



STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION  
HOBBS DISTRICT OFFICE

GOVERNOR

6/1/99

POST OFFICE BOX 1980  
HOBBS, NEW MEXICO 88241-1980  
(505) 393-6161

OIL CONSERVATION DIVISION  
P. O. BOX 2088  
SANTA FE, NEW MEXICO 87501

F-1241

RE: Proposed:

MC	_____
DHC	_____X_____
NSL	_____
NSP	_____
SWD	_____
WFX	_____
PMX	_____

Gentlemen:

I have examined the application for the:

Anadarko Petroleum Corp EW Walden # 12-F, 15-225-37e  
Operator Lease & Well No. Unit S-T-R

and my recommendations are as follows:

OK-

Yours very truly,

*Chris Williams*

Chris Williams  
Supervisor, District 1

/ed



May 19, 1999

David Catanach  
New Mexico Oil Conservation Division  
P.O. Box 2088  
Santa Fe, NM 87504-2088

Re: Surface Commingling  
E.W. Walden Lease  
Lea County, New Mexico

Dear Mr. Catanach:

Anadarko (OGRID 000817) requests administrative approval for an exception to Rule 303-A to permit downhole commingling of the Grayburg and San Andres oil-oil zones in the wellbore of E.W. Walden #12. The well is located in Section 15 – T22S- R37E in Lea County, New Mexico. Exhibit 1 is a map of the EW Walden lease. This lease currently has 8 active producers in the Grayburg formation.

The EW Walden #12 is currently producing in the Grayburg at a rate of 1 BOPD, 2 BWPD and 23 MCFPD. This well is currently at its economic limit and if the commingling is approved, additional reserves could be recovered from the Grayburg formation. The San Andres was perforated and tested briefly in 1982 at a rate of about 25 BOPD. If this application is approved both zones will be turned together and placed on sucker rod pump.

In the wellbore, the Grayburg zone is perforated from 3640-3843' and the San Andres zone is perforated from 3899-3976'. The current producing BHP is 120 psi for the Grayburg interval (based on fluid level analysis) and the BHP for the San Andres is 880 psi (based on Lou Wortham C#2 offset analogy). The pressure difference should not be a problem as we will attempt to keep both zones in the "pumped off" condition in the wellbore. In the event that crossflow should occur, the waters are compatible (attached water analysis) and combining the fluids should not result in the formation of formation damaging precipitates.

Based on the latest test in the Grayburg (4/99) and the last test in the San Andres (8/82) in this well, the well should initially produce 25-30 BOPD, 350 MCFPD and 250 BWPD. This combined rate was developed by using the allocation of 96.5% for the San Andres and 3.5 % for the Grayburg. These allocation factors were developed based on current and past production. A current production plot is included for the Grayburg interval as well as the brief production history for the San Andres interval.

At present the well is not involved in a secondary recovery project. If a future secondary recovery project were to be considered we foresee no problems with this commingling prospect jeopardizing the efficiency of a secondary project.

If commingling is approved, Anadarko Petroleum Corporation, will the operator of the said well located 2250' FNL & 1350' FWL, Sec 15, T22S, R37E, Lea County, New Mexico, Penrose Skelly Grayburg and Southwest Eunice San Andres. All working, overriding, and royalty interests are the same in the two commingled zones.

Surface Commingling  
E.W. Walden Lease  
May 19, 1999  
Page 2 of 2

All offset operators have been notified of the proposed commingling by a copy of this letter. If you have any questions regarding this proposed action, please feel free to contact me at (915) 683-0559.

Sincerely,

A handwritten signature in black ink that reads "Richard Lauderdale". The signature is written in a cursive, flowing style.

Richard Lauderdale  
Production Engineer

Attachments

cc: NMOCD - District I (Hobbs)  
REL/Harold/Well File  
Offset Operators (see attached list)

**ANADARKO PETROLEUM CORPORATION**

**Offset Operators List**

**E.W. Walden Lease**

**Lea County, New Mexico**

Collins & Ware, Inc.  
Empire Plz.  
508 W. Wall, Ste. 1200  
Midland, Texas 79701-5076

Chevron U.S.A. Production Company  
Box 1635  
1301 McKinney  
Houston, Texas 77251

Conoco, Inc.  
10 Desta Dr., Ste. 100W  
Midland, Texas 79705-4500

John H. hendrix  
Box 3040  
110 N. Marienfeld, Ste. 400  
Midland, Texas 79701

ICA Energy, Inc.  
Box 233  
Odessa, Texas 79760-0233

Oryx Energy Co.  
13155 Noel Rd.  
Dallas, Texas 75221-2880

Wagner & Brown, LTD.  
Box 1714  
300 N. Marienfeld, Ste. 1100  
Midland, Texas 79702



## DISTRICT I

1625 N. French Dr., Hobbs, NM 88240

## DISTRICT II

811 South First St., Artesia, NM 88210

## DISTRICT III

1000 Rio Brazos Rd, Aztec, NM 87410

## DISTRICT IV

2040 S. Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals and Natural Resources Department

## OIL CONSERVATION DIVISION

2040 S. Pacheco  
Santa Fe, New Mexico 87505-6429

## APPLICATION FOR DOWNHOLE COMMINGLING

Form C-107-A  
Revised March 17, 1999

## APPROVAL PROCESS:

\_\_\_ Administrative \_\_\_ Hearing

## EXISTING WELLBORE

\_\_\_ YES \_\_\_ NO

ANADARKO PETROLEUM CORPORATION

P O BOX 2497

MIDLAND TX 79702

Operator

Address

E.W. WALDEN

12

F - SEC 15-T22S-R37E

LEA

Lease

Well No.

Unit Ltr. - Sec - Twp - Rge

County

OGRID NO. 000817

Property Code

001414

API No.

30-025-27756

Spacing Unit Lease Types: (check 1 or more)

Federal \_\_\_ State \_\_\_ (and/or) Fee X

The following facts are submitted in support of downhole commingling:	Upper Zone	Intermediate Zone	Lower Zone
1. Pool Name and Pool Code	PENROSE SKELLY GRAYBURG 50350		EUNICE; SAN ANDRES, SOUTHWEST 24180
2. Top and Bottom of Pay Section (Perforations)	3640-3843		3899-3976
3. Type of production (Oil or Gas)	OIL		OIL
4. Method of Production (Flowing or Artificial Lift)	ARTIFICIAL LIFT		ARTIFICIAL LIFT
5. Bottomhole Pressure Oil Zones - Artificial Lift: Gas & Oil - Flowing: All Gas Zones: Estimated Current Measured Current Estimated Or Measured Original	a. (Current) 120 BHP b. (Original)	a. b.	a. b. FROM LOU WORTHAM C#2 ANALOGY (ATTACHED) 880 PSI
6. Oil Gravity (EAPI) or Gas BTU Content	35.0° API		37.1° API
7. Producing or Shut-In?	PRODUCING		SI
Production Marginal? (yes or no)	YES		YES, IN OFFSETTING LSES
* If Shut-In, give date and oil/gas/water rates of last production Note: For new zones with no production history, applicant shall be required to attach production estimates and supporting data	Date: Rates:	Date: Rates:	Date: 08/82 Rates: 27 BOPD, 245 BWPD 330 MCFPD
* If Producing, give date and oil/gas/water rates of recent test (within 60 days)	Date: 4/20/99 Rates: 1 BOPD, 23 MCFPD, 2 BWPD	Date: Rates:	Date: Rates:
8. Fixed Percentage Allocation Formula - % for each zone (total of %'s to equal 100%)	Oil: 3.5 % Gas: 6.5 %	Oil: % Gas: %	Oil: 96.5 % Gas: 93.5 %

9. If allocation formula is based upon something other than current or past production, or is based upon some other method, submit attachments with supporting data and/or explaining method and providing rate projections or other required data.

10. Are all working, overriding, and royalty interests identical in all commingled zones? ☒ Yes \_\_\_ No  
If not, have all working, overriding, and royalty interests been notified by certified mail? ☒ Yes \_\_\_ No  
Have all offset operators been given written notice of the proposed downhole commingling? ☒ Yes \_\_\_ No11. Will cross-flow occur? \_\_\_ Yes ☒ No If yes, are fluids compatible, will the formations not be damaged, will any cross-flowed production be recovered, and will the allocation formula be reliable. \_\_\_ Yes \_\_\_ No (If No, attach explanation)12. Are all produced fluids from all commingled zones compatible with each other? ☒ Yes \_\_\_ No13. Will the value of production be decreased by commingling? \_\_\_ Yes ☒ No (If Yes, attach explanation)

14. If this well is on, or communitized with, state or federal lands, either the Commissioner of Public Lands or the United States Bureau of Land Management has been notified in writing of this application. \_\_\_ Yes \_\_\_ No

15. NMOCD Reference Cases for Rule 303(D) Exceptions: ORDER NO(S) \_\_\_\_\_

## 16. ATTACHMENTS:

- \* C-102 for each zone to be commingled showing its spacing unit and acreage dedication.
- \* Production curve for each zone for at least one year. (If not available, attach explanation.)
- \* For zones with no production history, estimated production rates and supporting data.
- \* Data to support allocation method or formula.
- \* Notification list of all offset operators.
- \* Notification list of working, overriding, and royalty interests for uncommon interest cases.
- \* Any additional statements, data, or documents required to support commingling.

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

SIGNATURE Richard Lauderdale TITLE Production Engineer DATE 5/19/99TYPE OR PRINT NAME RICHARD LAUDERDALE TELEPHONE NO. (915)683-0559

NEW MEXICO OIL CONSERVATION COMMISSION  
 WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
 Superseded C-128  
 Effective 1-1-65

All distances must be from the outer boundaries of the Section

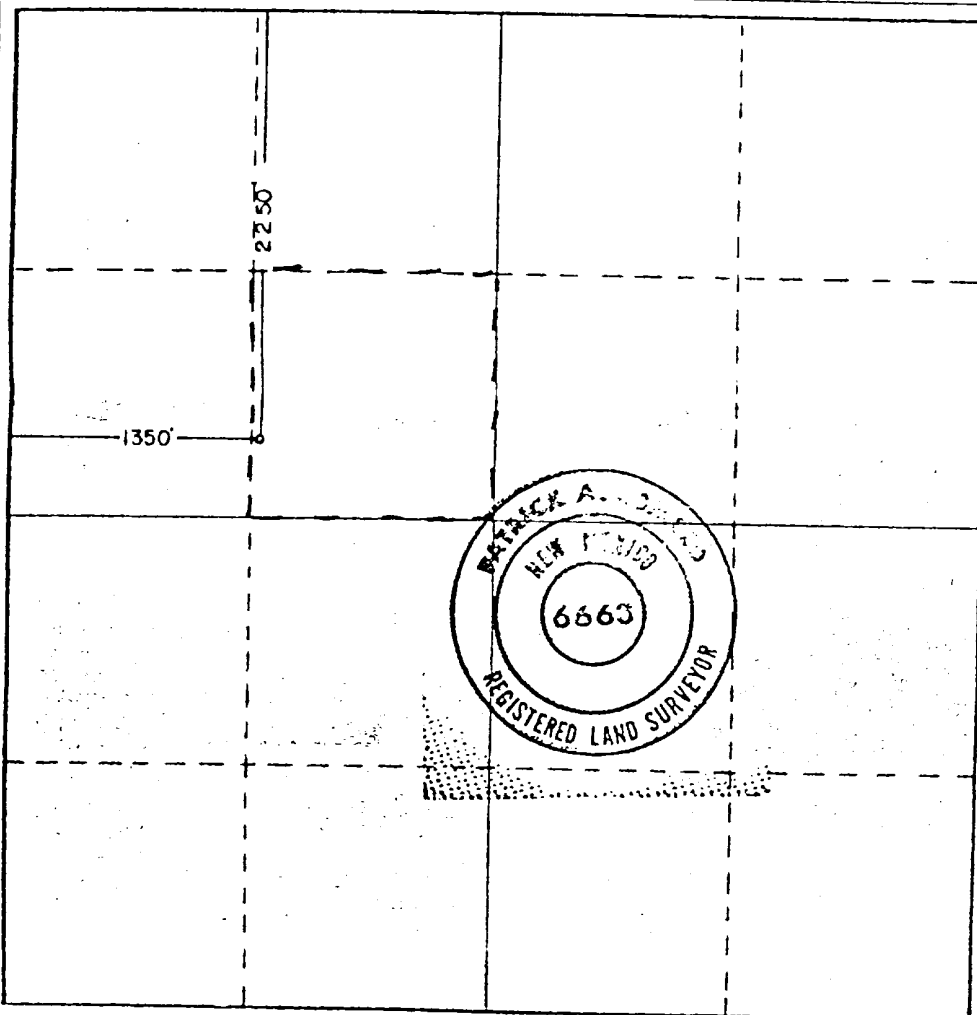
Operator <b>ANADARKO PRODUCTION CO.</b>			Lease <b>E. W. WALDEN</b>		Well No. <b>12</b>
Unit Letter <b>F</b>	Section <b>15</b>	Township <b>22 SOUTH</b>	Range <b>37 EAST</b>	County <b>LEA</b>	
Actual Footage Location of Well: <b>2250</b> feet from the <b>NORTH</b> line and <b>1350</b> feet from the <b>WEST</b> line					
Ground Level Elev. <b>3402.6</b>	Producing Formation <b>Grayburg SA</b>	Pool <b>Penrose Shelly</b>	(Pool Code) <b>50350</b>	Dedicated Acreage: <b>40</b> Acres	

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☐ Yes ☒ No If answer is "yes," type of consolidation \_\_\_\_\_

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.) \_\_\_\_\_

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



REL 5/19/89 CERTIFICATION

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

Name *John C. English*

Position **John English**

Area Supervisor

Company

**Anadarko Production Company**

Date

**February 17, 1982**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed

**2-11-82**

Registered Professional Engineer and or Land Surveyor

*Patrick A. Romero*

Certificate No. **JOHN W. WEST 876**  
**PATRICK A. ROMERO 6663**  
**Ronald J. Eidann 3230**

120 660 0 1320 1982 1980 2310 2640 2700 1800 1000 800 0

District I

PO Box 1980, Hobbs, NM 88241-1980

District II

811 S. 1st Street, Artesia, NM 88210-2834

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION  
2040 South Pacheco  
Santa Fe, NM 87505

Form C-102

Revised October 18, 1994

Instructions on back

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

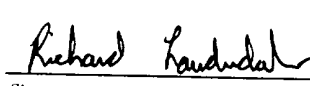
<sup>1</sup> API Number 30-025-27756		<sup>2</sup> Pool Code 24180		<sup>3</sup> Pool Name UNDESINATED - EUNICE; SAN ANDRES, SOUTHWEST	
<sup>4</sup> Property Code 001414		<sup>5</sup> Property Name E.W. WALDEN			<sup>6</sup> Well Number
<sup>7</sup> OGRID No. 000817		<sup>8</sup> Operator Name Anadarko Petroleum Corp.			<sup>9</sup> Elevation 3402.6' GR

<sup>10</sup> Surface Location									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County
F	15	22S	37E		2250	NORTH	1350	WEST	LEA

<sup>11</sup> Bottom Hole Location If Different From Surface									
UL or lot no.	Section	Township	Range	Lot. Idn	Feet from the	North/South Line	Feet from the	East/West line	County

<sup>12</sup> Dedicated Acres	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED  
OR A NON--STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

2250'				<sup>17</sup> OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.</i>   Signature RICHARD LAUDERDALE Printed Name PRODUCTION ENGINEER Title 05/19/1999 Date
1350'				<sup>18</sup> SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i>  Date of Survey Signature and Seal of Professional Surveyer:  Certificate Number



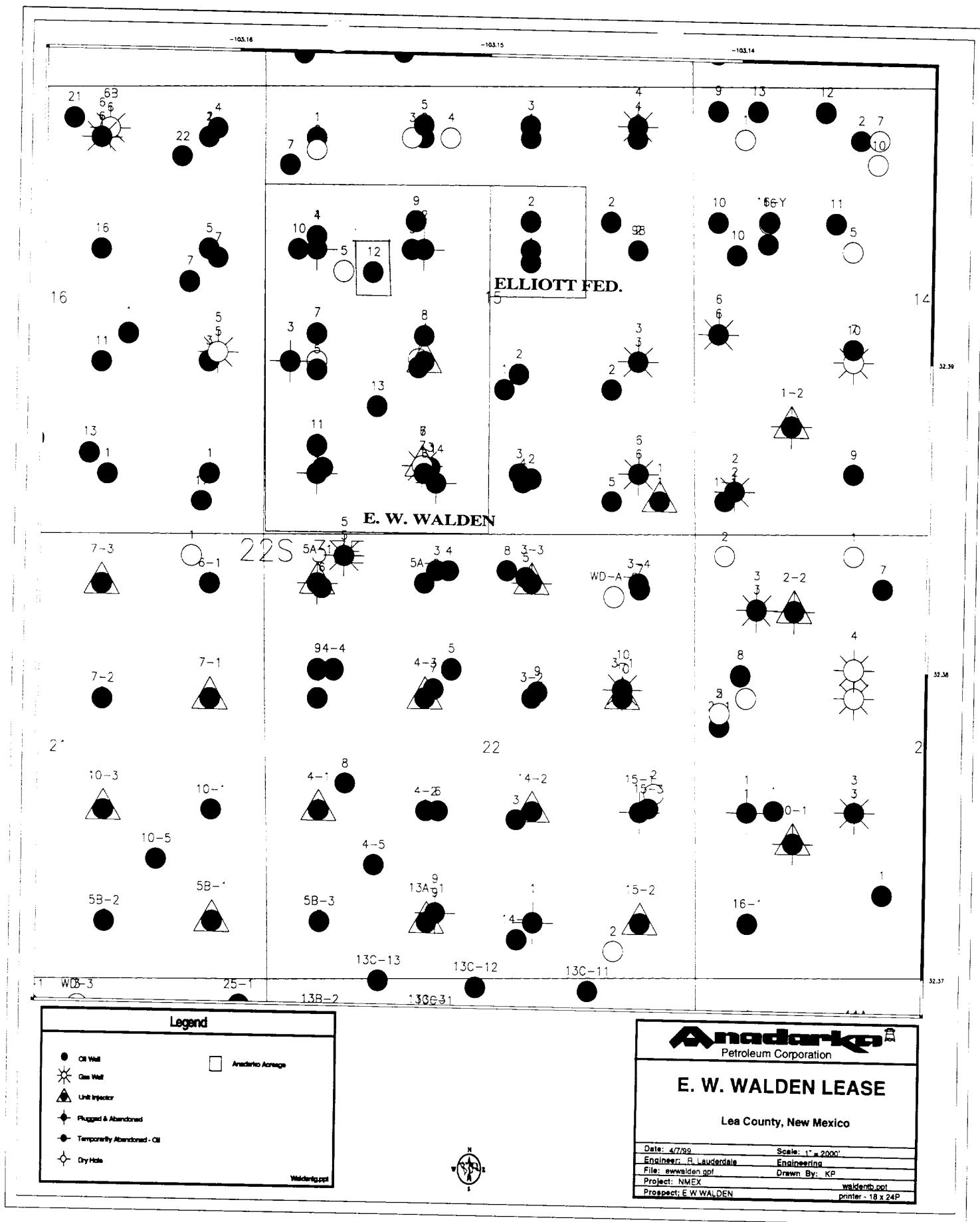


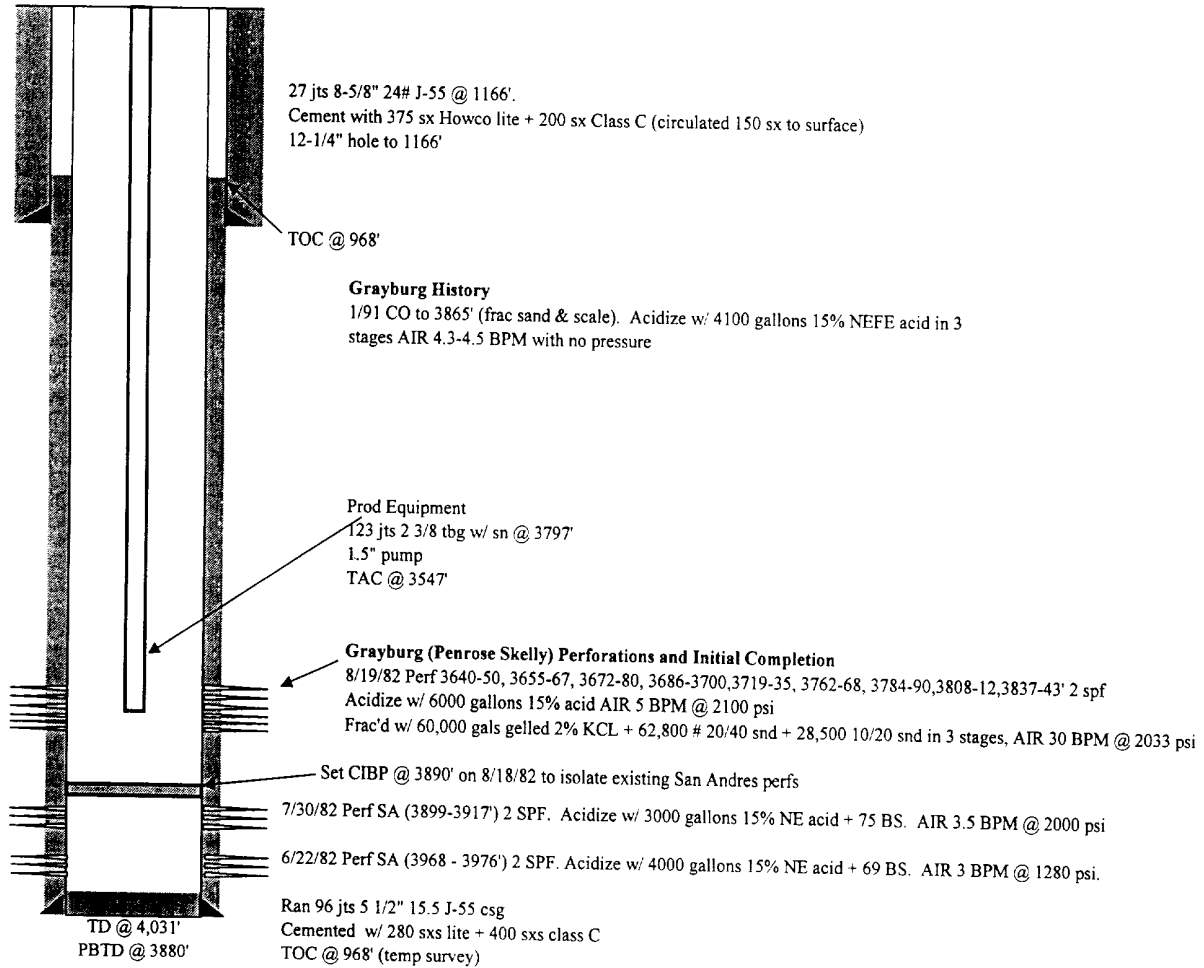
Exhibit 1

## E.W. Walden #12

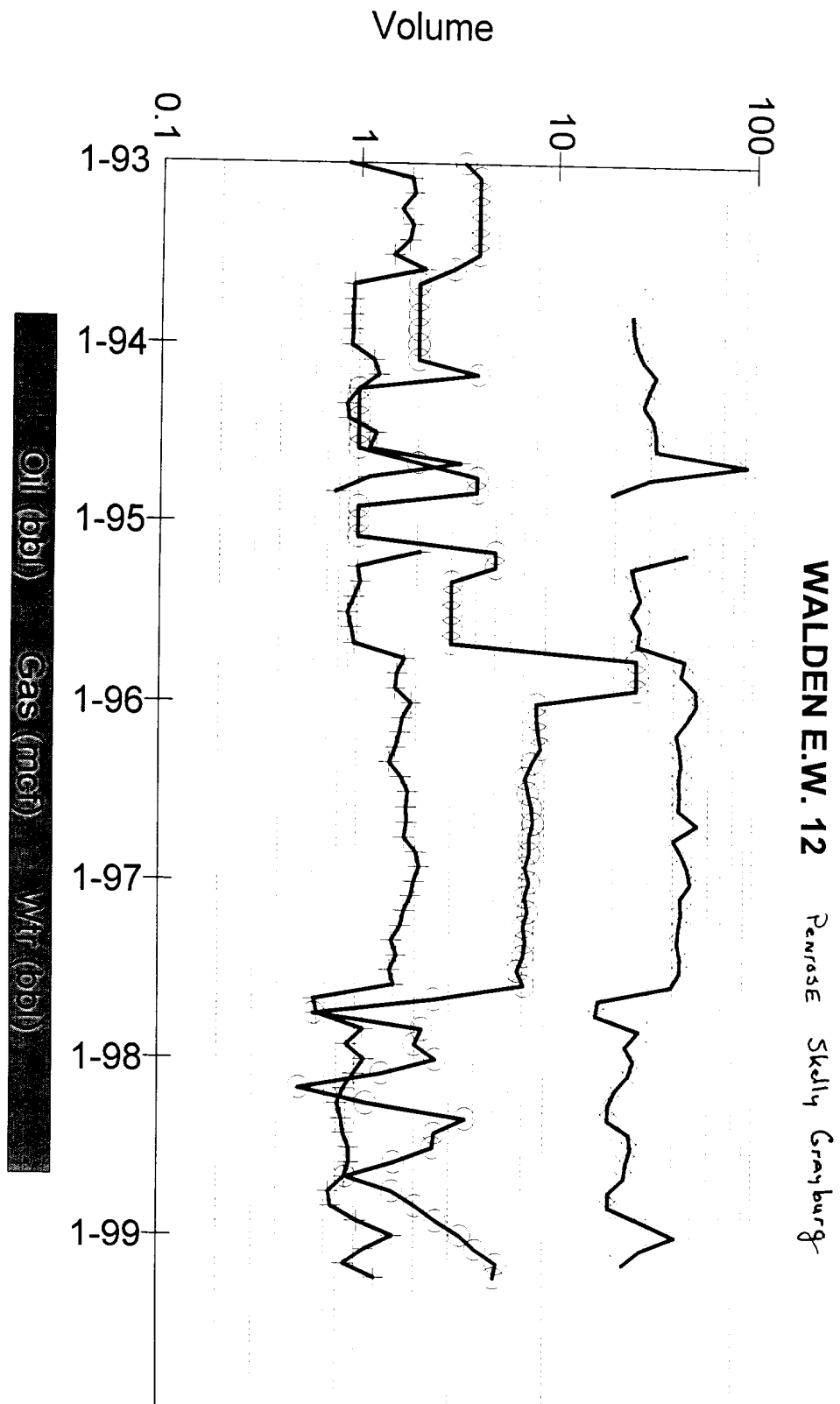
Penrose Skelly (Grayburg) Oil Well

2250' FNL & 1350' FWL, Sec. 15, T22S, R37E, Lea County, New Mexico

Spudded 5/30/82



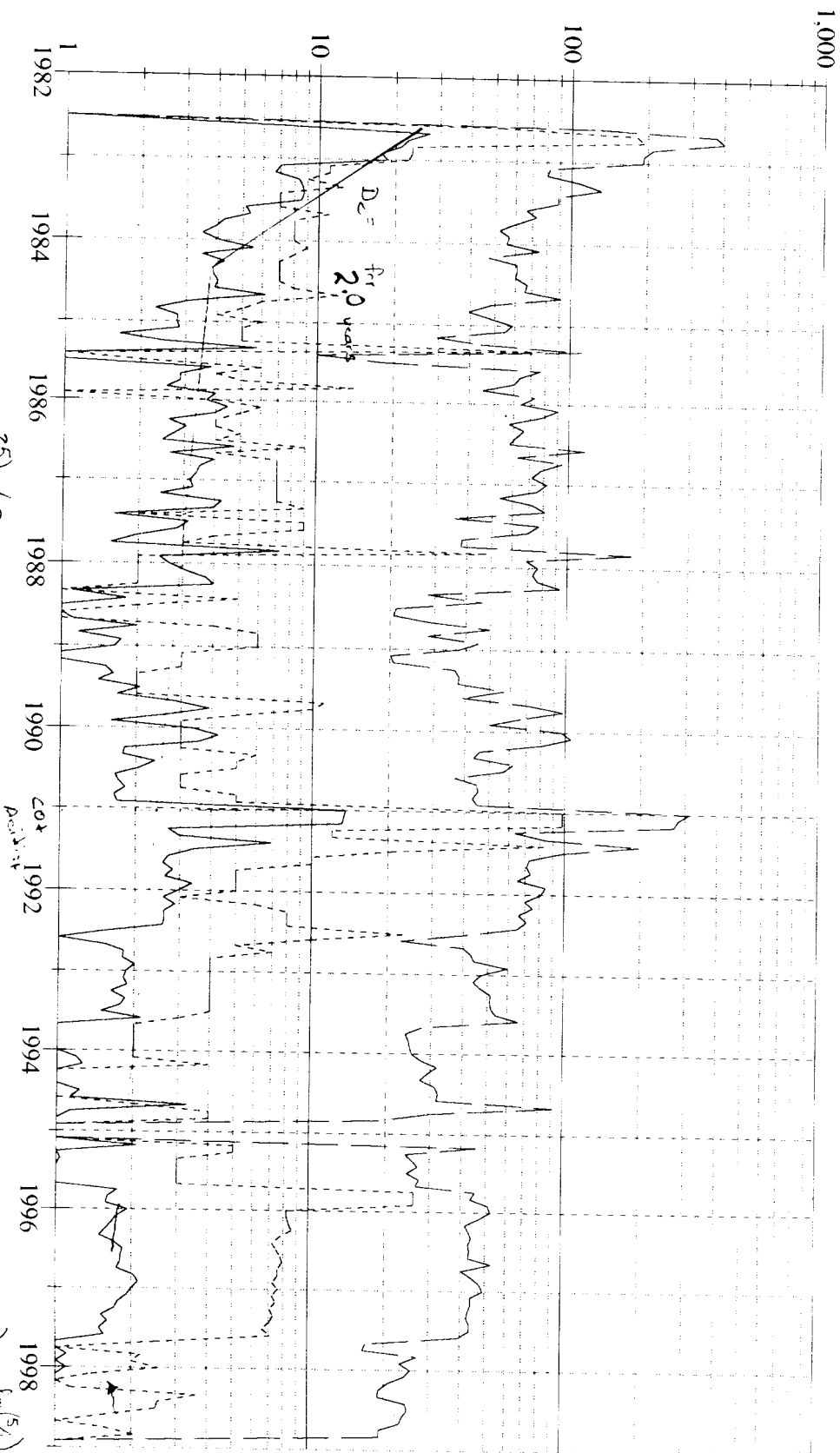
709 W. INDIANA  
MIDLAND, TEXAS 79701  
PHONE 683-4521



Oil
Gas
Water
Wells

Field: PENROSE SKELLY  
 Lease: E W WALDEN | Well #12  
 Operator: ANADARKO PETROLEUM CORPORATION  
 Production Rate vs Time  
 For the Period 01/1982 to 12/1998 | API: 3002527560000

Bbl/Day or Mcf/Day



Reported Oil Production = 17,477 Bbls  
 Reported Gas Production = 351,508 Mcf  
 Reported Water Production = 58,736 Bbls

$D = \ln\left(\frac{25}{5}\right) / 2 \text{ years}$   
 $D_{\text{average}} = 5.5\%$   
 $n = 55\%$

Time

Plot Displays Daily Averages  
 Copyright (C) 1999 by Petroleum Information/Dwights LL

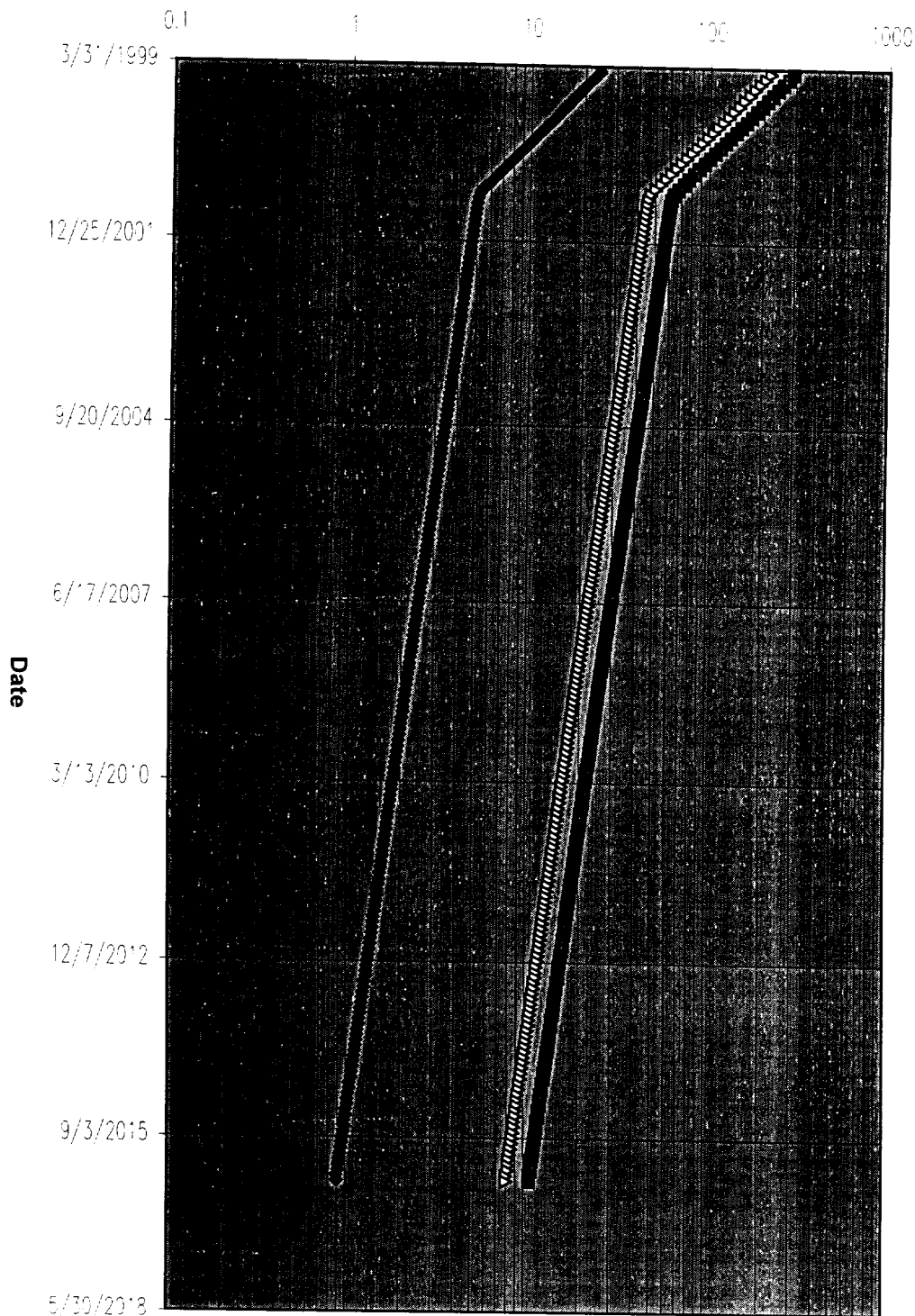
San Andres History in EW Walden #12

perfs	3968-76			
	Oil Rate	Water Rate	Gas Rate	
7/8/1982	0	190	11	
7/9/1982	0	192	19	
7/10/1982	0	197	23	
7/11/1982	2	190	25	
7/12/1982	0	190	18	
7/13/1982	NO Test			
7/14/1982	NO Test			
7/15/1982	NO Test			
7/16/1982	27	154	44	
7/17/1982	47	217	NA	
7/18/1982	17	86	NA	
7/19/1982	13	220	NA	
7/20/1982	64	80	NA	
7/21/1982	NO Test		NA	
7/22/1982	25	260	NA	
7/23/1982	34	208	NA	
7/24/1982	22	178	NA	
7/25/1982	19	169	NA	
7/26/1982	17	164	NA	
7/27/1982	15	161	NA	
7/28/1982	14	162	NA	
7/30/1982	Set RBP @ 3960' to test Upper SA			

perfs	3899-3917			
	Oil Rate	Water Rate	Gas Rate	
8/7/1982	5	205	NA	
8/8/1982	5	220	NA	
8/9/1982	9	135	NA	
8/10/1982	10	163	NA	
8/11/1982	NO Test		NA	
8/12/1982	3	141	NA	
8/13/1982	15	141	NA	
8/14/1982	10	50	NA	
8/15/1982	10	50	NA	
8/16/1982	NO Test		NA	
8/17/1982	9	131	NA	
8/18/1982	10	140	NA	

8/18/1982 Set CIBP above San Andres perforations and this well has been Grayburg producer since that time.

# **EW Walden #12 Projected San Andres Production** Based on Grayburg Analogy in well



◆ Oil Rate, BOPD  
 ■ Gas Rate, MCFPD  
 ▲ Water Rate, BWPD