Texaco North America Production
Permian Business Unit
500 North Loraine
Midland TX 79701
P O Box 3109
Midland TX 79702

September 28, 1998

OCT - 5 1998

State of New Mexico
Energy, Minerals, and Natural Resources Department
Oil Conservation Division
Attention: Mr. Ben Stone
P. O. Box 2088
Santa Fe, New Mexico 87505

12154

RE: **POSITIVE PRODUCTION RESPONSE CERTIFICATION**
Cooper Jal Unit
Lea County, New Mexico

Gentlemen:

Texaco Exploration and Production Inc. requests certification of positive production response for the "EOR Project Area" of the subject unit. The "EOR Project Area" was certified as a secondary recovery project by Order No. R-9983. Attached is the required information associated with the application:

- A copy of the Division's approval of the project
- A plat of the affected area and a list of all wells with completion dates
- A production plot and tabular data of production and injection.

If you need additional information regarding this matter, please contact Mr. Charles Wolle at (915) 688-2930.

Thank you for your prompt consideration of this matter.

Yours very truly,

Charles E. Sadler
Asset Team Manager

CRW/NAZ

Attachments

RSL 12/14
SRT /
File
JHO —
File —

STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

ANITA LOCKWOOD
CABINET SECRETARY

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

MIDLAND PRODUCING DIVISION
DRILLING AND PRODUCTION DEPARTMENT
December 6, 1993
DEC 15 1993

Texaco Exploration & Production, Inc.
Attention: Jim H. Ohlms
P.O. Box 3109
Midland, TX 79702

CERTIFICATION OF ENHANCED OIL RECOVERY PROJECT FOR RECOVERED OIL TAX RATE

The New Mexico Oil Conservation Division hereby certifies that the following Enhanced Oil Recovery Project has been approved by the Division as a secondary project, pursuant to the provisions of the *New Mexico Enhanced Oil Recovery Act* (Laws of 1992, Chapter 38). In order to qualify for the *Recovered Oil Tax Rate*, you must apply for certification of positive production response within five years from the date of this certification. Only production from that portion of the project area identified herein which is actually developed for enhanced recovery will qualify for the reduced tax rate.

If operation of this project is terminated for any reason, the operator of the project must notify this Division and the Secretary of the Taxation and Revenue Department not later than the thirtieth day after termination.

NAME OF PROJECT: Cooper Jal Jalmat and Cooper Jal Langmat Waterflood Projects (Cooper Jal Unit Area)

OCD ORDER NO. R-9983

OPERATOR: Texaco Exploration & Production, Inc.
ADDRESS: Attention: Jim H. Ohlms
P.O. Box 3109
Midland, TX 79702

CERTIFICATION DATE: October 15, 1993

PROJECT AREA:

Township 24 South, Range 36 East, NMPM

Section 13: S/2
Section 23: S/2 SE/4
Section 24: All
Section 25: N/2
Section 26: NE/4 NE/4

Township 24 South, Range 37 East, NMPM
Section 18: SW/4 SW/4
Section 19: W/2
Section 30: NW/4

APPROVED BY:

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
DIRECTOR

S E A L

STATE OF NEW MEXICO
ENERGY, MINERALS, AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:

CASE NO. 10798
Order No. R-9983

APPLICATION OF TEXACO EXPLORATION
AND PRODUCTION INC. TO AUTHORIZE
THE EXPANSION OF A PORTION OF ITS
COOPER JAL UNIT WATERFLOOD PROJECT
AND QUALIFY SAID EXPANSION FOR THE
RECOVERED OIL TAX RATE PURSUANT TO
THE "NEW MEXICO ENHANCED OIL RECOVERY
ACT", JALMAT AND LANGLIE-MATTIX POOLS,
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on August 12, 1993, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 6th day of October, 1993, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS THAT:

(1) Due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.

(2) By Order Nos. R-4019 and R-4020 issued in Case Nos. 4403 and 4404 on August 25, 1970, the Division authorized Reserve Oil and Gas Company to institute a waterflood project within the Langlie-Mattix and Jalmat Pools, respectively, within its Cooper Jal Unit Area, comprising some 2,581 acres within portions of Township 24 South, Ranges 36 and 37 East, NMPM, Lea County, New Mexico.

(3) Separate waterflood operations within the Cooper Jal Jalmat Waterflood Project and Cooper Jal Langmat Waterflood Project have been conducted utilizing 80-acre five spot injection patterns since 1970.

(4) The applicant, Texaco Exploration and Production Inc. (Texaco), being the successor operator of the Cooper Jal Unit, seeks an order pursuant to the Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate, as promulgated by Division Order No. R-9708, qualifying a portion of its Cooper Jal Jalmat Waterflood Project and Cooper Jal Langmat Waterflood Project, Lea County, New Mexico, for the recovered oil tax rate pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(5) The area proposed to be included within the EOR qualification area, hereinafter referred to as the "Project Area", is described as follows:

TOWNSHIP 24 SOUTH, RANGE 36 EAST, NMPM
Section 13: S/2
Section 23: S/2 SE/4
Section 24: All
Section 25: N/2
Section 26: NE/4 NE/4

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 18: SW/4 SW/4
Section 19: W/2
Section 30: NW/4

(6) Within the proposed Project Area, the applicant proposes to conduct waterflood operations on 40-acre five spot injection patterns within both the Langlie-Mattix and Jalmat Pools. Such action will require that the applicant drill and equip thirteen new producing wells, convert six producing wells to injection, convert six injection wells to producing wells, and convert eighteen injection wells to dual injection.

(7) Texaco requests certification of the Project Area on the contention that it has or will expand the use of enhanced oil recovery technology and will increase the size of the geographic and geologic area being flooded representing a unique area of activity.

(8) Geologic evidence indicates that the Jalmat Pool comprises the Tansill, Yates and the upper 250 feet of the Seven Rivers formation. The Langlie-Mattix Pool comprises the remaining portion of the Seven Rivers and all of the Queen formation.

(9) Geologic evidence further indicates that within the Yates and Seven Rivers formations there are numerous distinct producing sand intervals which are vertically segregated by non-porous dolomite or carbonate sections. In addition, the geologic evidence shows that the producing intervals are generally continuous across the unit; however, the thickness, uniformity, porosity and permeability may vary significantly resulting in areas of lateral discontinuity.

(10) Geologic variations as described above generally indicate that the 80-acre five spot injection pattern previously utilized within the Cooper Jal Jalmat and Cooper Jal Langmat Waterflood Projects may have been too large and likely resulted in substantial volumes of oil being left unrecovered.

(11) Reducing the waterflood pattern by opening new intervals in existing wells and by drilling additional wells will add new zones to these projects, improve the sweep efficiency of both projects, increase their size, and extend the project into new geographic areas of activity, thereby recovering reserves that without this modification would never be produced.

(12) By Order No. WFX-648 dated September 27, 1993, the Division authorized the applicant to expand its Cooper Jal Jalmat and Cooper Jal Langmat Waterflood Projects by converting nine wells to injection in the Jalmat and/or Langlie Mattix Pools.

(13) According to applicant's engineering evidence and testimony, the proposed expansion of the subject waterflood projects should result in the recovery of an additional 3.2 million barrels of oil from the Cooper Jal Unit Area.

(14) The proposed expansion of the Cooper Jal Jalmat and Cooper Jal Langmat Waterflood Projects will occur in three phases, and, according to testimony, the activity within each phase will overlap to some extent. Phase I is to be implemented in late 1993, Phase II in 1994 and Phase III in 1995.

(15) The capital costs for implementing Phases I, II, and III are projected to be $3.472, $2.860 and $2.470 million dollars, respectively.

(16) The evidence presented demonstrates that the proposed waterflood expansions meet all criteria for EOR qualification.

(17) The application should be approved and the EOR Projects should be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects" and "Certification for Recovered Oil Tax Rate" as promulgated by Division Order No. R-9708.

(18) To assure that data is available to demonstrate that wells in each phase of these project expansions are experiencing a positive production response to this modification, the applicant should conduct sufficient tests on each zone in each producing well to establish an adequate base line against which any subsequent production response can be measured.

(19) The qualified Project Area should initially comprise the area described in Finding No. (5) above, provided however, the Phase I, II and III areas within the Project Area may be independently certified by the Division to the New Mexico Taxation and Revenue Department.

(20) To be eligible for the EOR credit, the operator should advise the Division when water injection commences within Phase I, II and III and at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

(21) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

IT IS THEREFORE ORDERED THAT:

(1) The application of Texaco Exploration and Production Inc. to qualify a portion of its Cooper Jal Jalmat and Cooper Jal Langmat Waterflood Projects, both located within the applicant's Cooper Jal Unit Area, as "Enhanced Oil Recovery Projects" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5), is hereby approved.

(2) The certified Project Area shall include the following described lands in Lea County, New Mexico, provided however, the Phase I, II and III areas within the Project Area may be independently certified by the Division to the New Mexico Taxation and Revenue Department:

TOWNSHIP 24 SOUTH, RANGE 36 EAST, NMPM
Section 13: S/2
Section 23: S/2 SE/4
Section 24: All
Section 25: N/2
Section 26: NE/4 NE/4

TOWNSHIP 24 SOUTH, RANGE 37 EAST, NMPM
Section 18: SW/4 SW/4
Section 19: W/2
Section 30: NW/4

(3) The operator shall advise the Division when water injection commences within Phase I, II and III and, at such time, request the Division certify such phases or areas to the New Mexico Taxation and Revenue Department.

(4) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to The Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(5) The subject EOR projects shall be governed by the provisions of the "Rules and Procedures for Qualifications of Enhanced Oil Recovery Projects" and "Certification for Recovered Oil Tax Rate" as promulgated by Division Order No. R-9708.

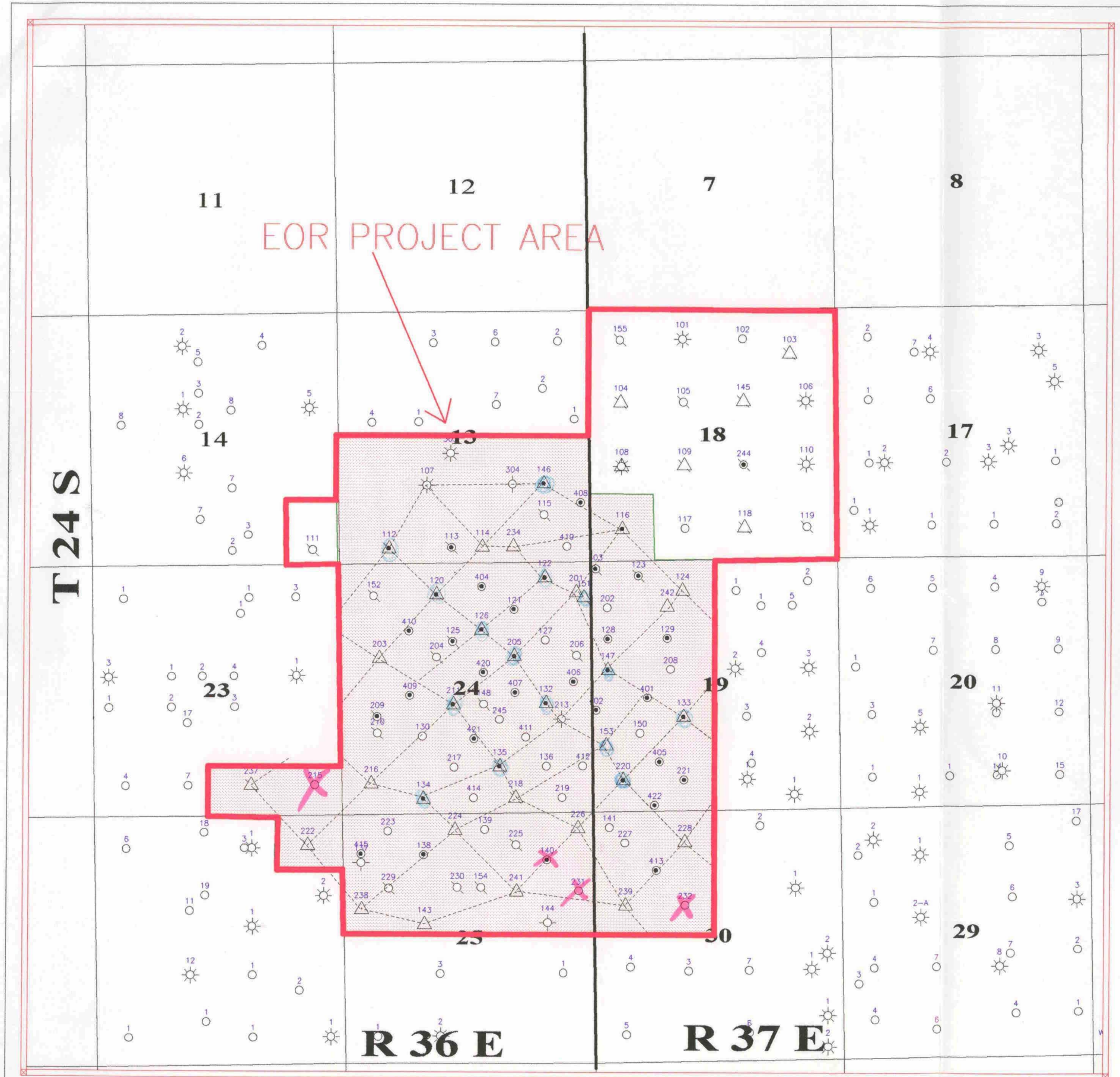
(6) Jurisdiction of this cause is hereby retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L



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LEGEND

- SINGLE OIL PRODUCER
- DHC OIL PRODUCER
- WATER INJECTOR
- GAS PRODUCER
- SI DHC PRODUCER
- SI WATER INJECTOR
- SI GAS PRODUCER
- SI DUAL INJECTOR
- DUAL INJECTOR

Scale 1:28900.4

1000. 0. 1000. 2000. 3000. 4000. 5000. feet

TEXACO EXPLORATION AND PRODUCTION INC

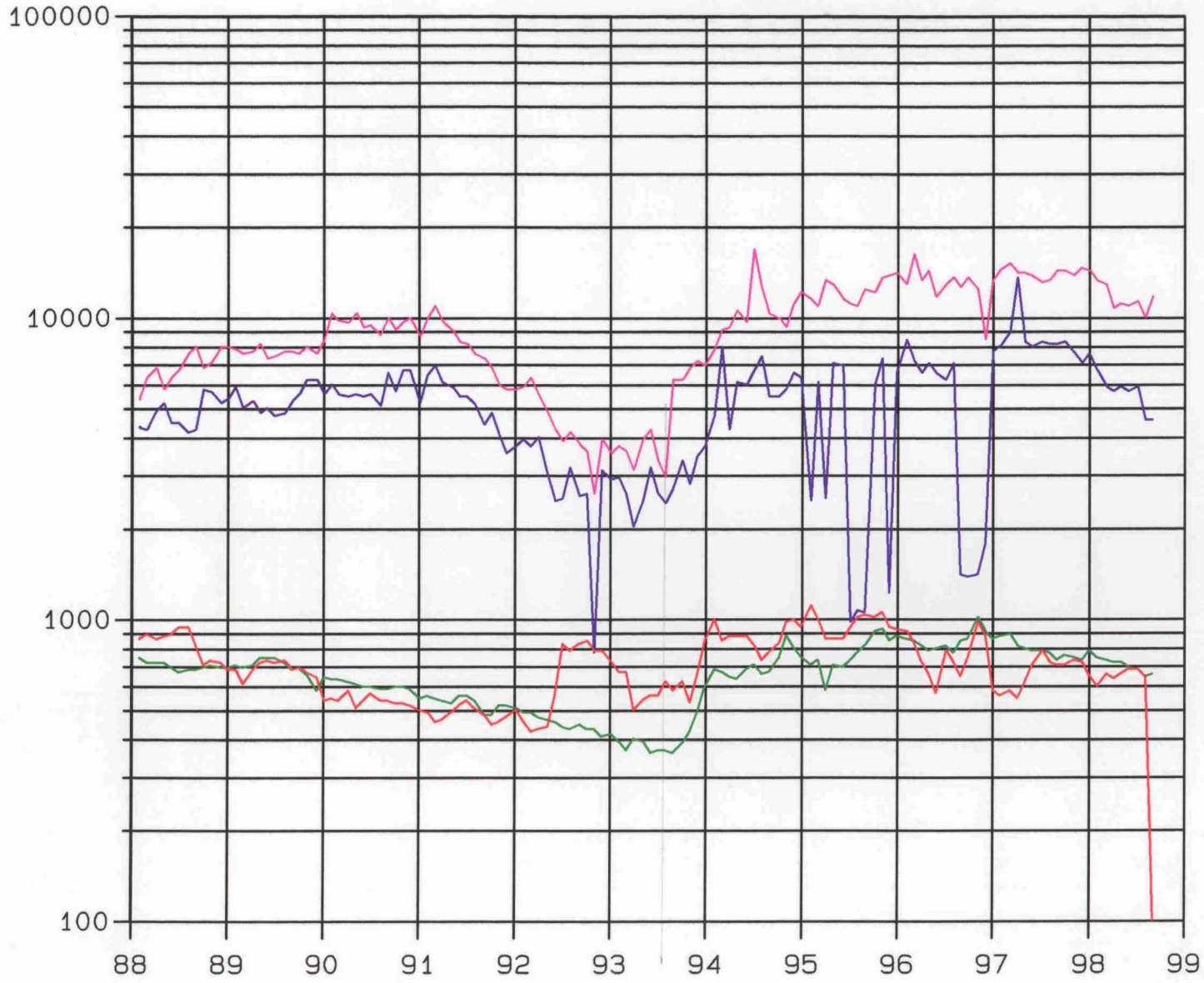
COOPER JAL UNIT
LEA COUNTY, NEW MEXICO
REDEVELOPMENT PROGRAM

CES		9/25/98
	Scale 1:28900.4	

Cooper Jal Unit
Lea County, New Mexico

Well No.	Type	Completion Date	Well No.	Type	Completion Date
107	Producer	3/25/52	218	Injector	12/1/76
~~112~~	~~Injector~~	~~1/10/94~~	219	Producer	12/24/49
113	Producer	12/1/51	~~220~~	~~Injector~~	~~3/11/94~~
114	Injector	7/29/71	221	Producer	9/15/49
115	Producer	4/30/50	222	Injector	6/30/71
116	Injector	9/23/71	223	Producer	12/5/50
~~120~~	~~Injector~~	~~6/1/94~~	224	Injector	6/16/71
121	Producer	1948	225	Producer	1/8/50
~~122~~	~~Injector~~	~~2/25/94~~	226	Injector	5/20/71
123	Producer	5/3/52	227	Producer	7/9/50
124	Injector	7/22/71	228	Injector	4/30/74
125	Producer	9/6/54	229	Producer	8/30/50
~~126~~	~~Injector~~	~~12/21/93~~	230	Producer	2/6/51
127	Producer	5/29/54	231	Producer	4/5/51
128	Producer	7/28/54	232	Producer	10/1/49
129	Producer	9/11/54	234	Injector	8/4/71
130	Producer	4/22/54	237	Injector	9/16/76
~~132~~	Injector	~~6/17/95~~	238	Injector	10/12/71
~~133~~	Injector	~~4/21/94~~	239	Injector	5/4/74
~~134~~	Injector	~~2/28/95~~	241	Injector	10/29/75
~~135~~	Injector	~~2/28/95~~	242	Injector	11/4/75
136	Producer	5/8/54	245	Producer	12/16/49
138	Producer	7/1/54	302	Producer	3/25/46
139	Producer	5/24/54	303	Producer	4/4/48
140	Producer	6/13/54	~~401~~	~~Producer~~	~~1/21/94~~
141	Producer	9/13/55	~~402~~	~~Producer~~	~~2/6/94~~
143	Injector	7/14/71	~~403~~	~~Producer~~	~~2/3/94~~
~~146~~	~~Injector~~	~~6/21/94~~	~~404~~	~~Producer~~	~~1/22/94~~
~~147~~	Injector	~~5/9/94~~	~~405~~	~~Producer~~	~~1/7/94~~
148	Producer	3/31/54	~~406~~	~~Producer~~	~~10/1/94~~
150	Producer	12/22/48	~~407~~	~~Producer~~	~~10/1/94~~
~~151~~	~~Injector~~	~~11/30/93~~	~~408~~	~~Producer~~	~~7/27/95~~
152	Producer	1/10/36	~~409~~	~~Producer~~	~~10/1/94~~
~~153~~	~~Injector~~	~~10/27/95~~	~~410~~	~~Producer~~	~~6/26/95~~
154	Producer	5/13/79	~~411~~	~~Producer~~	~~8/26/95~~
201	Injector	9/21/71	~~412~~	~~Producer~~	~~8/3/95~~
202	Producer	5/28/50	~~413~~	~~Producer~~	~~8/14/95~~
203	Injector	7/16/71	~~414~~	~~Producer~~	~~10/17/94~~
204	Producer	10/3/51	~~415~~	~~Producer~~	~~7/30/95~~
~~205~~	~~Injector~~	~~3/9/94~~	~~419~~	~~Producer~~	~~10/21/94~~
206	Producer	5/4/50	~~420~~	~~Producer~~	~~8/10/96~~
208	Producer	5/10/50	421	Producer	~~8/30/96~~
209	Producer	11/10/54	422	Producer	~~9/10/96~~
210	Producer	5/18/51			
~~211~~	~~Injector~~	~~3/10/94~~			
215	Producer	6/23/51			
216	Injector	6/28/71			
217	Producer	3/2/50			

Cooper Jal Unit EOR Project Area



LEASE DATA
LSE
FLD
OPER
ZONE
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COUNTY
STATE

STATUS 8-98
CO 8147 MBO
CG 10672 MMCF
CW 38599 MBW
BOPD 664
BWPD 4569
MCFPD 0
WELLS 91
CI 68380 MBWI
BWIPD 11740

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*
LEASE NAME: COOPER JAL UNIT (EOR Project Area)
********** PRODUCTION/INJECTION
****

YEAR	MON	BOPM	MCFPM	BWPM	BWIPM
1988	01	22741	26690	123929	166983
1988	02	19889	24599	108720	176546
1988	03	22228	26184	140303	213621
1988	04	21232	26020	141184	173640
1988	05	21121	27116	125976	198510
1988	06	19822	28234	121328	200760
1988	07	20672	28942	120316	236530
1988	08	20699	24706	121073	247546
1988	09	20745	20627	157578	205170
1988	10	21591	22792	164469	220570
1988	11	20692	21614	143327	243163
1988	12	21342	20857	155895	249464
1989	01	21564	20815	167379	245386
1989	02	19233	16986	130525	214711
1989	03	21728	20812	152289	240598
1989	04	22084	21501	135189	245625
1989	05	22818	22418	143458	228896
1989	06	22234	21648	132343	223487
1989	07	22323	22600	137137	240790
1989	08	21077	20977	154533	239082
1989	09	20742	20624	157343	229445
1989	10	20274	20557	181102	247357
1989	11	17096	19173	170550	228892
1989	12	19722	16670	166973	265267
1990	01	19435	16994	169713	323798
1990	02	17698	15178	143835	275554
1990	03	19000	18058	153318	296505
1990	04	17955	15280	151695	311169
1990	05	18421	16589	152018	288553
1990	06	17619	17090	147835	282685
1990	07	18170	16675	141753	272671
1990	08	18183	16659	200574	310743
1990	09	17951	15865	153174	274990
1990	10	18328	16144	189602	297822
1990	11	17573	15399	181345	297864
1990	12	16961	15403	151040	269414
1991	01	17272	15012	179471	310548
1991	02	15192	12595	173167	306316
1991	03	16601	14007	172496	306567
1991	04	15800	14189	162871	274439
1991	05	17067	15708	156854	260463
1991	06	16621	15523	148470	245121
1991	07	16460	15604	146682	237359
1991	08	14692	14719	125878	228702
1991	09	14634	13572	144844	204601
1991	10	16243	14261	127598	185522
1991	11	15751	14334	106222	175112
1991	12	15911	15428	117293	179930
1992	01	15199	14332	121957	184840

1992	02	13710	12046	105094	176566
1992	03	14609	13557	124222	172849
1992	04	14084	13241	90911	145876
1992	05	14311	17717	76838	131471
1992	06	13287	12927	75050	116139
1992	07	13499	13837	99025	130614
1992	08	13884	14191	78865	119069
1992	09	13093	14948	77844	109309
1992	10	13376	16088	24087	81630
1992	11	12421	15100	93485	118796
1992	12	12995	15616	89831	110618
1993	01	12334	15166	91412	116343
1993	02	10320	13306	73089	100897
1993	03	12575	14151	62253	96809
1993	04	11879	12981	74225	118345
1993	05	11310	12976	99163	132827
1993	06	11076	11613	78031	100214
1993	07	11353	14232	75017	92359
1993	08	11233	13327	84006	194142
1993	09	11619	15365	101038	186953
1993	10	13248	13294	87023	213709
1993	11	14766	17399	104220	218380
1993	12	18563	23728	116334	216763
1994	01	20996	27248	146291	246987
1994	02	18728	20549	223670	255973
1994	03	20210	24218	133077	288658
1994	04	19067	24447	182187	317418
1994	05	21107	25076	187376	300302
1994	06	21190	23098	200835	512147
1994	07	20439	21968	231151	393954
1994	08	20716	22129	169057	321286
1994	09	22403	23705	164200	297382
1994	10	27329	29378	178678	289927
1994	11	24150	28615	199042	336419
1994	12	23351	28054	197621	375658
1995	01	22058	32771	76455	359743
1995	02	20431	26556	170841	308861
1995	03	18154	25530	77667	417765
1995	04	21390	25576	214043	386296
1995	05	21695	25296	215779	359733
1995	06	21914	26923	29594	336023
1995	07	23923	30256	33183	340975
1995	08	25214	30436	33016	382688
1995	09	27300	28097	179869	365431
1995	10	28828	29446	227903	423331
1995	11	25601	27005	36909	418284
1995	12	27300	27333	205399	437083
1996	01	26903	26785	261494	402465
1996	02	23652	23412	203001	453960
1996	03	25198	22184	206027	412788
1996	04	23795	19796	214204	427523
1996	05	25144	17774	202830	364290
1996	06	24403	23652	185926	386365
1996	07	24221	22395	220282	419409
1996	08	26314	20098	43388	389291
1996	09	26042	22547	41832	410077

1996	10	31367	30270	44127	384202
1996	11	27420	26367	53867	253885
1996	12	26715	17953	239595	416287
1997	01	27491	17475	250626	443228
1997	02	25093	16388	251317	426847
1997	03	25226	17011	424956	439660
1997	04	24127	18663	250999	423409
1997	05	24650	21797	250984	430453
1997	06	23697	23532	252461	396194
1997	07	24008	22552	252484	415558
1997	08	22895	21915	252369	444632
1997	09	22716	21346	252009	428146
1997	10	23031	22842	236547	428381
1997	11	22050	21657	212880	440998
1997	12	24402	17271	236529	442768
1998	01	23321	15601	208570	416347
1998	02	20571	15570	166163	359964
1998	03	22507	19628	175899	335600
1998	04	21542	17213	175981	336103
1998	05	21729	18173	175927	340499
1998	06	20404	18047	175873	341431
1998	07	20077	18180	141668	312580
1998	08	20576	0	141639	363937

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