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April 24, 2001

HAND DELIVERED

Michael E. Stogner
Hearing Examiner
Oil Conservation Division
New Mexico Energy, Minerals and
Natural Resources Department
1220 South Saint Francis Drive
Santa Fe, New Mexico 87505

Re: Application of Texaco Exploration and Production Inc. for amendment of Division Order No. R-4442, as amended, to authorize a tertiary recovery project by injection of carbon dioxide in its Vacuum Grayburg-San Andres Pressure Maintenance Project Area, approval of amendment of the Cooperative Water Injection Agreement between the Central Vacuum Unit and the Vacuum Grayburg-San Andres Unit, and qualification of the project for the Recovered Oil Tax Rate pursuant to the "Enhanced Oil Recovery Act," Lea County, New Mexico

Dear Mr. Stogner:

Enclosed for your consideration is a proposed order in hard copy and on disc in the above-referenced case. Exhibit A to this order is a list of all injection wells in the this project and Exhibit B sets forth all current injection pressures in the project area.

Also attached is a copy of the letter from the Commissioner of Public Lands waiving objection to this application.

If you need any additional information from Texaco for your consideration of this application, please advise.

Very truly yours,

William F. Carr

enc
cc: Britton McQuien

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. 12592
ORDER NO. R-5530-E

APPLICATION OF TEXACO EXPLORATION AND PRODUCTION INC. FOR AMENDMENT OF DIVISION ORDER NO. R-4442, AS AMENDED, TO AUTHORIZE A TERTIARY RECOVERY PROJECT BY INJECTION OF CARBON DIOXIDE IN ITS VACUUM GRAYBURG-SAN ANDRES PRESSURE MAINTENANCE PROJECT AREA, APPROVAL OF AMENDMENT OF THE COOPERATIVE WATER INJECTION AGREEMENT BETWEEN THE CENTRAL VACUUM UNIT AND THE VACUUM GRAYBURG-SAN ANDRES UNIT, AND QUALIFICATION OF THE PROJECT FOR THE RECOVERED OIL TAX RATE PURSUANT TO THE "ENHANCED OIL RECOVERY ACT", LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a. m. on February 8, 2001, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this ____ day of April, 2001, 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 R-4433, entered in Case No. 4852 on November 1, 1972, the Oil Conservation Division, upon application of Texaco Inc., approved the Vacuum Grayburg-San Andres Unit Agreement. This order was subsequently amended by Order

No. R-4433-A and the unit boundaries currently include the following described State lands located in Lea County, New Mexico:

TOWNSHIP 17 SOUTH, RANGE 34 EAST, NMPM
Section 35: W/2 SW/4

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM
Section 1 and 2: All
Section 11: NE/4 NE/4
Section 12: N/2 NW/4

(3) By Order No. R-4442 entered in Case No. 4852 on November 27, 1972, the Division authorized Texaco Inc. to institute a pressure maintenance project within the aforesaid Vacuum Grayburg-San Andres Unit to be designated the Texaco Vacuum Grayburg-San Andres Pressure Maintenance Project, by the injection of water into the Grayburg and/or San Andres formations, Vacuum Grayburg-San Andres Pool.

(4) The "Unitized Formation" for the Vacuum Grayburg-San Andres Unit includes the stratigraphic interval underlying the Unit Area in the Vacuum-Grayburg-San Andres Pool between the depths of 3,902 feet (plus 105 feet sub-sea) and 4,809 feet (minus 802 feet sub-sea) on the Welex Acoustic Velocity Log, run in the Texaco Inc. State of New Mexico "M" State Well No., located 330 feet from the North line and 1880 feet from the West line in Unit C of Section 1, Township 18 South, Range 34 East, NMPM, Lea County, New Mexico (now the Vacuum Glorieta West Unit Well No. 113; API No. 30-025-21107).

(5) The applicant, Texaco Exploration and Production Inc. (Texaco) seeks:

a) to amend Division Order No. R-4442, as amended, to authorize the implementation of tertiary recovery operations within the Texaco Vacuum Grayburg-San Andres Unit Pressure Maintenance Project by the injection of carbon dioxide and other produced gases into the Grayburg and San Andres formations;

b) authorization to inject carbon dioxide gas at a maximum surface injection pressure of 350 psi above the maximum allowed surface water injection pressure, not to exceed 1850 psi;

c) to qualify the proposed tertiary recovery project for the recovered oil tax rate pursuant to the "New Mexico Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5); and

d) approval of the amendment of the lease line injection agreements between the Central Vacuum Unit and the Vacuum Grayburg-San Andres Unit.

(6) The applicant proposed that the project area for the tertiary recovery project comprise an area within the Vacuum Grayburg-San Andres Unit Area described as follows:

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM

Section 1: N/2, N/2 S/2, SW/4 SW/4,
N/2 S/2 SE/4, N/2 SE/4 SW/4,
SW/4 SE/4 SW/4

Section 2: E/2 NE/4, NE/4 SE/4, N/2 S/2 SE/4,
N/2 NW/4 NE/4,S/2 NW/4 SE/4,
S/2 NE/4 SW/4,N/2 SE/4 SW/4,
SE/4 NW/4 NE/4, NE/4 SW/4 NE/4,
NE/4 NE/4 NW/4, SE/4 NW/4 SW/4,
SE/4 SE/4 SE/4, NE/4 SW/4 SW/4,
NE/4 NW/4 SE/4

Section 11: NE/4 NE/4 NE/4

Section 12: N/2 N/2 NW/4

(7) Current secondary recovery operations within the Vacuum Unit include 35 injection wells and 47 producing wells. Texaco proposed to convert to carbon dioxide injection the 25 water injection wells and one active producing well identified on Exhibit A to this order.

(8) According to evidence and testimony presented by the applicant, its plan of operation within the proposed tertiary recovery project includes:

a) implementing a change in the process used for the displacement of crude oil by initiating water-alternating-gas (WAG) injection (injecting water and carbon dioxide ($C0_2$) in alternating slugs of produced gas and $C0_2$ with slugs of water) (Testimony of McQuien);

b) injecting an estimated 256 BCF of CO_2 and other produced gases and 128 million barrels of water over the life of the proposed tertiary project, which is estimated to be approximately 50 years;

c) utilizing a total of twenty-six (26) injection wells (all as shown on Exhibit "A" attached hereto) and forty-seven (47) producing wells within the proposed tertiary recovery project; and,

d) injecting at sufficient pressure so as to maintain reservoir pressure at high enough levels to meet miscible pressure requirements in the reservoir.

(9) The proposed tertiary recovery project area represents less than the total area contained within the Vacuum Grayburg-San Andres Unit. According to applicant's testimony, the proposed tertiary recovery project is being limited to only a portion of the Vacuum Grayburg-San Andres Unit which contains the best hydrocarbon pore volume within the Vacuum Grayburg-San Andres Pool. (Testimony of McQuien).

(10) Further evidence and testimony presented by the applicant indicates that the amount of recoverable oil attributed to a positive production response from the expanded use of enhanced oil recovery technology for the proposed tertiary recovery project is an estimated 14.4 million stock tank barrels along with 19.3 BCF of hydrocarbon gas. (Texaco Exhibit 12, Testimony of McQuien).

(11) Texaco testified that the initiation of tertiary recovery operations utilizing the methodology proposed should result in the additional recovery set forth in Finding Paragraph No. (11) above for a projected cost of approximately $93.5 million which includes field installations and upgrades, well remediation, separation and compression facilities, the purchase of CO_2 and the costs associated with the recycling of injectant (Texaco Exhibit No. 12).

(12) The proposed tertiary recovery project is offset by the following described tertiary carbon dioxide floods within the Vacuum Grayburg-San Andres Pool, approved respectively, by Division Order Nos. R-5530-E and Order No. R- 10599-B:

a) to the east is the Texaco Central Vacuum Unit located in portions of Townships 17 and 18 South, Ranges 34 and 35 East, NMPM, Lea County, New Mexico. The authorized surface injection pressure for CO_2 in this project area is 1850 psig; and,

b) to the north is the Phillips Petroleum Company State "35" Unit Pressure Maintenance Project which is also a CO_2 tertiary recovery project underlying the N/2, E/2 SW/4, and SE/4 of Section 35, Township 17 South, Range 34 East, NMPM, State "35" Com Unit Area, Lea County, New Mexico. The authorized surface injection pressure for CO_2 in this project area is 1850 psig.

(13) Pursuant to a Cooperative Water Injection Agreement, dated April 14, 1978, water has been injected into the Grayburg-San Andres formation through various wells located in Townships 17 and 18 South, Ranges 34 and 35 East, NMPM, Lea County, New Mexico. Texaco seeks authorization to amend this agreement to also provide for the injection of carbon dioxide. (Texaco Exhibit No. 5, Testimony of McQuien).

(14) To assure that the interest owners in the Vacuum Grayburg-San Andres Unit and the Central Vacuum Unit continue to receive their fair and reasonable share of the reserves produced from each of these units, the proposed amendments to the Cooperative Water Injection Agreement should be approved.

(15) The evidence and testimony presented in this case indicates that it is prudent to implement the proposed tertiary recovery project within the Vacuum Grayburg-San Andres Unit at this time, and that such implementation will result in the recovery of additional oil and gas from the project area which may otherwise not be recovered, thereby preventing waste.

(16) The evidence further indicates that the oil and gas recovered as a result of implementing the proposed tertiary recovery project will be allocated to each tract within the Vacuum Grayburg-San Andres Unit on a fair and reasonable basis, thereby protecting correlative rights.

(17) The proposed tertiary recovery project should be approved.

(18) The evidence presented by Texaco indicates that the proposed tertiary recovery project meets all the criteria for certification 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) (*See*, Texaco Exhibit No. 12).

(19) The certified "EOR Project Area" should initially comprise the area described in Finding Paragraph No. (6) above, provided however, the "EOR Project Area" eligible for the recovered oil tax rate may be contracted and reduced dependent

upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production Response.

(20) To be eligible for the EOR tax credit, the applicant should advise the Division when $C0_2$ (WAG) injection commences within the "EOR Project Area" and request the Division certify the subject tertiary recovery project to the New Mexico Taxation and Revenue Department.

(21) At such time as a positive production response occurs from $C0_2$ (WAG) injection operations and within seven 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 benefiting from tertiary recovery operations. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the New Mexico Taxation and Revenue Department those lands and wells which are eligible for the tax credit.

(22) Division Order No. R-4442 which approved the Vacuum Grayburg-San Andres Unit Pressure Maintenance project did not set a pressure limitation for water injection in the unit area. (Testimony of Guillot at 50).

(23) The current maximum surface injection pressures within the proposed tertiary recovery project area range from approximately 1395 psi to 2300 psi. Exhibit B to this order contains the current approved injection pressures for each well in the project area. These pressure limitations are either 1850 pounds (the current supply pipeline pressure for CO2) or 350 pounds more than the current approved water injection pressure for the well which, since CO2 is not as dense as water, results in the same bottomhole injection pressure for CO2 as for water. (Testimony of Guillot at 51 - 52).

(24) Texaco seeks authority to inject CO2 at a surface injection pressure for CO2 which is 350 psi above the current maximum surface injection pressure for water for a given well (all as shown on applicant's Exhibit No. 15) with said $C0_2$ injection pressure not to exceed 1850 psi. (Testimony of Guillot at 51).

(25) Texaco seeks no change in the approved injection pressure for water.

(26) Throughout the course of secondary recovery operations, the maximum surface injection pressures for the injection wells within the Vacuum Grayburg-San Andres Unit have been increased upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

Pressure increases such as described are usually based upon the results of step rate tests. Texaco also seeks authority to continue to conduct step rate tests and receive pressure increase authority on injection wells within the tertiary recovery project area whose current maximum surface injection pressure for water is less than 1500 psi. (Testimony of Guillot at 51).

(27) The evidence and testimony presented by Texaco indicates that the proposed maximum CO_2 surface injection pressure of 1850 psi, or 350 psi above the current maximum surface injection pressure for water, is reasonable, necessary and should not result in the migration of injected fluid from the proposed injection interval.

(28) All injection wells or the 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 the individual well surface injection pressure authorized by this order.

(29) Texaco testified that it has reviewed the available data on all wells in the project area including all injection wells, producing wells and plugged and abandoned wells, and that there is no remedial work required on any well in the project area to enable it to safely conduct CO2 injection operations. (Testimony of Carriger at 31-32).

(30) Texaco testified that to assure ensure the integrity of each wellbore, wells in the Vacuum Grayburg-San Andres Project Area will be monitored like wells in the offsetting CO2 floods which includes (a) equipping each injection well with an automation system which monitors pressures in the well and shuts in the well if pressures increase above predetermined levels, (b) conducting monthly Division-monitored bradenhead surveys on each injection well and annual Division-monitored bradenhead survey on each producing well, (c) conducting periodic wellbore integrity tests on each well, and (d) a visual inspection of each well each day. (Testimony of Carriger at 34-35).

(31) Texaco's request should be granted, provided however, the Division may require the installation of additional or upgraded wellbore tubulars and packers should it become apparent that the injection of CO_2 is causing beyond normal corrosion problems.

(32) If not previously equipped, each of the injection wells shown on Exhibit A should be equipped with internally coated tubing installed in a packer set within 100 feet of the uppermost injection perforation or casing shoe; 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.

(33) 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 any new injection equipment and of the mechanical integrity pressure tests in order that the same may be witnessed.

(34) The application 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.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Texaco Exploration and Production Inc., is hereby authorized to institute an EOR tertiary recovery project by means of combined water, carbon dioxide ($C0_2$), and produced gas injection (WAG) in its Vacuum Grayburg San Andres Unit Area located in portions of Township 17 South, Range 34 East, NMPM, Lea County, New Mexico, by the injection of water, $C0_2$, and produced gases into the Grayburg and San Andres formations, Vacuum-Grayburg-San Andres Pool, through the correlative gross perforated and/or open hole interval between the depths of 3,902 feet (plus 105 feet sub-sea) and 4,809 feet (minus 802 feet sub-sea) on the Welex Acoustic Velocity Log, run in the Texaco Inc. State of New Mexico "M" Well No. 8, located 330 feet from the North line and 1880 feet from the West line in unit C of Section 1 Township 18 South, Range 34 East, NMPM, Lea County, New Mexico, within each of the twenty-six injection wells shown on Exhibit A attached hereto.

IT IS FURTHER ORDERED THAT:

(2) Any previous injection authority not in conflict with the provisions set forth in this order shall remain in full force and effect.

(3) WAG injection operations shall be accomplished through internally coated tubing installed in a packer set within approximately 100 feet of the uppermost injection perforations or casing shoe; the casing-tubing annulus shall be filled with an inert fluid and a gauge or approved leak-detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(4) For those injection wells within the "EOR Project Area" whose current maximum surface injection pressure for water is less than 1500 psi (as shown on applicant's Exhibit No. 12), the applicant is hereby authorized to inject water into each

of these wells at the current maximum surface injection pressure, provided however, such pressure may be administratively increased by the Division upon a showing that such increase will not result in the fracturing of the injection formation or confining strata, and shall be further authorized to inject $C0_2$ and produced gases at a maximum surface injection pressure of 350 psi above the current maximum surface injection pressure for water, provided however, such $C0_2$ injection shall not occur at a surface injection pressure in excess of 1850 psi.

(5) For those injection wells within the "EOR Project Area" whose current maximum surface injection pressure for water exceeds 1500 psi (as shown on applicant's Exhibit No. 15), the applicant is hereby authorized to inject water into each of these wells at the current maximum surface injection pressure, and shall be further authorized to inject C02 and produced gases at a maximum surface injection pressure of 1850 psi.

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

(7) The operator shall immediately notify the Supervisor of the Hobbs District Office of the Division of the failure of the casing in any of the injection wells, the leakage of water, natural gas, $C0_2$, or oil from or around any producing well, or the leakage of water, natural gas, $C0_2$, or oil from any plugged and abandoned well within the "EOR Project Area," and shall take such steps as may be necessary to correct such failure or leakage.

(8) The proposed amendments to the Vacuum Grayburg-San Andres Cooperative Water Injection Agreement with the Central Vacuum Unit dated January 4, 2001 is hereby approved.

(9) The subject tertiary recovery project is hereby certified as a qualified "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act." (Laws 1992, Chapter 38, Sections I through 5).

(10) The certified and approved "EOR Project Area" shall include those lands described as follows, provided however, the "EOR Project Area" eligible for the recovered oil tax rate may be reduced dependent upon the evidence presented by the applicant in its demonstration of the occurrence of a positive production response.

TOWNSHIP 18 SOUTH, RANGE 34 EAST, NMPM

Section 1: N/2, N/2 S/2, SW/4 SW/4, N/2 S/2 SE/4, N/2 SE/4 SW/4, SW/4 SE/4 SW/4

Section 2: E/2 NE/4, NE/4 SE/4, N/2 S/2 SE/4, N/2 NW/4 NE/4,S/2 NW/4 SE/4, S/2 NE/4 SW/4,N/2 SE/4 SW/4, SE/4 NW/4 NE/4, NE/4 SW/4 NE/4, NE/4 NE/4 NW/4, SE/4 NW/4 SW/4, SE/4 SE/4 SE/4, NE/4 SW/4 SW/4, NE/4 NW/4 SE/4

Section 11: NE/4 NE/4 NE/4

Section 12: N/2 N/2 NW/4

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

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

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

(14) The subject tertiary recovery project is hereby designated the Vacuum Grayburg-San Andres Unit Tertiary Recovery Project and shall be governed by the provisions of Rules Nos. 701 through 708 of the Oil Conservation Division Rules and Regulations.

(15) Monthly progress reports of the tertiary recovery project herein authorized shall be submitted to the Division in accordance with Rules 706 and 1115 of the Division Rules and Regulations.

(16) Jurisdiction 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

LORI WROTENBERY
Director

S E A L

EXHIBIT "A"
CASE NO. 12592
ORDER NO. _____
TEXACO EXPLORATION AND PRODUCTION INC.
VACUUM GRAYBURG SAN ANDRES UNIT
WELLS WITHIN PROPOSED CO_2 TARGET AREAS

WELL NO	FOOTAGE	U	SECTION	TOWNSHIP	RANGE	API NUMBERS
VGSAU #6	990 FSL; 990 FWL	P	2	18S	34E	30-025-21420
VGSAU #7	660 FSL; 1987 FWL	O	2	18S	34E	30-025-02277
VGSAU #8	660 FSL; 1980 FEL	N	2	18S	34E	30-025-02275
VGSAU #9	660 FSL; 660 FEL	M	2	18S	34E	30-025-02274
VGSAU #10	660 FSL; 660 FWL	P	1	18S	34E	30-025-02258
VGSAU #11	660 FSL; 1980 FWL	O	1	18S	34E	30-025-02257
VGSAU #12	660 FSL; 1980 FEL	N	1	18S	34E	30-025-02259
VGSAU #13	660 FSL; 660 FEL	M	1	18S	34E	30-025-02260
VGSAU #21	1980 FSL; 660 FWL	I	2	18S	34E	30-025-02276
VGSAU #22	1980 FSL; 1980 FWL	J	2	18S	34E	30-025-02273
VGSAU #23	1980 FSL; 1980 FEL	K	2	18S	34E	30-025-02272
VGSAU #24	1980 FSL; 660 FEL	L	2	18S	34E	30-025-02271
VGSAU #25	1980 FSL; 660 FWL	I	1	18S	34E	30-025-02256
VGSAU #26	1980 FSL; 1980 FWL	J	1	18S	34E	30-025-02255
VGSAU #27	1980 FSL; 1980 FEL	K	1	18S	34E	30-025-02254
VGSAU #28	2310 FSL; 330 FEL	L	1	18S	34E	30-025-02253
VGSAU #38	1980 FNL; 1980 FEL	F	2	18S	34E	30-025-02265
VGSAU #39	1980 FNL; 660 FEL	E	2	18S	34E	30-025-02264
VGSAU #40	1980 FNL; 660 FWL	H	1	18S	34E	30-025-02252
VGSAU #41	1980 FNL; 1980 FWL	G	1	18S	34E	30-025-02249
VGSAU #42	1980 FNL; 1980 FEL	F	1	18S	34E	30-025-02245

VGSAU #43	1980 FNL; 484 FEL	E	1	18S	34E	30-025-02247
VGSAU #52	660 FNL; 1980 FWL	B	2	18S	34E	30-025-02267
VGSAU #53	660 FNL; 1980 FEL	C	2	18S	34E	30-025-02262
VGSAU #54	660 FNL; 660 FEL	D	2	18S	34E	30-025-02263
VGSAU #55	660 FNL; 660 FWL	A	1	18S	34E	30-025-02250
VGSAU #56	660 FNL; 1980 FWL	B	1	18S	34E	30-025-02251
VGSAU #57	660 FNL; 1980 FEL	C	1	18S	34E	30-025-02248
VGSAU #159	907 FNL; 350 FEL	D	1	18S	34E	30-025-33464
VGSAU #126	1980 FSL; 1308 FWL	H	1	18S	34E	30-025-32026
VGSAU #127	1980 FSL; 2625 FWL	J	1	18S	34E	30-025-32027
VGSAU #128	1980 FSL; 1220 FEL	L	1	18S	34E	30-025-32028
VGSAU #139	1980 FNL; 1282 FEL	E	2	18S	34E	30-025-30755
VGSAU #140	1980 FNL; 10 FEL	E	2	18S	34E	30-025-30756
VGSAU #141	1980 FNL; 1309 FWL	H	1	18S	34E	30-025-30797
VGSAU #142	1980 FNL; 2628 FWL	G	1	18S	34E	30-025-30843
VGSAU #143	1980 FNL; 1250 FEL	E	1	18S	34E	30-025-30844
VGSAU #153	660 FNL; 2630 FWL	B	2	18S	34E	30-025-30802
VGSAU #154	660 FNL; 1331 FEL	C	2	18S	34E	30-025-30801
VGSAU #155	660 FNL; 10 FEL	D	2	18S	34E	30-025-30800
VGSAU #156	660 FNL; 1330 FWL	B	1	18S	34E	30-025-30851
VGSAU #157	710 FNL; 2530 FWL	B	1	18S	34E	30-025-30717
VGSAU #158	660 FNL; 1330 FEL	C	1	18S	34E	30-025-30718
VGSAU #212	660 FSL; 1850 FEL	N	1	18S	34E	30-025-32004
VGSAU #227	1980 FSL; 1755 FEL	K	1	18S	34E	30-025-31993
VGSAU #258	660 FNL; 570 FEL	D	1	18S	34E	30-025-32009
VGSAU #4	220 FSL; 100 FWL	P	1	18S	34E	30-025-24332
VGSAU #5	210 FSL; 1420 FWL	O	1	18S	34E	30-025-24333
VGSAU #14	1500 FSL; 1500 FWL	J	2	18S	34E	30-025-24359

VGSAU #15	1400 FSL; 2450 FEL	K	2	18S	34E	30-025-24378
VGSAU #16	1400 FSL; 1300 FEL	L	2	18S	34E	30-025-24308
VGSAU #17	1400 FSL; 10 FEL	L	2	18S	34E	30-025-24316
VGSAU #18	1330 FSL; 1330 FWL	J	1	18S	34E	30-025-24317
VGSAU #19	1310 FSL; 2540 FWL	O	1	18S	34E	30-025-24331
VGSAU #20	1330 FSL; 1330 FEL	K	1	18S	34E	30-025-24360
VGSAU #31	2630 FSL; 1330 FEL	K	2	18S	34E	30-025-24314
VGSAU #32	2630 FSL; 30 FWL	I	1	18S	34E	30-025-24330
VGSAU #33	2630 FNL; 1310 FWL	H	1	18S	34E	30-025-24323
VGSAU #34	2630 FSL; 2630 FEL	K	1	18S	34E	30-025-24312
VGSAU #35	2630 FNL; 1330 FEL	F	1	18S	34E	30-025-24361
VGSAU #46	1405 FNL; 1230 FEL	E	2	18S	34E	30-025-24364
VGSAU #47	1330 FNL; 10 FEL	E	2	18S	34E	30-025-24365
VGSAU #48	1330 FNL; 1330 FWL	G	1	18S	34E	30-025-24322
VGSAU #49	1390 FNL; 2580 FWL	G	1	18S	34E	30-025-24329
VGSAU #50	1330 FNL; 1330 FEL	F	1	18S	34E	30-025-24366
VGSAU #63	50 FNL; 2630 FEL	C	2	18S	34E	30-025-27974
VGSAU #122*	1336 FNL; 660 FEL	E	1	18S	34E	30-025-30721
VGSAU #146	1324 FNL; 1980 FEL	F	2	18S	34E	30-025-30846
VGSAU #147	1360 FNL; 660 FEL	E	2	18S	34E	30-025-30798
VGSAU #148	1330 FNL; 660 FWL	H	1	18S	34E	30-025-30799
VGSAU #149	1330 FNL; 1980 FWL	G	1	18S	34E	30-025-30847
VGSAU #150	1390 FNL; 1980 FEL	F	1	18S	34E	30-025-30917

EXHIBIT "B"
CASE NO. 12592
ORDER NO. _____
TEXACO EXPLORATION AND PRODUCTION INC.
VACUUM GRAYBURG SAN ANDRES UNIT
INJECTION WELL SUMMARY

ACTIVE WATER INJECTORS TO BE CONVERTED TO CO_2 INJECTION				
Ref. No.	**Well No.**	**Permit Date**	**NMOCD Pressure Limit (Water)**	**Requested Pressure Limit for CO_2**
1	4	11/17/98	2150	1850
2	5	**11/1/72**	**N/A**	1850
3	14	11/17/98	1420	1770
4	15	**11/1/72**	**N/A**	1850
5	16	4/15/97	1480	1830
6	17	**11/1/72**	**N/A**	1850
7	18	4/15/97	1930	1850
8	19	**11/1/72**	**N/A**	1850
9	20	11/17/98	1680	1850
10	31	**11/1/72**	**N/A**	1850
11	32	4/15/97	1730	1850
12	33	**11/1/72**	**N/A**	1850
13	34	11/10/93	1395	1745
14	35	**11/1/72**	**N/A**	1850
15	46	5/24/91	1765	1850
16	47	**11/1/72**	**N/A**	1850
17	48	11/17/98	2210	1850
18	49	**11/1/72**	**N/A**	1850
19	50	11/10/93	1730	1850
20	63	4/15/97	2115	1850
21	146	4/15/97	1800	1850
22	147	4/15/97	2030	1850
23	148	11/17/98	2300	1850
24	149	2/8/95	1845	1850
25	150	2/9/95	1810	1850
ACTIVE PRODUCING WELL TO BE CONVERTED TO CO_2 INJECTION				
26	122	N/A	N/A	1210
			(initial request 860 PSIG)	

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New Mexico State Land Office
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.

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April 4, 2001

Holland & Hart LLP and Campbell & Carr, Attorneys at Law
P. O. Box 2208
Santa Fe, New Mexico 87504-2208

Attention: Mr. William F. Carr

Re: In the matter of the application of Texaco Exploration & Production Inc. for amendment of Division Order No. R-4442, as amended, to authorize a tertiary recovery project by the injection of carbon dioxide in its Vacuum Grayburg San Andres Unit Pressure Maintenance Project Area, approval of the amendment of the cooperative water injection agreement between the Central Vacuum Unit and the Vacuum Grayburg San Andres Unit, and qualification of the project for the recovered oil tax rate pursuant to the Enhanced Oil Recovery Act, Lea County, New Mexico.

Dear Mr. Carr:

We are in receipt of your letter of April 3, 2001 notifying this office of the above-referenced application to the New Mexico Oil Conservation Division.

Please be advised that we have no objection to Texaco's application.

Please submit a copy of the amendment to the cooperative water injection agreement between the Central Vacuum Unit and the Vacuum Grayburg San Andres Unit.

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

Very truly yours,

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

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744
RP/JB/pm
pc: Reader File,