

APPLICATION OF TEXACO INC. TO EXPAND  
ITS PRESSURE MAINTENANCE PROJECT IN THE  
VACUUM GRAYBURG-SAN ANDRES POOL IN LEA  
COUNTY, NEW MEXICO

ORDER No. PMX-121

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Under the provisions of Order No. R-5530, Texaco Inc. has made application to the Division on November 2, 1982, for permission to expand its Central Vacuum Unit Pressure Maintenance Project in the Vacuum Grayburg-San Andres Pool in Lea County, New Mexico.

NOW, on this 17th day of November, 1982, the Division Director finds:

1. That application has been filed in due form.
2. That satisfactory information has been provided that all offset operators have been duly notified of the application.
3. That no objection has been received within the waiting period as prescribed by Rule 701 B.
4. That the proposed injection well is eligible for conversion to water injection under the terms of Rule 701.
5. That the proposed expansion of the above referenced pressure maintenance project will not cause waste nor impair correlative rights.
6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Texaco Inc., be and the same is hereby authorized to inject water into Grayburg-San Andres formations through plastic-lined tubing set in a packer at approximately 50 feet above the top most perforation in the following described wells for purposes of pressure maintenance to wit:

- ✓ Central Vacuum Unit Well No. 155 - I-25-17S-34E
- ✓ Central Vacuum Unit Well No. 156 - K-25-17S-34E
- ✓ Central Vacuum Unit Well No. 157 - M-25-17S-34E
- ✓ Central Vacuum Unit Well No. 158 - D-36-17S-34E
- ✓ Central Vacuum Unit Well No. 159 - D-36-17S-34E
- ✓ Central Vacuum Unit Well No. 160 - E-36-17S-34E and
- ✓ Central Vacuum Unit Well No. 161 - M-36-17S-34E

all in Lea County, New Mexico.

IT IS FURTHER ORDERED:

That the operator 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.

That the casing-tubing annulus (in each well) shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection wells or system shall be equipped with a pressure limiting device which will limit the wellhead pressure to a maximum of 875 pounds per square inch; provided however that the Division Director may administratively authorize a pressure limitation in excess of the above upon the operator's establishing that such higher pressure will not result in fracturing of the confining strata.

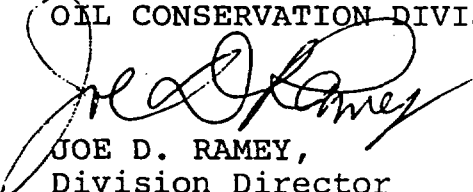
That the operator shall notify the supervisor of the Division's Hobbs District Office before injection is commenced through said wells.

That the operator shall immediately notify the Supervisor of the Division's Hobbs District Office of the failure of the tubing, casing, or packer in said wells or the leakage of water from or around said wells and shall take such steps as may be timely or necessary to correct such failure or leakage.

That the subject wells shall be governed by all provisions of Division Order No. R-5530 and Rules 702, 703, 704, 705 and 706 not inconsistent herewith.

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

  
JOE D. RAMEY,  
Division Director

S E A L

APPLICATION OF TEXACO, INC.  
TO EXPAND ITS PRESSURE MAINTENANCE  
PROJECT IN THE VACUUM GRAYBURG SAN ANDRES  
POOL IN LEA COUNTY, NEW MEXICO.

ORDER PMX NO. 86

ADMINISTRATIVE ORDER  
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 20 of Order No. 5530, Texaco Inc. has made application to the Division on May 6, 1980, for permission to expand its Central Vacuum Unit Pressure Maintenance Project in the Vacuum Grayburg San Andres Pool in Lea County, New Mexico.

NOW, on this 26th day of May, 1980, the Division Director finds:

1. That application has been filed in due form.
2. That satisfactory information has been provided that all offset operators have been duly notified of the application.
3. That no objection has been received within the waiting period as prescribed by Order No. R-5530.
4. That the proposed injection wells are eligible for conversion to water injection under the terms of Order No. R-5530.
5. That the proposed expansion of the above referenced pressure maintenance project will not cause waste nor impair correlative rights.
6. That the application should be approved.

IT IS THEREFORE ORDERED:

That the applicant, Texas, Inc., be and the same is hereby authorized to inject water into the San Andres formations in ten wells described in Exhibit A: (Attached)

IT IS FURTHER ORDERED:

That the operator 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.

That the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing, or packer.

That the injection well or system shall be equipped with a pop-valve or device which will limit the wellhead pressure to a maximum of 860 pounds per square inch; provided however that the Division Director may administratively authorize a pressure limitation in excess of the above upon the operator's establishing that such higher pressure will not result in fracturing of confining strata.

That the operator shall notify the supervisor of the Division's Hobbs District Office before injection is commenced through said well;

That the operator shall notify the supervisor of the Division's Hobbs District Office of the failure of the tubing, casing, or packer in said well or the leakage of water from or around said well and shall take such steps as may be timely or necessary to correct such failure or leakage.

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

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*Joe D. Ramey*  
JOE D. RAMEY  
Division Director

A

Unit Well No.	Unit Letter	Location	Approximate Location of Perforations	Approximate Depth
142	I	1680' FSL, 300' FEL, Section 6, Township 18 South, Range 35 East	4550	4510
143	A	1310' FNL, 50' FEL, Section 6, Township 18 South, Range 35 East	4380	4342
144	B	35' FNL, 1330' FEL, Section 6, Township 18 South, Range 35 East,	4355	4315
145	N	1310' FSL, 2475 FWL, Section 31, Township 17 South, Range 35 East,	4344	4309
146	G	2465' FNL, 1335' FEL, Section 31, Township 17 South, Range 35 East,	4320	4280
147	A	1310' FNL, 200' FEL, Section 31, Township 17 South, Range 35 East,	4325	4285
148	P	1310' FSL, 50' FEL, Section 30, Township 17 South, Range 35 East,	4401	4361
149	H	1330' FNL, 50' FEL, Section 30, Township 17 South, Range 35 East,	4503	4463
150	B	10' FNL, 1330 FEL, Section 30, Township 17 South, Range 35 East,	4530	4490
151	XC	45' FNL, 1310' FWL, Section 30, Township 17 South, Range 35 East,	4540	4540



STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

BRUCE KING  
GOVERNOR  
LARRY KEHOE  
SECRETARY

POST OFFICE BOX 2088  
STATE LAND OFFICE BUILDING  
SANTA FE, NEW MEXICO 875  
(505) 827-2434

February 16, 1981

Texaco Inc.  
Drawer 728  
Hobbs, New Mexico 88240

Attention: Mr. J. V. Gannon

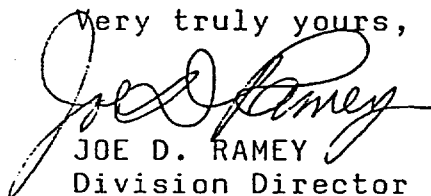
Re: PMX-86, Amendment No. 1

Dear Mr. Gannon:

Division Administrative Order No. PMX-86 dated May 26, 1980, is hereby amended by substituting Central Vacuum Unit Well No. 154 located 45 feet from the North line and 1185 feet from the West line of Section 30, Township 17 South, Range 35 East, Lea County, New Mexico, for Unit Well No. 151 as originally authorized therein.

This amendment results from the loss of Well No. 151 during drilling and is done under authority of Rule 20, Division Order No. R-5530.

Very truly yours,

  
JOE D. RAMEY  
Division Director

JDR/RLS/og

cc: Oil Conservation Division  
Box 1980  
Hobbs, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 6008  
Order No. R-5530

APPLICATION OF TEXACO INC., FOR  
A PRESSURE MAINTENANCE PROJECT,  
LEA COUNTY, NEW MEXICO. .

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on August 17, 1977, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 20th day of September, 1977, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That by Commission Order No. R-5496 dated August 9, 1977, statutory unitization was approved for the Central Vacuum Unit Area, Lea County, New Mexico.

(3) That the applicant herein, Texaco Inc., seeks authority to institute a pressure maintenance project on the aforesaid Central Vacuum Unit Area, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into the San Andres formation through the 55 wells described on Exhibit A attached to this order.

(4) That to permit an efficient injection pattern, the unorthodox locations of the 54 new injection wells as reflected on said Exhibit A should be approved.

(5) That the applicant further seeks the designation of a project area and the promulgation of special rules and regulations governing said project including special allowable provisions.

(6) That the project area should consist of those proration units within the boundary of said Central Vacuum Unit upon which is located an injection well and any directly or diagonally offsetting proration unit which contains a producing well.

(7) That the total project area allowable should be equal to the sum of the basic project area allowable plus the water injection credit allowable, and said total project area allowable should be limited to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area times two.

(8) That the basic project area allowable should be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

(9) That the water injection credit allowable should be based on the following formula:

$$\text{Water Injection Credit Allowable} = \left[ \frac{\text{net water injected}}{\text{basic project area allowable voidage}} \right] \times \text{basic project area allowable}$$

and should be calculated as follows:

$$\text{Water Injection Credit Allowable} = \left\{ \frac{W_i - W_p}{\text{BPAA} \left[ \beta_o + \left( \frac{R_p - R_s}{1000} \right) \beta_g \right]} - 1 \right\} \text{BPAA}$$

where  $W_i$  = Average daily water injection during previous month, project area  
 $W_p$  = Average daily water production during previous month, project area  
 BPAA = Basic Project Area Allowable = 80 x number of 40-acre tracts in project area  
 $\beta_o$  = Oil formation volume factor, reservoir barrels per stock tank barrel, as determined from Exhibit B, for latest available project area reservoir pressure  
 $R_p$  = Producing gas-oil ratio, cubic feet per barrel, during previous month, project area  
 $R_s$  = Solution gas-oil ratio, cubic feet per barrel, as determined from Exhibit B, for latest available project area reservoir pressure  
 $\beta_g$  = Gas formation volume factor, reservoir barrels per MCF, as determined from Exhibit B, for latest available project area reservoir pressure

In no event should the Water Injection Credit Allowable be less than zero.

(10) That the project area allowable should be produced from the wells within the project area in any proportion provided that any proration unit situated on the boundary of said Central Vacuum Unit which proration unit is not directly or diagonally offset by a San Andres injection well outside the unit should not be permitted to produce in excess of 80 barrels of oil per day.

(11) That each of the newly drilled injection wells in the project should be equipped with surface casing and production casing set at approximately 350 feet and 4800 feet, respectively, and cemented to the surface.

(12) That injection should be accomplished through 2 3/8-inch plastic coated tubing installed in a packer which should be set approximately 50 feet above the uppermost perforation in the case of newly drilled wells and at approximately 4376 feet in the one well to be converted to injection.

(13) That the casing-tubing annulus in each injection well should be filled with an inert fluid and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(14) That the injection wells or system should be equipped with a pop-off valve or acceptable substitute which will limit the surface injection pressure to no more than 0.2 pounds per foot of depth to the uppermost perforation unless the Secretary-Director of the Commission should administratively authorize a higher pressure.

(15) That there are 15 wells, as set out on Exhibit C to this order, which are located within or immediately adjacent to the boundaries of said Central Vacuum Unit which are completed or plugged in such a manner that will not assure that they will not serve as channels for injected water to migrate from the San Andres formation to other formations or to the surface.

(16) That to prevent migration of injected water from the San Andres formation, formation injection pressure at wells offsetting the wells identified on said Exhibit C should be limited to hydrostatic pressure until such time as the wells on said Exhibit C have been repaired or it shall otherwise be demonstrated to the satisfaction of the Secretary-Director of the Commission that the same will not serve as avenues for escape of such waters.



(17) That the wells within the project should be equipped to facilitate periodic testing of the annular space between strings of production and surface casing.

(18) That the operator should take all other 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, producing, or plugged and abandoned wells.

(19) That approval of the subject application should result in the recovery of additional volumes of oil from the Central Vacuum Unit Area, thereby preventing waste.

(20) That the application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to institute a pressure maintenance project in the Central Vacuum Unit Area, Vacuum-Grayburg-San Andres Pool, Lea County, New Mexico, by the injection of water into 55 wells at orthodox and unorthodox locations as set out on Exhibit A attached to this order and by reference made a part hereof.

(2) That each of the newly drilled injection wells shall be equipped with surface casing and production casing set at approximately 350 feet and 4800 feet, respectively, and cemented to the surface.

(3) That injection shall be accomplished through 2 3/8-inch plastic coated tubing installed in a packer set approximately 50 feet above the uppermost perforation in the case of newly drilled wells and at approximately 4376 feet in the one existing well converted to injection.

(4) That the casing-tubing annulus in each injection well shall be filled with an inert fluid and a pressure gauge or approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing, or packer.

(5) That the injection wells or system shall be equipped with a pop-off valve or acceptable substitute which will limit the surface injection pressure to no more than 0.2 pounds per foot of depth to the uppermost perforations.

(6) That the Secretary-Director of the Commission may administratively authorize a pressure limitation in excess of that set out in Order No. (5) above upon a showing by the operator that such higher pressure will not result in fracturing of the confining strata.

(7) That the applicant shall not inject water into the formation of any well located on a 40-acre tract that has on it, or that directly or diagonally offsets a tract that has on it, one of the 15 wells identified on Exhibit C attached hereto and by reference made a part hereof, at a pressure greater than hydrostatic until such well has been repaired or it has been shown to the satisfaction of the Secretary-Director of the Commission that such well will not serve as an avenue of escape for waters injected into the San Andres formation and he has authorized a higher than hydrostatic pressure.

(8) That the wells within the project area shall be equipped with risers or in another acceptable manner such as to facilitate the periodic testing of the bradenhead for pressure or fluid production.

(9) That the operator shall immediately notify the supervisor of the Commission district office at Hobbs of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the project area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage.

(10) That the pressure maintenance project shall be designated the Texaco Inc. Central Vacuum Unit Pressure Maintenance Project.

(11) That the project area of said Central Vacuum Unit Pressure Maintenance Project shall consist of those proration units within the boundary of the Central Vacuum Unit upon which is located an injection well and any directly or diagonally offsetting proration unit which contains a producing well.

(12) That those wells within the Central Vacuum Unit Area that are not included within the project area as defined above shall be prorated in accordance with the Rules and Regulations of the Commission.

(13) That the project area shall receive a project area allowable, and said project area allowable shall be the sum of the basic project area allowable plus the water injection credit allowable, and shall be limited to 80 barrels of oil per day times the number of developed 40-acre project area times two.

(14) That the basic project area allowable shall be equal to 80 barrels of oil per day times the number of developed 40-acre proration units in the project area.

(15) That the water injection credit allowable shall be based on the following formula:

$$\text{Water Injection Credit Allowable} = \left[ \frac{\text{net water injected}}{\text{basic project area allowable voidage}} \right] \times \text{basic project area allowable}$$

and should be calculated as follows:

$$\text{Water Injection Credit Allowable} = \left\{ \frac{W_i - W_p}{\text{BPAA} \left[ \beta_o + \left( \frac{R_p - R_s}{1000} \right) \beta_g \right]} - 1 \right\} \text{BPAA}$$

where:

- $W_i$  = Average daily water injection during previous month, barrels per day, project area only
- $W_p$  = Average daily water produced during previous month, barrels per day, project area only
- BPAA = Basic Project Area Allowable = 80 x number of 40-acre tracts in project area
- $\beta_o$  = Oil formation volume factor, reservoir barrels per stock tank barrel, as determined from Exhibit B (attached hereto and by reference made a part hereof), for the latest available project area reservoir pressure
- $R_p$  = Producing gas-oil ratio, cubic feet per barrel, for previous month, project area only
- $R_s$  = Solution gas-oil ratio, cubic feet per barrel, as determined from Exhibit B, for the latest available project area reservoir pressure
- $\beta_g$  = Gas formation volume factor, reservoir barrels per MCF, as determined from Exhibit B, for latest available project area reservoir pressure

In no event shall the Water Injection Credit Allowable be less than zero, i.e., negative numbers derived from application of the above formula shall be ignored.

(13) That the average project area reservoir pressure shall be determined prior to the commencement of injection of water into the reservoir and at least annually thereafter. The average project area pressure shall be the average of the pressures in at least ten representative wells selected by the operator of the unit and the Supervisor of the Hobbs District Office of the Commission at an agreed upon datum.

(14) That the project area allowable may be produced from any well within the project area in any proportion provided, however, that any proration unit situated on the boundary of the Central Vacuum Unit which proration unit is not directly or diagonally offset by a San Andres injection well outside said Central Vacuum Unit shall not be permitted to produce in excess of 80 barrels of oil per day.

(15) That each month the project operator shall submit to the Commission a Pressure Maintenance Project Operator's Report, on a form prescribed by the Commission, outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project area allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project.

(16) That the Commission shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the wells in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and, except as provided under Order (14) above, may be produced from the wells in the Project in any proportion.

(17) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

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

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

PHIL R. LUCERO, Chairman

EMERY C. ARNOLD, Member

JOE D. RAMEY, Member & Secretary

S E A L

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**CENTRAL VACUUM UNIT**  
**Authorized Injection Wells**

54 new wells to be drilled at the following locations:

<u>WELL NO.</u>	<u>LOCATION</u>	<u>SECTION</u>	<u>TOWNSHIP</u> <u>SOUTH</u>	<u>RANGE</u> <u>EAST</u>
5	1310' FNL & 1310' FWL	30	17	35
6	1310' FNL & 2630' FWL	30	17	35
7	1310' FNL & 1330' FEL	30	17	35
13	2630' FNL & 10' FEL	25	17	34
14	2630' FNL & 1310' FWL	30	17	35
15	2630' FNL & 2630' FWL	30	17	35
16	2630' FNL & 1330' FEL	30	17	35
25	1330' FSL & 1310' FWL	25	17	34
26	1330' FSL & 2630' FWL	25	17	34
27	1330' FSL & 1330' FEL	25	17	34
28	1330' FSL & 10' FEL	25	17	34
29	1330' FSL & 1310' FWL	30	17	35
30	1330' FSL & 2630' FWL	30	17	35
31	1330' FSL & 1330' FEL	30	17	35
40	10' FSL & 1310' FWL	25	17	34
41	10' FSL & 2630' FWL	25	17	34
42	10' FSL & 1330' FEL	25	17	34
43	10' FSL & 10' FEL	25	17	34
44	10' FSL & 1310' FWL	30	17	35
45	10' FSL & 2630' FWL	30	17	35
46	10' FSL & 1330' FEL	30	17	35
55	1310' FNL & 1310' FWL	36	17	34
56	1310' FNL & 2630' FWL	36	17	34
57	1310' FNL & 1330' FEL	36	17	34
58	1310' FNL & 10' FEL	36	17	34
59	1310' FNL & 1310' FWL	31	17	35
60	1310' FNL & 2630' FWL	31	17	35
61	1310' FNL & 1330' FEL	31	17	35
70	2630' FNL & 1310' FWL	36	17	34
71	2630' FNL & 2630' FWL	36	17	34
72	2630' FNL & 1330' FEL	36	17	34
73	2630' FNL & 10' FEL	36	17	34
74	2630' FNL & 1310' FWL	31	17	35
81	1330' FSL & 1310' FWL	36	17	34
82	1330' FSL & 2630' FWL	36	17	34
83	1330' FSL & 1330' FEL	36	17	34
84	1330' FSL & 10' FEL	36	17	34
85	1330' FSL & 1310' FWL	31	17	35
93	10' FSL & 1310' FWL	31	17	35
94	10' FSL & 2630' FWL	31	17	35
99	1310' FNL & 1310' FWL	6	18	35
100	1310' FNL & 2630' FWL	6	18	35
101	1310' FNL & 1330' FEL	6	18	35
106	2520' FNL & 1040' FWL	6	18	35

Case No. 6008  
Order No. R-5530  
Exhibit "A"

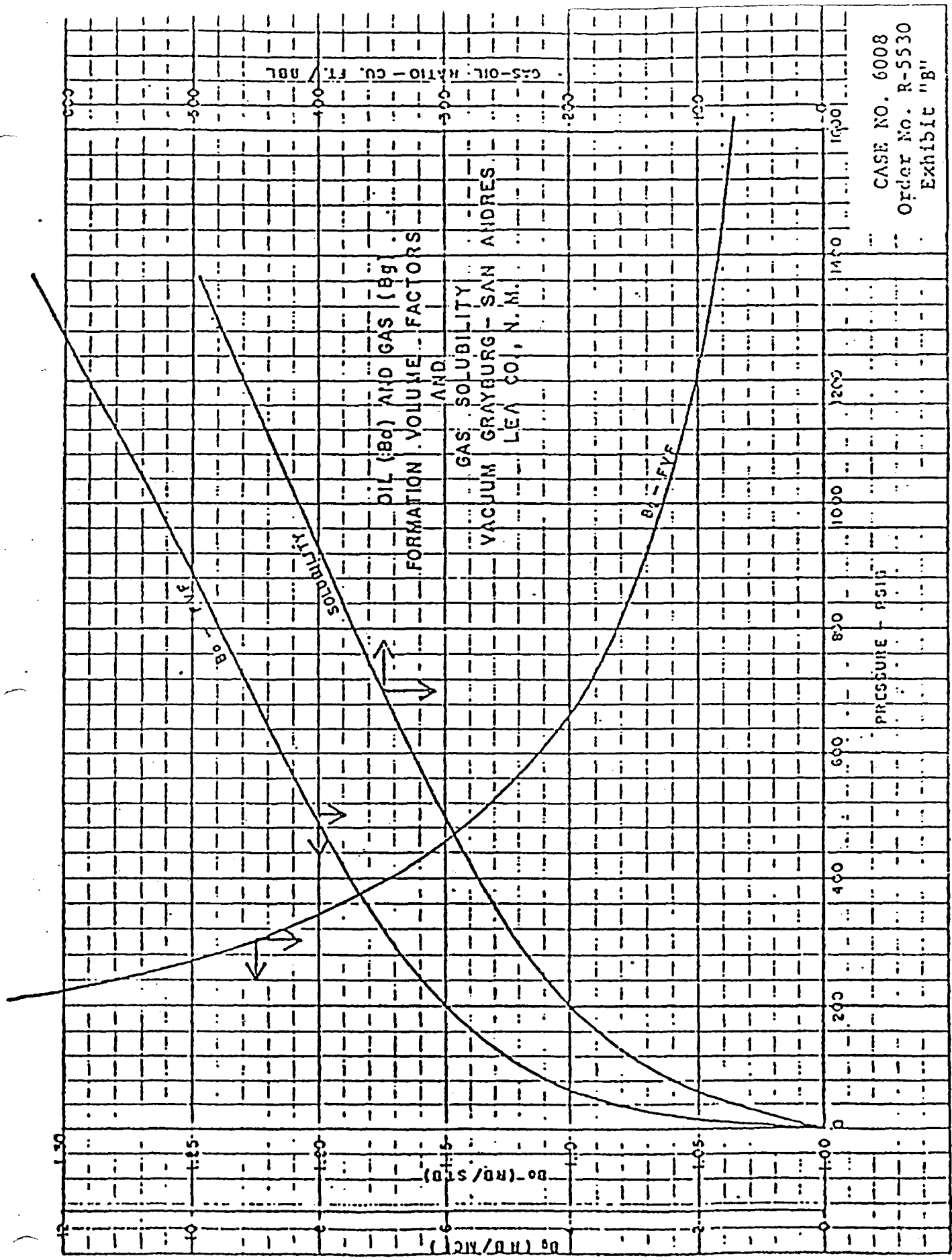
54 new wells to be drilled at the following locations continued

<u>WELL NO.</u>	<u>LOCATION</u>	<u>SECTION</u>	<u>TOWNSHIP</u> <u>SOUTH</u>	<u>RANGE</u> <u>EAST</u>
107	2450' FNL & 2630' FWL	6	18	35
108	2630' FNL & 1480' FEL	6	18	35
113	1620' FSL & 1100' FWL	6	18	35
114	1460' FSL & 2100' FWL	6	18	35
115	1600' FSL & 1500' FEL	6	18	35
120	60' FNL & 1100' FWL	7	18	35
121	400' FSL & 2380' FWL	6	18	35
122	350' FSL & 1560' FEL	6	18	35
128	1310' FNL & 200' FEL	12	18	34
129	1310' FNL & 2630' FWL	7	18	35

One existing well, Sun Oil Company Lea State "B" No. 7 located as follows:

131	2119' FNL & 918' FWL	7	18	35
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Case No. 6008  
Order No. R-5530  
Exhibit "A"



CASE NO. 6008  
 Order No. R-5530  
 Exhibit "B"

<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>UT.</u>	<u>SEC.</u>	<u>TWP.</u>	<u>RGE.</u>
Continental Oil Co.	State H 35	9	H	35	17S	34E
Getty Oil Company	State AN	8	P	7	18S	35E
Getty Oil Company	State AN	9	I	7	18S	35E
Getty Oil Company	State BA	6	D	36	17S	34E
Marathon Oil Co.	Warn State A/c 2	6	K	6	18S	35E
Marathon Oil Co.	Warn State A/c 2	10	K	6	18S	35E
Mobil Oil Corp.	Bridges State	11	F	25	17S	34E
Mobil Oil Corp.	State DD	1	D	31	17S	35E
Phillips Petroleum Co.	Santa Fe	87	L	31	17S	35E
Texaco Inc.	New Mexico "AB" State	5	J	6	18S	35E
Texaco Inc.	New Mexico "AE" State	4	F	12	18S	34E
Texaco Inc.	New Mexico "O" State NCT-1	14	J	36	17S	34E
Texaco Inc.	New Mexico "O" State NCT-1	18	H	36	17S	34E
Texaco Inc.	New Mexico "P" State	1	J	7	18S	35E
Texaco Inc.	New Mexico "Q" State	4	P	25	17S	34E

Case No. 6008  
Order No. R-5530  
Exhibit "C"



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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 6256  
Order No. R-5530-A

APPLICATION OF TEXACO INC. FOR  
AMENDMENT OF COMMISSION ORDER  
NO. R-5530, NON-STANDARD LOCATIONS,  
AND AN ADMINISTRATIVE PROCEDURE,  
LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 21, 1978,  
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 25th day of July, 1978, the Division  
Director, having considered the testimony, the record,  
and the recommendations of the Examiner, and being fully  
advised in the premises,

FINDS:

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

(2) That the applicant, Texaco Inc., is the operator of  
the Central Vacuum Unit Pressure Maintenance Project authorized  
by Commission Order No. R-5530.

(3) That the applicant seeks to amend Paragraph (14) on  
Page 7 of said Order No. R-5530 by removing or amending the  
allowable restriction therein subject to lease line agreements.

(4) That said allowable restriction should be removed  
for any proration unit within said Central Vacuum Unit upon  
which a lease line injection well is located.

(5) That the applicant seeks permission to expand said Central Vacuum Unit Pressure Maintenance Project in the Vacuum Grayburg-San Andres Pool by the injection of water into the Grayburg-San Andres formation through eight additional injection wells located as follows:

<u>Unit Well No.</u>	<u>Location</u>	<u>Unit</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>
133	10' FNL & 1550' FEL	B	12	18-S	34-E
134	40' FNL & 40' FWL	D	7	18-S	35-E
135	1600' FSL & 40' FWL	L	6	18-S	35-E
136	2450' FNL & 40' FWL	E	6	18-S	35-E
137	1100' FNL & 40' FWL	D	6	18-S	35-E
138	10' FSL & 70' FEL	P	36	17-S	34-E
140	10' FSL & 2571' FWL	N	36	17-S	34-E
141	10' FSL & 1310' FWL	M	36	17-S	34-E

(6) That the application for approval of one other additional injection well, Unit Well No. 139, at a non-standard location should be dismissed.

(7) That the applicant further seeks the establishment of an administrative procedure for approval of additional producing and injection wells and the conversion of existing wells within said Central Vacuum Unit Pressure Maintenance Project to injection at both orthodox and unorthodox locations without further notice and hearing.

(8) That the establishment of such an administrative procedure would permit the more efficient operation of the project.

(9) That any injection well authorized by such an administrative procedure should be subject to all of the requirements and limitations contained in said Order No. R-5530.

(10) That Paragraphs 13, 14, 15, 16, and 17 on Page 7 of said Order No. R-5530 are numbered in error and should be re-numbered in proper sequence.

IT IS THEREFORE ORDERED:

(1) That the applicant, Texaco Inc., is hereby authorized to expand its Central Vacuum Unit Pressure Maintenance Project, Vacuum Pool, by the injection of water into the Grayburg-San Andres

formations through the following-described wells at non-standard locations as follows:

<u>Unit</u> <u>Well</u> <u>No.</u>	<u>Location</u>	<u>Unit</u>	<u>Section</u>	<u>Township</u>	<u>Range</u>
133	10' FNL & 1550' FEL	B	12	18-S	34-E
134	40' FNL & 40' FWL	D	7	18-S	35-E
135	1600' FSL & 40' FWL	L	6	18-S	35-E
136	2450' FNL & 40' FWL	E	6	18-S	35-E
137	1100' FNL & 40' FWL	D	6	18-S	35-E
138	10' FSL & 70' FEL	P	36	17-S	34-E
140	10' FSL & 2571' FWL	N	36	17-S	34-E
141	10' FSL & 1310' FWL	M	36	17-S	34-E

(2) That the application for approval of one other additional injection well, Unit Well No. 139, at a non-standard location is hereby dismissed.

(3) That Paragraph No. (6) on Page 5 of Order No. R-5530 is hereby amended to read in its entirety as follows:

"(6) That the Director of the Oil Conservation Division may administratively authorize a pressure limitation in excess of that set out in Order No. (5) above upon a showing by the operator that such higher pressure will not result in fracturing of the confining strata."

(4) That Paragraph No. (7) on Page 5 of Order No. R-5530 is hereby amended to read in its entirety as follows:

"(7) That the applicant shall not inject water into the formation of any well located on a 40-acre tract that has on it, or that directly or diagonally offsets a tract that has on it, one of the 15 wells identified on Exhibit C attached hereto and by reference made a part hereof, at a pressure greater than hydrostatic until such well has been repaired or it has been shown to the satisfaction of the Division Director that such well will not serve as an avenue of escape for waters injected into the San Andres formation and he has authorized a higher than hydrostatic pressure."

(5) That Paragraph No. (9) on Page 5 of Order No. R-5530 is hereby amended to read in its entirety as follows:

"(9) That the operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing or packer in any of said injection wells, the leakage of water or oil from or around any producing well, the leakage of water or oil from or around any plugged and abandoned well within the project area, or any other evidence of fluid migration from the injection zone, and shall take such timely steps as may be necessary or required to correct such failure or leakage."

(6) That Paragraph No. (12) on Page 5 of Order No. R-5530 is hereby amended to read in its entirety as follows:

"(12) That those wells within the Central Vacuum Unit Area that are not included within the project area as defined above shall be prorated in accordance with the Division Rules and Regulations."

(7) That Paragraph No. (13) on Page 7 of Order No. R-5530 is hereby renumbered Paragraph No. (16) and is further amended to read in its entirety as follows:

"(16) That the average project area reservoir pressure shall be determined prior to the commencement of injection of water into the reservoir and at least annually thereafter. The average project area pressure shall be the average of the pressures in at least ten representative wells selected by the operator of the unit and the Supervisor of the Hobbs District Office of the Division at an agreed upon datum."

(8) That Paragraph No. (14) on Page 7 of Order No. R-5530 is hereby renumbered Paragraph No. (17) and is further amended to read in its entirety as follows:

"(17) That the project area allowable may be produced from any well within the project area in any proportion provided, however, that any proration unit situated on the boundary of the Central Vacuum Unit which proration unit is not directly or diagonally offset by a San Andres injection well outside said Central Vacuum Unit, or upon which a Central Vacuum "lease-line" injection well is not located between a unit producing well and the unit boundary shall not be permitted to produce in excess of 80 barrels of oil per day."

(9) That Paragraph No. (15) on Page 7 of Order No. R-5530 is hereby renumbered Paragraph No. (18) and is further amended to read in its entirety as follows:

"(18) That each month the project operator shall submit to the Division a Pressure Maintenance Project Operator's Report, on a form prescribed by the Division outlining thereon the data required, and requesting allowables for each of the several wells in the Project as well as the total project area allowable. The aforesaid Pressure Maintenance Project Operator's Report shall be filed in lieu of Form C-120 for the Project."

(10) That Paragraph No. (16) on Page 7 of Order No. R-5530 is hereby renumbered Paragraph No. (19) and is further amended to read in its entirety as follows:

"(19) That the Division shall, upon review of the report and after any adjustments deemed necessary, calculate the allowable for the wells in the Project for the next succeeding month in accordance with these rules. The sum of the allowables so calculated shall be assigned to the Project and, except as provided under Order (17) above, may be produced from the wells in the Project in any proportion."

(11) That Order No. R-5530, as amended hereinabove is further amended by the addition of the following Paragraph No. (20):

(20) The Director of the Division is hereby authorized to approve such additional producing wells and injection wells at orthodox and unorthodox locations within the boundaries of applicant's Central Vacuum Unit as may be necessary to complete an efficient production and injection pattern, provided that said producing wells shall not be located closer than 330 feet to the Unit boundary nor injection wells closer than 10 feet to the Unit boundary nor any well closer than 10 feet to any quarter-quarter section or subdivision inner boundary. To obtain such approval, the project operator shall file proper application with the Division, which application, if it seeks authorization to convert additional wells to injection or to drill additional production or injection wells shall include the following:

- (a) A plat showing the location of the proposed well, all wells within the project area, and offset operators, locating wells which offset the project area.
- (b) A schematic drawing of the proposed well which fully describes the casing, tubing, perforated interval, depth, and a demonstration that any proposed injection well will meet construction, pressure and monitoring provisions of Orders Nos. (2), (3), (4), (6), and (7) of this Order or the equivalent.
- (c) A letter stating that all offset operators to the proposed well have been furnished a complete copy of the application and the date of notification. The Director of the Division may approve the proposed well if, within 20 days after receiving the application, no objection to the proposal is received. The Director may grant immediate approval, provided waivers of objection are received from all offset operators.

(12) That Paragraph No. (17) on Page 7 of Order No. R-5530 is hereby renumbered Paragraph No. (21) and is further amended to read in its entirety as follows:

"(21) That jurisdiction of Case No. 6008 is retained for the entry of such further orders as the Division may deem necessary."

(13) That jurisdiction of Case No. 6256 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

  
JOE D. RAMEY,  
Director

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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 6306  
Order No. R-5530-B

APPLICATION OF TEXACO INC. FOR  
AN UNORTHODOX LOCATION, PERMISSION  
TO INJECT WATER AND DIRECTIONAL  
DRILLING, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 30, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 7th day of September, 1978, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Texaco Inc., seeks approval for the unorthodox location of its Central Vacuum Unit Well No. 139 to be vertically drilled from a surface location 85 feet from the South line and 958 feet from the East line of Section 36, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, to a depth of approximately 3100 feet, and then directionally drilled in such a manner as to be bottomed in the San Andres formation in a 100' square bottom hole target location with the center of the target being 60 feet from the South line and 1310 feet from the East line of said Section 36; that the applicant further seeks approval to inject water into the San Andres formation in said well.

(3) That an injection well at said unorthodox bottomhole location will better enable applicant to complete an efficient waterflood injection pattern in its Central Vacuum Unit Area.

(4) That the directional drilling of said well to the aforesaid bottomhole location is occasioned by the location of a surface obstruction immediately over the bottomhole location, namely a gasoline plant.

(5) That no offset operator objected to the proposed unorthodox location.

(6) That approval of the subject application will afford the applicant the opportunity to produce its just and equitable share of the gas in the subject pool, will prevent the economic loss caused by the drilling of unnecessary wells, avoid the augmentation of risk arising from the drilling of an excessive number of wells, and will otherwise prevent waste and protect correlative rights.

(7) That the injection of water into the subject well shall be subject to all of the provisions of previous orders of the Division relating to the Central Vacuum Unit Waterflood Project, including Orders Nos. R-5530 and R-5530-A.

IT IS THEREFORE ORDERED:

(1) That an unorthodox location is hereby approved for the Texaco Inc. Central Vacuum Unit Well No. 139 to be vertically drilled from a surface location 85 feet from the South line and 958 feet from the East line of Section 36, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, to a depth of approximately 3100 feet, and directionally drilled to a true vertical depth of 4800 feet in the San Andres formation, bottoming it within a 100' square bottomhole target, with the center of the target being 60 feet from the South line and 1310 feet from the East line of said Section 36.

(2) That the applicant is hereby authorized to utilize said well for the injection of water into the San Andres formation, injection to be through tubing set in a packer located approximately 50 feet above the uppermost perforation.

(3) That operation of and injection into the subject well shall be subject to all of the provisions applicable to other injection wells in the Central Vacuum Unit Area Waterflood Project, as promulgated by Division Orders Nos. R-5530 and R-5530-A.

(4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.



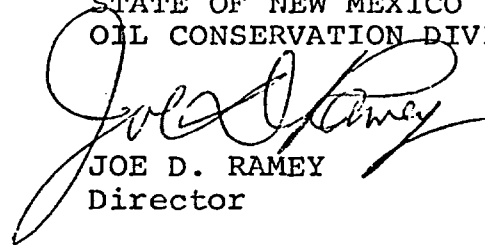
-3-

Case No. 6306

Order No. R-5530-B

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

A large, stylized handwritten signature in dark ink, appearing to read "Joe D. Ramey", is written over the typed name and title.

JOE D. RAMEY  
Director

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STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 7353  
Order No. R-5530-C

APPLICATION OF TEXACO INC.  
FOR THE AMENDMENT OF DIVISION  
ORDER NO. R-5530, LEA COUNTY,  
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on September 23, 1981, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of October, 1981, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Texaco Inc., seeks the amendment of Order No. R-5530, which authorized its Central Vacuum Unit Area Pressure Maintenance Project, to increase the total project area allowable, or as an alternative, to reclassify the project as a waterflood project.
- (3) That said Division Order No. R-5530, as amended, authorized the applicant to operate said pressure maintenance project in the Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.
- (4) That paragraph (13) of Order No. R-5530 established parameters and limitations for a project area allowable to be available for producing wells within said project.
- (5) That under said paragraph (13) the project area allowable is limited to 12,320 barrels per day.

(6) That wells in the project are now producing at a combined rate of approximately 12,000 barrels per day and production is expected to increase to approximately 17,000 barrels per day.

(7) That removal of the limitation on the project area allowable, which limit equals 80 barrels of oil per day times the number of developed 40-acre tracts within the project area times two, would permit the applicant the relief sought and would be consistent with the allowable formula for an offsetting pressure maintenance project in the same pool.

(8) That no offset operator objected to the proposed increase in project area allowable.

(9) That that part of the subject application seeking in the alternative to reclassify said pressure maintenance project as a waterflood should be dismissed.

(10) That approval of the application will not result in waste nor violation of correlative rights.

IT IS THEREFORE ORDERED:

(1) That effective October 1, 1981, paragraph (13) on page 6 of Division Order No. R-5530 is hereby amended to read in its entirety as follows:

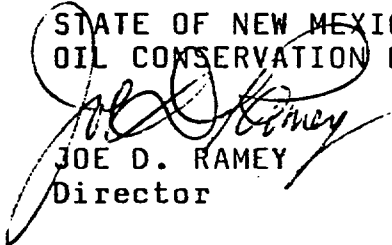
"(13) That the project area shall receive a project area allowable, and said project area allowable shall be the sum of the basic project area allowable plus the water injection credit allowable."

(2) That that portion of the application in this case seeking, in the alternative, to redesignate Texaco Inc.'s Central Vacuum Pressure Maintenance Project as a waterflood project is hereby dismissed.

(3) That 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

  
JOE D. RAMEY  
Director

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ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

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

CASE NO. 7824  
Order No. R-5530-D

APPLICATION OF TEXACO INC. FOR  
AMENDMENT OF DIVISION ORDER NO.  
R-5530 AND APPROVAL OF A TERTIARY  
OIL RECOVERY PROJECT UNDER THE  
CRUDE OIL WINDFALL PROFITS TAX ACT  
OF 1980, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 16, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 5th day of April, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Texaco Inc., seeks authority to convert its Central Vacuum Unit Pressure Maintenance Project (water injection) to a polymer-augmented waterflood, and pursuant to Section 212.78 of the United States Department of Energy Regulations and Section 4993 of the Internal Revenue Code seeks certification of said project as a Qualified Tertiary Oil Recovery Project.

(3) That said pressure maintenance project lies within the Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

(4) That said pool was discovered in May, 1929, by Socony Vacuum Oil Company, experienced substantial development thereafter with waterflooding being initiated during 1977.

(5) That the Texaco Inc. Central Vacuum Unit Pressure Maintenance Project (water injection) consisting of approximately 3046 acres was approved by Division Order No. R-5530 on September 20, 1977 and water injection was commenced within said project beginning in 1977.

(6) That the applicant now seeks approval for the installation of a tertiary recovery polymer-augmented water-flood by the injection of polyacrylamide polymers into 81 wells and the designation of a qualifying tertiary recovery project area all within said pressure maintenance project.

(7) That the New Mexico Oil Conservation Division has been designated by the Governor of the State of New Mexico as the appropriate agency to approve Qualified Tertiary Recovery Projects in New Mexico for purpose of the Crude Oil Windfall Profits Tax Act of 1980.

(8) That the proposed Qualifying Tertiary Project Area (QTP Area) lies wholly within said Central Vacuum Unit Pressure Maintenance Project in the Texaco Vacuum Grayburg San Andres Unit Area and consists of the following described acreage:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM

Section 25: S/2 and SE/4 NE/4

Section 36: All

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM

Section 30: All

Section 31: N/2, SW/4, and SW/4 SE/4

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM

Section 12: N/2 NE/4

TOWNSHIP 18 SOUTH, RANGE 35 EAST, NMPM

Section 6: All

Section 7: NW/4 and NW/4 NE/4

containing 3046 acres, more or less.

(9) That the proposed project is a tertiary recovery method described in Section 212.78(c) of the Department of Energy Regulations and as defined in Section 4993 of the Internal Revenue Code.

(10) That the proposed Tertiary Recovery Project is expected to result in the recovery of at least an additional 2,700,000 barrels of incremental tertiary crude oil which the

Division finds is more than an insignificant increase in the ultimate recovery of crude oil.

(11) That the injection of polyacrylamide polymers will improve mobility ratio and vertical conformance, and the Texaco QTP Area project is designed, and will be operated, in accordance with sound engineering principles.

(12) That the entire Central Vacuum Unit Pressure Maintenance Project will be affected and it is adequately delineated.

(13) That the QTP Area tertiary recovery operations beginning date is after May, 1979, with scheduled polymer injection to begin during late March or April, 1983.

(14) That past production from the Vacuum Grayburg-San Andres Pool underlying the Central Vacuum Unit Area is 53,500,000 barrels through April, 1983; future recovery thereafter without the proposed tertiary recovery project is estimated to be 46,467,000 barrels of oil; and with the proposed tertiary recovery project an additional 2,700,000 barrels of incremental tertiary oil will be recovered resulting in a total production of 49,167,000 barrels of oil.

(15) That the Central Vacuum Unit presently has thereon 76 producing wells, 81 injection wells, three plugged and abandoned wells, and four water supply wells with the project being fully developed on 20-acre well spacing.

(16) That all injection wells located in the Central Vacuum Unit will receive polymer-augmented injection for an extended period of time, (estimated to be 20 months) until a 10 percent pore volume of polymer/water solution is injected.

(17) That the projected future expense for the proposed tertiary project is six million dollars (\$6,000,000) for the cost of the polymer and associated chemicals and one hundred eighty thousand dollars (\$180,000) is estimated for polymer handling equipment.

(18) That the proposed tertiary recovery operations within said QTP Area meet all requirements of Section 4993(C) (2) (A), (B) and (C) of the Internal Revenue Code.

(19) That the approval of this application will prevent waste, protect correlative rights and promote conservation, provided however, that the production limitation provisions of Rules 13 through 15 of Division Order No. R-5530, dated

September 20, 1977, as amended by Division Order No. R-5530-A, dated July 25, 1978, and Order No. R-5530-C, dated October 1, 1981, should remain in effect.

IT IS THEREFORE ORDERED:

(1) That effective April 1, 1983, or the first day of the month following initiation of polymer injection, the Qualifying Tertiary Recovery Project Area, described in Finding No. (8) of this Order, being the Texaco Inc. Central Vacuum Unit Area, Central Vacuum Grayburg-San Andres Pool, Lea County, New Mexico, is hereby approved as a Qualified Tertiary Recovery Project under the Crude Oil Windfall Profits Tax Act of 1980.

(2) That the applicant, Texaco Inc., is hereby authorized to inject water and polyacrylamide polymers into approved injection wells in this unit, and that Division Order No. R-5530 dated September 1, 1977, is hereby amended to allow the injection of said polymers.

IT IS FURTHER ORDERED:

(1) That the production limitation provisions of Rules 13 through 15 of Division Order No. R-5530, as amended by Division Orders Nos. R-5530-A and R-5530-C, shall remain in full force and effect until further order of the Division.

(2) That 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

  
JOE D. RAMEY  
Director

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## Unichem International

707 North Leech

P.O.Box 1499

Hobbs, New Mexico 88240

Company : Texaco Inc.  
 Date : 10-31-1994  
 Location: CVU - WSW #3 (on 10-26-1994)

Specific Gravity:	Sample 1
Total Dissolved Solids:	1.001
pH:	1944
IONIC STRENGTH:	6.70
	0.043

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CATIONS:		me/liter	mg/liter
Calcium	(Ca+2)	9.00	180
Magnesium	(Mg+2)	6.60	80.2
Sodium	(Na+1)	17.7	406
Iron (total)	(Fe+2)	0.014	0.400

ANIONS:		me/liter	mg/liter
Bicarbonate	(HCO <sub>3</sub> -1)	2.20	134
Carbonate	(CO <sub>3</sub> -2)	0	0
Hydroxide	(OH-1)	0	0
Sulfate	(SO <sub>4</sub> -2)	3.31	159
Chloride	(Cl-1)	27.8	984

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## SCALING INDEX (positive value indicates scale)

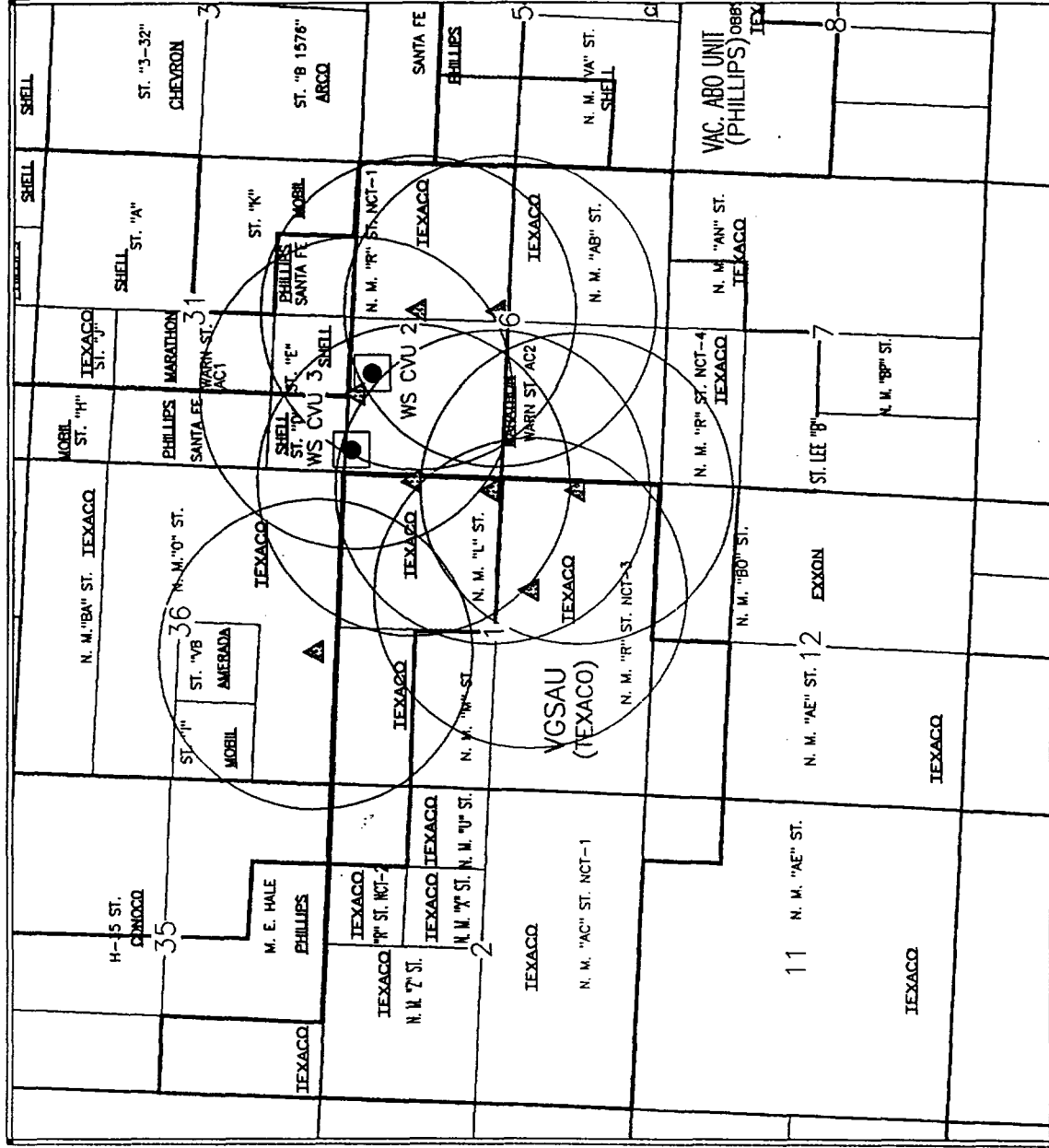
Temperature		Calcium Carbonate	Calcium Sulfate
86[F	30[C	-0.55	-14
110[F	43[C	0.18	-14
130[F	54[C	0.52	-14
140[F	60[C	0.71	-14
160[F	71[C	1.1	-14

Comments:  
 cc: Jay Brown  
 Joe Hay

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ATTACHMENT XI



FRESH WATER SUPPLY WELLS

Scale 1:36000.



Texaco Exploration & Prod. Inc.	
LEASELINE INJECTION WELLS	
VACUUM DRINKARD FIELD	
LEA COUNTY NEW MEXICO	
Sheet No.	Scale 1:36000
10/22/74	

CENTRAL VACUUM UNIT  
OLD WELL NO. - NEW WELL NO.  
CROSS REFERENCE

OLD WELL NO.		NEW WELL NO.
AMERADA		Central Vacuum Unit
State "VB"	1	79
State "B 1578"	1	10
State "B 1578"	2	3
State "LDE"	1	2
BETTIS, BOYLE & STOVALL		
State "E"	1	1
GETTY		
State "AN"	11	123
State "BA"	1	51
State "BA"	2 & <del>9-183</del>	52
State "BA"	3	54
State "BA"	4	53
State "J"	1	49
MARATHON		
McAllister State	1	38
McAllister State	2	23
McAllister State	3	39
McAllister State	4	24
Staplin State (AC-1)	1	34
Staplin State (AC-1)	<del>4</del> 5	19
Warn State (AC-1)	1	64
Warn State (AC-1)	2	75
Warn State (AC-2)	1	98
Warn State (AC-2)	2	97
Warn State (AC-2)	3	105
Warn State (AC-2)	4	104
Warn State (AC-2)	5	112
Warn State (AC-2)	7	119
Warn State (AC-2)	16	118
Warn State (AC-2)	17	111
MOBIL		
State "I"	1	80
State "H"	1	50
PHILLIPS		
Santa Fe	1	65
Santa Fe	2 & <del>120-132</del>	33
Santa Fe	4	86
Santa Fe	5	76
Santa Fe	25	18
SHELL		
✓ State "A"	1	48
✓ State "A"	2	63
✓ State "A"	3	62
✓ State "A"	4	47
✓ State "B"	1	32
✓ State "B"	2	17
✓ State "D"	1	88
✓ State "E"	1	87
✓ Swigart	1	21
SOHIO		
Humble State	1	127
Humble State	2	126
SUN		
"B Lee" State	6	130
"B Lee" State	7	131

## OLD WELL NO.

## NEW WELL NO.

## TEXACO

New Mexico "AB" State	1
New Mexico "AB" State	6
New Mexico "AB" State	7
New Mexico "AB" State	8
New Mexico "CG" State (NCT-1)	1
New Mexico "N" State	1
New Mexico "N" State	2
New Mexico "N" State	3
New Mexico "N" State	4
New Mexico "O" State (NCT-1)	1
New Mexico "O" State (NCT-1)	2
New Mexico "O" State (NCT-1)	3
New Mexico "O" State (NCT-1)	4
New Mexico "O" State (NCT-1)	5
New Mexico "O" State (NCT-1)	6
New Mexico "O" State (NCT-1)	7
New Mexico "O" State (NCT-1)	8
New Mexico "O" State (NCT-1)	9
New Mexico "O" State (NCT-1)	10
New Mexico "Q" State	1
New Mexico "Q" State	2
New Mexico "Q" State	3
New Mexico "R" State (NCT-1)	1
New Mexico "R" State (NCT-1)	2
New Mexico "R" State (NCT-1)	3
New Mexico "R" State (NCT-1)	5
New Mexico "R" State (NCT-4)	1
New Mexico "R" State (NCT-4)	2
New Mexico "T" State (NCT-1)	3

## Central Vacuum Unit

110
109
117
116
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35
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69
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67
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36
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102
103
124
125
12

Z 106 611 717

**Receipt for  
Certified Mail**

No Insurance Coverage Provided

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

PS Form 3800, March 1993

Postage	\$ .78
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 2.78
Postmark or Date	

Z 106 611 718

**Receipt for  
Certified Mail**

No Insurance Coverage Provided

Exxon Company USA  
P.O. Box 1600  
Midland, Texas 79702

PS Form 3800, March 1993

Postage	\$ .78
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 2.78
Postmark or Date	

Z 106 611 716

**Receipt for  
Certified Mail**

Giles M. Lee  
West Star Route Box 478  
Lovington, NM 88260

PS Form 3800, March 1993

P.O., State and ZIP Code	
Postage	\$ .78
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 2.78
Postmark or Date	

Z 106 611 719

**Receipt for  
Certified Mail**

No Insurance Coverage Provided

ARCO Oil & Gas Co.  
P.O. Box 1346  
Houston, Texas 77079

PS Form 3800, March 1993

Postage	\$ .78
Certified Fee	1.00
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.00
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	\$ 2.78
Postmark or Date	

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address

2. ☒ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Giles M. Lee  
West Star Rt. Box 478  
Lovington, NM 88260

4a. Article Number  
2-106-611-716

4b. Service Type

☐ Registered ☐ Insured

☒ Certified ☐ COD

☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)  
*Giles M. Lee*

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ★U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

Is your RETURN ADDRESS completed on the reverse side?

**SENDER:**

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address

2. ☒ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Exxon Company USA  
P.O. Box 1600  
Midland, Texas 79702

4a. Article Number  
2-106-611-718

4b. Service Type

☐ Registered ☐ Insured

☒ Certified ☐ COD

☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery  
JAN 31 1995

5. Signature (Addressee)

6. Signature (Agent)  
*T. Brown*

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ★U.S. GPO: 1993-352-714 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.