

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. 10141  
Order No. R-9489

APPLICATION OF SAMUEL GARY JR.  
AND ASSOCIATES INC. FOR A GAS  
REINJECTION/PRESSURE MAINTENANCE  
PROJECT, SANDOVAL COUNTY, NEW  
MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on February 21, 1991, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 17<sup>th</sup> day of April, 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, Samuel Gary Jr. and Associates Inc., seeks authority to institute a gas reinjection/pressure maintenance project in its San Isidro (Shallow) Unit Area located in Townships 20 and 21 North, Ranges 2 and 3 West, NMPM, Sandoval County, New Mexico, by the injection of gas into the Rio Puerco-Mancos Oil Pool through the perforated interval from approximately 3691 feet to 4127 feet in its San Isidro "13" Well No. 11 located 1980 feet from the South and West lines (Unit K) of Section 13, Township 20 North, Range 3 West, NMPM.

(3) According to Division records, the applicant is the operator of approximately ten wells currently completed in and producing from the Rio Puerco-Mancos Oil Pool within the San Isidro (Shallow) Unit Area.

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(4) The limiting gas-oil ratio for the Rio Puerco-Mancos Oil Pool is 500 cubic feet of gas per barrel of oil as established by Division Order No. R-7471, as amended.

(5) Applicant's testimony indicates that there is currently no gas pipeline within the general area of the San Isidro (Shallow) Unit, and as a result, oil production is curtailed due to the current venting limitation of 30 MCF of gas per day per well.

(6) The applicant proposes to reinject the produced gas from wells in the San Isidro (Shallow) Unit at an initial rate of approximately 0.5 MMCF per day.

(7) According to applicant's testimony, injection at the initial rate described above is insufficient to repressure the reservoir so as to benefit ultimate oil recovery; however, such reinjection will allow the applicant to produce its wells at the pool GOR, thereby increasing current oil production, will prevent waste and will not violate correlative rights.

(8) According to further testimony, additional wells within the unit may be placed on injection at a later time in order to provide sufficient repressurization of the reservoir so as to benefit ultimate oil recovery.

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

(10) At the time of the hearing the applicant requested that it be allowed to inject gas into the San Isidro "13" Well No. 11 up to a maximum surface injection pressure of 1400 psi which is greater than the Division's recommended guideline of 0.2 psi per foot of depth from the surface to the uppermost perforation.

(11) The evidence presented by the applicant in support of its injection pressure request indicates that the subject well should initially be limited to a surface injection pressure of 1100 psi.

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

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(13) Injection should be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3665 feet; the casing-tubing annulus should be filled with an inert fluid; and 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) Prior to commencing injection operations, the casing in the subject well should be pressure-tested throughout the interval from the surface down to the proposed packer-setting depth, to assure integrity of such casing.

(15) The operator should give advance notification to the supervisor of the Aztec District Office of the Division of the date and time of the installation of injection equipment and of the mechanical integrity pressure-test in order that the same may be witnessed.

(16) Each producing well within the San Isidro (Shallow) Unit Area should be allowed to produce no more than 320 barrels of oil and 160 MCF of gas per day in accordance with the current oil and gas allowables for the Rio Puerco-Mancos Oil Pool, with the exception of horizontal wells subject to special oil and gas allowables in accordance with the terms of Division Order No. R-9330.

(17) The project should be designated the San Isidro Unit Pressure Maintenance Project.

(18) The subject application should be approved and the project should be governed by the provisions of Rules 701 through 708 of the Division Rules and Regulations.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Samuel Gary Jr. and Associates Inc., is hereby authorized to institute a gas reinjection/pressure maintenance project in its San Isidro (Shallow) Unit Area located in Townships 20 and 21 North, Ranges 2 and 3 West, NMPM, Sandoval County, New Mexico, by the injection of gas into the Rio Puerco-Mancos Oil Pool through the perforated interval from approximately 3691 feet to 4127 feet in its San Isidro "13" Well No. 11 located 1980 feet from the South and West lines (Unit K) of Section 13, Township 20 North, Range 3 West, NMPM.

(2) The project is hereby designated the San Isidro Unit Pressure Maintenance Project.

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(3) Each producing well within the San Isidro (Shallow) Unit Area shall be allowed to produce no more than 320 barrels of oil and 160 MCF of gas per day in accordance with the current oil and gas allowables for the Rio Puerco-Mancos Oil Pool, with the exception of horizontal wells subject to special oil and gas allowables in accordance with the terms of Division Order No. R-9330.

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

(5) Injection shall be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 3665 feet; the casing-tubing annulus should be filled with an inert fluid; and 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.

(6) The injection well 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 1100 psi.

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

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

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

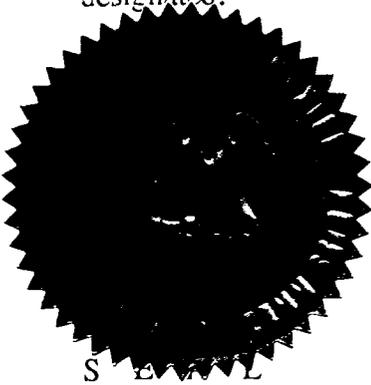
(10) The operator shall immediately notify the supervisor of the Division's Aztec District Office of the failure of the tubing, casing or packer in said well or the leakage of gas or liquids from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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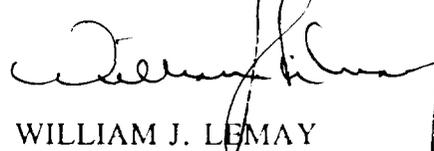
(11) The applicant shall conduct injection operations in accordance with Division Rule Nos. 701 through 708 and shall submit monthly progress reports in accordance with Division Rule Nos. 706 and 1115.

(12) 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



WILLIAM J. LEMAY  
Director