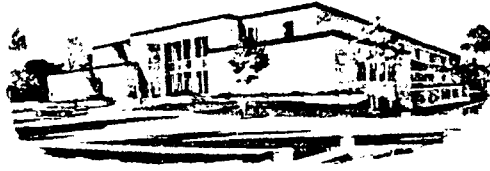
Other Data

- Name of the injection formation BLINEBRY/TUBB/DRINKARD
- Name of Field or Pool (if applicable) N. EUNICE BLIN/TUBB/DRINK: OIL & GAS POOL
- Is this a new well drilled for injection? Yes No
 If no, for what purpose was the well originally drilled?
ELLENBURGER 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)
ELLENBURGER (8010-8147, OPEN HOLE). ISOLATED w/ CMT CAPPED CIBP @ 7900'
ABO (7048-7255). ISOLATED w/ CMT CAPPED CIBP @ 6925'
- Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area.

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

SLO REF NO. OG-107

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

May 7, 1987

9231

Shell Western E & P Inc.
ATTENTION: Mr. James H. Smitherman
P. O. Box 576
Houston, Texas 77001

Re: Proposed Northeast Drinkard Unit
Lea County, New Mexico

Gentlemen:

This office has reviewed the unexecuted copy of unit agreement for the proposed Northeast Drinkard Unit area, Lea County, New Mexico. This agreement meets the general requirements of the Commissioner of Public Lands and has this date granted you preliminary approval as to form and content.

Preliminary approval shall not be construed to mean final approval of this agreement in any way and will not extend any short term leases, until final approval and an effective date have been given.

When submitting your agreement for final approval please submit the following:

1. Application for formal approval by the Commissioner setting forth the tracts that have been committed and the tracts that have not been committed.
2. A duplicate and original copy of the unit agreement.
3. All ratifications from the Lessees of Record and Working Interest Owners. All signatures should be acknowledged by a notary and one set must contain original signatures.
4. Order of the New Mexico Oil Conservation Division and the Designation from the Bureau of Land Management. Our approval will be conditioned upon subsequent favorable approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

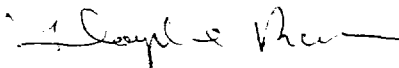
Shell Wester E & P Inc.
May 7, 1987
Page 2

Your filing fee in the amount of \$300.00 Dollars has been received.

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

Very truly yours.

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 

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

WRH/FOP/pm

cc: OCD-Santa Fe, New Mexico
 BLM-Foswell, New Mexico

NM061P35-88U316, Northeast Drinkard Unit
318C (065)

NOV 10 1987

Shell Western E & P Inc.
Attention: Mr. James H. Smitherman
P.O. Box 576
Houston, Texas 77001

Gentlemen:

One approved copy of the Northeast Drinkard Unit, Lea County, New Mexico,
along with your Initial Plan of Operation, is enclosed. Such agreement has
been assigned No. NM061P35-88U316 is effective the same date as approved.

Sincerely,

(ORIG. SGD.) JOE G. LARA

Joe G. Lara
ADM, Minerals

2 Enclosures

cc:
Commissioner of Public Lands, Santa Fe
NMOC, Santa Fe

CERTIFICATION--DETERMINATION

Pursuant to the authority vested in the Secretary of the Interior, the act approved February 25, 1920, 41 Stat. 437, as amended, 30 U.S.C., secs. 181, et seq., and delegated to the District Manager, Bureau of Land Management, I do hereby:

- A. Approve the attached agreement for the development and operation of the Northeast Drinkard unit area, State of New Mexico.
- B. Certify and determine that the unit plan of development and operation contemplated in the attached agreement is necessary and advisable in the public interest for the purpose of more properly conserving the natural resources.
- C. Certify and determine that the drilling, producing, rental, minimum royalty, and royalty requirements of all Federal leases committed to said agreement are hereby established, altered, changed, or revoked to conform with the terms and conditions of this agreement.

~~From 600-1000 L&M~~

ADM, Minerals
Bureau of Land Management

November 10, 1987

Date

NM061P35-88U316

Contract No.

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



GARREY CARRUTHERS
GOVERNOR

November 10, 1987

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Mr. W. Perry Pearce
Montgomery and Andrews
Attorneys at Law
P. O. Box 2307
Santa Fe, New Mexico

Re: CASE NO. 9231
ORDER NO. R-8540

Applicant:

Shell Western E & P Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced
Division order recently entered in the subject case.

Sincerely,

Florene Davidson

FLORENE DAVIDSON
OC Staff Specialist

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other Thomas Kellahin, William F. Carr

RECEIVED
OIL & GAS DIVISION
JAN 8 59

#9231

Shell Western E&P Inc.
A Subsidiary of Shell Oil Company



P.O. Box 576
Houston, TX 77001

January 29, 1992

D-
UNIT LETTER
TAK
Ry

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1992 PLAN OF DEVELOPMENT AND 1991 REVIEW
NORTHEAST DRINKARD UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1992 Plan of Development and Review of 1991 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

W.F.N. Kellendorf
Division Environmental Engineer
HS&E, Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

ATTACHMENT 1

REVIEW OF 1991 NEDU OPERATIONS

Development

NEDU 514, the replacement well for NEDU 501, was drilled, cored, and completed as a new producer.

Working interest owner approval has been received for Chevron's donation of four wells to the NEDU. The Chevron-donated wells are deepened through the Drinkard, whereas the existing Unit wells which they will replace are only deepened through the Blinebry. The existing Unit wells would ultimately require an extensive deepening operation in order to access the entire unitized interval. Once the Chevron-donated wells have been successfully recompleted, the existing NEDU wells will be TA'd. Following is a list of the Chevron wells which were donated and the existing Unit wells they will replace.

<u>Chevron Well</u>	<u>Existing NEDU Well To Be Replaced</u>
H F Leonard "F" No. 7 (Proposed NEDU No. 224)	NEDU No. 220
H F Leonard "F" No. 1 (Proposed NEDU No. 323)	NEDU No. 318
H F Leonard "F" No. 4 (Proposed NEDU No. 324)	NEDU No. 320
H F Leonard "F" No. 5 (Proposed NEDU No. 325)	NEDU No. 321

Well Work

All workovers from the original waterflood development plan have been completed. R&R work will continue as potential candidates are identified.

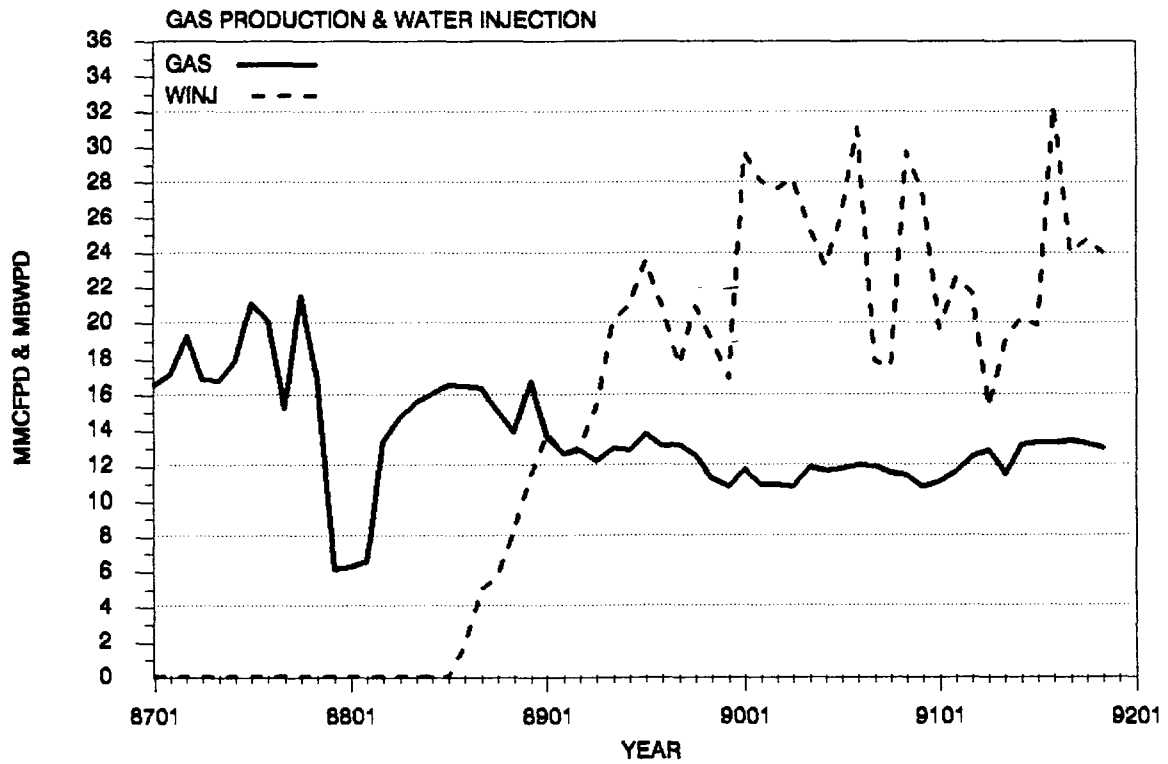
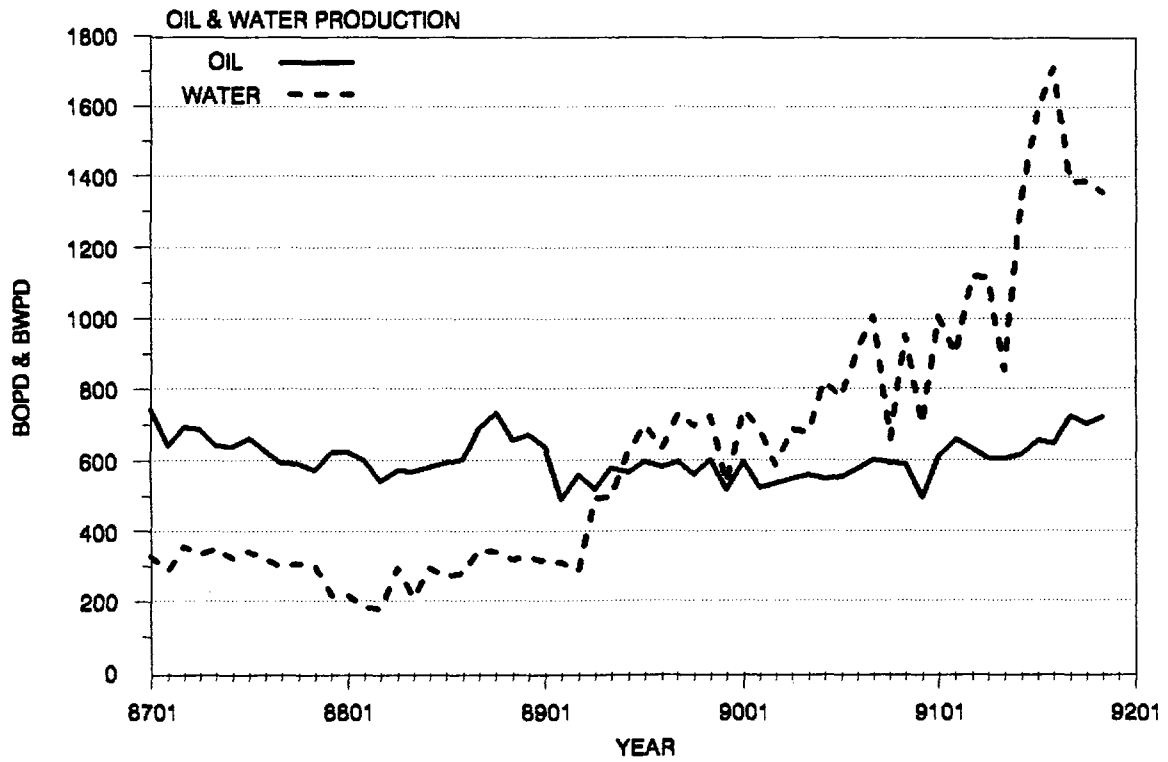
ATTACHMENT 2
 NORTHEAST DRINKARD UNIT BLINEBRY-TUBB-DRINKARD WATERFLOOD
 1990-91 MONTHLY PRODUCTION AND INJECTION VOLUMES
 (BBLS & MMCF)

<u>1990</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>JULY</u>	<u>AUG</u>	<u>SEPT</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>
Prod Oil	18607	14723	16720	16503	17395	16533	17257	17939	18140	18472	17775	15409
Prod Gas	363	304	337	322	368	350	366	371	357	357	343	332
Prod Water	23096	19319	18336	20681	21080	24757	24116	28286	30256	20571	28641	21746
Inj Water	917743	785792	854681	846208	786008	695372	809480	962536	535516	542117	889797	850261
<u>1991</u>												
Prod Oil	19022	18569	19701	18215	18824	18673	20457	20212	21816	21909	21690	22413
Prod Gas	343	325	386	385	356	393	412	411	401	409	388	391
Prod Water	31281	25166	34822	33564	26543	40178	49086	53082	41652	43102	40788	36750
Inj Water	608628	630034	671879	459397	590590	606830	614521	999962	717000	766784	718712	671832

CUMULATIVE VOLUMES AS OF 12-31-91
 (MMBLS & BCF)

1.	From Discovery	
	Prod Oil	28,573
	Prod Gas	442
2.	From Unitization (12/1/87)	
	Prod Oil	903
	Prod Gas	19
	Prod Water	1,048
	Injected Water	25,072

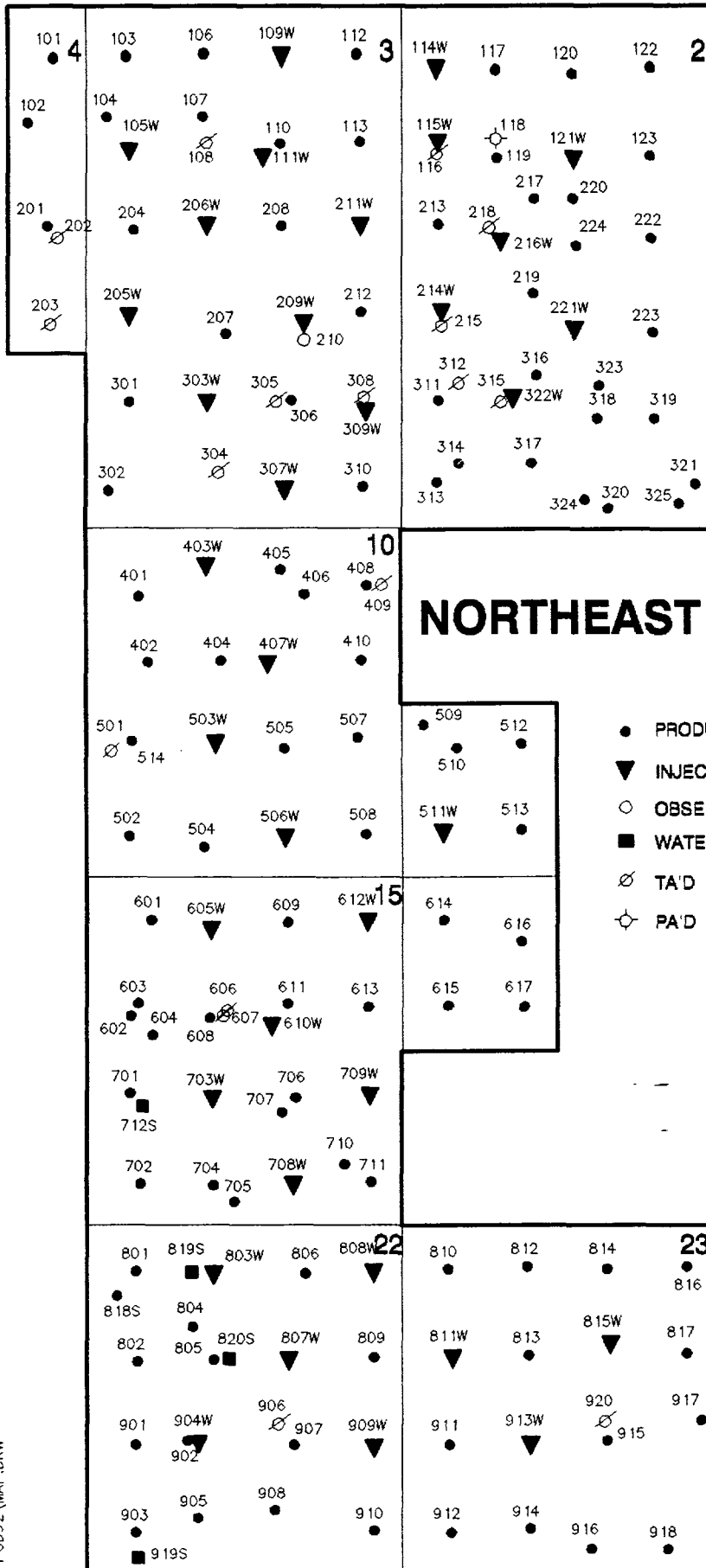
NORTHEAST DRINKARD UNIT PERFORMANCE



ATTACHMENT 4
WELL STATUS AT END OF CALENDAR YEAR

<u>STATUS</u>	<u>YEAR-END 1990</u>	<u>YEAR-END 1991</u>
Producers	108	96
Injectors	34	36
Shut-In Prod	2	10
Shut-In Inj	2	0
Shut-In Source	0	1
TA'd	8	17
Water Source	4	3
Disposal	0	0
Observation	1	1
PA'd	<u>1</u>	<u>1</u>
	160	165

ATTACHMENT 5



POD92\MAP.DRW

ATTACHMENT 6
WELL WORK 1990-91

<u>TYPE OF OPERATION</u>	NUMBER OF JOBS	
	1990	1991
Oil Producers: Squeeze open gas intervals, open all oil intervals, and acid treat.	13	15
Injectors: Squeeze open gas intervals, open all oil intervals, acid treat, and convert to injection.	2	2
Water Source Wells: Abandon existing perforations, open San Andres, and acid treat.	1	1
Gas Producers*: Squeeze open oil intervals, open gas intervals, and acid treat.	2	0
Temporarily Abandon	5	8

* The recent NMOCD ruling eliminates any future "gas producer" classification.

ATTACHMENT 7

1992 PLAN OF DEVELOPMENT FOR NEDU

Well Work

1. Oil Wells

Routine reconditioning of the producers will continue in 1992.

2. Injection Wells

Future injector remedial work consists of profile corrections, which will improve the waterflood through increased effective injection. Work will initially be concentrated in the middle area of the field, which has been determined to have the most waterflood potential.

3. Peripheral Injection Wells

Six producers (402, 408, 502, 603, 616, 802) located around the periphery of the Unit will be converted to injection in 1992. Funds for this project have already been approved.

4. Source Wells

There are no additional source wells planned for 1992.



JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

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

SLO REF NO. OG-1133

June 5, 1992

Shell Western E & P Inc.
P. O. Box 576
Houston, Texas 77001

Attn: Mr. W.F.N. Kelldorf

Re: 1992 Plan of Development
Northeast Drinkard Unit
Lea County, New Mexico

RECEIVED

JUN 9 1992

OIL CONSERVATION DIVISION

Gentlemen:

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

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

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

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

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

JB/FOP/pm
cc: OCD
BLM

9231

D-unit letters
The 127



Shell Western E&P Inc.

An affiliate of Shell Oil Company

P. O. Box 576
Houston, TX 77001

February 18, 1994

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1994 PLAN OF DEVELOPMENT AND 1992-1993 REVIEW
NORTHEAST DRINKARD UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1994 Plan of Development and Review of operations for 1992 and 1993 in subject unit.

Should you have any questions, please contact J. M. Winder at (713) 544-3797.

Yours very truly,

A handwritten signature in black ink, appearing to read "A. J. Durrani", is written over the typed name.

A. J. Durrani, Technical Manager
Asset Administration, Western Asset
Continental Division

JMW:MB

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

JMW4492.DOC.1

EUNICE BLINEBRY TUBB DRINKARD NORTH UNIT
(NORTHEAST DRINKARD UNIT)

REVIEW OF 1992-93 OPERATIONS

Development

Two producers (615 and 616) were converted to injectors in 1992 to increase the injection capacity of the unit and develop additional reserves along the lease line.

Two (224 and 323) of the four donated Chevron wellbores were completed as unit producers. The other two wells (324 and 325) were temporarily abandoned.

Well Work

Very little well work was done during 1992-93.

EUNICE BLINEBRY TUBB DRINKARD NORTH UNIT

(NORTHEAST DRINKARD UNIT)

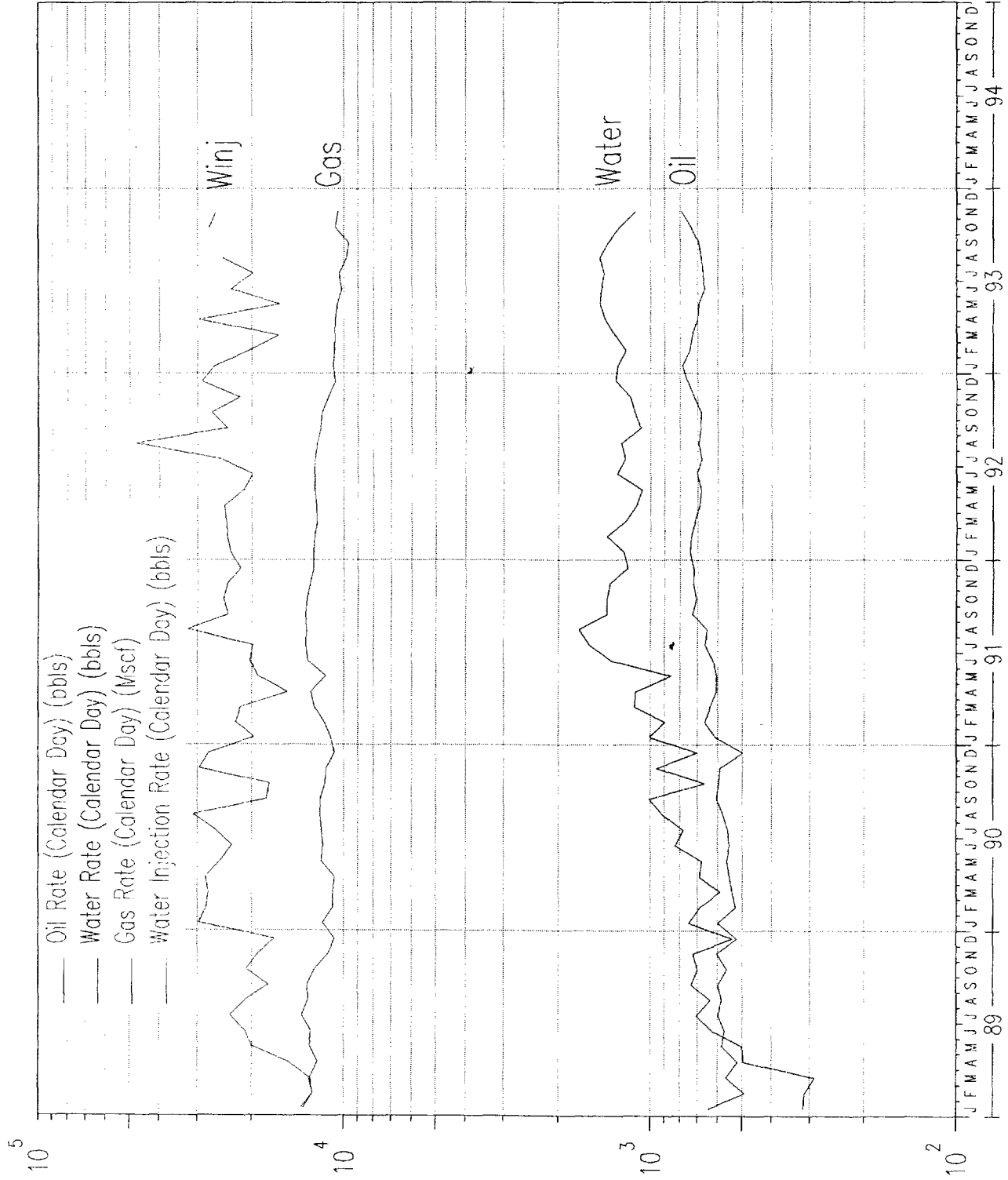
1992-93 Monthly Production And Injection Volumes (BBLs & MCF)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
1992												
Prod Oil	22,963	21,339	22,137	20,675	21,156	21,072	21,069	21,483	20,539	20,095	20,536	23,399
Prod Gas	389,008	362,315	379,112	368,241	387,147	373,938	385,137	379,017	358,017	357,515	337,109	330,956
Prod Water	37,892	40,370	37,217	33,297	33,042	38,560	37,519	38,659	32,245	34,823	34,952	40,298
Inj Water	725,501	696,136	749,780	734,640	657,611	595,939	773,636	749,520	717,870	834,241	656,370	897,445
1993												
Prod Oil	24,268	20,841	22,616	20,993	21,504	19,982	20,763	21,117	20,867	22,795	23,679	23,338
Prod Gas	335,493	300,754	331,751	319,835	326,524	305,757	329,192	312,726	297,881	339,974	322,174	279,597
Prod Water	39,695	33,651	40,569	42,183	45,477	43,517	43,938	45,476	41,419	39,106	33,635	33,508
Inj Water	817,460	573,528	507,102	890,070	502,298	702,630	614,627	771,283	715,522	850,919	784,836	19,888

Cumulative Volumes As Of 12/31/93 (BBLs & MCF)

From Discovery:	
Prod Oil	29,046,796
From Unitization:	
Prod Oil	1,399,144
Prod Gas	26,322,034
Prod Water	1,929,237
Injected Water	40,488,931

Northeast Drinkard Unit

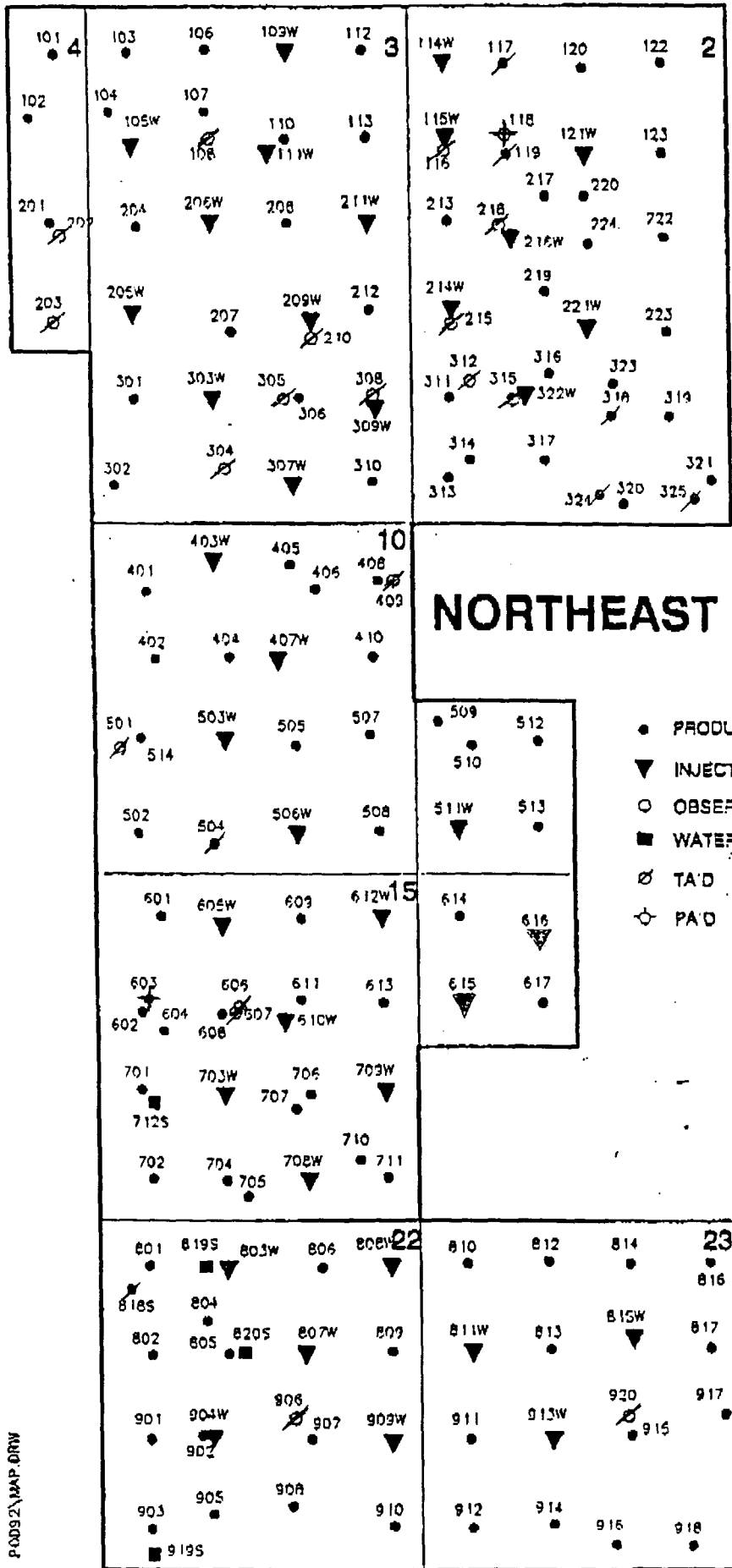


EUNICE BLINEBRY TUBB DRINKARD NORTH UNIT
(NORTHEAST DRINKARD UNIT)

WELL STATUS AT END OF CALENDAR YEAR

Status	12/92	12/93
Producers	93	95
Injectors	36	38
Shut In	15	2
Temporarily Abandoned	17	25
Water Source	3	3
Disposal	0	0
Observation	1	0
Permanently Abandoned	1	2
Total	165	165

ATTACHMENT 5



NORTHEAST DRINKARD UNIT

- PRODUCER
- ▼ INJECTOR
- OBSERVATION WELL
- WATER SOURCE WELL
- ⊘ TA'D
- ⊗ PA'D

P:0092\MAP.DRW

EUNICE BLINEBRY TUBB DRINKARD NORTH UNIT

(NORTHEAST DRINKARD UNIT)

WELL WORK 1992-93

TYPE OF OPERATION	NUMBER OF JOBS	
	1992	1993
OIL PRODUCERS:		
New Completions	0	2
Acid Stimulations	3	2
Water Shut Off	0	0
Open Additional Pay	0	0
Temporarily Abandon	1	9
Permanently Abandon	0	1
INJECTORS:		
Acid Stimulation	0	0
Open Additional Pay	0	0
Convert to Injection	2	0

EUNICE BLINEBRY TUBB DRINKARD NORTH UNIT
(NORTHEAST DRINKARD UNIT)

1994 PLAN OF DEVELOPMENT

Waterflood Improvements:

There are no major waterflood improvements planned for 1994. However, we are currently performing a field study which could lead to future development projects.

Well Work

1. Producers:

The routine reconditioning of producers will continue in 1994 with a majority of the work concentrated in the best areas of the field.

2. Injectors:

Acid stimulations and profile corrections are planned for the injectors located in the best areas of the field. This should increase injectivity and improve waterflood response.

3. Estimate of 1994 Well Work:

<u>TYPE OF OPERATION</u>	<u>EST. NUMBER OF JOBS 1994</u>
OIL PRODUCERS:	
New Completions	0
Acid Stimulations	10
Water Shut Off	0
Open Additional Pay	5
Temporarily Abandon	5
INJECTORS:	
Acid Stimulation	5
Profile Corrections	5
Temporarily Abandon	0



State of New Mexico
Commissioner of Public Lands

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

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

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

SLO REF NO. OG-1367

March 21, 1994

Shell Western E & P, Inc.
P.O. Box 576
Houston, Texas 77001

Attn: Mr. A. J. Durrani

Re: 1994 Plan of Development
Northeast Drinkard Unit
Lea County, New Mexico

Gentlemen:

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

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

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

Very truly yours,

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

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

RBP/FOP/pm
cc: OCD-Roy Johnson
BLM



#9231

COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5795

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands

Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

November 19, 1998

Apache Corporation
2000 Post Oak Boulevard
Suite 100
Houston, Texas 77056-4400

Attention: Mr. Timothy R. Custer

Re: Northeast Drinkard Unit Agreement
Exhibits "A", "B-1" and "B-2"
Lea County, New Mexico

Dear Mr. Custer:

We are in receipt of your letter of November 9, 1998 together with copies of the current Exhibits "A", "B-1" and "B-2" for the Northeast Drinkard Unit Agreement.

The tract numbers that you submitted on the current exhibit have been re-numbered and are not the same as those filed in our office. The exhibits submitted have been accepted for record and have been filed in our unit files. Our records will be changed to coincide with the exhibits you submitted effective September 24, 1987. Please provide the Bureau of Land Management with a copy of these new exhibits.

Please advise all interested parties of this action.

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

Very truly yours,

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

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/pm

cc: Reader File
BLM-Roswell Attention: Mr. Gary Gourley
OCD-Santa Fe Attention: Mr. Roy Johnson
TRD-Santa Fe Attention: Mr. Valdean Severson
RMD-Santa Fe Attention: Mrs. Linda Vieira



COMMERCIAL RESOURCES
(505)-827-5724

SURFACE RESOURCES
(505)-827-5795

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-5765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

October 27, 1998

Apache Corporation
2000 Post Oak Boulevard
Suite 100
Houston, Texas 77056-4400

Attn: Mr. Timothy R. Custer

Re: Resignation/Designation of Successor Unit Operator
Northeast Drinkard Unit
Lea County, New Mexico

Dear Mr. Custer:

We are in receipt of your resignation/designation of successor unit operator, wherein Altura Energy has resigned as unit operator of the Northeast Drinkard Unit and designated Apache Corporation as the successor unit operator.

The Commissioner of Public Lands has this date approved the resignation of Altura Energy and the designation of Apache Corporation as the successor unit operator of this unit.

This change in operators is effective January 31, 1998. In accordance with this approval, Apache Corporation is now responsible for all operations and the reporting of all production from this unit.

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

Very truly yours,

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

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
pc: Reader File

OCD-Roy Johnson

TRD

BLM



State of New Mexico
Commissioner of Public Lands

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

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

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

March 16, 1998

Apache Corporation
2000 Post Oak Boulevard
Suite 100
Houston, Texas 77056-4400

Attn: Ms. LaToya Jones Mitchell

Re: Resignation/Designation of Successor Unit Operator
Northeast Drinkard Unit
Lea County, New Mexico

Dear Ms. Mitchell:

We are in receipt of your resignation/designation of successor unit operator, wherein Altura Energy Ltd. has resigned as unit operator of the Northeast Drinkard Unit and designated Apache Corporation as the successor unit operator.

The Commissioner of Public Lands has this date approved the resignation of Altura Energy Ltd. and the designation of Apache Corporation as the successor unit operator of this unit. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

This change in operators is effective January 30, 1998. In accordance with this approval, Apache Corporation is now responsible for all operations and the reporting of all production from these units.

Also, your filing fee is being refunded as a change of operators does not require a fee.

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

Very truly yours,

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

A handwritten signature in cursive script, appearing to read "Jami Bailey".

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm

pc: Reader File
Altura Energy Ltd.

OCD-Roy Johnson

TRD

BLM



Conoco Inc

**Request for Facsimile
Transmission**

10-6-87

From

Employee <i>Jerry Hoover</i>	Ext.
City, State, Country <i>Hobbs, NM</i>	Room No.
Acct. No.	

To

Name <i>Bob Sykes</i>	Phone No.
Department <i>Shell</i>	Room No.
City, State, Country <i>Houston, Texas</i>	

Pages
2

Note

1. Your original must have good contrast (dark detail on light background).
2. Legible.
3. 1/2 inch margin on all sides of sheet.
4. Number all pages.

Special Instructions

File



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
HOBBS DISTRICT OFFICE

October 17, 1980

BILL BRIDGES
GOVERNOR
LARRY KEHOE
SECRETARY

POST OFFICE BOX 1980
HOBBS, NEW MEXICO 88240
505/393-5161

Conoco Inc.
P. O. Box 460
Hobbs, New Mexico 88240

Gentlemen:

Due to the recently submitted gas-oil ratio test for your Hawk B-3 Well No. 22 located in Unit L of Section 3, T-21-S, R-37-E, the well will be reclassified as a gas well in the Blinebry Oil & Gas Pool effective January 1, 1981, and the oil allowable will be cancelled that date.

Please advise this office when you have complied with the provisions of Division Order No. R-1670-N pertaining to gas wells in the Blinebry Pool in order that a gas allowable can be assigned.

Yours very truly,

OIL CONSERVATION DIVISION

Jerry Sexton
Jerry Sexton
Supervisor, District 1

mc

File

December 8, 1980

New Mexico Oil Conservation Division
P.O. Box 1980
Hobbs, New Mexico

Dear Mr. Sexton:

Respectfully request a condensate allowable effective January 1, 1981, for the Hawk B-3 No. 22. The location of the well is unit letter L, Sec. 3, T-21S, R-37E, Lea County. The producing zone is Blinbry Oil and Gas with a well test of 7 BOPD, zero water, 458 MCFPD with a GOR of 65,429.

Signed:
PHIL T. TUCKER

Phil T. Tucker

MKJ:plc

BEFORE THE
OIL CONSERVATION DIVISION
NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION
OF SHELL WESTERN E & P INC.
FOR STATUTORY UNITIZATION,
LEA COUNTY, NEW MEXICO.

CASE NO. 9231

ENTRY OF APPEARANCE

COMES NOW CAMPBELL & BLACK, P.A., and hereby enters its
appearance in the above-referenced case on behalf of
Kaiser-Francis Oil Company.

Respectfully submitted,

CAMPBELL & BLACK, P.A.

By: 

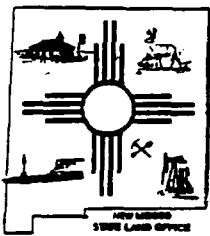
WILLIAM F. CARR
Post Office Box 2208
Santa Fe, New Mexico 87504
(505) 988-4421

RECEIVED

SEP 21 1987

OIL CONSERVATION DIVISION

ATTORNEYS FOR KAISER-FRANCIS
OIL COMPANY



State of New Mexico
Commissioner of Public Lands

#9231

W. R. Humphries
COMMISSIONER

May 18, 1990

Advisory Board

George Clark
Chairman

Kristin Conniff
Vice Chairman

Melvin Cordova

Joe Kelly

Robert Portillos

Nancy Lynch Vigil

Rex Wilson

Shell Western E&P Inc.
P.O. Box 576
Houston, Texas 77001

ATTN: Mr. J.H. Smitherman

RE: Northeast Drinkard Unit
1990 Plan of Development

Gentlemen:

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

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

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

Very truly yours,

W.R. HUMPHRIES,
COMMISSIONER OF PUBLIC LANDS

BY:

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

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

WRH/FOP/SMH

DIVISION

'91 FEB 13 AM 9 19

Shell Western E&P Inc.

A Subsidiary of Shell Oil Company



P.O. Box 576

Houston, TX 77001

January 25, 1991

United States Department of Interior
Bureau of Land Management
Roswell District Office
P. O. Box 1397
Roswell, NM 88201-1397

Gentlemen:

SUBJECT: 1991 PLAN OF DEVELOPMENT AND 1990 REVIEW
NORTHEAST DRINKARD UNIT
LEA COUNTY, NEW MEXICO

Enclosed in triplicate is the 1991 Plan of Development and Review of 1990 operations for the subject unit.

Should you have any questions, please contact J. M. Winder at (713) 870-3797.

Yours very truly,

A handwritten signature in cursive script that reads "J. H. Smitherman".

J. H. Smitherman
Regulatory Supervisor
Western Division

JMW:SJK

Enclosures

cc: Mr. Floyd O. Prando, Director
Commissioner of Public Lands
Oil and Gas Division
P. O. Box 1148
Santa Fe, NM 87504-1148

Mr. Roy E. Johnson
New Mexico Oil Conservation Division
Energy, Minerals and Natural Resources Department
P. O. Box 2088
Santa Fe, NM 87504-2088

W-X1L/MW034103/SJK - 1

ATTACHMENT 1
REVIEW OF 1990 NEDU OPERATIONS

General

The temporary special pool rules for the Northeast Blinebry-Tubb-Drinkard Oil and Gas Pool were amended mid-year. Because almost all of the gas being produced was associated gas, the "gas well" classification was eliminated.

Well Work

Oil Producers

Workovers have now been completed on 83 of the 91 oil producers.

Injectors

Thirty-six of the planned 37 non-peripheral injection wells have been converted to injection. Two of these wells (709W and 808W) are currently shut-in.

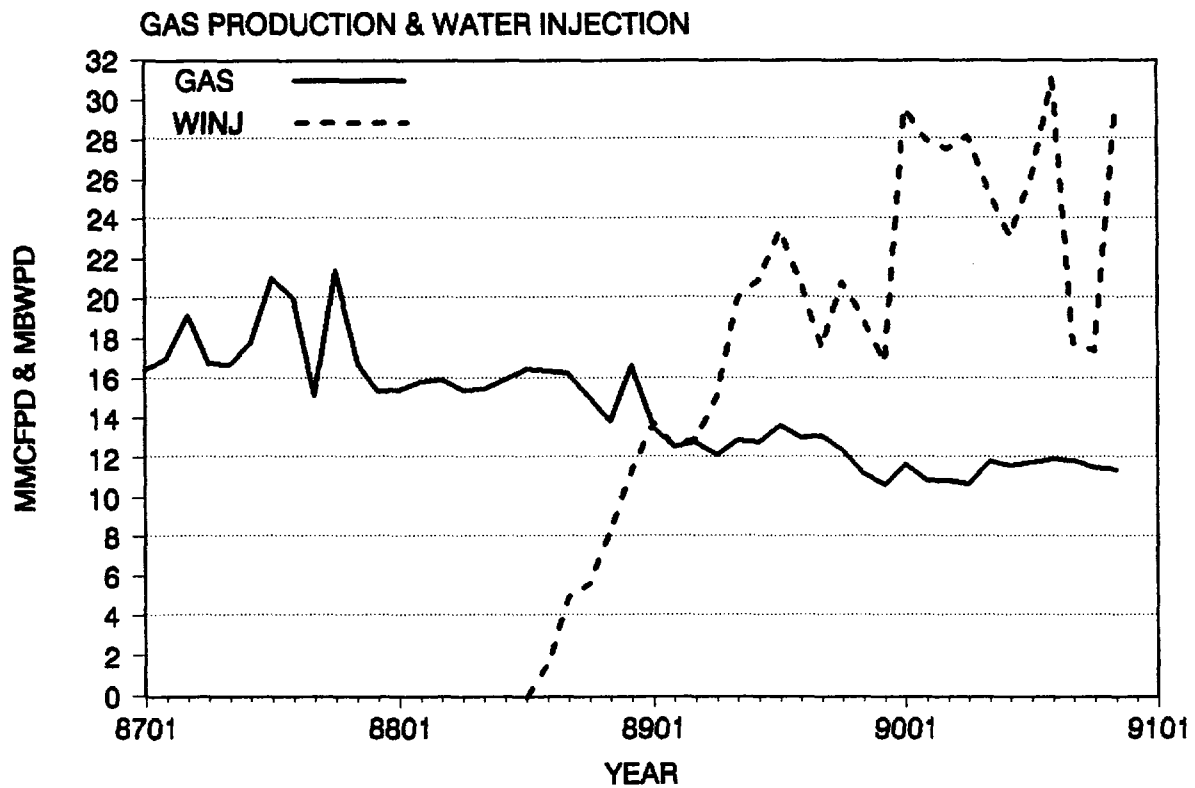
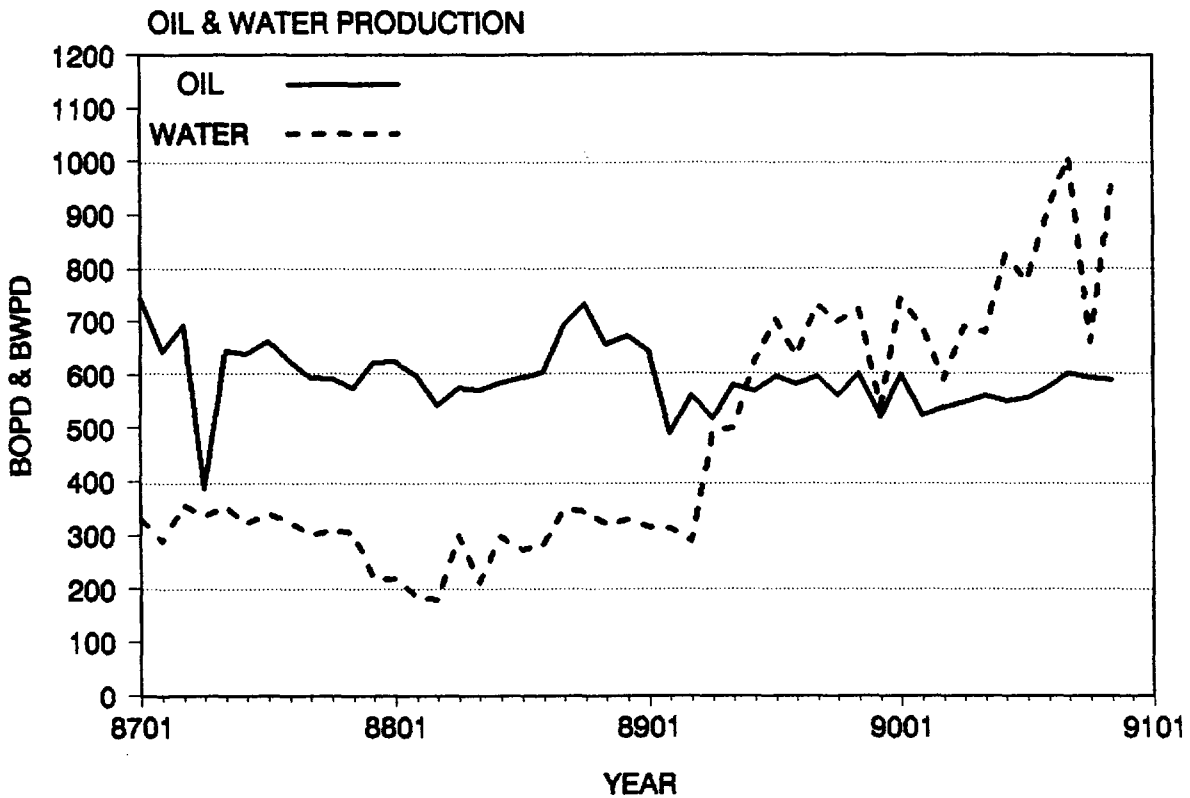
Gas Producers

Eight wells (201, 305, 405, 602, 608, 706, 710 and 920) have been completed in the NEDU Blinebry or Tubb gas zones. The initial test results from the gas zones have been disappointing (0-65 MCFPD). As a result of the recent NMOC D ruling eliminating the need for separate "gas wells", we do not plan to complete any more wells as gas wells.

Water Source

One additional source well (820S) was completed in 1990. The combined average output from the current four San Andres source wells is in excess of 30,000 BWP D.

NORTHEAST DRINKARD UNIT PERFORMANCE



ATTACHMENT 2
 NORTHEAST DRINKARD UNIT BLINEBRY-TUBB-DRINKARD WATERFLOOD
 1989-90 MONTHLY PRODUCTION AND INJECTION VOLUMES
 (BLS & MMCF)

	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
<u>1989</u>												
Prod 011	19942	13577	17437	15571	18048	17112	18536	18122	17941	17426	18148	16149
Prod Gas	421	354	398	366	402	385	425	406	395	387	337	332
Prod Water	9765	8773	8974	14853	15501	18755	21831	19713	21994	21711	21746	16707
Inj Water	428328	354965	402889	456652	621241	628985	728643	648893	527822	645975	572205	522369
<u>1990</u>												
Prod 011	18607	14723	16720	16503	17395	16533	17257	17939	18140	18472	17775	15469
Prod Gas	363	304	337	322	368	350	366	371	357	357	343	322
Prod Water	23096	19319	18336	20681	21080	24757	24116	28286	30256	20571	28641	21731
Inj Water	917743	785792	854681	846208	786008	695372	809480	962536	535516	542117	889797	850268

CUMULATIVE VOLUMES AS OF 12-31-90
 (BLS & MMCF)

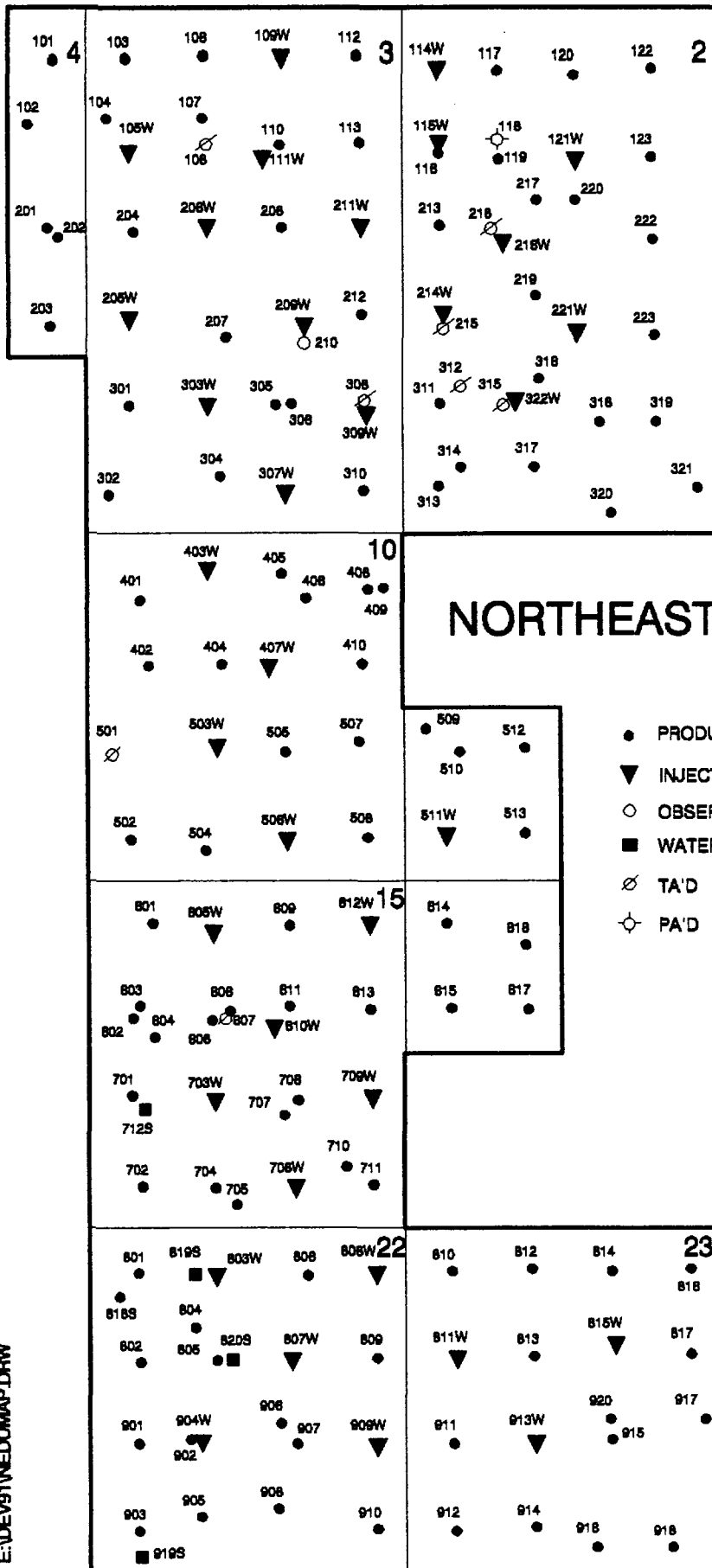
1. From Discovery
 Prod 011 28,331,393
 Prod Gas 437,351
2. From Unitization (12/1/87)
 Prod 011 660,778
 Prod Gas 13,839
 Prod Water 591,866
 Injected Water 17,015,633

ATTACHMENT 4

WELL STATUS AT END OF CALENDAR YEAR

<u>STATUS</u>	<u>YEAR-END 1989</u>	<u>YEAR-END 1990</u>
Producers	108	108
Injectors	33	34
Shut-In Prod	10	2
Shut-In Inj	0	2
Shut-In Source	2	0
TA'd	3	8
Water Source	3	4
Disposal	0	0
Observation	0	1
	<hr/>	<hr/>
	159	159

ATTACHMENT 5



NORTHEAST DRINKARD UNIT

- PRODUCER
- ▼ INJECTOR
- OBSERVATION WELL
- WATER SOURCE WELL
- ⊗ TA'D
- ⊙ PA'D

E:\DEV91\NEDUMAP.DRW

ATTACHMENT 6
WELL WORK 1989-1990

<u>TYPE OF OPERATION</u>	NUMBER OF JOBS	
	1989	1990
Oil Producers: Squeeze open gas intervals, open all oil intervals, and acid treat.	41	13
Injectors: Squeeze open gas intervals, open all oil intervals, acid treat, and convert to injection.	16	2
Water Source Wells: Abandon existing perforations, open San Andres, and acid treat	2	1
Gas Producers*: Squeeze open oil intervals, open gas intervals, and acid treat.	6	2
Temporarily Abandon	3	5

*The recent NMOCD ruling eliminates any future "gas producer" classification.

ATTACHMENT 7

1991 PLAN OF DEVELOPMENT FOR NEDU

Well Work

The remaining well work to complete the initial (12/87) plans are:

1. Oil Wells

There are approximately 15 workovers remaining in order to complete the initial phase of waterflood development (12/87). The well work will consist of opening additional pay in the Blinbry/Tubb/Drinkard and stimulating all zones consistent with the current unit development plan.

2. Peripheral Injection Wells w/CO-OP Injection

Injectors around the periphery of the unit are necessary in order to fully develop the secondary potential. There are 22± potential CTI locations along the eastern, southern and western unit boundaries. We are pursuing co-op agreements and plan to CTI six periphery wells in 1991.

3. Source Wells

There are no additional source wells planned for 1991. With the 1990 addition of source well 820S there will be ample injection water available to accommodate the six planned 1991 CTIs.

Drilling

Drilling of NEDU 514, the replacement well for NEDU 501, will be completed in early 1991. The well was spudded in late 1990.

INITIAL PLAN OF DEVELOPMENT AND OPERATION

Northeast Drinkard Unit
Waterflood Project

Lea County, New Mexico

OCTOBER 1987

INITIAL PLAN OF DEVELOPMENT AND OPERATION

Northeast Drinkard Unit
Waterflood Project

Lea County, New Mexico

OCTOBER 1987

BNBP8727802

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT

TABLE OF CONTENTS

	<u>Pages</u>
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Wellbore Utilization	3
Waterflood Facilities Description	4
1987-88 Activity Summary	5
Graphs, Tables, Figures	
Secondary Production Forecast	6
Type Log	7
Structure Map	8
Unit Well Utilization Map	9
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Oil Gathering System	17
Water Injection System	18
Gas Well Gas Gathering System	19
Water Source Gathering System	20
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INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT WATERFLOOD PROJECT

OVERVIEW

Unit Location and Description

The Northeast Drinkard Unit is located in Lea County, New Mexico approximately 18 miles south of Hobbs, New Mexico. The unit boundary encompasses 4938 acres and is developed on 40-acre spacing. The vertical interval unitized includes the Blinebry, Tubb, and Drinkard formations at depths ranging from approximately 5500' to 6700'. Shell Western E&P Inc. is the operator of the unit.

The unitized interval contains both gas zones and oil zones. The upper two layers of the Blinebry and most of the Tubb pay produce non-associated gas. The remaining primary non-associated gas will be depleted using 20 gas wells located throughout the unit. Oil is produced from the bottom three layers of the Blinebry, oil pocket accumulations in the Tubb, and the entire Drinkard zone. The oil zones, whose primary production mechanism is a solution gas drive, will be waterflooded using a five-spot injection pattern.

Unitized Interval

The vertical interval unitized in the Northeast Drinkard Unit includes three formations: the Blinebry, Tubb, and Drinkard. By including all three zones, which have been commingled for many years, existing wellbores can be efficiently utilized to develop the total Unit area potential. Formation of the combined Blinebry, Tubb, and Drinkard unit greatly reduces the operational complexities and permits optimum development of the Unit area oil and gas reserves. The new pool created by NMOCD order within the Northeast Drinkard Unit boundary will be called the "North Eunice Blinebry-Tubb-Drinkard Oil and Gas Pool".

Unit Participation Basis

The Working Interest Owners developed separate participation formulas for Unit oil and Unit gas reserves because of equally significant remaining oil and gas recovery potential from the Unit area. The oil and gas participation formulas each have two phases. Phase I oil participation provides for the recovery of each owner's remaining primary oil and is calculated by adding 25% of a WIO's share of current oil production to 75% of a WIO's share of remaining primary oil reserves. Phase I oil participation remains in effect until the estimated remaining primary oil

reserves of 2.3 MMBO have been produced. Phase II oil participation allocates the recovery of secondary oil reserves among the owners and becomes effective after Phase I. Phase II oil participation is based on a WIO's share of the Unit's ultimate primary oil recovery. Ultimate primary oil recovery is directly related to secondary oil potential through the secondary to primary recovery ratio used to predict incremental waterflood oil recovery (S/P = 0.5). Phase I gas participation properly distributes to each owner the recovery of remaining primary gas reserves and is accordingly set equal to a WIO's share of the Unit's remaining primary gas. Phase I gas participation remains in effect until the estimated 72 BCF of remaining primary gas reserves have been produced. Any gas production after recovery of the 72 BCF will be divided based on a WIO's share of the Unit's ultimate primary gas production.

Waterflood Oil Recovery and Production Forecast

The Northeast Drinkard Unit estimated waterflood oil recovery is based on performance of the Central Drinkard Unit, a mature waterflood adjoining the Unit area. The Central Drinkard Unit, operated by Chevron, has been successfully waterflooding the Drinkard interval with an 80-acre five spot injection pattern since 1967. A secondary to primary recovery ratio (S/P) of 0.50 was calculated for this waterflood. Secondary to primary ratios of the 0.5 magnitude are typical for many mature West Texas Clearfork waterfloods. The Upper and Lower Clearfork formations are geologically equivalent to the Blinbry and Drinkard formations in New Mexico. Because the Blinbry formation has similar rock properties to the Drinkard formation, it was assumed that the analog field would also be representative for predicting Blinbry oil recoveries. Applying the estimated S/P of 0.5 to the Northeast Drinkard waterflood area, which has a projected ultimate primary recovery of 29.4 MMBO, results in an incremental secondary oil recovery of 14.7 MMBO.

The Northeast Drinkard Unit's projected production forecast was also based on the Central Drinkard Unit waterflood performance. A five-fold oil rate increase has been achieved for the analog field following the start of full scale water injection in 1972, and this peak oil rate has remained constant for approximately ten years. The predicted production forecast for the Northeast Drinkard Unit exhibits similar characteristics, followed by a 14%/yr. final decline period.

Investment Summary

An initial investment of \$18.7 MM is required to implement the total waterflood program. Items covered by the AFE include the water injection station, flowlines, injection lines, central battery, satellites, producer-to-injector conversions, producer recompletions, source water system, and CAO (computer assisted operations) system. Additional future expenditures estimated at \$5.5 MM will be required for larger lift equipment.

WELLBORE UTILIZATION

Initial Plan

The initial waterflood plan utilizes the existing 150 wells in the unit area in the following manner:

83 Oil producers
20 Gas producers
37 Water injection wells
10 San Andres water source wells

150 Total Wells

A. Oil Producers (83)

Existing oil and gas producers will be converted to unit oil producers by cement squeezing all perforations and reperforating in the oil zones.

B. Gas Producers (20)

Existing oil and gas producers will be converted to unit gas producers by cement squeezing all perforations and reperforating in the gas zones.

C. Water Injection Wells (37)

Existing oil and gas producers will be converted to injection by cement squeezing all perforations and reperforating in the oil zones. Water injection profiles will be controlled using downhole flow regulators and packers that separate the Blinbry, Tubb, and Drinkard formations. Injection rates initially will average 1350 BWPD and surface injection pressures will be below 0.2 psi/ft to the top perforation.

D. Water Source Wells (10)

Submersible pumps will be used to produce up to 5000 BWPD from each of 10 San Andres water source wells. Chemical analyses show that the San Andres water is compatible with Blinbry, Tubb, and Drinkard waters.

Well work is expected to be complete within two years of the effective unit date.

WATERFLOOD FACILITIES DESCRIPTION

Facilities construction estimated to cost approximately \$13.0 million is scheduled to be complete within one year of the effective unit date. The following describes the various components of the unit facilities.

Production System

Groups of 8-16 wells will flow into three remote headers and five satellites. A remote header consists of a production manifold which functions as an extension of the production manifold at the satellite. Use of remote headers reduces the number of satellites and production separators required. From the satellites, the liquids are pumped to a central battery and the casinghead gas is delivered to the processing plants via a casinghead gas gathering system. The battery has a free water knockout followed by a wash tank for oil dehydration. Approximately two days of oil storage at peak production is provided. The gas well production system consists of a 2-phase separator at each well with individual well metering prior to entering a gathering system.

Injection System

Injection water will be provided from source wells and from produced water. Source water will be submersibly pumped from wells completed in the San Andres. The source water and produced water will be collected in separate skim tanks. The produced water and source water then flow to a separate storage tank that provides approximately 18 hours of produced water storage capacity in the event of a complete loss of injection capacity. Centrifugal injection pumps deliver water into a branched injection distribution system.

Electrical System

The installation of a unit-wide power system will provide increased reliability and subsequent higher on-stream production. The system consists of high voltage distribution feeders with individual well supply and voltage transformation.

CAO System

A Computer Assisted Operations (CAO) system will provide beam pumping unit control, injection well control, production facility monitoring and automatic well testing.

1987-88 ACTIVITY SUMMARYWell Work 1987-88

A 3-rig program is expected to complete the following in 1987-88:

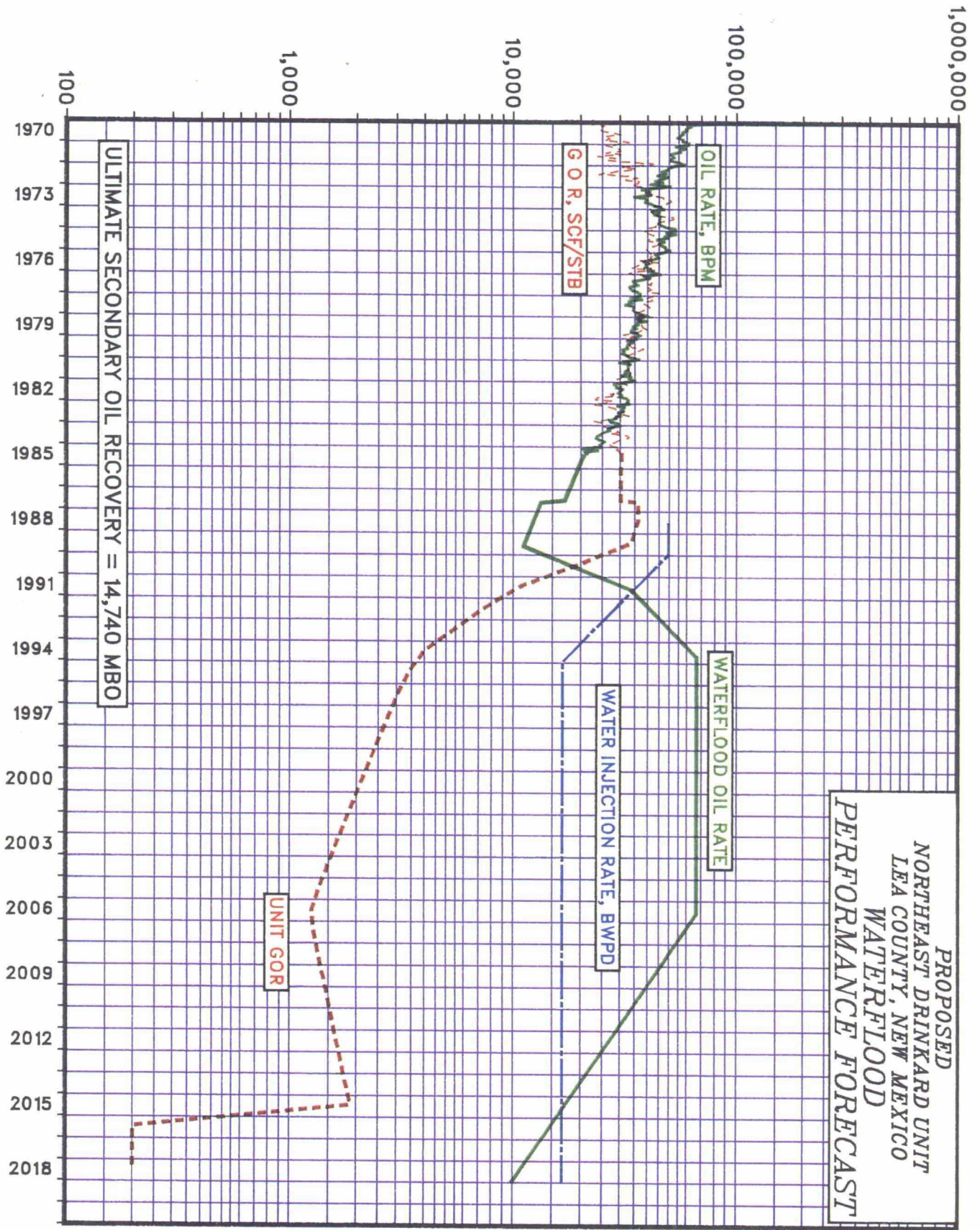
- 52 Oil producer workovers (remaining 31 will be done in 1989)
- 6 Gas well workovers (remaining 14 will be done in 1989)
- 37 CTI's* (convert to injection)
- 10 Water source well workovers

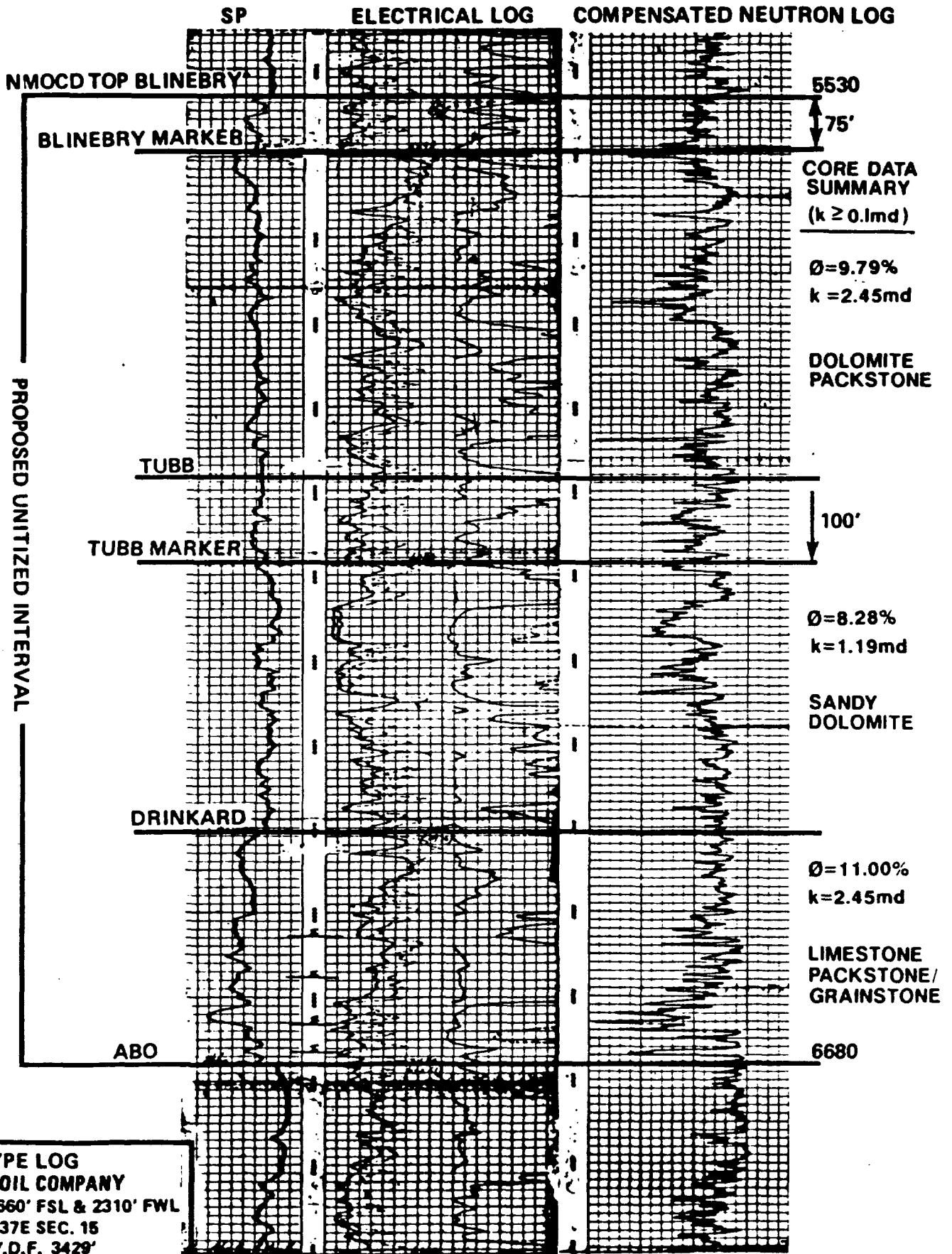
Waterflood Facilities

All facilities work will be completed by the end of 1988. This work includes installation of an oil gathering system, a casinghead gas gathering system, a gas well gas gathering system, a source water gathering system, a water injection system, and a new electrical system.

- * Three CTI's, wells NEDU #615, 709 and 808 will not be done until a signed lease line injection agreement between J. R. Cone and Shell Western has been filed with the NMOCD Director. The Cone lease covers the SW/4 of Section 14.

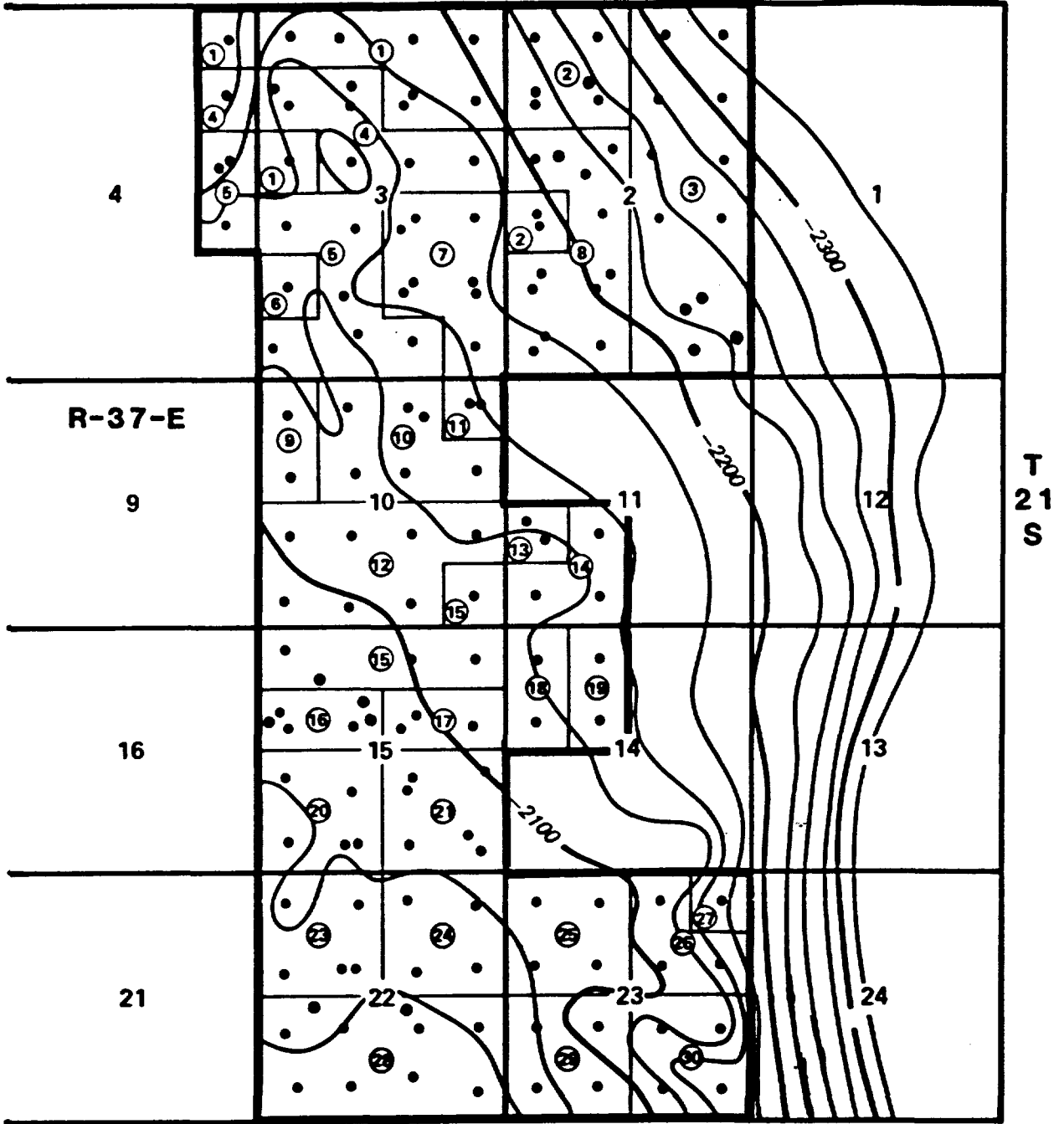
GRAPHS, TABLES, FIGURES





TYPE LOG
SHELL OIL COMPANY
 ARGO NO. 8 660' FSL & 2310' FWL
 21S-37E SEC. 15
 ELEV.D.F. 3429'
 LEA COUNTY, NEW MEXICO

Northeast Drinkard Unit
 Exhibit Fourteen
 Cases 9230
 9231
 9232



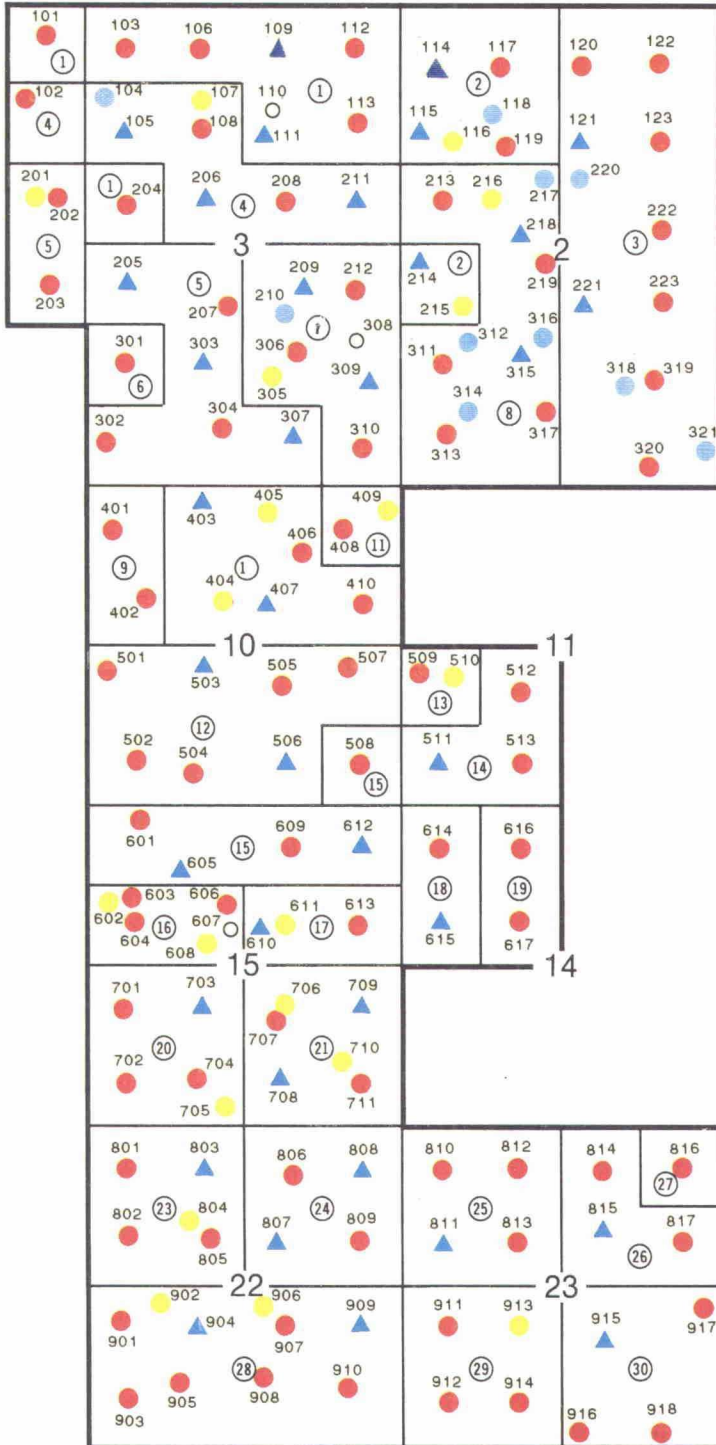
LEGEND

- PROPOSED UNITIZED WELLBORE
- Ⓣ TRACT NUMBER

PROPOSED NORTHEAST DRINKARD UNIT
LEA COUNTY, NEW MEXICO
STRUCTURE ON TOP OF BLINEBRY
CI=25'
EXHIBIT 13

Northeast Drinkard Unit
 Exhibit Thirteen
 Cases 9230
 9231
 9232

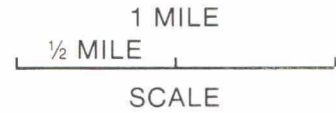
Proposed Flood Plan



LEGEND

- WATER SOURCE WELL
- GAS WELL
- OIL WELL
- ▲ WATER INJECTION WELL

① TRACT NUMBER



**PROPOSED NORTHEAST
DRINKARD UNIT**

**WELLBORE UTILIZATION
& INJECTION PATTERN**

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

PRE-UNIT										UNIT	
Tract	Operator	Lease	Well No.	Location	Current Pool in which well is completed	Unit Well Designation	Unit Utilization				
1	Conoco	Hawk B-3	2	3150' FSL 1650' FEL	3-21S-37E	NEDU#209	Injector				
			5	1980' FSL 1830' FEL	3-21S-37E	NEDU#306	Oil Well				
			7	1980' FSL 660' FEL	3-21S-37E	NEDU#309	Injector				
			10	2970' FSL 1650' FEL	3-21S-37E	NEDU#210	Water Source				
			11	1980' FSL 660' FEL	3-21S-37E	NEDU#308	Observation				
			12	1980' FSL 1980' FEL	3-21S-37E	NEDU#305	Gas Well				
			13	660' FSL 660' FEL	3-21S-37E	NEDU#310	Oil Well				
			14	660' FSL 1650' FEL	3-21S-37E	NEDU#112	Oil Well				
			15	660' FNL 1980' FEL	3-21S-37E	NEDU#109	Oil Well				
			16	660' FNL 1980' FWL	3-21S-37E	NEDU#106	Oil Well				
			17	660' FNL 660' FWL	3-21S-37E	NEDU#103	Oil Well				
			18	1980' FNL 1980' FEL	3-21S-37E	NEDU#110	Observation				
			19	1980' FNL 660' FEL	3-21S-37E	NEDU#113	Oil Well				
			20	660' FSL 660' FEL	3-21S-37E	NEDU#212	Oil Well				
			22	3300' FNL 760' FWL	3-21S-37E	NEDU#204	Oil Well				
			23	660' FNL 560' FEL	4-21S-37E	NEDU#101	Oil Well				
			24	2232' FNL 2310' FEL	3-21S-37E	NEDU#111	Injector				
	Hawk B-10		1	990' FNL 1650' FEL	10-21S-37E	NEDU#406	Oil Well				
			2	1980' FNL 2310' FWL	10-21S-37E	NEDU#404	Gas Well				
			4	1980' FNL 660' FEL	10-21S-37E	NEDU#410	Oil Well				
			8	1980' FNL 2310' FEL	10-21S-37E	NEDU#407	Injector				
			9	660' FNL 1980' FEL	10-21S-37E	NEDU#405	Gas Well				
			10	460' FNL 1980' FWL	10-21S-37E	NEDU#403	Injector				

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

Tract	Operator	Lease	Well No.	Location		Current Pool in which well is completed	UNIT		
				Well No.	Location		Unit Well Designation	Unit Utilization	
2	Meridian Oil Co. (formerly Southland Royalty)	St. Sec. 2	1	3300' FSL	660' FWL	2-21S-37E	B/D	NEDU#214	Injector
			2	Unit Letter E		2-21S-37E	D	NEDU#115	Injector
			3	3175' FSL	660' FWL	2-21S-37E	B/T	NEDU#215	Gas Well
			5	1650' FWL	5610' FSL	2-21S-37E	B/D	NEDU#119	Oil Well
			6	906' FNL	660' FWL	2-21S-37E	D	NEDU#114	Injector
			7	921' FNL	1650' FWL	2-21S-37E	B/D	NEDU#117	Oil Well
			8	5790' FSL	660' FWL	2-21S-37E	B	NEDU#116	Gas Well
			9	1973' FNL	1650' FWL	2-21S-37E	Paddock	NEDU#118	Water Source
			3	Chevron (formerly Gulf)	Harry Leonard	6	2983' FSL	2317' FEL	2-21S-37E
8	660' FSL	330' FEL				2-21S-37E	B	NEDU#321	Water Source
9	1650' FSL	990' FEL				2-21S-37E	B	NEDU#319	Oil Well
10	2220' FNL	2307' FEL				2-21S-37E	B	NEDU#121	Injector
11	2970' FSL	990' FEL				2-21S-37E	B	NEDU#223	Oil Well
12	3534' FNL	990' FEL				2-21S-37E	B	NEDU#222	Oil Well
13	Unit Letter B					2-21S-37E	P&A'D	NEDU#120	
14	2886' FNL	2307' FEL				2-21S-37E	B	NEDU#220	Water Source
16	2217' FNL	989' FEL				2-21S-37E	B	NEDU#123	Oil Well
17	897' FNL	990' FEL				2-21S-37E	TA'D	NEDU#122	Oil Well
18	1650' FSL	1980' FEL				2-21S-37E	B	NEDU#318	Water Source
19	660' FSL	1780' FEL	2-21S-37E	B	NEDU#320	Oil Well			
4	SWEPI	Taylor Glenn	1	3226' FNL	1980' FWL	3-21S-37E	B/D	NEDU#206	Injector
			2	4620' FSL	660' FEL	3-21S-37E	T/D	NEDU#211	Injector
			6	4620' FSL	1979' FEL	3-21S-37E	B/D	NEDU#208	Oil Well
			7	1582' FNL	990' FEL	4-21S-37E	B	NEDU#102	Oil Well
			8	1582' FNL	330' FWL	3-21S-37E	B	NEDU#104	Water Source
			9	1585' FNL	1980' FWL	3-21S-37E	B	NEDU#107	Gas Well
			10	1980' FNL	1980' FWL	3-21S-37E	T/D	NEDU#108	Oil Well
			11	2080' FNL	660' FWL	3-21S-37E	D	NEDU#105	Injector

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

PRE-UNIT							UNIT					
Tract	Operator	Lease	Well No.	Location	Current Pool in which well is completed	Unit Well Designation	Unit Utilization					
5	SWEPI	Livingston	1	1980' FSL	1980' FWL	3-21S-37E	D	NEDU#303	Injector			
			2	660' FSL	1980' FEL	3-21S-37E	TA'd	NEDU#307	Injector			
			5	660' FSL	330' FWL	3-21S-37E	B/D	NEDU#302	Oil Well			
			8	2970' FSL	2308' FWL	3-21S-37E	B/D	NEDU#207	Oil Well			
			9	915' FSL	2208' FWL	3-21S-37E	B/D	NEDU#304	Oil Well			
			10	3200' FSL	660' FEL	4-21S-37E	B/D	NEDU#203	Oil Well			
			11	3300' FSL	660' FWL	3-21S-37E	T	NEDU#205	Injector			
			12	4520' FSL	660' FEL	4-21S-37E	TA'd	NEDU#201	Gas Well			
			13	3330' FNL	367' FEL	4-21S-37E	ABO	NEDU#202	Oil Well			
			6	Texaco Inc.	Estlack	1	Unit Letter T	3-21S-37E	B/T	NEDU#301	Oil Well	
			8	SWEPI	St. Sec. 2	1	1980' FSL	660' FWL	2-21S-37E	D	NEDU#311	Oil Well
						2	4620' FSL	660' FWL	2-21S-37E	D	NEDU#213	Oil Well
4	710' FSL	610' FWL				2-21S-37E	TA'd	NEDU#313	Oil Well			
9	1980' FSL	1880' FWL				2-21S-37E	D	NEDU#315	Injector			
15	3546' FNL	1650' FWL				2-21S-37E	T/ABO	NEDU#216	Gas Well			
16	3546' FNL	1700' FWL				2-21S-37E	B/D	NEDU#218	Injector			
17	2886' FNL	2303' FWL				2-21S-37E	B	NEDU#217	Water Source			
18	3550' FSL	2300' FWL				2-21S-37E	B	NEDU#219	Oil Well			
19	2310' FSL	2307' FWL				2-21S-37E	B	NEDU#316	Water Source			
20	990' FSL	2300' FWL				2-21S-37E	B	NEDU#317	Oil Well			
21	2205' FSL	988' FWL				2-21S-37E	B	NEDU#312	Water Source			
22	990' FSL	990' FWL				2-21S-37E	B	NEDU#314	Water Source			
9	Conoco	St. Sec. 10	2	1980' FNL	990' FWL	10-21S-37E	B/D	NEDU#402	Oil Well			
			3	990' FNL	840' FWL	10-21S-37E	D/T	NEDU#401	Oil Well			

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

Tract	Operator	Lease	Well No.	PRE-UNIT			Current Pool in which well is completed	UNIT	
				Location	Unit Well Designation	Unit Utilization			
11	Meridian Oil Co. (formerly Southland Royalty)	Dauron	1	660' FNL	660' FEL	10-21S-37E	D	NEDU#408	Oil Well
			2	660' FNL	525' FEL	10-21S-37E	B	NEDU#409	Gas Well
12	Exxon	NM "V" St.	1	660' FSL	660' FWL	10-21S-37E	B/D	NEDU#502	Oil Well
			3	660' FSL	1980' FEL	10-21S-37E	B/D	NEDU#506	Injector
			6	1980' FSL	1980' FEL	10-21S-37E	B/D	NEDU#505	Oil Well
			7	500' FSL	1880' FWL	10-21S-37E	B/T	NEDU#504	Oil Well
			8	2100' FSL	760' FEL	10-21S-37E	B/D	NEDU#507	Oil Well
			11	2080' FSL	2080' FWL	10-21S-37E	B/T	NEDU#503	Injector
12			12	1980' FSL	330' FWL	10-21S-37E	B	NEDU#501	Oil Well
			1	2310' FSL	345' FWL	11-21S-37E	B	NEDU#509	Oil Well
13	Meridian Oil Co. (formerly Southland Royalty)	Gutman	2	1980' FSL	990' FWL	11-21S-37E	B/D	NEDU#510	Gas Well
			1	660' FSL	660' FWL	11-21S-37E	B/D	NEDU#511	Injector
14	Conoco	Nolan	2	660' FSL	1980' FWL	11-21S-37E	B/D	NEDU#513	Oil Well
			3	1980' FSL	1980' FWL	11-21S-37E	B/D	NEDU#512	Oil Well
			3	660' FNL	1980' FEL	15-21S-37E	B/D	NEDU#609	Oil Well
15	Texaco Producing Inc.	State S	6	760' FNL	1980' FWL	15-21S-37E	D	NEDU#605	Injector
			7	600' FNL	990' FWL	15-21S-37E	B	NEDU#601	Oil Well
			8	660' FNL	660' FEL	15-21S-37E	B/D	NEDU#612	Injector
			9	660' FSL	660' FEL	10-21S-37E	B/D	NEDU#508	Oil Well
			3	660' FNL	1980' FWL	15-21S-37E	B/D	NEDU#609	Oil Well

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

Tract	Operator	Lease	Well No.	Location		Current Pool in which well is completed	UNIT				
				FNL	FWL		Unit Well Designation	Unit Utilization			
16	Cities Services	State S	1	1980'	FNL	660'	FWL	15-21S-37E	D	NEDU#602	Gas Well
			2	1980'	FNL	1980'	FWL	15-21S-37E	T/D	NEDU#607	Observation
			3	3375'	FSL	3225'	FEL	15-21S-37E	B	NEDU#606	Oil Well
			4	3390'	FSL	4520'	FEL	15-21S-37E	ABO	NEDU#603	Oil Well
			5	1980'	FNL	1880'	FWL	15-21S-37E	ABO	NEDU#608	Gas Well
			6	2310'	FNL	990'	FWL	15-21S-37E	B	NEDU#604	Oil Well
17	SWEPI	St. Sec. 15	1	1980'	FNL	1978'	FEL	15-21S-37E	T/D	NEDU#611	Gas Well
			2	1980'	FNL	660'	FEL	15-21S-37E	B	NEDU#613	Oil Well
			3	2210'	FNL	2310'	FEL	15-21S-37E	B	NEDU#610	Injector
18	Bravo Energy	Eva Owen	1	1980'	FNL	660'	FWL	14-21S-37E	B/T/D	NEDU#615	Injector
			2	660'	FNL	660'	FWL	14-21S-37E	B/D	NEDU#614	Oil Well
19	SWEPI	Andrews	1	1980'	FNL	1980'	FWL	14-21S-37E	B/D	NEDU#617	Oil Well
			2	990'	FNL	1980'	FWL	14-21S-37E	B	NEDU#616	Oil Well
20	SWEPI	Argo	1	660'	FSL	660'	FWL	15-21S-37E	B/D	NEDU#702	Oil Well
			2	1980'	FSL	660'	FWL	15-21S-37E	B	NEDU#701	Oil Well
			3	1980'	FSL	1980'	FWL	15-21S-37E	B/D	NEDU#703	Injector
			4	660'	FSL	1980'	FWL	15-21S-37E	B	NEDU#704	Oil Well
			5	330'	FSL	2310'	FWL	15-21S-37E	T	NEDU#705	Gas Well
21	Marathon	Warlick	1	1980'	FSL	1980'	FEL	15-21S-37E	T	NEDU#706	Gas Well
			2	660'	FSL	1980'	FEL	15-21S-37E	B/D	NEDU#708	Injector
			3	660'	FSL	660'	FEL	15-21S-37E	T	NEDU#711	Oil Well
			4	1980'	FSL	660'	FEL	15-21S-37E	D	NEDU#709	Injector
			9	990'	FSL	990'	FEL	15-21S-37E	B	NEDU#710	Gas Well
			10	1725'	FSL	2149'	FEL	15-21S-37E	B	NEDU#707	Oil Well

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

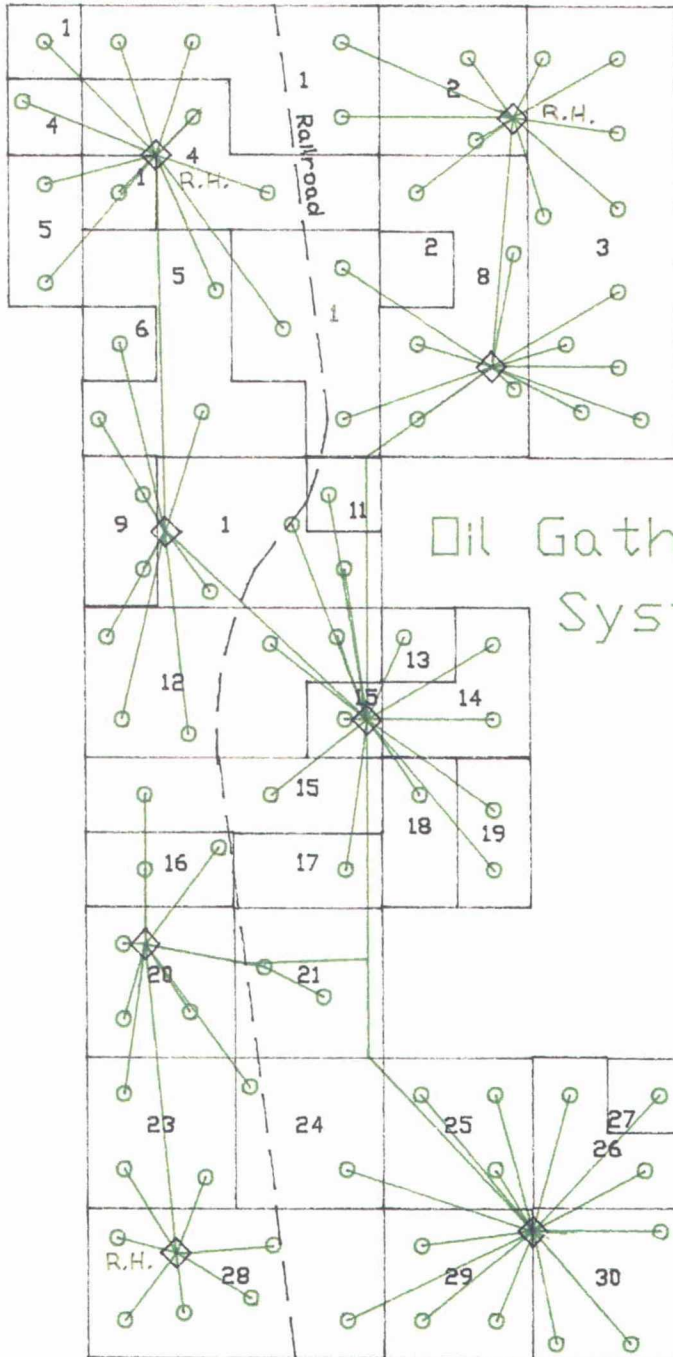
<u>Tract</u>	<u>Operator</u>	<u>Lease</u>	<u>Well No.</u>	<u>Location</u>	<u>Current Pool in which well is completed</u>	<u>UNIT</u>	
						<u>Unit Well Designation</u>	<u>Unit Utilization</u>
<u>PRE-UNIT</u>							
23	SWEPI	Argo A	1	660' FNL	22-21S-37E	NEDU#801	Oil Well
			2	1980' FNL	22-21S-37E	NEDU#802	Oil Well
			3	660' FNL	22-21S-37E	NEDU#803	Injector
			4	1980' FNL	22-21S-37E	NEDU#805	Oil Well
			11	1650' FNL	22-21S-37E	NEDU#804	Gas Well
24	Chevron (formerly Gulf)	Eubank	1	660' FNL	1780' FEL	NEDU#806	Oil Well
			2	660' FNL	22-21S-37E	NEDU#808	Injector
			3	2080' FEL	22-21S-37E	NEDU#807	Injector
			4	660' FEL	22-21S-37E	NEDU#809	Oil Well
25	Texaco Producing Inc.	Williamson	1	660' FNL	23-21S-37E	NEDU#810	Oil Well
			2	1980' FNL	23-21S-37E	NEDU#811	Injector
			3	1980' FNL	23-21S-37E	NEDU#813	Oil Well
			4	660' FNL	23-21S-37E	NEDU#812	Oil Well
26	Arco	Roy Barton	2	660' FNL	23-21S-37E	NEDU#814	Oil Well
			3	1980' FNL	23-21S-37E	NEDU#817	Oil Well
			4	1750' FNL	23-21S-37E	NEDU#815	Injector
27	Bison Petroleum	Williamson	1	660' FNL	23-21S-37E	NEDU#816	Oil Well

INITIAL PLAN OF DEVELOPMENT AND OPERATION

NORTHEAST DRINKARD UNIT
WATERFLOOD PROJECT
UNIT WELLS UTILIZATION TABLE

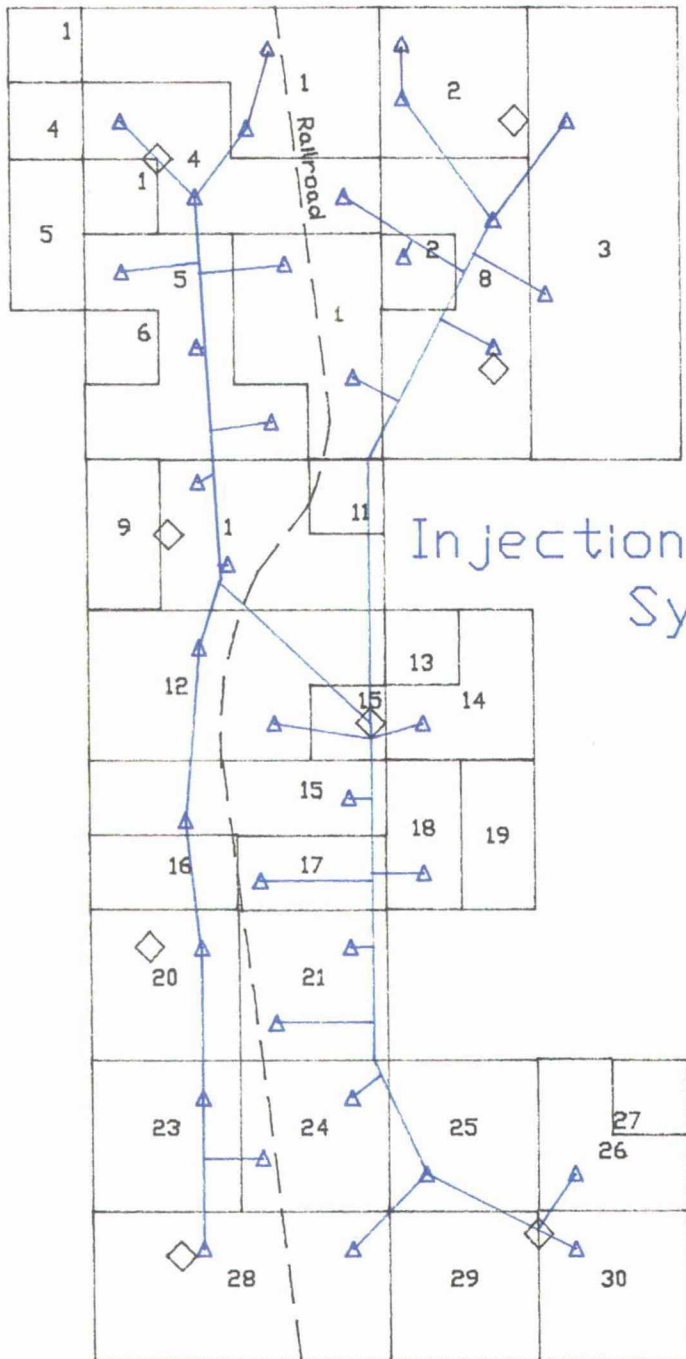
PRE-UNIT										UNIT			
Tract	Operator	Lease	Well No.	Location		Current Pool in which well is completed	Unit Well Designation	Unit Utilization					
28	SWEPI	Turner	1	660' FSL	659' FEL	22-21S-37E	D	NEDU#910	Oil Well				
			2	1980' FSL	660' FWL	22-21S-37E	B	NEDU#901	Oil Well				
			3	1980' FSL	1980' FEL	22-21S-37E	B/D	NEDU#907	Oil Well				
			5	1980' FSL	660' FEL	22-21S-37E	T/D	NEDU#909	Injector				
			6	660' FSL	660' FWL	22-21S-37E	B	NEDU#903	Oil Well				
			10	2080' FSL	1650' FWL	22-21S-37E	T	NEDU#902	Gas Well				
			12	2065' FSL	1700' FWL	22-21S-37E	D	NEDU#904	Injector				
			13	880' FSL	1685' FWL	22-21S-37E	B	NEDU#905	Oil Well				
			14	2310' FSL	2310' FEL	22-21S-37E	H	NEDU#906	Gas Well				
			15	990' FSL	2310' FEL	22-21S-37E	B/D	NEDU#908	Oil Well				
			29	SWEPI	Sarkeys	1	660' FSL	660' FWL	23-21S-37E	B/D	NEDU#912	Oil Well	
						2	1980' FSL	1980' FWL	23-21S-37E	T/D	NEDU#913	Gas Well	
						3	1980' FSL	660' FWL	23-21S-37E	B/D	NEDU#911	Oil Well	
						4	660' FSL	1980' FWL	23-21S-37E	B/D	NEDU#914	Oil Well	
			30	Arco	Sarkeys	1	1980' FSL	1980' FEL	23-21S-37E	B	NEDU#915	Injector	
2	330' FSL	2310' FEL				23-21S-37E	B/T/D	NEDU#916	Oil Well				
3	2310' FSL	330' FEL				23-21S-37E	B/D	NEDU#917	Oil Well				
4	330' FSL	990' FEL				23-21S-37E	B/D/ABO	NEDU#918	Oil Well				

DRINKARD WATERFLOOD



By: JPS
3/24/87

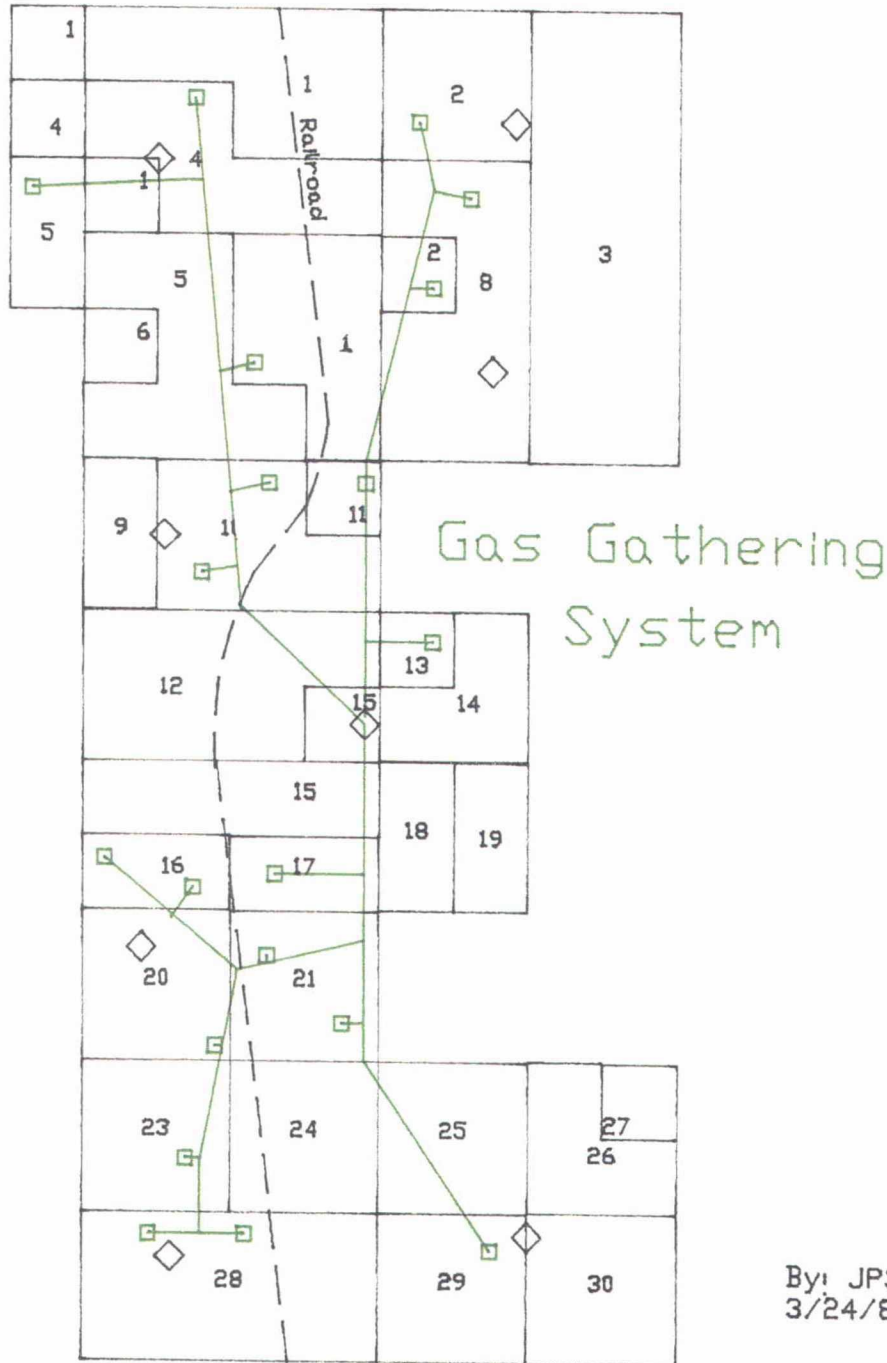
DRINKARD WATERFLOOD



Injection Distribution
System

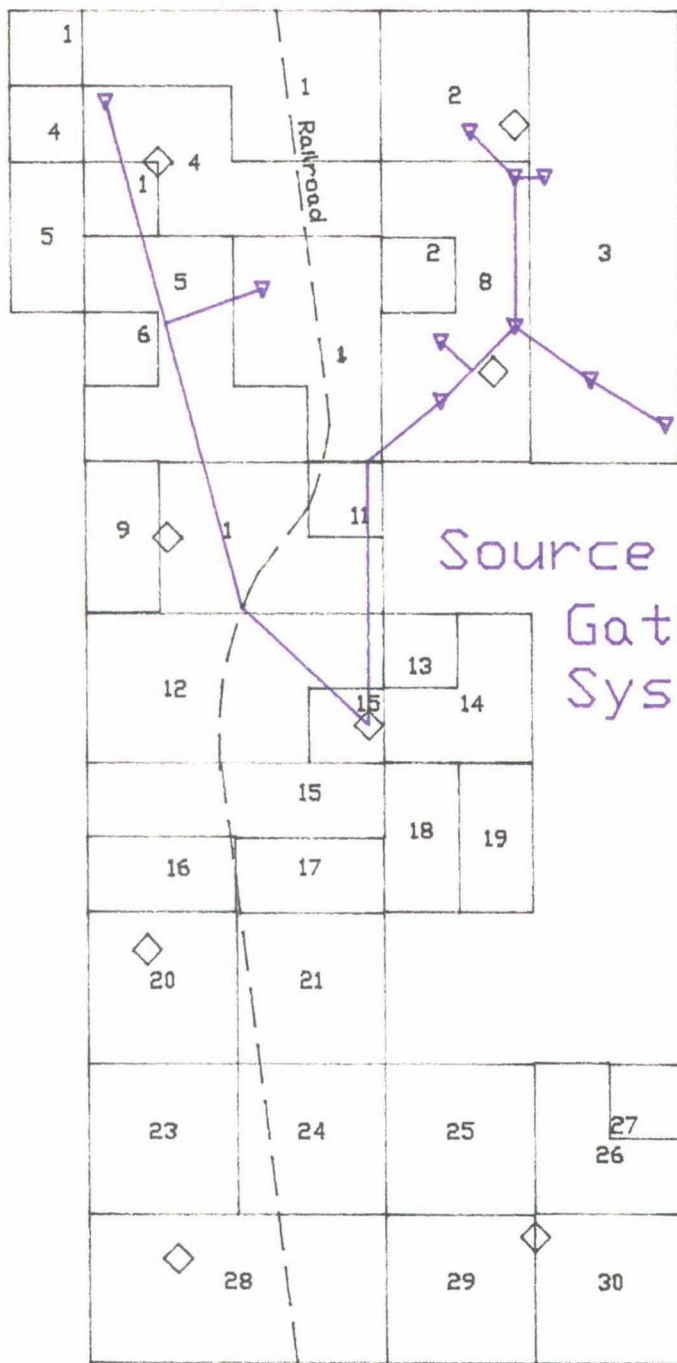
By: JPS
3/24/87

DRINKARD WATERFLOOD



By: JPS
3/24/87

DRINKARD WATERFLOOD



Source Water
Gathering
System

By: JPS
3/24/87

ACTIVITY FOR EXPENDITURE

DEPT. PRODUCTION	BRANCH OFFICE WESTERN DIVISION	ORIGINATING OFFICE RESV.-DEVEL.	A/E NO 83879, 83880
LOCATION OF PROJECT Northeast Drinkard Unit New Mexico Production Unit Lea County, New Mexico		OIL PHASE II PARTICIPATION	
LOCATION NUMBER		APPROPRIATION NO //-	DATE PREPARED 4/6/87
		DATE REGISTERED	
		EST	COMPLETION ACTUAL

WORK ORDER NUMBER	TYPE	DESCRIPTION	100% COST	SWEPI'S 43.83050		% SHARE	
				BUDGET	NONBUDGET	EXPENSE	TOTAL
838792	C	Production Facilities	\$4850M	\$2397M			\$2308M
838797	E		\$ 175M			\$ 77M	\$ 77M
838793	C	Injection Facilities	\$3850M	\$1832M			\$1832M
838794	C	Source Water Facilities	\$1000M	\$ 476M			\$ 476M
838795	C	Elec. Distribution System	\$2350M	\$1118M			\$1118M
838807	R&R	Well workovers: Producer to injector conversions (35), oil producer workovers (87), source water workovers (10)	\$4820M			\$2113M	\$2113M
838802	C	Production & Injection Well Equipment	\$ 480M	\$228M			\$228M
(647)		SUBTOTALS	\$17525M	\$5962M		\$2190M	\$8040M
BUDGET POSITION	AVAILABLE IN BUDGET			RETIREMENT EXPENSE (LESS SALVAGE)			\$8040M
	NEW CAPITAL FUNDS REQUIRED BY BUDGET REVISION			TOTAL COST			\$8040M

APPROVED*

Company: _____
 By: _____
 Date: _____

* This AFE approval is given subject to regulatory approvals of the Northeast Drinkard Unit by the New Mexico Oil Conservation Division, the Commissioner of Public Lands, and the Bureau of Land Management, according to Section 24 of the Unit Agreement.

Return to: B. M. Bradley, WCK 2127
 Shell Western E&P Inc.
 P. O. Box 576
 Houston, TX 77001

RECOMMENDED	APPROVALS
JPS 5/11/87 RJC 5/11/87 JAB 5/11/87 S.B. 5/11/87 5/8/87 5/16/87 5/16/87 5-6-87	R. Plauty J. D. Timmel 5/11/87 M. D. Benton 5/12/87 J. G. [unclear] 5/12/87 C. Miller 5-4-87 5/6/87
5700 AFE02 SWEP-04 15	APPROVAL CERTIFIED
BNBK8709601/0001.0.0	

AUTHORITY FOR EXPENDITURE

DEPT PRODUCTION	BRANCH OFFICE WESTERN DIVISION	ORIGINATING OFFICE RESV.-DEVEL.	AFE NO 83881
LOCATION OF PROJECT Northeast Drinkard Unit New Mexico Production Unit Lea County, New Mexico		APPROPRIATION NO Gas Phase I Participation	
		DATE PREPARED 4/1/87	DATE REGISTERED
		EST.	COMPLETION ACTUAL

WORK ORDER NUMBER	TYPE	DESCRIPTION	100% COST	SWEPI'S 57.19624		% SHARE	
				BUDGET	NONBUDGET	EXPENSE	TOTAL
838812	C	Gas Facilities	\$725M	\$450M			\$450M
838817	R&R	Gas Producer Workovers (20)	\$400M			\$229M	\$229M
	(677)						
		SUBTOTALS	\$1125M	\$450M		\$229M	\$679M
BUDGET POSITION	AVAILABLE IN BUDGET			RETIREMENT EXPENSE (LESS SALVAGE)			
	NEW CAPITAL FUNDS REQUIRED BY BUDGET REVISION			TOTAL COST		\$679M	

APPROVED*

Company: _____

By: _____

Date: _____

Return to: B. M. Bradley, WCK 2127
Shell Western E&P Inc.
P. O. Box 576
Houston, TX 77001

* This AFE approval is given subject to regulatory approvals of the Northeast Drinkard Unit by the New Mexico Oil Conservation Division, the Commissioner of Public Lands, and the Bureau of Land Management, according to Section 24 of the Unit Agreement.

RECOMMENDED	APPROVALS
<p>APS 5/1/87 RPS 5/1/87 JAB 5/1/87 RAB 5/1/87 MAB 5/1/87 SWEP-0415 BNBK8709101/0001.0.0 MAB 5/6/87</p>	<p>R. P. Plauty J. D. D'Amico 5/1/87 M. B. Blanton 5/17/87 G. L. Gray 5/12/87 M. B. Blanton 5/17/87 APPROVAL CERTIFIED</p>