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August 17, 1989

Mr. Francis R. Cherry, Jr., District Manager
United States Department of the Interior
Bureau of Land Management
Roswell District Office
Post Office Box 1397
Roswell, New Mexico 88202-1397

Attention: Mr. Armando Lopez, Branch Chief
Branch of Fluids

Mr. William J. LeMay, Director
Oil Conservation Division
Energy and Minerals Department
State of New Mexico
Post Office Box 2088
Santa Fe, New Mexico 87504-2088

Attention: Mr. Michael E. Stogner, Examiner

Mr. Floyd O. Prando, Director
Oil and Gas Division
State of New Mexico
Commissioner of Public Lands
Post Office Box 1148
Santa Fe, New Mexico 87504-1148

Attention: Ms. Susan Howarth, Unitization Manager

Re: PLAN OF OPERATION FOR 1989-1990:
Proposed Jennifer Chaveroo San Andres Unit
Chaveroo San Andres Field
Roosevelt County, New Mexico

Gentlemen:

Pursuant to the provisions of Section 11. of the Unit Agreement, Murphy Operating Corporation ("MOC"), designated Unit Operator of the proposed Jennifer Chaveroo San Andres Unit, Roosevelt County, New Mexico, respectfully submits for your consideration and approval, this Plan of Operation for the secondary recovery of oil by waterflood on the subject unitized land.

I. Proposed Plan of Operation 1988-1989: MOC hereby proposes that the Jennifer Chaveroo San Andres Unit ("the Unit"), consisting of 5,147.00 acres, as more particularly delineated on the map contained in Exhibit 1 attached hereto, be formed for the purpose of secondary recovery by the waterflood method. This proposed Unit currently consists of a total of eighty-two (82) wells (42 producing wells, 2 salt water disposal wells, 24 temporarily shut-in, 3 injectors and 11 plugged and abandoned wells). Ultimately, it is planned that the Unit will consist of eighty-two (82) wells (44 injection wells and 38 producing wells). The current and proposed status of each well is listed in the attached Exhibit 2.

The conversion to injection of certain wells will be undertaken in 3 phases as proposed below:

Phase I: Subsequent to Unit approval, MOC will initiate injection by gravity into proposed injection Wells #35-02, #35-04, #35-10 and #35-12. The conversion of these wells to injection will facilitate a 360-acre nine-spot pattern allowing MOC to monitor and observe any preferential fracture trends should they appear.

Phase II: Upon completion of the injection plant approximately 45 to 90 days after Unit approval, it is proposed that Wells #35-06 and #35-08 be converted to injection status. The conversion of these wells together with injection into the Haley Chaveroo San Andres Unit Well #34-08 will transform the nine-spot pattern (described in Phase I above) into two (2) 80-acre five-spot patterns. It is proposed that Phase II be monitored for 12 to 24 months. Subject to reservoir fill-up and response, additional development will be implemented as more particularly described in Phase III below.

Phase III: Assuming satisfactory waterflood performance, Phase III will consist of unit-wide development in five-spot injection patterns. The proposed five-spot patterns will utilize the existing salt water disposal wells, protect lease boundaries and provide for the maximum recovery of secondary oil. This will require the conversion of 36 producing wells to injection status, the conversion of 1 injection well (Unit Well #25-13) to producing status and 1 salt water disposal well (Unit Well #25-09) to producing status (see Exhibit 2).

As presented in Exhibit 1 attached, MOC plans to construct a water injection plant in the NE/4SW/4, Section 25, Township 7 South, Range 33 East, to service the Unit area. This plant will be constructed in such a manner to provide approximately 3,600 BBLS of water per day for ample injection capability in Phases I and II of the development program. The plant will provide an ultimate injection capability of approximately 26,400 BBLS of water per day in Phase III of the Unit development. The planned location was chosen because of its proximity to existing roads and electrical service and its central location to the proposed injection wells. A series of individual and trunk injection lines will radiate in a northeasterly, northwesterly and southeasterly direction to provide injection service to the individual injection wells.

Supplemental water will be purchased from the closest and most economical of several commercial sources which are available in this area. All sources are fresh water from the Ogallala formation which is present at an approximate depth of 200 feet below the surface. This water, combined with the San Andres produced water, has been deemed compatible by chemical analysis (see analyses submitted under separate cover). A water supply system will be constructed as shown on Exhibit 1.

II. Operating Guidelines: MOC plans to monitor all injection wells through daily rate and pressure checks. After 90 to 120 days of initiation of injection into any given well, a tracer survey will be run in order to insure acceptable injection profiles and to determine if water channeling is occurring. If water channeling or unacceptable injection profiles are observed, appropriate remedial work will be performed. As wells are converted to injection status, the annuluses of each well will be filled with inert ("packer") fluid containing corrosion inhibiting chemicals. The downhole integrity of each injection well will be determined by "pressuring up" the annulus of each well and maintaining a positive pressure of 300 psig for at least thirty (30) minutes. The procedure for conversion to injection status and all remedial and drilling operations will be performed in strict adherence to the Rules and Regulations of the Oil Conservation Division and other regulatory agencies.

III. Modification: Subject to your further approval, this Plan of Operation may be modified or supplemented during the year to meet changed conditions and to protect the interests of all parties to the Unit Agreement.

Should you have any questions or comments, please contact the undersigned.

Respectfully submitted,

MURPHY OPERATING CORPORATION

Mark B. Murphy
President and Chief Operating Officer

AME:MBM:nrr

Attachments: Exhibit 1, Proposed Jennifer Chaveroo San Andres Unit, "Field Map Indicating Proposed Unit Facilities".
Exhibit 2, Comparison of Current and Proposed Well Statuses.

cc: Mr. Jerry E. Sexton
State of New Mexico
Energy and Minerals Department
Oil Conservation Division
Post Office Box 1980
Hobbs, New Mexico 88240-1980

EXHIBIT 2.

COMPARISON OF CURRENT AND PROPOSED WELL STATUSES

Proposed Unit Well No.	Original Operator	Lease Name	Original Well No.	Well Status	Proposed Well Status	Remarks
26-13	Kern County	Federal 26	1M	S	P	
26-12	Land Company		2L	P	I	
26-11			3K	P	P	
26-14			4N	S	I	
26-10			5J	P	I	
26-15			6O	S	P	
26-09			7I	P	P	
26-16			8P	P	I	
20-05	Pan American	Homme Federal	1E	S	I	
20-03	Petro. Corp.		2C	S	I	
20-06			3F	S	P	
19-07	Pan American	Wolf Federal	1G	P	I	
19-02	Petro. Corp.		2B	P	P	
18-15			3O	S	I	
19-01			4A	P	I	
19-08			5H	S	P	
19-06	Dalport Oil	Federal 19	1F	A	P	RE/RD
19-03	Corporation		2C	A	I	RE/RD
25-04	Pam American	State DB	1D	S	I	
25-05	Petroleum Corp.		2E	S	P	
25-03			3C	P	P	
25-12			4L	A	I	RE/RD
25-06			5F	I	I	
25-13			6M	I	P	
25-11			7K	P	P	
25-14			8N	A	I	RE/RD
25-15			9O	P	P	
25-09		State DF	1I	SWD	P	
25-02	Southern	State J	1B	P	I	
25-07	Petroleum		2G	A	P	RE/RD
25-01	Exploration,		3A	P	P	
25-16	Inc.		4P	P	I	
25-08	Kermit Oil Co.	State Conine	1H	A	I	RE/RD
25-10	Kerr-McGee	State I	1J	P	I	
35-05	Pan American	State DA	1E	S	P	
35-14	Petro. Corp.	and State DE	1N	S	I	
35-10	Skelly Oil	Hobbs T	14J	P	I	
35-03	Company		16C	P	P	
35-01			17A	P	P	
35-15			18O	P	P	
35-16			19P	P	I	
35-11	Shell Oil	State CV	1K	P	P	
35-02	Company		2B	S	I	
35-09			3I	P	P	
35-04	M. Antweil	Shackelford	1D	S	I	
35-12	Marathon	State Sec. 35	1L	P	I	
35-13	Oil	and	2M	P	P	
35-06	Company	State Sec. 36	3F	P	I	
35-07			4G	P	P	
35-08			5H	P	I	
36-02			1B	A	I	RE/RD
36-07			1G	SWD	I	

Proposed Unit Well No.	Original Operator	Lease Name	Original Well No.	Well Status	Proposed Well Status	Remarks
36-04	Southern	State K	1D	P	I	
36-05	Petroleum		2E	P	P	
36-03	Exploration,		3C	P	P	
36-12	Inc.		4L	P	I	
36-13			5M	P	P	
36-06			6F	P	I	
36-11			7K	P	P	
19-11	Kerr-McGee	State G	1K	S	I	
19-14	Corporation		2N	S	P	
19-10			3J	S	P	
19-15			4O	P	I	
19-09			5I	S	I	
19-16			6P	S	P	
20-12	American	State 20	1L	A	P	RE/RD
20-13	Trading &		2M	A	I	RE/RD
20-11	Production		3K	A	I	RE/RD
20-14	Corp.		4N	A	P	RE/RD
30-02	Skelly Oil	Hobbs W	1B	P	P	
30-01	Company		2A	P	I	
30-07			3G	P	I	
30-08			4H	P	P	
30-10			5J	S	P	
29-04			6D	P	P	
29-05			7E	S	I	
29-03			8C	S	I	
29-06			9F	I	I	
30-03	Tenneco Oil	State V	1C	P	I	
30-06	Company		2F	S	P	
30-11			3K	S	I	
30-09			4I	P	I	

LEGEND:

Well Status: P = Producer
I = Injector
SWD = Salt Water Disposal
A = Plugged and Abandoned

Remarks: RE/RD = Well to be reentered or redrilled.