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MURPHY OPERATING CORPORATION
UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

August 8, 1989

Case 9742

RECEIVED

AUG 9 1989

OIL CONSERVATION DIVISION

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: PRELIMINARY SUBMITTAL OF LEGAL AND
TECHNICAL DOCUMENTATION.
Proposed Jennifer Chaveroo San Andres Unit
Roosevelt County, New Mexico.

Dear Mike:

In accordance with your instructions, I have enclosed herewith the "Application of Murphy Operating Corporation for Unit Approval and for Authority to Institute a Waterflood Project, Roosevelt County, New Mexico" (the "Application") together with various legal and technical documentation related to the proposed unit. We would ask that this matter be set for hearing on September 6, 1989.

In connection with and in support of the Application, the applicant submits the engineering, geologic and legal data described more particularly below and states:

A. that the unitized management, operation and further development of the oil pool is reasonably necessary in order to effectively carry on secondary and/or enhanced recovery operations and to substantially increase the ultimate recovery of oil and gas from the unitized portion of the pool;

B. that the proposed unitized method of operation, a waterflood project, is feasible as applied to the pool, will prevent waste and will result with reasonable probability in the increased recovery of substantially more oil and gas from the unitized portion of the pool than would otherwise be recovered;

C. that the estimated additional costs of conducting such secondary operations will not exceed the estimated value of the additional oil and gas so recovered plus a reasonable profit;

D. that such unitization and adoption of unitized method of secondary recovery operation will benefit the working interest owners and royalty owners of the oil and gas rights within the portion of the pool directly affected;

E. that the applicant, as designated Unit Operator, has made a good faith effort to secure voluntary unitization within the portion of the pool directly affected and has determined an attitude of general acceptance among the respective working interest owners within the proposed unit area; and

F. that the participation formula contained in the unitization agreement allocates the produced and saved unitized hydrocarbons to the separately owned tracts in the unit area on a fair, reasonable and equitable basis.

I. LEGAL AND LAND INFORMATION. The following legal and land information is submitted in support of the Application:

- Exhibit 1 - Exhibit "A" to the proposed Unit Agreement which is an outline of the proposed unit area.
- Exhibit 2 - Exhibit "B" to the proposed Unit Agreement which divides lands to be unitized into separate tracts for participation purposes on the basis of mineral ownership. Exhibit "B" also lists serial numbers and lease dates for the various leases and assigns each tract a unit participation factor derived from the proposed unit formula of 15% total usable wells in unit area plus 80% total primary recovery in unit area as of January 1, 1989 plus 5% total surface acreage in unit area.
- Exhibit 3 - The proposed Unit Agreement.
- Exhibit 4 - The proposed Unit Operating Agreement.

II. ENGINEERING AND GEOLOGIC DATA. The following engineering and geologic data is also submitted in support of the Application:

- Exhibit 5 - General Location Map.
- Exhibit 6 - Engineering and Geologic Report - Proposed Jennifer Chaveroo San Andres Unit, prepared by Bert H. Murphy, Registered Professional Petroleum Engineer, dated July 15, 1989.
- Exhibit 7 - Chart, Derivation of Tract Participation Factors.
- Exhibit 8 - Well data in tabular form for each proposed injection well.
- Exhibit 9 - Tabulation of data for all wells of public record within the proposed Unit Area.
- Exhibit 10 - Tabulated Summary of Geological Data.
- Exhibit 11 - Iso-Cum Base Map, Contour of Cumulative Oil Production to 01/01/88, Chaveroo San Andres Field, Roosevelt and Chaves County, New Mexico.
- Exhibit 12 - Structure Map, San Andres Correlation Point, Chaveroo Field, Roosevelt and Chaves Counties, New Mexico.
- Exhibit 13 - Cross Section A-A' (Northwest-Southeast through Sections 30-29-32), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 14 - Cross Section B-B' (West-East through Sections 20-21), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 15 - Cross Section C-C' (North-South through Sections 8-18-19), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 16 - Cross Section D-D' (West-East through Sections 35-36), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 17 - Cross Section E-E' (North-South through Sections 25-36-2), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 18 - Cross Section F-F' (West-East through Sections 30-29), Chaveroo San Andres Field, Roosevelt County, New Mexico.
- Exhibit 19 - Cross Section G-G' (North-South through Sections 19-30), Chaveroo San Andres Field, Roosevelt County, New Mexico.

Note: Exhibits 8, 9 and 10 set forth the original well name together with the corresponding redesignated well number.

The above information has been submitted to the Bureau of Land Management ("BLM") and the State Land Office for their review and approval. On Friday, August 4th, we received verbal approval of the unit area and the unit documents from Mr. Armando Lopez, Branch Chief of the Branch of Fluids. We expect to receive written confirmation of this approval in the near future. A copy of the BLM's approval letter will be forwarded to your office upon receipt. Preliminary approval from the State Land Office is currently pending.

As we discussed, this office is in the process of finalizing the exhibits necessary to complete Form C-108. This material will be forwarded to your office, in triplicate, in the near future. We very much appreciate your assistance and your attention to this matter. Please contact the undersigned for additional information as may be required by your office.

Sincerely,

MURPHY OPERATING CORPORATION



Ann Murphy Ezzell, Esq.
Chairman and Chief Executive Officer

AME:fnr
Enclosures: as stated.

cc: Working Interest Owners within Unit Area.

JENNIFER CHAVEROO SAN ANDRES UNIT

INDEX OF EXHIBITS

July 19, 1989

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AUG 9 1989

OIL CONSERVATION DIVISION

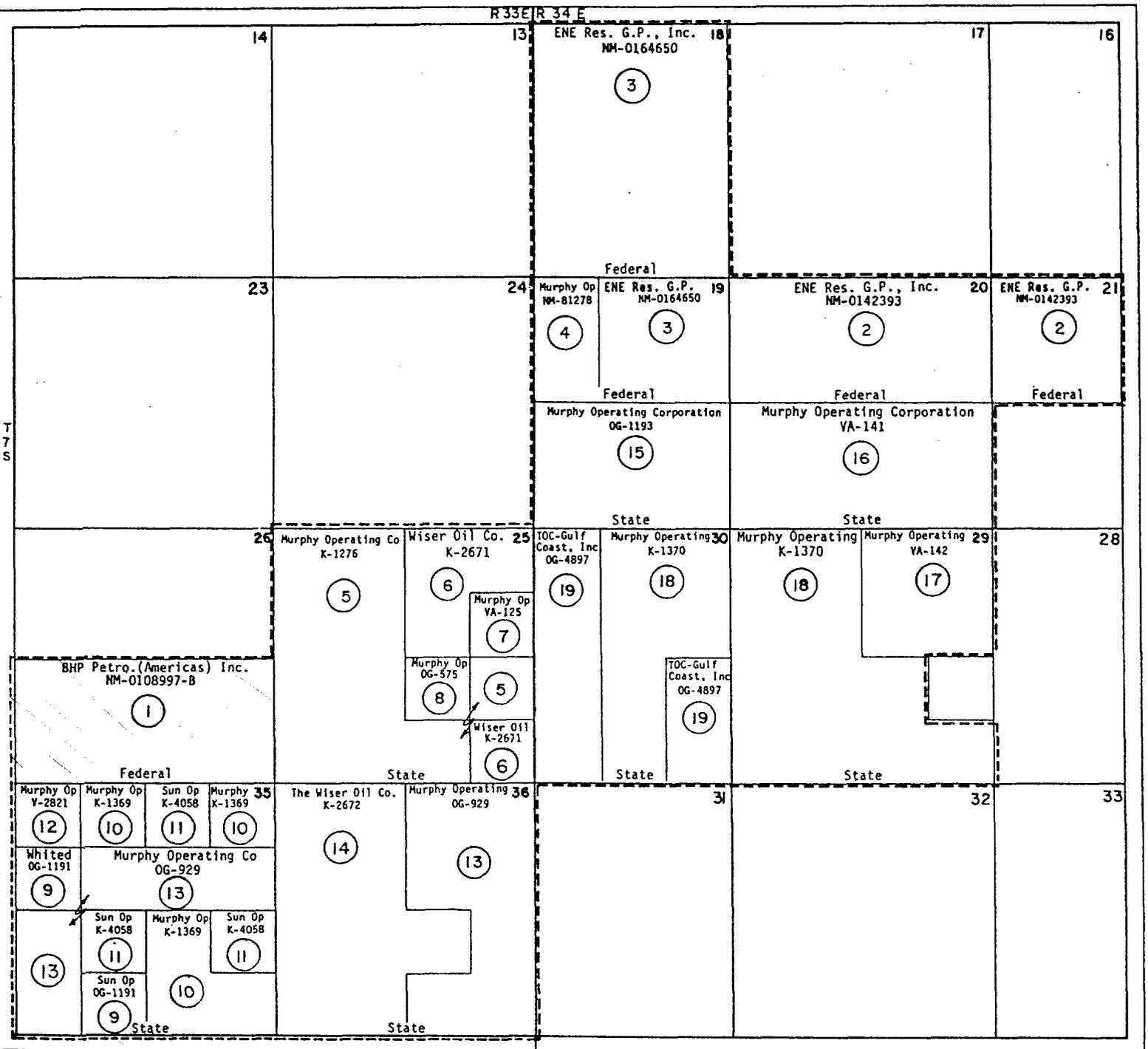
Case 9742

- Exhibit 1 - Exhibit "A" to the Unit Agreement.
- Exhibit 2 - Exhibit "B" to the Unit Agreement.
- Exhibit 3 - Unit Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico.
- Exhibit 4 - Unit Operating Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico.
- Exhibit 5 - General Location Map.
- Exhibit 6 - Engineering and Geologic Report - Proposed Jennifer Chaveroo San Andres Unit, prepared by Bert H. Murphy, Registered Professional Petroleum Engineer, dated July 15, 1989.
- Exhibit 7 - Chart, Derivation of Tract Participation Factors.
- Exhibit 8 - Well data in tabular form for each proposed injection well.
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- Exhibit 16 - Cross Section D-D' (West-East through Sections 35-36), Chaveroo San Andres Field, Roosevelt County, New Mexico.
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- Exhibit 19 - Cross Section G-G' (North-South through Sections 19-30), Chaveroo San Andres Field, Roosevelt County, New Mexico.

EXHIBIT "A"

ATTACHED TO THAT CERTAIN UNIT AGREEMENT, JENNIFER CHAVEROO
SAN ANDRES UNIT, COUNTY OF ROOSEVELT, STATE OF NEW MEXICO,
DATED JUNE 15, 1939.

JENNIFER CHAVEROO SAN ANDRES UNIT ROOSEVELT COUNTY, NEW MEXICO



- TRACT NUMBER
 - UNIT OUTLINE
 - STATE LANDS
- 5,147.00 ACRES
100% UNIT AREA

EXHIBIT "B" TO UNIT AGREEMENT
JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty		San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
					Owner or Production Payment Interest (PPI)	W.I.			
1.	Federal "26" T-7-S, R-33-E Sec. 26: S½ 320.00 acres Roosevelt County, N.M.	NM-0108997-B 09/01/60	BHP Petroleum (Americas), Inc.	United States of America 12.5	Amoco Production Co. M. McDonnold, Jr. William F. Pipes Westway Petro Southwest Royalties, Inc.	1.00000 0.75000 0.75000 2.50000 2.50000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.309590 3.273973 5.893152 10.476715
2.	Homme Federal T-7-S, R-34-E Sec. 20: N½ Sec. 21: NW¼ 480.00 acres Roosevelt County, N.M.	NM-0142393 06/01/61	ENE Resources GP, Inc.	United States of America 12.5	Jean A. Cornell, et al. Barbara B. Sweeney Santa Fe Andover Oil Co.	1.50000 1.00000 2.50000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.369763 0.924408 1.663934 2.958105
3.	Wolf Federal T-7-S, R-34-E Sec. 18: Lots 1-4, E½ Sec. 19: NE¼ 659.16 acres Roosevelt County, N.M.	NM-0164650 08/01/61	ENE Resources GP, Inc.	United States of America 12.5	Mark Daniel Wolf	5.00000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.531294 1.328234 2.390821 4.250349
4.	Federal "19" T-7-S, R-34-E Sec. 19: Lots 1 & 2 90.77 acres Roosevelt County, N.M.	NM-81278 04/01/89	Murphy Operating Corporation	United States of America 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.058478 0.146195 0.263151 0.467824
5.	State DB, State DF T-7-S, R-33-E Sec. 25: W½, SW¼SE¼, NE¼SE¼ 400.00 acres	K-1276 03/21/61	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.751963 4.379908 7.883834 14.015705

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	W.I.		
							San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
6.	State "J" T-7-S, R-33-E Sec. 25: N½NE¼, SW¼NE¼, SE¼SE¼ 160.00 acres Roosevelt County, N.M.	K-2671 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.496050 1.240127 2.232228 3.968405
7.	State Conine T-7-S, R-33-E Sec. 25: SE¼NE¼ 40.00 acres Roosevelt County, N.M.	VA-125 10/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.084971 0.212426 0.382367 0.679764
8.	State "I" T-7-S, R-33-E Sec. 25: NW¼SE¼ 40.00 acres Roosevelt County, N.M.	OG-575 02/11/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.138318 0.622432 0.345793 1.106543
9.	State "DA" & "DE" T-7-S, R-33-E Sec. 35: SW¼NW¼, SE¼SW¼ 80.00 acres Roosevelt County, N.M.	OG-1191 08/16/57	(SE¼SW¼): Sun Operating Ltd. Partnership (SW¼NW¼): Charles Whited and Doris Whited	State of N.M. 12.5	(SE¼SW¼): Helen Hebbfin Clemens A. Werner Murphy Operating Corp. (SW¼NW¼): Howard W. Luke Murphy Operating Corp.	4.00000 1.00000 0.78125	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.265938 1.196719 0.664844 2.127501
10.	Hobbs "T" T-7-S, R-33-E Sec. 35: NE¼NE¼, NE¼NW¼, W¼SE¼, SE¼SE¼ 200.00 acres Roosevelt County, N.M.	K-1369 04/18/61	Murphy Operating Corporation	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	1.277089 5.746902 3.192723 10.216714
11.	State "CV" T-7-S, R-33-E Sec. 35: NW¼NE¼, NE¼SW¼, NE¼SE¼ 120.00 acres	K-4058 04/21/64	Sun Operating Ltd. Partnership	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.995136 4.478113 2.487841 7.961090

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty		W.I.		
					Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
12.	Shackelford T-7-S, R-33-E Sec. 35: NW $\frac{1}{4}$ NW $\frac{1}{4}$ 40.00 acres Roosevelt County, N.M.	V-2821 01/01/89	Murphy Operating Corporation	State of N.M. 16.3334	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.195949 0.489874 0.881773 1.567596
13.	State "35" & "36" T-7-S, R-33-E Sec. 35: W $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$ Sec. 36: NE $\frac{1}{4}$, NE $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$ 480.00 acres Roosevelt County, N.M.	OG-929 06/18/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.015953 2.539883 4.571789 8.127625
14.	State "K" T-7-S, R-33-E Sec. 36: W $\frac{1}{2}$, NW $\frac{1}{2}$ SE $\frac{1}{4}$ 360.00 acres Roosevelt County, N.M.	K-2672 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.231573 3.078933 5.542079 9.852585
15.	State "G" T-7-S, R-34-E Sec. 19: Lots 3 & 4, SE $\frac{1}{4}$ 251.59 acres Roosevelt County, N.M.	OG-1193 08/20/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.597946 2.690757 1.494865 4.783568
16.	State "20" T-7-S, R-34-E Sec. 20: S $\frac{1}{2}$ 320.0 acres Roosevelt County, N.M.	VA-141 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.514392 1.285982 2.314767 4.115141
17.	State "20" T-7-S, R-34-E Sec. 29: NE $\frac{1}{4}$ 160.00 acres Roosevelt County, N.M.	VA-142 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.019429 0.048572 0.087429 0.155430

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	W.I.		
							San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
18.	Hobbs "W" T-7-S, R-34-E Section 29: W½, W½SE¼, SE¼SE¼ Section 30: NE¼, W½SE¼ 680.00 acres Roosevelt County, N.M.	K-1370 04/18/61	Murphy Operating Corporation	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 <u>100.00000</u>	1.233654 5.551441 3.084134 <u>9.869229</u>
19.	State "V" T-7-S, R-34-E Sec. 30: Lots 1-4, E½SE¼ 265.48 acres Roosevelt County, N.M.	OG-4897 12/16/58	TOC-Gulf Coast, Inc.	State of N.M. 12.5	Southwest Royalties Inc. Ralph Dreyer, Trustee Cherilyn Priddy Loving	3.75000 2.50000 1.25000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 <u>100.00000</u>	0.412514 1.031285 1.856312 <u>3.300111</u>

STATE ACREAGE: 3,597.07 = 69.89% OF UNIT AREA
 FEDERAL ACREAGE: 1,549.93 = 30.11% OF UNIT AREA

TOTAL ACREAGE: 5,147.00

UNIT AGREEMENT
JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT
STATE OF NEW MEXICO

UNIT AGREEMENT
JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT
STATE OF NEW MEXICO

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Exhibit "A" (Map of Unit Area)

Exhibit "B" (Schedule of Ownership and Tract Participation)

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION OF THE

JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

THIS AGREEMENT, entered into as of the 15th day of June, 1989, by and between the parties subscribing, ratifying or consenting hereto, and herein referred to as "parties hereto";

W I T N E S S E T H T H A T:

WHEREAS, the parties hereto are the owners of working, royalty or other oil and gas interests in the Unit Area subject to this Agreement; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by law (Section 3, Chapter 88, Laws of 1943, as amended by Section 1 of Chapter 162, Laws of 1951, Chapter 19, Article 10, Section 45, New Mexico Statutes 1978 Annotated) to consent to or approve this Agreement on behalf of the State of New Mexico, insofar as it covers and includes lands and mineral interests of the State of New Mexico; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Section 3, Chapter 88, Laws of 1943, as amended by Section 1, Chapter 162, Laws of 1951; Chapter 19, Article 10, Section 47, New Mexico Statutes 1978 Annotated) to amend with the approval of lessee, evidenced by the lessee's execution of such agreement or otherwise, any oil and gas lease embracing State lands so that the length of the term of said lease may coincide with the term of such unitized development and operation of State lands; and

WHEREAS, the Oil Conservation Division of the Energy & Minerals Department of the State of New Mexico is authorized by law (Chapter 72, Laws of 1935, as amended, being Section 70-2-1, et seq., New Mexico Statutes, 1978 Annotated) to approve this Agreement and the conservation provisions hereof; and

WHEREAS, the Mineral Leasing Act of February 25, 1920 (41 Statutes 437, as amended by 30 U.S.C. Section 181, et seq.) authorizes Federal lessees and their representatives to unite with each other or jointly or separately with others in collectively adopting and operating a unit plan of development or operation of any oil or gas pool, field or like area or any part thereof for the purpose of more properly conserving the natural resources thereof whenever determined and certified by the Secretary of the Interior to be necessary or advisable in the public interest; and

WHEREAS, the parties hereto hold sufficient interests in the Jennifer Chaveroo San Andres Unit Area, comprised of the land hereinafter designated, to give reasonably effective control of operations therein; and

WHEREAS, it is the purpose of the parties hereto to enable institution and consummation of secondary and/or enhanced oil recovery operations, to conserve natural resources, to prevent waste and secure the other benefits obtainable through development and operation of the area subject to this Agreement under the terms, conditions and limitations herein set forth.

NOW THEREFORE, in consideration of the premises and the promises herein contained, the parties hereto commit to this Agreement their respective interests in the Unitized Formation underlying the Unit Area, and agree severally among themselves as follows:

SECTION 1. ENABLING ACT AND REGULATIONS. The Mineral Leasing Act of February 25, 1920, as amended, supra, and all valid pertinent regulations, including operating and unit plan regulations, heretofore issued thereunder and valid, pertinent and reasonable regulations hereafter issued thereunder and accepted and made a part of this Agreement as to Federal lands, provided such regulations are not inconsistent with the terms of this Agreement; and as to non-Federal lands, the oil and gas operating regulations in effect as of the Effective Date hereof governing drilling and producing operations not inconsistent with the terms hereof or the laws of the State of New Mexico are hereby accepted and made a part of this Agreement.

SECTION 2. DEFINITIONS. For the purpose of this Agreement, the following terms and expressions are used herein shall mean:

- (a) "Unit Area" is defined as the land depicted on Exhibit "A" and described by Tracts in Exhibit "B" attached hereto, containing 5,147.00 acres, more or less, and said land is hereby designated and recognized as constituting the Unit Area.
- (b) "Commissioner" is defined as the Commissioner of Public Lands of the State of New Mexico.
- (c) "Division" is defined as the Oil Conservation Division of the Energy, Minerals and Natural Resources Department of the State of New Mexico.
- (d) "Director" is defined as the Director of the Bureau of Land Management.
- (e) "Secretary" is defined as the Secretary of the Interior of the United States of America or any other person duly authorized to exercise the powers vested in that Office.
- (f) "Department" is defined as the Department of the Interior of the United States of America.
- (g) "Authorized Officer" is defined as any employee of the Bureau of Land Management who has been delegated the authority to perform the duties described herein.
- (h) "Unitized Formation" is defined as that subsurface portion of the Unit Area known as the San Andres formation, the vertical limits thereof found in that stratigraphic interval between 4,116 and 4,424 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.
- (i) "Unitized Substances" is defined as all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate and all associated and constituent liquid or liquefiable hydrocarbons within or produced from the Unitized Formation.
- (j) "Unit Participation" is defined as the sum of the percentages obtained by multiplying the Working Interest of a Working Interest Owner in each Tract having Tract Participation by the Tract Participation of such Tract.
- (k) "Working Interest" is defined as an interest in Unitized Substances by virtue of a lease, operating agreement or otherwise, including a carried interest, which interest is chargeable with and obligated to pay or bear, either in cash or out of production or otherwise, all or a portion of the cost of drilling, developing, producing and operating the Unitized Formation. Any interest in Unitized Substances which is a Working Interest as of the date the owner thereof executes, ratifies or consents to this Agreement shall thereafter be treated as a Working Interest for all purposes of this Agreement.
- (l) "Working Interest Owner" is defined as a party hereto who owns a Working Interest.
- (m) "Royalty Interest" is defined as an interest other than a Working Interest in or right to receive a portion of the Unitized Substances or the proceeds thereof and includes the Royalty Interest reserved by the lessor by an oil and gas lease and any overriding Royalty Interest, oil payment interest, net profits contracts, or any other payment or burden which does not carry with it the right to search for the produced Unitized Substances.
- (n) "Royalty Owner" is defined as a party hereto who owns a Royalty Interest.
- (o) "Unit Operating Agreement" is defined as any agreement or agreements entered into, separately or collectively, by and between the Unit Operator and the Working Interest Owners as provided in Section 9 (Accounting Provisions and Unit Operating Agreement), infra, and shall be styled "Unit Operating Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico".

- (p) "Unit Manager" is defined as the person or corporation appointed by the Unit Working Interest Owners to perform the duties of the Unit Operator until the selection and qualification of a successor Unit Operator as provided for in Section 8 (Successor Unit Operator) hereof.
- (q) "Paying Quantities" is defined as production of Unitized Substances in quantities sufficient to pay for the cost of producing same from wells on the Unitized Land.
- (r) "Tract" is defined as each parcel of land described as such and given a Tract number in Exhibit "B".
- (s) "Tract Participation" is defined as the percentages of Unitized Substances allocated hereunder to a Tract. The Tract Participations of the Tracts within the Unit Area are shown on Exhibit "B" attached hereto.

SECTION 3. EXHIBITS. Exhibit "A", to the extent known to Unit Operator, shows the boundaries and identity of Tracts and leases in the Unit Area. Exhibit "B" attached hereto is a schedule showing, to the extent known to Unit Operator, the acreage comprising each Tract and the percentage of ownership of each Working Interest Owner in each Tract. Exhibit "B" attached hereto also contains a schedule showing the Tract Participation of each Tract in the Unit Area for which Tract Participation has been calculated upon the basis of all Tracts within the Unit Area being committed to this Agreement as of the Effective Date hereof. However, nothing herein or in said schedule or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest as are shown in said map or schedule as being owned by such party.

Exhibits "A" and "B" shall be revised by Unit Operator whenever changes render such revision necessary and copies of such revision shall be filed with and approved by the Commissioner and the Authorized Officer, as required.

SECTION 4. EXPANSION. The Unit Area may, when practicable, be expanded to include therein any additional Tract or Tracts regarded as reasonably necessary or advisable for the purposes of this Agreement. Such expansion shall be effected in the following manner:

(a) The Working Interest Owner or Owners of a Tract or Tracts desiring to bring such Tract or Tracts into the Unit Area shall file an application therefor with Unit Operator requesting such admission.

(b) Unit Operator shall circulate a notice of the proposed expansion to each Working Interest Owner in the Tract or Tracts proposed to be included in the Unit and/or affected by the proposed expansion setting out the basis for admission, the Tract Participation proposed to be allocated to such Tract or Tracts, and other pertinent data. After negotiation (at Working Interest Owners' meeting or otherwise) if, in accordance with the voting procedure set forth in Article 4.3.2 of the Unit Operating Agreement, at least two (2) Working Interest Owners having a combined Unit Participation of sixty percent (60%) or more have agreed to such Tract or Tracts being brought into the Unit Area, then Unit Operator shall, after preliminary concurrence by the Commissioner and the Director:

(1) Prepare a notice of proposed expansion describing the contemplated changes in the boundaries of the Unit Area, the reason therefor, the basis for admission of the additional Tract or Tracts, the Tract Participation to be allocated thereto, and the proposed Effective Date thereof; and

(2) Furnish copies of said notice to the Commissioner, to the Authorized Officer, to each Working Interest Owner, and to the lessee and lessor whose interests are proposed to be committed, advising such parties that thirty (30) days will be allowed for submission to the Unit Operator of any objections to such proposed expansion; and

(3) File, upon the expiration of said thirty (30) day period as set out in Subsection (2) immediately above, with the Commissioner and Authorized Officer the following: (a) Evidence of mailing copies of said notice of expansion; (b) an application for such expansion; (c) an instrument containing the appropriate joinders in compliance with the qualification requirements of Section 14 (Tracts Qualified for Unit Participation), infra; and (d) copies of any objections received.

The expansion shall, after due consideration of all pertinent information and upon approval by the Commissioner, the Division and the Director, become effective as of the date prescribed in the notice thereof, preferably the first day of a month subsequent to the date of the notice or on such other date as set by the Commissioner, the Division and the Authorized Officer in the order or instrument approving such expansion. In any approved expansion of the Unit area, the revised Tract Participation of the respective Tracts included within the Unit Area prior to such enlargement shall remain in the same ratio one to another.

There shall never be any retroactive allocation or adjustment of operating expenses or of interest in the Unitized Substances produced (or the proceeds of the sale thereof) by reason of an expansion of the Unit Area; provided, however, this limitation shall not prevent any adjustment of investment necessitated by such expansion.

SECTION 5. UNITIZED LAND AND UNITIZED SUBSTANCES. All land committed to this Agreement as provided in Section 14 (Tracts Qualified for Unit Participation) as to the Unitized Formation defined in Section 2 (Definitions) shall constitute land referred to herein as "Unitized Land" or "land subject to this Agreement". All oil and gas in the Unitized Formation in the Unitized Land are unitized under the terms of this Agreement and herein are called "Unitized Substances". Nothing herein shall be construed to unitize, pool, or in any way affect the oil, gas or other minerals contained in or that may be produced from any formation other than the Unitized Formation as above described.

SECTION 6. UNIT OPERATOR. Murphy Operating Corporation is hereby designated as Unit Operator, and by signing this instrument as Unit Operator it agrees and consents to accept the duties and obligations of Unit Operator for the operation, development and production of Unitized Substances as herein provided. Whenever reference is made herein to the Unit Operator, such reference means the Unit Operator acting in that capacity and not as an owner of interests in Unitized Substances, and the term "Working Interest Owner" when used herein shall include or refer to Unit Operator as the owner of a Working Interest when such an interest is owned by it.

SECTION 7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. The Unit Operator shall have the right to resign at any time, but such resignation shall not become effective so as to release Unit Operator from the duties and obligations of Unit Operator and terminate Unit Operator's rights as such for a period of thirty (30) days after written notice of intention to resign has been given by Unit Operator to all Working Interest Owners, the Commissioner and the Authorized Officer unless a new Unit Operator shall have taken over and assumed the duties and obligations of Unit Operator prior to the expiration of said period.

The Unit Operator shall, upon failure or refusal to perform its duties and obligations hereunder, be subject to removal by the vote of Working Interest Owners, other than Unit Operator, owning a combined Unit Participation of eighty percent (80%) or more. However, the Unit Operator shall not be removed until all debts owed to it by Working Interest Owners have been paid in full. Any such removal under this Section 7 shall be effective upon notice thereof to the Commissioner and the Director.

In all such instances of resignation or removal, until a successor to Unit Operator is selected and approved as hereinafter provided, the Working Interest Owners shall be jointly responsible for the performance of the duties of the Unit Operator and shall not later than fifteen (15) days before such resignation or removal becomes effective, appoint a Unit Manager to represent them in any action to be taken hereunder.

The resignation or removal of Unit Operator under this Agreement shall not terminate its right, title or interest as the owner of a Working Interest or other interest in Unitized Substances, but upon the resignation or removal of Unit Operator becoming effective, such Unit Operator shall deliver possession of all equipment, books and records, materials, appurtenances and other assets used in conducting the Unit operations and owned by the Working Interest Owners to the new duly qualified successor Unit Operator or to the Unit Manager if no such new Unit Operator is elected, to be used for the purpose of conducting Unit Operations hereunder. Nothing herein shall be construed as authorizing removal of any material, equipment or appurtenances needed for the preservation of any wells. Nothing herein contained shall be construed to relieve or discharge any Unit Operator who resigns or is removed hereunder from any liability or duties accruing to or performable by it prior to the effective date of such resignation or removal.

SECTION 8. SUCCESSOR UNIT OPERATOR. Whenever the Unit Operator shall tender its resignation as Unit Operator or shall be removed as hereinabove provided, the Working Interest Owners, voting in the manner provided in the Unit Operating Agreement, shall select a successor Unit Operator; provided, however, that the voting interest of the outgoing Unit Operator shall not be considered for this purpose if such outgoing Unit Operator fails to vote or votes only to succeed itself. Such selection of a successor Unit Operator shall not become effective until: (a) a Unit Operator so selected shall accept in writing the duties and responsibilities of Unit Operator; and (b) the selection shall have been approved by the Commissioner and filed with the Authorized Officer. If no successor Unit Operator is selected as herein provided, the Commissioner and the Authorized Officer, at their election, may declare this Agreement terminated.

SECTION 9. ACCOUNTING PROVISIONS/UNIT OPERATING AGREEMENT/CONFLICTS. Costs and expenses incurred by Unit Operator in conducting Unit Operations hereunder shall be paid, apportioned among and borne by the Working Interest Owners in accordance with the Unit Operating Agreement. Such Unit Operating Agreement shall also provide the manner in which the Working Interest Owners shall be entitled to receive their respective proportionate and allocated share of the benefits accruing hereunder in conformity with their underlying operating agreements, leases or other independent contracts and such other rights and obligations as between Unit Operator and the Working Interest Owners as may be agreed upon by the Unit Operator and the Working Interest Owners; however, no such Unit Operating Agreement shall be deemed either to modify any of the terms and conditions of this Unit Agreement or to relieve the Unit Operator of any right or obligation established under this Agreement, and in case of any inconsistency or conflict between this Agreement and the Unit Operating Agreement, this Agreement shall prevail. Notwithstanding anything contained herein to the contrary, in the case of any inconsistency or conflict between this Agreement and/or the Unit Operating Agreement and any contractual agreement between any of the parties hereto, the contractual agreement shall prevail as between the parties to such contractual agreement. One true copy of any Unit Operating Agreement executed pursuant to this Section shall be filed with the Commissioner and with the Authorized Officer as required prior to approval of this Agreement.

SECTION 10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, the exclusive right, privilege and duty of exercising any and all rights of the parties hereto which are necessary or convenient for prospecting for, producing, storing, allocating, and distributing the Unitized Substances are hereby delegated to and shall be exercised by the Unit Operator as herein provided. Upon request therefor, acceptable evidence of title to said rights shall be deposited with said Unit Operator, and together with this Agreement shall constitute and define the rights, privileges and obligations of Unit Operator. Nothing herein, however, shall be construed to transfer title to any land or to any lease or operating agreement, it being understood that under this Agreement the Unit Operator, in its capacity as Unit Operator, shall exercise the rights of possession and use vested in the parties hereto only for the purposes herein specified.

SECTION 11. PLANS OF OPERATION. It is recognized and agreed by the parties hereto that all of the land subject to this Agreement has been reasonably proven to be productive of Unitized Substances in Paying Quantities or is necessary for Unit Operations and that the object and purpose of this Agreement is to formulate and to put into effect a secondary and/or enhanced oil recovery project in order to effect a greater recovery of Unitized Substances, prevent waste and conserve natural resources. The parties hereto agree that the Unit Operator may, subject to the consent and approval of a plan of operation by the Working Interest Owners, the Authorized Officer, the Commissioner and the Division, inject into the Unitized Formation, through any well or wells completed therein, brine, water, air, gas, oil, liquefied petroleum gas, steam and any other substance or a combination of any of said substances, whether produced from the Unitized Formation or not, and that the location of input wells and the rates of injection therein and the rate of production shall be governed by standards of good geologic and petroleum engineering practices and conservation methods. Subject to like approval, the Plan of Operation may be revised as conditions warrant.

The initial plan of operation shall be filed with the Authorized Officer, the Commissioner and the Division concurrently with the filing of this Agreement for final approval. Said initial plan of operation and all revisions thereof shall be as complete and adequate as the Authorized Officer, the Commissioner and the Division may determine to be necessary for timely operation consistent herewith. Reasonable diligence shall be exercised in complying with the obligations of said plan of operation.

SECTION 12. EASEMENTS/USE OF SURFACE/USE OF WATER/SURFACE DAMAGES. The parties, to the extent of their rights and interests, hereby grant to Unit Operator the right to use as much of the surface of the Unitized Land as may reasonably be necessary for Unit Operations.

Unit Operator shall have free use of water or brine (or both) from the Unitized Land for Unit Operations, except water from any well, lake, pond or irrigation ditch of a surface owner, unless approval for such use is granted by the surface owner. The parties hereto, to the extent they have the right so to do, hereby grant Unit Operator the right to use brine or water (or both) produced from any formation underlying the Unit Area for injection into the Unitized Formation; provided, however, that this grant of said right shall not preclude the use of brine or water (or both) produced from any formation other than the Unitized Formation for injection into formations other than the Unitized Formation. Unit Operator shall pay the owner for damages to growing crops, timber, fences, improvements and structures on the Unitized Land that result from Unit Operations, and such payments shall be considered as items of Unit Expense to be borne by all Working Interest Owners of lands subject hereto.

SECTION 13. TRACT PARTICIPATION. The percentages of Tract Participation set forth in Exhibit "B" for each Tract within the Unit Area have been calculated in accordance with the following formula:

Tract Participation = 15% A + 80% B + 5% C
Where A = Percent of Total Usable Wells in Unit Area.
B = Percent of Total Primary Oil Recovery in Unit Area as of January 1, 1989.
C = Percent of Total Surface Acreage in Unit Area.

Such percentages of Tract Participation have been calculated upon the basis of all of said Tracts within the Unit Area being committed to this Agreement as of the Effective Date hereof, and such Tract Participations shall govern the allocation of all Unitized Substances produced after the Effective Date hereof, subject, however, to any revision or revisions of the Unit Area and Exhibit "B" in accordance with the provisions hereof.

In the event less than all of the Tracts are committed hereto as of the Effective Date hereof, the Unit Operator shall promptly file with the Commissioner and Director copies of revised Exhibit "B" setting forth the revised Tract Participations opposite each of the qualified tracts, which shall be calculated by using the tract factors and formula set forth hereinabove, but applying the same only to the qualified Tracts. The revised Exhibit "B" shall, effective as of the Effective Date of this Agreement, supersede the original Exhibit "B" attached hereto and shall thereafter govern the allocation of Unitized Substances unless disapproved by the Commissioner and Director, within thirty (30) days after filing.

If, subsequent to the Effective Date of this Agreement, any additional tract becomes committed hereto under the provisions of Section 4 (Expansion) or Section 31 (Non-joinder and Subsequent Joinder), or any committed Tract is excluded herefrom under the provisions of Section 30 (Loss of Title), Unit Operator shall revise said Exhibit "B" or the latest revision thereof to show the new percentage participations of the then committed tracts, which revised exhibit shall, upon its approval by the Commissioner and the Division, supersede, as of its Effective Date, the last previously effective Exhibit "B". In any such revision of Exhibit "B" the revised percentage participations of the respective Tracts listed in the last previously effective Exhibit "B" shall remain in the same ratio one to another.

SECTION 14. TRACTS QUALIFIED FOR UNIT PARTICIPATION. On and after the Effective Date hereof, the Tracts within the Unit Area that shall be entitled to participate in the production of Unitized Substances therefrom shall be the Tracts within the Unit Area that are qualified as follows:

(a) Each Tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest therein have become parties hereto and as to which Royalty Owners owning seventy-five percent (75%) or more of the Royalty Interest therein have become parties hereto.

(b) Each Tract as to which Working Interest Owners owning one hundred percent (100%) of the Working Interest therein have become parties hereto and as to which Royalty Owners owning less than seventy-five percent (75%) of the Royalty Interest therein have become parties hereto and, further, as to which:

(i) The Working Interest Owner who operates the Tract and at least seventy-five percent (75%) of all other Working Interest Owners in such Tract have joined in a request for the commitment of such Tract to this Agreement; and

(ii) Owners of seventy-five percent (75%) of the combined Unit Participation in all Tracts meeting the requirements of Section 14 (a) hereof have voted in favor of the commitment of such Tract.

For the purpose of this Section 14(b), the voting interest of a Working Interest Owner shall be equal to the ratio that its Participation attributable to Tracts which qualify under Section 14(a) bears to the total Participation of all Working Interest Owners attributable to all Tracts which qualify under Section 14(a).

(c) Each Tract as to which Working Interest Owners owning less than one hundred percent (100%) of the Working Interest therein have become parties hereto, regardless of the percentage of Royalty Interest therein which is committed hereto and, further, as to which:

(i) The Working Interest Owner operating any such Tract and a total of seventy-five percent (75%) or more of the other Working Interest Owners in such Tract who have become parties hereto have joined in a request for the commitment of such Tract to this Agreement and have executed and delivered an indemnity agreement indemnifying and agreeing to hold harmless the other Working Interest Owners in the Unit Area, their successors and assigns, against all claims and demands which may be made by the owners of Working Interests in such Tract who are not parties hereto and which arise out of the commitment of such Tract to this Agreement; and

(ii) Seventy-five percent (75%) of the combined Unit Participation in all Tracts meeting the requirements of Section 14(a) and 14(b) have voted in favor of the commitment of such Tract and acceptance of the indemnity agreement.

For the purpose of this Section 14(c), the voting interests of each Working Interest Owner shall be equal to the ratio that its Participation attributable to tracts that qualify under Section 14(a) and 14(b) bears to the total Participation of all other Working Interest Owners attributable to Tracts that qualify under Section 14(a) and 14(b).

Upon the commitment of such a Tract to this Agreement, the Unit Participation that would have been attributed to the nonsubscribing owners of the Working Interest in such Tract, had they become parties to this Agreement and the Unit Operating Agreement, shall be attributed to the Working Interest Owners in such Tract who have become parties to such agreements in proportion to their respective Working Interests in the Tract.

If on the Effective Date of this Agreement, there is any Tract or Tracts which have not been effectively committed to or made subject to this Agreement by qualifying as provided above, then such Tract or Tracts shall not be entitled to participate hereunder. The Unit Operator shall, when submitting this Agreement for final approval by the Commissioner and the Director, file herewith a schedule of those Tracts which have been committed and made subject to this Agreement and are entitled to participate in the production from the Unit Area hereunder. Said schedule shall set forth opposite each such committed Tract the lease number or assignment number, the owner of record of the lease, and the percentage participation of such Tract which shall be computed according to the Participation formula set out in Section 13 (Tract Participation) above. This schedule of Participation shall be a part of Exhibit "B" and upon approval thereof by the Commissioner and the Authorized Officer, shall become a part of this Agreement and shall govern the allocation of production of Unitized Substances until a new schedule is approved by the Commissioner and the Authorized Officer.

SECTION 15A. ALLOCATION OF UNITIZED SUBSTANCES. All Unitized Substances produced and saved from the committed Tracts within the Unit Area (less, save and except any part of such Unitized Substances which is used in conformity with good operating practices on the Unit Area for drilling, operating, camp and other production, development and pressure maintenance purposes, or which is unavoidably lost) shall be apportioned among and allocated to the committed Tracts within the Unit Area in accordance with the Tract Participation effective hereunder, as such Tract Participation is shown in Exhibit "B" or any revision thereof. The amount of Unitized Substances so allocated to each Tract, and only that amount (regardless of whether it be more or less than the amount of the actual production of Unitized Substances from the well or wells, if any, on such Tract), shall, for all intents, uses and purposes, be deemed to have been produced from such Tract.

The Unitized Substances allocated to each Tract shall be distributed among or accounted for to the parties hereto entitled to share in the production from such Tract in the same manner, in the same proportions, and upon the same conditions, as they would have participated and shared in the production from such Tract, or in the proceeds thereof, had this Agreement not been entered into, and with the same legal force and effect.

No Tract committed to this Agreement and qualified for participation as heretofore provided shall be subsequently excluded from participation hereunder on account of depletion of Unitized Substances from such Tract and nothing herein contained shall be construed as requiring any retroactive adjustment for production obtained prior to the Effective Date of the joinder of any Tract.

If the Working Interest or the Royalty Interest in any Tract is, on or after the Effective Date hereof, divided with respect to separate parcels or portions of such Tract and owned severally by different persons, the Tract Participations assigned to such Tract shall, in the absence of a recordable instrument executed by all owners and furnished to Unit Operator fixing the divisions of ownership, be divided among such parcels or portions in proportion to the number of surface acres in each.

SECTION 15B. TAKING UNITIZED SUBSTANCES IN KIND. The Unitized Substances allocated to each Tract shall be delivered in kind to the respective Working Interest Owners and parties entitled thereto by virtue of the ownership of oil and gas rights therein or by purchase from such owners. Each Working Interest Owner and the parties entitled thereto shall have the continuing right to receive such production in kind at a common point within the Unit Area and to sell or dispose of the same as it sees fit. Each such party shall have the right to construct, maintain and operate all necessary facilities for that purpose on the Unit Area, provided the same are so constructed, maintained and operated as not to interfere with operations carried on pursuant hereto or with operations upon or with regard to formations other than the Unitized Formation conducted within the Unit Area. Subject to Section 16A (Royalty Settlement) hereof, any extra expenditure incurred by Unit Operator by reason of the delivery in kind of any portion of the Unitized Substances shall be borne by the party receiving the same in kind.

In the event any party hereto shall fail to take or otherwise adequately dispose of its proportionate share of the production from the Unit Area currently as and when produced, then so long as such conditions continue, the Unit Operator, for the account and the expense of such party and in order to avoid curtailing the operation of the Unit Area, may sell or otherwise dispose of such production for itself or others on a day-to-day basis at not less than the prevailing market price in the area for like production, and the account of such party shall be charged therewith as having received such production. All contracts of sale by Unit Operator of any other party's share of Unitized Substances shall be only for such reasonable periods of time as are consistent with the minimum needs of the industry under the circumstances, but in no event shall any such contract be for a period in excess of one year. The net proceeds, if any, of the Unitized Substances so disposed of by Unit Operator shall be paid to the party entitled thereto. Notwithstanding the foregoing, Unit Operator shall not make a sale into interstate commerce of any other party's share of gas production without first giving such other party thirty (30) days' notice of such intended sale.

Any party receiving in kind or separately disposing of all or any part of the Unitized Substances allocated to any Tract or receiving the proceeds therefrom shall be responsible for making payment of all royalty to the parties entitled thereto, and shall indemnify all parties hereto, including the Unit Operator, against any liability for all royalties, overriding royalties, production payments, and all other payments chargeable against or payable out of such Unitized Substances or the proceeds therefrom.

SECTION 16A. ROYALTY SETTLEMENT. The State of New Mexico, the United States of America and all Royalty Owners who, under existing contracts, are entitled to take in kind a share of the substances produced from any Tract unitized hereunder, shall hereafter be entitled to take in kind their share of the Unitized Substances allocated to such Tract, and Unit Operator shall make deliveries of such Royalty share taken in kind in conformity with the applicable contracts, laws and regulations. Settlement for Royalty Interests not taken in kind shall be made by Working Interest Owners responsible therefor under existing contracts, laws and regulations, on or before the last day of each month for Unitized Substances produced during the preceding calendar month; provided, however, that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for the payment of any Royalty due under their leases, except that such Royalty shall be computed in accordance with the terms of this Agreement.

If the amount of production or the proceeds hereof accruing to any Royalty Owner (except the United States of America) in a Tract depends upon the average production per well or the average pipeline run per well from such Tract during any period of time, then such production shall be determined from and after the Effective Date hereof by dividing the quantity of Unitized Substances allocated hereunder to such Tract during such period of time by the number of wells located thereon capable of producing as of the Effective Date hereof.

All Royalty due the State of New Mexico, the United States of America and the other Royalty Owners hereunder shall be computed and paid on the basis of all Unitized Substances allocated to the respective Tract or Tracts committed hereto, in lieu of actual production from such Tract or Tracts.

Each Royalty Owner (other than the State of New Mexico and the United States of America) that ratifies this Agreement represents and warrants that it is the owner of a Royalty Interest in a Tract or Tracts within the Unit Area and its interest appears in Exhibit "B" attached hereto. If any Royalty Interest in a Tract or Tracts should be lost by title failure or otherwise in whole or in part, during the term of this Agreement, then the Royalty Interest of the Party representing itself to be the owner thereof shall be reduced proportionately and the interest of all Parties shall be adjusted accordingly.

SECTION 16B. OUTSIDE SUBSTANCES. If gas obtained from lands not subject to this Agreement is introduced into the Unitized Formation for use in pressure maintenance, stimulation of production, or increasing ultimate recovery, which shall be in conformity with a plan first approved by the Division, the Commissioner and the Authorized Officer, a like amount of gas, less appropriate deductions for loss from any cause, may be withdrawn from the formation into which the gas was introduced, royalty free as to dry gas, but not royalty free as to the products extracted therefrom; provided that such withdrawal shall be pursuant to such conditions and formula as may be prescribed or approved by the Division, the Commissioner and the Authorized Officer; provided further, that such right of withdrawal shall terminate on the termination of this Agreement. If liquefied petroleum gases obtained from lands or formations not subject to this Agreement are injected into the Unitized Formation for the purpose of increasing ultimate recovery, which shall be in conformance with a plan first approved by the Division, the Commissioner and the Authorized Officer, part or all of such liquefied petroleum gases may be withdrawn royalty free pursuant to such conditions and formula as may be prescribed or approved by the Division, the Commissioner and the Authorized Officer.

SECTION 17. RENTAL SETTLEMENT. Rentals or minimum royalties due on leases committed hereto shall be paid by Working Interest Owners responsible therefor under existing contracts, laws and regulations, provided that nothing herein contained shall operate to relieve the lessees of any land from their respective lease obligations for payment of any rental or minimum royalty in lieu thereof due under their leases. Rental for lands of the State of New Mexico subject to this Agreement shall be paid at the rate specified in the respective leases from the State of New Mexico, or may be reduced or suspended under order of the Commissioner pursuant to applicable laws and regulations. Rental or minimum royalty for lands of the United States of America subject to this Agreement shall be paid at the rate specified in the respective leases from the United States of America, unless rental or minimum royalty is waived, suspended, or reduced by law or by approval of the Secretary or his duly authorized representative.

SECTION 18. CONSERVATION. Operations hereunder and production of Unitized Substances shall be conducted to provide for the most economical and efficient recovery of said substances without waste, as defined by or pursuant to Federal and State laws and regulations.

SECTION 19. DRAINAGE. The Unit Operator shall take appropriate and adequate measures to prevent drainage of Unitized Substances from Unitized Land by wells on land not subject to this Agreement, or, with consent of the Commissioner and/or the Authorized Officer and pursuant to applicable regulations, pay a fair and reasonable compensatory royalty as determined by the Commissioner and/or the Authorized Officer, as the case may be.

SECTION 20. LEASES AND CONTRACTS CONFORMED AND EXTENDED. The terms, conditions and provisions of all leases, subleases and other contracts relating to exploration, drilling, development or operation for oil or gas on lands committed to this Agreement are hereby expressly modified and amended to the extent necessary to make the same conform to the provisions hereof, but otherwise to remain in full force and effect, and the parties hereto hereby consent that the Secretary and the Commissioner, respectively, shall by their approval hereof

or by the approval hereof by their duly authorized representatives, does hereby establish, alter, change or revoke the drilling, producing, rental, minimum royalty and royalty requirements of Federal and State leases committed hereto and the regulations in respect thereto to conform said requirements to the provisions of this Agreement. Without limiting the generality of the foregoing, all leases, subleases and contracts are particularly modified in accordance with the following:

(a) The development and operation of lands subject to this Agreement under the terms hereof shall be deemed full performance of all obligations for development and operation with respect to each and every part or separately owned Tract subject to this Agreement, regardless of whether there is any development of any particular part or Tract of the Unit Area, notwithstanding anything to the contrary in the lease, operating agreement or other contract by and between the parties hereto, or their respective predecessors in interest, or any of them.

(b) Drilling, producing, secondary recovery or enhanced oil operations performed hereunder upon any Tract of Unitized Lands shall be accepted and deemed to be performed upon and for the benefit of each and every Tract of Unitized Land, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on land therein embraced.

(c) Suspension of drilling or producing operations on all Unitized Land pursuant to direction or consent of the Division and Commissioner or their duly authorized representatives, shall be deemed to constitute such suspension pursuant to such direction or consent as to each and every Tract of Unitized Lands.

(d) Each lease, sublease, or contract relating to the exploration, drilling, development or operation for oil and gas which by its terms might expire prior to the termination of this Agreement, is hereby extended beyond any such term so provided therein, so that it shall be continued in full force and effect for and during the terms of this Agreement.

(e) Termination of this Agreement shall not affect any lease which pursuant to the terms thereof or any applicable laws shall continue in force and effect thereafter.

(f) Any lease which is made subject to this Agreement shall continue in force beyond the term provided therein as to the lands committed hereto as long as such lands remain subject hereto.

(g) Any lease embracing lands of the State of New Mexico having only a portion of its land committed hereto, shall be segregated as to that portion committed and that not committed, and the terms of such lease shall apply separately to such segregated portions commencing as of the Effective Date hereof. Notwithstanding any of the provisions of this Agreement to the contrary, any lease embracing lands of the State of New Mexico having only a portion of its lands committed hereto shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease (whether within or without the Unit Area), (i) if, and for so long as oil or gas is, or has heretofore been discovered in Paying Quantities on some part of the lands embraced in such lease committed to this Agreement or, (ii) if, and for so long as a portion of the Unitized Substances produced from the Unit Area is, under the terms of this Agreement, allocated to the portion of the lands covered by such lease committed to this Agreement, or (iii) at any time during the term hereof, as to any lease that is then valid and subsisting and upon which the lessee or the Unit Operator is then engaged in bona fide drilling, reworking, or secondary and/or enhanced recovery operations on any part of the lands embraced in such lease, then the same as to all lands embraced therein shall remain in full force and effect for so long as such operations are diligently prosecuted, and if they result in the production of oil or gas, said lease shall continue in full force and effect as to all of the lands embraced therein, so long thereafter as oil or gas in Paying Quantities is being produced from any portion of said lands, as provided in (i) and (ii) above.

(h) The segregation of any Federal lease committed to this Agreement is governed by the following provision in the fourth paragraph of Section 17(j) of the Mineral Leasing Act, as amended by the Act of September 2, 1960 (74 Stat. 781-784).

Any [Federal] lease heretofore or hereafter committed to any such [unit] plan embracing lands that are in part within and in part outside of the area covered by any such plan shall be segregated into separate leases as to the lands committed and the lands not committed as of the effective date of unitization; Provided, however, that any such lease as to the non-unitized portion shall continue in force and effect for the term thereof but for not less than two years from the date of such segregation and so long thereafter as oil or gas is produced in paying quantities.

SECTION 21. CORRECTION OF ERRORS. It is hereby agreed by all Parties to this Agreement that the Unit Operator is empowered to correct any mathematical or clerical error which might exist in the pertinent exhibits to this Agreement subject to approval by the Commissioner and the Authorized Officer.

SECTION 22. COVENANTS RUN WITH LAND/ASSIGNMENTS AND TRANSFERS. The covenants herein shall be construed to be covenants running with the land with respect to the interests of the parties hereto and their successors in interest until this Agreement terminates, and any grant, transfer or conveyance of interest in land or leases subject hereto shall be and hereby is conditioned upon the assumption of all privileges and obligations hereunder by the grantee, transferee, or other successor in interest. Subject to Article 11.3.1 of the Unit Operating Agreement, no assignment or transfer of any Working Interest subject hereto shall be binding upon Unit Operator until the first day of the calendar month after Unit Operator is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument of transfer; and no assignment or transfer or any Royalty Interest subject hereto shall be binding upon the Working Interest Owner responsible therefor until the first day of the calendar month after said Working Interest Owner is furnished with the original, or acceptable photostatic or certified copy, of the recorded instrument of transfer.

SECTION 23. EFFECTIVE DATE AND TERM. This Agreement shall become binding upon each party who executes or ratifies it as of the date of execution or ratification by such party and shall become effective on the first day of the calendar month next following the approval of this Agreement by the Commissioner, the Authorized Officer and the Division.

If this Agreement does not become effective on or before June 1, 1990, it shall ipso facto expire on said date (hereinafter called "expiration date") and thereafter be of no further force or effect, unless prior thereto this Agreement has been executed or ratified by Working Interest Owners owning a combined Participation of at least sixty percent (60%); and at least fifty percent (50%) of such Working Interest Owners committed to this Agreement have decided to extend said expiration date for a period not to exceed one (1) year (hereinafter called "extended expiration date"). If said expiration date is so extended and this Agreement does not become effective on or before said extended expiration date, it shall ipso facto expire on said extended expiration date and thereafter be of no further force and effect.

The Unit Operator shall file for record within thirty (30) days after the Effective Date of this Agreement, in the offices of the County Clerk where a memorandum of this Agreement is recorded, a certificate to the effect that this Agreement has become effective according to its terms and stating further the Effective Date.

The term of this Agreement shall be for and during the time that Unitized Substances are produced in paying quantities from the Unit Area and as long thereafter as diligent drilling, reworking or other operations (including secondary and/or enhanced recovery operations) are prosecuted thereon without cessation of more than ninety (90) consecutive days, and as long thereafter as Unitized Substances are produced as aforesaid, unless sooner terminated by Working Interest Owners in the manner hereinafter provided.

This Agreement may be terminated at any time with the approval of the Commissioner and the Director by a unanimous vote of the Working Interest Owners, as determined from Exhibit "B" whenever such Working Interest Owners determine that Unit operations are no longer profitable, feasible or in the interest of conservation. Notice of such termination shall be given by Unit Operator to all parties hereto.

Upon termination of this Agreement, the further development and operation of the Unit Area as a Unit shall be abandoned, Unit Operations shall cease, and thereafter the parties hereto shall be governed by the terms and provisions of the leases and contracts affecting the separate tracts just as if this Agreement had never been entered into.

The Unit Operator shall, within thirty (30) days after the termination date of this Agreement, file for record in the offices where a memorandum of this Agreement is recorded, a certificate to the effect that this Agreement has terminated according to its terms and stating further the termination date.

If not otherwise covered by the leases unitized under this Agreement, Royalty Owners hereby grant Working Interest Owners a period of six (6) months after termination of this Agreement in which to salvage, sell, distribute or otherwise dispose of the personal property and facilities used in connection with Unit Operations.

SECTION 24. RATE OF PROSPECTING, DEVELOPMENT AND PRODUCTION. All production and the disposal thereof shall be in conformity with allocations and quotas made or fixed by any duly authorized person or regulatory body under any Federal or State statute. The Director is hereby vested with authority to alter or modify from time to time, at his discretion, the rate of prospecting and development and within the limits made or fixed by the Division to alter or modify the quantity and rate of production under this Agreement, such authority being hereby limited to alteration or modification in the public interest, the purpose thereof and the public interest to be served thereby to be stated in the order of alteration or modification; provided further, that no such alteration or modification shall be effective as to any lands of the State of New Mexico as to the rate of prospecting and development in the absence of the specific written approval thereof by the Commissioner and as to any lands of the State of New Mexico or privately owned Lands subject to this Agreement as to the quantity and rate of production in the absence of specific written approval thereof by the Division.

Powers in this Section vested in the Director and the Commissioner shall only be exercised after notice to Unit Operator and opportunity of rehearing to be held not less than thirty (30) days from notice, and thereafter subject to administrative appeal before becoming final.

SECTION 25. NONDISCRIMINATION. In connection with the performance of work under this Agreement, the Unit Operator agrees to comply with all of the provisions of Section 202(1) to (7), inclusive, of Executive Order 11256 (30 F.R. 12319), which are hereby incorporated by reference in this Agreement.

SECTION 26. APPEARANCES. Unit Operator shall have the right to appear for or on behalf of any and all interests affected hereby before the Commissioner, the Department and the Division, and to appeal from any order issued under the rules and regulations of the Commissioner, the Department, or the Division or to apply for relief from any of said rules and regulations or in any proceedings relative to operations before the Commissioner, the Department, or the Division, or any other legally constituted authority; provided, however, that any other interested party shall also have the right at its own expense to be heard in any such proceedings.

SECTION 27. NOTICES. All notices, demands, objections or statements required hereunder to be given or rendered to the parties hereto shall be deemed fully given if made in writing and verifiably hand-delivered to the party or parties or sent by postpaid certified mail ("return receipt requested") addressed to such party or parties at their respective addresses set forth in connection with the signatures hereto or to the ratification or consent hereof or to such other address as any such party or parties may have furnished in writing to the party sending the notice, demand or statement.

SECTION 28. NO WAIVER OF CERTAIN RIGHTS. Nothing in this Agreement contained shall be construed as a waiver by any party hereto of the right to assert any legal or constitutional right or defense as to the validity or invalidity of any Federal or State law or rule or regulation issued thereunder in any way affecting such party, or as a waiver by any such party of any right beyond his or its authority to waive; provided, however, that each party hereto covenants that during the existence of this Agreement such party will not resort to any action at law or in equity to partition the Unit Area or the facilities used in the development or operation hereof and to that extent waives the benefits of all laws authorizing such partition.

SECTION 29. UNAVOIDABLE DELAY. All obligations under this Agreement requiring the Unit Operator to commence or continue secondary and/or enhanced recovery operations or to operate on or produce Unitized Substances from any of the lands covered by this Agreement shall be suspended while, but only so long as, the Unit Operator despite the exercise of due care and diligence is prevented from complying with such obligations, in whole or in part, by strikes, acts of God, Federal, State or Municipal law or agency, unavoidable accident, uncontrollable delays in transportation, inability to obtain necessary materials in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to matters herein enumerated or not.

SECTION 30. LOSS OF TITLE. In the event any Tract ceases to have sufficient Working Interest Owners or Royalty Owners committed to this Agreement to meet the conditions of Section 14 (Tracts Qualified for Unit Participation) because of failure of title of any party hereto, such Tract shall be automatically regarded as not committed to this Agreement effective as of 7:00 A.M. on the first day of the calendar month in which the failure of title is finally determined; provided, however, that such Tract shall not be so regarded if said Tract can be requalified for admission under Section 14 within ninety (90) days after the date on which such title failure was finally determined.

If any such Tract cannot be so requalified, Unit Operator shall revise the schedule previously filed with the Commissioner setting forth the Tracts committed hereto, and Unit Operator shall revise Exhibit "B" to show the tracts in the Unit Area that remain committed hereto and the Tract Participation of each of said Tracts, which revised Tract Participation shall be calculated and determined on the basis that the Tract Participation of each of said Tracts shall remain in the same ratio one to the other. Copies of the revised schedule and exhibit shall be filed with the Commissioner and the Authorized Officer and same shall be effective as of 7:00 A.M. on the first day of the calendar month in which such failure of title is finally determined.

If title to a Working Interest fails, the rights and obligations of Working Interest Owners by reason of such failure shall be governed by the Unit Operating Agreement. If title to a Royalty Interest fails, but the Tract to which it relates remains committed to this Agreement, the party whose title failed shall not be entitled to participate hereunder insofar as its participation is based on such lost Royalty Interest.

In the event of a dispute as to the title to any Working Interest or Royalty Interest subject hereto, payment or delivery on account thereof may be withheld without liability or interest until the dispute is finally settled; provided, that as to State or Federal land or leases, no payments of funds due the State of New Mexico or the United States of America shall be withheld, but such funds shall be deposited as directed by the Commissioner or the Authorized Officer (as the case may be), to be held as unearned money pending final settlement of title dispute, and then applied as earned or returned in accordance with such final settlement.

Unit Operator, as such, is relieved from any responsibility for any defect or failure of any title hereunder.

SECTION 31. NONJOINER AND SUBSEQUENT JOINER. As the objective of this Agreement is to have lands in the Unit Area operated and entitled to participation under the terms hereof, it is agreed that, notwithstanding anything else herein, no joinder shall be considered a commitment to this Agreement unless the Tract involved is qualified under Section 14 (Tracts Qualified for Unit Participation) hereof. Joinder in this Agreement by a Working Interest Owner, at any time, must be accompanied by appropriate joinder to the Unit Operating Agreement in order for the interest to be regarded as effectively committed to this Agreement. Joinder by any owner of a Royalty Interest, at any time, must be accompanied by an appropriate joinder or written consent by the owner of the corresponding Working Interest in order for the Royalty Interest to be regarded as committed hereto.

Any oil or gas interest in the Unitized Formation in lands within the Unit Area not committed hereto prior to final approval of this Agreement by the Commissioner and the Director may thereafter be committed hereto upon compliance with the applicable provisions of Section 14 (Tracts Qualified for Unit Participation) hereof, at any time up to the Effective Date hereof and for a period to and including two (2) months thereafter, on the same basis of participation as provided for in Section 13 (Tract Participation), and as set forth in Exhibit "B", by the owner or owners thereof subscribing or consenting in writing to this Agreement and, if the interest is a Working Interest, the owner of such interest subscribing also to the Unit Operating Agreement.

It is understood and agreed, however, that after two (2) months from the Effective Date hereof, the right of subsequent joinder as provided in this Section shall be subject to such requirements or approvals and on such basis as may be agreed upon by two (2) or more Working Interests Owners having a combined Unit Participation of not less than sixty percent (60%), provided that the Tract Participation of each previously committed Tract shall remain in the same ratio one to the other.

Except as may be otherwise herein provided, subsequent joinders shall be effective at 7:00 A.M. on the first day of the month following the filing with the Commissioner and the Authorized Officer, of duly executed documents necessary to establish effective commitment unless reasonable objection to such joinder by the Commissioner or the Director duly made within thirty (30) days after such filing. Notwithstanding any of the provisions to the contrary, all commitments of State of New Mexico land must be approved by the Commissioner.

SECTION 32. COUNTERPARTS/JOINDER COMMITMENT. This Agreement may be executed in any number of counterparts, no one of which needs to be executed by all parties and may be ratified or consented to by separate instrument in writing specifically referring hereto, and shall be binding upon all those parties who have executed such a counterpart, ratification, or consent hereto with the same force and effect as if all parties had signed the same document, and regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands within the above described Unit Area.

Execution as herein provided by any party either as a Working Interest Owner or as a Royalty Owner shall commit all interests that may be owned or controlled by such party.

SECTION 33. TAXES. Each party hereto shall, for its own account, render and pay its share of any taxes levied against or measured by the amount or value of the Unitized Substances produced from the unitized land; provided, however, that if it is required or if it be determined that the Unit Operator or the several Working Interest Owners must pay or advance said taxes for the account of the parties hereto, it is hereby expressly agreed that the parties so paying or advancing said taxes shall be reimbursed therefor by the parties hereto, including Royalty Owners, who may be responsible for taxes on their respective allocated share of said Unitized Substances. No such taxes shall be charged to the United States of America or the State of New Mexico, or to any lessor who has a contract with a lessee which requires his lessee to pay such taxes.

SECTION 34. NO PARTNERSHIP. The duties, obligations and liabilities of the parties hereto are intended to be several and not joint or collective. This Agreement is not intended to create, and shall not be construed to create, an association or trust, or to impose a partnership duty, obligation or liability with regard to any one or more of the parties hereto. Each party hereto shall be individually responsible for its own obligations as herein provided.

SECTION 35. PRODUCTION AS OF THE EFFECTIVE DATE. Unit Operator shall make a properly and timely gauge of all lease and other tanks within the Unit Area pertaining to the formation to be unitized in order to ascertain the amount of merchantable oil above the pipeline connection in such tanks as of 7:00 A.M. on the Effective Date hereof. All such oil which has then been produced legally shall be and remain the property of the Working Interest Owner and Royalty Owner entitled thereto, the same as if the Unit had not been formed; and such parties shall promptly remove said oil from the Unit Area. Any such oil not so removed shall be sold by the Unit Operator for the account of such parties. The oil that is in excess of the prior allowable of the wells from which it was produced shall be deemed to be Unitized Substances produced after the Effective Date hereof.

If on the Effective Date hereof any Tract is overproduced with respect to the allowable of the wells on that Tract and the amount of overproduction has been sold or otherwise disposed of, such overproduction shall be deemed to be a part of the Unitized Substances produced after the Effective Date hereof and shall be charged to such Tract as having been delivered to the Parties entitled to Unitized Substances allocated to such Tract.

SECTION 36. BORDER AGREEMENTS. The Unit Operator, upon approval by the Working Interest Owners, and the Commissioner and Division, is hereby empowered to enter into a borderline agreement or agreements with Working Interest Owners of adjoining lands not subject to this Agreement with respect to operation in the border area for the maximum economic recovery, conservation purposes and proper protection of the parties and interests affected.

SECTION 37. PERSONAL PROPERTY EXCEPTED. Each Working Interest Owner has heretofore placed and used on its Tract or Tracts committed to this Agreement various well and lease equipment and other property, equipment or facilities. It is also recognized that additional equipment and facilities may hereafter be placed and used upon the Unitized Land as now or hereafter constituted. Therefore, for all purposes of this Agreement, any such equipment shall be considered to be personal property and not fixtures attached to realty. Accordingly, said well and lease equipment and personal property is hereby severed from the mineral estates affected by this Agreement, and the rights and interests therein as among Working Interest Owners are covered by the Unit Operating Agreement.

EXECUTED this _____ day of June, 1989, but effective for all purposes the 15th day of June, 1989.

"UNIT OPERATOR" AND "WORKING INTEREST OWNER"

ATTEST:

MURPHY OPERATING CORPORATION
Post Office Box 2648
Roswell, New Mexico 88202-2648

Nadine Reed, Secretary

Ann Murphy Ezzell, Chairman and
Chief Executive Officer

"NON-OPERATORS"

ATTEST:

AMERICAN ENERGY CAPITAL CORPORATION
1111 Fannin, Suite 1470
Houston, Texas 77002

John E. Funk, Secretary

Marcus C. Rowland, C.E.O.

ATTEST:

SNYDER OIL COMPANY
801 Cherry Street
Fort Worth, Texas 76102

, Secretary

Rodney L. Waller, Senior Vice President

ATTEST:

P.A.J.W. CORPORATION
Suite 953, Watergate 600
600 New Hampshire Avenue, N.W.
Washington, District of Columbia 20037

John H. Slayton, Secretary

Marc E. Leland, President

STATE OF NEW MEXICO)
)
COUNTY OF CHAVES)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by Ann Murphy Ezzell, Chairman and Chief Executive Officer of MURPHY OPERATING CORPORATION, a New Mexico corporation, on behalf of said corporation.

My commission expires:

May 6, 1991

Debi Rodgers, Notary Public

STATE OF TEXAS)
)
COUNTY OF HARRIS)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by Marcus C. Rowland, C.E.O. of AMERICAN ENERGY CAPITAL CORPORATION, a Texas corporation, on behalf of said corporation.

My commission expires:

, Notary Public

STATE OF TEXAS)
)
COUNTY OF TARRANT)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by RODNEY L. WALLER, Senior Vice President of SNYDER OIL COMPANY, a Texas corporation, on behalf of said corporation.

My commission expires:

, Notary Public

DISTRICT OF COLUMBIA)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by MARC E. LELAND, President of P.A.J.W. CORPORATION, a Delaware corporation, on behalf of said corporation.

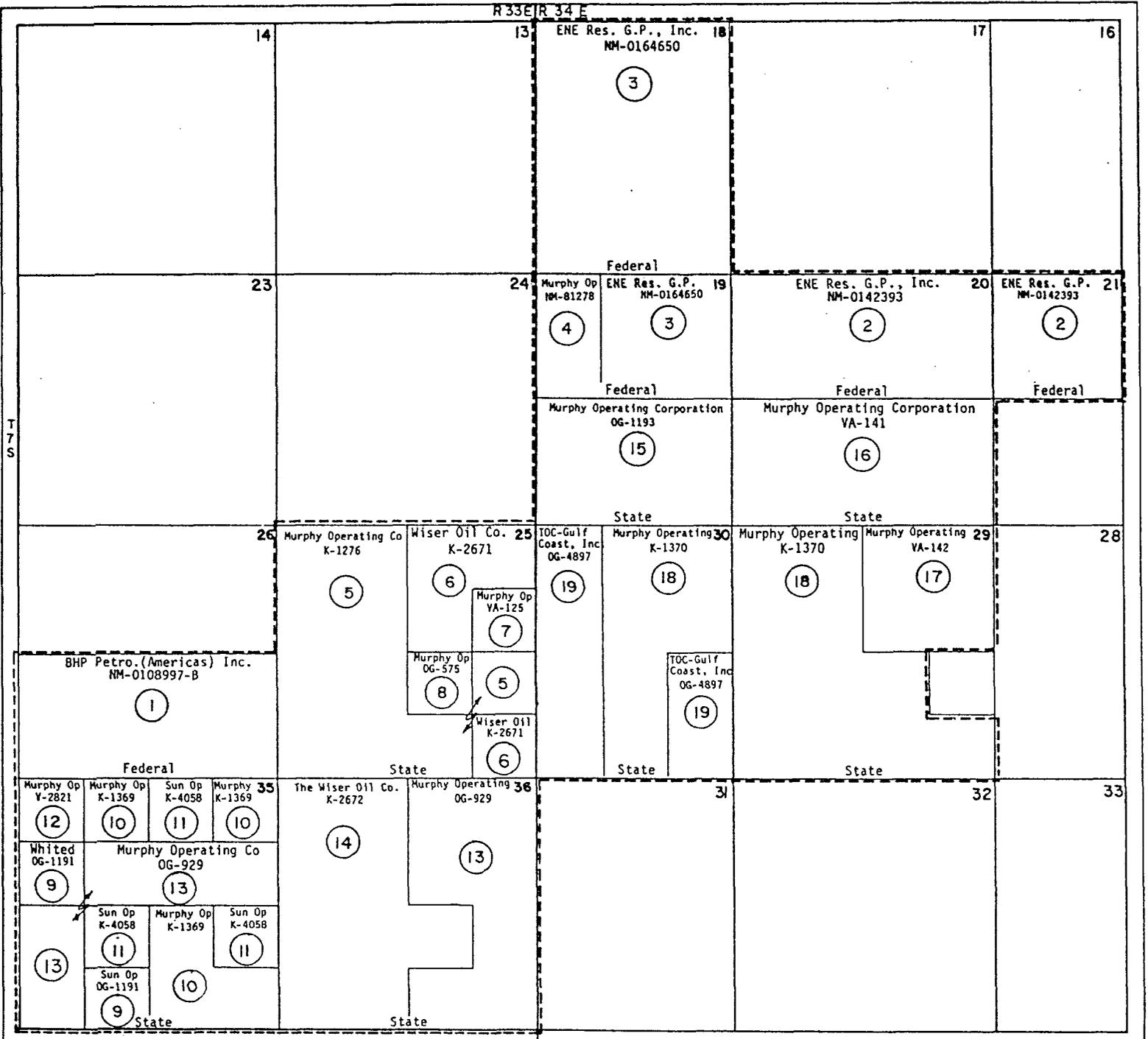
My commission expires:

, Notary Public

EXHIBIT "A"

ATTACHED TO THAT CERTAIN UNIT AGREEMENT, JENNIFER CHAVEROO
 SAN ANDRES UNIT, COUNTY OF ROOSEVELT, STATE OF NEW MEXICO,
 DATED JUNE 15, 1939.

JENNIFER CHAVEROO SAN ANDRES UNIT ROOSEVELT COUNTY, NEW MEXICO



- TRACT NUMBER
 - UNIT OUTLINE
 - STATE LANDS
- 5,147.00 ACRES
 100% UNIT AREA

EXHIBIT "B" TO UNIT AGREEMENT
JENNIFER CHAVERO SAN ANDRES UNIT
COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty		San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
					Owner or Production Payment Interest (PPI)	Percent Ownership			
1.	Federal "26" T-7-S, R-33-E	NM-0108997-B 09/01/60	BHP Petroleum (Americas), Inc.	United States	Amoco Production Co.	1.00000	Murphy Operating Corporation	12.50000	1.309590
	12.5			M. McDonnold, Jr. William F. Pipes Westway Petro Southwest Royalties, Inc.	0.75000 0.75000 2.50000	American Energy Capital Corp. Snyder Oil Company	31.25000 56.25000 100.00000	3.273973 5.893152 10.476715	
2.	Homme Federal T-7-S, R-34-E	NM-0142393 06/01/61	ENE Resources GP, Inc.	United States	Jean A. Cornell, et al.	1.50000	Murphy Operating Corporation	12.50000	0.369763
	12.5			Barbara B. Sweeney Santa Fe Andover Oil Co.	1.00000 2.50000	American Energy Capital Corp. Snyder Oil Company	31.25000 56.25000 100.00000	0.924408 1.663934 2.958105	
3.	Wolf Federal T-7-S, R-34-E	NM-0164650 08/01/61	ENE Resources GP, Inc.	United States	Mark Daniel Wolf	5.00000	Murphy Operating Corporation	12.50000	0.531294
	12.5					American Energy Capital Corp. Snyder Oil Company	31.25000 56.25000 100.00000	1.328234 2.390821 4.250349	
4.	Federal "19" T-7-S, R-34-E	NM-81278 04/01/89	Murphy Operating Corporation	United States	None	--	Murphy Operating Corporation	12.50000	0.058478
	12.5					American Energy Capital Corp. Snyder Oil Company	31.25000 56.25000 100.00000	0.146195 0.263151 0.467824	
5.	State DB, State DF T-7-S, R-33-E	K-1276 03/21/61	Murphy Operating Corporation	State of N.M.	None	--	Murphy Operating Corporation	12.50000	1.751963
	12.5					American Energy Capital Corp. Snyder Oil Company	31.25000 56.25000 100.00000	4.379908 7.883834 14.015705	

SECTION 37. PERSONAL PROPERTY EXCEPTED. Each Working Interest Owner has heretofore placed and used on its Tract or Tracts committed to this Agreement various well and lease equipment and other property, equipment or facilities. It is also recognized that additional equipment and facilities may hereafter be placed and used upon the Unitized Land as now or hereafter constituted. Therefore, for all purposes of this Agreement, any such equipment shall be considered to be personal property and not fixtures attached to realty. Accordingly, said well and lease equipment and personal property is hereby severed from the mineral estates affected by this Agreement, and the rights and interests therein as among Working Interest Owners are covered by the Unit Operating Agreement.

EXECUTED this _____ day of June, 1989, but effective for all purposes the 15th day of June, 1989.

"UNIT OPERATOR" AND "WORKING INTEREST OWNER"

ATTEST: MURPHY OPERATING CORPORATION
Post Office Box 2648
Roswell, New Mexico 88202-2648

Nadine Reed, Secretary

Ann Murphy Ezzell, Chairman and
Chief Executive Officer

"NON-OPERATORS"

ATTEST: AMERICAN ENERGY CAPITAL CORPORATION
1111 Fannin, Suite 1470
Houston, Texas 77002

John E. Funk, Secretary

Marcus C. Rowland, C.E.O.

ATTEST: SNYDER OIL COMPANY
801 Cherry Street
Fort Worth, Texas 76102

_____, Secretary

Rodney L. Waller, Senior Vice President

ATTEST: P.A.J.W. CORPORATION
Suite 953, Watergate 600
600 New Hampshire Avenue, N.W.
Washington, District of Columbia 20037

John H. Slayton, Secretary

Marc E. Leland, President

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	W.I.	
								Percent Ownership	Percent Unit Participation
6.	State "J" T-7-S, R-33-E Sec. 25: NW¼NE¼, SW¼NE¼, SE¼SE¼ 160.00 acres Roosevelt County, N.M.	K-2671 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.496050 1.240127 2.232228 3.968405
7.	State Conine T-7-S, R-33-E Sec. 25: SE¼NE¼ 40.00 acres Roosevelt County, N.M.	VA-125 10/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.084971 0.212426 0.382367 0.679764
8.	State "I" T-7-S, R-33-E Sec. 25: NW¼SE¼ 40.00 acres Roosevelt County, N.M.	OG-575 02/11/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.138318 0.622432 0.345793 1.106543
9.	State "DA" & "DE" T-7-S, R-33-E Sec. 35: SW¼NW¼, SE¼SW¼ 80.00 acres Roosevelt County, N.M.	OG-1191 08/16/57	(SE¼SW¼): Sun Operating Ltd. Partnership (SW¼NW¼): Charles Whited and Doris Whited	State of N.M. 12.5	(SE¼SW¼): Helen Hebbin Clemens A. Werner Murphy Operating Corp. (SW¼NW¼): Howard W. Luke Murphy Operating Corp.	4.00000 1.00000 0.78125 5.00000 0.78125	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.265938 1.196719 0.664844 2.127501
10.	Hobbs "T" T-7-S, R-33-E Sec. 35: NE¼NE¼, NE¼NW¼, W¼SE¼, SE¼SE¼ 200.00 acres Roosevelt County, N.M.	K-1369 04/18/61	Murphy Operating Corporation	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	1.277089 5.746902 3.192723 10.216714
11.	State "CV" T-7-S, R-33-E Sec. 35: NW¼NE¼, NE¼SW¼, NE¼SE¼ 120.00 acres	K-4058 04/21/64	Sun Operating Ltd. Partnership	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.995136 4.478113 2.487841 7.961090

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	W.I.	
								Percent Ownership	Percent Unit Participation
12.	Shackelford T-7-S, R-33-E Sec. 35: NW $\frac{1}{4}$ NW $\frac{1}{4}$ 40.00 acres Roosevelt County, N.M.	V-2821 01/01/89	Murphy Operating Corporation	State of N.M. 16.3334	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.195949 0.489874 0.881773 1.567596
13.	State "35" & "36" T-7-S, R-33-E Sec. 35: W $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, S $\frac{1}{2}$ NE $\frac{1}{4}$ Sec. 36: NE $\frac{1}{4}$, NE $\frac{1}{2}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$ 480.00 acres Roosevelt County, N.M.	0G-929 06/18/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.015953 2.539883 4.571789 8.127625
14.	State "K" T-7-S, R-33-E Sec. 36: W $\frac{1}{2}$, NW $\frac{1}{2}$ SE $\frac{1}{4}$ 360.00 acres Roosevelt County, N.M.	K-2672 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.231573 3.078933 5.542079 9.852585
15.	State "G" T-7-S, R-34-E Sec. 19: Lots 3 & 4, SE $\frac{1}{4}$ 251.59 acres Roosevelt County, N.M.	0G-1193 08/20/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.597946 2.690757 1.494865 4.783568
16.	State "20" T-7-S, R-34-E Sec. 20: S $\frac{1}{2}$ 320.0 acres Roosevelt County, N.M.	VA-141 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.514392 1.285982 2.314767 4.115141
17.	State "20" T-7-S, R-34-E Sec. 29: NE $\frac{1}{4}$ 160.00 acres Roosevelt County, N.M.	VA-142 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.019429 0.048572 0.087429 0.155430

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage		Overriding Royalty		W.I.		
				State of N.M.	& Percentage	Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	Percent Ownership	Percent Unit Participation
18.	Hobbs "W" T-7-S, R-34-E Section 29: W $\frac{1}{2}$, W $\frac{1}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 30: NE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ 680.00 acres Roosevelt County, N.M.	K-1370 04/18/61	Murphy Operating Corporation	Murphy Operating Corporation	12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 <u>100.00000</u>	1.233654 5.551441 3.084134 <u>9.869229</u>
19.	State "V" T-7-S, R-34-E Sec. 30: Lots 1-4, E $\frac{1}{2}$ SE $\frac{1}{4}$ 265.48 acres Roosevelt County, N.M.	OG-4897 12/16/58	TOC-Gulf Coast, Inc.	Southwest Royalties Inc. Ralph Dreyer, Trustee Cherilyn Priddy Loving	3.75000 2.50000 1.25000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 <u>100.00000</u>	0.412514 1.031285 1.856312 <u>3.300111</u>		

STATE ACREAGE: 3,597.07 = 69.89% OF UNIT AREA
 FEDERAL ACREAGE: 1,549.93 = 30.11% OF UNIT AREA
 TOTAL ACREAGE: 5,147.00 100.00%

UNIT OPERATING AGREEMENT
JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT
STATE OF NEW MEXICO

UNIT OPERATING AGREEMENT
 JENNIFER CHAVEROO SAN ANDRES UNIT
 COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

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Exhibit "C" (Schedule of Unit Participation)
Exhibit "D" (Accounting Procedure)
Exhibit "E" (Insurance Provisions)
Exhibit "F" (Sample Form, Memorandum of Unit Operating Agreement)

UNIT OPERATING AGREEMENT
JENNIFER CHAVEROO SAN ANDRES UNIT
COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

THIS AGREEMENT, entered into as of the 15th day of June, 1989, by and between the parties who have signed the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto.

WITNESSETH

WHEREAS, the parties hereto as Working Interest Owners have executed, as of the date hereof, an Agreement entitled "Unit Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico", herein referred to as "Unit Agreement", which, among other things, provides for a separate agreement to be entered into by Working Interest Owners to provide for Unit Operations as therein defined.

NOW, THEREFORE, in consideration of the mutual agreements herein set forth, it is agreed as follows:

ARTICLE 1
CONFIRMATION OF UNIT AGREEMENT

1.1 Confirmation of Unit Agreement/Conflicts Between Agreements. The Unit Agreement is hereby confirmed and by reference made a part of this Agreement. The definitions in the Unit Agreement are adopted for all purposes of this Agreement. If there is any conflict between the Unit Agreement and this Agreement, the Unit Agreement shall govern. If there is any conflict between the Unit Agreement and/or this Agreement and any contractual agreement between any of the parties hereto, the contractual agreement shall govern as between the parties to such contractual agreement.

ARTICLE 2
EXHIBITS

2.1 Exhibits. The following exhibits are incorporated herein by reference:

2.1.1 Exhibits "A" and "B" of the Unit Agreement.

2.1.2 Exhibit "C", attached hereto, is a schedule showing the Unit Participation of each Working Interest Owner. Exhibit "C", or a revision thereof, shall not be conclusive as to the information therein, except it may be used as showing the Unit Participations of Working Interest Owners for purposes of this Agreement until shown to be in error or revised as herein authorized.

2.1.3 Exhibit "D", attached hereto, is the Accounting Procedure applicable to Unit Operations. If there is any conflict between this Agreement and Exhibit D, this Agreement shall govern.

2.1.4 Exhibit "E", attached hereto, contains insurance provisions applicable to Unit Operations.

2.1.5 Exhibit "F", attached hereto, contains a sample form memorandum of this Unit Operating Agreement for recordation.

2.2 Revision of Exhibits. Whenever Exhibit "A" or "B" are revised, Exhibit "C" shall be revised accordingly and be effective as of the same date. Unit Operator shall also revise Exhibit "C" from time to time as required to conform to changes in ownership of which Unit Operator has been notified as provided in the Unit Agreement.

2.3 Reference to Exhibits. When reference is made herein to an exhibit, it is to the exhibit as originally attached or, if revised, to the last revision.

ARTICLE 3
SUPERVISION OF OPERATIONS BY WORKING INTEREST OWNERS

3.1 Overall Supervision. Working Interest Owners shall exercise overall supervision and control of all matters pertaining to Unit Operations pursuant to this Agreement and the Unit Agreement. In the exercise of such authority, each Working Interest Owner shall act solely in its own behalf in the capacity of an individual owner and not on behalf of the owners as an entirety.

3.2 Specific Authorities and Duties. The matters with respect to which Working Interest Owners shall decide, vote and take action shall include, but not be limited to the following:

3.2.1 Method of Operation. The method of operation, including the type or types of pressure maintenance, secondary recovery, or other recovery program to be employed.

3.2.2 Drilling of Wells. The drilling of any well whether for production of Unitized Substances, for use as an injection well, or for other purposes.

3.2.3 Well Recompletion and Change of Status. The recompletion, abandonment, or permanent change of status of any well, or the use of any well for injection or other purposes.

3.2.4 Expenditures. The making of any single expenditure in excess of Fifty Thousand Dollars (\$50,000.00); however, approval by Working Interest Owners of the drilling, reworking, deepening or plugging back of any well shall include approval of all necessary expenditures required therefor, and for completing, testing, and equipping the well, including necessary flow lines, separators, and lease tankage.

3.2.5 Disposition of Unit Equipment. The selling or otherwise disposing of any major item of surplus Unit Equipment, if the current price of new equipment similar thereto is Fifty Thousand Dollars (\$50,000.00) or more.

3.2.6 Appearance Before a Court or Regulatory Agency. The designating of a representative to appear before any court or regulatory agency in matters pertaining to Unit Operations; however, such designation shall not prevent any Working Interest Owner from appearing in person or from designating another representative on its own behalf and at its own expense.

3.2.7 Audits. The auditing of the accounts of Unit Operator pertaining to Unit Operations hereunder; however, the audits shall:

(a) not be conducted more than once each year except upon the resignation or removal of the Unit Operator, and

(b) be made upon the approval of the owner or owners of an aggregate of sixty percent (60%) of Working Interest other than that of Unit Operator, at the expense of all Working Interest Owners other than Unit Operator, and

(c) be made upon not less than thirty (30) days' written notice to Unit Operator.

3.2.8 Inventories. The taking of periodic inventories under the terms of Exhibit D.

3.2.9 Technical Services. The authorizing of charges to the Joint Account for services by consultants.

3.2.10 Assignments to Committees. The appointment of committees to study any problems in connection with Unit Operations.

3.2.11 The removal of Unit Operator and the selection of successor.

3.2.12 The enlargement of the Unit Area.

3.2.13 The adjustment and readjustment of investments.

3.2.14 The termination of the Unit Agreement.

3.2.15 Border Agreements.

3.2.16 Plans of Operation and Budgets.

ARTICLE 4 MANNER OF EXERCISING SUPERVISION

4.1 Designation of Representatives. Each Working Interest Owner shall inform Unit Operator in writing of the names and addresses of the representative and alternate who are authorized to represent and bind such Working Interest Owner with respect to Unit Operations. The representative or alternate may be changed from time to time by written notice to Unit Operator.

4.2 Meetings. All meetings of Working Interest Owners shall be called by Unit Operator upon its own motion or at the request and expense of two or more Working Interest Owner(s) having a total Unit Participation then in effect of not less than sixty percent (60%). No meeting shall be called on less than fourteen (14) days advance written notice, with agenda for the meeting attached. In absence of protest by any qualified member at the meeting, Working Interest Owners who attend the meeting may amend items included in the agenda and may act upon an amended item or other items presented at the meeting. The representative of Unit Operator shall be chairman of each meeting.

4.3 Voting Procedure. Except as may be specified by other provisions of this Agreement or the Unit Agreement, Working Interest Owners shall decide all matters coming before them as follows:

4.3.1 Voting Interest. Each Working Interest Owner shall have a voting interest equal to its Unit Participation in effect at the time of the vote.

4.3.2 Vote Required. Unless otherwise provided herein or in the Unit Agreement, Working Interest Owners shall determine all matters by the affirmative vote of two or more Working Interest Owners having a combined voting interest of at least sixty percent (60%, hereinafter the "required majority vote").

4.3.3 Vote at Meeting by Nonattending Working Interest Owner. Any Working Interest Owner who is not represented at a meeting may vote on any agenda item by letter or telegram addressed to the representative of Unit Operator if its vote is received prior to the vote at the meeting, provided the agenda items are not amended.

4.3.4 Poll Votes. Working Interest Owners may vote on and decide, by letter or telegram, any matter submitted in writing to Working Interest Owners. If a meeting is not requested, as provided in Section 4.2, within seven (7) days after a written proposal is sent to Working Interest Owners, the vote taken by letter or telegram shall become final. Unit Operator will give prompt notice of the results of such voting to all Working Interest Owners.

4.3.5 Agreement to be Bound by "Required Majority Vote". The resolution of a matter in accordance with the voting procedure set forth in this Article 4 shall be final and binding upon all parties hereto as if each and all of them had voted in concurrence with that of the "required majority vote" as specified by § 4.3.2 above.

ARTICLE 5 INDIVIDUAL RIGHTS OF WORKING INTEREST OWNERS

5.1 Reservation of Rights. Working Interest Owners severally reserve to themselves all their rights, except as otherwise provided in this Agreement and the Unit Agreement.

5.2 Specific Rights. Each Working Interest Owner shall have, among others, the following specific rights:

5.2.1 Access to Unit Area. Access to the Unit Area at all reasonable times to inspect Unit Operations, all wells, and the records and data pertaining thereto.

5.2.2 Reports. The right to receive from Unit Operator, upon written request, copies of all reports to any governmental agency, reports of crude oil runs and stocks, inventory reports, and all other information pertaining to Unit Operations. The cost of gathering and furnishing information not ordinarily furnished by Unit Operator to all Working Interest Owners shall be charged to the Working Interest Owner that requests the information.

ARTICLE 6 UNIT OPERATOR

6.1 Unit Operator. MURPHY OPERATING CORPORATION is hereby designated as the Unit Operator.

6.2 Resignation or Removal and Selection of Successor. The resignation or removal of Unit Operator and the selection of a successor shall be governed by the provisions of Section 8 of the Unit Agreement together with the voting procedure set forth in §4.3 above.

ARTICLE 7 AUTHORITIES AND DUTIES OF UNIT OPERATOR

7.1 Exclusive Right to Operate Unit. Subject to the provisions of this Agreement and to instructions from Working Interest Owners, Unit Operator shall have the exclusive right and be obligated to conduct Unit Operations.

7.2 Workmanlike Conduct. Unit Operator shall conduct Unit Operations in a good and workmanlike manner as would a prudent operator under the same or similar circumstances. Unit Operator shall freely consult with Working Interest Owners and keep them informed of all matters which Unit Operator, in the exercise of its best judgment, considers important. Unit Operator shall not be liable to Working Interest Owners for damages, unless such damages result from its gross negligence or willful misconduct.

7.3 Liens and Encumbrances. Unit Operator shall endeavor to keep the lands and leases in the Unit Area and Unit Equipment free from all liens and encumbrances occasioned by Unit Operations, except the lien and security interest of Unit Operator and Working Interest Owners granted hereunder.

7.4 Employees. The number of employees used by Unit Operator in conducting Unit Operations, their selection, hours of labor, and compensation shall be determined by Unit Operator.

7.5 Records. Unit Operator shall keep correct books, accounts, and records of Unit Operations.

7.6 Reports to Working Interest Owners. Unit Operator shall furnish Working Interest Owners periodic reports of Unit Operations.

7.7 Reports to Governmental Authorities. Unit Operator shall make all reports to governmental authorities that it has the duty to make as Unit Operator.

7.8 Engineering and Geological Information. Unit Operator shall furnish to a Working Interest Owner, upon written request, a copy of all logs and other engineering and geological data pertaining to wells drilled for Unit Operations.

7.9 Expenditures. Unit Operator is authorized to make single expenditures not in excess of Fifty Thousand Dollars (\$50,000.00) without prior approval of Working Interest Owners. If an emergency occurs, Unit Operator may immediately make or incur such expenditures as in its opinion are required to deal with the emergency. Unit Operator shall report to Working Interest Owners, as promptly as possible, the nature of the emergency and the action taken.

7.10 Wells Drilled by Unit Operator. All wells drilled by the Unit Operator shall be at the usual rates prevailing in the area. Unit Operator may employ its own tools and equipment, but the charge therefor shall not exceed the usual rates prevailing in the area, and the work shall be performed by Unit Operator under the same terms and conditions as are usual in the area in contracts of independent contractors doing work of a similar nature.

7.11 Border Agreements. Unit Operator may, after approval by Working Interest Owners, enter into border agreements with respect to lands adjacent to the Unit Area for the purpose of coordinating operations.

ARTICLE 8 TAXES

8.1 Ad Valorem Taxes. Beginning with the first calendar year after the Effective Date hereof, Unit Operator shall make and file all necessary ad valorem tax renditions and returns with the proper taxing authorities with respect to all property of each Working Interest Owner used or held by Unit Operator for Unit Operations. Unit Operator shall settle assessments arising therefrom. All such ad valorem taxes shall be paid by Unit Operator and charged to the joint account; however, if the interest of a Working Interest Owner is subject to a separately assessed overriding royalty interest, production payment, or other interest in excess of a one-eighth (1/8) royalty, such Working Interest Owner shall notify Unit Operator of such interest prior to the rendition date and shall be given credit for the reduction in taxes paid resulting therefrom. Any Working Interest Owner dissatisfied with any assessment of its interest in real or personal property shall have the right, at its own expense, and after due notice to the Operator, to protest and resist any such assessment.

8.2 Other Taxes. Each Working Interest Owner shall pay or cause to be paid all production, severance, gathering, and other taxes imposed upon or with respect to the production or handling of its share of Unitized Substances.

ARTICLE 9 INSURANCE

9.1 Insurance. Unit Operator, with respect to Unit Operations, shall: (a) comply with the Workmen's Compensation Laws of the State; (b) carry Employer's Liability and other insurance required by the laws of the State; and (c) provide other insurance as set forth in Exhibit "E".

ARTICLE 10 ADJUSTMENT OF INVESTMENTS

10.1 Personal Property Taken Over. Upon Effective Date, Working Interest Owners shall deliver to Unit Operator the following:

10.1.1 Wells. All wells completed in the Unitized Formation.

10.1.2 Well and Lease Equipment. The casing and tubing in each such well, the wellhead connections thereon, and all other lease and operating equipment that is used in the operation of such wells which Working Interest Owners determine is necessary or desirable for conducting Unit Operations.

10.1.3 Records. A copy of all production and well records for such wells.

10.2 Inventory and Evaluation of Personal Property. Working Interest Owners shall at Unit Expense inventory and evaluate, as determined by Working Interest Owners, the personal property taken over by Unit Operator under Section 10.1.2. Such inventory shall include and be limited to those items of equipment considered controllable under Exhibit "D" except, upon determination of Working Interest Owners, items considered uncontrollable may be included in the inventory in order to insure a more equitable adjustment of investment. Casing shall be included in the inventory for record purposes, but shall be excluded from evaluation and investment adjustment.

10.3 Investment Adjustment. Upon approval of Working Interest Owners of the inventory and evaluation, each Working Interest Owner shall be credited with the value, as determined in accordance with Section 10.2 above, of its interest in all personal property taken over by Unit Operator under Section 10.1.2 and charged with an amount equal to that obtained by multiplying the total value of all such personal property taken over by Unit Operator under Section 10.1.2 by such Working Interest Owner's Unit Participation, as shown in Exhibit "C." If the charge against any Working Interest Owner is greater than the amount credited to such Working Interest Owner, the resulting net charge shall be paid and in all other respects be treated as any other item of Unit Expense chargeable against such Working Interest Owner. If the credit to any Working Interest Owner is greater than the amount charged against such Working Interest Owner, the resulting net credit shall be paid to such Working Interest Owner by Unit Operator out of funds received by it in settlement of the net charges described above.

10.4 General Facilities. The acquisition of warehouses, warehouse stocks, lease houses, camps, facility systems, and office buildings necessary for Unit Operations shall be by negotiation by the owners thereof and Unit Operator, subject to the approval of Working Interest Owners.

10.5 Ownership of Personal Property and Facilities. Each Working Interest Owner, individually, shall by virtue hereof own an undivided interest, equal to its Unit Participation, in all personal property and facilities taken over or otherwise acquired by Unit Operator pursuant to this Agreement.

ARTICLE 11 UNIT EXPENSE

11.1 Basis of Charges to Working Interest Owners. Unit Operator initially shall provide for all Unit Expense in accordance with the provisions of this Article 11. Each Working Interest Owner shall reimburse Unit Operator for its share of Unit Expense in proportion to the respective Unit Participations of the parties hereto. All charges, credits, and accounting for Unit Expense shall be in accordance with Exhibit "D."

11.2 Budgets. Before or as soon as practical after the Effective Date, Unit Operator shall prepare a budget of estimated Unit Expense for the remainder of the calendar year, and, on or before the first day of each August thereafter, shall prepare a budget for the ensuing calendar year. A budget shall set forth the estimated Unit Expense by quarterly periods. Budgets shall be estimates only, and shall be adjusted or corrected by Working Interest Owners and Unit Operator whenever an adjustment or correction is proper. A copy of each budget and adjusted budget shall be furnished promptly to each Working Interest Owner.

11.3 Advance Billing. Unit Operator shall have the right, without prejudice to other rights or remedies, to require Working Interest Owners to advance their respective shares of estimated Unit Expense by submitting to Working Interest Owners, on or before the 15th day of any month, an itemized estimate thereof for the succeeding two (2) months, with a request for payment in advance. Said advances shall be due and payable as a proper and approved Unit Expense pursuant to the terms of this Agreement and attached accounting procedure. Within fifteen (15) days after receipt of the estimate, each Working Interest Owner shall pay to Unit Operator its share of such estimate. Adjustments between estimated and actual Unit Expense shall be made by Unit Operator at the close of each calendar month, and the accounts of Working Interest Owners shall be adjusted accordingly.

11.3.1 Billing Additional Interests. Notwithstanding any of the other provisions of this Agreement and of the accounting procedure attached as Exhibit "D", the parties hereto agree that in no event during the term of this Agreement shall the Unit Operator be required to make more than one billing for the entire interest credited to each party on Exhibit "C". If any party to this Agreement disposes of any part of its interest as shown on Exhibit "C", then until such time as such a Selling Party has designated and qualified one assignee to receive the billing for the entire interest, the Selling Party will be solely responsible for billing its assignee or assignees, and shall remain primarily liable to the other parties hereto for the interest or interests assigned and shall make prompt payment to the Unit Operator for the entire amount of statements and billings to the Selling Party for the interest conveyed. In order to qualify one assignee to receive the billing for the entire interest credited to the Selling Party on Exhibit "C", the Selling Party shall furnish to Unit Operator the following:

- a) Written notice of the conveyance together with certified copies of the recorded assignments by which the transfers were made;
- b) the name of the assignee to be billed and a written statement executed by the assignee to be billed in which it consents to receive statements and billings for the entire interest credited to Selling Party on Exhibit "C" hereof, and further consents to handle any necessary sub-billing in the event it does not own the entire interest credited Selling Party on Exhibit "C"; and
- c) ratification of the Unit Agreement and Unit Operating Agreement (including an executed and recordable instrument entitled "Memorandum of Unit Operating Agreement" as contained in Exhibit "F" hereto) executed by the Assignee to be billed wherein it adopts, ratifies and confirms all the provisions of the Unit Agreement and Unit Operating Agreement as if it had been an original party thereto.

11.4 Commingling of Funds. Funds received by Unit Operator under this Agreement need not be segregated or maintained by it as a separate fund, but may be commingled with its own funds.

11.5 Lien and Security Interest of Unit Operator and Working Interest Owners. Each Working Interest Owner grants to Unit Operator a first and prior lien upon its Oil and Gas Rights in each Tract, and a security interest in its share of Unitized Substances when extracted and its interest in all Unit Equipment, to secure payment of its share of Unit Expense, plus attorney's fees, court costs, and other costs in connection with the collection of unpaid amounts, together with interest thereon at the rate of the Base Rate +2% per annum but not to be less than 21% per annum. To the extent that Unit Operator has a security interest under the Uniform Commercial Code of the State, Unit Operator shall be entitled to exercise the rights and remedies of a secured party under the Code. The bringing of a suit and the obtaining of judgment by Unit Operator for the secured indebtedness shall not be deemed an election of remedies or otherwise affect the lien rights or security interest as security for the payment thereof. In addition, upon default by any Working Interest Owner in the payment of its share of Unit Expense, Unit Operator shall have the first and prior right, without prejudice to other rights or remedies, to collect from the purchaser the proceeds from the sale of such Working Interest Owner's share of Unitized Substances until the amount owed by such Working Interest Owner, plus interest has been paid. Each purchaser shall be entitled to rely upon Unit Operator's written statement concerning the amount of any default. The Unit Operator grants a like lien and security interest to the Working Interest Owners. Pursuant to Article 35-5-19 of the New Mexico Statutes 1978, the redemption period hereunder shall be limited to thirty (30) days.

11.5.1 Memorandum of Unit Operating Agreement. Each Working Interest Owner, to the extent it deems necessary to perfect the first and prior lien and security interest provided herein, may file this Unit Operating Agreement or Memorandum thereof as a lien in the applicable real estate records and as a financing statement. Further each Working Interest Owner, their successors and assigns, agrees to execute a recordable instrument "Memorandum of Operating Agreement" in the format attached as Exhibit "F" to this Agreement to be filed both in the county records for real estate purposes and other such records as may be necessary for compliance with the Uniform Commercial Code.

11.5.2 Bankruptcy. If, following the granting of relief under the Bankruptcy Code to any party hereto, as debtor thereunder, this Agreement should be held to be an executory contract within the meaning of 11.U.S.C. §365, then the Unit Operator, or if the Unit Operator is the debtor-in-bankruptcy, the Working Interest Owners shall be entitled to a determination by debtor, or trustee for debtor, within thirty (30) days from the date an order for relief is entered under the Bankruptcy Code, as to the rejection or assumption of this Unit Operating Agreement. In the event of an assumption, Unit Operator, or said Working Interest Owners, shall be entitled to adequate assurances as to the future performance of debtor's obligation hereunder the protection of the interest of all other parties.

11.6 Unpaid Unit Expense. If any Working Interest Owner fails or is unable to pay its share of Unit Expense within sixty (60) days after rendition of a statement therefor by Unit Operator, the non-defaulting Working Interest Owners shall, upon request by Unit Operator, pay the unpaid amount as if it were Unit Expense in the proportion that the Unit Participation of each Working Interest Owner bears to the Unit Participation of all such Working Interest Owners. Each Working Interest Owner so paying its share of the unpaid amount shall, to obtain reimbursement thereof, be subrogated to the security rights described in Article 11.5 of this Agreement.

11.6.1 Remedies In the Event of Default. Without prejudice to the other rights and remedies contained in this Agreement and those existing under law, it is agreed between the parties hereto that in the event any party fails to pay its proportionate share of advances or other Unit Expense incurred pursuant to the terms of this Agreement, then the non-defaulting party or parties shall have the option to consider such non-payment to constitute an election by the defaulting party to withdraw under Article 17 below. However, nothing contained in this Article 11.6.1 shall be construed as a limitation on a party's right to sell, transfer or assign to a third party its ownership in the Unit subject to the terms and conditions of Article 11.3.1 above and the other obligations of this Agreement and the Unit Agreement.

Further, for so long as a defaulting party has unpaid balances outstanding, it shall have no further access to the Unit Area or to information obtained in connection with operations hereunder and shall not be entitled to vote on any matter hereunder. As to any vote which it otherwise would have the right in which to participate, such defaulting party shall have its right to vote reinstated only after it pays all of the amounts to which it is in default, in full, including the interest amounts provided by Article 11 above, before the applicable proposed election or decision deadline. Notwithstanding anything to the contrary contained in this Agreement, the parties hereto agree that:

a) the Unit Operator shall not have the right to implement any of the remedies with respect to default described in this Article 11.6.1. while the Unit Operator and defaulting Working Interest Owner are engaged in ongoing negotiations or discussions conducted in good faith regarding disputed Unit Expense. It is understood, however, that this provision shall not relieve a Working Interest Owner of its responsibility to timely pay its portion of Unit Expense subject to possible subsequent adjustments upon resolution of any disputed amounts.

b) it is the intention of Article 11 to grant Working Interest Owners reciprocal rights against the Unit Operator in the event Unit Operator, rather than a Working Interest Owner, should fail or refuse to pay its proportionate share of Unit Expense. Where appropriate within the text of this Article 11, in order to effectuate this reciprocity, where the word "Unit Operator" is used, the word "Working Interest Owner" may be substituted therefor and where the word "Working Interest Owner" is used, the word "Unit Operator" may be substituted therefor.

11.7 Uncommitted Royalty. Should an owner of a Royalty Interest in any Tract fail to become a party to the Unit Agreement, and, as a result thereof, the actual Royalty Interest payments with respect to such Tract are more or less than the Royalty Interest payments computed on the basis of the Unitized Substances that are allocated to such Tract under the Unit Agreement, the difference shall be borne by or inure to the benefit of the Working Interest Owners, in proportion to their respective Unit Participations at the time the Unitized Substances were produced; however, the difference to be borne by or inure to the benefit of the Working Interest Owners shall not exceed an amount computed on the basis of one-eighth (1/8) of the difference between the Unitized Substances allocated to the Tract and the Unitized Substances produced from the Tract. Such adjustments shall be made by charges and credits to the joint account.

11.8 Rentals. The Working Interest Owners in each Tract shall pay all rentals, minimum royalty, advance rentals or delay rentals due under the lease thereon and shall concurrently submit to the Unit Operator evidence of payment. If the Working Interest Owners in any tract determine not to pay any such rental, they shall notify Unit Operator at least sixty (60) days before the due date and they shall thereupon assign to all other Working Interest Owners in the Unit Area in proportion to their respective participating interests all of their right, title and interest under said lease free and clear of any liens or encumbrances; provided, however, all such assignments shall be subject to all obligations with respect to reassignments, if any, of the parties making such assignments theretofore created in favor of parties who are not parties to this Agreement. In the event of failure of any Working Interest Owner to make proper payment of any delay rental through mistake or oversight where such rental is required to continue the lease in force, there shall be no money liability on the part of the party failing to pay such rental, but such party shall make a bona fide effort on behalf of the Joint Account to secure a new lease covering the same interest to and commit such lease to the Unit Agreement and, in the event of failure to secure the new lease within a reasonable time, the interest of the parties hereto shall be revised, if required, so that the party failing to pay such rental shall not be credited with the ownership of any lease on which rental was required but not paid. The Unit Operator shall incur no liability for failure to pay any rental due under the terms of any lease committed to said Unit Agreement; however, in the event any rentals are paid by Unit Operator, the same shall be charged and billed to the party responsible for payment of same. In the event of loss of title to a lease for failure to pay rental, all losses occasioned thereby shall be that of the Working Interest Owner(s) who should have paid the same.

11.9 Carved-out Interests. Any overriding royalty, production payment, net proceeds interest, carried interest or any other interest carved out of or retained out of a Working Interest shall be subject to this Agreement. If a Working Interest Owner does not pay its share of Unit Expense and the proceeds from the sale of Unitized Substances under Article 11.5 are insufficient for that purpose, the security rights provided for therein may be applied against the carved-out interests with which such Working Interest is burdened. In such event, the owner of such carved-out interest shall be subrogated to the security rights granted by Article 11.5.

ARTICLE 12 NON-UNITIZED FORMATIONS

12.1 Right to Operate. Any Working Interest Owner that now has or hereafter acquires the right to drill for and produce oil, gas or other minerals, from a formation underlying the Unit Area other than the Unitized Formation, shall have the right to do so notwithstanding this Agreement or the Unit Agreement. In exercising the right, however, the Working Interest Owner shall exercise care to

prevent unreasonable interference with Unit Operations. No Working Interest Owner shall produce Unitized Substances through any well drilled or operated by it. If any Working Interest Owner drills any well into or through the Unitized Formation, the Unitized Formation shall be protected in a manner satisfactory to Working Interest Owners so that the production of Unitized Substances will not be affected adversely.

12.2 Multiple Completions. No well now or hereafter completed in the Unitized Formations shall ever be completed as a multiple completion with any other formation unless such multiple completion and the subsequent handling of the multiple completion is approved by Working Interest Owners in accordance with Article 4.3 of this Agreement.

ARTICLE 13 TITLES

13.1 Warranty and Indemnity. Each Working Interest Owner represents and warrants that it is the owner of the respective working interests set forth opposite its name in Exhibit "B" of the Unit Agreement, and agrees to indemnify and hold harmless the other Working Interest Owners from any loss due to failure, in whole or in part, of its title to any such interest, except failure of title arising out of Unit Operations; however, such indemnity and any liability for breach of warranty shall be limited to an amount equal to the net value that has been received from the sale or receipt of Unitized Substances attributed to the interest as to which title failed. Each failure of title will be deemed to be effective, insofar as this Agreement is concerned, as of 7:00 A.M. on the first day of the calendar month in which such failure is finally determined, and there shall be no retroactive adjustment of Unit Expense, or retroactive allocation of Unitized Substances or the proceeds therefrom, as a result of title failure.

ARTICLE 14 LIABILITY, CLAIMS, AND SUITS

14.1 Individual Liability. The duties and obligations, and liabilities of Working Interest Owners shall be several and not joint or collective; and nothing herein shall ever be construed as creating a partnership of any kind, joint venture, association, or trust among Working Interest Owners.

14.2 Settlements. The Unit Operator may settle any single damage claim or suit involving Unit Operations if the expenditure does not exceed Fifty Thousand Dollars (\$50,000.00) and if the payment is in complete settlement of such claim or suit. If the amount required for settlement exceeds the above amount, Working Interest Owners shall assume and take over the further handling of the claim or suit, unless such authority is delegated to Unit Operator. All costs and expense of handling, settling, or otherwise discharging such claim or suit shall be an item of Unit Expense. If a claim is made against any Working Interest Owner or if any Working Interest Owner is sued on account of any matter arising from Unit Operations over which such Working Interest Owner individually has no control because of the rights given Working Interest Owners and Unit Operator by this Agreement and the Unit Agreement, the Working Interest Owner shall immediately notify the Unit Operator, and the claim or suit shall be treated as any other claim or suit involving Unit Operations.

ARTICLE 15 LAWS AND REGULATIONS

15.1 Internal Revenue Provision. Notwithstanding any provisions herein that the rights and liabilities of the parties hereunder are several and not joint or collective, or that this Agreement and operations hereunder shall not constitute a partnership, if for Federal income tax purposes this Agreement and the operations hereunder are regarded as a partnership, then each of the parties hereto elects to be excluded from the application of all of the provisions of Subchapter K, Chapter 1, Subtitle A, of the Internal Revenue Code of 1954, as permitted and authorized by Section 761 of the Code and the regulations promulgated thereunder. Unit Operator is hereby authorized and directed to execute on behalf of each of the parties hereto such evidence of this election as may be required by the Secretary of the Treasury of the United States or the Federal Internal Revenue Service, including specifically, but not by way of limitation, all of the returns, statements, and the data required by Federal Regulations 1.761-1(a). Should there be any requirement that each party hereto further evidence this election, each party hereto agrees to execute such documents and furnish such other evidence as may be required by the Federal Internal Revenue Service or as may be necessary to evidence this election. Each party hereto further agrees not to give any notices or take any other action inconsistent with the election made hereby. If any present or future income tax laws of the state in which the Unit Area is located, or any future income tax law of the United States, contain

provisions similar to those in Subchapter K, Chapter 1, Subtitle A, of the Internal Revenue Code of 1954, under which an election similar to that provided by Section 761 of the Code is permitted, each of the parties agrees to make election as may be permitted, or required by such laws. In making this election, each of the parties states that the income derived by such party from the operations under this Agreement can be adequately determined without the computation of partnership taxable income.

ARTICLE 16 NOTICES

16.1 Notices. All notices required hereunder shall be in writing and shall be deemed to have been properly served when sent by certified mail ("return receipt requested") or verifiably hand-delivered to the address of the representative of each Working Interest Owner as furnished to Unit Operator in accordance with Article 4.

ARTICLE 17 WITHDRAWAL OF WORKING INTEREST OWNER

17.1 Withdrawal. A Working Interest Owner may withdraw from this Agreement by transferring to the other Working Interest Owners all its Oil and Gas Rights free and clear of all liens and encumbrances, exclusive of any prior existing Royalty Interests, together with its interest in all Unit Equipment and in all wells used in Unit Operations. The instrument of transfer may be delivered to Unit Operator for the transferees. Such transfer shall not relieve the Working Interest Owner from any obligation or liability incurred prior to the date of the delivery of the instrument of transfer; however, the tender has to be accepted unless Working Interest Owners decide within ninety (90) days to terminate the Unit. The interest transferred shall be owned by the transferees in proportion to their respective Unit Participations in effect. The transferees, in proportion to the respective interest so acquired, shall pay transferor, for its interest in Unit Equipment, the net salvage value thereof as determined by the transferees. In the event such withdrawing party's interest in the aforesaid fair salvage value after deducting the estimated cost of salvaging same is less than the withdrawing party's share of estimated cost of plugging and abandoning the wells then being used or held for Unit Operations, then the withdrawing party, as condition precedent to withdrawal, shall pay in cash to the party or parties succeeding to its interest a sum equal to the deficiency. Within sixty (60) days after receiving delivery of the transfer, Unit Operator shall render a final statement to the withdrawing owner for its share of Unit Expense, including any deficiency in salvage value, as determined by Working Interest Owners, incurred as of the first day of the month following the date of receipt of the transfer. Provided all Unit Expense, including any deficiency hereunder, due from the withdrawing owner has been paid in full within thirty (30) days after the rendering of such final statement by the Unit Operator, the transfer shall be effective the first day of the month following its receipt by Unit Operator and, as of such effective date, withdrawing owner shall be relieved from all further obligations and liabilities hereunder and under the Unit Agreement, and the rights of the withdrawing Working Interest Owner hereunder and under the Unit Agreement shall cease insofar as they existed by virtue of the interest transferred.

17.2 Limitation on Withdrawal. Notwithstanding anything set forth in Section 17.1, Working Interest Owners may refuse to permit the withdrawal of a Working Interest Owner if its Working Interest is burdened by any royalties, overriding royalties, production payments, net proceeds interest, carried interest, or any other interest created out of the Working Interest in excess of one-eighth (1/8) lessor's royalty, unless the other Working Interest Owners willing to accept the assignment agree to accept the Working Interest subject to such burdens.

ARTICLE 18 ABANDONMENT OF WELLS

18.1 Rights of Former Owners. If Working Interest Owners decide to permanently abandon any well within the Unit Area prior to termination of the Unit Agreement, Unit Operator shall give written notice thereof to the Working Interest Owners of the tract on which the well is located, and they shall have the option for a period of thirty (30) days after the sending of such notice to notify the Unit Operator in writing of their election to take over and own the well. Within ten (10) days after the Working Interest Owners of the Tract have notified the Unit Operator of their election to take over the well, they shall pay Unit Operator, for credit to the joint account, the amount determined by Working Interest Owners to be the net salvage value of the casing and equipment

in and on the well. The Working Interest Owners of the Tract, by taking over the well, agree to seal off the Unitized Formation, and upon abandonment to plug the well in compliance with applicable laws and regulations.

18.2 Plugging. If the Working Interest Owners of a Tract do not elect to take over a well located within the Unit Area that is proposed for Abandonment, Unit Operator shall plug and abandon the well in compliance with applicable laws and regulations.

ARTICLE 19 EFFECTIVE DATE AND TERM

19.1 Effective Date. This Agreement shall become effective when the Unit Agreement becomes effective.

19.2 Term. This Agreement shall continue in effect so long as the Unit Agreement remains in effect, and thereafter until (a) all unit wells have been plugged and abandoned or turned over to Working Interest Owners in accordance with Article 20; (b) all Unit Equipment and real property acquired for the joint account have been disposed of by Unit Operator in accordance with instructions of Working Interest Owners; and (c) there has been a final accounting.

ARTICLE 20 ABANDONMENT OF OPERATIONS

20.1 Termination. Upon termination of the Unit Agreement, the following will occur:

20.1.1 Oil and Gas Rights. Oil and Gas Rights in and to each separate Tract shall no longer be affected by this Agreement, and thereafter the parties shall be governed by the terms and provisions of the leases, contracts and other instruments affecting the separate Tracts.

20.1.2 Right to Operate. Working Interest Owners of any Tract that desire to take over and continue to operate wells located thereon may do so by paying Unit Operator, for credit to the joint account, the net salvage values, as determined by Working Interest Owners, of the casing and equipment in and on the wells taken over and by agreeing upon abandonment to plug each well in compliance with applicable laws and regulations.

20.1.3 Salvaging Wells. Unit Operator shall salvage as much of the casing and equipment in or on wells not taken over by Working Interest Owners of separate Tracts as can economically and reasonably be salvaged, and shall cause the wells to be plugged and abandoned in compliance with applicable laws and regulations.

20.1.4 Cost of Abandonment. The cost of abandonment of Unit Operations shall be Unit Expense.

20.1.5 Distribution of Assets. Working Interest Owners shall share in the distribution of Unit Equipment, or the proceeds thereof, in proportion to their Unit Participations.

ARTICLE 21 EXECUTION

21.1 Original, Counterpart, or Other Instruments. An owner of a Working Interest may become a party to this Agreement by signing the original of this instrument, a counterpart thereof, or other instrument agreeing to become a party hereto. The signing of such instrument shall have the same effect as if all parties had signed the same instrument.

ARTICLE 22 GOVERNMENTAL REGULATIONS

22.1 Governmental Regulations. Working Interest Owners agree to release Unit Operator from any and all losses, damages, injuries, claims and causes of action arising out of, incident to or resulting directly or indirectly from Unit Operator's interpretation or application of rules, regulations or orders of any governmental agency or predecessor agencies to the extent Unit Operator's interpretation or application of such rules, rulings, regulations or orders were made in good faith. Working Interest Owners further agree to reimburse Unit Operator for their proportionate share of any amounts Unit Operator may be required to refund, rebate or pay as a result of an incorrect interpretation or application of the above noted rules, rulings, regulations or orders, together with their proportionate part of interest and penalties owing by Unit Operator as a result of such incorrect interpretation or application of such rules, rulings, regulations or orders.

(06/14/89)

EXHIBIT "C"

Attached to that certain Unit Operating Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico, dated June 15, 1989.

<u>Unit Participant</u>	<u>Percent Unit Participation</u>
American Energy Capital Corporation	19.979800
Murphy Operating Corporation	12.500000
P.A.J.W. Corporation	11.270200
Snyder Oil Company	<u>56.250000</u>
Total	<u><u>100.000000</u></u>

EXHIBIT " D "

Attached to and made a part of that certain Unit Operating Agreement,
Jennifer Chaveroo San Andres Unit, County of Roosevelt, State
of New Mexico, dated June 15, 1989.

ACCOUNTING PROCEDURE JOINT OPERATIONS

I. GENERAL PROVISIONS

1. Definitions

"Joint Property" shall mean the real and personal property subject to the agreement to which this Accounting Procedure is attached.

"Joint Operations" shall mean all operations necessary or proper for the development, operation, protection and maintenance of the Joint Property.

"Joint Account" shall mean the account showing the charges paid and credits received in the conduct of the Joint Operations and which are to be shared by the Parties.

"Operator" shall mean the party designated to conduct the Joint Operations.

"Non-Operators" shall mean the parties to this agreement other than the Operator.

"Parties" shall mean Operator and Non-Operators.

"First Level Supervisors" shall mean those employees whose primary function in Joint Operations is the direct supervision of other employees and/or contract labor directly employed on the Joint Property in a field operating capacity.

"Technical Employees" shall mean those employees having special and specific engineering, geological or other professional skills, and whose primary function in Joint Operations is the handling of specific operating conditions and problems for the benefit of the Joint Property.

"Personal Expenses" shall mean travel and other reasonable reimbursable expenses of Operator's employees.

"Material" shall mean personal property, equipment or supplies acquired or held for use on the Joint Property.

"Controllable Material" shall mean Material which at the time is so classified in the Material Classification Manual as most recently recommended by the Council of Petroleum Accountants Societies of North America.

2. Statement and Billings

Operator shall bill Non-Operators on or before the last day of each month for their proportionate share of the Joint Account for the preceding month. Such bills will be accompanied by statements which identify the authority for expenditure, lease or facility, and all charges and credits, summarized by appropriate classifications of investment and expense except that items of Controllable Material and unusual charges and credits shall be separately identified and fully described in detail.

3. Advances and Payments by Non-Operators - "Unit Expense"

Unless otherwise provided for in the agreement, the Operator may require the Non-Operators to advance their share of estimated cash outlay for the succeeding month's operation. Operator shall adjust each monthly billing to reflect advances received from the Non-Operators.

Each Non-Operator shall pay its proportion of all bills within fifteen (15) days after receipt. If payment is not made within such time, the unpaid balance shall bear interest monthly at the rate as defined in Article 11.5 of UOA or the maximum contract rate permitted by the applicable usury laws in the state in which the Joint Property is located, whichever is the lesser, plus attorney's fees, court costs, and other costs in connection with the collection of unpaid amounts.

4. Adjustments

Payment of any such bills shall not prejudice the right of any Non-Operator to protest or question the correctness thereof; provided, however, all bills and statements rendered to Non-Operators by Operator during any calendar year shall conclusively be presumed to be true and correct after twenty-four (24) months following the end of any such calendar year, unless within the said twenty-four (24) month period a Non-Operator takes written exception thereto and makes claim on Operator for adjustment. No adjustment favorable to Operator shall be made unless it is made within the same prescribed period. The provisions of this paragraph shall not prevent adjustments resulting from a physical inventory of Controllable Material as provided for in Section V.

5. Audits

A. Non-Operator, upon notice in writing to Operator and all other Non-Operators, shall have the right to audit Operator's accounts and records relating to the Joint Account for any calendar year within the twenty-four (24) month period following the end of such calendar year; provided, however, the making of an audit shall not extend the time for the taking of written exception to and the adjustments of accounts as provided for in Paragraph 4 of this Section I. Where there are two or more Non-Operators, the Non-Operators shall make every reasonable effort to conduct joint or simultaneous audits in a manner which will result in a minimum of inconvenience to the Operator. Operator shall bear no portion of the Non-Operators' audit cost incurred under this paragraph unless agreed to by the Operator.

6. Approval by Non-Operators

Where an approval or other agreement of the Parties or Non-Operators is expressly required under other sections of this Accounting Procedure and if the agreement to which this Accounting Procedure is attached contains no contrary provisions in regard thereto, Operator shall notify all Non-Operators of the Operator's proposal, and the agreement or approval of a majority in interest of the Non-Operators shall be controlling on all Non-Operators.

II. DIRECT CHARGES

Operator shall charge the Joint Account with the following items:

1. Rentals and Royalties

Lease rentals and royalties paid by Operator for the Joint Operations.

2. Labor

- A. (1) Salaries and wages of Operator's field employees directly employed on the Joint Property in the conduct of Joint Operations.
- (2) Salaries of First Level Supervisors in the field.
- (3) Salaries and wages of Technical Employees directly employed on the Joint Property if such charges are excluded from the Overhead rates.
- B. Operator's cost of holiday, vacation, sickness and disability benefits and other customary allowances paid to employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II. Such costs under this Paragraph 2B may be charged on a "when and as paid basis" or by "percentage assessment" on the amount of salaries and wages chargeable to the Joint Account under Paragraph 2A of this Section II. If percentage assessment is used, the rate shall be based on the Operator's cost experience.
- C. Expenditures or contributions made pursuant to assessments imposed by governmental authority which are applicable to Operator's costs chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II.
- D. Personal Expenses of those employees whose salaries and wages are chargeable to the Joint Account under Paragraph 2A of this Section II.

3. Employee Benefits

Operator's current costs of established plans for employees' group life insurance, hospitalization, pension, retirement, stock purchase, thrift, bonus, and other benefit plans of a like nature, applicable to Operator's labor cost chargeable to the Joint Account under Paragraphs 2A and 2B of this Section II shall be Operator's actual cost not to exceed twenty-three percent (23%) or the percent most recently recommended by the Council of

4. Material

Petroleum Accountants Societies of North America.

Material purchased or furnished by Operator for use on the Joint Property as provided under Section IV. Only such Material shall be purchased for or transferred to the Joint Property as may be required for immediate use and is reasonably practical and consistent with efficient and economical operations. The accumulation of surplus stocks shall be avoided.

5. Transportation

Transportation of employees and Material necessary for the Joint Operations but subject to the following limitations:

- A. If Material is moved to the Joint Property from the Operator's warehouse or other properties, no charge shall be made to the Joint Account for a distance greater than the distance from the nearest reliable supply store, recognized barge terminal, or railway receiving point where like material is normally available, unless agreed to by the Parties.
- B. If surplus Material is moved to Operator's warehouse or other storage point, no charge shall be made to the Joint Account for a distance greater than the distance to the nearest reliable supply store, recognized barge terminal, or railway receiving point unless agreed to by the Parties. No charge shall be made to the Joint Account for moving Material to other properties belonging to Operator, unless agreed to by the Parties.
- C. In the application of Subparagraphs A and B above, there shall be no equalization of actual gross trucking cost of \$200 or less excluding accessorial charges.

6. Services

The cost of contract services, equipment and utilities provided by outside sources, except services excluded by Paragraph 9 of Section II and Paragraph 1. ii of Section III. The cost of professional consultant services and contract services of technical personnel directly engaged on the Joint Property if such charges are excluded from the Overhead rates. The cost of professional consultant services or contract services of technical personnel not directly engaged on the Joint Property shall not be charged to the Joint Account unless previously agreed to by the Parties.

7. Equipment and Facilities Furnished by Operator

- A. Operator shall charge the Joint Account for use of Operator owned equipment and facilities at rates commensurate with costs of ownership and operation. Such rates shall include costs of maintenance, repairs, other operating expense, insurance, taxes, depreciation, and interest on investment not to exceed eight per cent (8%) per annum. Such rates shall not exceed average commercial rates currently prevailing in the immediate area of the Joint Property.
- B. In lieu of charges in Paragraph 7A above, Operator may elect to use average commercial rates prevailing in the immediate area of the Joint Property less 20%. For automotive equipment, Operator may elect to use rates published by the Petroleum Motor Transport Association.

8. Damages and Losses to Joint Property

All costs or expenses necessary for the repair or replacement of Joint Property made necessary because of damages or losses incurred by fire, flood, storm, theft, accident, or other cause, except those resulting from Operator's gross negligence or willful misconduct. Operator shall furnish Non-Operator written notice of damages or losses incurred as soon as practicable after a report thereof has been received by Operator.

9. Legal Expense

Expense of handling, investigating and settling litigation or claims, discharging of liens, payment of judgments and amounts paid for settlement of claims incurred in or resulting from operations under the agreement or necessary to protect or recover the Joint Property. Operator shall charge the Joint Account for legal and land services rendered by Operator's staff in the performance of services on behalf of the Joint Property based upon reasonable rates standard in the industry.

10. Taxes

All taxes of every kind and nature assessed or levied upon or in connection with the Joint Property, the operation thereof, or the production therefrom, and which taxes have been paid by the Operator for the benefit of the Parties.

11. Insurance

Net premiums paid for insurance required to be carried for the Joint Operations for the protection of the Parties. In the event Joint Operations are conducted in a state in which Operator may act as self-insurer for Workmen's Compensation and/or Employers Liability under the respective state's laws, Operator may, at its election, include the risk under its self-insurance program and in that event, Operator shall include a charge at Operator's cost not to exceed manual rates.

12. Other Expenditures

Any other expenditure not covered or dealt with in the foregoing provisions of this Section II, or in Section III, and which is incurred by the Operator in the necessary and proper conduct of the Joint Operations.

III. OVERHEAD

1. Overhead - Drilling and Producing Operations

i. As compensation for administrative, supervision, office services and warehousing costs, Operator shall charge drilling and producing operations on either:

- () Fixed Rate Basis, Paragraph 1A, or
- () Percentage Basis, Paragraph 1B.

Unless otherwise agreed to by the Parties, such charge shall be in lieu of costs and expenses of all offices and salaries or wages plus applicable burdens and expenses of all personnel, except those directly chargeable under Paragraph 2A, Section II. The cost and expense of services from outside sources in connection with matters of taxation, traffic, accounting or matters before or involving governmental agencies shall be considered as included in the Overhead rates provided for in the above selected Paragraph of this Section III unless such cost and expense are agreed to by the Parties as a direct charge to the Joint Account.

ii. The salaries, wages and Personal Expenses of Technical Employees and/or the cost of professional consultant services and contract services of technical personnel directly employed on the Joint Property shall () shall not (X) be covered by the Overhead rates.

A. Overhead - Fixed Rate Basis

(1) Operator shall charge the Joint Account at the following rates per well per month:

Drilling Well Rate \$ 3,000.00
Producing Well Rate \$ 300.00

(2) Application of Overhead - Fixed Rate Basis shall be as follows:

(a) Drilling Well Rate

- [1] Charges for onshore drilling wells shall begin on the date the well is spudded and terminate on the date the drilling or completion rig is released, whichever is later, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days.
- [2] Charges for offshore drilling wells shall begin on the date when drilling or completion equipment arrives on location and terminate on the date the drilling or completion equipment moves off location or rig is released, whichever occurs first, except that no charge shall be made during suspension of drilling operations for fifteen (15) or more consecutive days
- [3] Charges for wells undergoing any type of workover or recompletion for a period of five (5) consecutive days or more shall be made at the drilling well rate. Such charges shall be applied for the period from date workover operations, with rig, commence through date of rig release, except that no charge shall be made during suspension of operations for fifteen (15) or more consecutive days.

(b) Producing Well Rates

- [1] An active well either produced or injected into for any portion of the month shall be considered as a one-well charge for the entire month.
- [2] Each active completion in a multi-completed well in which production is not commingled down hole shall be considered as a one-well charge providing each completion is considered a separate well by the governing regulatory authority.
- [3] An inactive gas well shut in because of overproduction or failure of purchaser to take the production shall be considered as a one-well charge providing the gas well is directly connected to a permanent sales outlet.
- [4] A one-well charge may be made for the month in which plugging and abandonment operations are completed on any well.
- [5] All other inactive wells (including but not limited to inactive wells covered by unit allowable, lease allowable, transferred allowable, etc.) shall not qualify for an overhead charge.

(3) The well rates shall be adjusted as of the first day of April each year following the effective date of the agreement to which this Accounting Procedure is attached. The adjustment shall be computed by multiplying the rate currently in use by the percentage increase or decrease in the average weekly earnings of Crude Petroleum and Gas Production Workers for the last calendar year compared to the calendar year preceding as shown by the index of average weekly earnings of Crude Petroleum and Gas Fields Production Workers as published by the United States Department of Labor, Bureau of Labor Statistics, or the equivalent Canadian index as published by Statistics Canada, as applicable. The adjusted rates shall be the rates currently in use, plus or minus the computed adjustment.

~~B. Overhead - Percentage Basis~~

(1) Operator shall charge the Joint Account at the following rates:

(a) Development

_____ Percent (%) of the cost of Development of the Joint Property exclusive of costs provided under Paragraph 9 of Section II and all salvage credits.

(b) Operating

_____ Percent (%) of the cost of Operating the Joint Property exclusive of costs provided under Paragraphs 1 and 9 of Section II, all salvage credits, the value of injected substances purchased for secondary recovery and all taxes and assessments which are levied, assessed and paid upon the mineral interest in and to the Joint Property.

(2) Application of Overhead - Percentage Basis shall be as follows:

For the purpose of determining charges on a percentage basis under Paragraph 1B of this Section III, development shall include all costs in connection with drilling, re-drilling, deepening or any remedial operations on any or all wells involving the use of drilling crew and equipment; also, preliminary expenditures necessary in preparation for drilling and expenditures incurred in abandoning when the well is not completed as a producer, and original cost of construction or installation of fixed assets, the expansion of fixed assets and any other project clearly discernible as a fixed asset, except Major Construction as defined in Paragraph 2 of this Section III. ~~All other costs shall be considered as Operating.~~

2. Overhead - Major Construction - To be included in Authority for Expenditure.

~~To compensate Operator for overhead costs incurred in the construction and installation of fixed assets, the expansion of fixed assets, and any other project clearly discernible as a fixed asset required for the development and operation of the Joint Property, Operator shall either negotiate a rate prior to the beginning of construction, or shall charge the Joint Account for Overhead based on the following rates for any Major Construction project in excess of \$ _____:~~

~~A. _____ % of total costs if such costs are more than \$ _____ but less than \$ _____; plus~~

~~B. _____ % of total costs in excess of \$ _____ but less than \$1,000,000; plus~~

~~C. _____ % of total costs in excess of \$1,000,000.~~

~~Total cost shall mean the gross cost of any one project. For the purpose of this paragraph, the component parts of a single project shall not be treated separately and the cost of drilling and workover wells shall be excluded.~~

3. Amendment of Rates

The Overhead rates provided for in this Section III may be amended from time to time only by mutual agreement between the Parties hereto if, in practice, the rates are found to be insufficient or excessive.

IV. PRICING OF JOINT ACCOUNT MATERIAL PURCHASES, TRANSFERS AND DISPOSITIONS

Operator is responsible for Joint Account Material and shall make proper and timely charges and credits for all material movements affecting the Joint Property. Operator shall provide all Material for use on the Joint Property; however, at Operator's option, such Material may be supplied by the Non-Operator. Operator shall make timely disposition of idle and/or surplus Material, such disposal being made either through sale to Operator or Non-Operator, division in kind, or sale to outsiders. Operator may purchase, but shall be under no obligation to purchase, interest of Non-Operators in surplus condition A or B Material. The disposal of surplus Controllable Material not purchased by the Operator shall be agreed to by the Parties.

1. Purchases

Material purchased shall be charged at the price paid by Operator after deduction of all discounts received. In case of Material found to be defective or returned to vendor for any other reason, credit shall be passed to the Joint Account when adjustment has been received by the Operator.

2. Transfers and Dispositions

Material furnished to the Joint Property and Material transferred from the Joint Property or disposed of by the Operator, unless otherwise agreed to by the Parties, shall be priced on the following bases exclusive of cash discounts:

A. New Material (Condition A)

(1) Tubular goods, except line pipe, shall be priced at the current new price in effect on date of movement on a maximum carload or barge load weight basis, regardless of quantity transferred, equalized to the lowest published price f.o.b. railway receiving point or recognized barge terminal nearest the Joint Property where such Material is normally available.

(2) Line Pipe

(a) Movement of less than 30,000 pounds shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store nearest the Joint Property where such Material is normally available.

(b) Movement of 30,000 pounds or more shall be priced under provisions of tubular goods pricing in Paragraph 2A (1) of this Section IV.

(3) Other Material shall be priced at the current new price, in effect at date of movement, as listed by a reliable supply store or f.o.b. railway receiving point nearest the Joint Property where such Material is normally available.

B. Good Used Material (Condition B)

Material in sound and serviceable condition and suitable for reuse without reconditioning:

(1) Material moved to the Joint Property

(a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV.

(2) Material moved from the Joint Property

(a) At seventy-five percent (75%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as new Material, or

- (b) at sixty-five percent (65%) of current new price, as determined by Paragraph 2A of this Section IV, if Material was originally charged to the Joint Account as good used Material at seventy-five percent (75%) of current new price.

The cost of reconditioning, if any, shall be absorbed by the transferring property.

C. Other Used Material (Condition C and D)

(1) Condition C

Material which is not in sound and serviceable condition and not suitable for its original function until after reconditioning shall be priced at fifty percent (50%) of current new price as determined by Paragraph 2A of this Section IV. The cost of reconditioning shall be charged to the receiving property, provided Condition C value plus cost of reconditioning does not exceed Condition B value.

(2) Condition D

All other Material, including junk, shall be priced at a value commensurate with its use or at prevailing prices. Material no longer suitable for its original purpose but usable for some other purpose, shall be priced on a basis comparable with that of items normally used for such other purpose. Operator may dispose of Condition D Material under procedures normally utilized by the Operator without prior approval of Non-Operators.

D. Obsolete Material

Material which is serviceable and usable for its original function but condition and/or value of such Material is not equivalent to that which would justify a price as provided above may be specially priced as agreed to by the Parties. Such price should result in the Joint Account being charged with the value of the service rendered by such Material.

E. Pricing Conditions

- (1) Loading and unloading costs may be charged to the Joint Account at the rate of fifteen cents (15¢) per hundred weight on all tubular goods movements, in lieu of loading and unloading costs sustained, when actual hauling cost of such tubular goods are equalized under provisions of Paragraph 5 of Section II.
- (2) Material involving erection costs shall be charged at applicable percentage of the current knocked-down price of new Material.

3. Premium Prices

Whenever Material is not readily obtainable at published or listed prices because of national emergencies, strikes or other unusual causes over which the Operator has no control, the Operator may charge the Joint Account for the required Material at the Operator's actual cost incurred in providing such Material, in making it suitable for use, and in moving it to the Joint Property; provided notice in writing is furnished to Non-Operators of the proposed charge prior to billing Non-Operators for such Material. Each Non-Operator shall have the right, by so electing and notifying Operator within ten days after receiving notice from Operator, to furnish in kind all or part of his share of such Material suitable for use and acceptable to Operator.

4. Warranty of Material Furnished by Operator

Operator does not warrant the Material furnished. In case of defective Material, credit shall not be passed to the Joint Account until adjustment has been received by Operator from the manufacturers or their agents.

V. INVENTORIES

The Operator shall maintain detailed records of Controllable Material.

1. Periodic Inventories, Notice and Representation

At reasonable intervals, Inventories shall be taken by Operator of the Joint Account Controllable Material. Written notice of intention to take inventory shall be given by Operator at least thirty (30) days before any inventory is to begin so that Non-Operators may be represented when any inventory is taken. Failure of Non-Operators to be represented at an inventory shall bind Non-Operators to accept the inventory taken by Operator.

2. Reconciliation and Adjustment of Inventories

Reconciliation of a physical inventory with the Joint Account shall be made, and a list of overages and shortages shall be furnished to the Non-Operators within six months following the taking of the inventory. Inventory adjustments shall be made by Operator with the Joint Account for overages and shortages, but Operator shall be held accountable only for shortages due to lack of reasonable diligence.

3. Special Inventories

Special Inventories may be taken whenever there is any sale or change of interest in the Joint Property. It shall be the duty of the party selling to notify all other Parties as quickly as possible after the transfer of interest takes place. In such cases, both the seller and the purchaser shall be governed by such inventory.

4. Expense of Conducting Periodic Inventories

The expense of conducting periodic Inventories shall ~~not~~ be charged to the Joint Account.

EXHIBIT "E"

Attached to that certain Unit Operating Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico, dated June 15, 1989.

INSURANCE

Unit Operator and Unit Operator's contractors and subcontractors shall, during the drilling and completing of any and all well or wells drilled on the Unit Area and during the performance of all operations, carry the following described minimum insurance coverage on the Unit Area.

- A. Employer's Liability with limit of \$300,000 and Workmen's Compensation Insurance covering Operator's employees and the employees of Operator's contractors and subcontractors engaged in operations under this Agreement, in compliance with the laws of the State where the work is to be performed.
- B. General Public Liability Insurance covering the parties hereto in connection with all operations conducted by Operator or Operator's contractors and subcontractors with Bodily Injury or Death limit of not less than Two Hundred Fifty Thousand Dollars (\$250,000.00) for injury to or death of any one person; not less than Five Hundred Thousand Dollars (\$500,000.00) for injury to or death of more than one person resulting from any one accident and for Property Damage with a limit of not less than Two Hundred Fifty Thousand Dollars (\$250,000.00) for damage to property for each accident; and
- C. Automobile Public Liability and Property Damage Insurance covering the parties hereto in connection with all operations conducted by Operator or Operator's contractors and subcontractors with Bodily Injury or Death limit of not less than Two Hundred Fifty Thousand Dollars (\$250,000.00) for injury to or death of any one person; not less than Five Hundred Thousand Dollars (\$500,000.00) for injury to or death of more than one person resulting from any one accident and for Property Damage with a limit of not less than Two Hundred Fifty Thousand Dollars (\$250,000.00) for damage to property for each accident.
- D. Such additional insurance as may hereafter be deemed necessary by the Unit Operator or as may be required by law.

Unit Operator shall require its contractors and subcontractors working and performing services on land committed hereto to carry other insurance of the types specified above and such amounts as the Unit Operator shall deem necessary. All insurance coverage shall be carried at the joint expense and for the benefit of the parties hereto.

STATE OF TEXAS)
)
COUNTY OF HARRIS)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by Marcus C. Rowland, C.E.O. of AMERICAN ENERGY CAPITAL CORPORATION, a Texas corporation, on behalf of said corporation.

My commission expires:

_____ , Notary Public

STATE OF TEXAS)
)
COUNTY OF TARRANT)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by RODNEY L. WALLER, Senior Vice President of SNYDER OIL COMPANY, a Texas corporation, on behalf of said corporation.

My commission expires:

_____ , Notary Public

DISTRICT OF COLUMBIA)

The foregoing instrument was acknowledged before me this _____ day of June, 1989, by MARC E. LELAND, President of P.A.J.W. CORPORATION, a Delaware corporation, on behalf of said corporation.

My commission expires:

_____ , Notary Public

Attached to that certain Unit Operating Agreement, Jennifer Chaveroo San Andres Unit, County of Roosevelt, State of New Mexico, dated June 15, 1989.

(rev. 07/17/89)

EXHIBIT "B" TO UNIT AGREEMENT
 JENNIFER CHAVEROO SAN ANDRES UNIT
 COUNTY OF ROOSEVELT, STATE OF NEW MEXICO

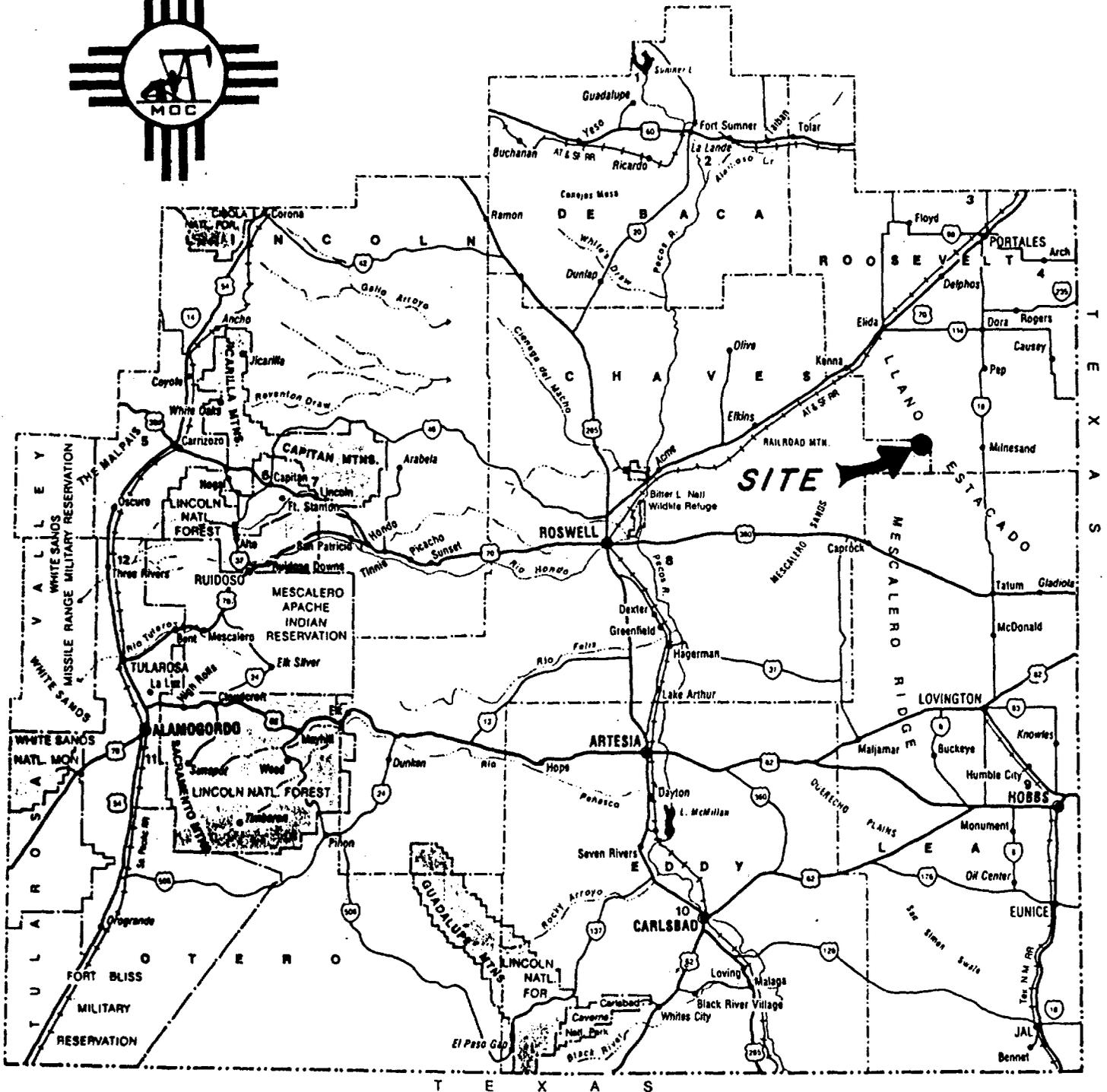
Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty		San Andres Production	W.I.	
					Owner or Production Payment Interest (PPI)	Percent Ownership		W.I. Ownership	Percent Unit Participation
1.	Federal "26" T-7-S, R-33-E Sec. 26: S½ 320.00 acres Roosevelt County, N.M.	NM-0108997-B 09/01/60	BHP Petroleum (Americas), Inc.	United States of America 12.5	Amoco Production Co. M. McDonnold, Jr. William F. Pipes Westway Petro Southwest Royalties, Inc.	1.00000 0.75000 0.75000 2.50000 2.50000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.309590 3.273973 5.893152 10.476715
2.	Homme Federal T-7-S, R-34-E Sec. 20: N½ Sec. 21: NW¼ 480.00 acres Roosevelt County, N.M.	NM-0142393 06/01/61	ENE Resources GP, Inc.	United States of America 12.5	Jean A. Cornell, et al. Barbara B. Sweeney Santa Fe Andover Oil Co.	1.50000 1.00000 2.50000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.369763 0.924408 1.663934 2.958105
3.	Wolf Federal T-7-S, R-34-E Sec. 18: Lots 1-4, E½ Sec. 19: NE¼ 659.16 acres Roosevelt County, N.M.	NM-0164650 08/01/61	ENE Resources GP, Inc.	United States of America 12.5	Mark Daniel Wolf	5.00000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.531294 1.328234 2.390821 4.250349
4.	Federal "19" T-7-S, R-34-E Sec. 19: Lots 1 & 2 90.77 acres Roosevelt County, N.M.	NM-81278 04/01/89	Murphy Operating Corporation	United States of America 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.058478 0.146195 0.263151 0.467824
5.	State DB, State DF T-7-S, R-33-E Sec. 25: W½, SW¼SE¼, NE¼SE¼ 400.00 acres	K-1276 03/21/61	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.751963 4.379908 7.883834 14.015705

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	State of N.M.	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	W.I.	
									Percent Ownership	Percent Unit Participation
6.	State "J" T-7-S, R-33-E Sec. 25: NW¼NE¼, SW¼NE¼, SE¼SE¼ 160.00 acres Roosevelt County, N.M.	K-2671 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.496050 1.240127 2.232228 3.968405	
7.	State Conine T-7-S, R-33-E Sec. 25: SE¼NE¼ 40.00 acres Roosevelt County, N.M.	VA-125 10/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.084971 0.212426 0.382367 0.679764	
8.	State "I" T-7-S, R-33-E Sec. 25: NW¼SE¼ 40.00 acres Roosevelt County, N.M.	OG-575 02/11/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.138318 0.622432 0.345793 1.106543	
9.	State "DA" & "DE" T-7-S, R-33-E Sec. 35: SW¼NW¼, SE¼SW¼ 80.00 acres Roosevelt County, N.M.	OG-1191 08/16/57	(SE¼SW¼:) Sun Operating Ltd. Partnership (SW¼NW¼:) Charles Whited and Doris Whited	State of N.M. 12.5	(SE¼SW¼:) Helen Hebblin Clemens A. Werner Murphy Operating Corp. (SW¼NW¼:) Howard W. Luke Murphy Operating Corp.	4.00000 1.00000 0.78125 5.00000 0.78125	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.265938 1.196719 0.664844 2.127501	
10.	Hobbs "T" T-7-S, R-33-E Sec. 35: NE¼NE¼, NE¼NW¼, W¼SE¼, SE¼SE¼ 200.00 acres Roosevelt County, N.M.	K-1369 04/18/61	Murphy Operating Corporation	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	1.277089 5.746902 3.192723 10.216714	
11.	State "Cy" T-7-S, R-33-E Sec. 35: NW¼NE¼, NE¼SW¼, NE¼SE¼ 120.00 acres	K-4058 04/21/64	Sun Operating Ltd. Partnership	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.995136 4.478113 2.487841 7.961090	

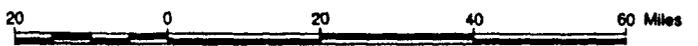
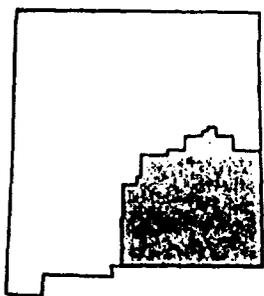
Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	W.I.	
								Percent Ownership	Percent Participation
12.	Shackelford T-7-S, R-33-E Sec. 35: NW¼NW¼ 40.00 acres Roosevelt County, N.M.	V-2821 01/01/89	Murphy Operating Corporation	State of N.M. 16.3334	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.195949 0.489874 0.881773 1.567596
13.	State "35" & "36" T-7-S, R-33-E Sec. 35: W½SW¼, SE¼NW¼, S½NE¼ Sec. 36: NE¼, NE¼SE¼, S½SE¼ 480.00 acres Roosevelt County, N.M.	OG-929 06/18/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.015953 2.539883 4.571789 8.127625
14.	State "K" T-7-S, R-33-E Sec. 36: W¼, NW¼SE¼ 360.00 acres Roosevelt County, N.M.	K-2672 08/21/62	The Wiser Oil Co.	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	1.231573 3.078933 5.542079 9.852585
15.	State "G" T-7-S, R-34-E Sec. 19: Lots 3 & 4, SE¼ 251.59 acres Roosevelt County, N.M.	OG-1193 08/20/57	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 31.25000 100.00000	0.597946 2.690757 1.494865 4.783568
16.	State "20" T-7-S, R-34-E Sec. 20: S½ 320.0 acres Roosevelt County, N.M.	VA-141 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.514392 1.285982 2.314767 4.115141
17.	State "20" T-7-S, R-34-E Sec. 29: NE¼ 160.00 acres Roosevelt County, N.M.	VA-142 11/01/88	Murphy Operating Corporation	State of N.M. 12.5	None	--	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 56.25000 100.00000	0.019429 0.048572 0.087429 0.155430

Tract No.	Lease Name, Description of Land, and No. Acres	Serial No. & Lease Date	Lessee of Record	Basic Royalty & Percentage	Overriding Royalty Owner or Production Payment Interest (PPI)	Percent Ownership	San Andres Production W.I. Ownership	W.I.	
								Percent Ownership	Percent Unit Participation
18.	Hobbs "W" T-7-S, R-34-E Section 29: $\frac{W}{2}$, $\frac{W}{2}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 30: NE $\frac{1}{4}$, $\frac{W}{2}$ SE $\frac{1}{4}$ 680.00 acres Roosevelt County, N.M.	K-1370 04/18/61	Murphy Operating Corporation	State of N.M. 12.5	Murphy Operating Corporation	2.34375	Murphy Operating Corporation Snyder Oil Company P.A.J.W. Corporation	12.50000 56.25000 <u>31.25000</u> 100.00000	1.233654 5.551441 <u>3.084134</u> 9.869229
19.	State "V" T-7-S, R-34-E Sec. 30: Lots 1-4, E $\frac{1}{2}$ SE $\frac{1}{4}$ 265.48 acres Roosevelt County, N.M.	0G-4897 12/16/58	TOC-Gulf Coast, Inc.	State of N.M. 12.5	Southwest Royalties Inc. Ralph Dreyer, Trustee Cherilyn Priddy Loving	3.75000 2.50000 1.25000	Murphy Operating Corporation American Energy Capital Corp. Snyder Oil Company	12.50000 31.25000 <u>56.25000</u> 100.00000	0.412514 1.031285 <u>1.856312</u> 3.300111

STATE ACREAGE: 3,597.07 = 69.89% OF UNIT AREA
 FEDERAL ACREAGE: 1,549.93 = 30.11% OF UNIT AREA
 TOTAL ACREAGE: 5,147.00 100.00%



GENERAL LOCATION MAP
WATER FLOOD STUDY
MURPHY OPERATING CORPORATION
CHAVEROO SAN ANDRES FIELD
PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
ROOSEVELT COUNTY, NEW MEXICO





MURPHY OPERATING CORPORATION

UNITED BANK PLAZA, SUITE 300
400 NORTH PENNSYLVANIA AVENUE
POST OFFICE BOX 2648
ROSWELL, NEW MEXICO 88202-2648

TELEPHONE
505 623-7210

ENGINEERING AND GEOLOGIC REPORT
July 15, 1989

Proposed Jennifer Chaveroo San Andres Unit
Chaveroo San Andres Field
Roosevelt County, New Mexico

I. SAN ANDRES REGIONAL GEOLOGY. The San Andres Formation is one of the most prolific hydrocarbon-bearing horizons of the Permian Basin. It consists of a cyclic sequence of shallow-water carbonates and evaporites which progressed across the Northwest Shelf toward the Midland and Delaware Basins. San Andres production exists through the vertical stacking of porous dolomitic reservoirs. Stratigraphic trapping of hydrocarbons results from porosity pinch-outs defined by the degree of dolomitization and anhydrite plugging, both vertically near the top of depositional cycles, and on a regional scale. Stratigraphic trapping, combined with subtle structural nosing and changes in dip, define the limits of production. Reservoir zones are regionally correlatable and mappable. Major productive trends pinch out northward onto the Matador Arch causing this feature to be a major influence on San Andres deposition and production.

II. STRATIGRAPHY. At its type locality in the San Andres Mountains of New Mexico, the San Andres Formation consists of a 32 foot (10 meters) thick basal yellowish sandstone and 578 foot (176 meters) of overlying dark-gray to black petroliferous limestone (Lee and Girty, 1909; Kottowski et al., 1956; Gratton and LeMay, 1969). This section apparently corresponds to the lower half of the uneroded subsurface San Andres of the Northwest Shelf (Kottowski, et al., 1956; Kinney, 1969).

The San Andres consists of interbedded dolomites, anhydrites, and minor limestones, which directly overlie the sandy anhydritic dolomite of the Glorietta and Yeso formations (Leonardian). The San Andres is directly overlain by the evaporitic dolomites of the Grayburg Formation of the Artesia/White Horse Group (upper-middle Guadalupian).

The San Andres Formation over much of the Northwest Shelf can be divided into upper and lower parts based on the occurrence of a regionally correlatable marker bed, a silt-stone 5-10 foot (1.5-3 meters) thick, known as the "Pi" marker, which typically occurs 400-650 feet (122-198 meters) below the formation top. From bottom to top, the lower part of the San Andres, which may be up to 800 feet (244 meters) thick, is a large-scale shoaling depositional cycle. It is formed of open-marine shelf deposits, overlain by a thick package of restricted shelf and tidal-flat deposits, and capped by supratidal deposits. Depositional facies of the San Andres Formation have been previously described in detail (Gratton and LeMay, 1969; Silver and Todd, 1969; Chuber and Pusey, 1972; Meissner, 1972; Todd, 1976; Dutton et al., 1979; Hafner, 1979; Ramondetta, 1982). This regressive sequence of deposits represents progradation of facies to the south across the Northwest Shelf and toward the adjacent basins.

The cyclic nature of the restricted shelf and tidal-flat deposits of the lower San Andres has formed stratigraphic traps whose mechanism is the occurrence of impermeable anhydrite and tight dolomites between vertically stacked porosity zones commonly about 50 feet (15 meters) thick (Gratton and LeMay, 1969; Pitt and Scott, 1981; Ramondetta, 1982). The anhydrite layer is thicker to the north (updip), providing an impermeable regional porosity plug that parallels the deeper structural trend of the Matador Arch.

III. POROSITY ZONES. Eight porosity zones are defined at various depths below the Pi marker. Regionally, these zones represent, from bottom to top, cyclic deposition of carbonates and evaporites which become increasingly evaporitic upward through the section.

Zones 1 through 5 extend across the Northwest Shelf to their regional pinch-out against the Matador Arch. The reservoir zones correlate to anhydrite and anhydrite-plugged dolomites facies farther north (Gratton and LeMay, 1969; Pitt and Scott, 1981). Reservoir zones are stacked, with increasingly shallower production located farther southward. Zones 2 through 4 comprise the productive interval are major hydrocarbon-producing zones, pinching out north and parallel to the Matador Arch. Dip cross-sections of the San Andres show that the deeper porous zones 7 and 8 are regionally extensive across the Northwest Shelf and Matador Arch. Although zones 7 and 8 are typically porous, the porosity occurs in a water-saturated dolomitic limestone which has not proven productive.

IV. STRUCTURAL INFLUENCES. Most San Andres fields on the Northwest Shelf are primarily stratigraphic traps, controlled by a combination of extensive dolomitization and anhydrite plugging. However, subtle structural elements on both a local and regional scale have some bearing on the localization of hydrocarbons in the San Andres Formation. Subtle structural nosing and changes in dip are important in localizing hydrocarbons in the porous reservoir zones (Gratton and LeMay, 1969). Gratton and LeMay (1969) showed that the Chaveroo field of Roosevelt County, New Mexico, results from a combination of stratigraphic, structural, and hydrodynamic interaction. The field produces from three vertically-stacked dolomite reservoirs on two subtle structural noses. Production is limited on the eastern edge of the field by porosity pinch-outs associated with steepening of dip.

The subtle structural influences evident on a local scale are also important on a regional scale. Two important structural features have a marked influence on San Andres production on the Northwest Shelf: a) the Matador Arch; and b) the shallow expression of the Wolfcamp-Pennsylvanian Shelf edge of the Midland Basin. The Matador Arch was a positive feature throughout much of the Mississippian and Pennsylvanian; undoubtedly, it remained a regional high even in the Late Permian. The southern-most wells in the Slaughter-Levelland Field produce from several porosity zones. These zones pinch out regionally updip onto the Matador Arch -- a pattern that is repeated and typifies the Northwest Shelf. All productive San Andres reservoirs that are major hydrocarbon producers pinch out onto this structural feature, restricting production in an east-west trend across the Northwest Shelf which parallels the Arch. Whereas, porous zones are developed north of the Arch (Pitt and Scott, 1981), they are stratigraphically deeper and typically produce water. In addition, the percentage of halite increases north of the Matador Arch. Indeed, the Matador Arch probably marks the southern extent of major halite deposition and the northern extent of reservoir-facies deposition.

V. RESERVOIR CHARACTERISTICS. Core analysis porosities in the Chaveroo Field range up to 20 percent, but the higher porosities are quite often in very thin zones. Permeabilities in the Field are less than 1 millidarcy with an occasional thin interval of higher permeability, but high permeability is usually associated with fracturing. A continuous 35 foot vertical fracture was evident in one core from the Field. Such fractures are felt to be important drainage factors in the Field.

Water-oil contacts in San Andres fields are rather hard to pick as each small porosity zone may have its own separate oil-water contact or because of low permeability may have water interspersed throughout the porous section. The depletion of water during production in some wells seems to be an indication of the validity of the above hypothesis. Typically oil and water cumulative production is about equal during primary recovery. Although it is difficult, if not impossible, to define an oil-water contact datum, it is possible to locate a datum below which all zones produce primarily water.

Chaveroo Field wells sometimes evidence high initial production and rapid decline to relatively low-rate, flatter decline. This suggests initial fracture production depleting by solution gas drive to matrix permeability production both directly to the well bore and through the fracture system. There is evidence of fracture orientation in a northwest/southeast direction. This can be expected in secondary structural north/south arching considering stress parallelogram analysis.

VI. CHAVEROO SAN ANDRES FIELD. As shown on Exhibit 5, the Chaveroo San Andres Field is located on the county line separating Chaves and Roosevelt Counties, New Mexico. The field name itself is a contraction of Chaves and Roosevelt. The Field, located geologically on the south flank of the Matador

Arch on the Northwestern Shelf, was discovered in March, 1965, with the completion of the Champlin Petroleum Company and Warren American Oil Company No. 1 Hondo State. This well was plugged back from a total depth of 9,100 feet to 4,400 feet. The field now has 419 wells. Production is a sour 24° A.P.I. gravity crude and the cumulative field production was 23,131,431 barrels of oil, 34,070,069 MCF of gas, and 28,100,918 barrels of water as of January 1, 1989. The discovery was made using a combination of subsurface geology and reflection-seismograph data. Oil production is from a gray-to-brown fine crystalline to granular anhydritic dolomite with fine vuggy inter-crystalline and fracture-type porosity zones located approximately 650 feet below the top of the San Andres of Guadalupian (Permian) age. The Field contains a gross pay section of approximately 200 feet. The Field structure consists primarily of a southward plunging nose. Reservoir conditions are controlled by thin porosity zones which pinch out updip.

Reference is made to the geologic report dated November, 1966 prepared by the Roswell Geological Society. This report summarizes the technical information available fourteen months after the Field was discovered. It is important to note in this Roswell Geological Society report the reported parameters of average reservoir data as follows: 6% porosity, 0.7 md permeability, 26° A.P.I. black sour crude, initial bottom hole pressure of 1340 psi at +140 datum and an average reservoir temperature of 110°F. These technical averages were confirmed by additional development. The current low well production and fluid levels indicate that solution drive primary recovery has depleted reservoir pressure to probably less than 100 psi. The exception to this depleted pressure is in areas of salt water disposal where pressures are often higher.

VII. PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT ("JCSAU"). The JCSAU area has geologic characteristics and reservoir conditions similar or superior to the rest of the Field. It is favored as an area of relatively high per well recovery as shown in Exhibit 7, "Derivation of Tract Participation Factors", attached. Seventy-one (71) wells in JCSAU have recovered 4,962,726 barrels of oil to January 1, 1989 or an average of 69,898 barrels of oil per well. The Field average has been 55,206 barrels per well from 419 wells. The decline curves for wells within this area confirm that current production is marginal and near economic limit. The proposed Unit formula is based upon 80% total primary production to January 1, 1989 (essentially ultimate primary recovery) plus 15% total useable wells plus 5% total surface acreage. This formula appears to be optimum given the engineering and geological considerations.

Exhibit 10, "Tabulated Summary of Geologic Data," provides information concerning the gross producing section which is generally on the order of 200+ feet of gross thickness.

Exhibit 11, "Iso-Cum Base Map", illustrates the cumulative oil production contours. This "iso-cum" mapping method is preferred to the iso-pach map as a tool for evaluating future secondary oil productivity.

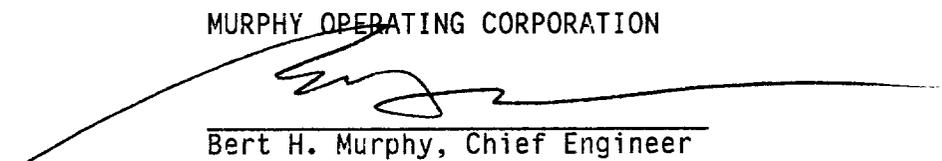
Exhibit 12, "Structure Map", indicates a southeast plunging monoclinial structure with localized highs in the southwest and northwest portions of Section 35 and the center of Section 19. Higher recovery trends with the strike of the structure until reduced by lower permeability toward the updip pinch out and by higher water saturation in the downdip area.

Exhibits 13-19, various "Stratigraphic Cross Sections", suggest a general continuity of productive interval in the Unit area.

VIII. SUMMARY. A review of technical data and proposed operational plans indicate that the JCSAU area is similar or superior to the rest of the Chaveroo San Andres Field. The Unit area is typical or superior to numerous other San Andres fields in the Northwest San Andres trend area that have been waterflooded successfully. The proposed operational plans appear to be sound. The unitization and waterflooding of the Unit should: a) protect correlative rights; b) promote the conservation of petroleum; and c) prove beneficial to the interest owners, and county, state and federal treasuries.

IX. RECOMMENDATION. It is recommended that expeditious approval of the Unit be sought and that the proposed waterflood project be commenced as soon as possible.

MURPHY OPERATING CORPORATION



Bert H. Murphy, Chief Engineer
Registered Professional Engineer,
New Mexico License #10243 and
Texas License #12951.

PROPOSED JENNIFER SAN ANDRES UNIT
Derivation of Tract Participation Factors

*Based upon the 1988 Annual Report of the New Mexico Oil & Gas Engineering Committee.

Tract Participation Formula
 Tract Participation = 15% A + 80% B + 5% C
 Where A = Percent of Total Useable Wells in Unit Area.
 Where B = Percent of Total Primary Oil Recovery in Unit Area as of January 1, 1989.
 Where C = Total Unit Acreage.

LEGEND
 A Permanently Abandoned
 F Flowing
 I Injection
 S Shut In
 F Flowing

Tract	Lease Name	Original Well Number	Well Location	Well Status	Unit Well Number	A		B		C		Tract Participation Factor			
						Useable Wells %	15% X	Total Primary Oil Recovery to January 1, 1989	80% X	Acreage %	5% X				
1. Federal 26	1M	26 7S 33E		S	26-13	1		62,819							
	2L	26 7S 33E		P	26-12	1		71,687							
	3K	26 7S 33E		P	26-11	1		64,475							
	4N	26 7S 33E		S	26-14	1		65,965							
	5J	26 7S 33E		P	26-10	1		62,823							
	6O	26 7S 33E		S	26-15	1		64,066							
	7I	26 7S 33E		P	26-09	1		63,263							
	8P	26 7S 33E		P	26-16	1		70,685							
						8	11.267606	1.690141	525,783	10.594641	8.475713	320.00	6.217214	0.310861	10.476715
2. Homme Federal	1E	20 7S 34E		S	20-05	1		62,290							
	2C	20 7S 34E		S	20-03	1		27,465							
	3F	20 7S 34E		S	20-06	1		25,505							
						3	4.225352	0.633803	115,260	2.322514	1.858011	480.00	9.325821	0.466291	2.958105
3. Wolf Federal	1G	19 7S 34E		P	19-07	1		32,250							
	2B	19 7S 34E		P	19-02	1		27,113							
	3O	18 7S 34E		S	18-15	1		32,687							
	4A	19 7S 34E		P	19-01	1		28,695							
	5H	19 7S 34E		S	19-08	1		37,670							
						5	7.042254	1.056338	158,415	3.192096	2.553677	659.16	12.806684	0.640334	4.250349
4. Federal 19	1F	19 7S 34E		A	19-06	0		15,554							
	2C	19 7S 34E		A	19-03	0		7,997							
						0	0.000000	0.000000	23,551	0.474558	0.379646	90.77	1.763552	0.088178	0.467824
5. State DB	1D	25 7S 33E		S	25-04	1		70,715							
	2E	25 7S 33E		S	25-05	1		79,087							
	3C	25 7S 33E		P	25-03	1		147,639							
	4L	25 7S 33E		A	25-12	0		76,257							
	5F	25 7S 33E		P	25-06	1		73,421							
	6M	25 7S 33E		I	25-13	1		70,955							
	7K	25 7S 33E		P	25-11	1		76,711							
	8N	25 7S 33E		A	25-14	0		55,065							
						1	64,017								
						1	26,633								
						8	11.267606	1.690141	740,500	14.921235	11.936988	400.00	7.771517	0.388576	14.015705
State DF	1I	25 7S 33E		SWD	25-09	1									

*Based upon the 1988 Annual Report of the New Mexico Oil & Gas Engineering Committee.

Tract Participation Formula
 Tract Participation = 15% A + 80% B + 5% C
 Where A = Percent of Total Useable Wells in Unit Area.
 Where B = Percent of Total Primary Oil Recovery in Unit Area as of January 1, 1989.
 Where C = Total Unit Acreage.

LEGEND
 A Permanently Abandoned
 F Flowing
 I Injection
 S Shut In
 F Flowing

Tract Lease Name	Original Well		Well Location	Well Status	Unit Well Number	A		B			C		Tract Participation Factor	
	Number	Number				Useable Wells %	Number	%	BBLs*	100%	80%	Number		%
14. State K	1D	36 7S 33E	P	36-04	1			77,262						
	2E	36 7S 33E	P	36-05	1			74,701						
	3C	36 7S 33E	P	36-03	1			120,329						
	4L	36 7S 33E	P	36-12	1			62,611						
	5M	36 7S 33E	P	36-13	1			81,027						
	6F	36 7S 33E	P	36-06	1			52,689						
	7K	36 7S 33E	P	36-11	1	7	9.859155	1.478873	497,761	10.029992	8.023994	360.00	6.994366	0.349718
15. State G	1K	19 7S 34E	S	19-11	1			29,473						
	2N	19 7S 34E	S	19-14	1			37,651						
	3J	19 7S 34E	S	19-10	1			24,987						
	4O	19 7S 34E	P	19-15	1			35,548						
	5I	19 7S 34E	S	19-09	1			30,678						
	6P	19 7S 34E	S	19-16	1	6	8.450704	1.267606	202,948	4.089446	3.271557	251.59	4.888090	0.244405
16. State 20	1L	20 7S 34E	A	20-12	0			61,425						
	2M	20 7S 34E	A	20-13	0			66,208						
	3K	20 7S 34E	A	20-11	0			46,572						
	4N	20 7S 34E	A	20-14	0			61,790						
17. State 20 (Section 29)	--	--	--	--	0	0.000000	0.000000	235,995	4.755350	3.804280	320.00	6.217214	0.310861	4.115141
	--	--	--	--	0	0.000000	0.000000	0	0.000000	0.000000	160.00	3.108607	0.155430	0.155430
18. Hobbs W	1B	30 7S 34E	P	30-02	1			51,082						
	2A	30 7S 34E	P	30-01	1			65,313						
	3G	30 7S 34E	P	30-07	1			69,741						
	4H	30 7S 34E	P	30-08	1			51,798						
	5J	30 7S 34E	S	30-10	1			44,321						
	6D	29 7S 34E	P	29-04	1			67,244						
	7E	29 7S 34E	S	29-05	1			68,701						
	8C	29 7S 34E	S	29-03	1			35,098						
	9F	29 7S 34E	I	29-06	1	9	12.676056	1.901408	453,298	9.134053	7.307242	680.00	13.211580	0.660579

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVERO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI)	Maximum
MOC (Southern Petroleum Exploration, Inc.) State J Well #1 B-25-T7S-R33E 660' FNL & 1980' FEL Elevation 4320' GR	25-02	IP	378' 8 5/8" 24# in 11" hole. 200 sx cmt. Circ. to surf. 4394' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3300' by Temp. Survey.	04-03-66/ 04-15-66	TD 4395' PBTD 4356'	04-18-66 (1 SPI) 4168', 4203', 4212', 4228', 4234', 4248', 4255', 4262', 4275'	04-18-66 (4168'-4275') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4065'	4 1/2" UNI-1 Tension Packer set @ 4068'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) State DB Well #1 D-25-T7S-R33E 660' FNL & 660' FWL Elevation 4335' RDB	25-04	IP	437' 8 5/8" 24# in 11" hole. 225 sx cmt. Circ. to surf. 4388' 4 1/2" 11# in 7 7/8" hole. 800 sx cmt. TOC 1888 by Calc.	02-19-66/ 03-02-66	TD 4388' PBTD 4357'	03-07-66 (2 JSPF) 4174'-4176', 4186'-4190', 4202'-4210', 4218'-4220', 4224'-4226', 4226'-4232', 4236'-4238', 4248'-4249', 4250'-4251', 4253'-4254', 4257'-4260', 4267'-4268', 4270'-4272', 4302'-4304', 4308'-4313', 4322'-4328', 4334'-4336'	03-07-66 (4174'-4336') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4071'	4 1/2" UNI-1 Tension Packer set @ 4074'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) State DB Well #5 F-25-T7S-R33E 1980' FNL & 1980' FWL Elevation 4330' RDB	25-06	IP	442' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4415' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1915 by Calc.	04-21-66/ 05-02-66	TD 4415' PBTD 4385'	05-02-66 (2 JSPF) 4337'-4350') 05-09-66 (2 JSPF) 4182'-4185', 4207'-4210', 4217'-4219', 4230'-4245', 4252'-4254', 4265'-4267', 4273'-4274', 4286'-4296', 4299'-4301', 4303'-4305'	05-09-66 (4337'-4350') Acidize w/1000 gals. 05-09-66 (4182'-4305') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand, & 3000# glass beads.	2 3/8" 4.7# Ceramic Coated set @ 4079'	4 1/2" UNI-1 Tension Packer set @ 4082'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Equipment Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Kermit Oil Company) State Well #1 H-25-T7S-R33E 1980' FNL & 660' FEL Elevation 4322' GR	25-08	IP	1826' 7" 20# in 8 3/4" hole. 350 sx cmt. Circ. to surf. 4417' 4 1/2" 9.5# in 6 1/4" hole. 325 sx cmt. TOC 3380' by Temp. Survey.	07-18-66/ 07-30-66	TD 4420' PBTD 4386'	08-01-66 (1 JSPF) 4196', 4197', 4251', 4259', 4262', 4275', 4281', 4287', 4296', 4303', 4308'	08-01-66 (4196'-4308') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4093'	4 1/2" UNI-1 Tension Packer set @ 4096'	400/400#	600/800#
MOC (Kerr-McGee Corp.) State I Well #1 J-25-T7S-R33E 1980' FSL & 1980' FEL Elevation 4324.5 GR	25-10	IP	419' 8 5/8" 24# in 12 1/4" hole. 275 sx cmt. Circ. to surf. 4420' 5 1/2" 14# in 7 7/8" hole. 350 sx cmt. TOC 3326 by Calc.	06-12-66/ 07-15-66	TD 4420' PBTD 4393'	06-27-66 (1 SPI) 4203', 4209', 4215', 4217', 4221', 4268', 4281', 4283', 4286', 4289', 4291', 4299', 4311', 4340'	06-27-66 (4203'-4340') Acidize w/2000 gals. Frac w/30,000 gals. oil & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4100'	5 1/2" UNI-1 Tension Packer set @ 4103'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) State DB Well #4 L-25-T7S-R33E 1980' FSL & 660' FWL Elevation 4338' RDB	25-12	IP	450' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4410' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1910 by Calc.	04-12-66/ 04-23-66	TD 4410' PBTD 4375'	04-25-66 (2 JSPF) 4208'-4209', 4210'-4212', 4214'-4216', 4221'-4223', 4234'-4235', 4249'-4251', 4256'-4258', 4260'-4262', 4266'-4276', 4277'-4280', 4286'-4287', 4292'-4294', 4296'-4298', 4299'-4300', 4304'-4307', 4338'-4340', 4344'-4346', 4358'-4363'	04-25-66 (4208'-4363') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4105'	4 1/2" UNI-1 Tension Packer set @ 4108'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Average	Maximum
MOC (Pan American Petroleum Corp.) State DB Well #8 N-25-T7S-R33E 660' FSL & 1980' FWL Elevation 4333' RDB	25-14	IP	455' 8 5/8" 24# in 12 1/4" hole. 250 sx cmt. Circ. to surf. 4465' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1965 by Calc.	05-13-66/ 05-29-66	TD 4465' PBTD 4424'	05-31-66 (2 JSPF) 4205'-4209', 4211'-4213', 4218'-4220', 4243'-4247', 4251'-4253', 4255'-4257', 4267'-4270', 4274'-4275', 4277'-4279', 4287'-4289', 4295'-4297', 4300'-4304', 4307'-4316', 4323'-4325', 4327'-4332', 4339'-4341'	05-31-66 (4205'-4341') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4102'	4 1/2" UNI-1 Tension Packer set @ 4105'	400/400#	600/800#
MOC (Southern Petroleum Exploration, Inc.) State J Well #4 P-25-T7S-R33E 990' FSL & 990' FEL Elevation 4325' GRD	25-16	IP	343' 8 5/8" 24# in 12 1/4" hole. 200 sx cmt. Circ. to surf. 4470' 5 1/2" 20# in 7 7/8" hole. 325 sx cmt. TOC 3400' by Temp. Survey.	01-17-67/ 02-01-67	TD 4470' PBTD 4450'	02-06-67 (1 SPI) 4253', 4283', 4295', 4301', 4304', 4317', 4323', 4327', 4335', 4346', 4365'	02-06-67 (4253'-4365') Acidize w/2000 gals. Frac w/25,000 gals. 1se. oil & 25,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4150'	5 1/2" UNI-1 Tension Packer set @ 4153'	400/400#	600/800#
MOC (Kern County Land Co.) Federal 26 Well #5 J-26-T7S-R33E 1980' FSL & 1980' FEL Elevation 4343' GR	26-10	IP	1818' 7" 24# in 8 3/4" hole. 375 sx cmt. Circ. to surf. 4394' 4 1/2" 9.5# in 6 1/4" hole. 350 sx cmt. TOC 3300 by Calc.	05-27-66/ 06-11-66	TD 4394' PBTD 4357'	06-13-66 (1 SPI) 4160', 4163', 4195', 4211', 4225', 4231', 4232', 4233', 4252', 4257', 4274'	06-13-66 (4160'-4274') Acidize w/2000 gals. Frac w/30,000 gals. 1se. oil & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4057'	4 1/2" UNI-1 Tension Packer set @ 4060'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVERO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Equipment Tubing	Packer	Proposed Inj. Average	Prop. Press (PSI) Maximum
MOC (Kern County Land Co.) Federal 26 Well #2 L-26-T7S-R33E 1980' FSL & 660' FWL Elevation 4373.3' GL	26-12	IP	1808' 7" 24# in 8 3/4" hole. 400 sx cmt. Circ. to surf. 4402' 4 1/2" 9.5# in 6 1/4" hole. 300 sx cmt. TOC 3510 by Calc.	05-08-66/ 05-23-66	TD 4405' PBTD 4356'	05-23-66 (1 SPI) 4142', 4158', 4168', 4175', 4206', 4222', 4236', 4244', 4250', 4262', 4270', 4281', 4288', 4292'	05-23-66 (4142'-4292') Acidize w/2000 gals. Frac w/30,000 gals. 1se. oil & 28,200# sand.	2 3/8" 4.7# Ceramic Coated set @ 4039'	4 1/2" UNI-1 Tension Packer set @ 4042'	400/400#	600/800#
MOC (Kern County Land Co.) Federal 26 Well #4 N-26-T7S-R33E 660' FSL & 1980' FWL Elevation 4374' KB	26-14	IP	1825' 7" 24# in 8 3/4" hole. 375 sx cmt. Circ. to surf. 6 1/4" hole. 330 sx cmt. TOC 3398 by Calc.	05-31-66/ 06-15-66	TD 4380' PBTD	06-13-66 (1 SPI) 4125', 4177', 4183', 4244', 4249', 4252', 4259', 4267', 4273', 4281', 4285', 4294' 07-28-80 (1 SPI) 4000'-4005', 4038'-4043', 4094'-4102'	06-13-66 (4125'-4294') Acidize w/2000 gals. Frac w/30,000 gals. 1se.	2 3/8" 4.7 Ceramic	4 1/2" UNI-1 Tension 3900'	400/400#	600/800#
MOC (Kern County Land Co.) Federal 26 Well #8 P-26-T7S-R33E 660' FSL & 660' FEL Elevation 4339.2' GL	26-16	IP	1820' 7" 24# in 8 3/4" hole. 350 sx cmt. Circ. to surf. 4376' 4 1/2" 9.5# in 6 1/4" hole. 330 sx cmt. TOC 3394 by Calc.	05-11-66/ 05-25-66	TD 4376' PBTD 4333'	05-31-66 (1 SPI) 4153', 4166', 4172', 4178', 4194', 4226', 4245', 4251', 4256', 4262', 4272', 4290'	05-31-66 (4153'-4290') Acidize w/2000 gals. Frac w/30,000 gals. 1se. oil & 30,300# sand.	2 3/8" 4.7# Ceramic Coated set @ 4050'	4 1/2" UNI-1 Tension Packer set @ 4053'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Equipment Tubing	Packer	Proposed Inj. Average	Press (PSI) Maximum
MOC (Shell Oil Company) State CV Well #2 B-35-T7S-R33E 660' FNL & 1980' FEL Elevation 4358' DF	35-02	IP	390' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4397' 4 1/2" 10.5# in 7 7/8" hole. 525 sx cmt. TOC 2836' by Calc.	03-01-66/ 03-14-66	TD 4397' PBTD 4359'	03-21-66 (1 SPI) 4161', 4183', 4185', 4194', 4219', 4229', 4233', 4247', 4250', 4253', 4259', 4275', 4281', 4303'	03-21-66 (4161'-4303') Acidize w/4200 gals.	2 3/8" 4.7# Ceramic Coated set @ 4058'	4 1/2" UNI-1 Tension Packer set @ 4061'	400/400#	600/800#
MOC (Morris R. Antwell) Shackelford Well #1 D-35-T7S-R33E 660' FNL & 660' FWL Elevation 4391' KB	35-04	IP	404' 8 5/8" 32# in 12 1/4" hole. 300 sx cmt. Circ. to surf. 4499' 4 1/2" 9.5# in 7 7/8" hole. 325 sx cmt. TOC 3500' by Temp Survey.	05-07-66/ 05-25-66	TD 4500' PBTD 4472'	05-31-66 (1 SPI) 4167', 4173', 4209', 4231', 4241', 4259', 4263', 4269', 4271', 4277', 4281', 4289', 4301', 4307', 4318'	05-31-66 (4167'-4318') Acidize w/3500 gals.	2 3/8" 4.7# Ceramic Coated set @ 4064'	4 1/2" UNI-1 Tension Packer set @ 4067'	400/400#	600/800#
MOC (Marathon Oil Co.) State Section 35 Well #3 F-35-T7S-R33E 1980' FNL & 1980' FWL Elevation 4368'	35-06	IP	358' 8 5/8" 24# in 12 1/4" hole. 250 sx cmt. Circ. to surf. 4439' 4 1/2" 9.5# in 7 7/8" hole. 350 sx cmt. TOC 3335' by Temp. Survey.	02-28-66/ 03-18-66	TD 4440' PBTD 4434'	03-14-66 (2 JSPP) 4186'-4187', 4192'-4193', 4205'-4206', 4217'-4218', 4235'-4236', 4251'-4252', 4269'-4270', 4284'-4285', 4289'-4290', 4295'-4296', 4302'-4303', 4310'-4311', 4319'-4320', 4325'-4326'	03-14-66 (4186'-4326') Acidize w/3000 gals. Frac w/40,000 gals. 1se. oil & 40,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4083'	4 1/2" UNI-1 Tension Packer set @ 4086'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Equipment	Packer	Proposed Inj. Average	Prop. Press (PSI) Maximum
MOC (Marathon Oil Co.) State Section 35 Well #5 H-35-T7S-R33E 1980' FNL & 660' FEL Elevation 4337' GR	35-08	IP	388' 8 5/8" 24# in 12 1/4" hole. 250 sx cmt. Circ. to surf. 4439' 4 1/2" 9.5# in 7 7/8" hole. 350 sx cmt. TOC 3630' by Temp. Survey.	04-24-66/ 05-08-66	TD 4440' PBTD 4406'	05-07-66 (2JSPF) 4256'-4257', 4271'-4272', 4278'-4279', 4291'-4292', 4301'-4302', 4306'-4307', 4317'-4318', 4326'-4327'	05-07-66 (4256'-4327') Acidize w/3000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4153'	4 1/2" UNI-1 Tension Packer set @ 4156'	400/400#	600/800#
MOC (Skelly Oil Company) Hobbs "I" Well #14 J-35-T7S-R33E 1980' FSL & 1980' FEL Elevation 4357' DF	35-10	IP	376' 8 5/8" 24# in 11 hole. 250 sx cmt. Circ. to surf. 4500' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3187' by Temp. Survey.	03-01-66/ 03-15-66	TD 4500' PBTD 4458'	03-21-66 (1 SPI) 4207', 4220', 4245', 4257', 4259', 4271', 4275', 4277', 4281', 4287', 4294', 4297', 4302', 4307', 4323', 4329'	03-21-66 (4207'-4329') Acidize w/2500 gals.	2 3/8" 4.7# Ceramic Coated set @ 4104'	4 1/2" UNI-1 Tension Packer set @ 4107'	400/400#	600/800#
MOC (Marathon Oil Co.) State Section 35 Well #1 L-35-T7S-R33E 1980' FSL & 660' FWL Elevation 4368'	35-12	IP	363' 8 5/8" 24# in 12 1/4" hole. 200 sx cmt. Circ. to surf. 4442' 5 1/2" 15.5# & 17# in 7 7/8" hole. 350 sx cmt. TOC 3295' by Temp. Survey.	12-14-65/ 01-13-66	TD 4450' PBTD 4405'	01-07-66 (1 SPI) 4244', 4256', 4277', 4281', 4288', 4292', 4303', 4309', 4321', 4327', 4331', 4334'	01-07-66 (4244'-4334') Acidize w/3500 gals. Frac w/40,000 gals. oil & 40,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4141'	5 1/2" UNI-1 Tension Packer set @ 4144'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Tubing	Equipment Packer	Proposed Inj. Average	Press (PSI) Maximum
MOC (Pan American Petroleum Corp.) State DE Well #1 N-35-T7S-R33E 660' FSL & 1980' FWL Elevation 4371' RDB	35-14	IP	420' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4476' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1976' by Calc.	04-06-66/ 04-17-66	TD 4476' PBTD 4442'	04-18-66 (2 JSPF) 4207'-4208', 4211'-4213', 4214'-4215', 4222'-4227', 4230'-4231', 4237'-4239', 4244'-4248', 4254'-4256', 4271'-4272', 4275'-4283', 4287'-4289', 4293'-4296', 4297'-4298', 4304'-4306', 4318'-4320', 4322'-4323', 4328'-4330', 4335'-4336'	04-18-66 (4207'-4336') Acidize w/2000 gals. Frac w/30,000 gals. oil, 45,000# sand, & 3,000# glass beads.	2 3/8" 4.7# Ceramic Coated set @ 4104'	4 1/2" UNI-1 Tension Packer set @ 4107'	400/400#	600/800#
MOC (Skelly Oil Company) Hobbs "T" Well #19 P-35-T7S-R33E 660' FSL & 660' FEL Elevation 4353' DF	35-16	IP	376' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4498' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3276' by Temp. Survey.	05-02-66/ 05-15-66	TD 4500' PBTD 4460'	05-23-66 (1 SPI) 4187', 4211', 4223', 4240', 4250', 4255', 4278', 4292', 4306', 4310', 4314', 4319', 4332', 4336', 4340', 4351', 4358'	05-23-66 (4187'-4358') Acidize w/2500 gals.	2 3/8" 4.7# Ceramic Coated set @ 4084'	4 1/2" UNI-1 Tension Packer set @ 4087'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Tubing	Equipment Packer	Proposed Inj. Average	Press (PSI) Maximum
MOC (Marathon Oil Co.) State Section 36 Well #1 B-36-T7S-R33E 660' FNL & 2310' FEL Elevation 4333' DF	36-02	IP	348' 8 5/8" 24# in 12 1/4" hole. 275 sx cmt. Circ. to surf. 4488' 4 1/2" 9.5# in 7 7/8" hole. 350 sx cmt. TOC 3579' by Temp. Survey.	07-19-66/ 09-01-66	TD 4490' PBTD 4275'	08-02-66 (2 JSPP) 4229'-4230', 4235'-4236', 4246'-4247', 4252'-4253', 4257'-4258', 4302'-4303', 4315'-4316', 4320'-4321' 08-08-66 (4302'-4321') Squeezed perforations w/75 sx cmt. 08-29-66 (4229'-4258') Squeezed Perforations w/150 sx cmt. 08-31-66 (2 JSPP) 4229'-4230', 4235'-4236', 4241'-4242', 4246'-4247', 4252'-4253', 4257'-4258'	08-02-66 (4229'-4321') Acidize w/3000 gals. 08-09-66 Frac (4229'- 4258') w/2500 gal. 1se. oil & 25,000# sand. 09-01-66 (4229'-4258') Acidize w/1500 gals.	2 3/8" 4.7# Ceramic Coated set @ 4126'	4 1/2" UNI-1 Tension Packer set @ 4129'	400/400#	600/800#
MOC (Southern Petroleum Exploration Inc.) State "K" Well #1 D-36-T7S-R33E 660' FNL & 660' FWL Elevation 4330.5 GR	36-04	IP	354' 8 5/8" 24# in 11" hole. 200 sx cmt. Circ. to surf. 4460' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3267' by Temp. Survey.	04-27-66/ 05-09-66	TD 4460' PBTD 4433'	05-09-66 (1 SPI) 4184', 4203', 4240', 4255', 4268', 4276', 4281', 4289', 4295', 4302', 4331'	05-09-66 (4184'-4331') Acidize w/2000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4081'	4 1/2" UNI-1 Tension Packer set @ 4084'	400/400#	600/800#

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Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Southern Petroleum Exploration, Inc.) State "K" Well #6 F-36-T7S-R33E 1980' FNL & 1980' FWL Elevation 4324' GR	36-06	IP	294' 8 5/8" 24# in 12 1/4" hole. 200 sx cmt. Circ. to surf. 4462' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3400' by Temp. Survey.	09-28-66/ 10-11-66	TD 4480' PBTD 4451'	10-17-66 (1 SPI) 4217', 4229', 4238', 4244', 4250', 4287', 4293', 4298', 4314', 4318', 4322', 4325'	10-17-66 (4217'-4325') Acidize w/2000 gals. Frac w/25,000 gal. lse. oil & 25,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4114'	4 1/2" UNI-1 Tension Packer set @ 4117'	400/400#	600/800#
MOC (Taylor Pruitt) State Section 36 Well #1 G-36-T7S-R33E 1980' FNL & 1980' FEL Elevation 4331' KB	36-07	IP	333' 8 5/8" 20# in 12 1/4" hole. 225 sx cmt. Circ. to surf. 4498' 4 1/2" 9.5# & 11.6# in 7 7/8" hole. 650 sx cmt. TOC 2565' by Calc.	04-22-68/ 05-04-68	TD 4500' PBTD 4471'	07-01-68 (Overall) 4163'-4413' 07-15-68 4426'-4460'	07-01-68 (4163'-4413') Acidize w/10,000 gals. 07-15-68 (4426'-4460') Acidize w/4,000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4060'	4 1/2" UNI-1 Tension Packer set @ 4063'	400/400#	600/800#
MOC (Southern Petroleum Exploration, Inc.) State "K" Well #4 L-36-T7S-R33E 1980' FSL & 660' FWL Elevation 4336' GR	36-12	IP	373' 8 5/8" 24# in 12 1/4" hole. 225 sx cmt. Circ. to surf. 4481' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3436' by Temp. Survey.	09-12-66/ 09-23-66	TD 4490' PBTD 4465'	09-26-66 (1 SPI) 4244', 4253', 4259', 4298', 4301', 4312', 4316', 4319', 4321', 4329', 4345'	09-26-66 (4244'-4345') Acidize w/2000 gals. Frac w/25,000 gals. lse. oil & 25,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4141'	4 1/2" UNI-1 Tension Packer set @ 4144'	400/400#	600/800#

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PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Proposed Inj. Press (PSI) Maximum
MOC (Pan American Petroleum Corp.) Wolf Federal Well #3 0-18-T7S-R34E 660' FSL & 2150.9' FEL Elevation 4333' RDB	18-15	IP	450' 8 5/8" 24# in 12 1/4" hole. 300 sx cmt. Circ. to surf. 4340' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1840' by Calc.	09-21-66/ 10-07-66	TD 4340' PBTD 4301'	10-10-66 (2 JSPF) 4064'-4066', 4078'-4079', 4080'-4083', 4085'-4086', 4089'-4090', 4092'-4093', 4094'-4095', 4120'-4122', 4126'-4129', 4146'-4149', 4155'-4157', 4162'-4163', 4168'-4170', 4170'-4172', 4177'-4179', 4182'-4184', 4186'-4188', 4192'-4193', 4195'-4197', 4238'-4242', 4245'-4249', 4252'-4254', 4255'-4257', 4261'-4263', 4265'-4267'	10-10-66 (4064'-4267) Acidize w/2000 gals. Frac w/30,000 gals. oil & 40,500# sand.	2 3/8" 4.7# Ceramic Coated set @ 3961'	4 1/2" UNI-1 Tension Packer set @ 3964'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) Wolf Federal Well #4 A-19-T7S-R34E 660' FNL & 660' FEL Elevation 4325' RDB	19-01	IP	451' 8 5/8" 24# in 11" hole. 300 sx cmt. Circ. to surf. 4346' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1846' by Calc.	10-14-66/ 10-26-66	TD 4346' PBTD 4310'	10-31-66 (2 JSPF) 4093'-4097', 4141'-4144', 4159'-4164', 4174'-4176', 4184'-4194', 4201'-4214', 4256'-4280'	10-31-66 (4093'-4280') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand, & 3000# beads.	2 3/8" 4.7# Ceramic Coated set @ 3990'	4 1/2" UNI-1 Tension Packer set @ 3993'	400/400#	600/800#

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TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Dalport Oil Corp.) Federal 19 Well #2 C-19-T7S-R34E 990' FNL & 330' FWL Elevation 4320' GR	19-03	IP	379' 8 5/8" 24# in 11" hole. 200 sx cmt. Circ. to surf. 4328' 4 1/2" 9.5# in 7 7/8" hole. 300 sx cmt. TOC 3436' by Calc.	01-09-67/ 01-24-67	TD 4328' PBTD ? ?	01-31-67 (1 SPI) 4061', 4076.5', 4084.5', 4090', 4131.5', 4150', 4155', 4162', 4170', 4176', 4180.5' 4191', 4196', 4200', 4205'	01-31-67 (4161'-4205') Acidize w/2500 gals. Frac w/40,000 gals. oil, 40,000# sand, & 3000# beads.	2 3/8" 4.7# Ceramic Coated set @ 3958'	4 1/2" UNI-1 Tension Packer set @ 3961'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) Wolf Federal Well #1 G-19-T7S-R34E 1980' FNL & 2310' FEL Elevation 4328' RDB	19-07	IP	443' 8 5/8" 24# in 12 1/4" hole. 250 sx cmt. Circ. to surf. 4355' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1855' by Calc.	05-28-66/ 06-24-66	TD 4355' PBTD 4320'	06-13-66 (2 JSPP) 4268'-4298'	06-13-66 (4268'-4298') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand & 3000# glass beads. 07-05-66 (4108'-4214') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand, & 3000# glass beads.	2 3/8" 4.7# Ceramic Coated set @ 4005'	4 1/2" UNI-1 Tension Packer set @ 4008'	400/400#	600/800#
MOC (Kerr-McGee Corp.) State G Well #5 I-19-T7S-R34E 1650' FSL & 990' FEL Elevation 4313.2' GR	19-09	IP	409' 8 5/8" 24# in 12 1/4" hole. 275 sx cmt. Circ. to surf. 4410' 5 1/2" 14# & 15.5# in 7 7/8" hole. 350 sx cmt. TOC 3369' by Calc.	07-28-66/ 08-26-66	TD 4410' PBTD 4387'	08-11-66 (1 SPI) 4115', 4120', 4127', 4133', 4142', 4146', 4151', 4177', 4183', 4192', 4193', 4195', 4222', 4229', 4236', 4242', 4250', 4255', 4259'	08-11-66 (4115'-4259') Acidize w/2500 gals. Frac w/30,000 gals. lse. oil & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4012'	5 1/2" UNI-1 Tension Packer set @ 4015'	400/400#	600/800#

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Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Kerr-McGee Corp.) State G Well #1 K-19-T7S-R34E 1980' FSL & 660' FWL Elevation 4325.7' RKB	19-11	IP	393' 8 5/8" 24# in hole. 275 sx cmt. Circ. to surf. 4340' 5 1/2" 14# in 7 7/8" hole. 300 sx cmt. TOC 3200' by Temp. Survey.	05-13-66/ 06/03/66	TD 4340' PBTD 4308'	05-31-66 (2 JSF) 4119', 4121', 4128', 4158', 4170', 4174', 4188', 4203', 4205', 4210', 4215'	05-31-66 (4119'-4303') Acidize w/2000 gals. Frac w/30,000 gals. oil, & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4016'	5 1/2" UNI-1 Tension Packer set @ 4019'	400/400#	600/800#
MOC (Kerr-McGee Corp.) State G Well #4 O-19-T7S-R34E 660' FSL & 2310' FEL Elevation 4314.5' GR	19-15	IP	431' 8 5/8" 24# in 12 1/4" hole. 275 sx cmt. Circ. to surf. 4400' 5 1/2" 14# in 7 7/8" hole. 350 sx cmt. TOC 3359' by Calc.	06-23-66/ 07-14-66	TD 4400' PBTD 4371'	07-08-66 (1 SPI) 4138', 4145', 4151', 4156', 4161', 4170', 4190', 4193', 4195', 4208', 4231', 4237', 4243', 4250', 4256', 4261', 4267', 4272', 4275'	07-08-66 (4138'-4275') Acidize w/2500 gals. Frac w.30,000 gals. oil, & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4035'	5 1/2" UNI-1 Tension Packer set @ 4038'	400/400#	600/800#
MOC (Pan American Petroleum Corp.) Homme Federal Well #2 C-20-T7S-R34E 660' FNL & 1980' FWL Elevation 4323' RDB	20-03	IP	458' 8 5/8" 24# in 12 1/4" hole. 300 sx cmt. Circ. to surf. 4395' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1895' by Calc.	10-03-66/ 10-16-66	TD 4395' PBTD 4360'	10-17-66 (2JSF) 4152'-4154', 4170'-4174', 4180'-4184', 4191'-4199', 4204'-4208', 4213'-4215', 4218'-4221', 4270'-4275', 4280'-4288', 4292'-4298'	10-17-66 (4152'-4298') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand, & 3000# glass beads.	2 3/8" 4.7# Ceramic Coated set @ 4049'	4 1/2" UNI-1 Tension Packer set @ 4052'	400/400#	600/800#

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Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Average	Prop (PSI) Maximum
MOC (Pan American Petroleum Corp.) Homme Federal Well #1 E-20-T7S-R34E 1980' FNL & 660' FWL Elevation 4324' RDB	20-05	IP	452' 8 5/8" 24# in 12 1/4" hole. 300 sx cmt. Circ. to surf. 4448' 4 1/2" 9.5# in 7 7/8" hole. 800 sx cmt. TOC 1948' by Calc.	08-31-66/ 09-13-66	TD 4448' PBTD 4401'	09-13-66 (2 JSPP) 4093'-4094', 4108'-4112' 4116'-4120', 4147'-4149', 4153'-4159', 4173'-4175', 4180'-4181', 4185'-4186', 4090'-4092', 4094'-4099', 4204'-4206', 4214'-4216', 4218'-4221', 4267'-4269', 4286'-4294'	09-13-66 (4093'-4294') Acidize w/2000 gals. Frac w/30,000 gals. oil, 40,500# sand, & 3000# glass beads.	2 3/8" 4.7# Ceramic Coated set @ 3990'	4 1/2" UNI-1 Tension Packer set @ 3993'	400/400#	600/800#
MOC (American Trading & Production Corp.) State 20 Well #3 K-20-T7S-R34E 1980' FSL & 1980' FWL Elevation 4312' GL	20-11	IP	392' 8 5/8" 28# in 12 1/4" hole. 200 sx cmt. Circ. to surf. 4384' 4 1/2" 11.6# in 7 7/8" hole. 450 sx cmt. TOC 2000' by Calc.	10-20-66/ 11-13-66	TD 4400' PBTD 4352'	11-07-66 (1 SPI) 4164', 4181', 4198', 4210', 4220', 4228', 4232', 4251', 4262', 4270', 4279', 4290', 4297', 4305'	11-07-66 (4164'-4305') Acidize w/2500 gals. Frac w/30,000 gals. 1se. oil & 30,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4061'	4 1/2" UNI-1 Tension Packer set @ 4064'	400/400#	600/800#
MOC (American Trading & Production Corp.) State 20 Well #2 M-20-T7S-R34E 660' FWL & 660' FSL Elevation 4325' KB	20-13	IP	424' 8 5/8" 28# in 12 1/4" hole. 200 sx cmt. Circ. to surf. 4377' 4 1/2" 11.6# in 7 7/8" hole. 450 sx cmt. TOC 2000' by Calc.	09-23-66/ 10-08-66	TD 4400' PBTD 4345'	10-10-66 (1 SPI) 4156', 4164', 4179', 4210', 4219', 4225', 4238', 4243', 4249', 4261', 4269', 4276', 4285', 4289'	10-10-66 (4156'-4289') Acidize w/2500 gals. Frac w/30,000 gals. 1se. oil & 30,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4053'	4 1/2" UNI-1 Tension Packer set @ 4056'	400/400#	600/800#

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Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Skelly Oil Company) Hobbs "W" Well #8 C-29-T7S-R34E 330' FNL & 1650' FWL Elevation 4318' DF	29-03	IP	373' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4478' 4 1/2" 10.5# in 7 7/8" hole. 400 sx cmt. TOC 3379' by Temp. Survey.	10-30-66/ 11-16-66	TD 4478' PBTD 4452'	11-16-66 (1 SPI) 4226', 4240', 4279', 4286', 4290', 4292', 4303', 4314', 4317', 4327', 4337', 4343', 4347', 4352', 4355'	11-16-66 (4226'-4355') Acidize w/2500 gals. Frac w/30,000 gals. oil & 30,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4123'	4 1/2" UNI-1 Tension Packer set @ 4126'	400/400#	600/800#
MOC (Skelly Oil Company) Hobbs "W" Well #7 E-29-T7S-R34E 1650' FNL & 330' FWL Elevation 4319' DF	29-05	IP	366' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4439' 4 1/2" 10.5# in 7 7/8" hole. 400 sx cmt. TOC 3385' by Temp. Survey.	10-17-66/ 11-09-66	TD 4450' PBTD 4411'	11-03-66 (1 SPI) 4218', 4227', 4245', 4277', 4281', 4290', 4293', 4300', 4306', 4316', 4320', 4331', 4335', 4352', 4357'	11-03-66 (4218'-4357') Acidize w/2500 gals. 10-25-67 (4218'-4357') Frac w/30,000 gals. 1se. oil & 37,500# sand.	2 3/8" 4.7# Ceramic Coated set @ 4115'	4 1/2" UNI-1 Tension Packer set @ 4118'	400/400#	600/800#
MOC (Skelly Oil Company) Hobbs "W" Well #9 F-29-T7S-R34E 1650' FNL & 1650' FWL Elevation 4320.4' KB	29-06	IP	360' 8 5/8" 24# in 12 1/4" hole. 250 sx cmt. Circ. to surf. 4500' 4 1/2" 10.5# in 7 7/8" hole. 500 sx cmt. TOC 3322' by Temp. Survey.	05-27-68/ 06-09-68	TD 4500' PBTD 4455'	06-17-68 (1 SPI) 4369', 4399', 4403', 4413', 4419', 4425', 4432', 4433', 4443'	06-17-68 (4369'-4443') Acidize w/4000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4266'	4 1/2" UNI-1 Tension Packer set @ 4269'	400/400#	600/800#

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Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection		Proposed Inj. Rate (BPD)	
								Downhole Equipment	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Skelly Oil Company) Hobbs "W" Well #2 A-30-T7S-R34E 330' FNL & 990' FEL Elevation 4322' DF	30-01	IP	390' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4430' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3389' by Temp. Survey.	08-08-66/ 08-28-66	TD 4430' PBD 4401'	08-27-66 (1 SPI) 4169', 4184', 4219', 4225', 4234', 4239', 4259', 4265', 4271', 4277', 4283', 4291', 4297', 4304', 4308' 04-15-68 (1 SPI) 4159', 4165', 4175', 4192'	08-27-66 (4169'-4308') Acidize w/2500 gals. Frac w/30,000 gals. 1se. oil & 30,000# sand. 04-15-68 (4159'-4192') Acidize w/2000 gals. (4159'-4308') Frac w/50,000 gals. jelled brine & 50,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4056'	4 1/2" UNI-1 Tension Packer set @ 4059'	400/400#	600/800#
MOC (Tenneco Oil Co.) State "v" Well #1 C-30-T7S-R34E 660' FNL & 660' FWL Elevation 4320' GL	30-03	IP	362' 8 5/8" 24# in 11" hole. 140 sx cmt. Circ. to surf. 4348' 4 1/2" 10.5# in 7 7/8" hole. 520 sx cmt. TOC 2801' by Calc.	07-25-66/ 08-12-66	TD 4350' PBD 4308'	08-16-66 (1 SPI) 4110', 4154', 4167', 4176', 4180', 4187', 4193', 4221', 4231', 4234', 4247', 4256', 4259', 4266', 4271', 4274', 4280', 4285', 4293', 4298'	08-16-66 (4110'-4298') Acidize w/2500 gals. Frac w/30,000 gals. 1se. oil & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4007'	4 1/2" UNI-1 Tension Packer set @ 4010'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

TABLE OF DRILLING AND COMPLETION INFORMATION FOR PROPOSED INJECTION WELLS
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT, CHAVES & ROOSEVELT COUNTIES, NEW MEXICO

Operator (Original Operator) Well Name & Location	Unit Well#	Well Type*	Casing Record	Date Drig. & Comp.	Total Depth	Perforations/Open Hole	Completion	Proposed Injection Downhole Equipment		Proposed Inj. Rate (BPD)	
								Tubing	Packer	Proposed Inj. Press (PSI) Average	Maximum
MOC (Skelly Oil Company) Hobbs "W" Well #3 G-30-T7S-R34E 1650' FNL & 1980' FEL Elevation 4322' DF	30-07	IP	368' 8 5/8" 24# in 11" hole. 250 sx cmt. Circ. to surf. 4475' 4 1/2" 10.5# in 7 7/8" hole. 350 sx cmt. TOC 3035' by Temp Survey.	08-19-66/ 09-05-66	TD 4475' PBTD 4439'	09-12-66 (1 SPI) 4197', 4205', 4223', 4253', 4256', 4264', 4269', 4281', 4292', 4296', 4308', 4314', 4324', 4332', 4337'	09-12-66 (4197'-4337') Acidize w/2500 gals. Frac w/30,000 gals. 1se. oil & 30,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4094'	4 1/2" UNI-1 Tension Packer set @ 4097'	400/400#	600/800#
MOC (Tenneco Oil Co.) State "V" Well #4 I-30-T7S-R34E 2310' FSL & 990' FEL Elevation 4319' GL	30-09	IP	374' 8 5/8" 24# in 11" hole. 270 sx cmt. Circ. to surf. 4426' 4 1/2" 10.5# in 7 7/8" hole. 520 sx cmt. TOC 2510' by Temp. Survey.	11-18-66/ 12-12-66	TD 4426' PBTD 4382'	12-12-66 (1 SPI) 4242', 4247', 4251', 4255', 4260', 4264', 4296', 4298', 4310', 4325', 4342', 4345', 4354'	12-12-66 (4242'-4354') Acidize w/5000 gals. Frac w/30,000 gals. 1se. oil & 45,000# sand.	2 3/8" 4.7# Ceramic Coated set @ 4139'	4 1/2" UNI-1 Tension Packer set @ 4142'	400/400	600/800#
MOC (Tenneco Oil Co.) State "V" Well #3 K-30-T7S-R34E 2314' FSL & 330' FWL Elevation 4320' GR	30-11	IP	387' 8 5/8" 24# in 11" hole. 140 sx cmt. Circ. to surf. 4400' 4 1/2" 10.5# in 7 7/8" hole. 550 sx cmt. TOC 2764' by Calc.	10-01-66/ 10-14-66	TD 4400' PBTD 4368'	10-17-66 (1 SPI) 4214', 4221', 4228', 4241', 4248', 4283', 4308', 4318', 4323', 4327', 4334', 4338', 4344'	10-17-66 (4214'-4344') Acidize w/5000 gals.	2 3/8" 4.7# Ceramic Coated set @ 4111'	4 1/2" UNI-1 Tension Packer set @ 4114'	400/400#	600/800#

WELL TYPE: IP = PROPOSED INJECTOR

Tabulation of Well Data for Wells within Proposed Unit Area.
PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
Chaves and Roosevelt Counties, New Mexico

Tract #	Operator Lease	Well #/Unit	New Unit Well #	Status	Compl. Date	Datum Elev. Feet	TD or PBTD Feet	Casing Record		Completion Interval Feet	Initial Treatment		Initial Potential		Remarks	Cum Oil Prod. to Jan. 1, 1989	Useable Wells		
								Size Inches	Depth Feet		Acid/G	Frac/# Sand	BOPD	MCFGPD				BMPD	
<u>Sec. 25, T7S-R33E</u>																			
1	State DB	1D	25-04	S	03-02-66	4335'	4338'	4 1/2	W800	4388'	4174'-4336'	2000	-	F 220	118	2	70,715	1	
		2E	25-05	S	03-25-66	4336'	4411'	4 1/2	W800	4410'	4193'-4342'	2000	-	F 326	277	6	79,087	1	
		3C	25-03	P	04-14-66	4332'	4430'	4 1/2	W800	4430'	4218'-4333'	2000	-	F 291	56	0	147,639	1	
		4L	25-12	A	04-23-66	4338'	4410'	4 1/2	W500	4410'	4208'-4363'	2000	-	F 315	199	0	76,257	0	
		5F	25-06	P	05-02-66	4330'	4415'	4 1/2	W800	4415'	4182'-4385'	2000	40500#	F 186	176	0	73,421	1	
		6M	25-13	SWD	05-14-66	4355'	4430'	4 1/2	W800	4430'	4189'-4327'	2000	-	F 227	93	0	70,955	1	
		7K	25-11	P	05-12-66	4338'	4431'	4 1/2	W800	4431'	4188'-4324'	2000	40500#	F 178	49	0	76,711	1	
		8N	25-14	A	05-29-66	4333'	4465'	4 1/2	W800	4465'	4205'-4341'	2000	-	F 323	169	0	55,065	0	
		9O	25-15	P	06-24-66	4329'	4498'	4 1/2	W800	4498'	4223'-4373'	2000	40500#	P 67	21	8	64,017	1	
		1I	State DF	25-09	SWD	07-06-66	4325'	4498'	4 1/2	W800	4498'	4224'-4364'	2000	-	F 367	N/A	N/A	26,633	1
		<u>Sec. 26, T7S-R33E</u>																	
2	State J	1B	25-02	P	04-15-66	4320'	4395'	4 1/2	W350	4394'	4168'-4275'	2000	-	F			73,707	1	
		2G	25-07	A	05-18-66	4320'	4422'	4 1/2	W350	4403'	4234'-4317'	2000	25000#	F 120	103	0	47,492	0	
		3A	25-01	P	06-04-66	4320'	4404'	4 1/2	W300	4396'	4169'-4290'	2000	25000#	F 360	313	0	52,490	1	
		4P	25-16	P	02-01-67	4325'	4470'	5 1/2	W325	4470'	4253'-4365'	2000	-	P 54	35	3	23,528	1	
3	State Connine	1H	25-08	A	07-30-66	4327'	4420'	4 1/2	W325	4420'	4196'-4308'	2000	-	F 298	-	33	39,758	0	
		1J	25-10	P	06-24-66	4332'	4420'	5 1/2	W350	4420'	4203'-4340'	2000	38250#	P 118	N/A	N/A	53,127	1	
<u>Sec. 26, T7S-R33E</u>																			
5	Federal 26	1M	26-13	S	06-22-66	4381'	4400'	4 1/2	W350	4400'	4108'-4284'	2000	45000#	F 516	121	0	62,819	1	
		2L	26-12	P	05-23-66	4373.3'	4405'	4 1/2	W350	4402'	4142'-4292'	2000	28200#	F 470	266	11	71,687	1	
		3K	26-11	P	06-05-66	4366.2'	4398'	4 1/2	W300	4398'	4153'-4283'	2000	40500#	F 439	250	4	64,475	1	
		4N	26-14	S	06-15-66	4374'	4380'	4 1/2	W300	4380'	4125'-4294'	2000	45000#	F 282	168	21	65,965	1	
		5J	26-10	P	06-11-66	4343'	4394'	4 1/2	W350	4394'	4160'-4274'	2000	45000#	F 203	278	2	62,823	1	
		6O	26-15	S	06-03-66	4346.7'	4380'	4 1/2	W400	4380'	4131'-4288'	2000	45000#	F 662	201	0	64,066	1	
		7I	26-09	P	06-18-66	4335.5'	4400'	4 1/2	W350	4400'	4140'-4260'	2000	49000#	F 574.8	264	0	63,263	1	
		8P	26-16	P	05-25-66	4339.3'	4376'	4 1/2	W330	4376'	4153'-4290'	2000	30300#	F 528	348	12	70,685	1	
<u>Sec. 35, T7S-R33E</u>																			
6	Hobbs T	14J	35-10	P	03-15-66	4357'	4500'	4 1/2	W350	4500'	4207'-4329'	2500	-	F 496	293	0	140,139	1	
		16C	35-03	P	04-06-66	4376'	4500'	4 1/2	W350	4500'	4185'-4310'	2500	-	F 405	340	0	94,174	1	
		17A	35-01	P	04-21-66	4344'	4500'	4 1/2	W350	4500'	4188'-4299'	2500	-	F 523	265	5	114,624	1	

Tabulation of Well Data for Wells within Proposed Unit Area.
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
 Chaves and Roosevelt Counties, New Mexico

Tract #	Operator Lease	Well #/Unit	New Unit Well #	Status	Compl. Date	Datum Elev. Feet	TD or PBTD Feet	Casing Size Inches	Record Depth Feet	Completion Interval Feet	Initial Treatment Acid/G	Frac/# Sand	Initial Potential			Remarks	Cum Oil Prod. to Jan. 1, 1989	Useable Wells
													BOPD	MCFGPD	BWPD			
<u>Sec. 35, T7S-R33E</u>																		
6	Hobbs T	180	35-15	P	05-04-66	4361'	4500'	4 1/2 W350	4500'	4216'-4345'	2500	-	F 302	110	6	103,771	1	
		19P	35-16	P	05-15-66	4353'	4500'	4 1/2 W350	4498'	4187'-4358'	2500	-	P 120	50	0	103,495	1	
7	State CV	1K	35-11	P	02-05-66	4367'	4437'	4 1/2 W400	4437'	4178'-4316'	4000	-	F 73	39	0	120,660	1	
		2B	35-02	S	03-14-66	4358'	4397'	4 1/2 W375	4397'	4161'-4303'	4200	-	F 547	252	0	159,554	1	
		3I	35-09	P	05-26-66	4354'	4452'	4 1/2 W450	4452'	4195'-4327'	4600	-	F 982	N/A	N/A	167,096	1	
8	State DA and State DE	1E	35-05	S	02-20-66	4377'	4466'	4 1/2 W800	4466'	4205'-4332'	2000	30000#	P 47	-	3	42,792	1	
		1N	35-14	S	04-17-66	4368'	4476'	4 1/2 W800	4476'	4207'-4336'	2000	-	F 136	-	-	58,153	1	
9	Shackelford	1D	35-04	S	05-25-66	4390'	4500'	4 1/2 W350	4497'	4167'-4318'	3500	-	F 264	-	-	81,728	1	
10	State Sec. 35 and State Sec. 36	1L	35-12	P	01-12-66	4377'	4450'	5 1/2 W350	4442'	4244'-4334'	2000	40000#	F 294	-	29	68,993	1	
		2M	35-13	P	03-17-66	4373'	4374'	4 1/2 W350	4182'	4182'-4333'	2500	40000#	P 82	0	9	44,151	1	
		3F	35-06	P	03-18-66	4378'	4440'	4 1/2 W350	4440'	4186'-4326'	3000	40000#	F 99	-	12	70,037	1	
		4G	35-07	P	04-07-66	4370'	4431'	4 1/2 W350	4425'	4202'-4325'	4000	-	F 111	-	-	79,365	1	
		5H	35-08	P	05-08-66	4347'	4440'	4 1/2 W350	4438'	4256'-4327'	3000	-	F 209	-	-	102,078	1	
		1B	36-02	A	09-01-66	4333'	4490'	4 1/2 W350	4488'	4229'-4321'	3000	25000#	P 55	-	32	31,561	0	
		1G	36-07	D	09-05-66	4327'	4500'	4 1/2 W600	4500'	4163'-4413'	1000	-	P 3	-	200	444	1	
		11	State K	1D	36-04	P	05-10-66	4339'	4455'	4 1/2 W350	4455'	4184'-4331'	2000	-	F 480	-	-	77,262
1	State Sec. 18, T7S-R34E and Wolf Federal	2E	36-05	P	06-04-66	4338'	4460'	4 1/2 W350	4458'	4221'-4351'	2000	25000#	F 240	-	-	74,701	1	
		3C	36-03	P	06-11-66	4333'	4458'	4 1/2 W200	4458'	4227'-4343'	2000	-	F 480	-	-	120,329	1	
		4L	36-12	P	09-30-66	4345'	4490'	4 1/2 W350	4481'	4244'-4345'	2000	25000#	F 240	-	-	62,611	1	
		5M	36-13	P	10-04-66	4349'	4480'	4 1/2 W350	4466'	4240'-4342'	2000	25000#	P 240	-	-	81,027	1	
		6F	36-06	P	11-07-66	4334'	4480'	4 1/2 W350	4462'	4217'-4323'	2000	25000#	P 75	-	85	52,689	1	
		7K	36-11	P	09-21-67	4341'	4480'	4 1/2 W350	4480'	4243'-4372'	2000	-	P 35	-	50	29,142	1	
		30	Wolf Federal	30	18-15	S	10-19-66	4329'	4340'	4 1/2 W800	4340'	4064'-4267'	2000	45000#	P 179	-	2	32,687

Tabulation of Well Data for Wells within Proposed Unit Area.
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
 Chaves and Roosevelt Counties, New Mexico

Tract #	Operator Lease	Well #/Unit	New Well #	Status	Compl. Date	Datum Elev. Feet	TD or PBTD Feet	Casing Size Inches	Record Depth Feet	Completion Interval Feet	Initial Treatment		Initial Potential		Remarks	Cum Oil Prod. to Jan. 1, 1989	Useable Wells	
											Acid/ G	Frac/ # Sand	BOPD	MCFGPD				BWPD
Sec. 19, T7S-R34E																		
1	Wolf Federal	1G	19-07	P	07-12-66	4326'	4355'	4 1/2 W800	4355'	4108'-4298'	2000	30000#	P 97	-	2	32,250	1	
		2B	19-02	P	07-27-66	4327'	4345'	4 1/2 W800	4345'	4083'-4271'	2000	30000#	P 81	-	2	27,113	1	
		4A	19-01	P	11-04-66	4323'	4346'	4 1/2 W800	4346'	4093'-4280'	2000	30000#	N/A	N/A	N/A	28,695	1	
		5H	19-08	S	11-15-66	4322'	4356'	4 1/2 W800	4356'	4107'-4308'	2000	30000#	P 160	-	5	37,670	1	
2	Federal 19	1F	19-06	A	03-15-66	4328'	4430'	4 1/2 W300	4430'	4107'-4295.5'	2500	30000#	F 66	-	-	15,554	0	
		2C	19-03	A	02-16-67	4329'	4328'	4 1/2 W300	4328'	4061'-4205'	2500	40000#	P 65	-	-	7,997	0	
3	State G	1K	19-11	S	05-31-66	4326'	4340'	5 1/2 W300	4340'	4119'-4303'	2000	45000#	F 125	-	-	29,473	1	
		2N	19-14	S	06-08-66	4327'	4360'	5 1/2 W350	4360'	4156'-4270'	2000	45000#	F 262	-	-	37,651	1	
		3J	19-10	S	07-22-66	4328'	4400'	5 1/2 W300	4400'	4110'-4257'	2500	45000#	F 62	-	-	24,987	1	
		4O	19-15	P	07-08-66	4326'	4400'	5 1/2 W350	4400'	4138'-4275'	2500	45000#	F 295	-	-	35,548	1	
		5I	19-09	S	08-11-66	4320'	4410'	5 1/2 W350	4410'	4115'-4259'	2500	44000#	F 234	-	-	30,678	1	
		6P	19-16	S	07-31-66	4320'	4420'	5 1/2 W350	4420'	4136'-4281'	2500	44000#	F 390	-	-	44,611	1	
Sec. 20, T7S-R34E																		
4	Homme Federal	1E	20-05	S	09-21-66	4320'	4448'	4 1/2 W800	4448'	4093'-4294'	2000	40500#	F 91	-	-	62,290	1	
		2C	20-03	S	11-05-66	4319'	4395'	4 1/2 W800	4395'	4152'-4298'	2000	30000#	P 66	-	1	27,465	1	
		3F	20-06	S	01-07-66	4318'	4384'	4 1/2 W800	4384'	4114'-4317'	2000	50000#	P 194	-	55	25,505	1	
5	State 20	1L	20-12	A	09-15-66	4322'	4500'	4 1/2 W325	4497'	4123'-4244'	2500	30000#	F 284	-	-	61,425	0	
		2M	20-13	A	10-08-66	N/A	4400'	4 1/2 W450	4377'	4156'-4289'	2500	30000#	F 280	-	-	66,208	0	
		3K	20-11	A	11-13-66	4320'	4400'	4 1/2 W450	4384'	4164'-4305'	2500	30000#	P 234	-	-	46,572	0	
		4N	20-14	A	01-05-67	4319'	4450'	4 1/2 W450	4447'	4231'-4349'	2250	30000#	F 204	-	-	61,790	0	
Sec. 29, T7S-R34E																		
6	Hobbs W	8C	29-03	S	11-20-66	4318'	4478'	4 1/2 W400	4478'	4226'-4355'	2500	30000#	F 363	-	3	35,098	1	
		6D	29-04	P	10-17-66	4321'	4435'	4 1/2 W350	4431'	4224'-4305'	2500	30000#	F -	-	3	67,244	1	
		7E	29-05	S	11-01-66	4319'	4450'	4 1/2 W400	4439'	4218'-4357'	2500	-	P 157	-	18	68,701	1	
		9F	29-06	I	06-10-68	4318'	4500'	4 1/2 W500	4500'	4369'-4443'	4000	N/A	N/A	N/A	268	0	1	

Tabulation of Well Data for Wells within Proposed Unit Area.
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
 Chaves and Roosevelt Counties, New Mexico

Tract #	Operator Lease	Well #/Unit	New Unit Well #	Status	Compl. Date	Datum Elev. Feet	TD or PBTD Feet	Casing Size Inches	Record Depth Feet	Completion Interval Feet	Initial Treatment Acid/ G	Frac/ # Sand	Initial Potential		Remarks	Cum Oil Prod. to Jan 1, 1989	Useable Wells
													BOPD	MCFGPD			
<u>Sec. 30, T7S-R34E</u>																	
6	Hobbs W	1B	30-02	P	08-09-66	4323'	4430'	4 1/2 W350	4430'	4162'-4304'	2500	30000#	F 378	-	5	51,082	1
		2A	30-01	P	08-22-66	4322'	4430'	4 1/2 W350	4430'	4159'-4308'	2500	30000#	F 239	-	-	65,313	1
		3G	30-07	P	09-01-66	4322'	4475'	4 1/2 W350	4475'	4197'-4337'	2500	30000#	F 283	-	3	69,741	1
		4H	30-08	P	09-28-66	4319'	4475'	4 1/2 W350	4466'	4202'-4343'	2500	30000#	F 269	-	3	51,798	1
		5J	30-10	S	10-07-66	4321'	4500'	4 1/2 W350	4495'	4337'-4382'	2000	-	P 154	-	39	44,321	1
<u>Sec. 30, T7S-R34E</u>																	
7	State V	1C	30-03	P	08-30-66	4326'	4350'	4 1/2 W520	4338'	4110'-4298'	2000	45000#	P 128	-	-	46,952	1
		2F	30-06	S	09-02-66	4321'	4385'	4 1/2 W520	4382'	4201'-4338'	2500	-	F 177	-	-	49,641	1
		3K	30-11	S	10-15-66	4324'	4408'	4 1/2 W550	4400'	4214'-4344'	5000	-	F 132	-	24	19,839	1
		4I	30-09	P	02-01-67	4319'	4426'	4 1/2 W520	4426'	4224'-4354'	5000	45000#	P 28	-	7	19,866	1

Tabulated Summary of Geological Data for Wells within Proposed Unit Area.
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
 Chaves and Roosevelt Counties, New Mexico

CHL = Cased Hole Log
 BHCS = Borehole Compensated Sonic Log

NDE = Not Deep Enough
 GRN = Gamma Ray Neutron

Operator Lease	Original Well#/Unit	New Unit Well #	Elevation		Top P-1 Meas.	Top P-2 SubSea	Thickness P-1 to P-3
			GRL	KB			
<u>Sec. 25, T7S-R33E</u>							
Murphy Operating Corp.							
State "J"	3A	25-01	4320	4330	4097	+ 233	-
State "J"	1B	25-02	4320	4331	4100	+ 231	-
State "DB"	3C	25-03	4321	4333	4082	+ 251	CHL
State "DB"	1D	25-04	4324	4335	4072	+ 263	CHL
State "DB"	2E	25-05	4325	4336	4084	+ 252	CHL
State "DB"	5F	25-06	4319	4330	4102	+ 228	CHL
State "J"	2G	25-07	4320	4331	4124	+ 207	-
State Conine	1H	25-08	4322	4332	4143	+ 189	207
State "DF"	1I	25-09	4315	4325	4172	+ 153	CHL
State "I"	1J	25-10	4324	4337	4141	+ 196	CHL
State "DB"	7K	25-11	4316	4327	4112	+ 215	CHL
State "DB"	4L	25-12	4327	4338	4100	+ 238	CHL
State "DB"	6M	25-13	4325	4336	4116	+ 220	CHL
State "DB"	8N	25-14	4323	4333	4135	+ 198	CHL
State "DB"	9O	25-15	4310	4329	4160	+ 169	CHL
State "J"	4P	25-16	4324	4335	4180	+ 155	-
<u>Sec. 26, T7S-R33E</u>							
Murphy Operating Corp.							
Federal "26"	7I	26-09	4335	4347	4085	+ 262	CHL
Federal "26"	5J	26-10	4343	4355	4084	+ 271	210
Federal "26"	3K	26-11	4366	4378	4096	+ 282	208
Federal "26"	2L	26-12	4373	4385	4096	+ 289	214
Federal "26"	1M	26-13	4381	4388	4114	+ 274	216
Federal "26"	4N	26-14	4365	4374	4102	+ 272	216
Federal "26"	6O	26-15	4347	4354	4092	+ 262	216
Federal "26"	8P	26-16	4339	4346	4098	+ 248	217
<u>Sec. 35, T7S-R33E</u>							
Murphy Operating Corp.							
Hobbs "T"	17A	35-01	4333	4345	4118	+ 227	232
State "CV"	2B	35-02	4361	4370	4110	+ 260	Sonic Log
Hobbs "T"	16C	35-03	4366	4378	4108	+ 270	216
Shackelford	1D	35-04	4380	4391	4120	+ 270	220
State "DA"	1E	35-05	4368	4378	4126	+ 252	206
State Section 35	3F	35-06	4369	4379	4130	+ 249	210
State Section 35	4G	35-07	4361	4371	4126	+ 245	214
State Section 35	5H	35-08	4337	4348	4132	+ 216	210
State "CV"	3I	35-09	4345	4354	4146	+ 208	Latero Log
Hobbs "T"	14J	35-10	4347	4358	4135	+ 223	211
State "CV"	1K	35-11	4358	4367	4118	+ 249	212
State Section 35	1L	35-12	-	4378	4133	+ 245	211
State Section 35	2M	35-13	4363	4374	4131	+ 243	212
State "DE"	1N	35-14	4360	4370	4134	+ 236	216
Hobbs "T"	18O	35-15	4351	4363	4146	+ 217	214
Hobbs "T"	19P	35-16	4343	4355	4162	+ 193	216
<u>Sec. 36, T7S-R33E</u>							
Murphy Operating Corp.							
State Section 36	1B	36-02	4323	4334	4180	+ 154	212
State "K"	3C	36-03	4325	4335	4155	+ 180	-
State "K"	1D	36-04	4330	4340	4134	+ 206	219
State "K"	2E	36-05	4331	4341	4154	+ 187	BHCS
State "K"	6F	36-06	4324	4333	4178	+ 155	BHCS
State Section 36	1G	36-07	4321	4331	4208	+ 123	210 GRN
State "K"	7K	36-11	4331	4341	4188	+ 153	BHCS
State "K"	4L	36-12	4336	4345	4172	+ 173	BHCS
State "K"	5M	36-13	4337	4346	4188	+ 158	BHCS

Tabulated Summary of Geological Data for Wells within Proposed Unit Area.
 PROPOSED JENNIFER CHAVEROO SAN ANDRES UNIT
 Chaves and Roosevelt Counties, New Mexico

CHL = Cased Hole Log
 BHCS = Borehole Compensated Sonic Log

NDE = Not Deep Enough
 GRN = Gamma Ray Neutron

Operator Lease	Original Well#/Unit	New Unit Well #	Elevation		Top P-1 Meas.	Top P-2 SubSea	Thickness P-1 to P-3
			GRL	KB			
<u>Sec. 18, T7S-R34E</u>							
Murphy Operating Corp. Wolf Federal	30	18-15					
<u>Sec. 19, T7S-R34E</u>							
Murphy Operating Corp. Wolf Federal	4A	19-01	4316	4325	4020	+ 305	CHL
Wolf Federal	2B	19-02	4318	4329	4020	+ 309	CHL
Federal "19"	2C	19-03	4320	4330	4016	+ 314	198
Federal "19"	1F	19-06	4321	4332	4046	+ 286	CHL
Wolf Federal	1G	19-07	4318	4328	4042	+ 286	CHL
Wolf Federal	5H	19-08	4316	4325	4040	+ 285	CHL
State "G"	5I	19-09	4314	4323	4072	+ 251	CHL
State "G"	3J	19-10	4320	4328	4065	+ 263	CHL
State "G"	1K	19-11	4318	4327	4048	+ 279	208
State "G"	2N	19-14	4319	4328	4080	+ 248	CHL
State "G"	4O	19-15	4315	4325	4080	+ 245	CHL
State "G"	6P	19-16	4312	4322	4091	+ 231	CHL
<u>Sec. 20, T7S-R34E</u>							
Murphy Operating Corp. Homme Federal	2C	20-03	4312	4323	4030	+ 293	208
Homme Federal	1E	20-05	4313	4324	4036	+ 288	CHL
Homme Federal	3F	20-06	4310	4320	4056	+ 264	Laterolog
State "20"	3K	20-11	4312	4323	4113	+ 210	-
State "20"	1L	20-12	4315	4326	4060	+ 266	195
State "20"	2M	20-13	4312	4324	4100	+ 224	CHL
State "20"	4N	20-14	4309	4320	4168	+ 152	-
<u>Sec. 29, T7S-R34E</u>							
Murphy Operating Corp. Hobbs "W"	8C	29-03	4309	4319	4170	+ 149	197
Hobbs "W"	6D	29-04	4311	4322	4118	+ 204	202
Hobbs "W"	7E	29-05	4308	4319	4172	+ 147	CHL
Hobbs "W"	9F	29-06	4309	4320	4252	+ 68	-
<u>Sec. 30, T7S-R34E</u>							
Murphy Operating Corp. Hobbs "W"	2A	30-01	4313	4323	4114	+ 209	202
Hobbs "W"	1B	30-02	4313	4324	4109	+ 215	205
State "V"	1C	30-03	4317	4327	4113	+ 214	201
State "V"	2F	30-06	4312	4322	4154	+ 168	-
Hobbs "W"	3G	30-07	-	4322	4144	+ 178	204
Hobbs "W"	4H	30-08	4309	4320	4155	+ 165	205
State "V"	4I	30-09	4310	4320	4189	+ 131	CHL
Hobbs "W"	5J	30-10	4312	4323	4187	+ 136	157
State "V"	3K	30-11	4315	4325	4176	+ 149	204