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. 11067
Order No. R-10202

APPLICATION OF MERIDIAN OIL INC. FOR A CO2 INJECTION PILOT PROJECT, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 8:15 a.m. on August 18, 1994, at Santa Fe, New Mexico, before Examiner David R. Catanach.

NOW, on this 29th day of September, 1994, 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, Meridian Oil Inc., seeks authority to initiate a pilot carbon dioxide injection project in the Basin-Fruitland Coal Gas Pool within a portion of its Allison Unit in Township 32 North, Ranges 6 and 7 West, NMPM, San Juan County, New Mexico, by the injection of carbon dioxide into the coal seams through four proposed injection wells shown on Exhibit "A" attached hereto.

(3) The pilot project area is proposed to comprise the following described area:

TOWNSHIP 32 NORTH, RANGE 6 WEST, NMPM
Section 19: All
Section 30: N/2

TOWNSHIP 32 NORTH, RANGE 7 WEST, NMPM
Section 24: E/2
Section 25: NE/4

(4) The Allison Unit is a Federal exploratory unit initially comprising some 11,705 acres in New Mexico and some 2,069 acres in Colorado. Within New Mexico, the unit comprises portions of Township 32 North, Ranges 6 and 7 West, NMPM, San Juan County. The unit was formed in 1950 and is currently operated by Meridian Oil Inc.

(5) Further land testimony by the applicant indicates that the Basin-Fruitland Coal Participating Area (BFCPA) covers the entire Allison Unit area. The evidence further indicates that the interest ownership within the pilot project area is common.

(6) According to applicant's evidence and testimony, laboratory research and computer modeling have indicated that injection of carbon dioxide into coal formations may aid in the methane desorption process which may result in the recovery of a significantly greater amount of gas from the Basin-Fruitland Coal Gas Pool than would normally be recovered by pressure depletion.

(7) According to applicant's engineering evidence and testimony, the proposed carbon dioxide pilot injection project is an attempt to test the effectiveness of carbon dioxide as a displacing agent as described above.

(8) Applicant's testimony indicates that the injection of carbon dioxide into the coal seams may result in the recovery of an additional 1.1 BCF of gas from the pilot project area which may otherwise not be recovered, thereby preventing waste.

(9) The applicant proposes to inject into three distinct coal seam intervals located within the gross interval from approximately 3,058 feet to 3,376 feet.

(10) Applicant further proposes to inject approximately 2.5 MMCFG per day at an average surface injection pressure of approximately 1500 psi.

(11) The applicant's plan of operation for the pilot project area includes a period of six month continuous injection during which time no production will occur, followed by six months of continuous production during which time no injection will occur.

(12) The applicant proposes to utilize the following described wells as producing wells within the pilot project area:

WELL NAME & NUMBER	WELL LOCATION
Allison Unit No. 113	Unit M, Section 19
Allison Unit No. 114	Unit I, Section 19
Allison Unit No. 120	Unit A, Section 30
Allison Unit No. 130	Unit G, Section 24
Allison Unit No. 132	Unit H, Section 25

(13) Applicant's proposed pilot project, according to its testimony, should be completed within approximately four years.

(14) No offset operator and/or interest owner appeared at the hearing in opposition to the application.

(15) Approval of the proposed pilot carbon dioxide injection project will allow the applicant the opportunity to test a new process and technology which may ultimately result in the recovery of otherwise unrecoverable gas from the Basin-Fruitland Coal Gas Pool, thereby preventing waste, and will not violate correlative rights.

(16) The applicant should take all steps necessary to ensure that the injected carbon dioxide enters only the coal seam intervals and is not permitted to escape to other formations or onto the surface from injection, production, or plugged and abandoned wells.

(17) At the hearing the applicant requested that it be granted an exception to the requirement that the tubing in its injection wells be plastic-lined. To support its request, the applicant testified that the injected carbon dioxide gas will be dehydrated prior to being injected.

(18) The applicant did not present sufficient evidence to indicate that the injected fluid does not have corrosive properties.

(19) The applicant's Division Form C-108, presented as evidence in this case, indicates that the tubing in the proposed injection wells will be cement lined.

(20) The injection of carbon dioxide into the wells shown on Exhibit "A" should be accomplished through 2 7/8-inch cement or plastic lined tubing installed in a packer set within 100 feet of the uppermost injection perforation; an approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(21) 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.

(22) The injection well 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 2000 psi.

(23) The Division Director should have the authority to administratively authorize a pressure limitation in excess of the pressure limitation described in Finding No. (22) above upon a showing by the operator that such higher pressure will not result in the fracturing of the injection formation or confining strata.

(24) 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 tests in order that the same may be witnessed.

(25) The proposed carbon dioxide injection pilot 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.

(26) Expansion of the pilot project should be approved only after notice and hearing.

IT IS THEREFORE ORDERED THAT:

(1) The applicant, Meridian Oil Inc., is hereby authorized to initiate a pilot carbon dioxide injection project in the Basin-Fruitland Coal Gas Pool underlying a portion of its Allison Unit in **Township 32 North, Ranges 6 and 7 West, NMPM, San Juan County, New Mexico, by the injection of carbon dioxide into the coal seams through four injection wells shown on Exhibit "A" attached hereto.**

(2) The pilot project area shall comprise the following described area:

TOWNSHIP 32 NORTH, RANGE 6 WEST, NMPM
Section 19: All
Section 30: N/2

TOWNSHIP 32 NORTH, RANGE 7 WEST, NMPM
Section 24: E/2
Section 25: NE/4

(3) The applicant shall take all steps necessary to ensure that the injected carbon dioxide 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.

(4) Injection into the wells shown on Exhibit "A" shall be accomplished through 2 7/8-inch cement or plastic lined tubing installed in a packer set approximately within 100 feet of the uppermost injection perforation; an approved leak detection device shall be attached to the annulus in order to determine leakage in the casing, tubing or packer.

(5) 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 2000 psi.

(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 wells shown on Exhibit "A", 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) 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 tests in order that the same may be witnessed.

(9) The applicant shall immediately notify the supervisor of the Aztec District Office of the Division of the failure of the tubing, casing or packer in any injection well, the leakage of gas from or around any producing well, or the leakage of gas 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.

(10) The subject project is hereby designated the Allison Basin Fruitland Carbon Dioxide Pilot 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.

(11) Expansion of the pilot project shall be approved only after notice and hearing.

(12) 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

WILLIAM J. LeMAY
Director

S E A L

EXHIBIT "A"

DIVISION ORDER NO. R-10202
ALLISON BASIN FRUITLAND CO2 PILOT PROJECT
APPROVED INJECTION WELLS

Well Name	Location	Unit	S-T-R	Injection Perforations	Packer Depth	Tubing Size
Allison Unit No. 140	600' FSL & 785' FEL	P	19-32N-6W	3109' - 3376'	3059'	2 7/8"
Allison Unit No. 141	1070' FSL & 800' FEL	P	24-32N-7W	3067' - 3366'	3017'	2 7/8"
Allison Unit No. 142	1920' FNL & 850' FWL	E	19-32N-6W	3059' - 3326'	3009'	2 7/8"
Allison Unit No. 143	1205' FNL & 1880' FWL	C	30-32N-6W	3058' - 3315'	3008'	2 7/8"