

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. 10686
Order No. R-9895

**APPLICATION OF HANSON OPERATING COMPANY, INC. FOR A WATERFLOOD
PROJECT, EDDY COUNTY, NEW MEXICO.**

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on March 18, 1993, at Santa Fe, New Mexico, before Examiner Michael E. Stogner.

NOW, on this 19th day of May, 1993, 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) At the time of the hearing this case was consolidated with Division Case No. 10685 for the purpose of testimony.

(3) The applicant, Hanson Operating Company, Inc., seeks authority to institute a waterflood project in its proposed Benson Shugart Waterflood Unit Area (Division Case No. 10685), Eddy County, New Mexico, by the injection of water into the Shugart-Yates-Seven Rivers-Queen-Grayburg Pool through the gross perforated interval from approximately 2,450 feet to 3,500 feet in six certain wells to either be drilled or converted from: producing wells to injectors, as further described in Exhibit "A" attached hereto and made a part hereof.

(4) It is proposed that the waterflood project area coincide with the boundary of the Benson Shugart Waterflood Unit Area in Eddy County, New Mexico, as further described below, which was the subject of Division Case No. 10685 and was heard in combination with this case:

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

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

Section 26: E/2

Section 35: NE/4 NE/4

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 30: Lots 3 and 4 (W/2 SW/4 equivalent)
and E/2 SW/4

(5) Subsequent to the time this matter was taken under advisement, Yates Petroleum Corporation in Case No. 10711 (heard on April 8, 1993) requested approval for its Creek "AL" Federal (Lease) Shugart Waterflood Project, which is proposed to comprise the E/2 SE/4 of Section 23, the NW/4 SW/4 and S/2 S/2 of Section 24, and the NW/4 and E/2 NE/4 of Section 25, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico. Both Shugart-Yates-Seven Rivers-Queen-Grayburg Pool waterflood projects are to be operated in conjunction with each other.

(6) The present Shugart oil producing wells within the subject project area are in an advanced state of depletion and should therefore be properly classified as "stripper wells".

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

(8) The operator of the proposed Benson Shugart Waterflood Unit project should take all steps necessary to ensure that the injected water enters and remains confined to 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.

(9) The previously plugged and abandoned Marbob Energy Corporation Pure Federal Well No. 1, located 330 feet from the North line and 844 feet from the West line (Unit D) of Section 31, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, is located within the one-half mile "area of review" of its proposed Pueblo Federal (water inject) Well No. 1, located in Unit "M" of adjoining Section 30.

(10) Prior to commencement of injection into said Pueblo Federal Well No. 1, the operator should demonstrate to the satisfaction of the supervisor of the Division's District Office in Artesia that the Marbob Energy Corporation Pure Federal Well No. 1, as described above, has either been re-entered and re-plugged or has previously been plugged and abandoned in such a manner as to ensure that it does not provide an avenue of escape for waters from the proposed injection interval or that said wellbore will not otherwise serve for such escape.

(11) Likewise, the Yates Petroleum Corporation Creek "AL" Well No. 10, located 330 feet from the South and East lines (Unit P) of Section 23, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico, is within the one-half mile "area of review" of the applicant's proposed Ginsberg Federal Well No. 17, located in Unit "A" of adjoining Section 26.

(12) Evidence presented at the time of the hearing and Division records indicate that said Creek "AL" Well No. 10 is currently listed as a "temporarily abandoned well". Said well was drilled in 1972 to a total depth (TD) of 3519 feet, other than an intermediate string of 8-5/8 inch casing cemented (circulated) at a depth of 1748 feet, the wellbore sets "open-holed" from TD to the intermediate casing seat.

(13) Prior to commencement of injection into said Ginsberg Federal Well No. 17, the operator should demonstrate that the Yates Creek "AL" Well No. 10, as described above, has either been properly cased and cemented or permanently plugged and abandoned in a manner that will prevent the migration of fluid from the proposed injection zone and as approved by the supervisor of the Division's Artesia District Office.

(14) The injection of water into the proposed injection wells should be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; 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.

(15) Prior to commencing injection operations into the proposed injection wells, 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.

(16) The injection wells or pressurization system for each well should be so equipped as to limit injection pressure at the wellhead to no more than **0.2** psi per foot of depth to the uppermost injection perforation or that pressure shown on said Exhibit "A".

(17) The Division Director should have the authority to administratively authorize an increase in the injection pressure limitation placed upon any well upon a proper showing by the operator that such higher pressure will not result in the migration of the injected water from its respective interval or fracture the confining strata.

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

(19) The proposed waterflood project 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.

(20) The applicant further requests that the subject waterflood project be approved 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).

(21) The evidence presented indicates that the subject waterflood project meets all the criteria for approval.

(22) The approved "project area" should initially comprise that area described in Finding Paragraph No. (4) above.

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

(24) At such time as a positive production response occurs and within five 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 benefitting from enhanced recovery operations, and identifying the specific wells which the operator believes are eligible for the credit. The Division may review the application administratively or set it for hearing. Based upon evidence presented, the Division will certify to the Department of Taxation and Revenue those lands and wells which are eligible for the credit.

(25) The injection authority granted herein for the proposed injection wells should terminate one year after the effective date of this order if the operator has not commenced injection operations into the subject wells, 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, Hanson Operating Company, Inc., is hereby authorized to institute a waterflood project in its Benson Shugart Waterflood Unit Area (Division Case No. 10685), Eddy County, New Mexico, by the injection of water into the Shugart-Yates-Seven Rivers-Queen-Grayburg Pool through the gross perforated interval from approximately 2,450 feet to 3,500 feet in six certain wells to either be drilled or converted from producing wells to injectors, as further described in Exhibit "A" attached hereto and made a part hereof.

(2) The waterflood project, hereby designated the Benson Shugart Waterflood Unit Project, shall coincide with the boundary of the Benson Shugart Waterflood Unit Area, as further described below, and was the subject of Division Case No. 10685 which was heard in combination with this case:

**BENSON SHUGART WATERFLOOD UNIT PROJECT AREA
EDDY COUNTY, NEW MEXICO**

TOWNSHIP 18 SOUTH, RANGE 30 EAST, NMPM

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

Section 26: E/2

Section 35: NE/4 NE/4

TOWNSHIP 18 SOUTH, RANGE 31 EAST, NMPM

Section 30: Lots 3 and 4 (W/2 SW/4 equivalent)
and E/2 SW/4

(3) The applicant must take all steps necessary to ensure that the injected water only enters and remains confined to 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.

PROVIDED HOWEVER THAT:

(4) Injection into the Pueblo Federal Well No. 1, located 930 feet from the South line and 660 feet from the West line (Unit M) of Section 30, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, shall not commence until the previously plugged and abandoned Marbob Energy Corporation Pure Federal Well No. 1, located 330 feet from the North line and 844 feet from the West line (Unit D) of Section 31, Township 18 South, Range 31 East, NMPM, Eddy County, New Mexico, has either been re-entered and re-plugged or is shown to have been adequately plugged and abandoned in a manner that ensures it does not provide an avenue of escape for waters from the proposed injection interval to the satisfaction of the Supervisor of the Division's District Office in Artesia.

(5) ALSO, injection into the Ginsberg Federal Well No. 17, located 990 feet from the North and East lines (Unit A) of Section 26, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico, shall not commence until the Yates Petroleum Corporation Creek "AL" Well No. 10, located 330 feet from the South and East lines (Unit P) of Section 23, Township 18 South, Range 30 East, NMPM, Eddy County, New Mexico, has either been properly cased and cemented or permanently plugged and abandoned in a manner that will prevent the migration of fluid from the proposed injection zone and as approved by the supervisor of the Division's Artesia District Office.

IT IS FURTHER ORDERED THAT:

(6) Injection shall be accomplished through 2-3/8 inch internally plastic-lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation; 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.

(7) The injection wells or pressurization system for each injection well shall be so equipped as to limit injection pressure at the wellhead to no more than 0.2 psi per foot of depth to the uppermost injection perforation or that pressure shown on said Exhibit "A".

(8) The Division Director shall have the authority to administratively authorize an increase in the injection pressure limitation placed upon any well upon a proper showing by the operator that such higher pressure will not result in the migration of the injected water from its respective interval or fracture the confining strata.

(9) Prior to commencing injection operations, the casing in each injection 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.

(10) The operator shall give advance notification to the supervisor of the Artesia 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.

(11) The applicant shall immediately notify the supervisor of the Artesia 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) 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.

FURTHERMORE:

(13) The subject waterflood project is hereby approved as an "Enhanced Oil Recovery Project" pursuant to the "Enhanced Oil Recovery Act" (Laws 1992, Chapter 38, Sections 1 through 5).

(14) The approved "project area" shall initially comprise that area described in Decretory Paragraph No. (2) above.

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

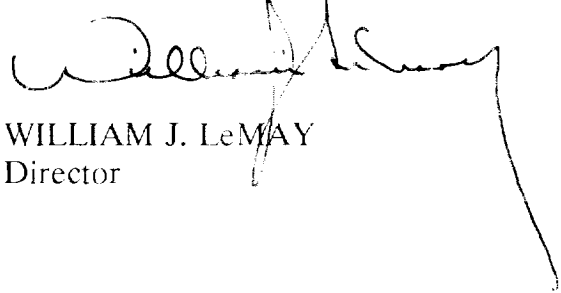
(16) At such time as a positive production response occurs and within five years from the date of the Certificate of Qualification, the applicant must apply to the Division for certification of positive production response, which application shall identify the area actually benefitting from enhanced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

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

(18) 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

A handwritten signature in black ink, appearing to read 'William J. LeMay', is written over the printed name and title. The signature is fluid and cursive, with a long, sweeping tail that extends downwards and to the right.

WILLIAM J. LeMAY
Director

S E A L

EXHIBIT "A"

CASE NO. 10686
ORDER NO. R-9895

Hanson Operating Company, Inc.

**Proposed Injection Well Locations
Benson Shugart Waterflood Unit Area
Eddy County, New Mexico**

Well Name, Number and Location	Proposed Injection Interval (Feet)	Maximum Surface Injection Pressure (PSI)	Classification
Pueblo Federal Well No. 1 930' FSL - 660' FWL (Unit M) 30-18S-31E	2469 - 2487	495	Conversion
Ute Federal Well No. 1 930' FSL - 2310' FWL (Unit N) 25-18S-30E	2469 - 2487	495	Conversion
Ginsberg Federal Well No. 17 990' FN & EL (Unit A) 26-18S-31E	3074 - 3398	615	Conversion
Ginsberg Federal Well No. 18 SE/4 NE/4 (Unit H) 26-18S-30E	3160 - 3460	630	New Drill
Ginsberg Federal Well No. 19 NE/4 SE/4 (Unit I) 26-18S-30E	3190 - 3490	640	New Drill
Keinath Federal Well No. 6 NW/4 SW/4 (Unit L) 25-18S-30E	3180 - 3480	635	New Drill