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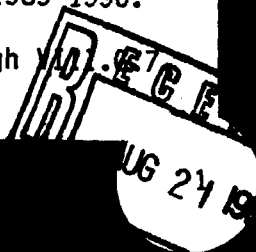
MURPHY OPERATING CORPORATION
PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
ROOSEVELT COUNTY, NEW MEXICO
August 7, 1989

LAND AND LEGAL INFORMATION

File Folder 1. - Application for Unit Approval.

SUPPLEMENTAL DATA FOR FORM C-108
ENGINEERING AND GEOLOGICAL INFORMATION

File Folder 2. - Exhibits III. through XIII.
File Folder 3. - Exhibit VIII.
File Folder 4. - Plan of Operation for 1989-1990.
File Folder 5. - Exhibit X. (Well Logs.)
Folded Enclosures - Exhibits VIII.E. through
(Structure & Iso-Cum Maps, Cross-Sections.)



APPLICATION FOR UNIT APPROVAL
HALEY CHAVEROO SAN ANDRES UNIT
MURPHY OPERATING CORPORATION

BEFORE THE NEW MEXICO OIL CONSERVATION DIVISION

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

No. _____

APPLICATION

Murphy Operating Corporation hereby applies to the New Mexico Oil Conservation Division for an order approving the unitization of the area and formation known as the Jennifer Chaveroo San Andres Unit, Roosevelt County, New Mexico, and authorizing applicant to institute a waterflood project for the Jennifer Chaveroo San Andres Unit, and in support thereof, states:

1. Statutory authority for the proposed Jennifer Chaveroo San Andres Unit is found in Section 19-10-45, et seq. N.M.S.A. 1978 Comp., and the proposed waterflood project meets the criteria set forth in Section I, Rule 701, et seq. of the Rules and Regulations of the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico.

2. The proposed area for which application is made for unitized operations pursuant to the Act is known as the Jennifer Chaveroo San Andres Unit, Roosevelt County, New Mexico (the "Unit Area"), and consists of 5,147.0 acres, more or less, in Roosevelt County, New Mexico, as more particularly delineated on a map of the Unit Area attached hereto as Exhibit "A". Exhibit "B" attached hereto contains a legal description of the locations of each of the leases within the proposed Unit Area together with corresponding ownership and unit participation factors.

3. The formation for which application is made (the "Unitized Formation") is the subsurface portion of the Unit Area known as the San Andres formation, and the vertical limits thereof are found in that stratigraphic interval between 4116 and 4424 feet as measured on the Compensated Formation Density Log run in the Murphy Operating Corporation Hobbs "W" Well No. 2 on August 18, 1966, said well located 330 feet from the North line and 990 feet from the East line of Section 30, Township 7 South, Range 34 East, Roosevelt County, New Mexico. The Unitized Formation shall further include all subsurface points throughout the Unit Area correlative to the aforementioned identified depths.

4. The wells located in the proposed Jennifer Chaveroo San Andres Unit have reached an advanced stage of depletion and are currently regarded as "stripper wells".

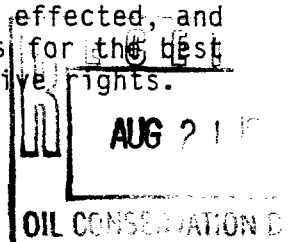
5. Murphy Operating Corporation proposes to institute a waterflood project for the secondary recovery of oil and gas from the Unitized Formation within the Unit Area.

6. The proposed plan of unitization is embodied in the Unit Agreement, a true copy of which is attached hereto as Exhibit "C", and the plan is fair, reasonable and equitable.

7. The proposed operating plan covering the manner in which the Unit will be supervised and managed and costs allocated and paid is embodied in the Unit Operating Agreement, a true copy of which is attached hereto as Exhibit "D".

8. The owners of 100% of the working interest within the proposed Jennifer Chaveroo San Andres Unit have consented to voluntary unitization of the unitized formation within the Unit Area, and have agreed to the Unit Agreement and Unit Operating Agreement attached on Exhibit "C" and "D" hereto.

9. The method of operation which is proposed in the Unit Operating Agreement is feasible and will tend to promote the conservation of oil or gas and the better utilization of reservoir energy. Under the operations proposed, the State and each beneficiary of the lands involved will receive its fair share of the recoverable oil or gas in place under its lands in the area effected, and the proposed Unit and waterflood project is in all other respects for the best interest of the State, and will prevent waste and protect correlative rights.



10. By the conversion of certain presently producing wells, Murphy Operating Corporation proposes to inject fluids into the above-described San Andres formation in the Jennifer Chaveroo San Andres Unit. Attached hereto as Exhibit "E" is a plat showing the location of all wells located within the Unit which are ultimately proposed to be used as producing or injection wells, with the proposed injection wells circled in red. In addition, Exhibit "E" shows all wells and leases that are located within a two-mile radius of the proposed injection wells.

11. 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. It is projected that an average of 3,600 barrels of water per day (equivalent to 600 barrels of water per well per day) will be initially injected. If successful, a maximum of 29,400 barrels of water per day will be injected.

12. 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.

13. Approval of the waterflood project will substantially increase recoverable reserves to be produced within the useful life of production facilities, thereby preventing waste and protecting correlative rights.

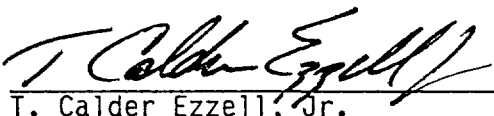
WHEREFORE, Murphy Operating Corporation requests that this application be set for hearing before the Division at the earliest practicable date and that the Division enter its order approving the Unit Agreement and Unit Operating Agreement, providing for the unitized management, operation and further development of the Unitized Formation and the Unit Area in accordance with the Act, and approving the waterflood project.

Murphy Operating Corporation further requests the establishment of a project allowable in accordance with Rule 701 and also the establishment of an administrative procedure for any change in, or additional, injection wells which might prove to be necessary, and for a procedure for administrative approval for the expansion of the waterflood project and the conversion of additional wells to injection.

Respectfully submitted,

HINKLE, COX, EATON, COFFIELD & HENSLEY
Post Office Box 10
Roswell, New Mexico 88202-0010

Attorneys for Applicant,
Murphy Operating Corporation

By: 
T. Calder Ezzell, Jr.
(505) 622-6510

Dated: August 8, 1989

AME:nrr



MURPHY OPERATING CORPORATION

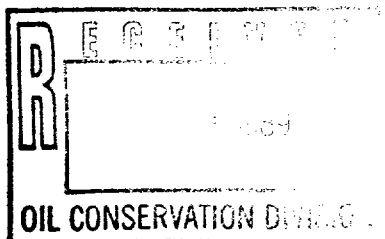
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400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

August 8, 1989

VIA FEDERAL EXPRESS

Mr. Michael E. Stogner, Examiner
Oil Conservation Division
Energy and Minerals Department
State of New Mexico
Post Office Box 2088
Santa Fe, New Mexico 87504-2088



Re: SUBMITTAL OF DOCUMENTATION IN
CONNECTION WITH "APPLICATION OF
MURPHY OPERATING CORPORATION FOR UNIT
APPROVAL AND FOR AUTHORITY TO INSTITUTE
A WATERFLOOD PROJECT" and "SUPPLEMENTAL
DATA REQUIRED BY FORM C-108".
Proposed Jennifer Chaveroo San Andres Unit
Roosevelt County, New Mexico.

Dear Mr. Stogner:

Murphy Operating Corporation ("MOC"), as designated Unit Operator for the proposed Jennifer Chaveroo San Andres Unit and on behalf of working interest owners within the proposed Unit Area, respectfully submits the information listed below related to the "Application of Murphy Operating Corporation for Unit Approval and for Authority to Institute a Waterflood Project" and "Supplemental Data Required by Form C-108". We have requested a hearing date of Wednesday, September 6, 1989 in connection with this application.

Pursuant to the rules and regulations of the Oil Conservation Division, MOC encloses herewith three (3) originals sets of the following information:

FILE 1. APPLICATION FOR UNIT APPROVAL.

- Exhibit A. - Map of Unit Area.
- Exhibit B. - Schedule of Ownership and Leases.
- Exhibit C. - Unit Agreement.
- Exhibit D. - Unit Operating Agreement.
- Exhibit E. - Area of Review Map.

FILE 2. SUPPLEMENTAL DATA REQUIRED BY OCD FORM C-108 (Engineering and Geological Data).

Exhibit III. - Well data, in both tabular and schematic form ("typical data sheet"), for each well proposed for injection.

Exhibit V. - Map identifying all wells and leases within 2 miles of each proposed injection well (2-mile boundary highlighted in yellow). A one-half mile radius circle (drawn in blue) around each proposed injection well identifies the wells' areas of review.

- Chart, "Redesignation of Well Names" listing original names of wells within the Unit Area together with corresponding redesignated well names.

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 each plugged and abandoned well within the area of review.

SEE FILE 4. - Plan of Operation submitted for approval under separate cover with attached exhibits.

FILE 2. (cont.)

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 (samples from tank batteries located on the State Section 35 lease and the State "DB" lease located within the Unit Area).

Exhibit VIII.A. - Geological data related to the injection zone
through including appropriate lithological detail, geologic
Exhibit VIII.I. name, thickness and depth.
SEE FILE 3

Exhibit X. - Appropriate logging and test data for the
SEE FILE 5 proposed injection wells.

Exhibit XI. - Map showing the location of 4 fresh water sources together with copies of the results of chemical analyses of the fresh water.

Exhibit XIII. - Proof that copies of the application have been furnished by certified mail to: a) the owners of the surface of the lands on which the proposed injection wells are to be located; and b) the leasehold operators within one-half mile of the proposed injection wells.

FILE 3. ENGINEERING AND GEOLOGICAL REPORT.

Exhibit VIII. - Engineering and Geological Report prepared by Bert H. Murphy, Registered Professional Petroleum Engineer dated July 15, 1989; Chaveroo San Andres Unit, prepared by Bert H. Murphy, Registered Professional Petroleum Engineer dated July 15, 1989;

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 Coregraphs" for the Homme Federal Well No. 3 and for the Wolf Federal Well No. 1 located within the Unit Area; "Completion Coregraph" for the State "AZ" Well No. 2 located in near proximity of Unit in Section 33, T-7-S, R-33-E;

Exhibit VIII.D. - Tabulated Summary of Geological Data;

Exhibit VIII.E. - Structure Map with proposed Unit Area delineated, San Andres Correlation Point.

Exhibit VIII.F. - Iso-Cum Base Map with proposed Unit Area delineated, Contour of Cumulative Oil Production to 01/01/89.

Exhibit VIII.G.1. - Cross Section A-A' (NW-SE through Sections 30-29-32);

Exhibit VIII.G.2. - Cross Section B-B' (W-E through Sections 20-21);

Exhibit VIII.G.3. - Cross Section C-C' (N-S through Sections 8-18-19);

Exhibit VIII.G.4. - Cross Section D-D' (W-E through Sections 35-36);

Exhibit VIII.G.5. - Cross Section E-E' (N-S through Sections 25-36-2);

Exhibit VIII.G.6. - Cross Section F-F' (W-E through Sections 30-29);

Exhibit VIII.G.7. - Cross Section G-G' (N-S through Sections 19-30);

Exhibit VIII.H. - Chart of Derivation of Tract Participation Factors.

Exhibit VIII.I.1. - Decline Curves for Wells within Unit Area.

Exhibit VIII.I.2. - Decline Curves for Wells outside Unit Area but within Area of Review.

FILE 4. PLAN OF OPERATION 1989-1990 with attached Exhibits:

Exhibit 1., "Field Map Indicating Proposed Unit Facilities"; and
Exhibit 2., "Comparison of Current and Proposed Well Statuses".

FILE 5. Exhibit X. - Appropriate logging and test data for the proposed injection wells.

We greatly appreciate your prompt replies to our numerous questions in connection with this Application. Please contact me for any additional information that may be required by your office.

Sincerely,

MURPHY OPERATING CORPORATION

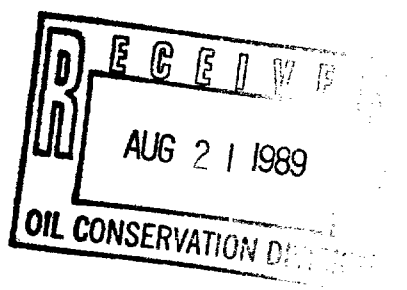
Ann Murphy Ezzell

Ann Murphy Ezzell, Esq.
Chairman and Chief Executive Officer

AME:nrr

Enclosures: as stated.

cc: All Working Interest Owners.



APPLICATION OF MURPHY OPERATING CORPORATION
FOR UNIT APPROVAL AND FOR AUTHORITY TO INSTITUTE A WATERFLOOD PROJECT,
PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT,
ROOSEVELT COUNTY, NEW MEXICO.

INDEX OF EXHIBITS

FILE 1.

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