

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11222 Exhibit No. 1

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

STATE OF
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. 10794
Order No. R-9961

APPLICATION OF YATES PETROLEUM
CORPORATION FOR APPROVAL OF A
WATERFLOOD PROJECT, 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 10th day of September, 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) Division Case Nos. 10794 and 10763 were consolidated at the time of the hearing for the purpose of testimony.

(3) The applicant, Yates Petroleum Corporation, seeks authority to institute a waterflood project in its Sanmal Queen Unit, Sanmal-Queen Pool, by the injection of water into the Queen formation through the gross perforated interval from approximately 3,762 feet to 3,782 feet in the following described wells located in Township 17 South, Range 33 East, NMPM, Lea County, New Mexico:

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Order No. R-9961
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<u>WELL NAME & NUMBER</u>	<u>WELL LOCATION</u>
Billy "AES" St. No. 2	530' FNL & 1750' FWL (Unit C) Section 12
Hoover "ADR" St. No. 2	990' FSL & 2310' FEL (Unit O) Section 1

(4) The applicant further seeks authority to reclassify its Hoover "ADR" State Well No. 1, located 1650 feet from the South line and 990 feet from the East line (Unit I) of Section 1, Township 17 South, Range 33 East, NMPM, from a salt water disposal well to an injection well within the proposed Sanmal Queen Unit Waterflood Project.

(5) The Hoover "ADR" State Well No. 1 was approved as a salt water disposal well by Division Order No. SWD-402 dated October 3, 1990. The well is currently authorized to inject water into the Queen formation through the perforated interval from 3,767 feet to 3,774 feet.

(6) The applicant further seeks to establish an administrative procedure whereby additional wells may be approved for injection and/or production within the Sanmal Queen Unit without the necessity for further hearings.

(7) Such provisions and procedures are currently contained within the Oil Conservation Division Rules and Regulations and it is unnecessary to duplicate such provisions within this order.

(8) The applicant's Sanmal Queen Unit currently comprises the following described area in Lea County, New Mexico:

TOWNSHIP 17 SOUTH, RANGE 33 EAST, NMPM
Section 1: SW/4, W/2 SE/4, NE/4 SE/4,
and S/2 NE/4
Section 12: N/2 NW/4

(9) The proposed waterflood project encompasses only a portion of the Sanmal-Queen Pool. According to applicant's testimony in this case, it has attempted to secure an agreement with Mack Energy, the only other operator in the pool, to cooperatively conduct waterflood operations within the entire Sanmal Queen Pool, but has been unable to do so.

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(10) The wells within the Sanmal Queen Unit Area are in an advanced state of depletion and should therefore be properly classified as "stripper wells".

(11) The proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(12) Prior to commencing injection operations into the Billy "AES" State Well No. 2, the applicant should be required to squeeze cement the existing Grayburg and San Andres perforations from 4,585 feet to 4,595 feet and plug back to the Queen formation in a manner acceptable to the supervisor of the Division's Hobbs district office.

(13) The injection of water into the proposed injection wells should be accomplished through 2 7/8-inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; the casing-tubing annulus should be filled with an inert fluid and a gauge or approved leak-detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(14) Prior to commencing injection operations into the proposed injection wells, the casing in each well should be pressure tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(15) The injection wells or pressurization system should be initially equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 753 psi.

(16) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(17) The operator should give advance notification to the supervisor of the Hobbs district office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

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(18) The proposed waterflood project should be approved and the project should be governed by the provisions of Rule Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(19) The Hoover "ADR" State Well No. 1 should be reclassified as an injection well within the Sanmal Queen Unit Waterflood Project.

(20) The applicant further requests that the subject waterflood project be approved by the Division as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(21) The evidence presented indicates that the subject waterflood project meets all the criteria for approval.

(22) The approved "project area" should initially comprise the area contained within the applicant's Sanmal Queen Unit as described in Finding No. (8) above.

(23) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

(24) 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.

(25) The injection authority granted herein for the proposed injection wells should terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

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Order No. R-9961
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IT IS THEREFORE ORDERED THAT:

(1) The application of Yates Petroleum Corporation for authority to institute a waterflood project in its Sanmal Queen Unit, Sanmal-Queen Pool, by the injection of water into the Queen formation through the gross perforated interval from approximately 3,762 feet to 3,782 feet in the following described wells located in Township 17 South, Range 33 East, NMPM, Lea County, New Mexico, is hereby approved:

<u>WELL NAME & NUMBER</u>	<u>WELL LOCATION</u>
Billy "AES" St. No. 2	530' FNL & 1750' FWL (Unit C) Section 12
Hoover "ADR" St. No. 2	990' FSL & 2310' FEL (Unit O) Section 1

(2) Prior to commencing injection operations into the Billy "AES" State Well No. 2, the applicant shall squeeze cement the existing Grayburg and San Andres perforations from 4,585 feet to 4,595 feet and plug back to the Queen formation in a manner acceptable to the supervisor of the Division's Hobbs district office.

(3) The applicant shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(4) Injection shall be accomplished through 2 7/8-inch plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation; the casing-tubing annulus in each well shall be filled with an inert fluid and equipped with an approved pressure gauge or attention-attracting leak detection device.

(5) The injection wells or pressurization system shall be equipped with a pressure control device or acceptable substitute which will limit the surface injection pressure to no more than 753 psi.

(6) The Division Director shall have the authority to administratively authorize a pressure limitation in excess of the above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

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Order No. R-9961

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(7) Prior to commencing injection operations, the casing in each injection well shall be pressure-tested throughout the interval from the surface down to the proposed packer setting depth, to assure the integrity of such casing.

(8) The operator shall give advance notification to the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(9) The applicant shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in any of the injection wells, the leakage of water or oil from or around any producing well, or the leakage of water or oil from any plugged and abandoned well within the project area, and shall take such steps as may be timely and necessary to correct such failure or leakage.

(10) The subject waterflood project is hereby designated the Sanmal Queen Unit Waterflood Project, and the applicant shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

(11) The Hoover "ADR" State Well No. 1, located 1650 feet from the South line and 990 feet from the East line (Unit I) of Section 1, Township 17 South, Range 33 East, NMPM, previously classified as a salt water disposal well, is hereby reclassified as an injection well within the Sanmal Queen Unit Waterflood Project.

(12) The subject waterflood project is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(13) The approved "project area" should initially comprise the area contained within the applicant's Sanmal Queen Unit as described in Finding No. (8) above.

(14) To be eligible for the EOR credit, prior to commencing injection operations, the operator must request from the Division a Certificate of Qualification, which certificate will specify the proposed project area as described above.

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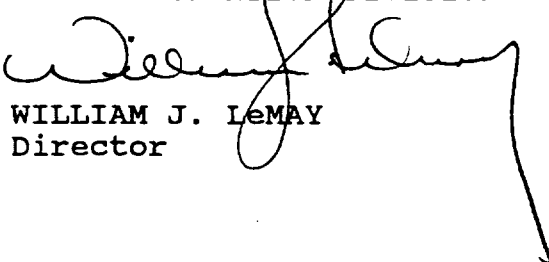
(15) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced 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.

(16) The injection authority granted herein for the proposed injection wells shall terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(17) Jurisdiction of this cause is 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



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

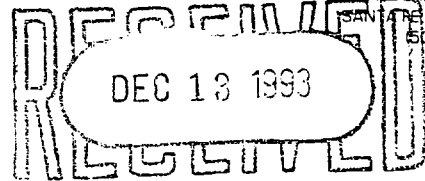


BRUCE KING
GOVERNOR

December 6, 1993

ANITA LOCKWOOD
CABINET SECRETARY

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



Yates Petroleum Corporation
Attention: Robert Bullock
105 South Fourth Street
Artesia, NM 88210

**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.

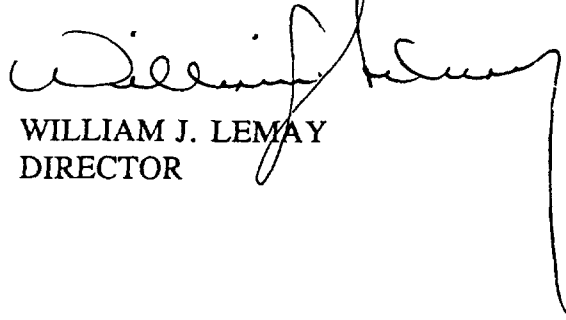
NAME OF PROJECT: Sanmal Queen Unit
OCD ORDER NO. R-9961
OPERATOR: Yates Petroleum Corporation
ADDRESS: Attention: Robert Bullock
-105 South Fourth Street
Artesia, NM 88210
CERTIFICATION DATE: December 6, 1993

PROJECT AREA:
Township 17 South, Range 33 East, NMPM
Section 1: SW/4, W/2 SE/4, NE/4 SE/4, and S/2 NE/4
Section 12: N/2 NW/4

EOR Project Certification
Sanmal Queen Unit

APPROVED BY:

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION



WILLIAM J. LEMAY
DIRECTOR

S E A L

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

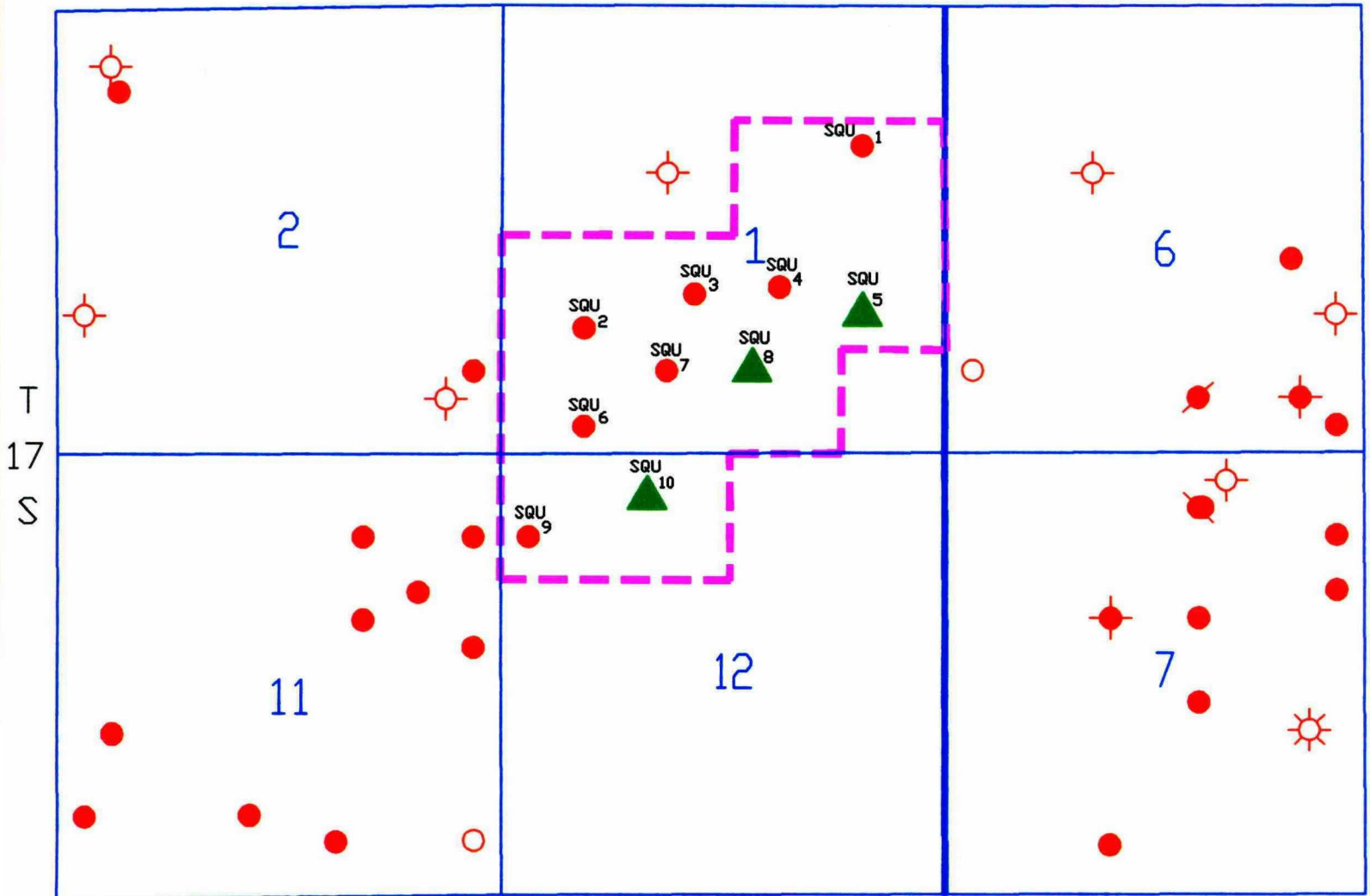
Case No. 11222 Exhibit No. 2

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995



R33E

R34E



DRAFT\A93018
REV. 10/94 (VM)

SANMAL QUEEN UNIT
LEA COUNTY, NEW MEXICO

INJECTION 
UNIT OUTLINE 

SCALE: 1"=2000'

**BEFORE THE
OIL CONSERVATION DIVISION**

Santa Fe, New Mexico

Case No. 11222 Exhibit No. 3

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

SANMAL QUEEN UNIT WATERFLOOD

			<u>COMPLETION DATE</u>
1.	Sanmal Queen Unit #1 H 1-17S-33E 1650' FNL & 990' FEL	Producer	03/15/87
2.	Sanmal Queen Unit #2 L 1-17S-33E 1500' FSL & 990' FWL	Producer	03/15/88
3.	Sanmal Queen Unit #3 K 1-17S-33E 1900' FSL & 2310 FWL	Producer	02/26/87
4.	Sanmal Queen Unit #4 J 1-17S-33E 1980' FSL & 1980' FEL	Producer	07/04/86
5.	Sanmal Queen Unit #5 I 1-17S-33E 1650' FSL & 990' FEL	Injector	04/10/86
6.	Sanmal Queen Unit #6 M 1-17S-33E 330' FSL & 990' FWL	Producer	11/23/87
7.	Sanmal Queen Unit #7 N 1-17S-33E 990' FSL & 1980' FWL	Producer	03/24/87
8.	Sanmal Queen Unit #8 O 1-17S-33E 990' FSL & 2310' FEL	Injector	02/23/87
9.	Sanmal Queen Unit #9 D 12-17S-33E 990' FNL & 330' FWL	Producer	08/15/87
10.	Sanmal Queen Unit #10 C 12-17S-33E 530' FNL & 1750' FWL	Injector	10/07/87

**BEFORE THE
OIL CONSERVATION DIVISION**
Santa Fe, New Mexico

Case No. 11222 Exhibit No. 4

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

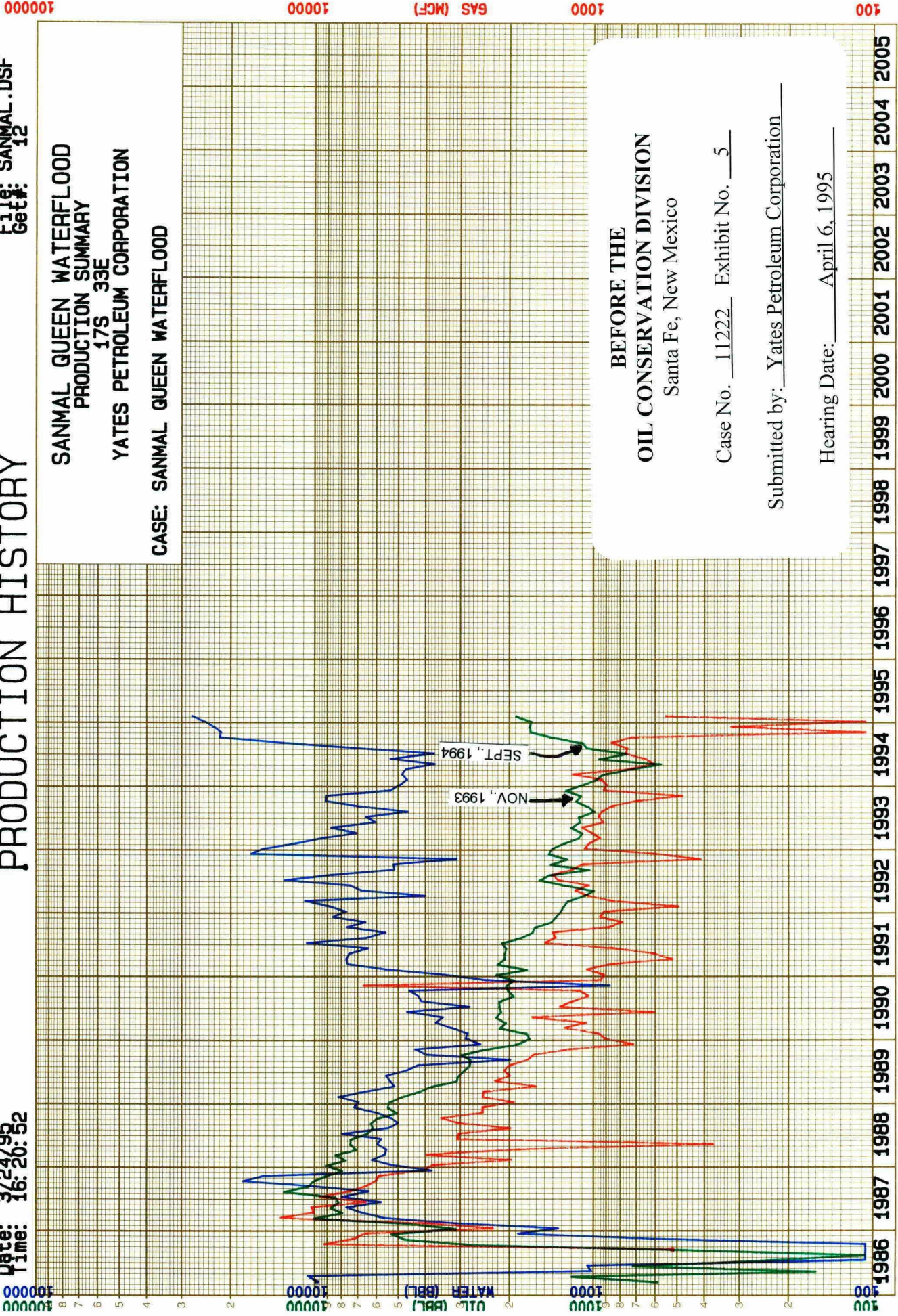
Date: 3/24/95
Time: 16:20:52

PRODUCTION HISTORY

File: SANMAL.DSF
Get#: 12

SANMAL QUEEN WATERFLOOD
PRODUCTION SUMMARY
17S 33E
YATES PETROLEUM CORPORATION

CASE: SANMAL QUEEN WATERFLOOD



BEFORE THE OIL CONSERVATION DIVISION

Santa Fe, New Mexico

Case No. 11222 Exhibit No. 5

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

CUMULATIVE OIL (BBL) = 310048. DPC & A SL 20 3 3 YEARS CUMULATIVE GAS (MCF) = 210761.

SANMAL QUEEN WATERFLOOD DATA

MONTHLY REPORT

Date	Nov-93	Dec-93	Jan-94	Feb-94	Mar-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Sep-94	Oct-94	Nov-94	Dec-94	Jan-95	Feb-95
PRODUCTION																
SQU #1	(BO) 0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	(BW) 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(MCF) 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SQU #2	(BO) 150	161	140	148	157	152	117	125	107	154	148	184	254	255	233	309
	(BW) 677	375	345	326	323	807	255	319	220	1,249	1,452	2,236	2,206	2,720	2,744	4,028
	(MCF) 95	172	168	175	221	242	194	122	144	149	170	144	0	64	0	109
SQU #3	(BO) 140	161	140	148	157	0	0	125	107	154	148	184	254	255	233	309
	(BW) 816	485	446	422	418	0	0	412	284	1,615	1,876	2,889	2,851	3,515	3,547	5,206
	(MCF) 89	172	168	175	221	0	0	122	144	149	170	144	0	64	0	109
SQU #4	(BO) 113	9	1	2	2	4	0	7	26	81	118	180	195	139	202	87
	(BW) 567	168	42	238	42	50	0	0	0	952	2,815	688	698	4,992	6,581	2,247
	(MCF) 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SQU #6	(BO) 149	171	149	157	166	32	0	133	114	164	157	195	270	271	247	329
	(BW) 693	412	378	358	355	177	0	350	241	1,371	1,594	2,454	2,421	2,985	3,012	4,421
	(MCF) 94	183	179	186	235	52	0	130	153	158	181	153	0	68	0	116
SQU #7	(BO) 238	272	237	249	264	257	198	210	180	259	249	309	430	432	393	522
	(BW) 1,248	742	681	645	638	1,593	505	629	434	2,468	2,867	4,415	4,357	5,373	5,420	7,956
	(MCF) 149	292	283	297	374	409	327	206	245	252	288	242	0	107	0	184
SQU #8	(BO) 35	40	35	37	39	0	29	31	27	0	0	0	0	0	0	0
	(BW) 3,913	2,326	2,136	2,023	2,002	0	1,582	1,972	1,363	0	0	0	0	0	0	0
	(MCF) 22	43	42	44	55	0	48	31	36	0	0	0	0	0	0	0
SQU #9	(BO) 205	354	326	170	74	244	189	261	146	168	196	238	161	226	237	209
	(BW) 525	483	588	336	766	1,766	1,115	1,315	934	1,002	1,451	1,534	1,385	1,936	1,758	1,702
	(MCF) 0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
INJECTION																
SQU #5	(BW) 9,940	6,440	4,981	3,888	5,358	4,453	3,883	4,335	3,851	2,578	4,189	5,451	4,942	4,511	4,534	3,789
CTI (11/90)	(PSI) 1,400	1,050	800	1,000	900	1,200	838	838	1,225	369	340	390	450	550	550	589
	(CUM) 467,024	473,464	478,445	482,333	487,691	492,144	496,027	500,362	504,213	506,791	510,980	516,441	521,383	525,894	530,428	534,217
SQU #8	(BW) 0	0	0	0	0	0	0	0	0	9,358	19,000	19,659	19,785	26,015	31,101	28,111
CTI (8/94)	(PSI) 0	0	0	0	0	0	0	0	0	0	0	0	50	250	500	525
	(CUM) 0	0	0	0	0	0	0	0	0	9,358	28,358	48,017	67,802	93,817	124,918	153,029
SQU #10	(BW) 0	0	0	0	0	0	0	0	0	8,796	10,325	9,189	9,306	8,670	9,407	6,918
CTI (8/94)	(PSI) 0	0	0	0	0	0	0	0	0	160	270	514	620	650	650	666
	(CUM) 0	0	0	0	0	0	0	0	0	8,796	19,121	28,310	37,616	46,286	55,693	62,611

SANMAL QUEEN WATERFLOOD DATA
MONTHLY FIELD REPORT

	Oct-93	Nov-93	Dec-93	Jan-94	Feb-94	Mar-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Sep-94	Oct-94	Nov-94	Dec-94	Jan-95	Feb-95
Field Production																	
(BO)	1,080	1,030	1,168	1,028	911	859	689	534	892	707	980	1,016	1,290	1,564	1,578	1,545	1,765
(BW)	8,511	8,439	4,991	4,616	4,348	4,544	4,393	3,457	4,997	3,476	8,657	12,055	14,216	13,918	21,521	23,062	25,560
(MCF)	658	449	862	840	877	1,106	703	569	611	722	708	809	683	0	303	0	518
CUM BO	292,148	293,178	294,346	295,374	296,285	297,144	297,833	298,367	299,259	299,966	300,946	301,962	303,252	304,816	306,396	307,941	309,706
CUM BW	517,825	526,264	531,255	535,871	540,219	544,763	549,156	552,613	557,610	561,086	567,789	579,844	600,253	620,453	641,974	665,036	690,596
CUM MCF	195,907	196,356	197,218	198,058	198,935	200,041	200,744	201,313	201,924	202,646	203,354	204,163	204,846	204,846	205,149	205,149	205,667
Field Injection																	
(BW)		9,940	6,440	4,981	3,888	5,358	4,453	3,883	4,335	3,851	20,732	33,514	34,309	34,033	39,196	45,042	38,818
(CUM)	457,084	467,024	473,464	478,445	482,333	487,691	492,144	496,027	500,362	504,213	524,945	558,459	592,768	626,801	665,997	711,039	749,857

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No. 11222 Exhibit No. 6

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY, MINERALS AND NATURAL RESOURCES

IN THE MATTER OF THE APPLICATION
OF YATES PETROLEUM CORPORATION
FOR POSITIVE PRODUCTION RESPONSE
CERTIFICATION, LEA COUNTY, NEW MEXICO

APPLICATION

YATES PETROLEUM CORPORATION, through its undersigned attorneys, hereby makes application pursuant to the provisions of Rule E2(3)a of the Rules and procedures for Qualifications of Enhanced Oil Recovery Projects and Certification for the Recovered Oil Tax Rate promulgated by Division Order No. R-9708 on August 27, 1992, for Certification of a Positive Production Response to waterflood operations in the Sanmal Queen Unit expansion area. Yates Petroleum Corporation also requests that the Division notify the Secretary of the Taxation and Revenue Department of the certification, effective September 1, 1994. In support of this Application, Yates Petroleum Corporation states:

1. Applicant is the operator of the Sanmal Queen Unit.
2. On September 10, 1993, in Order No. R-9961, the Division approved the application of Yates Petroleum Corporation for a waterflood project in Lea County, New Mexico.

**BEFORE THE
OIL CONSERVATION DIVISION**
Santa Fe, New Mexico

Case No. 11222 Exhibit No. 7

Submitted by: Yates Petroleum Corporation

Hearing Date: April 6, 1995

3. Division Order No. R-09961 also designated the Sanmal Queen Unit Waterflood Project and certified the project as an Enhanced Oil Recovery Project.

4. The Project Area is:

Township 17 South, Range 33 East, NMPM

Section 1: SW/4, W/2 SE/4, NE/4 SE/4 and S/2 NE/4

Section 12: N/2 NW/4

5. Injection began into the injection wells in November, 1993.


6. Significant positive production response was recognized on or before September 1, 1994.

7. Since September 1994, production of oil has continued to increase.

WHEREFORE, Yates Petroleum Corporation requests that this application be set for hearing before an Examiner of the Oil Conservation Division on March 16, 1995 and, after notice and hearing as required by law, the Division enter its Order certifying that a Positive Production Response has occurred pursuant to waterflood operations in the Sanmal Queen Unit expansion area. Yates Petroleum Corporation also requests, that the Division notify the Taxation and Revenue Department of the certification, effective September 1, 1994.

Respectfully submitted,

CAMPBELL, CARR, BERGE
& SHERIDAN, P.A.

By: 

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

ATTORNEYS FOR YATES
PETROLEUM CORPORATION