

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

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

CASE NO. 10252
ORDER NO. R-9596

APPLICATION OF AMERADA HESS CORPORATION
FOR A WATERFLOOD PROJECT, LEA COUNTY,
NEW MEXICO.

BY THE DIVISION

ORDER OF THE DIVISION

This cause came on for hearing at 8:15 a.m. on September 19, 1991 at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 15th day of October, 1991, 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) The applicant, Amerada Hess Corporation, seeks authority to institute a waterflood project in its North Monument Grayburg-San Andres Unit by the injection of water into the Grayburg-San Andres formation, Eunice Monument Grayburg-San Andres Pool, through the gross perforated and/or open hole interval from approximately 3720 feet to 3965 feet in 108 existing or newly drilled wells (shown on Exhibit "A" attached hereto) located in Townships 19 and 20 South, Ranges 36 and 37 East, NMPM, Lea County, New Mexico.

(3) By Order No. R-9494 issued in Case No. 10253 on May 1, 1991, the Division, upon application of Amerada Hess Corporation, approved the North Monument Grayburg-San Andres Unit which comprises some 13,385 acres in Townships 19 and 20 South, Ranges 36 and 37 East, NMPM, Lea County, New Mexico.

(4) The vast majority of wells located within the applicant's North Monument Grayburg-San Andres Unit Area are in an advanced state of depletion and should properly be classified as "stripper wells".

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

(6) The applicant should 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.

(7) The injection of water into each of the wells shown on Exhibit "A" should be accomplished through internally plastic-lined 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.

(8) Prior to commencing injection operations into the wells shown on Exhibit "A", 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.

(9) There are two proposed injection wells and nine producing wells located within the "area of review", shown on Exhibit "B" attached hereto, which may not be completed or cemented in such a manner which will assure that their wellbores will not serve as a conduit for movement of injected fluid out of the injection interval.

(10) Prior to initiating injection operations into the two proposed injection wells or in any other injection well located within one-half mile of any of the producing wells shown on Exhibit "B", the applicant should be required to complete or re-cement said wells in a manner which will assure that these wellbores will not serve as a conduit for migration of injected fluid and to the satisfaction of the supervisor of the Hobbs district office of the Division.

(11) There are twenty-three previously plugged and abandoned wells located within the "area of review" and shown on Exhibit "C" attached hereto, which may not be plugged in such a manner which will assure that their wellbores will not serve as a conduit for movement of injected fluid out of the injection interval.

(12) Prior to initiating injection operations into any injection well located within one-half mile of the wells shown on Exhibit "C", the applicant should be required to re-plug said wells in a manner which will assure that these wellbores will not serve as a conduit for migration of injected fluid and to the satisfaction of the supervisor of the Hobbs district office of the Division.

(13) 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 0.2 psi per foot of depth to the top injection perforation, or in the case of open hole completions, the casing shoe.

(14) As of the date of the hearing, the applicant did not have information regarding the exact location of injection perforations or open hole injection intervals in each of the proposed 108 injection wells.

(15) As such information becomes known, the applicant should be required to submit the exact location of the injection interval in each of the proposed injection wells to the Santa Fe office of the Division in order that maximum surface injection pressures may be assigned to such wells.

(16) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (13) 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, of the mechanical integrity pressure tests, and of the conductance of any remedial cement or plugging operations in order that the same may be witnessed.

(18) Prior to commencing injection operations into the proposed NMGSAU Block 18 Well Nos. 13 and 15, the applicant should be required to submit to the Santa Fe office of the Division an executed copy of an Injection Lease-Line Agreement.

(19) 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, Amerada Hess Corporation, is hereby authorized to institute a waterflood project in its North Monument Grayburg-San Andres Unit (as fully described in Division Order No. R-9494) by the injection of water into the Grayburg-San Andres formation, Eunice Monument Grayburg-San Andres Pool, through the gross perforated and/or open hole interval from approximately 3720 feet to 3965 feet in 108 existing or newly drilled wells (shown on Exhibit "A" attached hereto) located in Townships 19 and 20 South, Ranges 36 and 37 East, NMPM, Lea County, New Mexico.

(2) 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.

(3) Injection into the proposed injection wells shall be accomplished through plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation or casing shoe; 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.

(4) 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 0.2 psi per foot of depth to the top injection perforation, or in the case of open hole completions, the casing shoe.

(5) The applicant shall submit information, as it becomes known, as to the exact location of the injection interval in each of the proposed injection wells to the Santa Fe office of the Division in order that maximum surface injection pressures may be assigned to such wells.

(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.

(7) Prior to commencing injection operations into the proposed injection wells, the casing in each 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) Prior to initiating injection operations into the two proposed injection wells or in any injection well located within one-half mile of any of the producing wells shown on Exhibit "B", the applicant shall complete or re-cement said wells in a manner which will assure that these wellbores will not serve as a conduit for migration of injected fluid and to the satisfaction of the supervisor of the Hobbs district office of the Division.

(9) Prior to initiating injection operations into any injection well located within one-half mile of the wells shown on Exhibit "C", the applicant shall re-plug said wells in a manner which will assure that these wellbores will not serve as a conduit for migration of injected fluid and to the satisfaction of the supervisor of the Hobbs district office of the Division.

(10) 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, of the mechanical integrity pressure tests, and of the conductance of any remedial cement or plugging operations in order that the same may be witnessed.

(11) 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.

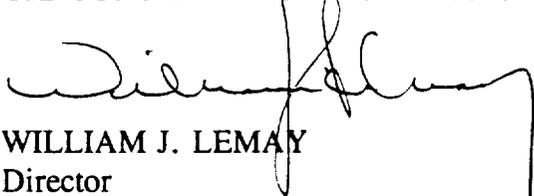
(12) Prior to commencing injection operations into the proposed NMGSAU Block 18 Well Nos. 13 and 15, the applicant shall submit to the Santa Fe office of the Division an executed copy of an Injection Lease-Line Agreement.

(13) The subject waterflood project is hereby designated the North Monument Grayburg-San Andres 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.

(14) 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 COMMISSION



WILLIAM J. LEMAY
Director

S E A L

EXHIBIT 'A'
 DIVISION ORDER NO. R.9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGSAT/ Well No.
Texaco Inc.	N.M. 'F' State No. 1	3300' FNL & 660' FEL	I	24-19S-36E	4	9
Texaco Inc.	N.M. 'J' State No. 1	1980' FSL & 1980' FWL	K	24-19S-36E	4	11
Amerada Hess	State 'T' No. 2	1980' FSL & 1980' FWL	K	25-19S-36E	9	11
Amerada Hess	State 'T' No. 4	660' FNL & 1980' FWL	C	25-19S-36E	9	3
Chevron USA Inc.	Graham State (NCT-C) No. 6	660' FSL & 1980' FEL	O	25-19S-36E	9	15
Chevron USA Inc.	Graham State (NCT-C) No. 7	1980' FNL & 1980' FEL	G	25-19S-36E	9	7
Chevron USA Inc.	Lola Martin No. 1	1980' FSL & 660' FEL	I	25-19S-36E	9	9
Texaco Inc.	A.L. Christmas 'B' No. 1	660' FSL & 660' FWL	M	25-19S-36E	9	13
Oryx Energy	N.M. State No. 1	660' FNL & 660' FEL	A	25-19S-36E	9	1
Amerada Hess	W.A. Weir 'B' No. 1	1980' FNL & 1980' FEL	G	26-19S-36E	8	7
Amerada Hess	W.A. Weir No. 1	660' FSL & 660' FWL	M	35-19S-36E	13	13
Amerada Hess	W.A. Weir No. 5	1980' FNL & 660' FWL	E	35-19S-36E	13	5
Amerada Hess	W.A. Weir No. 6	660' FNL & 1980' FWL	C	35-19S-36E	13	3
Oryx Energy	W.B. Maveley No. 2	660' FSL & 1980' FEL	O	35-19S-36E	13	15
Amerada Hess	State 'D' No. 2	1980' FNL & 660' FWL	E	1-20S-36E	19	5
Amerada Hess	State 'T' No. 1	660' FNL & 1980' FWL	C	2-20S-36E	18	3

EXHIBIT 'A'
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NM/GSAU Well No.
Amerada Hess	State 'J' No. 1	660' FSL & 1980' FEL	O	2-20S-36E	18	15
Amerada Hess	State 'J' No. 3	1980' FSL & 1980' FWL	K	2-20S-36E	18	11
Amerada Hess	State 'S' No. 2	660' FSL & 660' FWL	M	2-20S-36E	18	13
Chevron USA Inc.	Graham State (NCT-B) No. 2	1980' FSL & 660' FEL	I	2-20S-36E	18	9
Mobil TX & NM	State 'A' No. 1	660' FNL & 660' FEL	A	2-20S-36E	18	1
Mobil TX & NM	State 'A' No. 4	1980' FNL & 1980' FEL	G	2-20S-36E	18	7
Conoco Inc.	Reed 'A-3' No. 1	660' FNL & 660' FEL	A	3-20S-36E	18	17
Shell Western	State 'B' No. 3	660' FNL & 1980' FWL	C	36-19S-36E	14	3
Amerada Hess	State 'A-7' No. 1	1980' FSL & 660' FEL	I	7-19S-37E	1	9
Chevron USA Inc.	F.W. Kuller (NCT-D) No. 1	660' FSL & 660' FWL	M	8-19S-37E	1	13
Conoco Inc.	State 'A-17' No. 1	660' FSL & 660' FWL	M	17-19S-37E	3	13
Conoco Inc.	State 'A-17' No. 4	1980' FSL & 1980' FWL	K	17-19S-37E	3	11
Chevron USA Inc.	Graham State (NCT-G) No. 1	660' FSL & 1980' FEL	O	17-19S-37E	3	15
Amerada Hess	State 'G' No. 1	660' FSL & 660' FWL	M	18-19S-37E	2	13
Chevron USA Inc.	F.W. Kuller (NCT-C) No. 2	1980' FNL & 1980' FEL	G	18-19S-37E	2	7
Chevron USA Inc.	F.W. Kuller (NCT-C) No. 4	1980' FNL & 660' FWL	E	18-19S-37E	2	5

EXHIBIT 'A'
 DIVISION ORDER NO. R-9596,
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGS&U Well No.
Texaco Inc.	American National Ins. No. 1	660' FNL & 1980' FWL	C	18-19S-37E	2	3
Texaco Inc.	C.J. Saunders Federal No. 4	1980' FSL & 1980' FWL	K	18-19S-37E	2	11
Chevron USA Inc.	B.V. Culp (NCT-A) No. 2	1980' FNL & 660' FWL	E	19-19S-37E	5	5
Chevron USA Inc.	B.V. Culp (NCT-A) No. 7	660' FNL & 660' FEL	A	19-19S-37E	5	1
Amerada Hess	State 'L' No. 1	1980' FNL & 660' FWL	E	20-19S-37E	6	5
Amerada Hess	State 'T' Battery 3 No. 5	1980' FNL & 1980' FEL	G	20-19S-37E	6	7
Chevron USA Inc.	F.W. Kuller (NCT-A) No. 1	660' FSL & 1980' FEL	O	20-19S-37E	6	15
Grace Petroleum	N.M. 'D' State No. 2	660' FNL & 660' FEL	A	20-19S-37E	6	1
Texaco Inc.	H.T. Mattem No. 2	660' FSL & 660' FWL	M	20-19S-37E	6	13
Texaco Inc.	H.T. Mattem No. 4	1980' FSL & 1980' FWL	K	20-19S-37E	6	11
Texaco Inc.	State 'F' No. 2	660' FNL & 1980' FWL	C	20-19S-37E	6	3
Chevron USA Inc.	F.W. Kuller (NCT-B) No. 1	660' FSL & 660' FWL	M	21-19S-37E	7	13
Chevron USA Inc.	F.W. Kuller (NCT-B) No. 2	1980' FNL & 660' FWL	E	28-19S-37E	12	5
Amerada Hess	N.B. Bordages No. 1	990' FSL & 330' FWL	M	28-19S-37E	12	13
Amerada Hess	State 'K' No. 2	660' FNL & 1980' FWL	C	29-19S-37E	11	3
Amerada Hess	State 'P' No. 2	660' FSL & 660' FWL	M	29-19S-37E	11	13

EXHIBIT 'A'
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGSALU Well No.
Amerada Hess	State "R" No. 1	1980' FSL & 1980' FWL	K	29-19S-37E	11	11
Chevron USA Inc.	Fred Luby No. 1	1980' FNL & 660' FWL	E	29-19S-37E	11	5
Chevron USA Inc.	D.A. Williams No. 2	660' FSL & 1980' FEL	O	29-19S-37E	11	15
The Wiser Oil Co.	Luby "A" State No. 1	1980' FNL & 1980' FEL	G	29-19S-37E	11	7
Shell Western	State "F" No. 1Y	2280' FSL & 990' FEL	I	29-19S-37E	11	9
Texaco Inc.	Skelly "E" State No. 2	660' FNL & 660' TEL	A	29-19S-37E	11	1
Marathon	Elliott "A" State No. 2	1980' FSL & 660' FEL	I	30-19S-37E	10	9
Amerada Hess	B.V. Culp No. 1	330' FSL & 2310' FEL	O	31-19S-37E	15	15
Amerada Hess	J.R. Phillips "A" No. 3	1980' FNL & 1980' FEL	G	31-19S-37E	15	7
Chevron USA Inc.	B.V. Culp (NCT-B) No. 2	1980' FSL & 660' FEL	I	31-19S-37E	15	9
Chevron USA Inc.	J.R. Phillips No. 2	660' FNL & 660' FEL	A	31-19S-37E	15	1
Amerada Hess	J.R. Phillips "A" No. 3	2310' FSL & 2310' FWL	K	31-19S-37E	15	11
Amerada Hess	J.R. Phillips "B" No. 4	1980' FNL & 990' FWL	E	31-19S-37E	15	5
Amerada Hess	D.F. Larsen No. 4	1980' FNL & 1980' FEL	G	32-19S-37E	16	7
Amerada Hess	State "U" No. 1	1980' FNL & 660' FWL	E	32-19S-37E	16	5
Chevron USA Inc.	May L. Love Com No. 1	660' FSL & 1980' FEL	O	32-19S-37E	16	15

EXHIBIT 'A'
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGS/SAU Well No.
Marathon	Bertha Barber No. 1	660' FSL & 660' FWL	M	32-19S-37E	16	13
Texaco Inc.	Cook Hartley No. 1	570' FNL & 710' FEL	A	32-19S-37E	16	1
Texaco Inc.	State "H" No. 2	1980' FSL & 1980' FWL	K	32-19S-37E	16	11
Amerada Hess	W.D. Hanley No. 1	660' FSL & 660' FWL	M	33-19S-37E	17	13
Amerada Hess	J.H. Williams No. 2	330' FSL & 2310' FEL	O	33-19S-37E	17	15
Amerada Hess	J.W. Cooper "G" No. 3	1650' FNL & 330' FWL	E	3-20S-37E	23	5
Amerada Hess	J.W. Cooper "A" No. 1	1070' FNL & 1650' FW	C	3-20S-37E	23	3
Amerada Hess	M.E. Laughlin No. 1	1980' FNL & 1980' FEL	G	4-20S-37E	22	7
Amerada Hess	M.E. Laughlin No. 2	660' FSL & 660' FWL	M	4-20S-37E	22	13
Amerada Hess	M.E. Laughlin No. 4	660' FSL & 1980' FEL	O	4-20S-37E	22	15
Amerada Hess	J.W. Cooper "E" No. 1	330' FNL & 990' FEL	A	4-20S-37E	22	1
Amerada Hess	Humble Laughlin No. 2	1980' FSL & 660' FEL	I	4-20S-37E	22	9
Shell Western	Cooper "B" No. 3	1980' FNL & 660' FWL	E	4-20E-37E	22	5
Texaco Inc.	M.E. Laughlin No. 2	1980' FSL & 1980' FWL	K	4-20S-37E	22	11
Marathon	Bertha Barber No. 2	660' FNL & 1980' FWL	C	5-20S-37E	21	3
Texaco Inc.	J.W. Cooper No. 2	660' FNL & 660' FEL	A	5-20S-37E	21	1

EXHIBIT "A"
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGSAU Well No.
Oryx Energy	W.B. Maveety No. 7	2310' FNL & 1650' FEL	G	35-19S-36E	13	7
Graham Royalty	State "T" No. 8	1650' FSL & 1650' FWL	K	28-19S-37E	12	11
Chevron USA Inc.	W.A. Weir (NCT-A) No. 2	990' FNL & 480' FEL	A	35-19S-36E	13	1

EXHIBIT "A"
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 NEW DRILLS

Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGSAU Well No.
C.H. Kync	660' FSL & 1980' FEL	O	7-19S-37E	1	15
W.A. Weir	660' FSL & 1980' FEL	O	26-19S-36E	8	15
Crutchfield	1980' FNL & 660' FEL	I	32-19S-37E	16	9
D.F. Larsen	660' FSL & 1980' FEL	O	36-19S-36E	16	3
Reed "A-3"	1980' FSL & 660' FEL	I	3-20S-36E	18	19
S. Phillips	1980' FSL & 1980' FWL	K	33-19S-37E	17	11
W.E. Hatchett	1980' FNL & 660' FWL	E	33-19S-37E	17	5
Monstate	1980' FSL & 660' FEL	I	13-19S-36E	4	3
Selby Maveety	980' FSL & 1978' FWL	K	35-19S-36E	13	11 8

EXHIBIT "A"
 DIVISION ORDER NO. R-95%
 NORTH MONUMENT GRAYBURG; SAN ANDRES UNIT
 APPROVED INJECTION WELLS
 EXISTING WELLS

Operator	Lease Name & Well No.	Location	Unit	STR	Proposed Block	NMGSAU Well No.
Amerada Hess	Lambert No. 3	990' FNL & 660' FEL	A	6-20S-37E	20	1
Amerada Hess	V. Laughlin No. 2	660' FNL & 1980' FWL	C	9-20S-37E	24	3
Shell Western	State "C" No. 1Y	690' FNL & 330' FEL	A	24-19S-36E	4	17
Texaco Inc.	B.M. Kcohane "A" No. 1	660' FNL & 660' FEL	A	18-19S-37E	2	1
Shell Western	State "D" No. 2	1980' FSL & 660' FEL	I	19-19S-37E	5	9
Shell Western	State "H" No. 1	1980' FSL & 660' FEL	I	20-19S-37E	6	9
Shell Western	Cooper "B" No. 1	330' FNL & 2310' FWL	C	4-20S-37E	22	3
Amerada Hess	State "V" No. 1	330' FNL & 330' FEL	A	36-19S-36E	14	1
Amerada Hess	State "V" No. 4	1980' FNL & 1980' FEL	G	36-19S-37E	14	7
Amerada Hess	State "F" No. 1	660' FSL & 660' FWL	M	36-19S-36E	14	13
Amerada Hess	State "F" No. 3	1980' FSL & 1980' FWL	K	36-19S-36E	14	11
Shell Western	State "B" No. 1	1980' FNL & 660' FWL	E	36-19S-36E	14	5
Oryx Energy	W.B. Mavecity No. 1	1980' FSL & 660' FEL	I	35-19S-36E	13	9
Chevron USA Inc.	Graham State (NCT-C) No. 4	660' FSL & 1980' FEL	O	24-19S-36E	4	15
Chevron USA Inc.	Graham State (NCT-C) No. 3	1980' FNL & 1980' FEL	G	24-19S-36E	4	7
Amerada Hess	State Monument "A" No. 2	2322' FNL & 992' FWL	E	2-20S-36E	18	5

EXHIBIT "B"
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 INADEQUATELY CEMENTED WELLS

Operator	Lease Name & Well No.	Unit	S-T-R
Amerada Hess	State "F" No. 1	M	36-19S-36E
Amerada Hess	W.A. Weir "B" No. 1	G	26-19S-36E
Shell Oil	State "B" No. 1	E	36-19S-36E
Amerada Hess	State "D" No. 1	D	1-20S-36E
Texaco Inc.	New Mexico "E" State (NCT-1) No. 1	M	1-20S-36E
Mobil	State "A" No. 2	B	2-20S-36E
Mobil	State "A" No. 3	H	2-20S-36E
Marathon	Elliot State No. 1	J	30-19S-37E
Arco Oil & Gas	J.R. Phillips "A" No. 1	M	31-19S-37E
Amerada Hess	J.R. Phillips No. 1	A	1-20S-36E
Texaco Inc.	New Mexico "E" State (NCT-1) No. 2	N	1-20S-36E

EXHIBIT "C"
 DIVISION ORDER NO. R-9596
 NORTH MONUMENT GRAYBURG SAN ANDRES UNIT
 INADEQUATELY PLUGGED AND ABANDONED WELLS

Operator	Lease Name & Well No.	Unit	STR
Chevron USA Inc.	W.A. Wier "A" No. 1	A	35-19S-36E
Arco Oil & Gas	Selby Maveety No. 1Y	N	35-19S-36E
Chevron USA Inc.	Kutter "D" No. 2	E	8-19S-37E
Marathon	State "A" 3071 D Com No. 1	J	28-19S-37E
Aztec Oil & Gas	Burke No. 1	P	28-19S-37E
Arco Oil & Gas	J.R. Phillips "A" No. 8	M	31-19S-37E
Oro Peso Oil Co.	Weir "A" No. 2	N	3-20S-37E
Repollo Oil Co.	E.H. Bolding No. 1	D	10-20S-37E
Amerada Hess	State "V" No. 5	G	36-19S-36E
Ashmun & Hilliard	Ellen Weir No. 1	L	3-20S-37E
Chevron USA Inc.	Elbert Shipp No. 4	C	21-19S-37E
Chi Operating	Cooper No. 1	B	3-20S-37E
Union Texas	State "A" No. 1	E	2-20S-36E
Amerada Hess	State "C" No. 1	K	7-19S-37E
Chevron USA Inc.	F.W. Kutter (NCT-B) No. 3	D	28-19S-37E
Arco Oil & Gas	Crutchfield No. 1	I	32-19S-37E
Chevron USA Inc.	Hatchett No. 1	L	33-19S-37E
Chevron USA Inc.	W.E. Hatchett No. 2	E	33-19S-37E
Hartman	Laughlin No. 1	J	5-20S-37E
Texaco Inc.	J.R. Phillips No. 1	D	6-20S-37E
Shell Western	Cooper "B" No. 2	D	4-20S-37E
Shell Western	State "B" No. 5	F	36-19S-36E
Great Western	N.B. Bordages	F	33-19S-37E

MESSAGE FOR TRANSMISSION

AHEP-1343-E

TELECOPIER TELETYPE TELEX TELEGRAM

TO MARK ASHLEY	RECEIVER NUMBER ETC. — OFFICE AND/OR CITY	DATE
FROM CHAD MCGEE	OFFICE LOCATION AND EXTENSION NO.	
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ATTACHED IS THE INFORMATION YOU REQUESTED.

LET ME KNOW IF YOU NEED ANYTHING ELSE.

Chad
(915) 758-6707

VI. TABULATION OF WELLS PENETRATING PROPOSED INJECTION ZONE
Wells not included in original C-108, within area of review
Casing, Cement, and Estimated Tops

WELL NAME / NUMBER	API	SIZE	SURFACE CASING			PRODUCTION CASING			
			DEPTH	CEMENT	TOC	DEPTH	CEMENT	TOC	
NMGS AU #910	3002532391	9-5/8" in 12-1/4" hole	440'	225 SX	Surface (Calc'd)	7" in 8-3/4" hole	3930'	875 SX	120' (CBL)
NMGS AU #285 (#1422)	3002512481	*13-9/8" in 16" hole	1121'	1125 SX	Surface (Calc'd)	9-5/8" in 12-1/4" hole	3749'	400 SX	2472' (Calc'd)
SHELL B STATE 1	3002531593	*9-5/8" in 12-1/4" hole	436'	200 SX	Surface (Calc'd)	*7" in 8-3/4" hole	3730'	500 SX	403' (Calc'd)
SHELL-STATE 'B' 2	3002533839	*8-5/8" in 11" hole	400'	275 SX	Surface (Calc'd)	*5-1/2" in 7-7/8" hole	3800'	590 SX	395' (Calc'd)

* Assumed typical hole size because not available in P/Dwights.

Example calculation of TOC for NMGS AU #285:

Cement yield is 1.0 cf/sack (per Paul Kautz, Hobbs NMOCD)

Volume of cement = 400 sx * 1.0 cf/sx = 400 cf of cement

Annular volume between 12-1/4" hole and 9-5/8" casing = 0.3132 cf/linear ft (per Halliburton Cementing Tables)

Annular height of cement = Volume of cement / Annular Volume = 400 cf / 0.3132 cf/linear ft = 1277'

ETOC = Depth of casing - Annular height of cement = 3749' - 1277' = 2472'