

NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

O. C. S.
ARTESIA, OFFICE

CASE NO. 6703
Order No. R-6175

APPLICATION OF EL PASO NATURAL
GAS COMPANY FOR UNDERGROUND GAS
STORAGE, EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 17, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 2nd day of November, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, El Paso Natural Gas Company, proposes the establishment of an underground gas storage project in Eddy County, New Mexico, to be known as the Washington Ranch Gas Storage Project.
- (3) That the applicant has conducted geological and engineering studies to confirm the existence and areal extent of a geological structure underlying all or portions of Sections 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, 35 and 36, Township 25 South, Range 24 East, NMPM, and all or portions of Sections 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, and 14, Township 26 South, Range 24 East, NMPM, and all or portions of Sections 6, 7, and 18, Township 26 South, Range 25 East, NMPM, Eddy County, New Mexico, and to determine the suitability of said structure for the underground storage of natural gas.
- (4) That gas storage within said structure would be in the Pennsylvanian Morrow formation and contained within the

Morrow Clastics interval.

(5) That the aforesaid vertical interval of the Morrow formation beneath the following described lands:

EDDY COUNTY, NEW MEXICO
TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Section 27: All
Section 28: S/2
Section 33: E/2
Section 34: All
Section 35: W/2

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Section 2: W/2
Section 3: All
Section 4: E/2
Section 11: All
Section 12: N/2

is a gas reservoir in New Mexico, having been created and defined by the Division as the Washington Ranch-Morrow Gas Pool by Division Order No. R-4279, effective April 1, 1972, and subsequently extended by Orders Nos. R-4377, R-4437, R-4734, and R-4782, the last dated June 1, 1974.

(6) That said Washington Ranch-Morrow Gas Pool is essentially depleted of native natural gas.

(7) That the applicant proposes to convert some 4 presently producing wells into observation wells on the outer flanks of the gas storage structure to permit the detection of any migration away from the project of gas placed in storage.

(8) That the applicant proposes to convert 6 presently producing wells into injection/withdrawal wells.

(9) That the applicant proposes to drill and complete some 17 injection/withdrawal wells in the proposed gas storage project.

(10) That the location of the injection/withdrawal wells to be drilled is proposed as follows:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Unit M	Section 27
Unit O	Section 27
Unit A	Section 33
Unit P	Section 33
Unit B	Section 34
Unit D	Section 34
Unit E	Section 34
Unit G	Section 34
Unit L	Section 34
Unit M	Section 34
Unit N	Section 34

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Unit A	Section 4
Unit C	Section 3
Unit D	Section 3
Unit E	Section 3
Unit K	Section 3
Unit L	Section 3

(11) That the applicant proposes to drill and complete the aforesaid injection/withdrawal wells as follows:

- (A) Set 9 5/8-inch surface casing approximately 300 feet into the Upper Mountain Delaware Group at a depth of approximately 800 feet and circulate cement to the surface;
- (B) Drill to total depth of approximately 7,050 feet and set 7-inch casing and cement to approximately 1,500 feet above the casing shoe.
- (C) Perforate the casing opposite the Morrow zone.
- (D) Land 2 7/8-inch tubing at approximately 6,970 feet.

(12) That the above casing and cementing programs are adequate and should afford ample protection against loss of gas while being injected, withdrawn, or held in storage, and will provide good and sufficient protection against contamination of ground waters.

(13) That the proposed El Paso Natural Gas Company Washington Ranch Gas Storage Project is in the interest of conservation, will not cause waste, and will not impair correlative rights and should be approved, provided:

- (A) The following described area would be known as the Washington Ranch Gas Storage Project Area:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Section 21: S/2
Section 22: S/2
Section 23: SW/4
Section 26: W/2 and SE/4
Sections 27 and 28: All
Section 29: E/2
Section 32: E/2
Sections 33, 34, and 35: All
Section 36: SW/4

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Sections 1 through 4: All
Section 5: NE/4
Section 9: N/2 and SE/4
Sections 10, 11, and 12: All
Section 13: N/2
Section 14: N/2

TOWNSHIP 26 SOUTH, RANGE 25 EAST, NMPM

Section 6: SW/4
Section 7: W/2
Section 18: NW/4

- (B) The following described area would be known as the Active Area of the Washington Ranch Gas Storage Project:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Section 21: S/2
Section 22: S/2
Section 23: SW/4
Section 26: W/2 and SE/4
Sections 27 and 28: All
Sections 33, 34, and 35: All

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Sections 1 through 4: All
Section 9: N/2 and SE/4
Sections 10, 11, and 12: All

- (C) That the Division's rules and regulations governing well locations, acreage dedication, and the production of natural gas from gas reservoirs should not be applicable to wells located within the Active Area of the Washington Ranch Gas Storage Project as described in (12) (B) above;
- (D) That an administrative procedure for approval of amended locations for injection/withdrawal wells and observation wells or for the drilling of additional wells at locations within the Active Area of the Washington Ranch Gas Storage Project as described in (12) (B) above should be established;
- (E) That any well drilled within the Washington Ranch Gas Storage Project Area as described in (12) (A) above but outside the Active Area of the Washington Ranch Gas Storage Project as described in (12) (B) above
- ((1)) Would be located according to the General Rules of the Division, and
- ((2)) Would be cased and cemented in such a manner as to protect the Morrow gas storage zone.
- (F) That the applicant should file injection/withdrawal reports monthly with the Division.

IT IS THEREFORE ORDERED:

(1) That the applicant herein, El Paso Natural Gas Company, is hereby authorized to establish its Washington Ranch Gas Storage Project by the injection into and withdrawal from the Morrow formation of natural gas in the following described area in Eddy County, New Mexico:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Section 21: S/2
Section 22: S/2
Section 23: SW/4
Section 26: W/2 and SE/4
Sections 27 and 28: All
Section 29: E/2
Section 32: E/2
Sections 33, 34, and 35: All
Section 36: SW/4

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Sections 1 through 4: All
Section 5: NE/4
Section 9: N/2 and SE/4
Sections 10, 11, and 12: All
Section 13: N/2
Section 14: N/2

TOWNSHIP 26 SOUTH, RANGE 25 EAST, NMPM

Section 6: SW/4
Section 7: W/2
Section 18: NW/4

(2) That said area shall be known as the El Paso Natural Gas Company Washington Ranch Gas Storage Project.

(3) That the applicant is hereby authorized to drill, complete, and operate gas storage injection/withdrawal wells at the following locations:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Unit M	Section 27
Unit O	Section 27
Unit A	Section 33
Unit P	Section 33
Unit B	Section 34
Unit D	Section 34
Unit E	Section 34
Unit G	Section 34
Unit L	Section 34
Unit M	Section 34
Unit N	Section 34

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Unit A	Section 4
Unit C	Section 3
Unit D	Section 3
Unit E	Section 3
Unit K	Section 3
Unit L	Section 3

(4) That the applicant is hereby authorized to utilize the following presently existing Morrow gas wells as gas storage injection/withdrawal wells:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Cities Service Gov't. M #2, Unit N, Section 27
Black River Cities Fed. #3, Unit I, Section 33
Black River Cities Fed. #1, Unit F, Section 34
Black River Cities Fed. #2, Unit J, Section 34

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Black River Cities 3 Fed. #1, Unit F, Section 3
Black River Cities 3 Fed. #2, Unit G, Section 3

(5) That the applicant is hereby authorized to utilize the following existing Morrow gas wells as gas storage observation wells:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

\ Cities Service Gov't. M #3, Unit G, Section 27
\ Black River Cities E Fed. #1, Unit E, Section 35

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Black River Miller Com #1, Unit L, Section 2
Black River BR4 Fed. #1, Unit H, Section 4

(6) That should topographic or geologic conditions render any well location described in Orders Nos. (3), (4), and (5) above less advisable than an alternative location, or if any additional injection/withdrawal well or observation well is deemed necessary, the applicant shall notify the Division Director of such fact by letter, and shall by copies thereof also notify the Artesia District Office of the Division and the Roswell, New Mexico, Office of the United States Geological Survey.

(7) That the applicant shall file monthly Division Form C-131, Monthly Gas Storage Report, covering operations of the subject gas storage project.

(8) That the applicant shall notify the Division immediately of any evidence of leakage of gas from the gas storage project, or of any evidence of contamination of ground waters as the result of operations in the gas storage project.

(9) That should any operator drill a well to a formation deeper than the Morrow storage zone within the boundary of the Washington Ranch Gas Storage Project as described in Order

No. (1) above, the following special drilling and casing requirements shall be observed:

- (A) Either water or drilling mud shall be utilized as the circulating medium while drilling through the Morrow formation;
- (B) A separate, or extra, casing string shall be set at a point one hundred (100) feet below the base of the Morrow Clastics as found at a log depth of 6864 feet on the Schlumberger Gamma Ray-Sonic log of the Black River Cities Federal Well No. 1 located in Unit F of Section 34, Township 25 South, Range 24 East, NMPM, Eddy County, New Mexico;
- (C) The casing shall be cemented with enough cement to cause cement to be placed behind the pipe from the casing shoe to a point 1,500 feet above the casing shoe.

(10) That the following described area shall be known as the Active Area of the Washington Ranch Storage Project:

TOWNSHIP 25 SOUTH, RANGE 24 EAST, NMPM

Section 21: S/2
Section 22: S/2
Section 23: SW/4
Section 26: W/2 and SE/4
Sections 27 and 28: All
Sections 33, 34, and 35: All

TOWNSHIP 26 SOUTH, RANGE 24 EAST, NMPM

Sections 1 through 4: All
Section 9: N/2 and SE/4
Sections 10, 11, and 12: All

(11) That the Rules and Regulations of the Division pertaining to gas well locations, acreage dedication, and normal gas production practices shall not apply to the subject active gas storage project as described in Order No. (10) above so long as waste does not result from such inapplication.

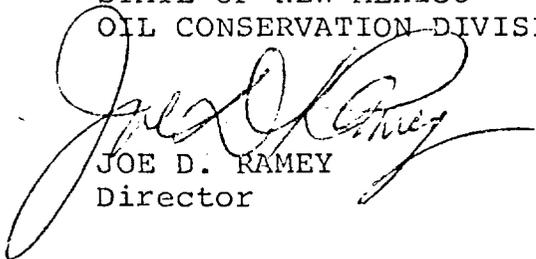
(12) Any well to be drilled within the Washington Ranch Gas Storage Project Area as described in Order No. (1) above but at a location not included in the Active Area of the Washington Ranch Gas Storage Project as described in Order No. (10) shall be located according to the General Rules and Regulations of the Division.

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Case No. 6703
Order No. R-6175

(13) That 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 herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

A large, stylized handwritten signature in dark ink, appearing to read "Joe D. Ramey", is written over the typed name and title.

JOE D. RAMEY
Director

S E A L

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