

**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. 12432  
ORDER NO. R-9596-A**

**APPLICATION OF AMERADA HESS CORPORATION FOR WATERFLOOD  
EXPANSION AND AUTHORIZATION TO INJECT, LEA COUNTY, NEW  
MEXICO.**

**ORDER OF THE DIVISION**

**BY THE DIVISION:**

This case came on for hearing at 8:15 a.m. on October 5, 2000 at Santa Fe, New Mexico, before Examiner Mark W. Ashley.

NOW, on this 9<sup>th</sup> day of November, 2000, the Division Director, having considered the testimony, the record and the recommendations of the Examiner,

**FINDS THAT:**

(1) Due public notice has been given and the Division has jurisdiction of this case and its subject matter.

(2) The applicant, Amerada Hess Corporation ("Amerada"), is the operator of the North Monument Grayburg-San Andres Unit Waterflood Project ("NMGSAU"), Lea County, New Mexico. The NMGSAU was originally defined and authorized by Division Order No. R-9596, issued in Case No. 10252 and dated October 15, 1991.

(3) By Division Order No. R-9494, issued in Case No. 10253 and dated May 1, 1991, the Division, upon application of Amerada, 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. The unitized interval is the Grayburg and San Andres formations.

(4) Amerada seeks authority to expand the NMGSAU by converting two existing producing wells, described as follows, in Township 19 South, Range 37 East, NMPM, Lea County, New Mexico, to injection wells to improve recovery efficiency of the waterflood patterns and enhance production:

<u>WELL NUMBER</u>	<u>API NUMBER</u>	<u>WELL LOCATION</u>
NMGSAU No. 215	30-025-05634	660 FSL & 1980 FEL Unit O, Section 18
NMGSAU No. 503	30-025-05641	660 FNL & 1980 FWL Unit C, Section 19.

(5) Amerada proposes to inject into the Grayburg and San Andres formations through the gross interval from approximately 3,766 feet to 4,000 feet.

(6) Amerada further proposes to inject into the subject wells through 2 3/8-inch internally plastic lined tubing set in a packer located no higher than 100 feet above the uppermost perforation at an average rate of approximately 750 barrels of water per day.

(7) Amerada requests that the subject wells be allowed to inject at a maximum surface injection pressure of 0.2 pounds per foot of depth from the surface to the top-most injection perforation as authorized previously by Division Order No. R-9596.

(8) Amerada submitted data on the proposed injection wells and on all other wells that penetrate the zone of interest within the 1/2-mile "area of review" that were drilled after the NMGSAU was originally approved by Division Order No. R-9596.

(9) The evidence indicates that existing wells within the 1/2-mile "area of review" have been properly cased and cemented so as to confine the injection fluid to the injection zone. No additional wells within the 1/2-mile "area of review" have been plugged and abandoned since the NMGSAU was originally approved.

(10) Doyle Hartman Oil Operator ("Hartman") submitted a letter to the Division stating that he opposes the two additional injection wells being added to the NMGSAU unless Amerada demonstrates that its proposed injection wells can be installed and operated in accordance with industry-accepted injection practices and standards.

(11) At the time of the hearing, Hartman did not enter an appearance in this case. No other interested party entered an appearance in this case or filed an objection to the application.

(12) Amerada has demonstrated that the proposed injection wells will be installed and operated in accordance with the Division's requirements for conversion to injection wells, and therefore should not adversely affect wells located within the ½-mile "area of review".

(13) The unitized interval in the proposed waterflood expansion area is in an advanced state of depletion and is suitable for waterflooding.

(14) The application of Amerada for expansion of the NMGSAU by the conversion of two additional wells to injection wells should be approved.

(15) The proposed waterflood expansion should result in the recovery of otherwise unrecoverable oil and will not cause waste or impair correlative rights.

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

(17) Injection into the proposed injection wells should be accomplished through 2 3/8-inch plastic lined tubing set in a packer located within 100 feet of the uppermost injection perforations or casing shoe.

(18) The casing-tubing annulus in each well should 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.

(19) Prior to commencing injection operations into the wells, the casing should be pressure tested from the surface to the packer setting depth to ensure the integrity of the casing.

(20) The injection wells or system should be equipped with a pressure limiting device that will limit the wellhead pressure to no more than 0.2 psi per foot of depth to the uppermost injection perforation.

(21) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of the well that such higher pressure will not result in migration of the injected fluid from the unitized interval. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to the Division.

(22) The operator shall notify the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity tests so that the same may be inspected and witnessed.

(23) The operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in either well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(24) The subject wells should be governed by all provisions of Division Order No. R-9596, as amended, and Rules 701 through 708 of the Division Rules.

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

**IT IS THEREFORE ORDERED THAT:**

(1) The applicant, Amerada Hess Corporation, is hereby authorized to expand its North Monument Grayburg-San Andres Unit Waterflood Project ("NMGSAU") as defined and authorized by Division Order No. R-9596 by converting the two following wells in Township 19 South, Range 37 East, NMPM, Lea County, New Mexico to injection in order to improve recovery efficiency of the waterflood patterns and enhance production of the NMGSAU:

<u>WELL NUMBER</u>	<u>WELL LOCATION</u>	<u>INJECTION INTERVAL</u>	<u>PACKER DEPTH</u>	<u>MAXIMUM PRESSURE</u>
NMGSAU No. 215 30-025-05634	660 FSL & 1980 FEL Unit O, Section 18	3810'-4000'	3760'	762
NMGSAU No. 503 30-025-05641	660 FNL & 1980 FWL Unit C, Section 19.	3766'-3864'	3710'	753

(2) Pursuant to Division Order No. R-9494, injection shall be limited to the Grayburg and San Andres formations through the gross interval from approximately 3,766 feet to 4,000 feet.

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

(4) Injection into each of the two injection wells must be accomplished through 2 3/8-inch internally plastic lined tubing set in a packer located within 100 feet of the uppermost injection perforations or casing shoe.

(5) The casing-tubing annulus in each well must 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.

(6) Prior to commencing injection operations into each of the two wells, the casing must be pressure tested from the surface to the packer setting depth to ensure the integrity of the casing.

(7) The injection well or system must be equipped with a pressure limiting device that will limit the wellhead pressure to no more than 0.2 psi per foot of depth to the uppermost injection perforation.

(8) The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of this well that such higher pressure will not result in migration of the injected fluid from the unitized interval. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to the Division.

(9) The operator shall notify the supervisor of the Hobbs District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity tests so that the same may be inspected and witnessed.

(10) The operator shall immediately notify the supervisor of the Hobbs District Office of the Division of the failure of the tubing, casing or packer in either well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(11) Amerada shall conduct injection operations in accordance with Division Order No. R-9596, as amended, and Division Rules 701 through 708 and shall submit monthly progress reports in accordance with Rules 706 and 1115.

(12) The injection authority granted herein for each well shall terminate one year after the effective date of this order if the operator has not commenced injection operations

Case No. 12432  
Order No. R-9596-A  
Page 6

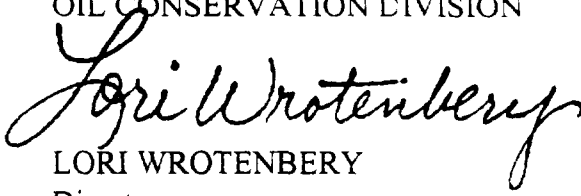
---

into the well, provided however, the Division, upon written request by the operator, may grant an extension thereof for good cause shown.

(13) 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