

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

APPLICATION OF MURPHY OPERATING CORPORATION FOR UNIT APPROVAL AND FOR AUTHORITY TO INSTITUTE A WATERFLOOD PROJECT, CHAVES AND ROOSEVELT COUNTIES, NEW MEXICO.

No. 9478
RECEIVED

AUG 23 1988

SUPPLEMENTAL DATA REQUIRED BY FORM C-108

OIL CONSERVATION DIVISION

I. The purpose of this Application is for secondary recovery.

II. The operator is Murphy Operating Corporation of Post Office Box 2648, Roswell, New Mexico, 88202-2648, contact parties: Mrs. Ann Murphy Ezzell, Mr. Mark B. Murphy, telephone (505) 623-7210.

III. The well data, in both tabular and schematic form, for each well proposed for injection is attached as Exhibit III.

IV. This is not an expansion of an existing project.

V. Attached hereto as Exhibit V. is a map identifying all wells and leases within two miles of each proposed injection well (two-mile boundary highlighted in yellow). A one-half mile radius circle (drawn in red) around each proposed injection well identifies the wells' areas of review. Also attached is a chart, "Redesignation of Well Names" listing original well names within the proposed Unit Area together with corresponding redesignated well names.

VI. Attached hereto as Exhibit VI.A. is a tabulation of well data for all wells within the proposed Unit Area. Exhibit VI.B. contains a tabulation of well data for wells outside the proposed Unit Area but within the "area of review". These area of review wells are encompassed within the boundary highlighted in yellow on the aforementioned Exhibit V. and their locations are listed below. Also attached as Exhibit VI.C. are schematics (illustrating all plugging detail) of any plugged well within the area of review.

<u>Original Well Name</u>	<u>Redesignated Well Name</u>	<u>Location</u>
Roosevelt County		
<u>T-7-S, R-33-E, NMPM</u>		
Hobbs "U" Well #2	Haley Unit Well #33-02	Section 33: NW/4NE/4
Hobbs "T" Well #1	Haley Unit Well #33-06	Section 33: SE/4NW/4
Hobbs "T" Well #2	Haley Unit Well #33-12	Section 33: NW/4SW/4
Hobbs "T" Well #3	Haley Unit Well #33-10	Section 33: NW/4SE/4
Hobbs "T" Well #5	Haley Unit Well #33-08	Section 33: SE/4NE/4
Hobbs "T" Well #7	Haley Unit Well #34-12	Section 34: NW/4SW/4
Hobbs "T" Well #8	Haley Unit Well #34-10	Section 34: NW/4SE/4
Hobbs "T" Well #9	Haley Unit Well #34-04	Section 34: NW/4NW/4
Hobbs "T" Well #11	Haley Unit Well #33-16	Section 33: SE/4SE/4
Hobbs "T" Well #13	Haley Unit Well #34-14	Section 34: SE/4SW/4
State "AZ" Well #5	Haley Unit Well #33-04	Section 33: NW/4NW/4
State "AZ" Well #6	Haley Unit Well #33-14	Section 33: SE/4SW/4
State "AZ" Well #9	Haley Unit Well #34-06	Section 34: SE/4NW/4
State "AZ" Well #12	Haley Unit Well #34-02	Section 34: NW/4NE/4
State "AZ" Well #14	Haley Unit Well #34-08	Section 34: SE/4NE/4
State "AZ" Well #15	Haley Unit Well #34-16	Section 34: SE/4SE/4
Chaves County		
<u>T-8-S, R-33-E, NMPM</u>		
State "BF" Well #2	Haley Unit Well #03-02	Section 3: Lot 2
State "BF" Well #4	Haley Unit Well #03-08	Section 3: SE/4NE/4
State "BF" Well #5	Haley Unit Well #03-04	Section 3: Lot 4
State "BF" Well #7	Haley Unit Well #03-06	Section 3: SE/4NW/4
State "BF" Well #8	Haley Unit Well #03-10	Section 3: NW/4SE/4
State "BF" Well #9	Haley Unit Well #03-16	Section 3: SE/4SE/4
Annarco Well #1	(P&A)	Section 3: SE/4SW/4

VII. Data on the proposed operation:

1. It is projected that an average of 4,200 barrels of water per day (equivalent to 600 barrels of water per well per day) will be initially injected. If successful, a maximum of 13,800 barrels of water per day will be injected.

2. The proposed waterflood system shall be a closed system.

3. It is proposed that water will be injected at an average surface pressure of 800 psig and at a maximum surface pressure of 0.2 psi per foot of depth to top of injection zone, provided that surface pressure in excess of 0.2 psi per foot of depth to injection zone may be approved by administrative application pursuant to Oil Conservation Division rules and regulations.

4. The water to be used for injection for the waterflood project shall be acquired from the closest and most economical of several commercial sources in the immediate area of the proposed Unit (see Exhibit 1., "Field Map Indicating Proposed Unit Facilities" attached to Plan of Operation, submitted for approval under separate cover);

Attached hereto as Exhibit VII.4. are chemical analyses and compatibility analyses of the proposed injection fluid (fresh water samples from possible sources as described hereinabove) with that of the receiving Chaveroo San Andres formation (sample from State "BF" Well #2 located within the Unit Area).

5. Not applicable.

VIII. Attached hereto as Exhibit VIII. is geological data related to the injection zone including appropriate lithological detail, geological name, thickness and depth. This exhibit contains:

- Exhibit VIII. - Engineering and Geological Report - Proposed Haley Chaveroo San Andres Unit, prepared by Bert H. Murphy, Registered Professional Petroleum Engineer dated August 1, 1988.
- Exhibit VIII.A. - General Location Map;
- Exhibit VIII.B. - Report dated November, 1966 prepared by Roswell Geological Society Symposium with attached structural and isopachus maps and type log;
- Exhibit VIII.C. - Core Data - "Completion Coregraph" for State "AZ" Well #2 located within Unit Area; "Completion Coregraph" and "Core-Gamma Correlation" for State "CVB" Well #1 located in near proximity of Unit in Section 31, T-7-S, R-33-E;
- Exhibit VIII.D. - Tabulated Summary of Geological Data;
- Exhibit VIII.E. - Structure Map with proposed Unit Area delineated;
- Exhibit VIII.F. - Isopachus Map with proposed Unit Area delineated;
- Exhibit VIII.G.1. - East-West Stratigraphic Cross-Section.
- Exhibit VIII.G.2. - North-South Stratigraphic Cross-Section.
- Exhibit VIII.H. - Chart of Derivation of Tract Participation Factors.
- Exhibit VIII.I. - Decline Curves for Wells within Area of Review.

IX. The proposed stimulation program, if any, is included with information contained in the aforementioned Exhibit VI.

X. Appropriate logging and test data for the proposed injection wells are attached as Exhibit X.

XI. Murphy Operating Corporation's review of the records at the State Engineer's office, Roswell District, indicated that there are no fresh water sources of record within one mile of any proposed injector. A letter dated August 15, 1988 from Mr. Frank Bradley, Supervisor - Portales Water Basin, Office of the State Engineer, confirming this record search is attached hereto as Exhibit XI.

XII. Not applicable.

XIII. Attached hereto as Exhibit XIII. is proof that copies of the application have been furnished by certified mail to: a) the owner of the surface of the land on which the proposed injection wells are to be located; and b) to the leasehold operators within one-half mile of the proposed injection wells.

XIV. Certification.

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: Ann Murphy Ezzell

Title: Chairman & C.E.O. of
Murphy Operating Corporation

Signature: 

Date: August 19, 1988

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INDEX OF EXHIBITS

FILE 2.

- Exhibit III. - Well data, in both tabular and schematic form, for each well proposed for injection.
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- Exhibit VI.A. - Tabulation of data for all wells of public record within the proposed Unit Area.
- Exhibit VI.B. - Tabulation of data for all wells of public record outside the proposed Unit Area but within the "area of review".
- Exhibit VI.C. - Schematics (illustrating all plugging detail) of any plugged and abandoned well within the area of review.
- SEE FILE 4. - Plan of Operation with attached Exhibit 1., "Field Map Indicating Proposed Unit Facilities" submitted for approval under separate cover.
- Exhibit VII.4. - Chemical analyses and compatibility analyses of the proposed injection fluid (fresh water samples from possible sources as described hereinabove) with that of the receiving Chaveroo San Andres formation (sample from State "BF" Well #2 located within the Unit Area).
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- Exhibit X. - Appropriate logging and test data for the proposed injection wells.
- Exhibit XI. - Letter dtd. 08/15/88 from Frank Bradley, Supervisor, Portales Water Basin, Office of the State Engineer, confirming record search of fresh water sources within one mile of any proposed injector.
- Exhibit XIII. - Proof that copies of the application have been furnished by certified mail to: a) the owner of the surface of the land on which the proposed injection wells are to be located; and b) to the leasehold operators within one-half mile of the proposed injection wells.

HALEY CHAVEROO SAN ANDRES UNIT
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