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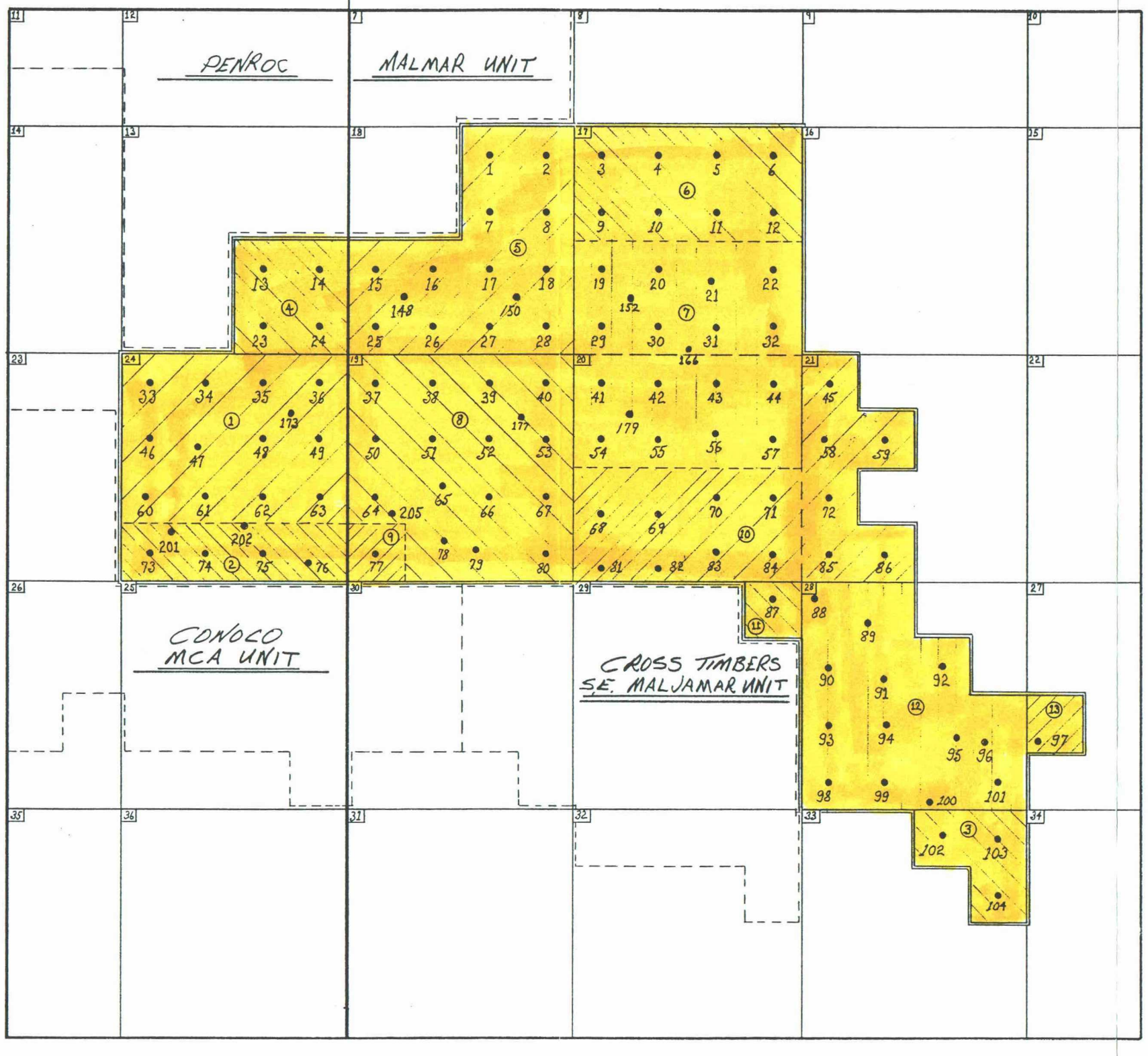


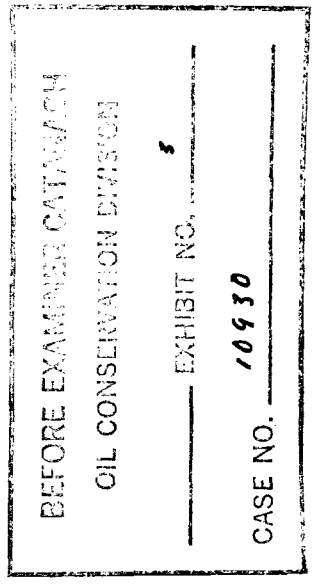
BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 2
CASE NO. 10930

EXHIBIT "A"-1
UNIT AGREEMENT
CAPROCK MALJAMAR UNIT
LEA COUNTY, NEW MEXICO

DRAWN BY: GENE DOVER

Proposed Caprock Maljamar Unit
Well Numbering

Previous Name & Number			CMU Well No.
Mal Gra Unit B	#1	I 20-17-33	71
	#2	O 20-17-33	83
	#3	P 20-17-33	84
	#4	N 20-17-33	82
	#5	K 20-17-33	69
	#7	L 20-17-33	68
Mal Gra Unit D	#1	L 21-17-33	72
	#2	E 21-17-33	58
	#3	M 21-17-33	85
	#4	D 21-17-33	45
	#5	N 21-17-33	86
Mal Gra Unit E	#1	A 29-17-33	87
Mal Gra Unit CPS	#1	J 20-17-33	70
Mal Gra Unit PLM	#12	F 21-17-33	59
Phillips Federal	#1	A 33-17-33	103
	#2-Y	B 33-17-33	102
	#3	H 33-17-33	104
Phillips State	#1	M 28-17-33	98
	#2	L 28-17-33	93
	#3	E 28-17-33	90
	#4	D 28-17-33	88
	#5	C 28-17-33	89
	#6	F 28-17-33	91
	#7	K 28-17-33	94
	#8	N 28-17-33	99
	#9-Y	O 28-17-33	100
	#10	J 28-17-33	95
	#11	G 28-17-33	92
	#12	I 28-17-33	96
	#13	P 28-17-33	101
Phillips "B" State	#1	P 19-17-33	80
	#3	H 19-17-33	53
	#4	A 19-17-33	40
	#5	B 19-17-33	39
	#6	G 19-17-33	52
	#7	J 19-17-33	66
	#8	O 19-17-33	79
	#9	K 19-17-33	65
	#10	F 19-17-33	51



Proposed Caprock Maljamar Unit
Well Numbering

Previous Name & Number			CMU Well No.
Phillips "B" State	#11	C 19-17-33	38
	#12	D 19-17-33	37
	#13	E 19-17-33	50
	#14	N 19-17-33	78
	#15	L 19-17-33	205
	#16	B 19-17-33	177
Phillips "C" State	#1	L 27-17-33	97
Western State	#1-Y	G 20-17-33	56
	#2	C 20-17-33	42
	#3	F 20-17-33	55
	#5	B 20-17-33	43
	#6	D 20-17-33	41
	#7	O 17-17-33	31
	#8	N 17-17-33	30
	#9	A 20-17-33	44
	#10	P 17-17-33	32
	#11	M 17-17-33	29
	#12	I 17-17-33	22
	#13	J 17-17-33	21
	#14	K 17-17-33	20
	#15	L 17-17-33	19
	#16	E 20-17-33	54
	#17	F 20-17-33	179
	#18	F 17-17-33	152
	#19	O 17-17-33	166
Johns "A" 24	#1	M 24-17-32	73
	#2	N 24-17-32	74
	#5	P 24-17-32	76
	#6	M 24-17-32	201
Johns "B"	#2	L 24-17-32	60
	#5	H 24-17-32	49
	#6	I 24-17-32	63
	#9	G 24-17-32	48
	#10	J 24-17-32	62
	#11	C 24-17-32	34
	#13	J 24-17-32	202
	#15	B 24-17-32	173
State 17-B	#1	A 17-17-33	6
	#2	B 17-17-33	5
	#3	C 17-17-33	4
	#4	D 17-17-33	3

Proposed Caprock Maljamar Unit
Well Numbering

Previous Name & Number			CMU Well No.
State 17-B	#5	E 17-17-33	9
	#6	F 17-17-33	10
	#7	G 17-17-33	11
	#8	H 17-17-33	12
State 13-B	#3	I 13-17-32	14
State 18-B	#1	K 18-17-33	16
	#8	N 18-17-33	26
	#9	N 18-17-33	148
State 18	#1	A 18-17-33	2
	#3	I 18-17-33	18
	#6	J 18-17-33	17
	#7	G 18-17-33	7
	#8	B 18-17-33	1
	#9	O 18-17-33	150

Cross Reference

CMU Well No.	Previous Name & No.	
1	State 18 #8	
2	State 18 #1	
3	State 17-B #4	
4	State 17-B #3	
5	State 17-B #2	
6	State 17-B #1	
7	State 18 #7	
8	State 18 #2	P & A
9	State 17-B #5	
10	State 17-B #6	
11	State 17-B #7	
12	State 17-B #8	
13	State 13-B #4	P & A
14	State 13-B #3	
15	State 18-B #2	P & A
16	State 18-B #1	
17	State 18 #6	
18	State 18 #3	
19	Western State #15	
20	Western State #14	
21	Western State #13	
22	Western State #12	
23	State 13-B #5	P & A
24	State 13-B #6	P & A
25	State 18-B #7	P & A
26	State 18-B #8	
27	State 18 #5	P & A
28	State 18 #4	P & A
29	Western State #11	
30	Western State #8	
31	Western State #7	
32	Western State #10	
33	Johns B #12	P & A
34	Johns B #11	
35	Johns B #8	P & A
36	Johns B #7	P & A
37	Phillips "B" State #12	
38	Phillips "B" State #11	
39	Phillips "B" State #5	
40	Phillips "B" State #4	
41	Western State #6	
42	Western State #2	
43	Western State #5	
44	Western State #9	
45	Mal Gra Unit D #4	
46	Johns B #1	P & A

Cross Reference

CMU Well No.	Previous Name & No.	
47	Johns B #4	P & A
48	Johns B #9	
49	Johns B #5	
50	Phillips "B" State #13	
51	Phillips "B" State #10	
52	Phillips "B" State #6	
53	Phillips "B" State #3	
54	Western State #16	
55	Western State #3	
56	Western State #1-Y	
57	Western State #4	P & A
58	Mal Gra Unit D #2	
59	Mal Gra Unit PLM #12	
60	Johns B #2	
61	Johns B #3	P & A
62	Johns B #10	
63	Johns B #6	
64	Phillips Leamex #3	P & A
65	Phillips "B" State #9	
66	Phillips "B" State #7	
67	Phillips "B" State #2	P & A
68	Mal Gra Unit B #7	
69	Mal Gra Unit B #5	
70	Mal Gra Unit CPS #1	
71	Mal Gra Unit B #1	
72	Mal Gra Unit D #1	
73	Johns A #1	
74	Johns A #2	
75	Johns A #3	P & A
76	Johns A #5	
77	Phillips Leamex #1	P & A
78	Phillips "B" State #14	
79	Phillips "B" State #8	
80	Phillips "B" State #1	
81	Mal Gra Unit B #6	P & A
82	Mal Gra Unit B #4	
83	Mal Gra Unit B #2	
84	Mal Gra Unit B #3	
85	Mal Gra Unit D #3	
86	Mal Gra Unit D #5	
87	Mal Gra Unit E #1	
88	Phillips State #4	
89	Phillips State #5	
90	Phillips State #3	
91	Phillips State #6	
92	Phillips State #11	

Cross Reference

CMU Well No.	Previous Name & No.
93	Phillips State #2
94	Phillips State #7
95	Phillips State #10
96	Phillips State #12
97	Phillips "C" State #1
98	Phillips State #1
99	Phillips State #8
100	Phillips State #9-Y
101	Phillips State #13
102	Phillips Federal #2-Y
103	Phillips Federal #1
104	Phillips Federal #3
148	State 18-B #9
150	State 18 #9
152	Western State #18
166	Western State #19
173	Johns B #15
177	Phillips "B" State #16
179	Western State #17
201	Johns A #6
202	Johns B #13
205	Phillips "B" State #15

STATE/FEDERAL
WATERFLOOD UNIT

UNIT AGREEMENT

FOR THE DEVELOPMENT AND OPERATION

OF THE

CAPROCK MALJAMAR UNIT AREA

LEA COUNTY, NEW MEXICO

NO. NMNM 91009X

TABLE OF CONTENTS

UNIT AGREEMENT
FOR THE DEVELOPMENT AND OPERATION
OF THE
CAPROCK MALJAMAR UNIT
LEA COUNTY, NEW MEXICO

THIS AGREEMENT, entered into as of the _____ day of _____, 1993, by and between the parties subscribing, ratifying, or consenting hereto, and herein referred to as the "parties hereto,"

WITNESSETH:

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 Mineral Leasing Act of February 25, 1920, 41 Stat. 437, as amended, 30 U.S.C. Sec. 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 cooperative or 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 Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Section 1, Chapter 88, Laws 1943, as amended by Section 1 of Chapter 176, Laws of 1961) (Chapter 19, Article 10, Section 45, New Mexico Statutes 1978 Annotated), to consent to and approve the development or operation of State lands under agreements made by lessees of State land jointly or severally with other lessees where such agreements provide for the unit operation or development of part of or all of any oil or gas pool, field or area; and

WHEREAS, the Commissioner of Public Lands of the State of New Mexico is authorized by an Act of the Legislature (Section 1, Chapter 88, Laws 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 agreements for the unit operation and development of part or all of any oil or gas pool, field or area; and

WHEREAS, the Oil Conservation Division of the State of New Mexico (hereinafter referred to as the "Division") is authorized by an Act of the Legislature (Chapter 72, Laws of 1935 as amended) (Chapter 70, Article 2, Section 2 et seq., New Mexico Statutes 1978 Annotated) to approve this Agreement and the conservation provisions hereof, and

WHEREAS, the Oil Conservation Division of the Energy and Minerals Department of the State of New Mexico is authorized by law (Chapter 65, Article 3 and Article 14, N.M.S. 1953 Annotated) to approve this Agreement and the conservation provisions hereof; and

WHEREAS, the parties hereto hold sufficient interest in the Unit Area covering the land hereinafter described to give reasonably effective control of operations therein; and

WHEREAS, it is the purpose of the parties hereto to conserve natural resources, prevent waste, and secure 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 parries hereto commit to this Agreement their respective interest in the below-defined 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 or valid, pertinent, and reasonable regulations hereafter issued thereunder are 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 in which the non-Federal land is located, are hereby accepted and made a part of this Agreement.

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

(a) "Unit Area" is defined as those lands described in Exhibit "B" and depicted on Exhibit "A" hereof, and such land is hereby designated and recognized as constituting the Unit Area, containing 4160 acres, more or less, in Lea County, New Mexico.

(b) "Land 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 Department of Energy and Minerals of the State of New Mexico.

(d) "Authorized Officer" or "A.O." is any employee of the Bureau of Land Management who has been delegated the required authority to act on behalf of the BLM.

(e) "Secretary" is defined as the Secretary of the Interior of the United States of America, or his duly authorized delegate.

(f) "Department" is defined as the Department of the Interior of the United States of America.

(g) "Proper BLM Office" is defined as the Bureau of Land Management office having jurisdiction over the federal lands included in the Unit Area.

(h) "Unitized Formation" shall mean that interval underlying the Unit Area, the vertical limits of which extended from the surface of the ground to a lower limit of 5,500 feet below the surface.

(i) "Unitized Substances" are all oil, gas, gaseous substances, sulphur contained in gas, condensate, distillate and all associated and constituent liquid or liquefiable hydrocarbons, other than outside substances, within and produced from the Unitized Formation.

(j) "Tract" is each parcel of land described as such and given a Tract number in Exhibit "B".

(k) "Tract Participation" is defined as the percentage of participation shown on Exhibit "B" for allocating Unitized Substances to a Tract under this agreement.

(l) "Unit Participation" is the sum of the percentages obtained by multiplying the Working Interest of a Working Interest Owner in each Tract by the Tract Participation of such Tract.

(m) "Working Interest" is the right to search for, produce and acquire Unitized Substances whether held as an incident of ownership of mineral fee simple title, under an oil and gas lease, operating agreement, or otherwise held, 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 and producing the Unitized Substances from the Unitized Formation and operations thereof hereunder. Provided that any royalty interest created out of a working interest subsequent to the execution of this Agreement by the owner of the working interest shall continue to be subject to such working interest burdens and obligations.

(n) "Working Interest Owner" is any party hereto owning a Working Interest, including a carried working interest owner, holding an interest in Unitized Substances by virtue of a lease, operating agreement, fee title or otherwise. The owner of oil and gas rights that are free of lease or other instrument

creating a Working Interest in another shall be regarded as a Working Interest Owner to the extent of seven-eighths (7/8) of his interest in Unitized Substances, and as a Royalty Owner with respect to his remaining one-eighth (1/8) interest therein.

(o) "Royalty Interest" or "Royalty" is 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 or by an oil and gas lease and any overriding royalty interest, oil payment interest, net profit contracts, or any other payment or burden which does not carry with it the right to search for and produce unitized substances.

(p) "Royalty Owner" is the owner of a Royalty Interest.

(q) "Unit Operating Agreement" is the agreement entered into by and between the Unit Operator and the Working Interest Owners as provided in Section 9, infra, and shall be styled "Unit Operating Agreement, Caprock Maljamar Unit, Lea County, New Mexico."

(r) "Oil and Gas Rights" is the right to explore, develop and operate lands within the Unit Area for the production of Unitized Substances, or to share in the production so obtained or the proceeds thereof.

(s) "Outside Substances" is any substance obtained from any source other than the Unitized Formation and injected into the Unitized Formation.

(t) "Unit Manager" is any person or corporation appointed by Working Interest Owners to perform the duties of Unit Operator until the selection and qualification of a successor Unit Operator as provided for in Section 7 hereof.

(u) "Unit Operator" is the party designated by Working Interest Owners under the Unit Operating Agreement to conduct Unit Operations.

(v) "Unit Operations" is any operation conducted pursuant to this Agreement and the Unit Operating Agreement.

(w) "Unit Equipment" is all personal property, lease and well equipment, plants, and other facilities and equipment taken over or otherwise acquired for the joint account for use in Unit Operations.

(x) "Unit Expense" is all cost, expense, or indebtedness incurred by Working Interest Owners or Unit Operator pursuant to this Agreement and the Unit Operating Agreement for or on account of Unit Operations.

(y) "Effective Date" is the date determined in accordance with Section 24, or as redetermined in accordance with Section 39.

SECTION 3. EXHIBITS. The following exhibits are incorporated herein by reference: Exhibit "A" attached hereto is a map showing the Unit Area and 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 the Unit Operator, the acreage comprising each Tract and the percentages and kinds of ownership of oil and gas interests in all lands in the Unit Area. Exhibit "C" attached hereto is a summary of the various Tracts showing the Tract Participation of each Tract. However, nothing in said schedules or map shall be construed as a representation by any party hereto as to the ownership of any interest other than such interest or interests as are shown in said map or schedules as owned by such party. The shapes and descriptions of the respective Tracts have been established by using the best information available. Each Working Interest Owner is responsible for supplying Unit Operator with accurate information relating to each Working Interest Owner's interest. If it subsequently appears that any Tract, because of diverse royalty or working interest ownership on the Effective Date hereof, should be divided into more than one Tract, or when any revision is requested by the A.O., or any correction of any error other than mechanical miscalculations or clerical is needed, then the Unit Operator, with the approval of the Working Interest Owners, may correct the mistake by revising the exhibits to conform to the facts. The revision shall not include any reevaluation of engineering or geological interpretations used in determining Tract Participation. Each such revision of an exhibit made prior to thirty (30) days after the Effective Date shall be effective as of the Effective Date. Each other such revision of an exhibit shall be effective at 7:00 a.m. on the first day of the calendar month next following the filing for record of the revised exhibit or on such other date as may be determined by Working Interest Owners and set forth in the revised exhibit. Copies of such revision shall be filed with the Land Commissioner, and not less than four copies shall be filed with the A.O. In any such revision, there shall be no retroactive allocation or adjustment of Unit Expense or of interests in the Unitized Substances produced, or proceeds thereof.

SECTION 4. EXPANSION. The above-described Unit Area may, with the approval of the A.O. and Land Commissioner, when practicable be expanded to include therein any additional Tract or Tracts regarded as reasonably necessary or advisable for the purposes of this Agreement provided, however, in such expansion there shall be no retroactive allocation or adjustment of Unit Expense or of interests in the Unitized Substances produced, or proceeds thereof. Pursuant to Subsection (b), the Working Interest Owners may agree upon an adjustment of investment by reason of the expansion. 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 this unit, 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 Unit Area and in the Tract proposed to be included in the unit, setting out the basis for admission, the Tract Participation to be assigned to each Tract in the enlarged Unit Area and other pertinent data. After negotiation (at Working Interest Owners' meeting or otherwise) if Working Interest Owners having in the aggregate seventy-five percent (75%) of the Unit Participation then in effect have agreed to inclusion of such Tract or Tracts in the Unit Area, then Unit Operator shall:

1. After obtaining preliminary concurrence by the A.O. and Land Commissioner, 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 assigned thereto and the proposed effective date thereof, and

2. Deliver copies of said notice to Land Commissioner, the A.O. at the proper BLM Office, each Working Interest Owner and to the last known address of each lessee and lessor whose interests are affected, advising such parties that thirty (30) days will be allowed for submission to the Unit Operator of any objection to such proposed expansion; and

3. File, upon the expiration of said thirty (30) day period as set out in (2) immediately above with the Land Commissioner and A.O. the following: (a) evidence of mailing or delivering copies of said notice of expansion; (b) an application for approval of such expansion; (c) an instrument containing the appropriate joinders in compliance with the participation requirements of Section 14, and Section 34, infra; and (d) a copy of all objections received along with the Unit Operator's response thereto.

The expansion shall, after due consideration of all pertinent information and approval by the Land Commissioner and the A.O., become effective as of the date prescribed in the notice thereof, preferably the first day of the month subsequent to the date of notice. The revised Tract Participation of the respective Tracts included within the Unit Area prior to such enlargement shall remain the same ratio one to another.

SECTION 5. UNITIZED LAND. All land committed to this Agreement as to the Unitized Formation shall constitute land referred to herein as "Unitized Land" or "Land subject to this Agreement". Nothing herein shall be construed to unitize, pool, or in any way affect the oil, gas and other minerals contained in or that may be produced from any formation other than the Unitized Formation as defined in Section 2(h) of this Agreement.

SECTION 6. UNIT OPERATOR. The Wiser Oil Company is hereby designated the Unit Operator, and by signing this instrument as Unit Operator, 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, when such interest are owned by it and the term "Working Interest Owner" when used herein shall include or refer to the Unit Operator as the owner of a Working Interest when such an interest is owned by it.

Unit Operator shall have a lien upon interests of Working Owners in the Unit Area to the extent provided in the Unit Operating Agreement.

SECTION 7. RESIGNATION OR REMOVAL OF UNIT OPERATOR. 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 six (6) months after written notice of intention to resign has been given by Unit Operator to all Working Interest Owners, the Land Commissioner and the A.O. 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 default or failure in the performance of its duties and obligations hereunder, be subject to removal by Working Interest Owners having in the aggregate eighty percent (80%) or more of the Unit Participation then in effect exclusive of the Working Interest Owner who is the Unit Operator. Such removal shall be effective upon notice thereof to the Land Commissioner and the A.O.

In all such instances of effective 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 thirty (30) 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 wells, equipment, books and records, materials, appurtenances and any other assets used in connection with the Unit Operations to the new duly qualified successor Unit Operator or to the Unit Manager if no such new Unit Operator is elected. Nothing herein shall be construed as authorizing the 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 or Unit Manager who resigns or is removed hereunder from any liability or duties accruing 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 shall select a successor Unit Operator as herein provided. Such selection 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 Land Commissioner and the A.O. If no successor Unit Operator or Unit Manager is selected and qualified as herein provided, the Land Commissioner and/or the A.O., at their election, may declare this Agreement terminated.

In selecting a successor Unit Operator, the affirmative vote of three or more Working Interest Owners having a total of sixty-five percent (65%) or more of the total Unit Participation shall prevail; provided that if any one Working Interest Owner has a Unit Participation of more than thirty-five percent (35%), its negative vote or failure to vote shall not be regarded as sufficient unless supported by the vote of one or more other Working Interest Owners having a total Unit Participation of at least five percent (5%). If the Unit Operator who is removed votes only to succeed itself or fails to vote, the successor Unit Operator may be selected by the affirmative vote of the owners of at least seventy-five percent (75%) of the Unit Participation remaining after excluding the Unit Participation of Unit Operator so removed.

SECTION 9. ACCOUNTING PROVISIONS AND UNIT OPERATING AGREEMENT. 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 hereto in conformity with their underlying operating agreements, leases or other 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 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. Copies of any Unit Operating Agreement executed pursuant to this Section shall be filed with the Land Commissioner and with the A.O. at the proper BLM Office as required prior to approval of this Agreement.

SECTION 10. RIGHTS AND OBLIGATIONS OF UNIT OPERATOR. Except as otherwise specifically provided herein, be exclusive right, privilege and duty of exercising any and all rights of the parties hereto including surface rights 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, 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. PLAN OF OPERATIONS. It is recognized and agreed by the parties hereto that all of the land subject to this Agreement is reasonably proved to be productive of Unitized Substances and that the object and purpose of this Agreement is to formulate and to put into effect an improved recovery project in order to effect additional recovery of Unitized Substances, prevent waste and conserve natural resources. Unit Operator shall have the right to inject into the Unitized Formation any substances for secondary recovery or enhanced recovery purposes in accordance with a plan of operation approved by the Working Interest Owners, the A.O., the Land Commissioner and the Division, including the right to drill and maintain injection wells on the Unitized Land and completed in the Unitized Formation, and to use abandoned well or wells producing from the Unitized Formation for said purpose. Subject to like approval, the Plan of Operation may be revised as conditions may warrant.

The initial Plan of Operation shall be filed with the A.O., the Land Commissioner and the Division concurrently with the filing of the Unit Agreement for final approval. Said initial plan of operations and all revisions thereof shall be as complete and adequate as the A.O., the Land Commissioner and the Division may determine to be necessary for timely operation consistent herewith. Upon approval of this Agreement and the initial plan by the A.O. and Commissioner, said plan, and all subsequently approved plans, shall constitute the operating obligations of the Unit Operator under this Agreement for the period specified therein. Thereafter, from time to time before the expiration of any existing plan, the Unit Operator shall submit for like approval a plan for an additional specified period of operations. After such operations are commenced, reasonable diligence shall be exercised by the Unit Operator in complying with the obligations of the approved Plan of Operation.

Notwithstanding anything to the contrary herein contained, should the Unit Operator fail to commence Unit Operations for the secondary recovery of Unitized Substances from the Unit Area within eighteen (18) months after the effective date of this Agreement, or any extension thereof approved by the A.O., this Agreement shall terminate automatically as of the date of default.

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

Unit Operator's free use of water or brine or both for Unit Operations, shall not include any water from any well, lake, pond or irrigation ditch of a surface owner, unless approval for such use is granted by the surface owner.

Unit Operator shall pay the surface owner for damages to growing crops, fences, improvements and structures on the Unit Land that result from Unit Operations, and such payments shall be considered as items of unit expense to be borne by all the Working Interest Owners of lands subject hereto.

SECTION 13. TRACT PARTICIPATION. In Exhibit "B" attached hereto there are listed and numbered the various Tracts within the Unit Area, and set forth opposite each Tract are figures which represent the Tract Participation during Unit Operations. The Tract Participation of each Tract as shown in Exhibit "B" was determined in accordance with the following formula:

$$\text{Tract Participation} = 35\% \, A/B + 35\% \, C/D + 30\% \, E/F$$

A = the number of Useable Wells on each Tract.

B = the total number of Useable Wells within the Unit Area.

C = the Tract Cumulative Oil Production from the Unitized Formation as of 1 January 1993.

D = the Unit Total Cumulative Oil Production from the Unitized Formation as of 1 January 1993.

E = the volume of oil produced form the Unitized Formation by all Unit Tracts from 1 January 1992 to 1 January 1993.

F = the volume of Oil Produced from the Unitized Formation by all Unit Tracts from 1 January 1992 to 1 January 1993.

SECTION 14. TRACTS QUALIFIED FOR PARTICIPATION. On and after the Effective Date hereof, the Tracts within the Unit Area which shall be entitled to participation in the production of Unitized Substances shall be those Tracts more particularly described in Exhibit "B" that corner or have a common boundary (Tracts separated only by a public road or a railroad right-of-way shall be considered to have a common boundary), and that otherwise qualify as follows:

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

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

the Royalty Interest have become parties to this Agreement, and as to which (1) the Working Interest Owner who operates the Tract and Working Interest Owners owning at least seventy-five percent (75%) of the remaining Working Interest in such Tract have joined in a request for the inclusion of such Tract, and as to which (2) Working Interest Owners owning at least seventy-five percent (75%) of the combined Unit Participation in all Tracts that meet the requirements of Section 14(a) above have voted in favor of the inclusion of such tract.

(c) Each Tract as to which Working Interest Owners owning less than one hundred percent (100%) of the Working Interest have become parties to this Agreement, regardless of the percentage of Royalty Interest therein that is committed hereto; and as to which (1) the Working Interest Owner who operates the Tract and Working Interest Owner owning at least seventy-five percent (75%) of the remaining Working Interest in such Tract who have become parties to this Agreement have joined in a request for inclusion of such Tract, and have executed and delivered, or obligated themselves to execute and deliver an indemnity agreement indemnifying and agreeing to hold harmless the other owners of committed Working Interests, their successors and assigns, against all claims and demands that may be made by the owners of Working Interest in such Tract who are not parties to this Agreement, and which arise out of the inclusion of the Tract; and as to which (2) Working Interest Owners owning at least seventy-five percent (75%) of the Unit Participation in all Tracts that meet the requirements of Section 14(a) and 14(b) have voted in favor of the inclusion of such Tract and to accept the indemnity agreement. Upon the inclusion of such a Tract, the Tract Participation which would have been attributed to the nonsubscribing owners of 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, and joined in the indemnity agreement, 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 above provided, then such Tract or Tracts shall not be entitled to participate hereunder. Unit Operator shall, when submitting this Agreement for final approval by the Land Commissioner and the A.O., file therewith a schedule of those tracts which have been committed and made subject to this Agreement and are entitled to participate in Unitized Substances. 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 forth in Section 13 (Tract Participation) above. This schedule of participation shall be revised Exhibit "B" and upon approval thereof by the Land Commissioner and the A.O.,

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 Land Commissioner and A.O.

SECTION 15.A. ALLOCATION OF UNITIZED SUBSTANCES. All Unitized Substances produced and saved (less, save and except any part of such Unitized Substances used in conformity with good operating practices on unitized land for drilling, operating, camp and other production or development purposes and for injection or unavoidable loss in accordance with a Plan of Operation approved by the A.O. and Land Commissioner) shall be apportioned among and allocated to the qualified Tracts in accordance with the respective Tract Participations effective hereunder during the respective periods such Unitized Substances were produced, as set forth in the schedule of participation in Exhibit "B". 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 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 Tracts, 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 above provided shall be subsequently excluded from participation hereunder on account of depletion of Unitized Substances.

If the Working Interest and/or the Royalty Interest in any Tract are divided with respect to separate parcels or portions of such Tract and owned now or hereafter in severalty by different persons, the Tract Participation shall in the absence of a recordable instrument executed by all owners in such Tract 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 15.B. TAKING UNITIZED SUBSTANCES IN KIND. The Unitized Substances allocated to each Tract shall be delivered in kind to the respective parties entitled thereto by virtue of the ownership of oil and gas rights therein. Each such party shall have the right to construct, maintain and operate all necessary facilities for that purpose within the Unitized Area, provided the same are so constructed, maintained and operated as not to interfere with Unit Operations. Subject to Section 17 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 taking delivery. In the event any Working Interest Owner shall fail to take or otherwise adequately dispose of its proportionate share of the production from the Unitized Formation then so long as such condition continues, Unit Operator, for the account and at the expense of the Working

Interest Owner of the Tract or Tracts concerned, and in order to avoid curtailing the operation of the Unit Area, may, but shall not be required to, sell or otherwise dispose of such production to itself or to others, provided that 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, and at not less than the prevailing market price in the area for like production, and the account of such Working Interest Owner shall be charged therewith as having received such production. The net proceeds, if any, of the Unitized Substances so disposed of by Unit Operator shall be paid to the Working Interest Owner of the Tract or Tracts concerned. Notwithstanding the foregoing, Unit Operator shall not make a sale into interstate commerce of any Working Interest Owner's share of gas production without first giving such Working Interest Owner sixty (60) days notice of such intended sale.

Any Working Interest Owner receiving in kind or separately disposing of all or any part of the Unitized Substances allocated to any Tract, or receiving the proceeds therefrom if the same is sold or purchased by Unit Operator, shall be responsible for the payment of all royalty, overriding royalty and production payments due thereon, and each such party shall hold each other Working Interest Owner harmless against all claims, demands and causes of action by owners of such royalty, overriding royalty and production payments.

If, after the Effective Date of this Agreement, there is any Tract or Tracts that are subsequently committed hereto, as provided in Section 4 (Expansion) hereof, or any Tract or Tracts within the Unit Area not committed hereto as of the Effective Date hereof but which are subsequently committed hereto under the provisions of Section 14 (Tracts Qualified for Participation) and Section 32 (Nonjoinder and Subsequent Joinder); or if any Tract is excluded from this Agreement as provided for in Section 21 (Loss of Title), the schedule of participation as shown in Exhibit "B" shall be revised by the Unit Operator, and the revised Exhibit "B", upon approval by the Land Commissioner and the A.O., shall govern the allocation of production on and after the effective date thereof until a revised schedule is approved as hereinabove provided.

SECTION 16. OUTSIDE SUBSTANCES. If gas obtained from formations not subject to this Agreement is introduced into the Unitized Formation for use in repressuring, stimulating of production or increasing ultimate recovery which shall be in conformity with a Plan of Operation first approved by the Land Commissioner and the A.O., a like amount of gas with appropriate deduction for loss or depletion from any cause may be withdrawn from unit wells completed in the Unitized Formation royalty free as to dry gas, but not royalty free as to the products extracted therefrom; provided that such withdrawal shall be at such time as may be provided in the approved Plan of Operation or as otherwise may be consented to or prescribed by the Land Commissioner and the A.O. as conforming to good petroleum engineering practices and provided further that such right of withdrawal shall terminate on the termination date of this Agreement.

SECTION 17. ROYALTY SETTLEMENT. The State of New Mexico and United States of America and all Royalty Owners who, under an existing contract, are entitled to take in kind a share of the substances produced from any Tract unitized hereunder, shall continue to be entitled to such right 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 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 the leases, except that such Royalty shall be computed on Unitized Substances as allocated to each Tract in accordance with the terms of this Agreement. With respect to Federal leases committed hereto on which the royalty rate depends upon the daily average production per well, such average production shall be determined in accordance with the operating regulations pertaining to Federal leases as though the committed Tracts were included in a single consolidated lease.

If the amount of production or the proceeds thereof 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 runs 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 Unitized Substances as of the Effective Date hereof, provided that any Tract not having any well so capable of producing Unitized Substances on the Effective Date hereof shall be considered as having one such well for the purpose of this provision.

All Royalty due the State of New Mexico and 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.

With the exception of Federal and State requirements to the contrary, Working Interest Owners may use or consume Unitized Substances for Unit Operations and no Royalty, overriding royalty, production or other payments shall be payable on account of Unitized Substances used, lost, or consumed in Unit Operations.

Each Royalty Owner (other than the State of New Mexico and the United States of America) that executes this Agreement represents and warrants that it is the owner of a Royalty Interest in a Tract or Tracts within the Unit Area as 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 himself to be the owner thereof shall be reduced proportionately and the interest of all parties shall be adjusted accordingly.

SECTION 18. RENTAL SETTLEMENT. Rentals or minimum Royalties due on the 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 the 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. 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 such rental or minimum Royalty is waived, suspended or reduced by law or by approval of the Secretary or his duly authorized representative.

SECTION 19. 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 20. DRAINAGE. The Unit Operator shall take all reasonable and prudent measures to prevent drainage of Unitized Substances from unitized land by wells on land not subject to this Agreement.

The Unit Operator, upon approval by the Working Interest Owners, the A.O. and the Land Commissioner, 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 interest affected.

SECTION 21. LOSS OF TITLE. In the event title to any Tract of unitized land shall fail and the true owner cannot be induced to join in this Agreement, such Tract shall be automatically regarded as not committed hereto, and there shall be such readjustment of future costs and benefits as may be required on account of the loss of such title. In the event of a dispute as to title to any Royalty, Working Interest, or other interests subject thereto, payment or delivery on account thereof may be withheld without liability for interest until the dispute is finally settled; provided, that, as to State or Federal lands or leases, no payments of funds due the United States or the State of New Mexico shall be withheld, but such funds shall be deposited as directed by the A.O. or Land Commissioner (as the case may be) to be held as unearned money pending final settlement of the title dispute, and then applied as earned or returned in accordance with such final settlement.

If the title or right of any party claiming the right to receive in kind all or any portion of the Unitized Substances allocated to a Tract is in dispute, Unit Operator at the direction of Working Interest Owners shall either:

(a) require that the party to whom such Unitized Substance are delivered or to whom the proceeds thereof are paid furnish security for the proper accounting therefor to the rightful owner if the title or right of such party fails in whole or in part, or

(b) withhold and market the portion of Unitized Substances with respect to which title or right is in dispute, and impound the proceeds thereof until such time as the title or right thereto is established by a final judgement of a court of competent jurisdiction or otherwise to the satisfaction of Working Interest Owners, whereupon the proceeds so impounded shall be paid to the party rightfully entitled thereto.

Each Working Interest Owner shall indemnify, hold harmless, and defend all other Working Interest Owners against any and all claims by any party against the interest attributed to such Working Interest Owner on Exhibit "B".

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

SECTION 22. 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 Land Commissioner, respectively, shall and by their approval hereof, or by the approval hereof by their duly authorized representatives, do 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 Tract subject to this Agreement, regardless of whether there is any development of any Tract of the Unit Area, notwithstanding anything to the contrary in any 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 or improved recovery operations performed hereunder shall be deemed to be performed upon and for the benefit of each Tract, and no lease shall be deemed to expire by reason of failure to drill or produce wells situated on the land therein embraced.

(c) Suspension of drilling or producing operations within the Unit Area pursuant to direction or consent of the Land Commissioner and the A.O., or their duly authorized representatives, shall be deemed to constitute such suspension pursuant to such direction or consent as to each Tract within the Unitized Area.

(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 term of this Agreement.

(e) Any lease embracing lands of the State of New Mexico which is made subject to this Agreement shall continue in force beyond the term provided therein as to the lands committed hereto until the termination hereof.

(f) 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. Provided, however, that notwithstanding any of the provisions of this Agreement to the contrary, such lease (including both segregated portions) shall continue in full force and effect beyond the term provided therein as to all lands embraced in such lease if 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, 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, 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 improved 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 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.

(g) 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 nonunitized 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 23. COVENANTS RUN WITH LAND. The covenants herein shall be construed to be covenants running with the land with respect to the interest 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. 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 or transfer; and no assignment or transfer of 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 or transfer.

SECTION 24. 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 A.O., the Land Commissioner and the Commission.

If this Agreement does not become effective on or before March 1, 1994, 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 seventy-five percent (75%); and at least seventy-five percent (75%) of such Working Interest Owners committed to this Agreement have decided to extend Expiration Date for a period not to exceed one (1) year (hereinafter called "Extended Expiration Date"). If Expiration Date is so extended and this Agreement does not become effective on or before the Extended Expiration Date,

it shall ipso facto expire on Extended Expiration Date and thereafter be of no further force and effect.

Unit Operator shall file for record within thirty (30) days after the Effective Date of this Agreement, in the office of the County Clerk of Lea County, New Mexico, where a counterpart of this Agreement has become effective according to its terms and stating further the effective date.

The terms of this Agreement shall be for and during the time that Unitized Substances are produced from the unitized land and so long thereafter as drilling, reworking or other operations (including improved recovery operations) are prosecuted thereon without cessation of more than ninety (90) consecutive days unless sooner terminated as herein provided.

This Agreement may be terminated with the approval of the Land Commissioner and the A.O. by Working Interest Owners owning eighty percent (80%) of the Unit Participation then in effect whenever such Working Interest Owners determine that Unit Operations are no longer profitable, or in the interest of conservation. Upon approval, such termination shall be effective as of the first day of the month after said Working Interest Owners' determination. Notice of any such termination shall be filed by Unit Operator in the office of the County Clerk of Lea County, New Mexico, within thirty (30) days of the effective date of termination.

Upon termination of this Agreement, 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.

Notwithstanding any other provisions in the leases unitized under this Agreement, Royalty Owners hereby grant Working Interest Owners a period of six 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 25. RATE OF PROSPECTING, DEVELOPMENT & 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 A.O. is hereby vested with authority to alter or modify from time to time, in 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 land 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 Land Commissioner and as to any lands in the State of New Mexico or privately-owned lands

subject to this Agreement or to the quantity and rate of production from such lands in the absence of specific written approval thereof by the Division.

Powers in this Section vested in the A.O. shall only be exercised after notice to Unit Operator and opportunity for hearing to be held not less than fifteen (15) days from notice, and thereafter subject to administrative appeal before becoming final.

SECTION 26. NONDISCRIMINATION. Unit Operator in connection with the performance of work under this Agreement relating to leases of the United States, agrees to comply with all of the provisions of Section 202(1) to (7) inclusive of Executive Order 11246, (30 F.R. 12319), which are hereby incorporated by reference in this Agreement.

SECTION 27. APPEARANCES. Unit Operator shall have the right to appear for or on behalf of any interests affected hereby before the Land Commissioner, the Department, and the Division, and to appeal from any order issued under the rules and regulations of the Land 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 Land 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 his or its own expense to be heard in any such proceeding.

SECTION 28. 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 personally delivered to the party or parties or sent by postpaid certified or registered mail, addressed to such party or parties at their last known address 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 29. NO WAIVER OF CERTAIN RIGHT. 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 law of the State wherein said Unitized Lands are located, or regulations 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, each party hereto covenants that it will not resort to any action to partition the unitized land or the Unit Equipment.

SECTION 30. EQUIPMENT AND FACILITIES NOT FIXTURES ATTACHED TO REALTY. 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 and 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 it is agreed that any such equipment and personal property shall be and remain personal property of the Working Interest Owners for all purposes.

SECTION 31. UNAVOIDABLE DELAY. All obligations under this Agreement requiring the Unit Operator to commence or continue improved 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 or equipment in open market, or other matters beyond the reasonable control of the Unit Operator whether similar to matters herein enumerated or not.

SECTION 32. NONJOINDER AND SUBSEQUENT JOINDER. Joinder by any Royalty Owner, at any time, must be accompanied by appropriate joinder of the corresponding working Interest Owner in order for the interest of such Royalty Owner to be regarded as effectively committed. Joinder to this Agreement by a Working Interest Owner at any time, must be accompanied by appropriate joinder to the Unit Operating Agreement in order for such interest to be regarded as effectively committed to this Agreement.

Any oil or gas interest in the Unitized Formations not committed hereto prior to submission of this Agreement to the Land Commissioner and the A.O. for final approval may thereafter be committed hereto upon compliance with the applicable provisions of this Section and of Section 14 (Tracts Qualified for Participation) hereof, at any time up to the Effective Date hereof on the same basis of Tract Participation as provided in Section 13, by the owner or owners thereof subscribing, ratifying, or consenting in writing to this Agreement and, if the interest is a Working Interest, by the owner of such interest subscribing also to the Unit Operating Agreement.

It is understood and agreed, however, that from and after 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 Working Interest Owners owning not less than sixty-five percent (65%) of the Unit Participation then in effect, and approved by the Land Commissioner and A.O. Such subsequent joinder by a proposed Working Interest Owner must be evidenced by his execution or ratification of this Agreement and the Unit Operating Agreement and, where State or Federal land is involved, such joinder must be approved by the Land Commissioner or A.O. Such joinder by a proposed Royalty Owner must be evidenced by his execution, ratification or consent of this Agreement and must be consented to in writing by the Working Interest Owner responsible for the payment of any benefits that may accrue hereunder in behalf of such proposed Royalty Owner. Except as may be otherwise herein provided, subsequent joinder to this Agreement shall be effective as of the first day of the month following the filing with the

Land Commissioner and A.O. of duly executed counterparts of any and all documents necessary to establish effective commitment of any Tract or interest to this Agreement, unless objection to such joinder by the Land Commissioner or the A.O., is duly made sixty (60) days after such filing.

SECTION 33. COUNTERPARTS. 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 land within the described Unit Area. Furthermore, this Agreement shall extend to and be binding on the parties hereto, their successors, heirs and assigns.

SECTION 34. JOINDER IN DUAL CAPACITY. Execution as herein provided by any party as either a Working Interest Owner or a Royalty Owner shall commit all interests owned or controlled by such party; provided, that if the party is the owner of a Working Interest, he must also execute the Unit Operating Agreement.

SECTION 35. 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 the taxes on their respective allocated share of said Unitized Substances. No taxes shall be charged to the United States or to the State of New Mexico, nor to any lessor who has a contract with a lessee which requires his lessee to pay such taxes.

SECTION 36. 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 obligation as herein provided.

SECTION 37. PRODUCTION AS OF THE EFFECTIVE DATE. Unit Operator shall make a proper and timely gauge of all leases and other tanks within the Unit Area 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 been produced in accordance with established allowables shall be and remain the property of the Working Interest Owner entitled thereto, the same as if the unit had not been formed; and the responsible Working Interest Owner shall promptly remove said oil from the unitized land.

Any such oil not so removed shall be sold by Unit Operator for the account of such Working Interest Owners, subject to the payment of all Royalty to Royalty Owners under the terms hereof. The oil that is in excess of the prior allowable of the wells from which it was produced shall be regarded as Unitized Substances produced after Effective Date hereof.

If, as of the Effective Date hereof, any Tract is overproduced with respect to the allowable of the wells on that Tract and the amount of over-production has been sold or otherwise disposed of, such over-production shall be regarded as 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 38. NO SHARING OF MARKET. This Agreement is not intended to provide and shall not be construed to provide, directly or indirectly, for any cooperative refining, joint sale or marketing of Unitized Substances.

SECTION 39. STATUTORY UNITIZATION. If and when working Interest Owners owning at least seventy-five percent (75%) Unit Participation and Royalty Owners owning at least seventy-five percent (75%) Royalty Interest have become parties to this Agreement or have approved this Agreement in writing and such Working Interest Owners have also become parties to the Unit Operating Agreement, Unit Operator may make application to the Division for statutory unitization of the uncommitted interests pursuant to the Statutory Unitization Act (Chapter 65, Article 14, N.M.S. 1953 Annotated). If such application is made and statutory unitization is approved by the Division, then effective as of the date of the Division's order approving statutory unitization, this Agreement and/or the Unit Operating Agreement shall automatically be revised and/or amended in accordance with the following:

(1) Section 14 of this Agreement shall be revised by substituting for the entire said section the following:

"SECTION 14. TRACTS QUALIFIED FOR PARTICIPATION. On and after the Effective Date hereof, all Tracts within the Unit Area shall be entitled to participation in the production of Unitized Substances."

(2) Section 24 of this Agreement shall be revised by substituting for the first three paragraphs of said section the following:

"SECTION 24. EFFECTIVE DATE AND TERM. This Agreement shall become effective on the first day of the calendar month next following the effective date of the Division's order approving statutory unitization upon the terms and conditions of this Agreement, as amended (if any amendment is necessary) to conform to the Division's order, approval of this Agreement, as so amended, by the Land Commissioner; and the A.O. and the filing by Unit Operator of this Agreement or notice thereof for record in the office of

the County Clerk of Lea County, New Mexico. Unit Operator shall not file this Agreement or notice thereof for record, and hence this Agreement shall not become effective, unless within ninety (90) days after the date all other prerequisites for effectiveness of this Agreement have been satisfied, such filing is approved by Working Interest Owners owning a combined Unit Participation of at least sixty-five percent (65%) as to all Tracts within the Unit Area.

"Unit Operator shall, within thirty (30) days after the Effective Date of this Agreement, file for record in the office of the County Clerk of Lea County, New Mexico, a certificate to the effect that this Agreement has become effective in accordance with its terms, therein identifying the Division's order approving statutory unitization and stating the Effective Date.'

(3) This Agreement and/or the Unit Operating Agreement shall be amended in any and all respects necessary to conform to the Division's order approving statutory unitization.

Any and all amendments of this Agreement and/or the Unit Operating Agreement that are necessary to conform said agreements to the Division's order approving statutory unitization shall be deemed to be hereby approved in writing by the parties hereto without any necessity for further approval by said parties, except as follows:

(a) If any amendment of this Agreement has the effect of reducing any Royalty Owner's participation in the production of Unitized Substances, such Royalty Owner shall not be deemed to have hereby approved the amended agreement without the necessity of further approval in writing by said Royalty Owner; and

(b) If any amendment of this Agreement and/or the Unit Operating Agreement has the effect of reducing any Working Interest Owner's participation in the production of Unitized Substances or increasing such Working Interest Owner's share of Unit Expense, such Working Interest Owner shall not be deemed to have hereby approved the amended agreements without the necessity of further approval in writing by said Working Interest Owner.

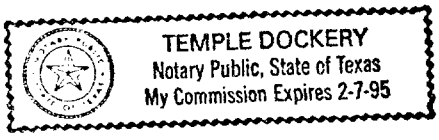
Executed as of the day and year first above written.

The Wiser Oil Company

By: _____
Andrew J. Shoup, Jr.
President

State of Texas)
) ss.
County of Dallas)

This instrument was acknowledged before me on February 3, 1994, by Andrew J. Shoup, Jr., President of The Wiser Oil Company, a Delaware corporation, on behalf of said corporation.



Temple Dockery
Notary Public

My commission expires:

February 7, 1995

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EXHIBIT "A" CAPROCK MALJAMAR UNIT

Lea County, New Mexico

- Federal Lands

- State Lands

Scale - 1" = 2000'

EXHIBIT "B"
CAPROCK MALJAMAR UNIT AREA
LEA COUNTY, NEW MEXICO

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
1	T-17-S, R-32-E Sec. 24: N½,N½S½	480	LC-059152B (HBP)	.125 USA	Hondo Oil & Gas Co.	.0354166	Hudson NM Mineral Trust	The Wiser Oil Co...100% (.7925 NRI)
						.0008681	Iverson III, Inc.	
						.0008680	Donald S. Iverson	
						.0008681	PAI, Inc.	
						.0026042	Jewell D. Iverson Revocable Intervivos Trust	
						.0026042	Estate of Dorothy C. Moore	
						.0078124	I.J. Iverson Trust	
						.0062500	Moore & Shelton Co., Ltd.	
						.0052084	Marjorie Iverson	
						.0032*	Perry L. Hughes	
						.0032*	B.G. Davis	
						.0032*	R.M. Williams	
						.0032*	H. Wade White	
						.0032*	Barry L. Antweil	
						.0032*	BarMar, Inc.	
						.0008	Melanie J. Parker	
						.0825		

Note: After 100,000 barrels of oil have been produced from Tracts Nos. 1 and 2, the ORIs of Perry L. Hughes et al (marked with an *) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .7925 to .7825 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
2	T-17-S, R-32-E Sec. 24: S½S½	160	LC-030437A (HBP)	.05 USA	Atlantic Ritchfield Co.	.0375000	John W. Bockman	The Wiser Oil Co...100% (.7925 NRI)
						.0442708	Hudson NM Mineral Trust	
						.0004340	Iverson III, Inc.	
						.0004341	Donald S. Iverson	
						.0004340	PAI, Inc.	
						.0013021	Jewell D. Iverson Revocable Intervivos Trust	
						.0187500	Martha Johns Densmore	
						.0187500	Nancy Johns Kent	
						.0013021	Estate of Dorothy C. Monroe	
						.0039062	I.J. Iverson Trust	
						.0078125	Moore & Shelton Co. Ltd.	
						.0026042	Marjorie Iverson	
						.0032*	Perry L. Hughes	
						.0032*	B. G. Davis	
						.0032*	R.M. Williams	
						.0032*	H. Wade White	
						.0032*	Barry L. Antweil	
						.0032*	BarMar, Inc.	
						.0008	Melanie J. Parker	
						.1575		

Note: After 100,000 barrels of oil have been produced from Tracts Nos. 1 & 2, the ORIs of Perry L. Hughes et al (marked with an *) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .7925 to .7825 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
3	T-17-S, R-33-E Sec. 33: N½NE¼, SE¼NE¼	120	NM-801 (HBP)	.037 USA	Phillips Petroleum Co.	.0546875 .0031250 .0010417 .0010417 .0020834 .0020832 .0020832 .0083334 .0010416 .0032* .0032* .0032* .0032* .0032* .0008 .0934375	Southwest Royalties, Inc. David H. and Gay B. Bell Trust Billy Frank Bunting Robert H. Bunting Charles Brice Dowaliby James M. Dowaliby Mary Evelyn Roberts Betty B. Thompson Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8695625 NRI)

Notes:

(1) After 800,000 barrels of oil have been produced from Tracts Nos. 3, 7, 8, 12 and 13, the ORIs of Perry L. Hughes et al (marked with an *) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .8695625 to .8595625 NRI.

(2) The stated .037 RI of the USA is for oil only; its RI on gas is .125, and Wiser Oil's WI is then .7815625 NRI.

(3) Tracts Nos. 1, 2 and 3 are Federal Lands which total 760 acres and 14.7938% participation in the Unit.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
4	T-17-S, R-32-E Sec. 13: SE¼	160	B-2229 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875	Phillips Petroleum Company	The Wiser Oil Co...100% (.7729693 NRI)
						.0136719	Dan P. Black	
						.0001068	Howard Coghlan	
						.0001068	Katherine Martin Comer	
						.0001810	Janet J. Day	
						.0001068	Estate of E. L. Johnson	
						.0001810	Edgar S. Johnston	
						.0021717	Helen M. and E. C. Johnston, Jr. Living Trust	
						.0021717	Mildred M. and Gordon C. Johnston	
						.0008144	Jane W. Johnston	
						.0000854	Jeffrey Ross Johnston	
						.0002714	Janet Day Trust	
						.0002715	Edgar S. Johnston Trust	
						.0002715	Laura Virginia Johnston Trust	
						.0001810	Laura Johnston	
						.0023925	M.O. Johnston, Jr.	
						.0000569	Scott Johnston	
						.0000570	Stephen D. Johnston	
						.0000570	Trace Johnston	
						.0017089	W. C. Johnston	
						.0008545	Lillian Mordica Trust	
						.0000855	Linda Susan Seibert	
						.0008544	Lillian Warren Trust	
						.0006836	Warren Trust	
						.0032*	Perry L. Hughes	
						.0032*	B. G. Davis	
						.0032*	R. M. Williams	
						.0032*	H. Wade White	
						.0032*	Barry L. Antweil	
						.0032*	BarMar, Inc.	
						.0008	Melanie J. Parker	
						.1020307		

Note: After 270,000 barrels of oil have been produced from Tracts Nos. 4, 5 and 6, the ORIs of Perry L. Hughes et al (marked with an *) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .7729693 to .7629693 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
5	T-17-S, R-33-E Sec. 18: E½, SW¼	480	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875	Phillips Petroleum Company	The Wiser Oil Co...100% (.7729693 NRI)
						.0136719	Dan P. Black	
						.0001068	Howard Coghlan	
						.0001068	Katherine Martin Comer	
						.0001810	Janet J. Day	
						.0001068	Estate of E. L. Johnson	
						.0001810	Edgar S. Johnston	
						.0021717	Helen M. and E.C. Johnston, Jr. Living Trust	
						.0021717	Mildren M. and Gordon C. Johnston	
						.0008144	Jane W. Johnston	
						.0000854	Jeffrey Ross Johnston	
						.0002714	Janet Day Trust	
						.0002715	Edgar S. Johnston Trust	
						.0002715	Laura Virginia Johnston Trust	
						.0001810	Laura Johnston	
						.0023925	M.O. Johnston, Jr.	
						.0000569	Scott Johnston	
						.0000570	Stephen D. Johnston	
						.0000570	Trace Johnston	
						.0017089	W. C. Johnston	
						.0008545	Lillian Mordica Trust	
						.0000855	Linda Susan Seibert	
						.0008544	Lillian Warren Trust	
						.0006836	Warren Trust	
						.0032*	Perry L. Hughes	
						.0032*	B. G. Davis	
						.0032*	R.M. Williams	
						.0032*	H. Wade White	
						.0032*	Barry L. Antweil	
						.0032*	BarMar, Inc.	
						.0008	Melanie J. Parker	
						.1020307		

Note: After 270,000 barrels of oil have been produced from Tracts Nos. 4, 5 and 6, the ORIs of Perry L. Hughes et al (marked with an *) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .7729693 to .7629693 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
6	T-17-S, R-33-E Sec. 17: N½	320	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875 .0032 .0032 .0032 .0032 .0032 .0032 .0008 .0746875	Phillips Petroleum Company Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8003125 NRI)
						Note: After 270,000 barrels of oil have been produced from Tracts Nos. 4, 5 and 6, the ORIs of Perry L. Hughes et al (but not Phillips Petroleum) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .8003125 to .7903125 NRI.		
7	T-17-S, R-33-E Sec. 17: S½ Sec. 20: N½	640	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.03125 .0082 .0082 .0082 .0082 .0082 .0082 .00205 .0825	The Wiser Oil Company Perry L. Hughes B. G. Davis R. M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.7925 NRI)

Notes:

(1) Wiser Oil's ORI is .03125 when production averages less than 40 barrels of oil per well per day, but increases to .0625 when production averages more than 40 barrels per day, and on gas. Similarly, the ORIs of Perry L. Hughes et al increase from 0082 to .0132 - Melanie J. Parker from .00205 to .0033. During that period when this larger ORI is paid, Wiser Oil's WI is .73 NRI.

(2) After 800,000 barrels have been produced from Tracts Nos. 3, 7, 8, 12 and 13, the ORIs of Perry L. Hughes et al (but not Wiser Oil's ORI) increase from .0082 to .0098 NRI - Melanie J. Parker from .00205 to .00245, and Wiser Oil's WI decreases from .7925 to .7825 NRI.

(3) Caspen Oil, Inc. owns a net profits interest payable from 35% of 81.25% (75% when all of the larger ORIs are paid) of production from the surface to a depth of 5,200 feet, as provided for in that certain (i) Contract of Sale and (ii) Net Profits Operating Agreement, both dated June 26, 1961 by and between Western Oil Fields, Inc. and Zapata Petroleum Corporation.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
8	T-17-S, R-33-E Sec. 19: N½,SE¼ N½SW¼ SE¼SW¼	600	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.0273438 .007575 .007575 .007575 .007575 .007575 .007575 .0018937 .0746875	The Wiser Oil Company Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8003125 NRI)
9	T-17-S, R-33-E Sec. 19: SW¼SW¼	40	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875 .0032 .0032 .0032 .0032 .0032 .0032 .0008 .0746875	Phillips Petroleum Company Perry L. Hughes B. G. Davis R. M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8003125 NRI)

Note: After 800,000 barrels of oil have been produced from Tracts Nos. 3, 7, 8, 12 and 13, the ORIs of Perry L. Hughes et al (but not Wiser Oil's ORI) increase from .007575 to .009175 - Melanie J. Parker from .0018937 to .0022937, and Wiser Oil's WI decreases from .8003125 to .7903125 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
10	T-17-S, R-33-E Sec. 20:S½ Sec. 21:W½W½, SE¼NW¼, SE¼SW¼,	560	B-2148 (HBP)	.125 NM	Phillips Petroleum Co.	.02000000 .022467148 .00040000 .00030000 .00010000 .00920000 .00250000 .00250000 .00549475 .00399475 .00399475 .00399475 .00499475 .00399475 .00099869 .08493437	Phillips Petroleum Company The Wiser Oil Company Helen L. Crowder Edwin Dale McCarter Richard A. Vannoy Texas Crude Energy, Inc. EnCap Investments, Inc. Eugene C. Fiedorek Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.79006563 NRI)

Note: After 125,000 barrels of oil have been produced from Tracts Nos. 10 and 11, the ORIs of all owners except Phillips Petroleum and Wiser Oil shall increase to the following percentages, to-wit:

Helen L. Crowder	.0006
Edwin Dale McCarter	.00045
Richard A. Vannoy	.00015
Texas Crude Energy, Inc.	.0138
EnCap Investments, Inc.	.00375
Eugene C. Fiedorek	.00375
Perry L. Hughes	.00644475
B. G. Davis	.00419475
R. M. Williams	.00419475
H. Wade White	.00419475
Barry L. Antweil	.00569475
BarMar, Inc.	.00419475
Melanie J. Parker	.00104869

and Wiser Oil's WI decreases from .79006563 to .78006563 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
11	T-17-S, R-33-E Sec. 29: NE¼NE¼	40	B-2229 (HBP)	.125 NM	Phillips Petroleum Co.	.02000000 .02246718 .00040000 .00030000 .00010000 .00920000 .00250000 .00250000 .00549475 .00399475 .00399475 .00399475 .00499475 .00399475 .00099869 .08493437	Phillips Petroleum Company The Wiser Oil Company Helen L. Crowder Edwin Dale McCarter Richard A. Vannoy Texas Crude Energy, Inc. EnCap Investments, Inc. Eugene C. Fiedorek Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.79006563)

Note: After 125,000 barrels of oil have been produced from Tracts Nos. 10 and 11, the ORIs of all owners except Phillips Petroleum and Wiser Oil shall increase to the following percentages, to-wit:

Helen L. Crowder	.0006
Edwin Dale McCarter	.00045
Richard A. Vannoy	.00015
Texas Crude Energy, Inc.	.0138
EnCap Investments, Inc.	.00375
Eugene C. Fiedorek	.00375
Perry L. Hughes	.00644475
B. G. Davis	.00419475
R.M. Williams	.00419475
H. Wade White	.00419475
Barry L. Antweil	.00569475
BarMar, Inc.	.00419475
Melanie J. Parker	.00104869

and Wiser Oil's WI decreases from .79006563 to .78006563 NRI.

Tract No.	Land Description	Acres	Lease No.	Basic Royalty	Lessee of Record	Overriding Royalties		WI Owner and Amount (NRI)
12	T-17-S, R-33-E Sec. 28: W½, SE¼, SW¼NE¼	520	B-2229 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875 .0032 .0032 .0032 .0032 .0032 .0032 .0008 .00746875	Phillips Petroleum Company Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8003125 NRI)
						Note: After 800,000 barrels of oil have been produced from Tracts Nos. 3, 7, 8, 12 and 13, the ORIs of Perry L. Hughes et al (but not Phillips Petroleum) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .8003125 to .7903125 NRI.		
13	T-17-S, R-33-E Sec 27: NW¼SW¼	40	B-2229 (HBP)	.125 NM	Phillips Petroleum Co.	.0546875 .0032 .0032 .0032 .0032 .0032 .0032 .0008	Phillips Petroleum Company Perry L. Hughes B. G. Davis R.M. Williams H. Wade White Barry L. Antweil BarMar, Inc. Melanie J. Parker	The Wiser Oil Co...100% (.8003125 NRI)

Notes:

(1) After 800,000 barrels of oil have been produced from Tracts Nos. 3, 7, 8, 12 and 13, the ORIs of Perry L. Hughes, et al (but not Phillips Petroleum) increase from .0032 to .0048 - Melanie J. Parker from .0008 to .0012, and Wiser Oil's WI decreases from .8003125 to .7903125 NRI.

(2) Tracts Nos. 4 through 13 are State Lands which total 3,400 acres and 85.2062% participation in the Unit.

EXHIBIT "C"
CAPROCK MALJAMAR UNIT AREA
LEA COUNTY, NEW MEXICO

Tract No.	Acres	WI Owner and Amount	Tract Participation
1	480	The Wiser Oil Co.....100%	7.5128%
2	160	The Wiser Oil Co.....100%	4.2132%
3	120	The Wiser Oil Co.....100%	3.0678%
4	160	The Wiser Oil Co.....100%	2.4691%
5	480	The Wiser Oil Co.....100%	11.0851%
6	320	The Wiser Oil Co.....100%	8.9201%
7	640	The Wiser Oil Co.....100%	21.4679%
8	600	The Wiser Oil Co.....100%	12.9282%
9	40	The Wiser Oil Co.....100%	0.1922%
10	560	The Wiser Oil Co.....100%	11.1722%
11	40	The Wiser Oil Co.....100%	0.5431%
12	520	The Wiser Oil Co.....100%	16.0091%
13	40	The Wiser Oil Co.....100%	0.4192%
	4,160		100.0000%

SECTION 13. TRACT PARTICIPATION. In Exhibit "B" attached hereto there are listed and numbered the various Tracts within the Unit Area, and set forth opposite each Tract are figures which represent the Tract Participation, during Unit Operations if all Tracts in the Unit Area qualify as provided herein. The Tract Participation of each Tract as shown in Exhibit "B" was determined in accordance with the following formula:

Tract Participation = 35% A/B + 35% C/D + 30% E/F

A = the number of Useable Wells on each Tract.

B = the total number of Useable Wells within the Unit Area.

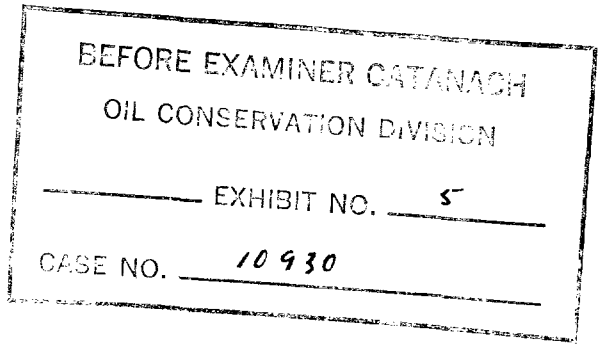
C = the Tract Cumulative Oil Production from the Unitized Formation as of 1 January 1993.

D = the Unit Total Cumulative Oil Production from the Unitized Formation as of 1 January 1993.

E = the volume of Oil Produced from the Unitized Formation by Tract from 1 January 1992 to 1 January 1993.

F = the volume of Oil Produced from the Unitized Formation by all Unit Tracts from 1 January 1992 to 1 January 1993.

In the event less than all Tracts are qualified on the Effective Date hereof, the Tract Participation shall be calculated on the basis of all such qualified Tracts rather than all Tracts in the Unit Area.



TRACT PARTICIPATION PARAMETERS

Tract Participation = 35% Useable Wells + 35% Cumulative Oil + 30% Current Production

TRACT	USEABLE WELLS	%	CUMULATIVE 1 JAN 93	%	1992 PRODUCTION	%	TRACT PARTICIPATION
1	7	7.7778	1,024,734	9.9334	4,598	4.3798	7.5128 %
2	4	4.4444	473,879	4.5936	3,674	3.4996	4.2132
3	3	3.3333	329,481	3.1939	2,741	2.6109	3.0678
4	1	1.1111	397.343	3.8517	2,562	2.4404	2.4691
5	9	10.0000	1,253,158	12.1477	11,665	11.1113	11.0851
6	8	8.8889	984,959	9.5478	8,634	8.2242	8.9201
7	16	17.7778	2,391,459	23.1820	24,958	23.7734	21.4679
8	14	15.5556	1,469.896	14.2487	8,737	8.3223	12.9282
9	0	0.0000	56,637	0.5490	0	0.0000	0.1922
10	13	14.4444	1,051,124	10.1892	8,925	8.5014	11.1722
11	1	1.1111	45,439	0.4405	0	0.0000	0.5431
12	13	14.4444	828,973	8.0358	28,489	27.1368	16.0091
13	1	1.1111	8,949	0.0867	0	0.0000	0.4192
Total	90	100	10,316,031	100	104,983	100	100
State	76	84.4444	8,487,937	82.2791	93,970	89.5097	85.2062
Federal	14	15.5556	1,828,094	17.7209	11,013	10.4903	14.7938

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Roswell District Office
1717 West Second Street
Roswell, New Mexico 88201-2019

IN REPLY
REFER TO:

NMNM91009X
3180 (06557)

JAN 24 1994

Quality Production Corporation
Attention: Mr. R. M. Williams
P. O. Box 250
Hobbs, NM 88241

Gentlemen:

Your application of December 22, 1993, filed with the BLM on behalf of The Wiser Oil Company, requests the designation of the Caprock Maljamar Unit area, embracing 4160.00 acres, more or less, Lea County, New Mexico, as logically subject to secondary operations under the unitization provisions of the Mineral Leasing Act as amended.

Pursuant to unit plan regulations 43 CFR 3180, the land requested as outlined on your plat marked Exhibit A, The Wiser Oil Company, Caprock Maljamar Unit, Lea County, New Mexico, is hereby designated as a logical unit area for the purpose of conducting secondary recovery operations and has been assigned No. NMNM91009X. This designation is valid for a period of one year from the date of this letter.

Waterflooding will be limited to the Grayburg/San Andres interval.

Your basis for allocation of unitized substances is acceptable. Although you did not submit a form of Unit Agreement, you have stated that you will be using the standard form of Unit Agreement with a minimum of changes. Corrections that need to be made to the enclosed Exhibits A and B are marked in red.

If conditions are such that further modification of said standard form is deemed necessary, one copy of the proposed modifications with appropriate justification must be submitted to this office for preliminary approval.

In the absence of any type of land requiring special provisions or any objections not now apparent, a duly executed agreement identical with said form, modified as outlined above, will be approved if submitted in approvable status within a reasonable period of time. However, notice is hereby given that the right is reserved to deny approval of any executed agreement submitted which in our opinion, does not have the full commitment of sufficient lands to afford effective control of operations in the unit area.

When the executed agreement is transmitted to the BLM for final approval, include the latest status of all acreage. In preparation of Exhibits "A" and "B", follow closely the format of the sample exhibits attached to the reprint of the aforementioned form. You will also need to submit an Initian Plan of Operation.

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 6
CASE NO. 10930

Inasmuch as this unit agreement involves State land, we are sending a copy of the letter to the Commissioner of Public Lands. Please contact the State of New Mexico before soliciting joinders regardless of prior contacts or clearances from the state.

Sincerely,

Tony L. Ferguson

Tony L. Ferguson
Assistant District Manager,
Minerals

2 Enclosures

State of New Mexico
Commissioner of Public Lands

RAY POWELL, M.S., D.V.M.
COMMISSIONER

310 OLD SANTA FE TRAIL P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

(505) 827-5760
FAX (505) 827-5766

January 28, 1994

Rodey, Dickason, Sloan, Akin & Robb, P.A.
P.O. Box 1357
Santa Fe, New Mexico 87504-1357

Attn: Mr. Paul A. Cooter

Re: Request for Preliminary Approval
Caprock Maljamar Unit
Lea County, New Mexico

Dear Mr. Cooter:

This office has reviewed the unexecuted copy of unit agreement for the proposed Caprock Maljamar Unit, Lea County, New Mexico which you have submitted on behalf of Quality Production Company. This agreement meets the general requirements of the Commissioner of Public Lands and has this date granted you preliminary approval as to form and content.

According to your application, it is our understanding that the total makeup water requirements are estimated to be approximately 14 million barrels over the life of the project. Our preliminary approval is given with the condition that not more than 14 million barrels of fresh water makeup be used in the waterflood.

Preliminary approval shall not be construed to mean final approval of this agreement in any way and will not extend any short term leases until final approval and an effective date are given.

When submitting your agreement for final approval, please submit the following:

1. Application for final approval by the Commissioner identifying the tracts that have been committed and the tracts that have not been committed.

2. The filing fee in the amount of ~~$330.00~~. The filing fee for a unit agreement is thirty ($30.00) dollars for every section or partial section thereof.

3. Two copies of the Unit Agreement.

(BEFORE) EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 7
CASE NO. 10930

4. Two sets of ratifications from Lessees of Record and Working Interest Owners. All signatures should be acknowledged before a notary. One set of ratifications must contain original signatures.

5. Initial Plan of Operation.

6. Order of the New Mexico Oil Conservation Division. Our approval will be conditioned upon subsequent favorable approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

7. A copy of the Unit Operating Agreement.

8. A Certificate of Determination from the Bureau of Land Management.

9. On Exhibits "A" and "B" please identify the Lessee of Record for each tract.

10. Please date the unit agreement.

11. The termination of the Mal-Gra Unit pursuant to Article 22(c) of the unit agreement.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY B. POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY:
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744
RBP/FOP/pm
cc: Reader File
BLM
OCD

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

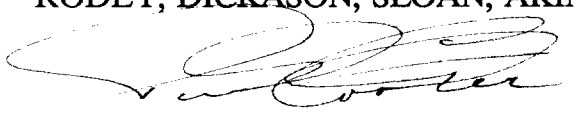
IN THE MATTER OF THE APPLICATION OF THE WISER OIL COMPANY FOR STATUTORY UNITIZATION, LEA COUNTY, NEW MEXICO.

CASE NO. 10930

AFFIDAVIT OF MAILING

Paul A. Cooter being duly sworn stated that on February 9, 1994, copies of the referenced Application and the proposed Unit Agreement were mailed by certified mail, return receipt requested, to the persons identified on Exhibit "A" attached hereto, in compliance with the rules and regulations of the Oil Conservation Division.

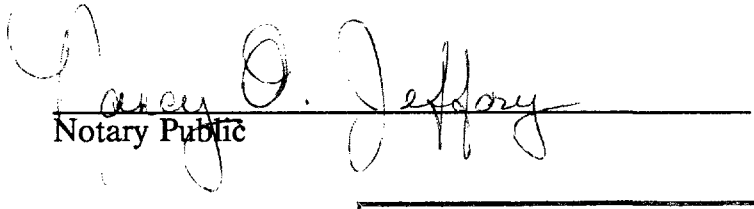
RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.



Paul A. Cooter
Post Office Box 1357
Santa Fe, New Mexico 87504-1357
(505) 984-0100

STATE OF NEW MEXICO)
)ss.
County of Santa Fe)

SUBSCRIBED AND SWORN to before me this 1st day of March, 1994, by Paul A. Cooter.



Notary Public

My Commission Expires:

October 7, 1996

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 8
CASE NO. 10930

EXHIBIT "A"

Laura Virginia Johnston Trust
P.O. Box 3447
Longview, TX 75606

Iverson III, Inc.
4501 East 31st Street
Tulsa, OK 74135

Donald Iverson
1021 East 41st St. #3
Tulsa, OK 74015

James M. Dowaliby, Jr.
535 Townsend Ave.
New Haven, CT 06512

Jeffrey Ross Johnston
P.O. Box 2015
Gardnerville, NV 89410

Stephen D. Johnston
1718 S. Jentilly Ln. #118
Tempe, AZ 85281

Helen M. and E.C. Johnston, Jr.
P.O. Box 1112
Longview, TX 75606

M.O. Johnston, Jr.
396 Saddlehorn Road
Sedona, AZ 86336-7409

Moore and Shelton Company, Ltd.
P.O. Box 3070
Galveston, TX 77552

Nationsbank Trustee u/w/o
P.O. Drawer 848703
Dallas, TX 75284-8703

Dan P. Black
P.O. Box 174
Midland, TX 79702

Betty B. Thompson
515 Ikard
Henrietta, TX 76365

Vida L. Johnston
to Ruth Joyce Taylor
7413 Camelback Drive
Shreveport, LA 71105

Howard Coghlan
P.O. Box 2665
Longview, TX 75606

Mildred M. & Gordon C. Johnston
P.O. Box 3446
Longview, TX 75606

Janet Day Trust u/w/o
J. Glenn Johnston, Dec'd.
P.O. Box 3447
Longview, TX 75606

Martha Johns Densmore
0470 Stagecoach Ln.
Carbondale, CO 81623

Katherine Martin Comer
Route 5, Box 66A
Longview, TX 75601

Janet J. Day
1115 Yates Dr.
Longview, TX 75601

Nancy Johns Kent
2592 Woodley Road
Montgomery, AL 36111

The Lillian Warren Trust
Warren C. Johnston, Trustee
P.O. Box 71329
Reno, NV 89570-1329

David H. and Gay B. Bell Trust
3117 W. 79th St.
Prairie Village, Kansas 66208

Scott Johnston
2395 Millbrae
Orange, CA 92665

Hudson NM Mineral Trust
616 Texas Street
Fort Worth, TX 76102-4612

Ms. Jane W. Johnston
P.O. Box 3447
Longview, TX 75606

Peter C. Iverson and
Alvin N. Iverson
2421 E. Skelly Drive
Tulsa, OK 74105

Mary Evelyn Roberts
1111 N. Penn
Roswell, NM 88201

John W. Bockman
P.O. Box 721006
Corpus Christi, TX 78472-1006

Richard R. Sullivan
2421 E. Skelly Drive
Tulsa, OK 74105

Billy Frank Bunting
3713 Maple
Odessa, TX 79762

W.C. Johnston
P.O. Box 71329
Reno, NV 89570-1329

Edgar S. Johnston
P.O. Box 3447
Longview, TX 75606

Lillian Mordica Trust
M.O. Johnston, Jr. Trustee
396 Saddlehorn Road
Sedona, AZ 86351

Trace Johnston
P.O. Box 89
Mountain Center, CA 92361

Robert H. Bunting
515 N. Bridge
Henrietta, TX 76365

Mr. Dale McCarter
P.O. Box 2359
Midland, TX 79702

Charles Brice Dowaliby
211 W. Tilden
Roswell, NM 88201

Linda Susan Seibert
7579 Whimbleton Way
Reno, NV 89511

Marjorie Iverson
P.O. Box 10508
Midland, TX 79702

PAI Incorporated
c/o Paul D. Iverson, Jr.
243 Walnut St.
Newport Beach, CA 92663

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 9
CASE NO. 10930

Waterflood Redevelopment Study
Wiser Oil Company
Pennzoil-Maljamar Project
Lea County, New Mexico

T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

December 31, 1992

The Wiser Oil Company
8115 Preston Road, Suite 400
Dallas, Texas 75225

Attention: Mr. Marlan R. Thompson

Gentlemen:

Re: Pennzoil-Maljamar Project
Lea County, New Mexico

In accordance with Mr. Thompson's request, we have prepared a waterflood redevelopment study for a group of five properties, referred to as the Pennzoil-Maljamar Project, in Lea County, New Mexico. Infill drilling on 20 acre well spacing and injection expansion on 5-spot patterns is recommended. This plan will require the drilling of 59 producers and 11 injection wells, conversion of 40 wells to injection, return of 35 injectors to active status and the construction of various associated facilities. Economic projections indicate that a capital investment of $23,085M, exclusive of acquisition costs, will generate a 46 % annualized rate of return and a 3.7 year payout for the working interest participants. The results of this study are discussed in the attached report as outlined in the Table of Contents.

Net oil and gas reserves are estimated quantities of crude oil, natural gas and natural gas liquid attributed to the composite revenue interests being evaluated after deduction of royalty and/or overriding royalty interests. Future net revenue was adjusted for capital expenditures, operating costs, interest reversions, ad valorem taxes and wellhead taxes, but no consideration was given to Federal income taxes or any encumbrances that might exist against the evaluated interests. Present worth future net revenue shows the time value of money at certain discount rates, but does not represent our estimate of fair market value.

The classification of non-producing reserves as Proved Undeveloped is dependent upon implementation of the plan as recommended by this report. The Proved Undeveloped classification is also contingent upon representation by Wiser that the project

550 WEST TEXAS, SUITE 950
TWO FIRST CITY CENTER
MIDLAND, TEXAS 79701

will receive financing and proceed ahead in a timely manner. Any prolonged delays in execution of this project in the manner prescribed by this report could lead to a reclassification of these reserves.

Reserves were determined using industry-accepted methods including extrapolation of established performance trends, volumetric calculations, and analogy to similar producing zones. The basis for the reserve determinations are presented in the attached report. Where applicable, the evaluator's own experience was used to check the reasonableness of the results.

In the preparation of this report, we have reviewed for reasonableness, but accepted without independent verification information furnished by Wiser Oil Company with respect to interest factors, current prices, operating costs, and various other data. Production and injection data were obtained from commercial sources and public record. The pricing and discount rate were applied at the direction of the client. The use of assumed rather than existing economic parameters affects both the cash flow projections by the difference in prices and expenses and also the reserve volumes by changing the economic limit at which production is terminated. The assumed pricing also has a major effect on the economic viability of non-developed potential and hence the volume of reserves that can be assigned to the non-producing categories.

We are qualified to perform engineering evaluations and do not claim any expertise in accounting, legal or environmental matters. As is customary in the profession, no field inspection was made of the properties nor have we verified that all operations are in compliance with any states and/or Federal conservation, pricing and environmental regulations that apply to them.

This study was performed using industry-accepted principles of engineering and evaluation that are predicated on established scientific concepts. However, the application of such principles involves extensive judgment and assumptions and is subject to changes in performance data, existing technical knowledge, economic conditions and/or statutory provisions. Consequently, our reserve estimates are furnished with the understanding that some revisions will probably be required in the future, particularly on new wells with little production history and for reserve categories other than Proved Developed Producing. Unless otherwise noted, we have based our reserve projections on current operating methods and well densities.

This report is solely for the information of and the assistance to Wiser Oil Company and their investors in evaluating the secondary potential for the Pennzoil-Maljamar project and is not to be used, circulated, quoted or otherwise referred to for any

other purpose without the express written consent of the undersigned except as required by law. Persons other than those to whom this report is addressed shall not be entitled to rely upon the report unless it is accompanied by such consent. Data utilized in this report will be maintained in our files and are available for your use.

Yours very truly,

T. SCOTT HICKMAN & ASSOC., INC.

C. Don Hunter, P. E.

gbh

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DISCUSSION

INTRODUCTION

The Wiser Oil Company Pennzoil-Maljamar Project is a proposed unit to be comprised of five separate entities: the Mal-Gra Unit, Zapata Western state, Pennzoil-Maljamar project, Murphy Baxter and Johns "A" & "B" leases. These properties were acquired by Wiser Oil Company (Wiser) for the purpose of waterflood development through 20-acre infill drilling and reestablishing of injection. Quality Production Corporation (QPC) will operate these properties for Wiser. These leases are active waterflood projects in the Maljamar (Grayburg-San Andres) Field, Lea County, New Mexico approximately 21 miles southwest of Lovington and 35 miles northwest of Hobbs, New Mexico. For purposes of this report, this proposed project will be referred to as the Pennzoil-Maljamar Unit (PMU). The PMU produces from the Permian age Grayburg and San Andres formations at a depth of approximately 4300'. Forty-acre development began in 1942 but the major portion of the PMU area was drilled during the late 1950's and early 1960's.

Ultimate primary recovery has totaled 4,601 MB from 109 wells. Out of a total of 63 producers and 46 injectors in the PMU, 39 producers and 16 injectors are still active. June 1992 oil rate was 289 BOPD or 7.4 BOPD/well. Cumulative oil production as of July 1, 1992 was 10,180 MB. Remaining reserves under current mode of operations are estimated at 636 MB giving an ultimate recovery of 10,879 MB, which is 21 % of the estimated original oil-in-place. Ultimate secondary to primary ratio is 1.36.

While response to injection has been satisfactory in isolated areas, overall project performance is generally characterized by inefficient injection and inadequate coverage on 40-acre spacing due to completion practices and reservoir heterogeneity.

The objectives of this study were to (1) estimate original-oil-in-place (OOIP), (2) analyze primary and secondary performance, (3) estimate remaining reserves and potential and (4) conduct a feasibility study for redevelopment through 20-acre infill drilling and waterflood expansion.

CONCLUSIONS

1. The PMU produces from a highly cyclic sequence of dolomitic sands with productive limits controlled primarily by stratigraphic factors.

2. The preliminary estimate of OOIP is 52 MMB.

3. Ultimate primary recovery is estimated at 4,601 MB or 8.9% of OOIP.

4. Water injection on 80-acre 5-spot patterns has generally proved to be inefficient. Ultimate recovery under current operations is projected to be only 21% of OOIP.

5. An estimated 6,824 MB of additional reserves are projected for an infill drilling and waterflood redevelopment project, increasing total recovery to 34%.

6. An investment of $23,085M, exclusive of acquisition cost, is projected to generate a 46% annualized rate of return and a 3.7 year payout.

RECOMMENDATIONS

1. Proceed with 20-acre infill drilling and re-establishment of water injection on 40-acre, 5-spot patterns in a phased procedure as outlined in this report.

2. Refine the development plans as additional petrophysical, technical and performance data becomes available through infill drilling.

3. Set up a program to monitor waterflood performance on an ongoing basis.

GEOLOGY

The Maljamar (Grayburg-San Andres) Field is located in the south central portion of the Northwest Shelf in northwestern Lea County, New Mexico. The discovery well for the field, the Maljamar Baish No. 1 in Sec. 21, T17S, R32E, was drilled during 1926 and was the first discovery of oil in Lea County, New Mexico. Figure 1 is a location plat showing the location of the proposed Wiser Pennzoil-Maljamar Waterflood Unit (PMU) within the field. The PMU is situated approximately 21 miles southwest of Lovington and 35 miles northwest of Hobbs, New Mexico. Production is from Grayburg dolomitic sands and Vacuum and Lovington members of the San Andres formation from a gross unitized interval of approximately 500' at a depth of 4300'. Figure 2 is a type log for the field which was prepared for this study by Edward J. Matchus, consulting geologist for Wiser.

The project area lies along the eastern edge of an east-west trending anticlinal feature. Figure 3 is a structure map contoured on top of the San Andres formation that shows low relief throughout most of the project area but considerable relief along the basinward south portion of the Maljamar Unit in sections 28 and 33, T17S-R33E. The area of greatest gross deposition thickness is primarily along this southeastern edge of the project area but other areas of relatively thick depositional thickness occur randomly throughout the project area. Structure is considered to have a bearing on the trapping mechanism, however, stratigraphy is the dominant factor in defining productive limits. The determination of depositional environment was beyond the scope of this study. The PMU area wells produced very little water during primary depletion. There is no evidence of an oil-water contact. Solution gas drive was the primary recovery mechanism.

VOLUMETRIC DETERMINATIONS

Core data and well logs were utilized for determination of reservoir parameters, but the quantitative data coverage is limited and may not be fully representative of the total project area. Core analyses from 22 wells were available for analysis. Quantitative porosity logs, either acoustic or compensated neutron-formation density logs, were available for five wells within the PMU area.

Lithologic description from cored wells indicate that the Grayburg and San Andres formations consists predominately of alternating beds of silty to sandy dolomite and fine to very fine grained, well sorted sandstones with fair to good porosity. Core permeability is highly variable, generally ranging from 0.1 to 20 md. Samples with permeability as high as 1088 md. in several Vacuum cored intervals were reported to be fractured. Core porosities ranged from 6 to 25 % with an average of 11.4 %. Figures 4 and 5 are East-West and North-South log cross-sections, respectively, across the project showing the multizone nature of the reservoir. A number of project wells have not penetrated either the Vacuum or Lovington sands, which are significant contributors to production. The Vacuum zone is a dolomite interval within the upper portion of the San Andres formation which is generally productive where completed in the study area. The Vacuum zone may not have the area extent of the Premier. The Vacuum is not a major waterflood candidate due to apparent fracturing, but could significantly contribute to overall production. Wiser has recently completed the Mal-Gra Unit Well No. B-7 in the Vacuum zone and, according to QPC, has resulted in increased production rate of 60 BOPD.

Net pay criteria was based on a porosity cutoff of 6%. Figure 6 is the estimated net pay thickness isopach which should be considered a preliminary interpretation, subject to revision from quantitative well logs and additional cores to be secured from the planned development program. Water saturations were determined from log analyses and an average irreducible water saturation of 35% was utilized for volumetric calculations. A residual oil saturation of 30%, as reported for the adjoining Conoco MCA Unit, was utilized in mobile oil calculations. An initial formation volume factor of 1.24 was derived from PVT correlations for stock tank crude of 35^{o} API, estimated solution gas-oil ratio of 500 SCF/BBL and estimated initial bottom-hole pressure of 1900 psig. The OOIP was calculated to be 51,898 MB (Tables 1 and 2).

PRIMARY PERFORMANCE

The Maljamar Grayburg-San Andres Field was discovered in 1926 and development was extended to the PMU area during 1942. The major portion of the PMU area was developed during the late 1950's and early 1960's. Ultimate primary oil recovery was determined from individual well decline curve analyses to be 4,601 MB or an average of 42 MB/well for 109 wells. Primary recovery for the total Unit is 8.9% of the calculated OOIP. Figure 7 is the iso-primary recovery map which shows general agreement with the net pay isopach.

Gas production data is incomplete during early field history. Initial potential tests suggests original GOR's on the order of 400-600 SCF/BBL. Pressure data was not available, and with gas production data incomplete, the determination of OOIP from material balance calculations was not possible.

The effects of reservoir heterogeneity have probably been compounded by inefficient completion procedures. An overview of well logs and completion methods have indicated that not all of the net pay was opened or adequately treated in every well. As a result, the reservoir was not being efficiently drained on 40-acre spacing in many areas and this contributed to the relatively low primary recoveries.

SECONDARY PERFORMANCE

The Wiser Oil Company Pennzoil-Maljamar Project is a proposed unit to be comprised of five separate entities: the Mal-Gra Unit, Zapata Western state, Pennzoil Maljamar, Murphy Baxter and Johns "A" & "B" leases. Figure 1 is a plat showing the relative location of these properties. These properties were acquired by Wiser Oil Company (Wiser) for the purpose of waterflood redevelopment and pattern realignment through 20-acre infill drilling and reestablishing of injection. Waterflooding was initiated on the five subject properties during the early 1960's as 80-acre 5-spot waterfloods. However, the Murphy-Baxter lease has not been fully developed on 80-acre 5-spot patterns. During peak operation, the composite projects contained 63 producers and 46 injectors of which 39 producers and 16 injectors are still active. Figure 8 is a current well status map which shows producing and injection rates for each of the project and perimeter offset wells as of July 1, 1992. Initial water injection commenced during the early 1960's. By 1980 most of the projects had reduced injection by shutting in injectors. As shown by Table 1, current injection is limited primarily to produced water reinjection with minimal makeup water injection.

The reason for the premature shut-in of injection in the PMU area wells is probably due in part to injectivity problems. Makeup water source for the PMU is the Ogallala aquifer, which is the source for most of the waterflood projects in this field. Accepted field practice is to maintain a deoxygenated makeup water system and/or periodically stimulate injectors with Calcium Sulfate-Calcium Carbonate scale converter acid treatments. Injectivity may not have been maintained in the PMU properties.

Production performance was adversely affected in each of the individual waterflood projects comprising the PMU project by the reduced injection volumes after 1980. However, in spite of overall under injection and inefficient patterns , waterflood response has been good within certain areas of the Project leases. Figure 9 is the cumulative oil production map which shows relatively high oil recoveries for some of the patterns. Table 1 shows a wide variation of Secondary:Primary ratios for each of the leases, which implies reservoir rock heterogenity and/or operational differences under each of the respective operators. The adverse affect of reduced injection is evidenced by decline in oil rates on the rate-time performance curves, Figures 10 through 14. Figure 15 is a map which shows pertinent waterflood performance parameters for the PMU 80-acre

patterns. The patterns with the most efficient waterflood performance are evident by relatively high Seconday:Primary ratios and Injection:Withdrawals in the 1.5 to 2.0 range. The patterns with relatively high remaining mobile oil saturation generally coincide with relatively high primary oil recoveries and net pay thickness. The PMU overall injection-withdrawals ratio of 1.17 (Table 1) is significantly lower than is normal for mature waterfloods and is indicative of under injection. The negative effects of reservoir heterogeneity have been compounded by failure to maintain productivity/injectivity due to minimal workovers during the past 10 to 15 years of operation. This workover history was confirmed for the Mal-Gra, Zapata-Western, and Pennzoil-Maljamar projects by detailed review of operator's well files. Well files were not available to the evaluator for review of the Murphy-Baxter and Johns "A" and "B" projects.

Tables 3 through 7 are waterflood performance summaries for each of the five projects. Declining Net Injection vs. Withdrawals for most of these projects since the mid-1980's was generally accompanied by significant oil rate declines. The Johns project has maintained relatively high injection, but at low oil rates, implying that injection may not be confined to primary pay zones. The Murphy Baxter waterflood is not fully developed on 5-spot patterns and has a history of low injection volumes, with significant reserve potential for redevelopment.

Five 20-acre infill producers, Murphy-Baxter State 9 and B-9, Johns A-6 and B-13, and Zapata Western Well No. 17 have been drilled in the PMU. Although no additional wells were converted to injection to provide injection support, several of these infill wells have been strong producers. The Zapata Western State Well No.17 has produced 88 MB and should have significant reserves under the proposed plan. In contrast, the Conoco MCA Unit has drilled 100 20-acre infill wells, eight of which were drilled in Section 25 bordering the Johns leases. These eight MCA wells have recovered an average of 167 MB/well as injection supported producers. The significantly higher recoveries for the MCA Unit wells stresses the importance of injection support from confined patterns on 20-acre well spacing.

A cumulative total of 10,180 MB have been produced from the PMU wells as of July 1,1992. During June 1992, the PMU produced at a rate of 289 BOPD and 97 MCFD from 39 producers.(Table 1). Proved Developed Producing oil reserves as of December 1, 1992 are estimated at 636 MB.

REDEVELOPMENT PERFORMANCE PREDICTION

The incremental oil reserves calculated for redevelopment with 20-acre infill drilling and 40-acre 5-spot waterflood pattern realignment is estimated at 6,824 MB (Table 2), or 116 MB per producer. Only those producer well locations estimated to recover in excess of 35 MB/well were considered in this plan. Remaining mobile oil in place for the total PMU area is estimated to be 15,400 MB as of December 1, 1992, (Table 2-item II). Estimated recoverable oil was determined for each of the 40-acre 5-spot patterns by application of volumetric sweep efficiency factors, or conformance factors, to the remaining mobile oil. Conformance factors ranged from 0.4 to 0.7, and

were based on historical pattern performance and apparent rock quality. The performance projections for redevelopment were developed on a phase redevelopment basis utilizing analytical prediction techniques. Producing rate projections were also influenced by results in analogous projects.

The Conoco MCA Unit, which adjoins the southwest boundary of the PMU, is a major Grayburg-San Andres waterflood and CO_2 project with cumulative oil production in excess of 101 MB. The MCA Unit is productive in Grayburg dolomitic sands and San Andres dolomites equivalent to that of the PMU. However, the MCA Unit differs from the PMU not only by being significantly larger, with an OOIP of 268 MMB, but also in its development history. During early primary depletion in 1942, gas injection was initiated which was successful in improving performance. Ultimate primary recovery aided by gas injection, was projected by Conoco to be 56 MMB or 21% of OOIP. Water injection was initiated in 1963 and expanded to full 80-acre, 5-spot patterns by 1969. During 1970-73, 100 twenty acre infill producers were drilled and the injection scheme was changed to inverted 9-spot patterns. Conoco established a CO_2 pilot during 1981-85 and expanded to full CO_2 development during 1988-89. Ultimate primary and improved recovery were projected by Conoco to be 119 MMB or 44% OOIP. Infill drilling occurred during active waterflood operations so incremental reserves attributed solely to infill drilling are difficult to determine. Best estimates of initial average rate for the 100 infill producers is in excess of 50 BOPD/well. Performance of the MCA Unit, through published technical engineering and geological reports, provided a basis for conformance factors and end-point saturation values used in PMU redevelopment prediction.

The Avon Turner "B" project is a depleted 80-acre 5-spot pattern waterflood which was redeveloped with the drilling of 22 infill producing wells on 20-acre spacing during 1990-91. Production is from Grayburg and San Andres dolomitic sands between 3000' to 3600'. The net pay appears to be thicker than the PMU and the average primary recovery is higher (Table 8). However, core data indicates that pay quality is similar. The 20-acre infill drilling project was designed to create 80-acre 5-spot patterns but the planned injection well conversions had not occurred at time of this evaluation. Initial oil rates for the 22 infill producers averaged 95 BOPD/well. However, the deferral in injection well conversions caused inadequate injection support resulting in relatively sharp production declines. Ultimate oil recovery from the 22 infill wells is projected to average 55 MBBL/well under current reduced injection support, but four of the infill wells will achieve ultimate recoveries ranging from 100 to 150 MB/well. It is understood that the current operator plans to initiate the injection well conversions as originally planned.

The Cross-Timbers S.E. Maljamar Waterflood Project (SMGSAU) is an adjoining active waterflood project which was infill drilled on 20-acre spacing and redeveloped on 40-acre 5-spot patterns. Details on infill well performance is shown by Table 9. This successful infill program should recover incremental oil averaging 106 MB/well from the 16 producers. However, seven wells drilled within the corridor of highest net pay and primary oil recoveries are projected to produce an ultimate of 202 MB per well. This recovery advantage emphasizes the importance of optimizing the selection of drilling locations through detail engineering and geological review prior to drilling. The higher

recoveries being experienced by the SMGSAU in comparison to the Avon Turner "B" is due in part to the early 5-spot injection pattern support. Normalized well rate vs. time performance comparisons of the SMGSAU and the Avon projects are shown by Figure 16.

A feasibility study was conducted for redeveloping the PMU with 20 acre infill drilling and reestablishing closed pattern water injection, with scheduling that emphasized full injection support early in the program. To minimize the risk and make maximum use of the information obtained, a three-phase redevelopment plan was derived. Phase I exploits the higher mobile oil segments in those areas with active current injection, which should result in high initial oil rates and incremental recoveries, therefore optimizing investment costs per reserve barrel. This 10 well program is considered to be the minimum number of producing wells sufficient to provide a valid test of the redevelopment plan in this project. Phases II and III will take advantage of pattern injection established from the prior phase. The proposed patterns for each phase and the well utilization scheme is shown on Figure 17.

The completed project will have 59 producers and 86 injectors. Producing rate forecasts were based upon normalized infill well performance curves for analogous projects (Figure 16). Total project recoverable oil is 6,824 MB, or 116 MB/pattern for the current plan. Successful development of the project will depend upon the judicious utilization of information from the initial infill drilling. As additional geological and reservoir data become available, the reservoir characteristics and saturation distribution will be better defined. Therefore plans for subsequent development will require revision and refinement.

REDEVELOPMENT PLAN AND ECONOMICS

The infill drilling and redevelopment plan and preliminary investment schedules are set forth on Tables 10 through 13. Investment and operating costs estimates were furnished by Wiser and QPC and supplemented by the evaluator's experience for similar projects. Investment costs do not include acquisition costs or costs of financing.

Initial water injection requirements of 3800, 8500 and 6000 BWPD are estimated for Phases I, II and III, respectively. The most likely water source will be the Ogallala aquifer. According to QPC the surface owner for the Maljamar project currently owns Ogallala water rights plus water wells and equipment on Sections 27, 28, and 33, secured from the previous Maljamar Project operator. Negotiations are currently underway by QPC to place these water rights under contract for the PMU. The assumption was made that this aquifer would provide adequate capacity for projected requirements and that an agreement could be reached to secure source water within the PMU area of interest at a reasonable contract rate. Investment costs were included for distribution lines to connect to this system. For purposes of this evaluation, the cost to the PMU was projected by Wiser to be $.10/BBL.

The price and escalation scheme were applied at the direction of Wiser. An initial oil price of $18.50/BBL, which has been adjusted for gravity and grade, was escalated starting at December 1, 1992 at 5% per annum to a maximum of $35/BBL. A starting gas price of $1.00/MCF was escalated starting at December 1, 1992 at 5% per annum until the oil price reached the maximum price.

Lease operating expenses of $1200/month per producer and $600/month per injector were estimated by Wiser based on anticipated operating conditions and include overhead. Expenses were escalated starting December 1, 1992 at 5% per annum until the primary product reached the maximum price. No equipment salvage value or costs were included for the property. Investments were not escalated at client request.

Incremental economics for the total project indicate that a capital investment of $23,085M will generate a 10% discounted future net revenue of $34,041M, resulting in a 46 % rate of return and a 3.7 year payout. A summary of reserves and economics is shown by Table 14. Tables 15 through 17 are the reserves and cash flow projections for Total Proved, Proved Developed Producing and Proved Undeveloped, respectively. Table 18 is the Proved Developed Producing One-Line Listing. Tables 19 through 23 are the individual property Proved Developed Producing cash flow projections for the individual entities. Table 24 is the one-line listing for the Proved Undeveloped category. Tables 25, 26 and 27 are the summaries for Phases I, II, and III Proved Undeveloped categories, respectively. Figure 18 is the rate vs. time composite oil production forecast for the PMU. Figure 19 is the projection for the Total Proved Undeveloped forecast. Figures 20, 21 and 22 are the rate vs. time projections for Phases I, II, and III, respectively.

The classification of non-producing reserves as Proved Undeveloped is dependent not only on the infill drilling program, but also upon establishing full scale injection according to the plan recommended by this report. The Proved Undeveloped classifications in this report are based upon representations by Wiser as to their interest and financial capability to carry out the recommended program in a timely manner. Any prolonged delays in execution of this project in the manner prescribed by this report could lead to a reclassification of these reserves.

Table 1

Project Performance Summary
Wiser Maljamar Waterflood Project
Maljamar (Grayburg-San Andres) Field
Lea County, New Mexico

	Mal-Gra Unit	Zapata Western State	Pennzoil Maljamar Project	*Composite Mal-Gra Zapata Maljamar*	Murphy Baxter Waterflood	Johns A & B	*Grand Total*
Initial Completion Date	6/29/54	7/31/52	9/5/52		8/31/57	4/26/42	
Initial Water Injection Date	6/12/65	7/3/62	4/19/67		9/1/62	3/3/66	
Total Well Completions:							
Producers	9	18	8	35	17	11	63
Injectors	6	14	9	29	9	8	46
Total	15	32	17	64	26	19	109
Active Well Completions @ 7-1-92							
Producers	5	11	6	22	13	4	39
Injectors	2	5	4	11	3	2	16
Total	7	16	10	33	16	6	55
Project Area (Acres)	590	1240	680	2510	960	640	4110
Average Spacing (Acres/Well)	39	39	40	39	37	34	38
OOIP, (MBBL)	4597	17806	6268	28670	13484	9744	51898
OOIP, (BBL/Acre)	7792	14359	9217	11422	14045	15225	12627
Cumulative Oil Production @ 7-1-92 (MBBL)	1090	3835	1138	6064	2622	1495	10180
Cumulative Oil Production @ 7-1-92 (BBL/acre)	1848	3093	1674	2416	2731	2335	2477
Cumulative Recovery Factor, %	24	22	18	21	19	15	20
Average Oil Cumulative Per Well (MBBL)	73	120	67	95	101	79	93
June 92 Oil Rate- Total Unit (BOPD)	19	99	86	204	62	22	289
June 92 Oil Rate- Per Well (BOPD)	3.87	8.96	14.36	9.27	4.80	5.61	7.41
Ultimate Primary Oil Recovery (MBBL)	527	1683	401	2611	1037	952	4601
Ultimate Primary Oil Recovery (BBL/Acre)	894	1357	590	1040	1081	1488	1119
Ultimate Primary Recovery Factor (%)	11.47	9.45	6.40	9.11	7.69	9.77	8.87
Average Oil Recovery Per Well (MBBL/Well)	35	53	24	41	40	50	42
Cumulative Secondary Oil Recovery @ 7-1-92 (MBBL)	563	2153	737	3453	1585	542	5579
Ultimate Secondary Oil Under Current Mode (MBBL)	592	2410	930	3932	1747	598	6277
Average Ultimate Secondary Per Well (MBBL)	66	134	116	112	103	54	100
Secondary : Primary Ratio	1.12	1.43	2.32	1.51	1.68	0.63	1.36
Rem. Oil (Current Mode) @ 12 -1-92 (MBBL)	26	243	180	449	135	52	636
Ultimate Oil Recovery Under Current Mode (MBBL)	1120	4092	1331	6543	2785	1550	10879
Ultimate Oil Recovery Factor (%)	24	23	21	23	21	16	21
*Cumulative Gas Production @ 7-1-92 (MMCF)	726	3460	719	4905	2572	1882	9359
*Cumulative GOR (SCF/STB)	666	902	632	809	981	1259	919
June 92 Gas Rate (MCFPD)	11	52	30	93	3	0	97
June 92 GOR (SCF/BBL)	583	528	349	458	53	0	335

Table 1

Project Performance Summary

	Mal-Gra Unit	Zapata Western State	Pennzoil Maljamar Project	*Composite Mal-Gra Zapata Maljamar*	Murphy Baxter Waterflood	Johns A & B	*Grand Total*
Cumulative Water Production @ 7-1-92 (MBBL)	1636	7739	1838	11214	5167	1843	18223
Cumulative WOR (Volume/Volume)	1.50	2.02	1.62	1.85	1.97	1.23	1.79
Cumulative Watercut (%)	60	67	62	65	66	55	64
June 92 Water Rate (BWPD)	52	693	216	961	113	15	1089
June 92 WOR (Volume/Volume)	2.71	7.03	2.50	4.71	1.82	0.65	3.77
June 92 Watercut (%)	73	88	71	82	65	39	79
Cumulative Water Injection @ 7-1-92 (MBBL)	6755	25837	10230	42822	8985	14546	66353
Cumulative Inj.-Secondary Oil Ratio (STB/STB)	12.00	12.00	13.88	12.40	5.67	26.83	11.89
Cum. Net Injection vs. Withdrawal (RBBL/RBBL)	1.74	0.88	1.81	1.16	0.30	3.92	1.17
June 92 Injection Rate- Total Unit (BWPD)	52	1250	66	1368	201	206	1775
June 92 Injection Rate- Per Well (BWPD)	26	250	16	124	67	103	111

*Incomplete Gas Production Data

TABLE 2

RECOVERY CALCULATION SUMMARY
WISER PENNZOIL-MALJAMAR WATERFLOOD PROJECT
Lea County, New Mexico

I. Ultimate Recoveries Under Current Mode of Operations

Effective Date:	1-Dec-92
Total Well Completions:	
Producers	63
Injectors	46
Total	109
Project Area (acres)	4110
Original Oil-In-Place, (MBBL)	51898
Cumulative Oil Production (MBBL)	10242
Cumulative Recovery Factor (%)	19.74
Ultimate Primary Recovery (MBBL)	4601
Primary Recovery Factor (%)	8.87
Cumulative Secondary Recovery (MBBL)	5641
Ultimate Secondary Recovery (MBBL)	6277
Secondary : Primary Ratio	1.36
Combined Ultimate Primary plus Secondary Recovery (MBBL)	10879
Recovery Factor (%)	20.96

II. Redevelopment Potential Under Phases I,II, and III

Effective Date:	1-Dec-92

Nm, remaining mobile oil at 12-1-92
where:
Sor=Residual oil saturation, dec. = 0.30
So=Current oil saturation, dec.= ranges from 0.41 to 0.55
(varies from pattern to pattern)
Bo=est. 1.12
Nm, summation of five projects=7758xAhxPorosityx(So-Sor)/Bo
=15,400 MBBL

Estimated Recoverable oil,(Npv) from 59 20-acre infill drilled producers supported by 5-spot injection patterns. Recoverable oil was based on estimates of volumetric sweep efficiency, Ev, assigned on pattern basis.
where:
Npv=Nm x Ev

Npv, Incremental Oil Reserves from Infill drilling (MBBL)	6824
Average Oil Recovery per well, (MBBL/well)	116

TABLE 2 (Continued)

III. Ultimate Recovery Under Proposed Redevelopment

Plan: 59 20-acre producers supported by 5-spot pattern injection

Effective Date:	1-Dec-92
Cumulative Oil Production (MBBL)	10242
Proved Developed Producing Reserves (MBBL)	636
Incremental Oil Reserves from Infill drilling, PUD (MBBL)	6824
Remaining Proved Reserves (MBBL)	7460
Ultimate Secondary Recovery (MBBL)	13101
Ultimate Secondary : Primary Ratio	2.85
Combined Ultimate Primary plus Secondary Recovery (MBBL)	17703
Recovery Factor (%)	34.11

Table 3

WATERFLOOD PERFORMANCE
WISER MAL-GRA UNIT
Start of Injection at 6-12-65

Time Mo-Yr	Number Wells P	Number Wells Inj	Production Oil (BBL)	Production Gas (MCF)	Production Water (BBL)	Injection (BBL)	Daily Production Oil (BOPD)	Daily Production Gas (MCFD)	Daily Production Water (BWPD)	Daily Inj. (BWPD)	Cumulative Withdrawals (MRBBL)	Cum. Inj. (MBBL)	Net Cum. Inj. (MBBL)	Fillup (%)	Cum. Net IWR (ratio)	Oil PV	Inj. PV
(7 mo)65	7	8	3681	9538	869	480225	17	45	4	2257	27	480	453	38.86	16.83	0.0005	0.0548
1966	7	8	31349	11592	7540	894707	86	32	21	2451	96	1375	1279	109.63	13.29	0.0045	0.1568
1967	7	8	71150	19492	31748	444206	195	53	87	1217	253	1819	1567	134.32	6.20	0.0136	0.2074
1968	7	8	63831	16168	55281	422953	175	44	151	1159	416	2242	1826	156.52	4.38	0.0217	0.2557
1969	7	8	50784	5826	49752	407780	139	16	136	1117	536	2650	2113	181.19	3.94	0.0282	0.3022
1970	7	8	54331	6791	95304	379256	149	19	261	1039	708	3029	2321	198.98	3.28	0.0351	0.3454
1971	7	8	42930	5421	123857	332942	118	15	339	912	893	3362	2469	211.72	2.77	0.0406	0.3834
1972	7	8	28239	2685	147183	268012	77	7	403	734	1078	3630	2552	218.84	2.37	0.0442	0.4139
1973	7	8	24133	0	131747	289998	66	0	361	795	1236	3920	2684	230.09	2.17	0.0473	0.447
1974	7	8	20948	0	99467	330221	57	0	273	905	1359	4250	2891	247.86	2.13	0.05	0.4847
1975	6	8	19077	0	91786	415254	52	0	251	1138	1473	4666	3193	273.76	2.17	0.0524	0.532
1976	6	8	17100	0	88471	429099	47	0	242	1176	1580	5095	3515	301.32	2.22	0.0546	0.5809
1977	6	8	15731	0	63986	309569	43	0	175	848	1662	5404	3742	320.87	2.25	0.0566	0.6162
1978	5	8	13952	0	75586	349982	38	0	207	959	1753	5754	4001	343.05	2.28	0.0584	0.6562
1979	5	7	11115	0	76573	335012	30	0	210	918	1842	6089	4247	364.14	2.31	0.0598	0.6944
1980	7	7	11475	0	65951	200347	31	0	181	549	1921	6290	4369	374.56	2.27	0.0613	0.7172
1981	7	7	9719	0	43782	83239	27	0	120	228	1975	6373	4397	377.01	2.23	0.0625	0.7267
1982	7	7	8045	0	37779	69925	22	0	104	192	2022	6443	4420	379.00	2.19	0.0635	0.7347
1983	7	7	6605	0	31313	14400	18	0	86	39	2061	6457	4396	376.91	2.13	0.0644	0.7363
1984	7	7	5756	0	26780	9481	16	0	73	26	2094	6467	4372	374.88	2.09	0.0651	0.7374
1985	7	7	5264	0	9367	8237	14	0	26	23	2109	6475	4365	374.28	2.07	0.0658	0.7383
1986	6	7	4849	0	6503	14072	13	0	18	39	2121	6489	4368	374.46	2.06	0.0664	0.7399
1987	6	5	11319	0	64208	64913	31	0	176	178	2198	6554	4356	373.43	1.98	0.0679	0.7473
1988	5	5	18294	0	97610	97610	50	0	267	267	2316	6651	4335	371.68	1.87	0.0702	0.7585
1989	5	5	10952	0	36732	36732	30	0	101	101	2365	6688	4323	370.62	1.83	0.0716	0.7627
1990	5	3	9706	0	31312	31313	27	0	86	86	2408	6719	4312	369.69	1.79	0.0728	0.7662
1991	5	4	9043	3584	29334	29334	25	10	80	80	2455	6749	4294	368.12	1.75	0.074	0.7696
Jan-92	5	6	647	338	1458	3741	21	11	47	121	2458	6753	4294	368.18	1.75	0.0741	0.77
Feb-92	5	6	743	338	1444	6398	27	12	52	229	2461	6759	4298	368.47	1.75	0.0742	0.7707
Mar-92	5	6	608	338	1495	3385	20	11	48	109	2464	6762	4298	368.51	1.74	0.0742	0.7711
Apr-92	5	2	736	338	1670	1670	25	11	56	56	2467	6764	4297	368.37	1.74	0.0743	0.7713
May-92	5	2	519	338	1010	1010	17	11	33	33	2470	6765	4295	368.25	1.74	0.0744	0.7714
Jun-92	5	2	580	338	1570	1570	19	11	52	52	2473	6767	4294	368.13	1.74	0.0745	0.7716
Cum			583211	83125	1628468	6766593											

Table 4

WATERFLOOD PERFORMANCE
WISER ZAPATA WESTERN STATE WATERFLOOD
Start of Injection at 7-3-62

Time Mo-Yr	Number Wells P	Inj	Production Oil (BBL)	Gas (MCF)	Water (BBL)	Injection (BBL)	Daily Production Oil (BOPD)	Gas (MCFD)	Water (BWPD)	Daily Inj. (BWPD)	Cumulative Withdrawals (MRBBL)	Cum. Inj. (MBBL)	Net Cum. Inj. (MBBL)	Fillup (%)	Cum. Net IWR (ratio)	Oil PV	Inj. PV
(6-mo 62)	25	5	49793	161405	0	319824	273	885	0	1753	427	320	-107	-2.37	-0.25	0.0016	0.0094
1963	22	9	101023	304313	2695	922456	277	834	7	2527	1243	1242	0	-0.01	0.00	0.005	0.0366
1964	19	11	183058	193864	21953	1286127	502	531	60	3524	1916	2528	613	13.56	0.32	0.011	0.0744
1965	17	15	226243	107867	124932	1662049	620	296	342	4554	2542	4190	1648	36.49	0.65	0.0185	0.1234
1966	16	15	190629	62671	225311	1665504	522	172	617	4563	3125	5856	2731	60.45	0.87	0.0248	0.1724
1967	16	15	137287	41751	279254	1487652	376	114	765	4076	3654	7344	3690	81.67	1.01	0.0293	0.2162
1968	15	15	106237	34017	181371	1153296	291	93	497	3160	4033	8497	4464	98.82	1.11	0.0328	0.2501
1969	15	15	105876	35733	203203	1263288	290	98	557	3461	4437	9760	5324	117.84	1.20	0.0363	0.2873
1970	15	15	102757	32262	230188	1261428	282	88	631	3456	4856	11022	6166	136.48	1.27	0.0397	0.3245
1971	15	15	90405	27456	229082	1172160	248	75	628	3211	5250	12194	6944	153.71	1.32	0.0426	0.359
1972	15	15	85760	21237	222950	1429260	235	58	611	3916	5617	13623	8006	177.21	1.43	0.0455	0.4011
1973	15	15	86103	21752	209738	1053744	236	60	575	2887	5974	14677	8703	192.65	1.46	0.0483	0.4321
1974	15	15	86599	24305	390731	810156	237	67	1070	2220	6517	15487	8970	198.55	1.38	0.0512	0.4559
1975	15	15	79724	21596	426461	672828	218	59	1168	1843	7083	16160	9077	200.92	1.28	0.0538	0.4757
1976	15	15	77064	27357	388475	733344	211	75	1064	2009	7620	16893	9273	205.25	1.22	0.0563	0.4973
1977	15	15	77316	21059	360228	725724	212	58	987	1988	8116	17619	9503	210.36	1.17	0.0589	0.5187
1978	15	15	75941	10619	356563	674052	208	29	977	1847	8582	18293	9711	214.96	1.13	0.0614	0.5385
1979	15	15	67971	10329	322533	576060	186	28	884	1578	9004	18869	9865	218.36	1.10	0.0636	0.5555
1980	15	15	67810	12582	315073	562440	186	34	863	1541	9424	19431	10007	221.51	1.06	0.0659	0.5721
1981	15	15	62029	20326	338778	562440	170	56	928	1541	9879	19994	10115	223.89	1.02	0.0679	0.5886
1982	15	15	58517	18080	312874	762408	160	50	857	2089	10299	20756	10457	231.47	1.02	0.0698	0.6111
1983	15	15	60194	10482	334731	791064	165	29	917	2167	10725	21547	10822	239.55	1.01	0.0718	0.6343
1984	15	15	67739	17004	393186	804036	186	47	1077	2203	11233	22351	11118	246.10	0.99	0.0741	0.658
1985	15	15	71256	20532	410188	1145289	195	56	1124	3138	11771	23497	11726	259.56	1.00	0.0764	0.6917
1986	15	13	59527	17996	355268	727450	163	49	973	1993	12234	24224	11990	265.40	0.98	0.0784	0.7132
1987	12	12	45424	16420	253505	566914	124	45	695	1553	12576	24791	12215	270.38	0.97	0.0799	0.7298
1988	10	10	43324	16177	240478	458066	119	44	659	1255	12902	25249	12347	273.30	0.96	0.0813	0.7433
1989	9	6	34218	14835	177263	155052	94	41	486	425	13152	25404	12252	271.20	0.93	0.0824	0.7479
1990	9	6	31957	15882	178697	146946	88	44	490	403	13403	25551	12148	268.90	0.91	0.0835	0.7522
1991	9	6	28725	14822	150037	157014	79	41	411	430	13619	25708	12089	267.59	0.89	0.0844	0.7568
Jan-92	8	5	2311	1639	10216	36203	75	53	330	1168	13636	25744	12108	268.02	0.89	0.0845	0.7579
Feb-92	8	5	2799	1526	12220	33085	100	55	436	1182	13655	25777	12123	268.33	0.89	0.0846	0.7589
Mar-92	11	5	2422	1870	14007	29372	78	60	452	947	13676	25807	12131	268.52	0.89	0.0847	0.7597
Apr-92	11	5	2897	2019	20672	30530	97	67	689	1018	13704	25837	12133	268.56	0.89	0.0848	0.7606
May-92	11	5	2936	1644	20322	32490	95	53	656	1048	13732	25870	12138	268.68	0.88	0.0849	0.7616
Jun-92	11	5	2956	1398	20940	37489	99	47	698	1250	13759	25907	12148	268.90	0.88	0.085	0.7627
Cum			2576827	1364827	7734123	25907240											

Table 5

WATERFLOOD PERFORMANCE
WISER PENNZOIL MALJAMAR WATERFLOOD
Start of Injection at 4-19-67

Time Mo-Yr	Number Wells P	Inj	Production Oil (BBL)	Gas (MCF)	Water (BBL)	Injection (BBL)	Daily Production Oil (BOPD)	Gas (MCFD)	Water (BWPD)	Daily Inj. (BWPD)	Cumulative Withdrawals (MRBBL)	Cum. Inj. (MBBL)	Net Cum. Inj. (MBBL)	Fillup (%)	Cum. Net IWR (ratio)	Oil PV	Inj. PV
(9-mo 67)	8	8	6256	7922	2219	393652	23	29	8	1439	27	394	366	23.03	13.34	0.0006	0.0329
1968	7	9	9693	7503	4768	524707	27	21	13	1438	60	918	858	53.96	14.22	0.0015	0.0768
1969	7	9	15174	13602	10453	471841	42	37	29	1293	119	1390	1271	79.93	10.68	0.0029	0.1163
1970	6	9	20359	10973	13477	448019	56	30	37	1227	181	1838	1658	104.24	9.18	0.0048	0.1537
1971	6	9	24655	10351	22238	309055	68	28	61	847	254	2147	1893	119.04	7.45	0.0071	0.1796
1972	6	9	25401	7456	25620	472800	70	20	70	1295	325	2620	2295	144.29	7.05	0.0095	0.2191
1973	6	9	24703	25675	23370	472800	68	70	64	1295	436	3093	2657	167.10	6.10	0.0118	0.2587
1974	6	9	25187	11131	36811	382103	69	30	101	1047	526	3475	2949	185.43	5.60	0.0142	0.2906
1975	6	9	25238	7878	42442	308372	69	22	116	845	615	3783	3168	199.24	5.15	0.0165	0.3164
1976	6	9	25007	10896	44764	332818	69	30	123	912	713	4116	3403	214.02	4.77	0.0189	0.3443
1977	6	9	23238	6910	40762	367630	64	19	112	1007	796	4484	3688	231.93	4.64	0.0211	0.375
1978	7	9	34176	11883	100578	414795	94	33	276	1136	962	4899	3937	247.57	4.09	0.0243	0.4097
1979	7	9	36959	13748	110801	360864	101	38	304	989	1146	5259	4114	258.70	3.59	0.0277	0.4399
1980	6	9	40481	20112	53816	359664	111	55	147	985	1291	5619	4328	272.17	3.35	0.0315	0.47
1981	6	8	44052	24015	94905	359676	121	66	260	985	1490	5979	4488	282.25	3.01	0.0356	0.5
1982	6	8	38562	27454	89534	332247	106	75	245	910	1686	6311	4625	290.82	2.74	0.0393	0.5278
1983	6	8	48914	24738	106924	396376	134	68	293	1086	1905	6707	4803	302.00	2.52	0.0438	0.561
1984	6	8	45027	26382	87151	412705	123	72	239	1131	2103	7120	5017	315.49	2.39	0.0481	0.5955
1985	6	8	35586	21980	127537	897158	97	60	349	2458	2321	8017	5696	358.20	2.45	0.0514	0.6705
1986	6	8	46988	25873	144152	866713	129	71	395	2375	2577	8884	6307	396.59	2.45	0.0558	0.743
1987	6	8	43169	23270	118515	646378	118	64	325	1771	2798	9530	6733	423.37	2.41	0.0598	0.7971
1988	6	8	42671	22623	119072	515413	117	62	326	1412	3017	10046	7029	442.02	2.33	0.0638	0.8402
1989	6	6	38207	23005	93834	64250	105	63	257	176	3206	10110	6904	434.14	2.15	0.0674	0.8456
1990	6	5	33084	24899	90878	65336	91	68	249	179	3391	10175	6784	426.60	2.00	0.0705	0.851
1991	6	5	32323	24794	85249	39788	89	68	234	109	3570	10215	6645	417.88	1.86	0.0735	0.8544
Jan-92	6	4	2431	1295	6134	3699	78	42	198	119	3582	10219	6637	417.37	1.85	0.0738	0.8547
Feb-92	6	4	2919	1476	7482	3996	104	53	267	143	3596	10223	6627	416.73	1.84	0.074	0.855
Mar-92	6	4	2306	1691	6048	3790	74	55	195	122	3608	10227	6618	416.18	1.83	0.0743	0.8553
Apr-92	6	4	2629	1569	6691	3320	88	52	223	111	3622	10230	6608	415.56	1.82	0.0745	0.8556
May-92	6	4	2812	991	7244	3110	91	32	234	100	3634	10233	6599	414.96	1.82	0.0748	0.8558
Jun-92	6	4	2585	901	6474	1979	86	30	216	66	3646	10235	6589	414.36	1.81	0.075	0.856
Cum			800792	442996	1729943	10235054											

Table 6

WATERFLOOD PERFORMANCE
MURPHY BAXTER WATERFLOOD
Start of Injection at 9-1-62

Time Mo-Yr	Number Wells P	Inj	Production Oil (BBL)	Gas (MCF)	Water (BBL)	Injection (BBL)	Daily Production Oil (BOPD)	Gas (MCFD)	Water (BWPD)	Daily Inj. (BWPD)	Cumulative Withdrawals (MRBBL)	Cum. Inj. (MBBL)	Net Cum. Inj. (MBBL)	Fillup (%)	Cum. Net IWR (ratio)	Oil PV	Inj. PV
(4 mo)62	20	4	22082	69243	156	194603	182	569	1	1600	184	195	10	0.31	0.06	0.001	0.0076
1963	20	5	77363	178897	12063	614145	212	490	33	1683	694	809	114	3.34	0.16	0.0043	0.0314
1964	17	8	122331	147125	54092	904855	335	403	148	2479	1224	1714	490	14.32	0.40	0.0097	0.0666
1965	15	10	157575	97803	171909	1085455	432	268	471	2974	1797	2799	1002	29.29	0.56	0.0165	0.1088
1966	14	10	208289	78982	171325	734322	571	216	469	2012	2383	3533	1150	33.61	0.48	0.0256	0.1374
1967	14	10	156938	71248	219648	615908	430	195	602	1687	2943	4149	1207	35.27	0.41	0.0324	0.1613
1968	14	10	104919	45505	269869	567024	287	125	739	1553	3435	4716	1282	37.46	0.37	0.037	0.1834
1969	14	10	95971	21028	239515	550204	263	58	656	1507	3830	5267	1436	41.99	0.38	0.0412	0.2047
1970	14	10	75138	5746	287107	548608	206	16	787	1503	4215	5815	1601	46.78	0.38	0.0444	0.2261
1971	14	10	50141	5400	259782	395087	137	15	712	1082	4543	6210	1667	48.73	0.37	0.0466	0.2414
1972	14	9	55604	5867	245691	466776	152	16	673	1279	4864	6677	1813	52.98	0.37	0.049	0.2596
1973	16	9	57230	5140	301164	650875	157	14	825	1783	5241	7328	2086	60.99	0.40	0.0515	0.2849
1974	16	9	47101	3727	292099	617141	129	10	800	1691	5595	7945	2350	68.69	0.42	0.0536	0.3089
1975	15	10	49131	5347	228418	829290	135	15	626	2272	5891	8774	2884	84.29	0.49	0.0557	0.3411
1976	15	10	48759	3600	400838	769365	134	10	1098	2108	6354	9544	3189	93.22	0.50	0.0578	0.371
1977	15	10	46956	3600	431203	784127	129	10	1181	2148	6846	10328	3481	101.76	0.51	0.0599	0.4015
1978	14	10	44466	4218	273481	191200	122	12	749	524	7179	10519	3340	97.62	0.47	0.0618	0.4089
1979	14	10	45024	5441	155278	146055	123	15	425	400	7398	10665	3267	95.51	0.44	0.0638	0.4146
1980	13	5	42342	5629	148054	130280	116	15	406	357	7606	10795	3189	93.22	0.42	0.0656	0.4197
1981	13	10	41242	1201	144773	122572	113	3	397	336	7800	10918	3118	91.14	0.40	0.0674	0.4245
1982	13	10	40940	1128	107844	109287	112	3	295	299	7956	11027	3071	89.77	0.39	0.0692	0.4287
1983	13	9	43829	1200	104094	119179	120	3	285	327	8112	11146	3034	88.69	0.37	0.0711	0.4333
1984	13	6	41004	1200	102384	112787	112	3	281	309	8263	11259	2996	87.58	0.36	0.0729	0.4377
1985	13	6	37594	1200	100014	92250	103	3	274	253	8408	11351	2943	86.04	0.35	0.0745	0.4413
1986	13	5	37296	1200	99931	91493	102	3	274	251	8552	11443	2890	84.49	0.34	0.0762	0.4449
1987	13	4	34564	1200	94271	79250	95	3	258	217	8688	11522	2834	82.84	0.33	0.0777	0.4479
1988	13	4	31457	1200	71561	70761	86	3	196	194	8798	11593	2795	81.70	0.32	0.079	0.4507
1989	13	4	28043	1200	62171	48280	77	3	170	132	8894	11641	2747	80.30	0.31	0.0803	0.4526
1990	13	4	25659	1198	48508	42775	70	3	133	117	8974	11684	2710	79.21	0.30	0.0814	0.4542
1991	13	3	24037	1200	45781	50156	66	3	125	137	9050	11734	2685	78.47	0.30	0.0824	0.4562
Jan-92	13	3	2009	100	3716	5366	65	3	120	173	9056	11739	2684	78.45	0.30	0.0825	0.4564
Feb-92	13	3	1921	100	3455	5142	69	4	123	184	9062	11745	2683	78.43	0.30	0.0826	0.4566
Mar-92	13	3	2020	100	3619	5999	65	3	117	194	9068	11751	2683	78.42	0.30	0.0827	0.4568
Apr-92	13	3	1920	100	3531	6820	64	3	118	227	9074	11757	2684	78.45	0.30	0.0828	0.4571
May-92	13	3	1941	100	3539	5373	63	3	114	173	9080	11763	2683	78.43	0.30	0.0829	0.4573
Jun-92	13	3	1871	100	3400	6191	62	3	113	206	9085	11769	2684	78.45	0.30	0.0829	0.4575
Cum.			1904707	777273	5164284	11769001											

Table 7

WATERFLOOD PERFORMANCE
JOHNS A & B SEC 24 WATERFLOOD
Start of Injection at 3-3-66

Time Mo-Yr	Number Wells P	Inj	Production Oil (BBL)	Gas (MCF)	Water (BBL)	Injection (BBL)	Daily Production Oil (BOPD)	Gas (MCFD)	Water (BWPD)	Daily Inj. (BWPD)	Cumulative Withdrawals (MRBBL)	Cum. Inj. (MBBL)	Net Cum. Inj. (MBBL)	Fillup (%)	Cum. Net IWR (ratio)	Oil PV	Inj. PV
(10-Mo) 66	8	8	23233	57356	11318	904220	76	189	37	2974	169	904	735	29.73	4.34	0.0014	0.0486
1967	8	8	74696	42810	64216	1255685	205	117	176	3440	416	2160	1744	70.56	4.20	0.0059	0.1162
1968	8	8	60709	22038	120359	1142637	166	60	330	3131	655	3303	2648	107.11	4.04	0.0096	0.1777
1969	8	8	53938	15878	162028	1139433	148	44	444	3122	914	4442	3528	142.72	3.86	0.0128	0.239
1970	8	8	43946	9539	244758	1144711	120	26	671	3136	1230	5587	4357	176.24	3.54	0.0155	0.3006
1971	7	8	29034	7980	194305	1116224	80	22	532	3058	1475	6703	5228	211.48	3.55	0.0172	0.3606
1972	6	8	25849	1854	166952	821337	71	5	457	2250	1675	7524	5849	236.60	3.49	0.0188	0.4048
1973	5	8	25091	1055	47532	490582	69	3	130	1344	1753	8015	6262	253.29	3.57	0.0203	0.4312
1974	6	8	26643	1219	60552	546183	73	3	166	1496	1846	8561	6715	271.61	3.64	0.0219	0.4606
1975	6	8	26983	5798	49209	776292	74	16	135	2127	1939	9337	7398	299.26	3.82	0.0235	0.5023
1976	6	8	23337	4481	41106	761056	64	12	113	2085	2016	10098	8082	326.91	4.01	0.0249	0.5433
1977	6	8	21978	3576	40282	717096	60	10	110	1965	2090	10815	8726	352.96	4.18	0.0262	0.5818
1978	5	5	17090	2260	30531	463959	47	6	84	1271	2144	11279	9135	369.50	4.26	0.0273	0.6068
1979	4	5	13930	2135	39836	398775	38	6	109	1093	2205	11678	9473	383.19	4.30	0.0281	0.6283
1980	5	5	19181	4226	67058	386887	53	12	184	1060	2303	12065	9762	394.87	4.24	0.0293	0.6491
1981	5	5	17841	958	43571	345035	49	3	119	945	2369	12410	10041	406.17	4.24	0.0303	0.6676
1982	5	5	16153	641	54707	376470	44	2	150	1031	2443	12787	10344	418.39	4.23	0.0313	0.6879
1983	5	5	14680	766	62184	490482	40	2	170	1344	2523	13277	10754	434.98	4.26	0.0322	0.7143
1984	5	5	12997	712	56549	407865	36	2	155	1117	2596	13685	11089	448.53	4.27	0.033	0.7362
1985	5	5	13321	619	53662	469061	36	2	147	1285	2666	14154	11488	464.67	4.31	0.0338	0.7615
1986	5	2	13375	563	44358	171366	37	2	122	469	2727	14325	11599	469.15	4.25	0.0346	0.7707
1987	4	2	10895	381	5754	10276	30	1	16	28	2746	14336	11590	468.81	4.22	0.0352	0.7712
1988	5	2	11149	0	63054	61849	31	0	173	169	2821	14397	11576	468.25	4.10	0.0359	0.7746
1989	5	2	10290	0	36382	36382	28	0	100	100	2869	14434	11565	467.79	4.03	0.0365	0.7765
1990	5	1	8914	0	46909	46909	24	0	129	129	2926	14481	11555	467.38	3.95	0.0371	0.779
1991	4	1	8270	0	16847	31557	23	0	46	86	2952	14512	11560	467.60	3.92	0.0376	0.7807
Jan-92	4	2	699	0	834	10815	23	0	27	349	2954	14523	11569	467.98	3.92	0.0376	0.7813
Feb-92	4	2	688	0	924	9966	25	0	33	356	2955	14533	11578	468.31	3.92	0.0377	0.7818
Mar-92	4	2	752	0	570	10023	24	0	18	323	2957	14543	11586	468.66	3.92	0.0377	0.7824
Apr-92	4	2	710	0	694	7761	24	0	23	259	2958	14551	11593	468.91	3.92	0.0377	0.7828
May-92	4	2	714	0	615	7063	23	0	20	228	2960	14558	11598	469.14	3.92	0.0378	0.7832
Jun-92	4	2	673	0	437	6191	22	0	15	206	2961	14564	11603	469.34	3.92	0.0378	0.7835
Cum.			627759	186845	1828093	14564148											

TABLE 8

Comparison of Similar Reservoirs
Pre-Infill Drilling Waterflood Performance
Maljamar (Grayburg-San Andres) Field

	Wiser Pennzoi-Maljamar Project	Analogy: Cross Timbers SMGSAU	Analogy: Avon Turner-B	Analogy: Conoco MCA
Effective Date:	7/1/92	7/1/92	1/1/90	1/1/91
Total Well Completions (pre-infill):				
Producers	63	18	33	150 est
Injectors	46	10	16	51 est
Total	109	28	49	201
Injector-Producer Ratio	0.73	0.56	0.49	0.34
Project Area (Acres)	4110	1120	1320	8040
Average Spacing (Acres/Well)	38	40	40	40
OOIP (MSTB)	51898	22618	*NA	268000
Cumulative Oil Production, pre-infill wells (MBBL)	10,180	3126	4,103	91780
Cumulative Oil Production (BBL/acre)	2477	2791	3109	11415
Average Oil Cumulative Per Well (MBBL)	93	112	84	457
Ultimate Primary Oil Recovery (MBBL)	4601	2468	2059	56400
Ultimate Primary Oil Recovery (BBL/acre)	1119	2203	1560	7015
Ultimate Primary Recovery Factor (%)	8.87	10.91	*NA	21.04
Average Oil Recovery Per Well (MBBL)	42	88	42	281
Cum. Secondary Oil, pre-infill wells (MBBL)	5579	658	2044	35380
Ultimate Secondary Oil Recovery (MBBL)	6277	783	2044	62600
Average Ultimate Secondary Per Well (MBBL)	100	44	62	417
Secondary:Primary Ratio	1.36	0.32 **	1.00	1.11
Ultimate Oil Recovery, pre-fill wells (MBBL)	10879	3251	4103	119000
Estimated Recovery Factor (%)	20.96	14.37	-	44.40
Cumulative Water Production (MBBL)	66353	912	4747	122000
Cumulative WOR	6.52	0.29 **	1.16	1.33
Cumulative Watercut (%)	86.70	22.59 **	53.6	57.07
Cumulative Water Injection (MBBL)	66353	5709	24482	*NA
Cumulative Injection-Secondary Oil Ratio (STB/STB)	11.89	8.68	11.9	
Cumulative Injection-Withdrawals (RBBL/RBBL)	1.17	0.63 **	2.67	
20-acre/well Infill Drilling Performance				
No. Producers Drilled	59 (Proposed)	16 **	22 ***	100
Ultimate Secondary Oil Recovery (MBBL)	6824	1704 **	1200 ***	*NA
Average Ultimate Secondary Per Well (MBBL)	116	106 **	55 ***	*NA

*NA= data not available

**Infill drilling initiatied early in life of waterflood with full injection support on 40-acre 5-spot patterns

***20-acre Infill wells, partial injection support on planned 5-spot 40-acre patterns

TABLE 9

CROSS-TIMBERS S. E. MALJAMAR WATERFLOOD PROJECT (SMGSAU)
Beg. Injection: Dec. 1967

		Ultimate Primary	Cum. 7-1-92			Cum.Oil Secondary at 7-1-92	Oil Rem. at 7/1/92	EUR	Cum. Injection (7-1-92)
		Oil (BBL)	Oil (BBL)	Gas (MCF)	Water (BBL)	(BBL)	(BBL)	(BBL)	(BBL)
Summary of Pre-Infill Drilling	(Beg. Injection: Dec. 1967)								
	16-Producers	1817624	1835550	1E+06	178016	17926	453578	2289128	
	Per well average	113602	114722	71853	11126	1120	28349	143071	
	11-Injectors	856823	856823	636047	78260			856823	2510000
	Per well average	77893	77893	57822	7115			77893	228182
	27-well Total	2674447	2681764	2E+06	256276	7317	464187	3145951	
	Per well average	99054	99325	66137	9492			112355	

Performance Summary of Infill Well Performance

Lease	Well No.	Loc	Initial Date Production	Cum. 7-1-92 Oil (BBL)	Gas (MCF)	Water (BBL)	Rem. Oil 7/1/92 (BBL)	EUR (BBL)
(A) Wells drilled within corridor of highest net pay and ultimate primary recoveries (Net Pay = 42 to 62')								
SMGSAU-Tr 7	5	29-J	12/13/71	350643	158357	179766	19657	370300
SMGSAU-Tr 7	6	29-O	9/12/72	153482	28863	294598	40625	194107
SMGSAU-Tr 6	6	29-M	2/5/73	242376	68437	263242	66254	308630
SMGSAU-Tr 7	8	29-O	4/11/73	87826	27088	621114	0	87826
SMGSAU-Tr 1	4	30-I	1/20/77	241690	73640	96777	28074	269764
SMGSAU-Tr 6	7	29-K	10/9/80	75051	24801	67609	17794	92845
SMGSAU-Tr 6	8	29-N	1/4/92	6887	2915	45398	84221	91108
	7-wells							
Total				1157955	384101	1568504	256625	1414580
Per Well Average				165422	54872	224072	36661	202083
(B) Other Infill Drilled Wells (Net Pay = 10 to 45')								
SMGSAU-Tr 4	9	29-E	10/14/78	13475	8830	19423	0	13475
SMGSAU-Tr 4	10	29-F	10/24/78	47146	24957	20189	0	47146
SMGSAU-Tr 5	7	29-G	3/4/80	36764	28556	13441	0	36764
SMGSAU-Tr 1	5	30-J	4/17/80	20645	18147	71351	2189	22834
SMGSAU-Tr 7	9	29-I	12/9/81	17874	14180	30536	0	17874
SMGSAU-Tr 4	13	29-F	2/2/82	6178	10250	42868	0	6178
SMGSAU-Tr 4	12	29-D	2/3/82	78908	50216	91858	12563	91471
SMGSAU-Tr 4	11	29-E	2/20/82	23893	0	892029	0	23893
SMGSAU-Tr 9	6	32-A	1/5/92	2403	1343	31416	27126	29529
SMGSAU-Tr 9	7	32-H I	1/9/92	996	1567	2578	0	996
SMGSAU-Tr 6	9	29-L I	1/15/92	211	204	1696	0	211
	11-wells							
Total				248493	158250	1217385	41878	290371
Per Well Average				22590	14386	110671	3807	26397
(C) Total Infill Well Program								
	18-wells (16 Prod, 2 Injectors)			1406448	542351	2785889	298503	1704951
	16- Producers			1405241	540580	2781615	298503	1703744
Avg. Per Well	(18 wells)			78136	30131	154772	16584	94720
	(16- Producers)			87828	33786	173851	18656	106484

TABLE 10

PROPOSED INVESTMENT SCHEDULE
WISER PENNZOIL- MALJAMAR WATERFLOOD PROJECT
LEA COUNTY, NEW MEXICO

Phase I

	Producer Well Work						Injection Well Work								
	Drill				** Workover		Drill		Convert		Workover		Facility	Period Total	Cum. Total
Inv. Date	Well No.	Loc S-Gd	Oil (MBBL)	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Inv. ($M)	Inv. ($M)	Inv. ($M)
Apr-93	1	19-H	179	260							3(19-H)	15		275	275
Apr-93											5(19-B)	15		15	290
Apr-93									6 (19-G)	35			20	55	345
Apr-93									4 (19-A)	35			20	55	400
May-93	2	20-C	202	330 *							5(20-B)	15		345	745
May-93											8(17-N)	15	150	165	910
May-93									2(20-C)	80			20	100	1010
May-93									7(17-O)	35			20	55	1065
Jun-93	3	20-G	161	260							3 (20-F)	15	50	325	1390
Jun-93									1 (20-G)	35			20	55	1445
Jul-93	4	20-D	97	260					11(17-M)	80			20	360	1805
Jul-93											6(20-D)	15	100	115	1920
Jul-93	5	20-B	107	260					9(20-A)	35			20	315	2235
Jul-93											10(17-P)	15		15	2250
Aug-93	6	20-H	124	260					4(20-H)	35			20	315	2565
Aug-93													75	75	2640
Sep-93	7	17-O	111	260					14(17-K)	35	13(17-J)	80		375	3015
Oct-93	8	17-N	116	260							15(17-L)	15	125	400	3415
Oct-93	9	20-E	141	260					16(20-E)	80			20	360	3775
Oct-93	10	20-L	165	260					7(20-L)	80			20	360	4135
Oct-93									2(19-I)	80			20	100	4235
Wells	10				0		0		12		9				
									21-Total Injectors						
Reserves			1403												
Reserves/well			140												
Investment				2670		0		0		645		200	720	4235	
														424	M$/pattern
														3.02	$/BBL

*Investment takes into account 400' core. Specific well to be cored is contingent upon detail geological review.
**Investment provision for deepening of well as producer prior to conversion to injection. Specific well contingent upon detail review.

TABLE 11

PROPOSED INVESTMENT SCHEDULE
WISER PENNZOIL- MALJAMAR WATERFLOOD PROJECT
LEA COUNTY, NEW MEXICO

Phase II

	Producer Well Work						Injection Well Work								
	Drill				** Workover		Drill		Convert		Workover		Facility	Period Total	Cum. Total
Inv. Date	Well No.	Loc S-Gd	Oil (MBBL)	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Inv. ($M)	Inv. ($M)	Inv. ($M)
Oct-93	11	19-G	106	260							10(19-F)	15		275	275
Oct-93					17(20-E)	50			11(19-C)	35			20	105	380
Oct-93	12	17-K	95	260							6(17-F)	15		275	655
Oct-93									7(17-G)	35			20	55	710
Nov-93	13	17-L	104	260	1(20-I)	50			5(17-E)	35			20	365	1075
Nov-93	14	18-I	119	260							2(18-H)	15		275	1350
Nov-93							3-X(18-I)	200					20	220	1570
Nov-93	15	24-H	174	330 *					9(24-G)	35	5(24-H)	15	20	400	1970
Nov-93									7(24-A)	100	8(24-B)	15	20	135	2105
Nov-93	16	19-A	113	260			4-X(18-P)	200					20	480	2585
Dec-93	17	17-M	88	260										260	2845
Dec-93	18	17-E	157	260					4(17-D)	35			20	315	3160
Dec-93									1(18-A)	35			20	55	3215
Dec-93	19	18-H	192	260					7(18-G)	35	8(18-B)	15	20	330	3545
Dec-93	20	18-J	176	260							6(18-J)	15	100	375	3920
Jan-94	21	18-O	107	260			5-X(18-O)	200	1(18-K)	100	8(18-N)	15	140	715	4635
Jan-94	22	17-F	95	260					3(17-C)	35			20	315	4950
Jan-94	23	17-G	109	260					2(17-B)	35			20	315	5265
Feb-94	24	20-K	118	260					5(20-K)	35			20	315	5580
Feb-94	25	17-H	103	260					1(17-A)	35	8(17-H)	65	70	430	6010
Feb-94	26	17J	81	260					12(17-I)	35			20	315	6325
Mar-94	27	19-I	134	260							7(19-J)	15	50	325	6650
Mar-94	28	19-F	95	260					13(19-E)	35	12(19-D)	15	70	380	7030
Mar-94	29	19-B	111	260									100	360	7390
Apr-94	30	19-C	114	260									50	310	7700
Apr-94	31	19-D	95	260			7-X(18-M)	200					20	480	8180
Apr-94	32	24-A	153	260							6(13-P)	80		340	8520
Apr-94	33	20-M	107	260					6(20-M)	35	1(19-P)	15	20	330	8850
Apr-94	34	20-I	84	260					1(20-I)	35	1(20-J)	15	20	330	9180
Apr-94	35	17-P	97	260									50	310	9490
May-94	36	20-J	79	260										260	9750
May-94	37	24-B	183	260			5-X(13-O)	200					70	530	10280
May-94	38	18-M	144	260					2(18-L)	100			20	380	10660
May-94									3(13-I)	35			20	55	10715
														0	10715
Wells	28				2		5		19		14				
									38-Total Injectors						
Reserves			3333												
Reserves/well			119												
Investment				7350		100		1000		860		325	1080	10715	
														383	M$/pattern
														3.21	$/BBL

*Investment takes into account 400' core. Specific well to be cored is contingent upon detail geological review.
**Investment provision for deepening of well as producer prior to conversion to injection. Specific well contingent upon detail review.

TABLE 12

PROPOSED INVESTMENT SCHEDULE
WISER PENNZOIL- MALJAMAR WATERFLOOD PROJECT
LEA COUNTY, NEW MEXICO

Phase III

	Producer Well Work						Injection Well Work								
	Drill				** Workover		Drill		Convert		Workover		Facility	Period Total	Cum. Total
Inv. Date	Well No.	Loc S-Gd	Oil (MBBL)	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Inv. ($M)	Inv. ($M)	Inv. ($M)
Jun-94	39	28-K	146	330 *					7(28-J)	80	2(28-L)	20	20	450	450
Jun-94											8(28-N)	15	100	115	565
Jun-94	40	19-O	86	260					8(19-0)	100			20	380	945
Jun-94	41	24-G	153	260			4-X(24-F)	200					20	480	1425
Jul-94							11-X(24-C)	200					20	220	1645
Jul-94	42	24-F	139	260			12-X(24-D)	200					20	480	2125
Jul-94							1(24-E)	200					20	220	2345
Jul-94	43	24-K	168	260	7(28-K)	50					2(24-L)	20	20	350	2695
Aug-94							3-X(24-K)	200						200	2895
Aug-94	44	13-P	174	260			4-X(13-J)	200					20	480	3375
Aug-94													100	100	3475
Aug-94	45	28-J	108	260							10(28-J)	15		275	3750
Aug-94									9(28-O)	80			20	100	3850
Aug-94	46	24-J	120	260							10(24-J)	15		275	4125
Sep-94	47	21-D	65	260							4(21-D)	15		275	4400
Sep-94									2(21-E)	35			20	55	4455
Sep-94	48	19-K	83	260							15(19-L)	35		295	4750
Sep-94									9(19-K)	25			20	45	4795
Sep-94	49	19-J	80	260										260	5055
Sep-94	50	28-P	87	260							2(33-B)	15		275	5330
Sep-94											13(28-P)	15		15	5345
Sep-94	51	19-E	150	260									100	360	5705
Oct-94	52	24-P	83	260							5(24-P)	15		275	5980
Oct-94									6(24-I)	35			20	55	6035
Oct-94									3(24-O)	35			20	55	6090
Oct-94	53	28-II	61	260										260	6350
Oct-94	54	24-I	73	260										260	6610
Oct-94	55	20-P	64	260							3(20-P)	50		310	6920
Oct-94	56	20-N	59	260					4(20-N)	80		25		365	7285
Nov-94	57	18-K	69	260										260	7545
Nov-94	58	24-M	50	260							2(24-N)	15		275	7820
Nov-94									1(24-M)	35			20	55	7875
Dec-94	59	24-C	70	260										260	8135
Wells	21				1		6		9		12				
									27-Total Injectors						
Reserves			2088												
Reserves/well			99												
Investment				5530		50		1200		505		270	580	8135	
														387 M$/pattern	
														3.90 $/BBL	

*Investment takes into account 400' core. Specific well to be cored is contingent upon detail geological review.
**Investment provision for deepening of well as producer prior to conversion to injection. Specific well contingent upon detail review.

TABLE 13

PROPOSED INVESTMENT SCHEDULE
WISER PENNZOIL- MALJAMAR WATERFLOOD PROJECT
LEA COUNTY, NEW MEXICO

Composite: Three Phase Program

	Producer Well Work						Injection Well Work							
	Drill				Workover		Drill		Convert		Workover		Facility	Cum. Total
Inv. Date	Well No.	Loc S-Gd	Oil (MBBL)	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Well No.	Inv. ($M)	Inv. ($M)	Inv. ($M)
Wells	59				3		11		40		35			
									86-Total Injectors					
Total Reserves			6824											
Reserves Per Well			116											
Investment				15550		150		2200		2010		795	2380	23085

391 M$/pattern
3.38 $/BBL

Table 14

Summary of Economics: Escalated Case
Redevelopment Project
Pennzoil-Maljamar Project
Lea County, New Mexico

	Proved Developed Producing	Proved Undeveloped	Total Proved
Effective Date:	December 1, 1992		
Interest:			
Working, %		100.00	
Net Revenue, %		82.00	
Gross Reserves:			
Oil, MBBL	636	6824	7460
Gas, MMCF	189	4301	4490
Net Reserves:			
Oil, MBBL	522	5596	6117
Gas, MMCF	155	3527	3681
Net Operating Revenue,M$	12161	155289	167450
Expenses:			
Wellhead Taxes, M$	807	10307	11115
Operating Costs, M$	6195	36354	42549
Total, M$	7002	46662	53664
*Investments, M$	.....	23085	23085
Future Net Revenue:			
Undiscounted, M$	5160	85542	90702
Discounted, M$	3667	34041	37708
**Payout, Years	.....	3.74	.....
Annualized Rate of Return, %	.....	46.00	.....
Income/Investment Ratio:			
Undiscounted	.....	4.71	.....
Discounted @ 10%	.....	2.66	.....

*Investments do not include lease acquisition costs
**Payout calculated from Effective Date

TOTAL PROVED

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 0

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	8.381	2.479	6.873	2.032	18.57	1.00	129.670	8.606	56.605	.000	64.459	64.204
12-93	141.987	72.976	116.428	59.840	19.04	1.03	2279.008	151.270	723.509	5805.000	-4400.771	-4059.688
12-94	465.700	371.591	381.875	304.705	20.01	1.08	7969.533	528.979	2055.791	17280.000	-11895.237	-14463.033
12-95	806.216	625.187	661.097	512.654	21.01	1.14	14472.136	960.590	2691.072	.000	10820.474	-6003.907
12-96	870.115	619.662	713.495	508.123	22.06	1.19	16343.781	1084.819	2736.087	.000	12522.875	2902.262
12-97	757.528	499.194	621.173	409.338	23.15	1.25	14893.705	988.569	2751.984	.000	11153.152	10110.771
12-98	631.056	384.504	517.467	315.293	24.30	1.32	12987.570	862.052	2814.734	.000	9310.784	15581.452
12-99	524.987	293.152	430.488	240.385	25.50	1.38	11308.264	750.585	2627.611	.000	7930.068	19817.292
12- 0	452.343	232.731	370.921	190.840	26.76	1.45	10201.670	677.136	2756.111	.000	6768.423	23103.972
12- 1	398.041	194.251	326.395	159.286	28.08	1.52	9407.930	624.450	2891.037	.000	5892.443	25705.164
12- 2	353.282	171.623	289.691	140.732	29.59	1.60	8797.386	583.926	2975.109	.000	5238.351	27807.388
12- 3	315.105	156.347	258.386	128.205	31.07	1.68	8243.550	547.164	2454.750	.000	5241.636	29719.700
12- 4	288.615	143.285	236.664	117.494	32.62	1.76	7928.174	526.233	2221.974	.000	5179.967	31437.712
12- 5	254.118	126.191	208.376	103.477	34.25	1.85	7329.149	486.472	1859.793	.000	4982.884	32940.118
12- 6	229.217	114.608	187.959	93.978	35.00	1.89	6756.497	448.462	1792.608	.000	4515.427	34177.811
S TOT	6496.691	4007.781	5327.268	3286.382	25.28	1.33	139048.023	9229.313	33498.775	23085.000	73324.935	34177.811
REM.	963.563	481.781	790.124	395.062	35.00	1.89	28402.325	1885.205	9140.262	.000	17376.858	37707.699
TOTAL	7460.254	4489.562	6117.412	3681.444	26.53	1.39	167450.348	11114.518	42549.037	23085.000	90701.793	37707.899
CUM.	10242.290	9378.363										
ULT.	17702.544	13867.925										

NET OIL REVENUES (M$)	162322.762
NET GAS REVENUES (M$)	5127.586
TOTAL REVENUES (M$)	167450.348

BTAX RATE OF RETURN (PCT)	54.68
BTAX PAYOUT YEARS	3.52
BTAX PAYOUT YEARS (DISC)	3.76
BTAX NET INCOME/INVEST	4.93
BTAX NET INCOME/INVEST (DISC)	2.84

PROJECT LIFE (YEARS)	22.032
DISCOUNT RATE (PCT)	10.000
GROSS OIL WELLS	98.000
GROSS GAS WELLS	.000
GROSS WELLS	98.000

--------PRESENT WORTH PROFILE--------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	90701.793	30.0	8589.444
2.0	74856.191	35.0	5776.795
5.0	57100.307	40.0	3669.633
8.0	44309.914	45.0	2061.841
10.0	37707.899	50.0	816.949
12.0	32251.351	60.0	-929.454
15.0	25701.010	70.0	-2035.427
18.0	20611.742	80.0	-2749.088
20.0	17830.615	90.0	-3212.161
25.0	12430.872	100.0	-3510.029

TOTAL PROVED DEVELOPED PRODUCING

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 0

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	8.381	2.479	6.873	2.032	18.57	1.00	129.670	8.606	56.605	.000	64.459	64.204
12-93	96.249	28.364	78.923	23.258	19.03	1.03	1525.894	101.281	569.386	.000	855.227	873.486
12-94	87.555	25.634	71.796	21.020	19.91	1.08	1452.012	96.379	563.077	.000	792.556	1555.284
12-95	78.516	22.861	64.383	18.746	20.82	1.14	1361.872	90.395	579.446	.000	692.031	2096.484
12-96	69.839	20.405	57.268	16.732	21.77	1.19	1266.881	84.089	604.818	.000	577.974	2507.396
12-97	57.070	15.724	46.798	12.893	22.73	1.25	1079.726	71.666	514.152	.000	493.908	2826.618
12-98	50.679	14.022	41.557	11.498	23.75	1.32	1001.913	66.504	465.010	.000	470.399	3103.007
12-99	45.047	12.516	36.938	10.263	24.80	1.38	930.401	61.755	485.383	.000	383.263	3307.727
12- 0	40.080	11.181	32.866	9.169	25.90	1.45	864.695	57.395	506.772	.000	300.528	3453.661
12- 1	35.696	10.000	29.272	8.200	27.05	1.52	804.245	53.381	529.230	.000	221.634	3551.500
12- 2	27.934	8.949	22.906	7.339	29.59	1.60	689.553	45.768	495.212	.000	148.573	3611.125
12- 3	18.441	8.015	15.122	6.572	31.07	1.68	480.889	31.918	350.679	.000	98.292	3646.985
12- 4	16.419	7.187	13.463	5.894	32.62	1.76	449.614	29.844	368.213	.000	51.557	3664.085
12- 5	4.348	1.305	3.565	1.070	34.25	1.85	124.094	8.236	106.655	.000	9.203	3666.860
12- 6												
S TOT	636.254	188.642	521.730	154.686	22.93	1.27	12161.459	807.217	6194.638	.000	5159.604	3666.860
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	3666.860
TOTAL	636.254	188.642	521.730	154.686	22.93	1.27	12161.459	807.217	6194.638	.000	5159.604	3666.860
CUM.	10242.290	9378.363										
ULT.	10878.544	9567.005										

NET OIL REVENUES (M$)	11964.987		
NET GAS REVENUES (M$)	196.472		
TOTAL REVENUES (M$)	12161.459		
BTAX RATE OF RETURN (PCT)	100.00	PROJECT LIFE (YEARS)	13.083
BTAX PAYOUT YEARS	.00	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	.00	GROSS OIL WELLS	39.000
BTAX NET INCOME/INVEST	.00	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	.00	GROSS WELLS	39.000

--------PRESENT WORTH PROFILE---------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	5159.604	30.0	2314.921
2.0	4778.887	35.0	2126.019
5.0	4295.495	40.0	1968.819
8.0	3895.919	45.0	1836.190
10.0	3666.860	50.0	1722.935
12.0	3462.623	60.0	1539.970
15.0	3195.304	70.0	1398.748
18.0	2966.635	80.0	1286.508
20.0	2832.000	90.0	1195.139
25.0	2545.499	100.0	1119.291

TABLE 16

TOTAL PROVED UNDEVELOPED

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 0

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	.000
12-93	45.738	44.612	37.505	36.582	19.07	1.03	753.114	49.989	154.123	5805.000	-5255.998	-4933.174
12-94	378.145	345.957	310.079	283.685	20.03	1.08	6517.521	432.600	1492.714	17280.000	-12687.793	-16018.317
12-95	727.700	602.326	596.714	493.909	21.03	1.14	13110.264	870.195	2111.626	.000	10128.443	-8097.391
12-96	800.276	599.257	656.227	491.391	22.08	1.19	15076.900	1090.730	2131.269	.000	11944.901	394.866
12-97	700.458	483.470	574.375	396.445	23.19	1.25	13813.979	916.903	2237.832	.000	10659.244	7284.153
12-98	580.377	370.482	475.910	303.795	24.34	1.32	11985.657	795.543	2349.724	.000	8840.385	12478.445
12-99	479.940	280.636	393.550	230.122	25.56	1.38	10377.863	688.830	2142.228	.000	7546.805	16509.565
12- 0	412.263	221.550	338.055	181.671	26.84	1.45	9336.975	619.741	2249.339	.000	6467.895	19650.311
12- 1	362.345	184.251	297.123	151.086	28.18	1.52	8603.685	571.069	2361.807	.000	5670.809	22153.664
12- 2	325.348	162.674	266.785	133.393	29.59	1.60	8107.833	538.158	2479.897	.000	5089.778	24196.263
12- 3	296.664	148.332	243.264	121.633	31.07	1.68	7762.661	515.246	2104.071	.000	5143.344	26072.715
12- 4	272.196	136.098	223.201	111.600	32.62	1.76	7478.560	496.389	1853.761	.000	5128.410	27773.627
12- 5	249.770	124.886	204.811	102.407	34.25	1.85	7205.055	478.236	1753.138	.000	4973.681	29273.258
12- 6	229.217	114.608	187.959	93.978	35.00	1.89	6756.497	448.462	1792.608	.000	4515.427	30510.951
S TOT	5860.437	3819.139	4805.558	3131.696	25.53	1.34	126886.564	8422.096	27214.137	23085.000	68165.331	30510.951
REM.	963.563	481.781	790.124	395.062	35.00	1.89	28402.325	1885.205	9140.262	.000	17376.858	34041.039
TOTAL	6824.000	4300.920	5595.682	3526.758	26.87	1.40	155283.889	10307.301	36354.399	23085.000	85542.189	34041.039
CUM.	.000	.000										
ULT.	6824.000	4300.920										

NET OIL REVENUES (M$)	150357.775		
NET GAS REVENUES (M$)	4931.114		
TOTAL REVENUES (M$)	155288.889		
PROJECT LIFE (YEARS)	22.032		
DISCOUNT RATE (PCT)	10.000		
GROSS OIL WELLS	59.000		
GROSS GAS WELLS	.000		
GROSS WELLS	59.000		

BTAX RATE OF RETURN (PCT)	46.00		
BTAX PAYOUT YEARS	3.74		
BTAX PAYOUT YEARS (DISC)	4.04		
BTAX NET INCOME/INVEST	4.71		
BTAX NET INCOME/INVEST (DISC)	2.66		

---------PRESENT WORTH PROFILE---------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	85542.189	30.0	6274.523
2.0	70077.304	35.0	3650.776
5.0	52804.812	40.0	1700.814
8.0	40413.995	45.0	225.651
10.0	34041.039	50.0	-905.986
12.0	28783.728	60.0	-2469.424
15.0	22505.706	70.0	-3434.175
18.0	17645.107	80.0	-4035.596
20.0	14998.615	90.0	-4407.300
25.0	9885.373	100.0	-4629.320

TOTAL PROVED DEVELOPED PRODUCING

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 0

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

LEASE	---GROSS PRODUCTION---- OIL, MBBL	GAS, MMCF	----NET PRODUCTION----- OIL, MBBL	GAS, MMCF	---------OPERATIONS, M$---------- NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	10.00 PCT CUM. DISC BTAX, M$
***** FILE: MALMAR										
(3)MAL GRA UNIT (PDP)	26.165	13.083	21.455	10.727	449.294	29.823	359.197	.000	60.274	53.597
(1)ZAPATA WESTERN STATE (PDP)	242.928	121.464	199.200	99.602	4890.122	324.583	2561.693	.000	2003.846	1393.880
(2)PENNZOIL MALJAMAR WF (PDP)	180.315	54.095	147.859	44.357	3506.860	232.765	1173.338	.000	2100.757	1479.661
(11)MURPHY BAXTER WATERFLOOD (PDP)	135.023	.000	110.720	.000	2529.004	167.864	1504.010	.000	857.130	633.867
(13)JOHNS A & JOHNS B (PDP)	51.823	.000	42.496	.000	786.179	52.182	596.400	.000	137.597	105.855
(0)SUMMARY: TOTAL PROVED DEVELOPED PRODUCING	636.254	188.642	521.730	154.686	12161.459	807.217	6194.638	.000	5159.604	3666.860

TABLE 18

MAL GRA UNIT (PDP)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 3

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END- MO-YR	---GROSS PRODUCTION--- OIL, MBBL	GAS, MMCF	----NET PRODUCTION---- OIL, MBBL	GAS, MMCF	--PRICES--- OIL $/B	GAS $/M	--------OPERATIONS, M$-------- NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	10.00 PCT CUM. DISC BTAX, M$
12-92	.641	.321	.526	.263	18.58	1.00	10.035	.666	7.229	.000	2.140	2.132
12-93	7.310	3.655	5.994	2.997	19.07	1.03	117.424	7.795	81.661	.000	27.968	28.597
12-94	6.652	3.326	5.456	2.727	20.03	1.08	112.207	7.448	85.744	.000	19.015	44.955
12-95	6.053	3.027	4.963	2.482	21.03	1.14	107.192	7.115	90.031	.000	10.046	52.811
12-96	5.509	2.754	4.517	2.258	22.08	1.19	102.436	6.799	94.532	.000	1.105	53.597
12-97												
12-98												
12-99												
12- 0												
12- 1												
12- 2												
12- 3												
12- 4												
12- 5												
12- 6												
S TOT	26.165	13.083	21.455	10.727	20.39	1.10	449.294	29.823	359.197	.000	60.274	53.597
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	53.597
TOTAL	26.165	13.083	21.455	10.727	20.39	1.10	449.294	29.823	359.197	.000	60.274	53.597
CUM.	1093.692	727.640										
ULT.	1119.857	740.723										

NET OIL REVENUES (M$)	437.472		
NET GAS REVENUES (M$)	11.822		
TOTAL REVENUES (M$)	449.294		

BTAX RATE OF RETURN (PCT)	100.00	PROJECT LIFE (YEARS)	4.083
BTAX PAYOUT YEARS	.00	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	.00	GROSS OIL WELLS	5.000
BTAX NET INCOME/INVEST	.00	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	.00	GROSS WELLS	5.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	7- 1-92	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

--------PRESENT WORTH PROFILE--------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	60.274	30.0	44.320
2.0	58.787	35.0	42.568
5.0	56.710	40.0	40.980
8.0	54.794	45.0	39.537
10.0	53.597	50.0	38.217
12.0	52.460	60.0	35.893
15.0	50.857	70.0	33.909
18.0	49.365	80.0	32.199
20.0	48.429	90.0	30.710
25.0	46.262	100.0	29.398

TABLE 19

ZAPATA WESTERN STATE (PDP)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO. 17S-33E

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 1

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	2.796	1.399	2.293	1.147	18.58	1.00	43.745	2.903	16.266	.000	24.576	24.479
12-93	31.899	15.949	26.157	13.078	19.07	1.03	512.421	34.012	170.744	.000	307.665	315.616
12-94	29.027	14.513	23.802	11.901	20.03	1.08	489.601	32.497	179.281	.000	277.823	554.614
12-95	26.415	13.208	21.660	10.831	21.03	1.14	467.819	31.052	188.246	.000	248.521	748.969
12-96	24.037	12.019	19.710	9.856	22.08	1.19	446.988	29.669	197.658	.000	219.661	905.138
12-97	21.875	10.937	17.938	8.968	23.19	1.25	427.139	28.351	189.494	.000	209.294	1040.409
12-98	19.905	9.953	16.322	8.161	24.34	1.32	408.093	27.089	198.968	.000	182.037	1147.367
12-99	18.114	9.057	14.853	7.427	25.56	1.38	389.933	25.882	208.917	.000	155.134	1230.232
12- 0	16.484	8.241	13.517	6.758	26.84	1.45	372.602	24.732	219.363	.000	128.507	1292.634
12- 1	15.000	7.501	12.300	6.151	28.18	1.52	356.009	23.630	230.331	.000	102.048	1337.693
12- 2	13.650	6.825	11.193	5.597	29.59	1.60	340.166	22.578	241.848	.000	75.740	1368.079
12- 3	12.422	6.210	10.186	5.092	31.07	1.68	325.038	21.574	253.940	.000	49.524	1386.147
12- 4	11.304	5.652	9.269	4.635	32.62	1.76	310.568	20.615	266.637	.000	23.316	1393.880
12- 5												
12- 6												
S TOT	242.928	121.464	199.200	99.602	23.90	1.29	4890.122	324.583	2561.693	.000	2003.846	1393.880
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	1393.880
TOTAL	242.928	121.464	199.200	99.602	23.90	1.29	4890.122	324.583	2561.693	.000	2003.846	1393.880
CUM.	3849.338	3467.158										
ULT.	4092.266	3588.622										

NET OIL REVENUES (M$)	4761.432		
NET GAS REVENUES (M$)	128.690		
TOTAL REVENUES (M$)	4890.122		

BTAX RATE OF RETURN (PCT)	100.00
BTAX PAYOUT YEARS	.00
BTAX PAYOUT YEARS (DISC)	.00
BTAX NET INCOME/INVEST	.00
BTAX NET INCOME/INVEST (DISC)	.00
INITIAL W.I. FRACTION	1.000000
FINAL W.I. FRACTION	1.000000
PRODUCTION START DATE	7- 1-92
MONTHS IN FIRST LINE	1.00

PROJECT LIFE (YEARS)	12.083
DISCOUNT RATE (PCT)	10.000
GROSS OIL WELLS	11.000
GROSS GAS WELLS	.000
GROSS WELLS	11.000
INITIAL NET OIL FRACTION	.820000
FINAL NET OIL FRACTION	.820000
INITIAL NET GAS FRACTION	.820000
FINAL NET GAS FRACTION	.820000

--------PRESENT WORTH PROFILE---------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	2003.846	30.0	857.225
2.0	1847.026	35.0	784.024
5.0	1649.053	40.0	723.534
8.0	1486.525	45.0	672.818
10.0	1393.880	50.0	629.758
12.0	1311.624	60.0	560.699
15.0	1204.523	70.0	507.843
18.0	1113.460	80.0	466.124
20.0	1060.103	90.0	432.358
25.0	947.268	100.0	404.459

PENNZOIL MALJAMAR WF (PDP)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO. 17S-33E

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 2

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	2.531	.759	2.075	.622	18.58	1.00	39.169	2.599	9.639	.000	26.931	26.824
12-93	29.199	8.760	23.943	7.183	19.07	1.03	464.112	30.805	103.931	.000	329.376	338.505
12-94	25.984	7.795	21.307	6.392	20.03	1.08	433.666	28.785	77.949	.000	326.932	619.749
12-95	22.086	6.626	18.111	5.433	21.03	1.14	387.048	25.691	81.846	.000	279.511	838.340
12-96	18.773	5.632	15.394	4.618	22.08	1.19	345.432	22.928	85.939	.000	236.565	1006.526
12-97	15.957	4.787	13.085	3.925	23.19	1.25	308.300	20.463	90.235	.000	197.602	1134.240
12-98	13.564	4.069	11.122	3.337	24.34	1.32	275.153	18.264	75.797	.000	181.092	1240.643
12-99	11.529	3.459	9.454	2.836	25.56	1.38	245.581	16.300	79.588	.000	149.693	1320.601
12- 0	9.800	2.940	8.036	2.411	26.84	1.45	219.184	14.548	83.567	.000	121.069	1379.391
12- 1	8.330	2.499	6.831	2.049	28.18	1.52	195.632	12.985	87.745	.000	94.902	1421.285
12- 2	7.080	2.124	5.806	1.742	29.59	1.60	174.592	11.588	92.132	.000	70.872	1449.727
12- 3	6.019	1.805	4.936	1.480	31.07	1.68	155.851	10.344	96.739	.000	48.768	1467.519
12- 4	5.115	1.535	4.194	1.259	32.62	1.76	139.046	9.229	101.576	.000	28.241	1476.886
12- 5	4.348	1.305	3.565	1.070	34.25	1.85	124.094	8.236	106.655	.000	9.203	1479.661
12- 6												
S TOT	180.315	54.095	147.859	44.357	23.34	1.26	3506.860	232.765	1173.338	.000	2100.757	1479.661
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	1479.661
TOTAL	180.315	54.095	147.859	44.357	23.34	1.26	3506.860	232.765	1173.338	.000	2100.757	1479.661
CUM.	1150.932	722.565										
ULT.	1331.247	776.660										

NET OIL REVENUES (M$)	3450.900		
NET GAS REVENUES (M$)	55.960		
TOTAL REVENUES (M$)	3506.860		

--------PRESENT WORTH PROFILE--------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	2100.757	30.0	926.796
2.0	1941.345	35.0	850.253
5.0	1739.910	40.0	786.666
8.0	1574.261	45.0	733.039
10.0	1479.661	50.0	687.385
12.0	1395.541	60.0	613.623
15.0	1285.764	70.0	556.751
18.0	1192.152	80.0	511.576
20.0	1137.159	90.0	474.823
25.0	1020.444	100.0	444.323

BTAX RATE OF RETURN (PCT)	100.00	PROJECT LIFE (YEARS)	13.083
BTAX PAYOUT YEARS	.00	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	.00	GROSS OIL WELLS	6.000
BTAX NET INCOME/INVEST	.00	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	.00	GROSS WELLS	6.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	7- 1-92	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

TABLE 21

MURPHY BAXTER WATERFLOOD (FOP)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 11

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	1.766	.000	1.448	.000	18.58	1.00	26.897	1.786	17.471	.000	7.640	7.610
12-93	20.371	.000	16.704	.000	19.07	1.03	318.624	21.148	141.050	.000	156.426	155.632
12-94	18.946	.000	15.536	.000	20.03	1.08	311.162	20.654	148.103	.000	142.405	278.136
12-95	17.501	.000	14.351	.000	21.03	1.14	301.800	20.032	147.323	.000	134.445	383.278
12-96	15.512	.000	12.720	.000	22.08	1.19	280.875	18.643	154.689	.000	107.543	459.736
12-97	13.651	.000	11.194	.000	23.19	1.25	259.538	17.227	162.423	.000	79.888	511.369
12-98	12.013	.000	9.851	.000	24.34	1.32	239.820	15.918	132.645	.000	91.257	564.988
12-99	10.571	.000	8.668	.000	25.56	1.38	221.571	14.707	139.278	.000	67.586	601.089
12- 0	9.302	.000	7.628	.000	26.84	1.45	204.736	13.590	146.242	.000	44.904	622.894
12- 1	8.186	.000	6.713	.000	28.18	1.52	189.186	12.557	153.554	.000	23.075	633.080
12- 2	7.204	.000	5.907	.000	29.59	1.60	174.795	11.602	161.232	.000	1.961	633.867
12- 3												
12- 4												
12- 5												
12- 6												
S TOT	135.023	.000	110.720	.000	22.84	.00	2529.004	167.864	1504.010	.000	857.130	633.867
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	633.867
TOTAL	135.023	.000	110.720	.000	22.84	.00	2529.004	167.864	1504.010	.000	857.130	633.867
CUM.	2649.762	2576.000										
ULT.	2784.785	2576.000										

NET OIL REVENUES (M$)	2529.004		
NET GAS REVENUES (M$)	.000		
TOTAL REVENUES (M$)	2529.004		
BTAX RATE OF RETURN (PCT)	100.00	PROJECT LIFE (YEARS)	10.083
BTAX PAYOUT YEARS	.00	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	.00	GROSS OIL WELLS	13.000
BTAX NET INCOME/INVEST	.00	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	.00	GROSS WELLS	13.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	7-1-92	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

--------PRESENT WORTH PROFILE---------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	857.130	30.0	413.044
2.0	801.921	35.0	383.526
5.0	730.187	40.0	353.148
8.0	669.386	45.0	329.830
10.0	633.867	50.0	309.763
12.0	601.768	60.0	277.064
15.0	559.110	70.0	251.611
18.0	522.016	80.0	231.268
20.0	499.904	90.0	214.642
25.0	452.163	100.0	200.809

TABLE 22

JOHNS A & JOHNS B (PDP)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 13

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	.647	.000	.531	.000	18.50	1.00	9.824	.652	6.000	.000	3.172	3.159
12-93	7.470	.000	6.125	.000	18.50	1.00	113.313	7.521	72.000	.000	33.792	35.136
12-94	6.946	.000	5.696	.000	18.50	1.00	105.376	6.995	72.000	.000	26.381	57.830
12-95	6.461	.000	5.298	.000	18.50	1.00	98.013	6.505	72.000	.000	19.508	73.036
12-96	6.008	.000	4.927	.000	18.50	1.00	91.150	6.050	72.000	.000	13.100	82.399
12-97	5.587	.000	4.581	.000	18.50	1.00	84.749	5.625	72.000	.000	7.124	87.003
12-98	5.197	.000	4.262	.000	18.50	1.00	78.847	5.234	57.600	.000	16.013	96.412
12-99	4.833	.000	3.963	.000	18.50	1.00	73.316	4.866	57.600	.000	10.850	102.208
12- 0	4.494	.000	3.685	.000	18.50	1.00	69.173	4.525	57.600	.000	6.048	105.145
12- 1	4.180	.000	3.428	.000	18.50	1.00	63.418	4.209	57.600	.000	1.609	105.855
12- 2												
12- 3												
12- 4												
12- 5												
12- 6												
S TOT	51.823	.000	42.496	.000	18.50	.00	786.179	52.182	596.400	.000	137.597	105.855
REM.	.000	.000	.000	.000	.00	.00	.000	.000	.000	.000	.000	105.855
TOTAL	51.823	.000	42.496	.000	18.50	.00	786.179	52.182	596.400	.000	137.597	105.855
CUM.	1498.566	1885.000										
ULT.	1550.389	1885.000										

NET OIL REVENUES (M$)	786.179		
NET GAS REVENUES (M$)	.000		
TOTAL REVENUES (M$)	786.179		
BTAX RATE OF RETURN (PCT)	100.00	PROJECT LIFE (YEARS)	9.083
BTAX PAYOUT YEARS	.00	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	.00	GROSS OIL WELLS	4.000
BTAX NET INCOME/INVEST	.00	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	.00	GROSS WELLS	4.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	7- 1-92	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

--------PRESENT WORTH PROFILE--------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	137.597	30.0	73.536
2.0	129.698	35.0	69.648
5.0	119.635	40.0	64.491
8.0	110.953	45.0	60.916
10.0	105.855	50.0	57.812
12.0	101.230	60.0	52.691
15.0	95.050	70.0	48.634
18.0	89.642	80.0	45.341
20.0	86.405	90.0	42.606
25.0	79.362	100.0	40.302

TABLE 23

TOTAL PROVED UNDEVELOPED

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 0

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

LEASE	---GROSS PRODUCTION--- OIL, MBBL	GAS, MMCF	----NET PRODUCTION---- OIL, MBBL	GAS, MMCF	---------OPERATIONS, M$--------- NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	10.00 PCT CUM. DISC BTAX, M$
***** FILE: MALMAR										
(4)PENNZOIL-MALJAMAR PHASE I (PUD)	1403.000	882.306	1150.459	723.491	31268.314	2075.436	7330.867	4235.000	17627.011	7634.953
(5)PENNZOIL-MALJAMAR PHASE II (PUD)	3333.000	2079.624	2733.062	1705.293	76084.936	5050.137	16973.487	10715.000	43346.312	17058.974
(10)PENNZOIL-MALJAMAR PHASE III (PUD)	2088.000	1338.990	1712.161	1097.974	47935.639	3181.728	12050.045	8135.000	24568.866	9347.112
(0)SUMMARY: TOTAL PROVED UNDEVELOPED	6824.000	4380.920	5595.682	3526.758	155288.889	10307.301	36354.399	23085.000	85542.189	34041.039

TABLE 24

PENNZOIL-MALJAMAR PHASE I (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 4

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	.000	.000	.000	.000	18.58	1.00	.000	.000	.000	.000	.000	.000
12-93	31.709	30.718	26.001	25.189	19.07	1.03	521.932	34.644	140.802	4235.000	-3888.514	-3672.902
12-94	139.080	123.868	114.046	101.572	20.03	1.08	2394.127	158.910	426.717	.000	1806.500	-2118.856
12-95	171.183	136.412	140.370	111.858	21.03	1.14	3079.117	204.377	381.948	.000	2492.792	-169.374
12-96	140.962	101.316	115.589	83.079	22.08	1.19	2651.524	175.996	401.045	.000	2074.483	1305.485
12-97	114.214	74.953	93.655	61.461	23.19	1.25	2248.458	149.242	421.097	.000	1678.119	2390.088
12-98	98.683	58.593	80.920	48.046	24.34	1.32	2033.198	134.954	442.152	.000	1456.092	3245.635
12-99	91.565	48.644	75.083	39.888	25.56	1.38	1974.380	131.049	464.260	.000	1379.071	3982.265
12- 0	85.415	42.708	70.040	35.021	26.84	1.45	1930.684	128.149	487.473	.000	1315.062	4620.846
12- 1	79.680	39.839	65.338	32.668	28.18	1.52	1891.122	125.523	511.847	.000	1253.752	5174.309
12- 2	74.329	37.165	60.950	30.475	29.59	1.60	1852.324	122.948	537.439	.000	1191.937	5652.650
12- 3	69.337	34.668	56.856	28.428	31.07	1.68	1814.300	120.424	564.310	.000	1129.566	6064.751
12- 4	64.681	32.341	53.038	26.520	32.62	1.76	1777.090	117.954	592.526	.000	1066.610	6418.508
12- 5	60.337	30.169	49.476	24.739	34.25	1.85	1740.520	115.528	428.841	.000	1196.151	6779.163
12- 6	56.286	28.142	46.155	23.076	35.00	1.89	1659.116	110.123	438.496	.000	1110.497	7083.554
S TOT	1277.461	819.536	1047.517	672.020	25.47	1.33	27567.892	1829.821	6240.953	4235.000	15262.118	7083.554
REM.	125.539	62.770	102.942	51.471	35.00	1.89	3700.422	245.615	1089.914	.000	2364.893	7634.953
TOTAL	1403.000	882.306	1150.459	723.491	26.32	1.37	31268.314	2075.436	7330.867	4235.000	17627.011	7634.953
CUM.	.000	.000										
ULT.	1403.000	882.306										

NET OIL REVENUES (M$)	30279.914		
NET GAS REVENUES (M$)	988.400		
TOTAL REVENUES (M$)	31268.314		
BTAX RATE OF RETURN (PCT)	49.16	PROJECT LIFE (YEARS)	16.601
BTAX PAYOUT YEARS	2.92	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	3.20	GROSS OIL WELLS	10.000
BTAX NET INCOME/INVEST	5.16	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	2.91	GROSS WELLS	10.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	5- 1-93	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

--------PRESENT WORTH PROFILE--------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	17627.011	30.0	1692.111
2.0	14723.062	35.0	1080.534
5.0	11388.768	40.0	611.257
8.0	8927.371	45.0	243.684
10.0	7634.953	50.0	-49.190
12.0	6554.345	60.0	-479.393
15.0	5240.701	70.0	-772.276
18.0	4205.954	80.0	-977.902
20.0	3634.384	90.0	-1125.346
25.0	2569.243	100.0	-1232.553

TABLE 25

PENNZOIL-MALJAMAR PHASE II (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 5

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	.000	.000	.000	.000	18.58	1.00	.000	.000	.000	.000	.000	.000
12-93	14.029	13.894	11.504	11.393	19.07	1.03	231.182	15.345	13.321	1570.000	-1367.484	-1260.272
12-94	211.851	195.555	173.718	160.355	20.03	1.08	3652.903	242.462	930.186	9145.000	-6664.745	-7261.566
12-95	378.639	305.824	310.484	250.776	21.03	1.14	6814.505	452.313	976.695	.000	5385.497	-3049.850
12-96	393.457	285.256	322.635	233.910	22.08	1.19	7403.410	491.401	1025.530	.000	5886.479	1135.157
12-97	330.193	222.880	270.758	182.762	23.19	1.25	6506.688	431.881	1076.806	.000	4998.001	4365.467
12-98	265.119	165.700	217.398	135.874	24.34	1.32	5471.289	363.156	1130.647	.000	3977.496	6702.495
12-99	214.814	123.517	176.147	101.284	25.56	1.38	4642.604	308.153	921.888	.000	3412.563	8525.313
12- 0	181.934	95.516	149.186	78.323	26.84	1.45	4117.788	273.318	967.981	.000	2876.489	9922.108
12- 1	159.487	79.744	130.779	65.390	28.18	1.52	3785.229	251.244	1016.381	.000	2517.604	11033.493
12- 2	146.116	73.057	119.815	59.907	29.59	1.60	3641.283	241.690	1067.200	.000	2332.393	11969.515
12- 3	133.901	66.951	109.799	54.900	31.07	1.68	3503.734	232.560	620.741	.000	2650.433	12936.475
12- 4	122.708	61.354	100.621	50.310	32.62	1.76	3371.401	223.777	651.779	.000	2495.845	13764.258
12- 5	112.450	56.225	92.209	46.105	34.25	1.85	3243.824	215.308	684.368	.000	2344.148	14471.050
12- 6	103.051	51.526	84.502	42.251	35.00	1.89	3037.565	201.619	699.776	.000	2136.170	15056.581
S TOT	2767.749	1796.999	2269.555	1473.540	25.32	1.33	59423.405	3944.227	11783.299	10715.000	32980.879	15056.581
REM.	565.251	282.625	463.507	231.753	35.00	1.89	16661.531	1105.910	5190.188	.000	10365.433	17058.974
TOTAL	3333.000	2079.624	2733.062	1705.293	26.96	1.40	76084.936	5050.137	16973.487	10715.000	43346.312	17058.974
CUM.	.000	.000										
ULT.	3333.000	2079.624										

NET OIL REVENUES (M$)	73693.387		
NET GAS REVENUES (M$)	2391.549		
TOTAL REVENUES (M$)	76084.936		

		--------PRESENT WORTH PROFILE--------		
DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	43346.312	30.0	3410.973
2.0	35315.859	35.0	2123.453
5.0	26481.337	40.0	1162.113
8.0	20238.213	45.0	430.716
10.0	17058.974	50.0	-133.935
12.0	14454.719	60.0	-921.967
15.0	11357.109	70.0	-1415.891
18.0	8972.191	80.0	-1729.416
20.0	7676.856	90.0	-1927.577
25.0	5177.366	100.0	-2049.650

BTAX RATE OF RETURN (PCT)	49.81
BTAX PAYOUT YEARS	3.53
BTAX PAYOUT YEARS (DISC)	3.81
BTAX NET INCOME/INVEST	5.05
BTAX NET INCOME/INVEST (DISC)	2.78
INITIAL W.I. FRACTION	1.000000
FINAL W.I. FRACTION	1.000000
PRODUCTION START DATE	11- 1-93
MONTHS IN FIRST LINE	1.00

PROJECT LIFE (YEARS)	22.032
DISCOUNT RATE (PCT)	10.000
GROSS OIL WELLS	28.000
GROSS GAS WELLS	.000
GROSS WELLS	28.000
INITIAL NET OIL FRACTION	.820000
FINAL NET OIL FRACTION	.820000
INITIAL NET GAS FRACTION	.820000
FINAL NET GAS FRACTION	.820000

TABLE 26

PENNZOIL-MALJAMAR PHASE III (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.

DATE: 12/16/92
TIME: 11:03.15
FILE: MALMAR
GET#: 10

RESERVES AND ECONOMICS

WISER OIL CO. - ESCALATED
PENNZOIL-MALJAMAR WFLD PROJECT

AS OF DECEMBER 1, 1992

T. SCOTT HICKMAN & ASSOC
PETROLEUM ENGINEERS

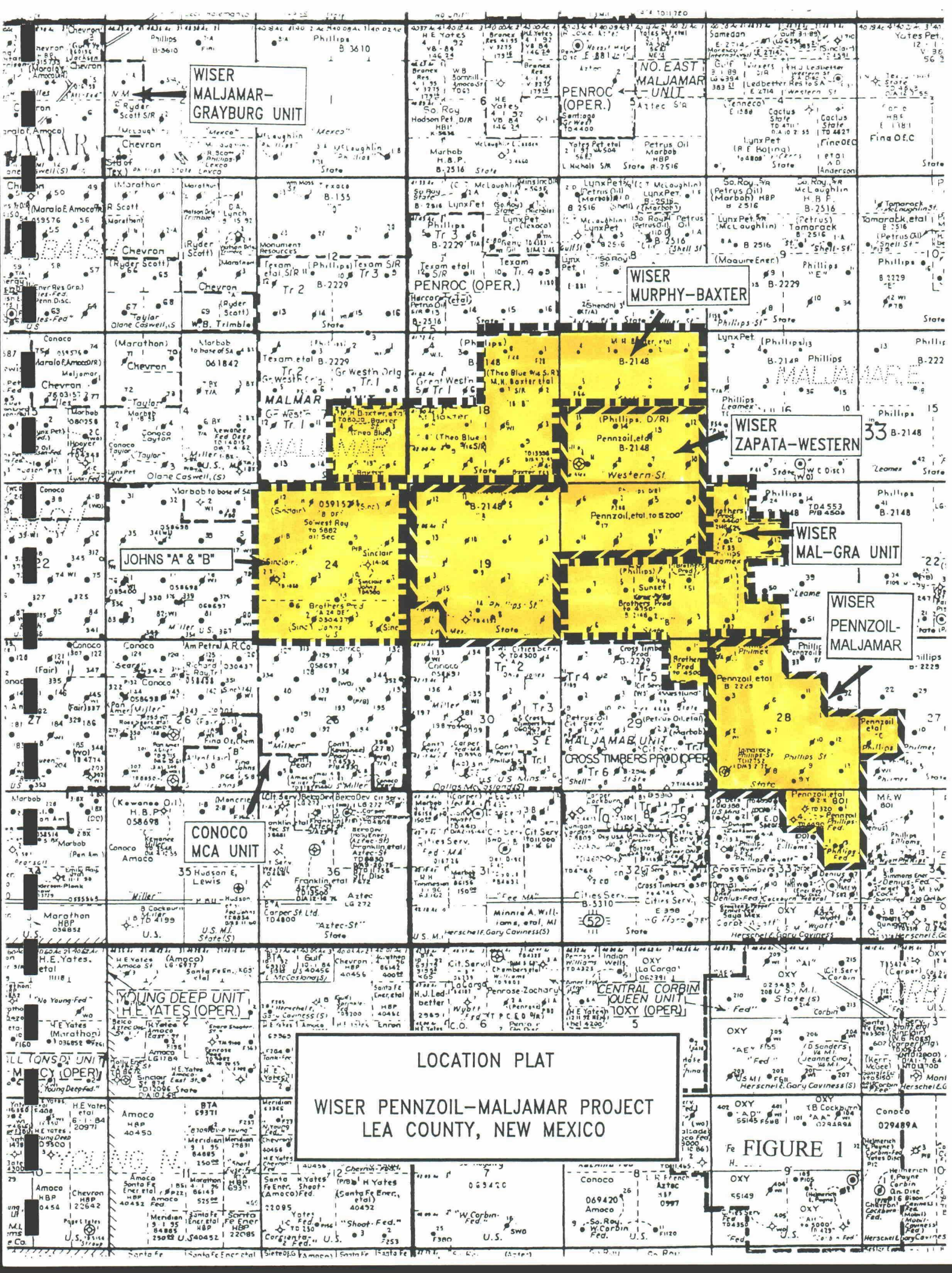
-END-	---GROSS PRODUCTION---		----NET PRODUCTION----		--PRICES---		--------OPERATIONS, M$--------					10.00 PCT
MO-YR	OIL, MBBL	GAS, MMCF	OIL, MBBL	GAS, MMCF	OIL $/B	GAS $/M	NET OPER REVENUES	SEV+ADV+ WF TAXES	NET OPER EXPENSES	CAPITAL COSTS, M$	CASH FLOW BTAX, M$	CUM. DISC BTAX, M$
12-92	.000	.000	.000	.000	18.58	1.00	.000	.000	.000	.000	.000	.000
12-93	.000	.000	.000	.000	19.07	1.03	.000	.000	.000	.000	.000	.000
12-94	27.214	26.534	22.315	21.758	20.03	1.08	470.491	31.228	133.811	8135.000	-7829.548	-6637.895
12-95	177.878	160.090	145.860	131.274	21.03	1.14	3216.642	213.505	752.983	.000	2250.154	-4878.167
12-96	265.857	212.685	218.003	174.402	22.08	1.19	5021.966	333.333	704.694	.000	3983.939	-2045.776
12-97	256.051	185.637	209.962	152.222	23.19	1.25	5058.833	335.780	739.929	.000	3983.124	528.598
12-98	216.575	146.189	177.592	119.875	24.34	1.32	4481.170	297.438	776.925	.000	3406.807	2530.315
12-99	173.561	108.475	142.320	88.950	25.56	1.38	3760.879	249.628	756.080	.000	2755.171	4001.987
12- 0	144.914	83.326	118.829	68.327	26.84	1.45	3288.503	218.274	793.885	.000	2276.344	5107.357
12- 1	123.178	64.668	101.006	53.028	28.18	1.52	2927.334	194.302	833.579	.000	1899.453	5945.862
12- 2	104.903	52.452	86.020	43.011	29.59	1.60	2614.226	173.520	875.258	.000	1565.448	6574.098
12- 3	93.426	46.713	76.609	38.305	31.07	1.68	2444.627	162.262	919.020	.000	1363.345	7071.489
12- 4	84.807	42.403	69.542	34.770	32.62	1.76	2330.069	154.658	609.456	.000	1565.955	7590.861
12- 5	76.983	38.492	63.126	31.563	34.25	1.85	2220.711	147.400	639.929	.000	1433.382	8023.045
12- 6	69.880	34.940	57.302	28.651	35.00	1.89	2059.816	136.720	654.336	.000	1268.760	8370.816
S TOT	1815.227	1202.604	1488.486	986.136	25.90	1.36	39835.267	2648.048	9189.885	8135.000	19922.334	8370.816
REM.	272.773	136.386	223.675	111.838	35.00	1.89	8040.372	533.680	2860.160	.000	4646.532	9347.112
TOTAL	2088.000	1338.990	1712.161	1097.974	27.09	1.41	47935.639	3181.728	12050.045	8135.000	24568.866	9347.112
CUM.	.000	.000										
ULT.	2088.000	1338.990										

NET OIL REVENUES (M$)	46384.474		
NET GAS REVENUES (M$)	1551.165		
TOTAL REVENUES (M$)	47935.639		
BTAX RATE OF RETURN (PCT)	39.30	PROJECT LIFE (YEARS)	19.304
BTAX PAYOUT YEARS	4.48	DISCOUNT RATE (PCT)	10.000
BTAX PAYOUT YEARS (DISC)	4.88	GROSS OIL WELLS	21.000
BTAX NET INCOME/INVEST	4.02	GROSS GAS WELLS	.000
BTAX NET INCOME/INVEST (DISC)	2.36	GROSS WELLS	21.000
INITIAL W.I. FRACTION	1.000000	INITIAL NET OIL FRACTION	.820000
FINAL W.I. FRACTION	1.000000	FINAL NET OIL FRACTION	.820000
PRODUCTION START DATE	7- 1-94	INITIAL NET GAS FRACTION	.820000
MONTHS IN FIRST LINE	1.00	FINAL NET GAS FRACTION	.820000

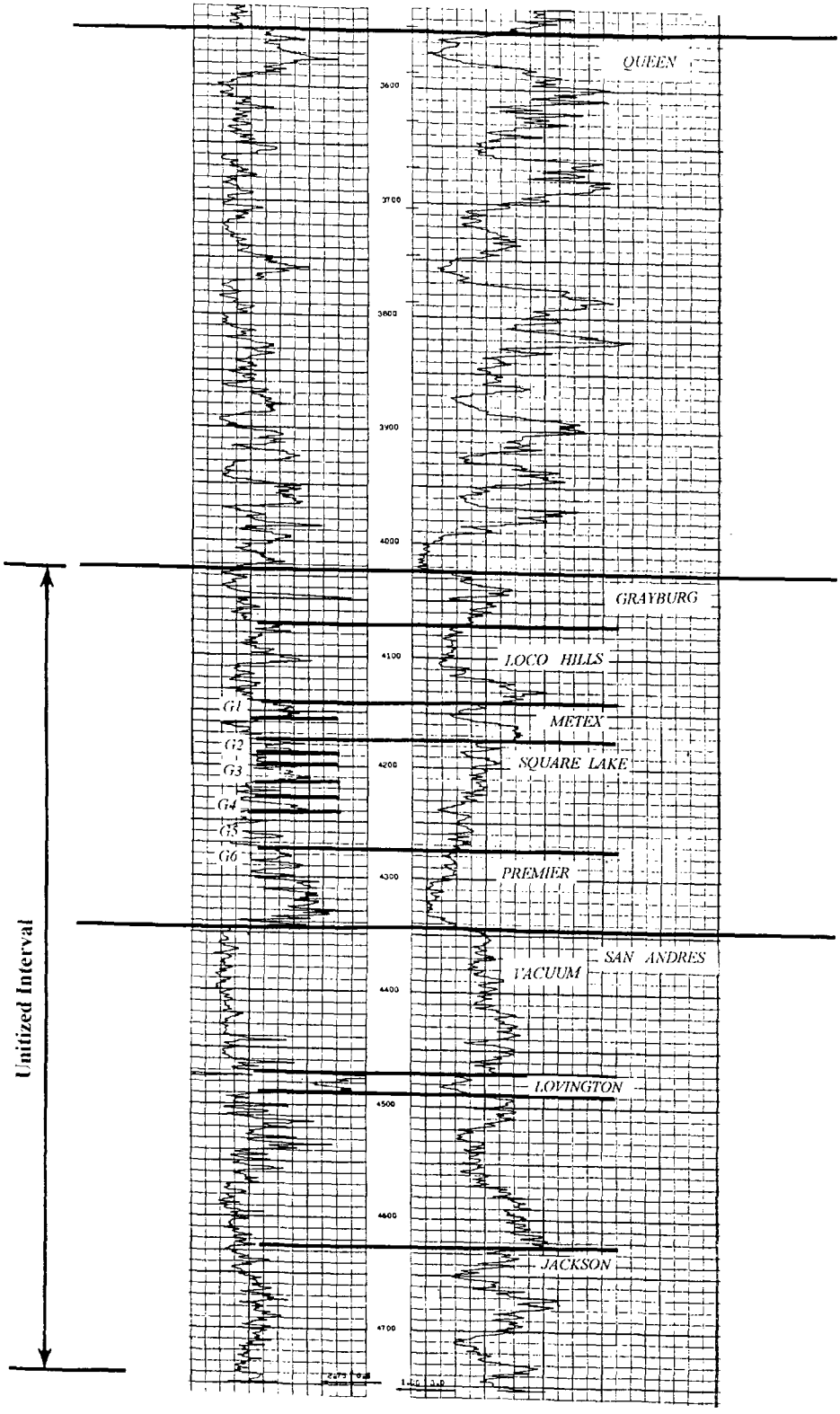
--------PRESENT WORTH PROFILE---------

DISC RATE	PW OF NET BTAX, M$	DISC RATE	PW OF NET BTAX, M$
.0	24568.866	30.0	1171.439
2.0	20038.383	35.0	446.789
5.0	14934.707	40.0	-72.556
8.0	11248.411	45.0	-448.749
10.0	9347.112	50.0	-722.851
12.0	7779.664	60.0	-1068.064
15.0	5907.896	70.0	-1245.008
18.0	4465.962	80.0	-1328.278
20.0	3687.375	90.0	-1354.377
25.0	2198.762	100.0	-1347.117

TABLE 27


WISER MALJAMAR–GRAYBURG UNIT
NO. EAST MALJAMAR UNIT
PENROC (OPER.)
WISER MURPHY–BAXTER
WISER ZAPATA–WESTERN
WISER MAL–GRA UNIT
WISER PENNZOIL–MALJAMAR
JOHNS "A" & "B"
CONOCO MCA UNIT
MALJAMAR UNIT
CROSS TIMBERS PROD OPER
YOUNG DEEP UNIT
H.E. YATES (OPER.)
CENTRAL CORBIN QUEEN UNIT
OXY (OPER.)
LOCATION PLAT
WISER PENNZOIL–MALJAMAR PROJECT
LEA COUNTY, NEW MEXICO
FIGURE 1

Santiago Oil & Gas Co.
Phillips Sprague No. 4
660' FSL & 1980' FEL
Sec 12 TWP 17-S RGE 32-E
Lea County, New Mexico



TYPE LOG

MALJAMAR (GRAYBURG–SAN ANDRES) FIELD
LEA COUNTY, NEW MEXICO

FIGURE 2

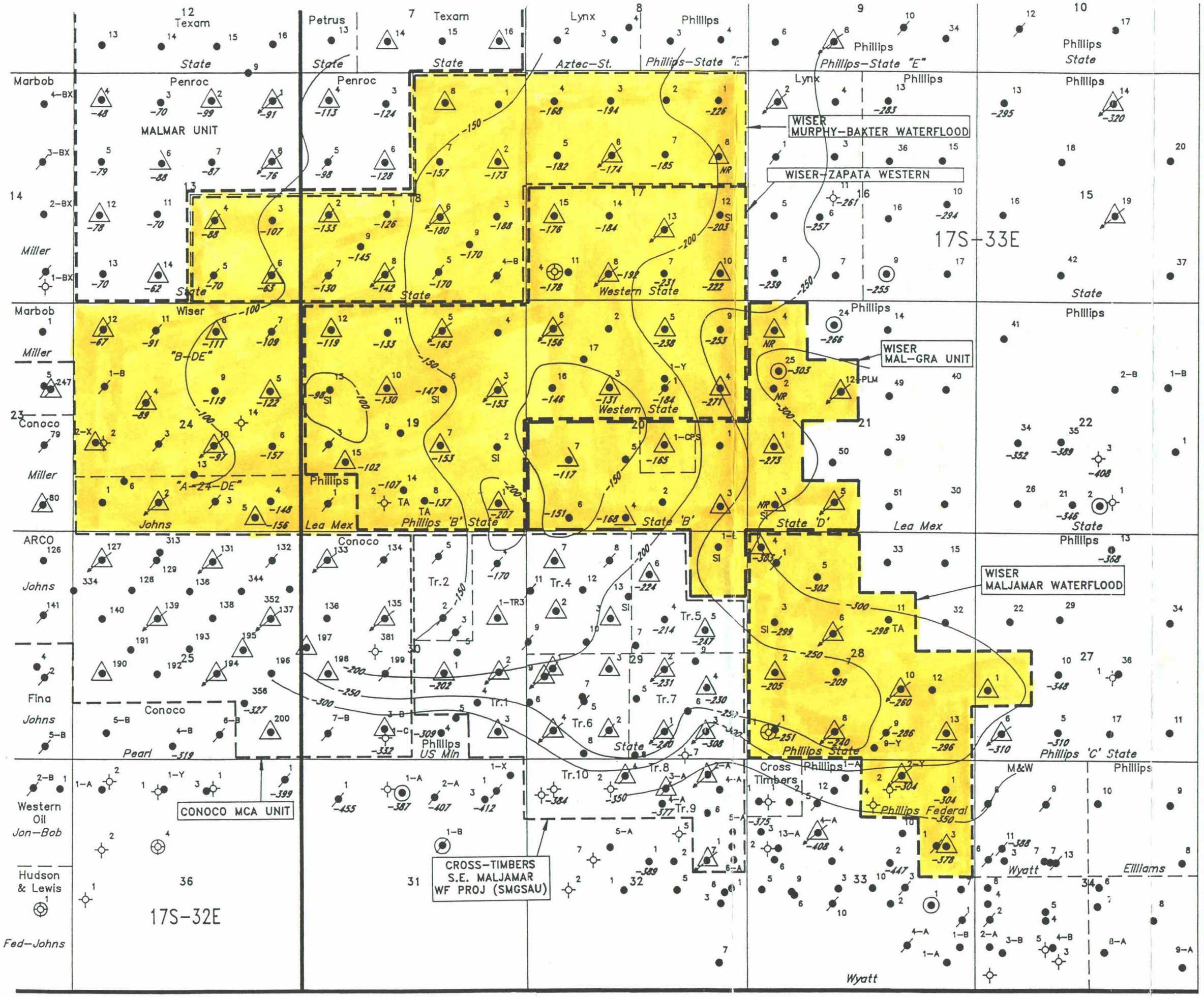

WISER MURPHY-BAXTER WATERFLOOD
WISER-ZAPATA WESTERN
WISER MAL-GRA UNIT
WISER MALJAMAR WATERFLOOD
CONOCO MCA UNIT
CROSS-TIMBERS S.E. MALJAMAR WF PROJ (SMGSAU)
MALMAR UNIT
"B-DE"
"A-24-DE"
17S-33E
17S-32E
STRUCTURE MAP
Top of San Andres
MALJAMAR (GRAYBURG-SAN ANDRES) FIELD
LEA CO., NEW MEXICO
Producer
Proposed Producer Location
Shut-in Injector
Proposed Injector Conversion
Active Injector
Former Injector
0 2000' 4000'
T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

FIGURE 3

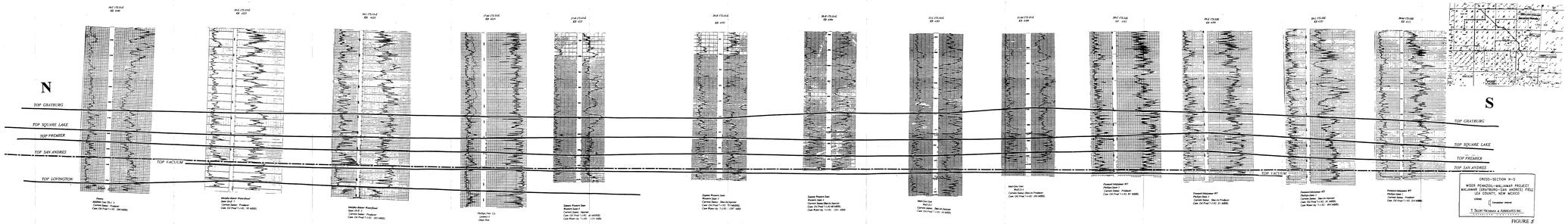

N
S
TOP GRAYBURG
TOP SQUARE LAKE
TOP PREMIER
TOP SAN ANDRES
TOP LOVINGTON
TOP YATES/SEVEN
CROSS-SECTION N-S
WISER PENROSE-HALLMARK PROJECT
MALLMARK (GRAYBURG-SAN ANDRES) FIELD
LEA COUNTY, NEW MEXICO
T. SCOTT HICKMAN & ASSOCIATES INC.

FIGURE 5

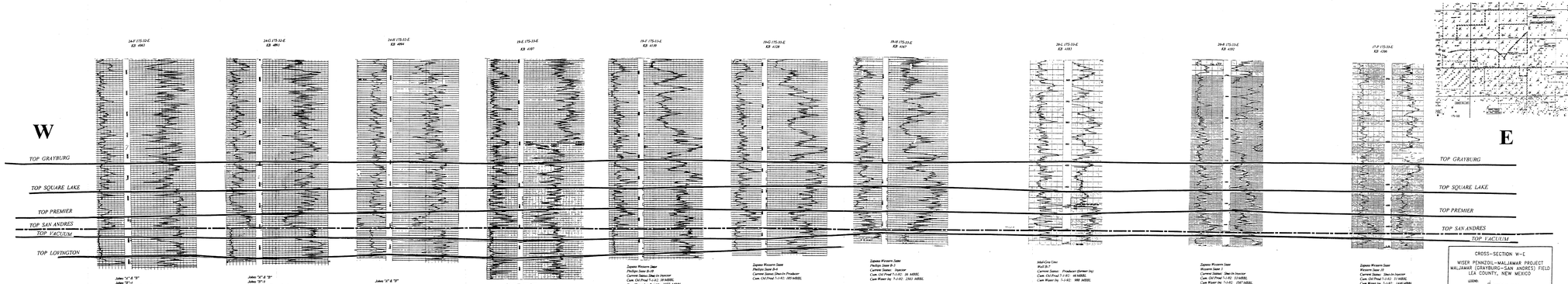

W
E
TOP GRAYBURG
TOP SQUARE LAKE
TOP PREMIER
TOP SAN ANDRES
TOP VACUUM
TOP LOVINGTON
34-E 17S-33-E
KB 4063
Johns "A" & "B"
Johns "B"-1
Current Status: Shut-In Injector
Cum. Oil Prod 7-1-92: 42 MBBBL
Cum Water Inj. 7-1-92: 1,190 MBBL
34-G 17S-33-E
KB 4061
Johns "A" & "B"
Johns "B"-3
Current Status: Shut-In Producer
Cum. Oil Prod 7-1-92: 131 MBBL
34-K 17S-33-E
KB 4064
Johns "A" & "B"
Johns "B"-4
Current Status: Shut-In Injector
Cum. Oil Prod 7-1-92: 51 MMBBL
Cum Water Inj. 7-1-92: 3,414 MBBL
34-L 17S-33-E
KB 4057
Zapata Western State
Phillips State B-15
Current Status: Shut-In Producer
Cum. Oil Prod 7-1-92: 79 MBBL
34-F 17S-33-E
KB 4139
Zapata Western State
Phillips State B-16
Current Status: Shut-In Injector
Cum. Oil Prod 7-1-92: 39 MBBL
Cum Water Inj. 7-1-92: 1,077 MBBL
34-O 17S-33-E
KB 4128
Zapata Western State
Phillips State B-6
Current Status: Shut-In Producer
Cum. Oil Prod 7-1-92: 185 MBBL
34-M 17S-33-E
KB 4147
Zapata Western State
Phillips State B-3
Current Status: Injector
Cum. Oil Prod 7-1-92: 86 MBBL
Cum Water Inj. 7-1-92: 2361 MBBL
34-J 17S-33-E
KB 4181
Mobil-Gre Unit
Well B-7
Current Status: Producer (former Inj)
Cum. Oil Prod 7-1-92: 46 MBBL
Cum Water Inj. 7-1-92: 988 MBBL
34-N 17S-33-E
KB 4192
Zapata Western State
Western State 14
Current Status: Shut-In Injector
Cum. Oil Prod 7-1-92: 51 MBBL
Cum Water Inj. 7-1-92: 1567 MBBL
17-P 17S-33-E
KB 4186
Zapata Western State
Western State 15
Current Status: Shut-In Injector
Cum. Oil Prod 7-1-92: 51 MBBL
Cum Water Inj. 7-1-92: 1448 MBBL
CROSS-SECTION W-E
WISER PENNZOIL-MALJAMAR PROJECT
MALJAMAR (GRAYBURG-SAN ANDRES) FIELD
LEA COUNTY, NEW MEXICO
LEGEND:
Completion Interval
T. SCOTT HICKMAN & ASSOCIATES, INC.

FIGURE 4

NET PAY ISOPACH (PRELIMINARY)

MALJAMAR (GRAYBURG–SAN ANDRES) FIELD
LEA CO., NEW MEXICO

Underlined Footage Signifies Core Data as Basis

- Producer
- Proposed Producer Location
- Shut–in Injector
- Proposed Injector Conversion
- Active Injector
- Former Injector

0 2000' 4000'

T. Scott Hickman & Associates, Inc.
Petroleum Engineers

FIGURE 6

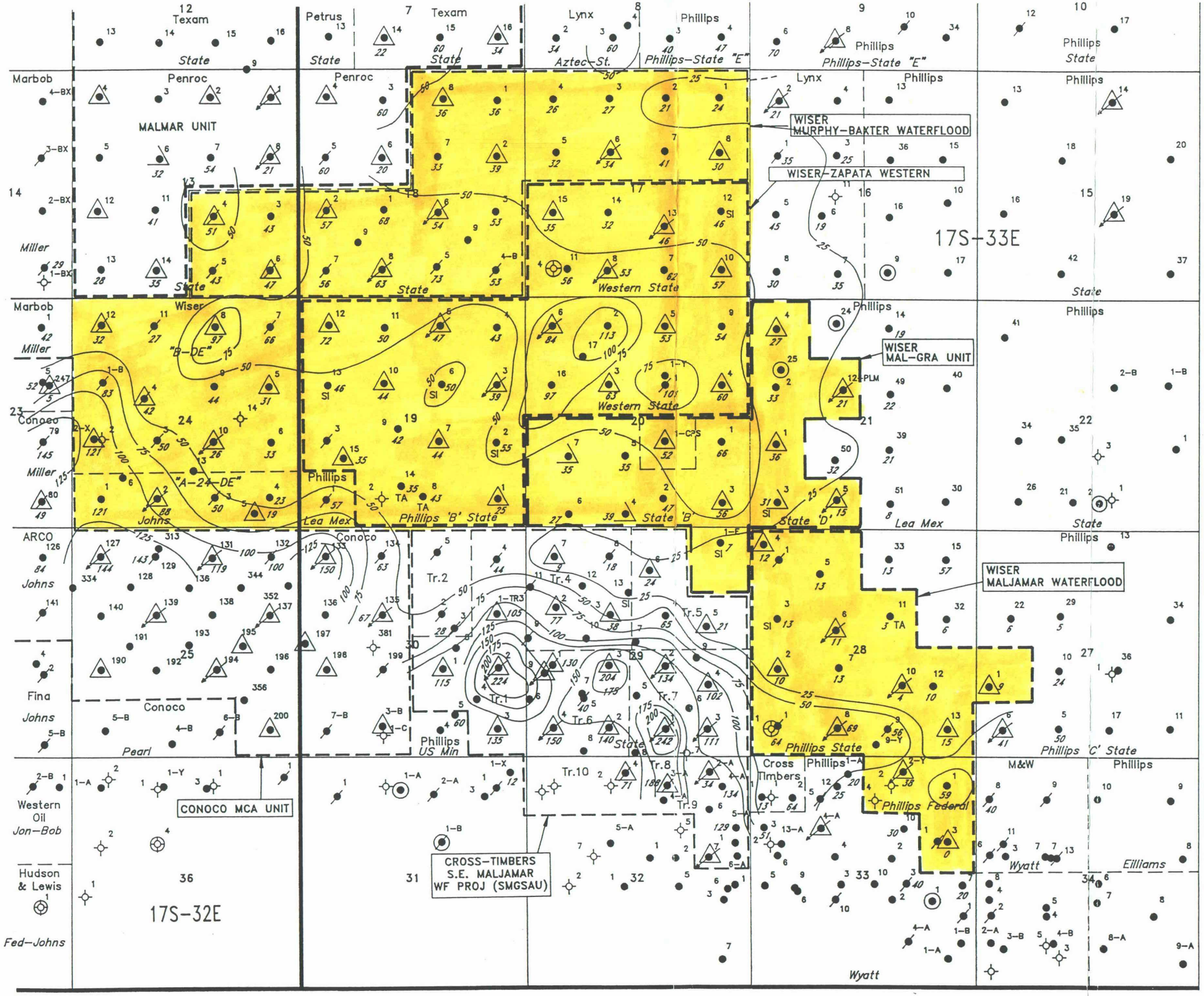
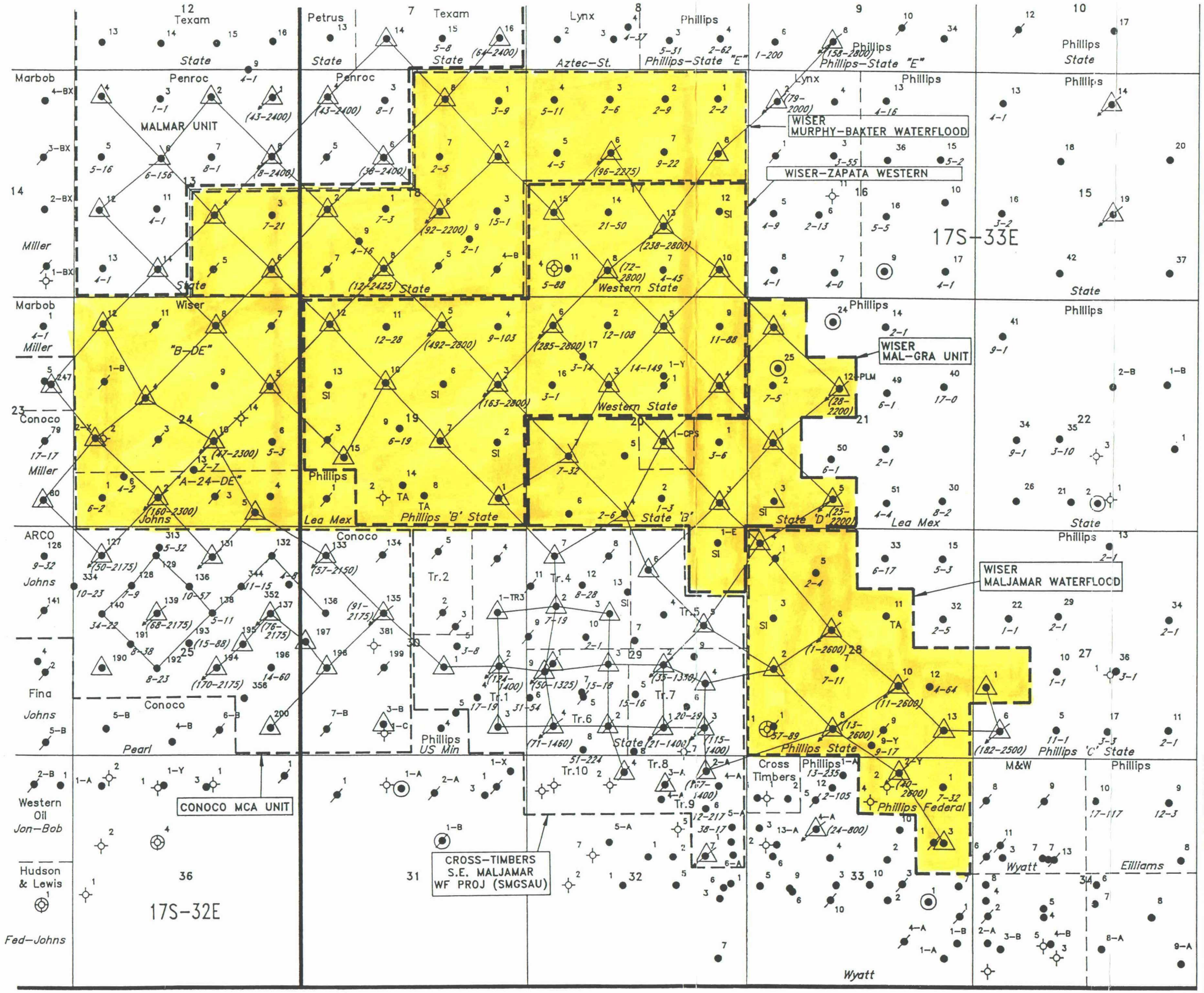

MALMAR UNIT
WISER
MURPHY–BAXTER WATERFLOOD
WISER–ZAPATA WESTERN
WISER
MAL–GRA UNIT
WISER
MALJAMAR WATERFLOOD
CONOCO MCA UNIT
CROSS–TIMBERS
S.E. MALJAMAR
WF PROJ (SMGSAU)
17S–33E
17S–32E
"B–DE"
"A–24–DE"
Phillips–State "E"
Phillips 'B' State
State 'B'
State 'D'
Phillips State
Phillips Federal
Phillips 'C' State
Western State
Phillips US Min
Aztec–St.
Tr.1
Tr.2
Tr.4
Tr.5
Tr.6
Tr.7
Tr.8
Tr.9
Tr.10
ULTIMATE PRIMARY OIL RECOVERY, MBBL/WELL
(Evaluated Wells are Wiser Owned or Offsets)
MALJAMAR (GRAYBURG–SAN ANDRES) FIELD
LEA CO., NEW MEXICO
Producer
Proposed Producer Location
Shut–in Injector
Proposed Injector Conversion
Active Injector
Former Injector
0
2000'
4000'
T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

FIGURE 7



CURRENT WELL STATUS: JULY 1, 1992
(Evaluated Wells Are Wiser Owned or Offsets)

MALJAMAR (GRAYBURG-SAN ANDRES) FIELD
LEA CO., NEW MEXICO

- Producer 10-10 BOPD-BWPD
- Proposed Producer Location
- Shut-in Injector
- Proposed Injector Conversion
- Active Injector (200-2600) BWPD-WHP
- Former Injector

0 2000' 4000'

T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

FIGURE 8

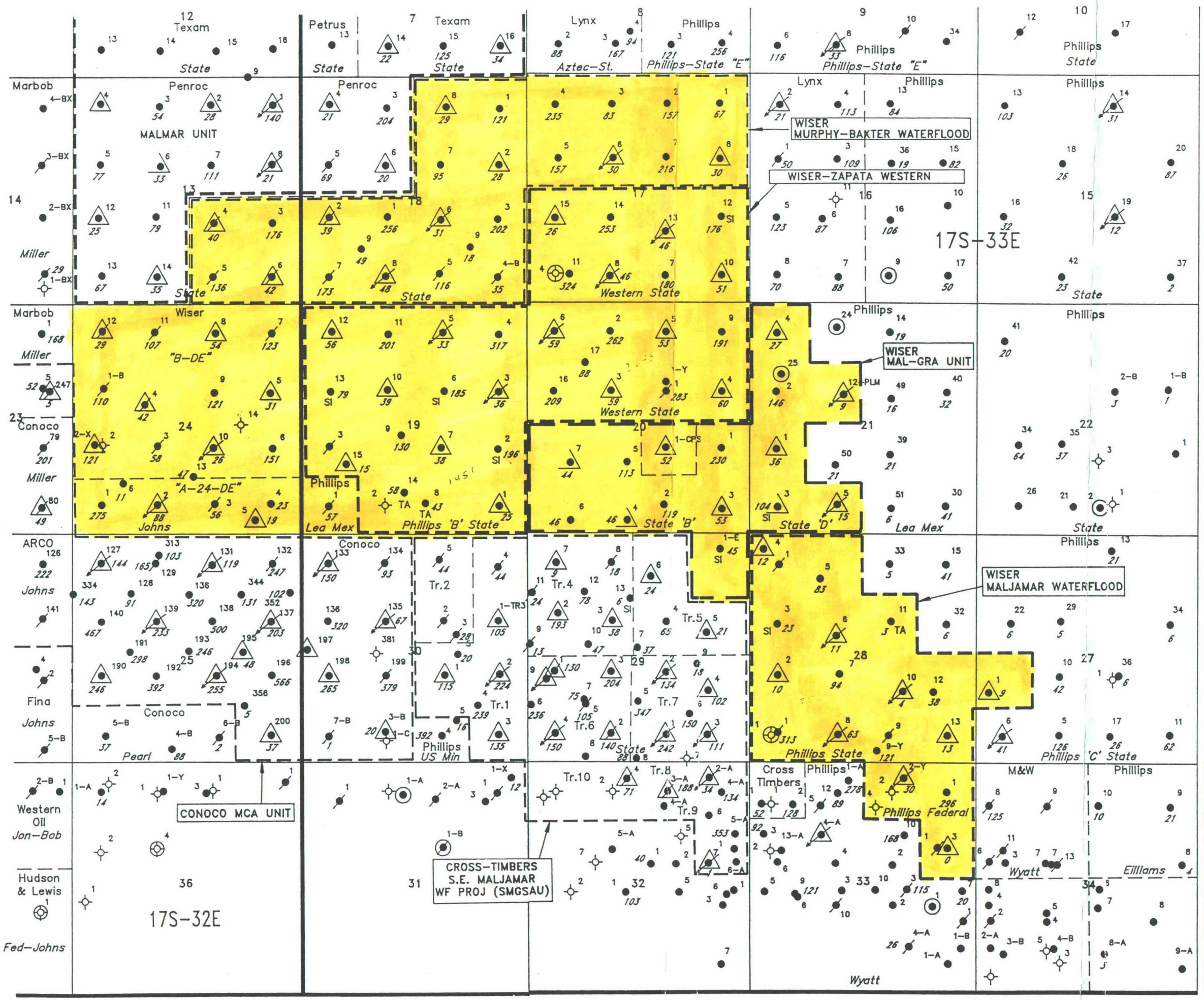

MALMAR UNIT
WISER MURPHY-BAXTER WATERFLOOD
WISER-ZAPATA WESTERN
WISER MAL-GRA UNIT
WISER MALJAMAR WATERFLOOD
"B-DE"
"A-24-DE"
CONOCO MCA UNIT
CROSS-TIMBERS S.E. MALJAMAR WF PROJ (SMGSAU)
17S-33E
17S-32E
CUMULATIVE OIL PRODUCTION @ 1-1-92, MBBL
MALJAMAR (GRAYBURG-SAN ANDRES) FIELD
LEA CO., NEW MEXICO
Producer
Proposed Producer Location
Shut-in Injector
Proposed Injector Conversion
Active Injector
Former Injector
0
2000'
4000'
T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

FIGURE 9

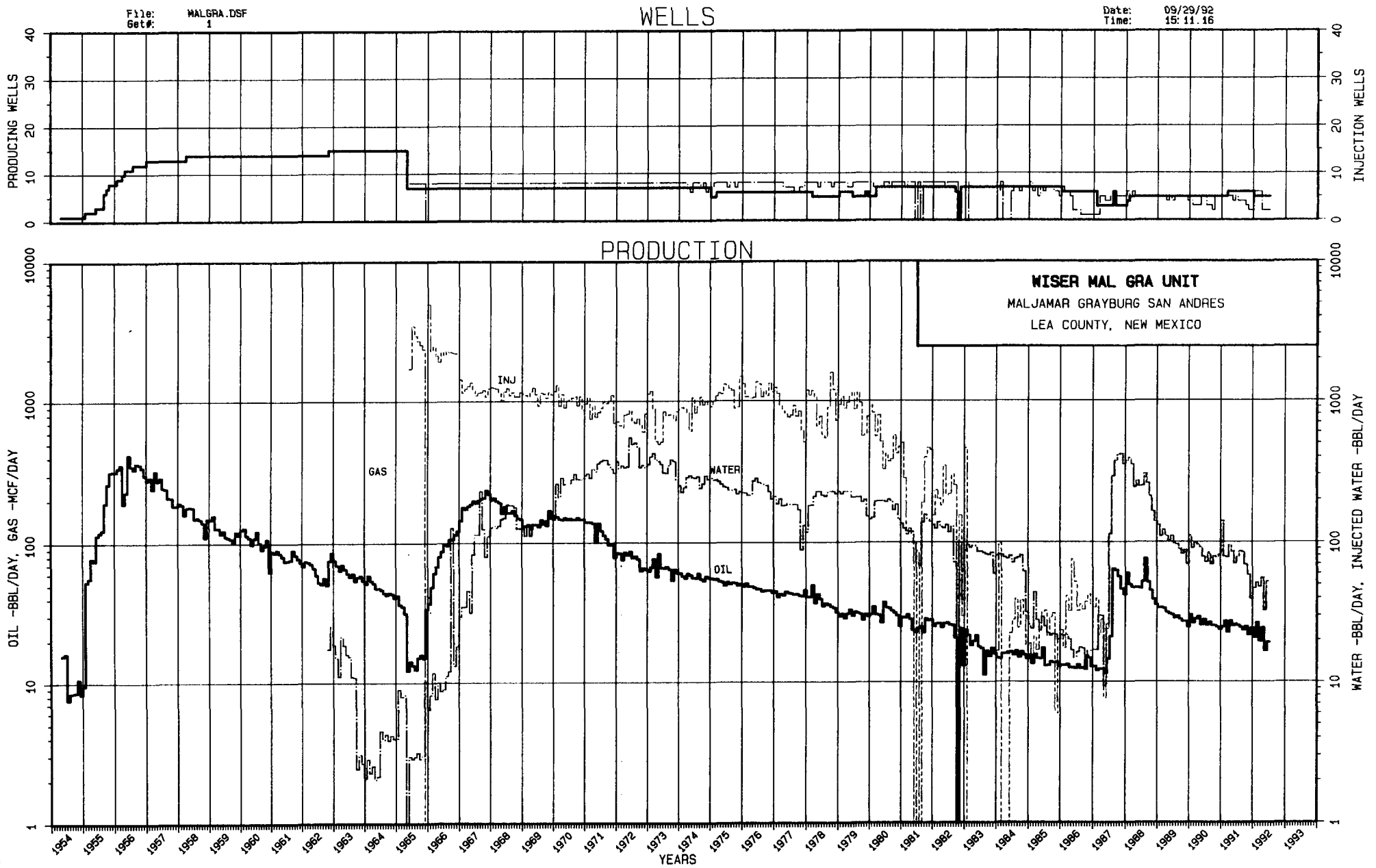

File: MALGRA.DSF
Get#: 1
WELLS
Date: 09/29/92
Time: 15:11.16
PRODUCING WELLS
INJECTION WELLS
PRODUCTION
WISER MAL GRA UNIT
MALJAMAR GRAYBURG SAN ANDRES
LEA COUNTY, NEW MEXICO
INJ
GAS
WATER
OIL
OIL -BBL/DAY, GAS -MCF/DAY
WATER -BBL/DAY, INJECTED WATER -BBL/DAY
YEARS

FIGURE 10

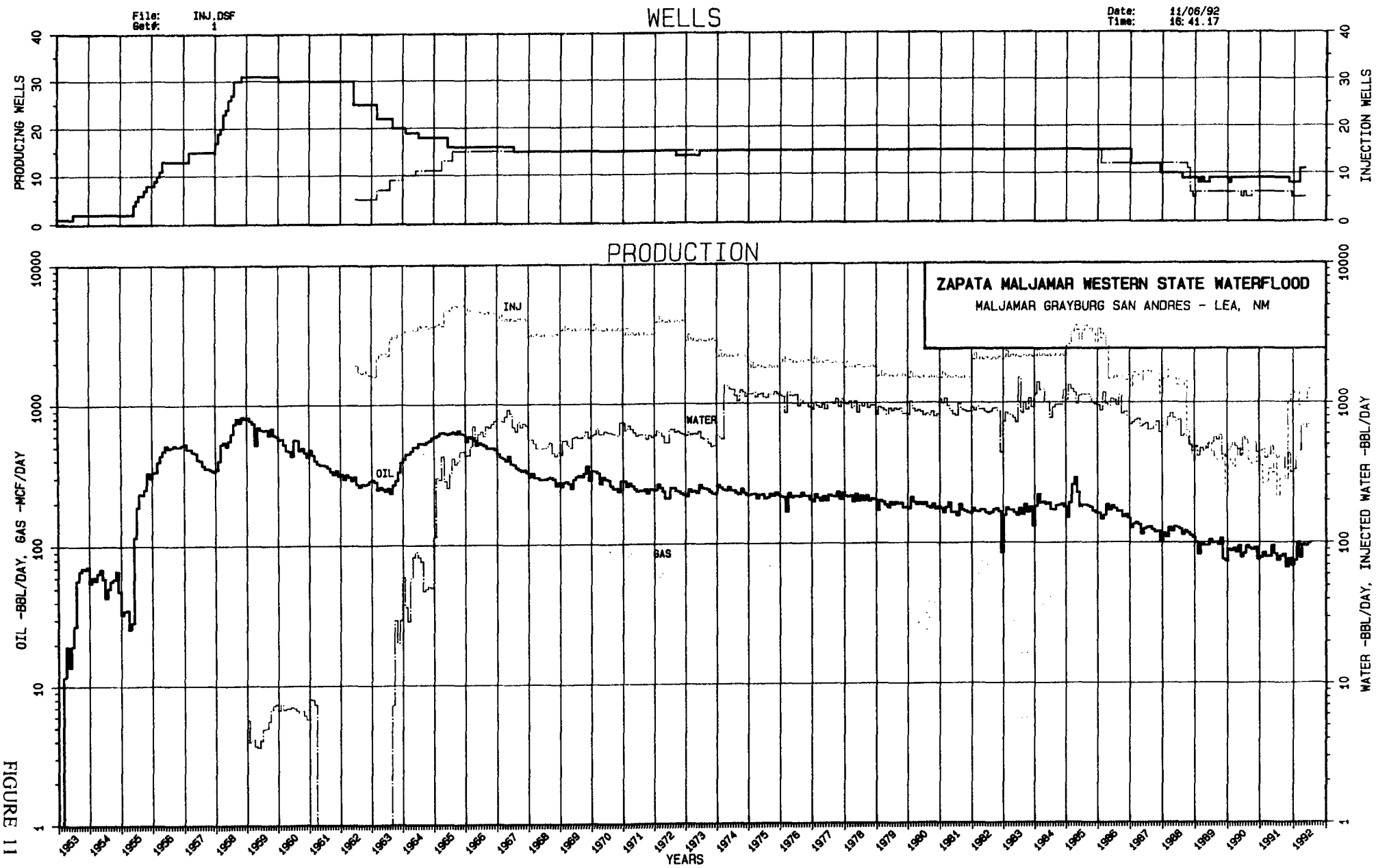

File: INJ.DSF
Get#: 1
WELLS
Date: 11/06/92
Time: 16:41.17
PRODUCING WELLS
INJECTION WELLS
PRODUCTION
ZAPATA MALJAMAR WESTERN STATE WATERFLOOD
MALJAMAR GRAYBURG SAN ANDRES - LEA, NM
INJ
WATER
OIL
GAS
OIL -BBL/DAY, GAS -MCF/DAY
WATER -BBL/DAY, INJECTED WATER -BBL/DAY
YEARS

FIGURE 11

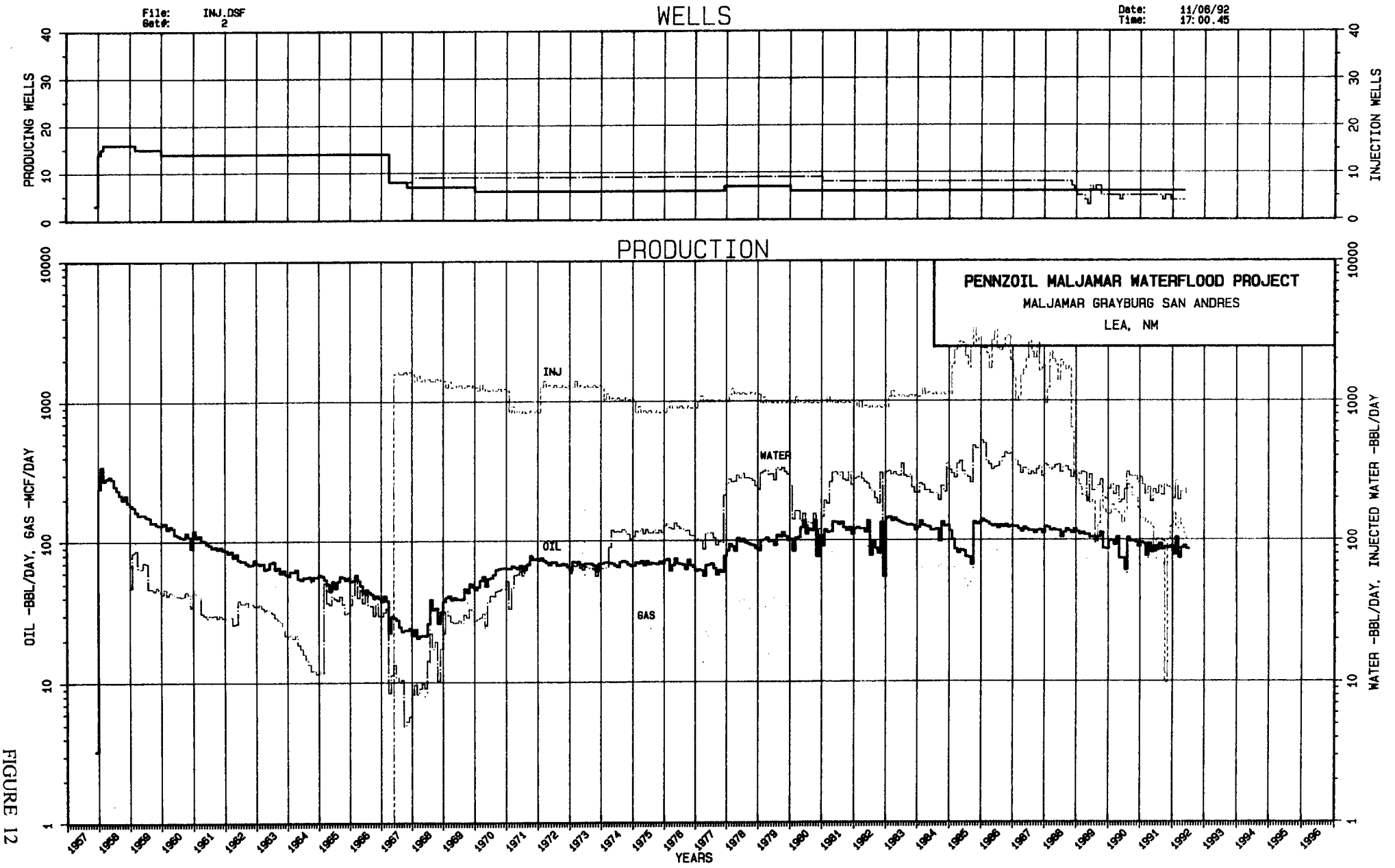

File: INJ.DSF
Get#: 2
WELLS
Date: 11/06/92
Time: 17:00.45
PRODUCING WELLS
INJECTION WELLS
PRODUCTION
PENNZOIL MALJAMAR WATERFLOOD PROJECT
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
INJ
WATER
OIL
GAS
OIL -BBL/DAY, GAS -MCF/DAY
WATER -BBL/DAY, INJECTED WATER -BBL/DAY
YEARS

FIGURE 12

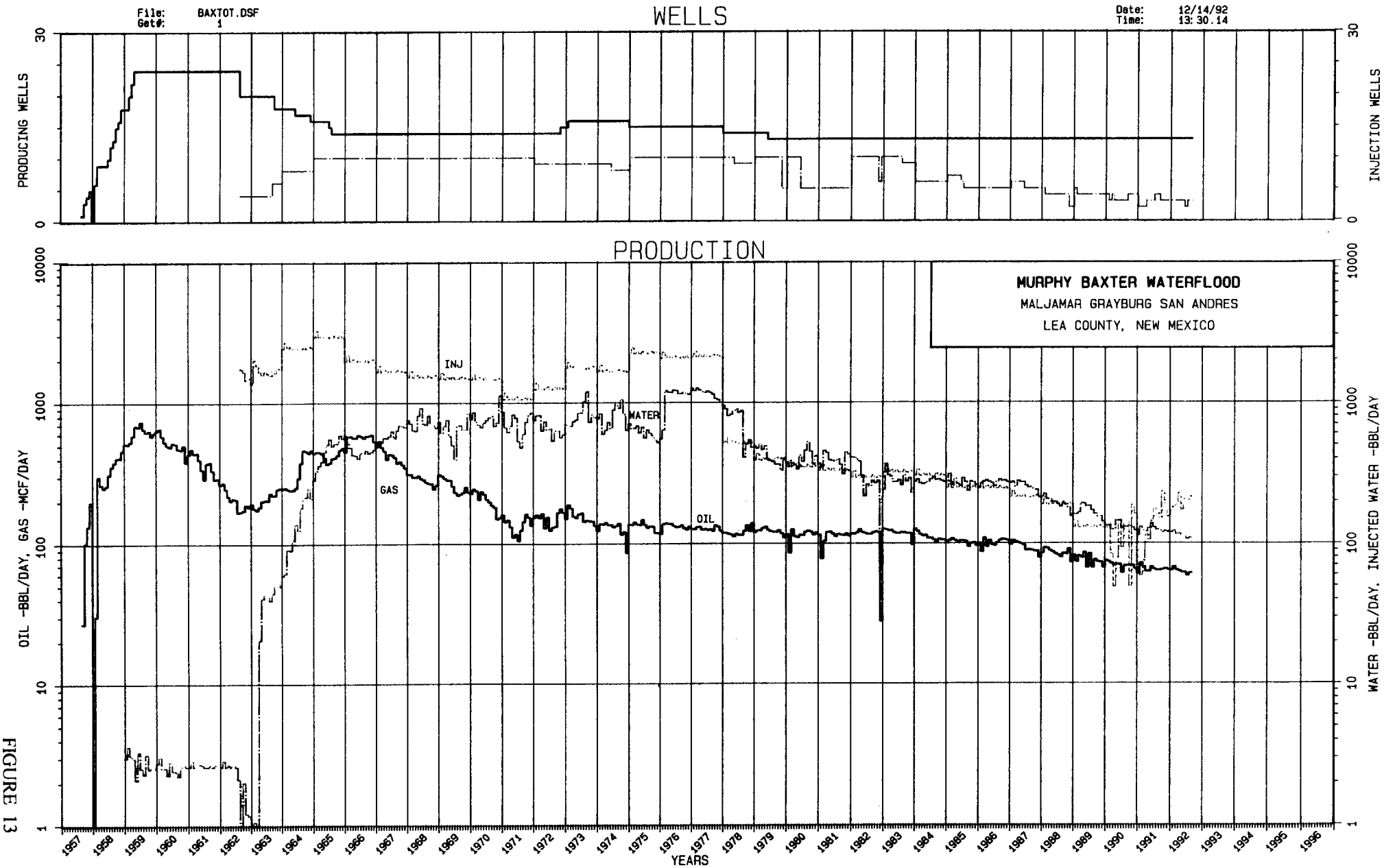

File: BAXTOT.DSF
Get#: 1
WELLS
Date: 12/14/92
Time: 13:30.14
PRODUCING WELLS
INJECTION WELLS
PRODUCTION
MURPHY BAXTER WATERFLOOD
MALJAMAR GRAYBURG SAN ANDRES
LEA COUNTY, NEW MEXICO
INJ
WATER
GAS
OIL
OIL -BBL/DAY, GAS -MCF/DAY
WATER -BBL/DAY, INJECTED WATER -BBL/DAY
YEARS

FIGURE 13

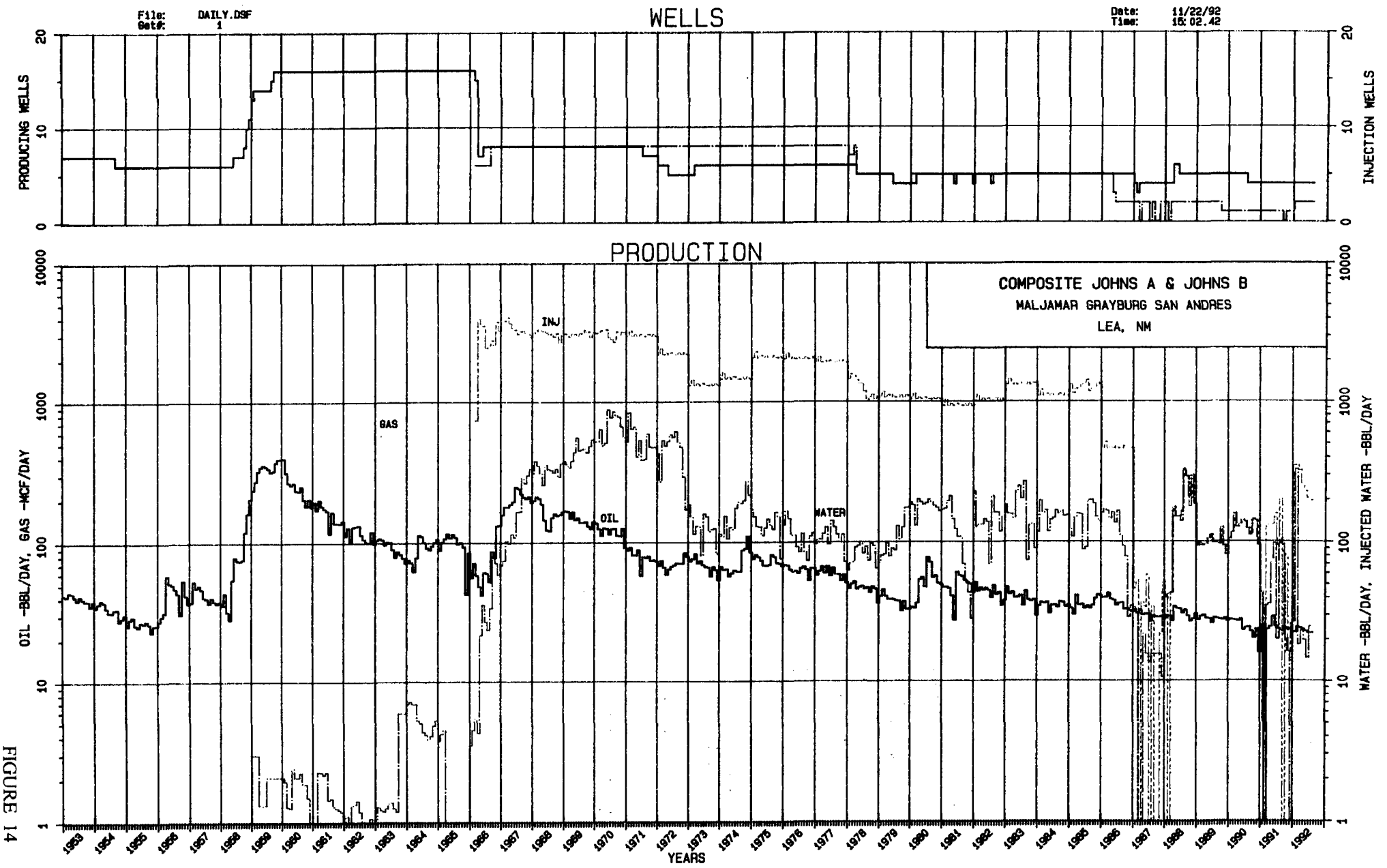
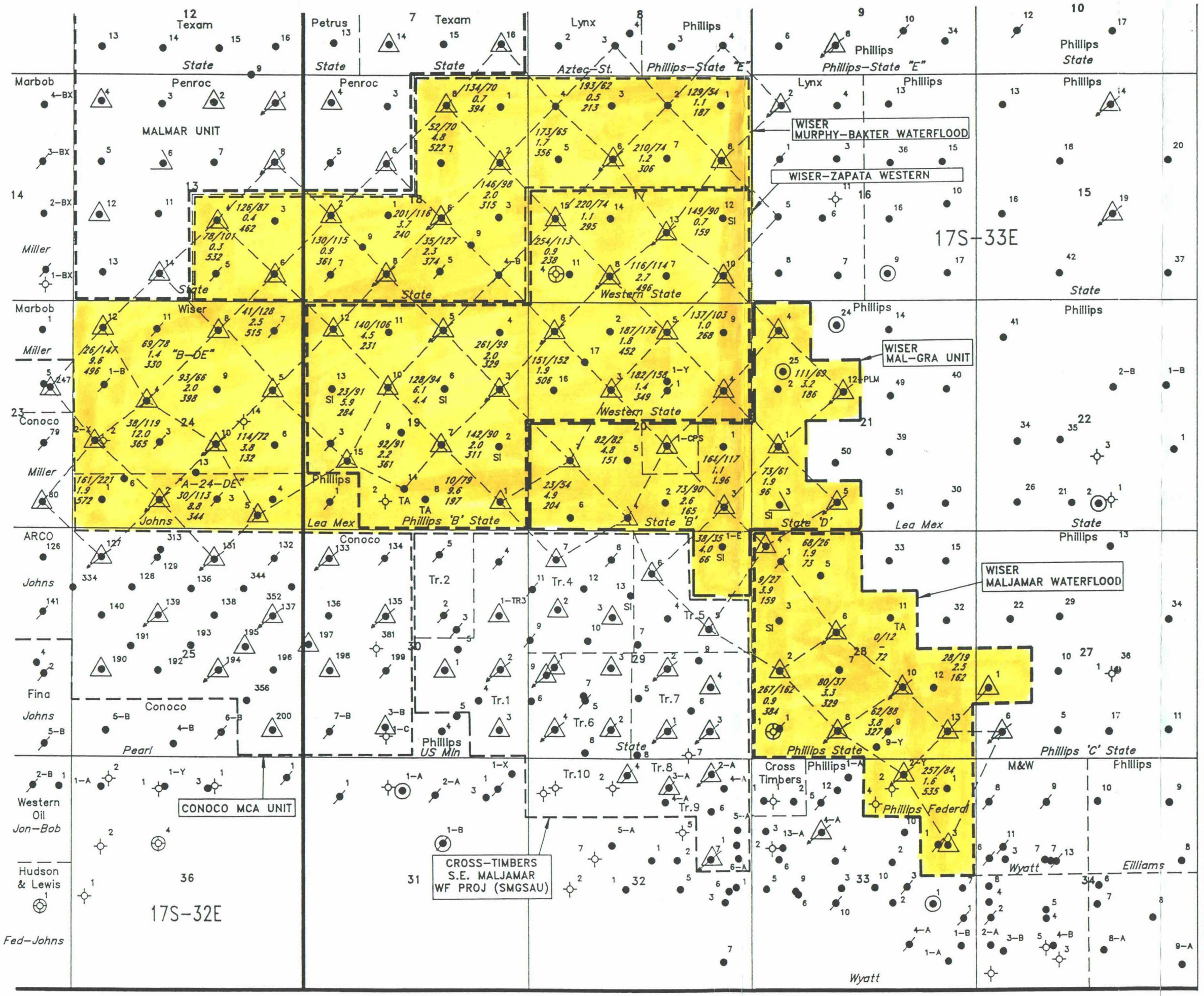

File: DAILY.DSF
Get#: 1
WELLS
Date: 11/22/92
Time: 15:02.42
PRODUCING WELLS
INJECTION WELLS
PRODUCTION
COMPOSITE JOHNS A & JOHNS B
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
INJ
GAS
OIL
WATER
OIL -BBL/DAY, GAS -MCF/DAY
WATER -BBL/DAY, INJECTED WATER -BBL/DAY
YEARS

FIGURE 14



Legend:

261/99	Cumulative Secondary Oil @ 7–1–92/ Ultimate Primary, MBBL/MBBL
1.95	Injection/Withdrawl Ratio
311	Mobile Oil Remaining @ 7–1–92, MBBL

WATERFLOOD PERFORMANCE MAP
80–Ac. 5–Spot Patterns
Wiser Pennzoil–Maljamar Project

MALJAMAR (GRAYBURG–SAN ANDRES) FIELD
LEA CO., NEW MEXICO

- Producer
- Proposed Producer Location
- Shut–in Injector
- Proposed Injector Conversion
- Active Injector
- Former Injector

0 2000' 4000'

T. Scott Hickman & Associates, Inc.
Petroleum Engineers

FIGURE 15

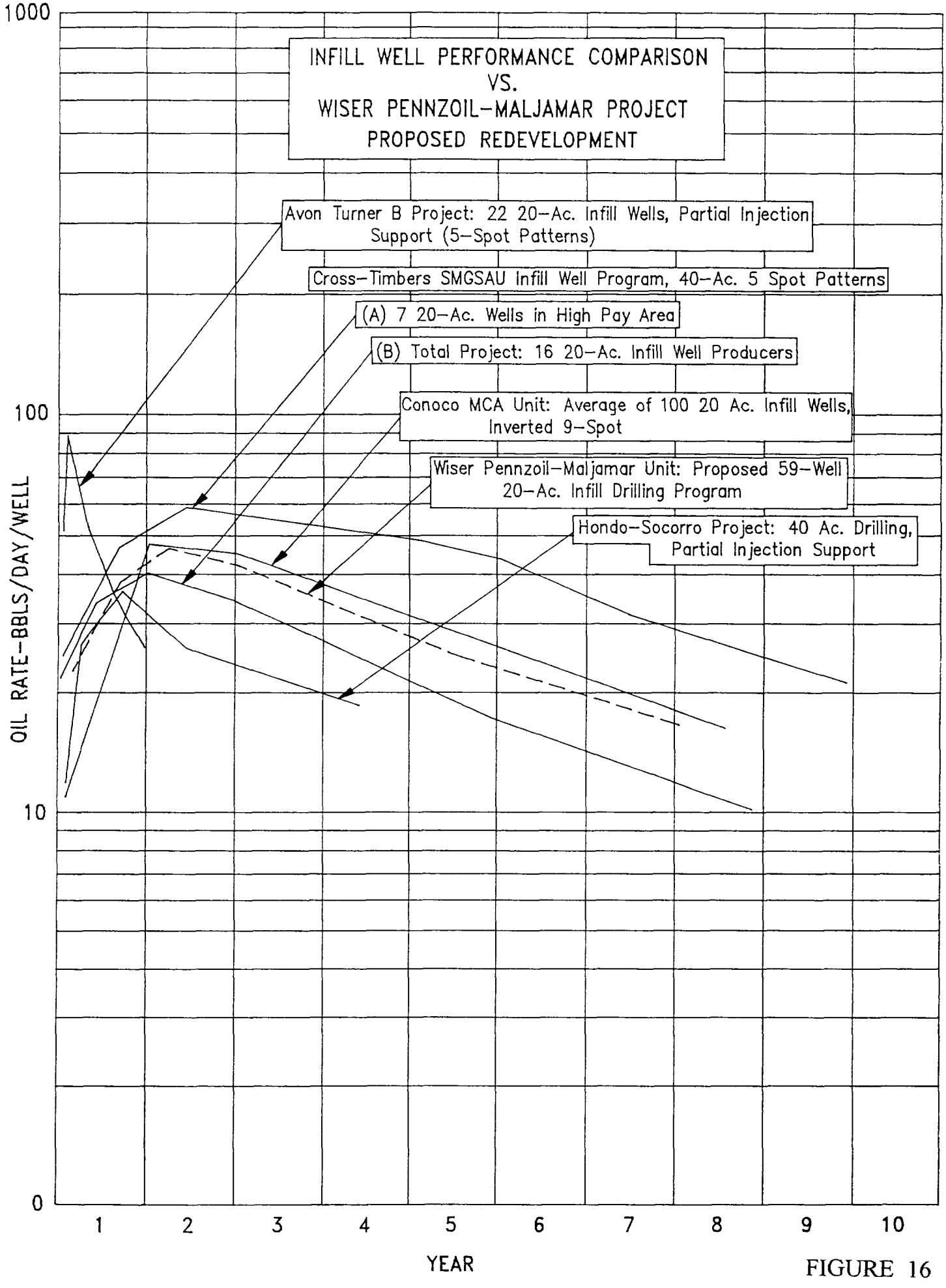

INFILL WELL PERFORMANCE COMPARISON
VS.
WISER PENNZOIL-MALJAMAR PROJECT
PROPOSED REDEVELOPMENT
Avon Turner B Project: 22 20-Ac. Infill Wells, Partial Injection Support (5-Spot Patterns)
Cross-Timbers SMGSAU Infill Well Program, 40-Ac. 5 Spot Patterns
(A) 7 20-Ac. Wells in High Pay Area
(B) Total Project: 16 20-Ac. Infill Well Producers
Conoco MCA Unit: Average of 100 20 Ac. Infill Wells, Inverted 9-Spot
Wiser Pennzoil-Maljamar Unit: Proposed 59-Well 20-Ac. Infill Drilling Program
Hondo-Socorro Project: 40 Ac. Drilling, Partial Injection Support
OIL RATE-BBLS/DAY/WELL
1000
100
10
0
1
2
3
4
5
6
7
8
9
10
YEAR

FIGURE 16

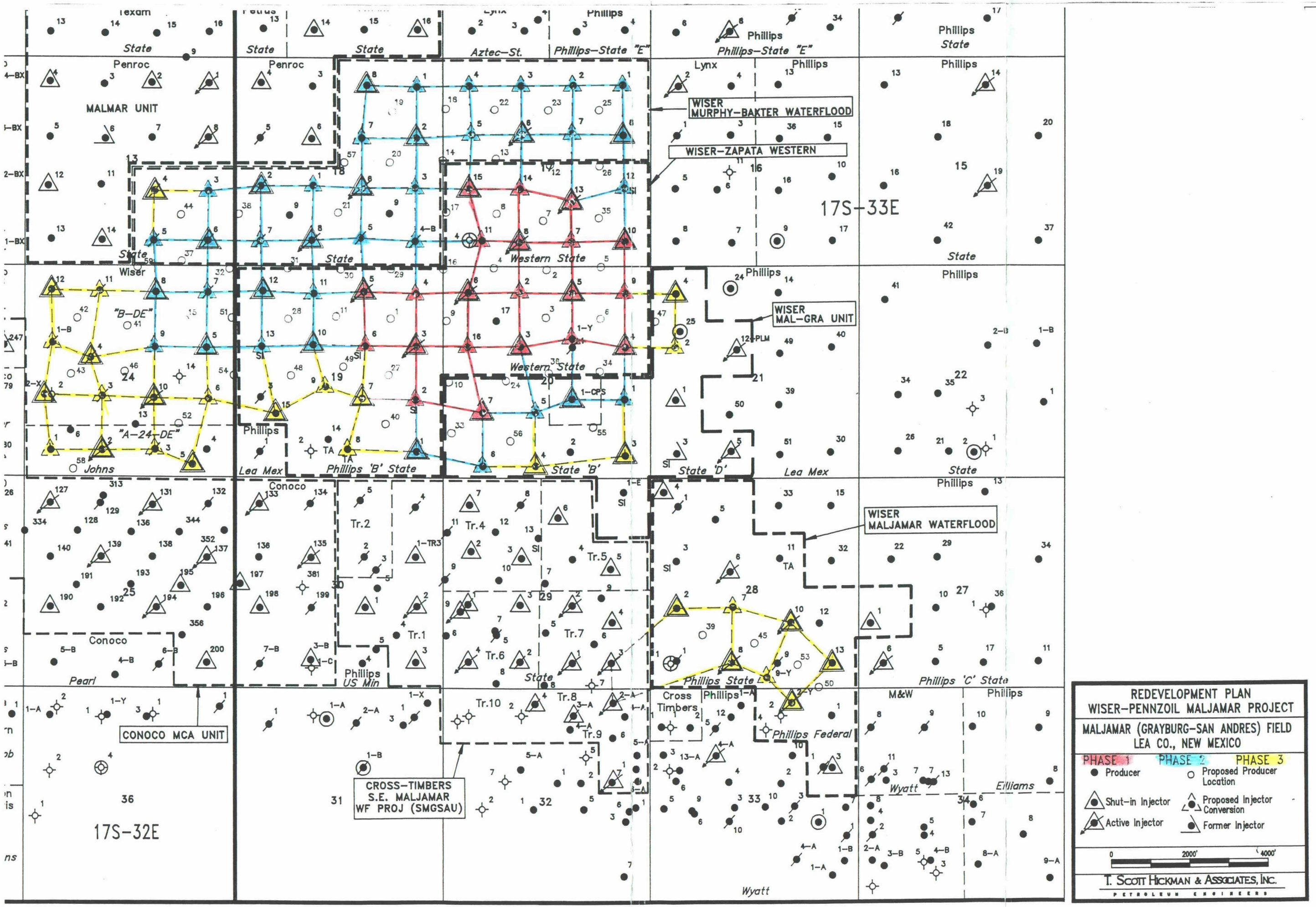

WISER
MURPHY–BAXTER WATERFLOOD
WISER–ZAPATA WESTERN
WISER
MAL–GRA UNIT
WISER
MALJAMAR WATERFLOOD
MALMAR UNIT
"B–DE"
"A–24–DE"
CONOCO MCA UNIT
CROSS–TIMBERS
S.E. MALJAMAR
WF PROJ (SMGSAU)
17S–33E
17S–32E
Texam
Penroc
Lynx
Aztec–St.
Phillips–State "E"
Phillips
Wiser
Conoco
Pearl
Johns
Lea Mex
Phillips 'B' State
State 'B'
State 'D'
Western State
Phillips State
Phillips Federal
Phillips 'C' State
Cross Timbers
M&W
Wyatt
Williams
Tr.1
Tr.2
Tr.4
Tr.5
Tr.6
Tr.7
Tr.8
Tr.9
Tr.10
REDEVELOPMENT PLAN
WISER–PENNZOIL MALJAMAR PROJECT
MALJAMAR (GRAYBURG–SAN ANDRES) FIELD
LEA CO., NEW MEXICO
PHASE 1
PHASE 2
PHASE 3
Producer
Proposed Producer Location
Shut–in Injector
Proposed Injector Conversion
Active Injector
Former Injector
0
2000'
4000'
T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

FIGURE 17

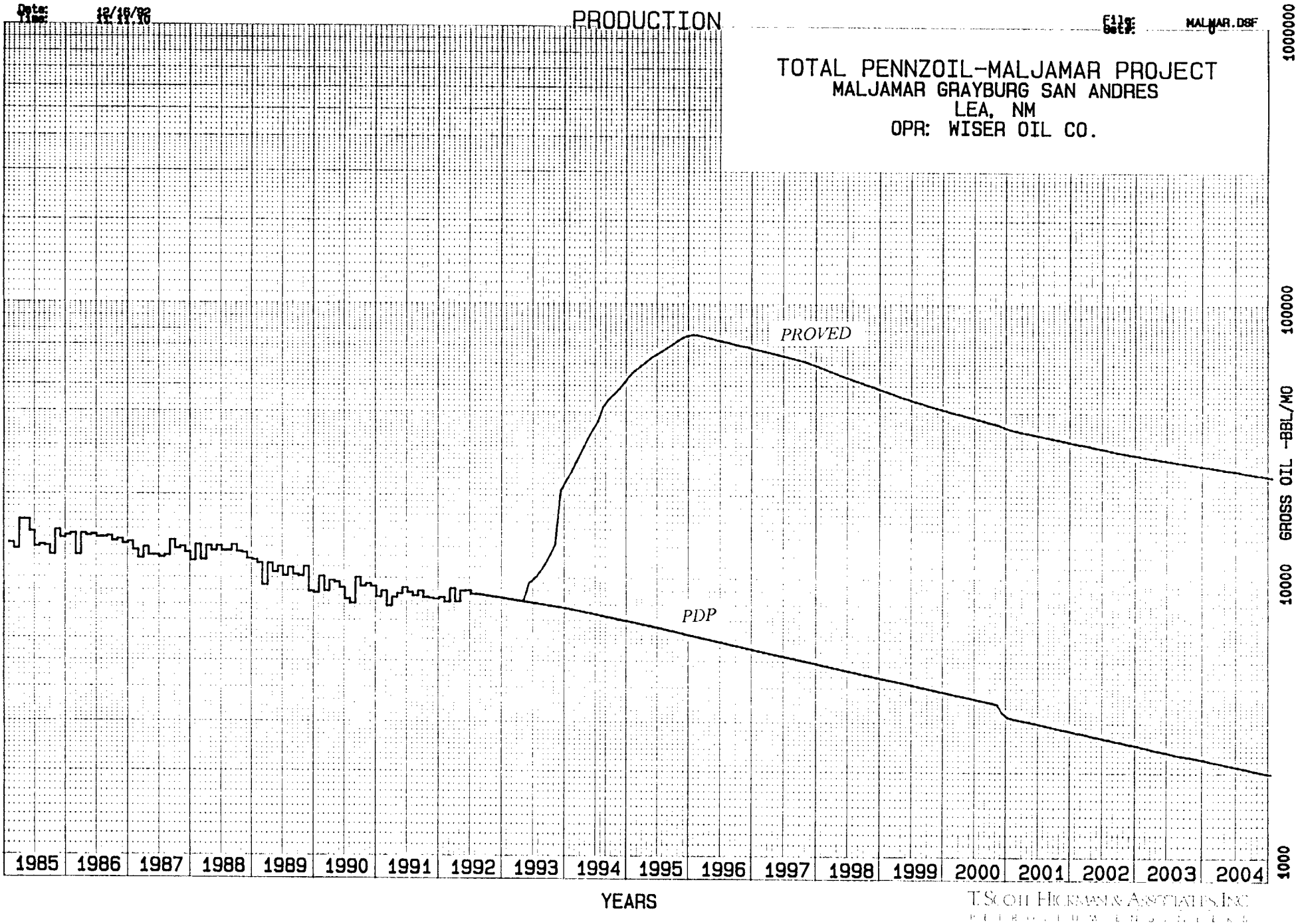

Date: 12/16/92
Time: 11:11:10
PRODUCTION
File: MALMAR.D8F
Set: 0
TOTAL PENNZOIL-MALJAMAR PROJECT
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.
PROVED
PDP
GROSS OIL -BBL/MO
1000000
100000
10000
1000
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
YEARS
T. SCOTT HICKMAN & ASSOCIATES, INC.

FIGURE 18

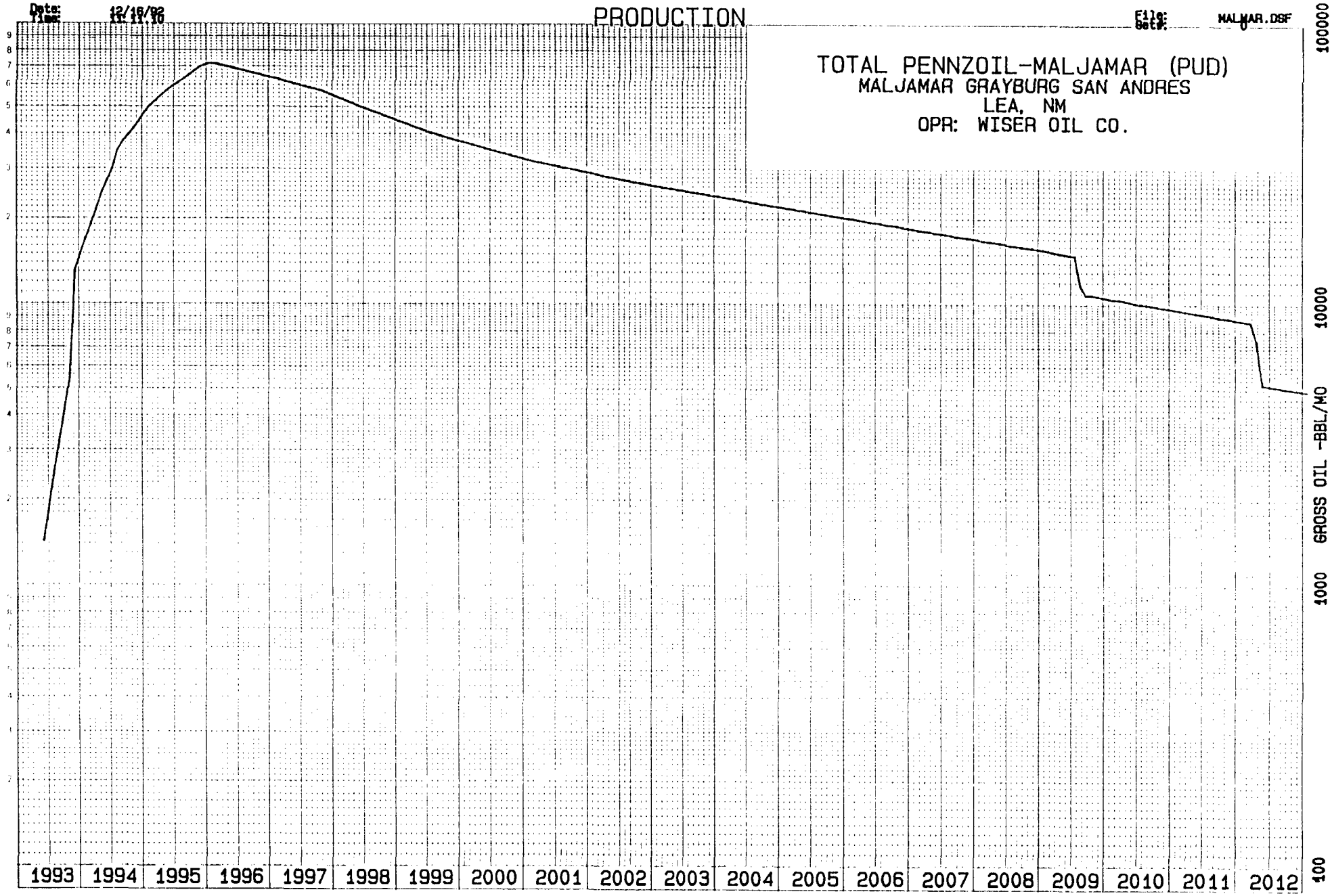

Date: 12/16/92
Time: 11:11:16
PRODUCTION
File: MALMAR.DBF
Set: 0
TOTAL PENNZOIL-MALJAMAR (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.
100000
10000
1000
100
GROSS OIL -BBL/MO
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEARS
T. Scott Hickman & Associates Inc
Petroleum Engineers

FIGURE 19

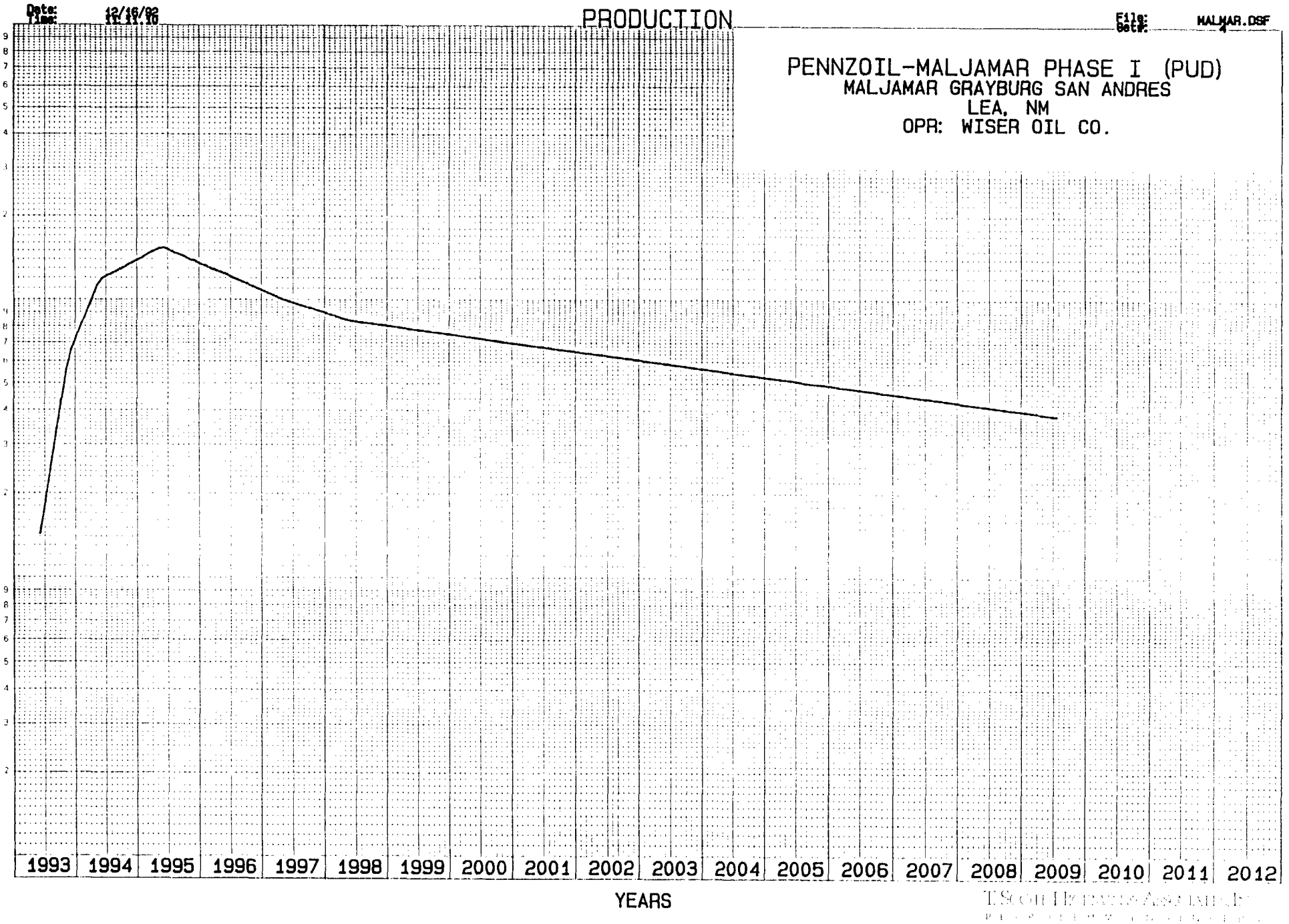

Date: 12/16/92
Time: 15:11:16
PRODUCTION
File: MALMAR.DSF
PENNZOIL-MALJAMAR PHASE I (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.
GROSS OIL -BBL/MO
100000
10000
1000
100
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEARS

FIGURE 20

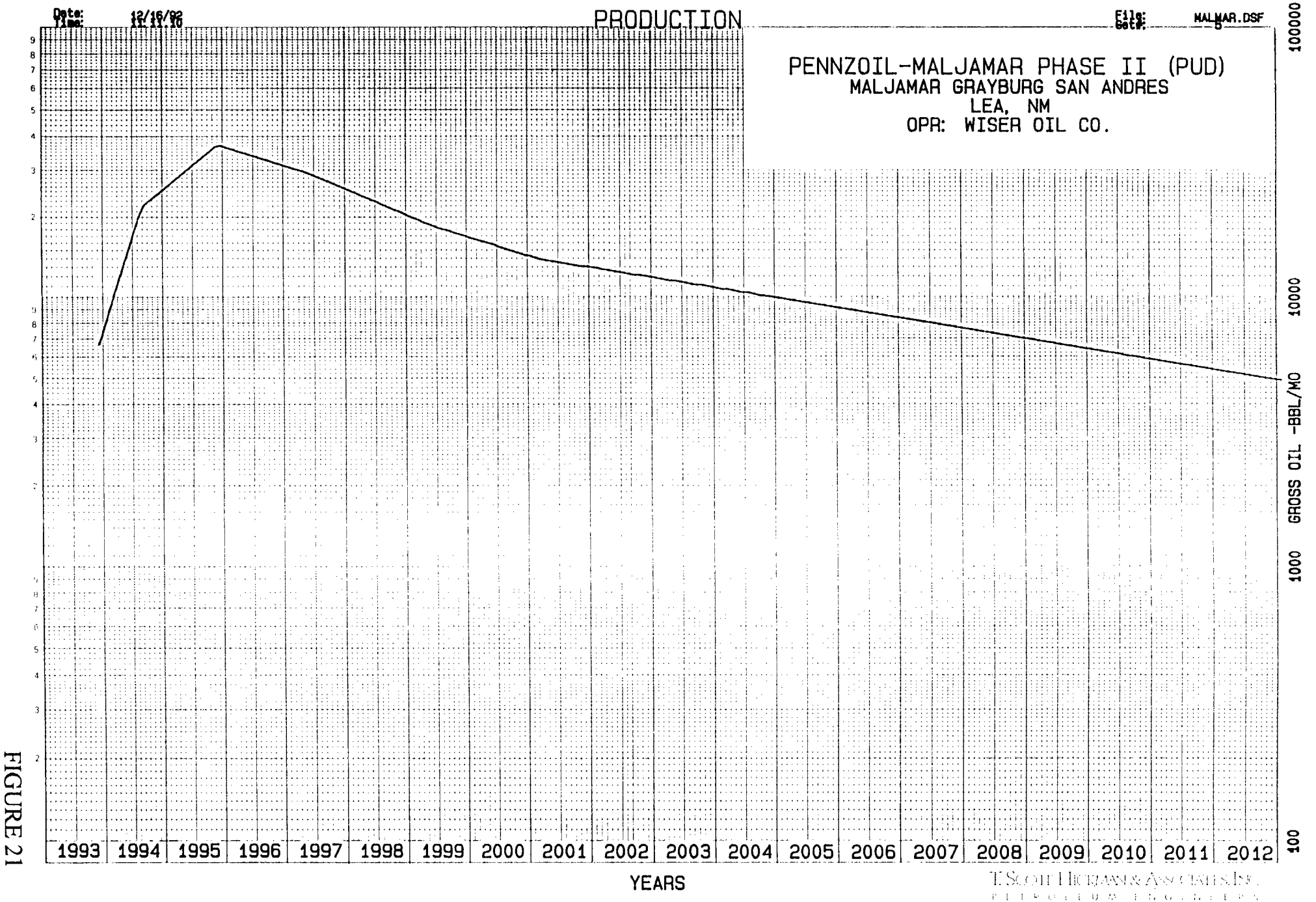

Date: 12/16/92
Time: 12:11:10
PRODUCTION
File: MALMAR.DSF
Set#: 8
PENNZOIL-MALJAMAR PHASE II (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.
GROSS OIL -BBL/MO
100000
10000
1000
100
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
YEARS
T. Scott Hickman & Associates, Inc.

FIGURE 21

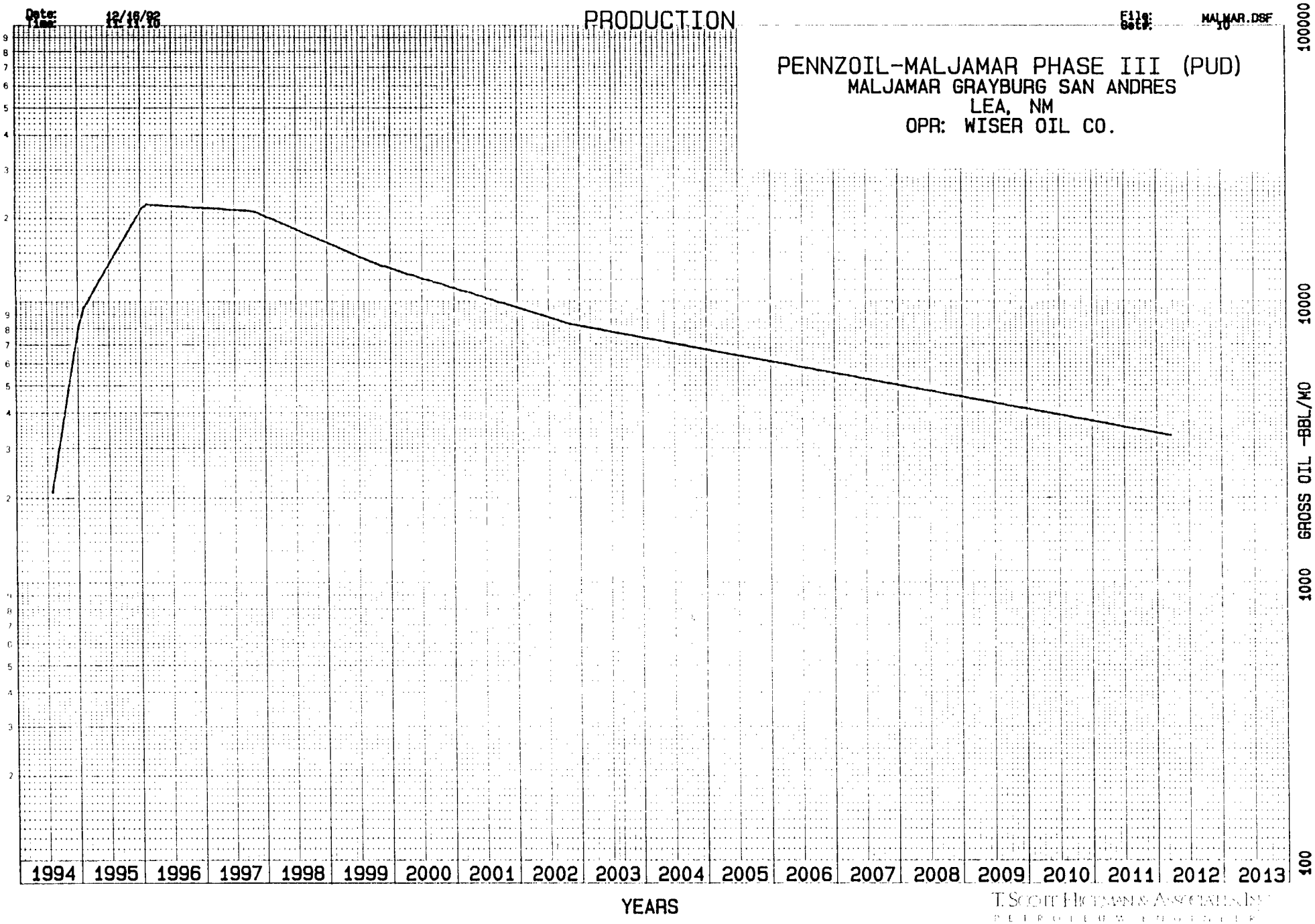

Date: 12/16/92
Time: 11:11:16
PRODUCTION
File: MALMAR.DSF
Get#: 10
PENNZOIL-MALJAMAR PHASE III (PUD)
MALJAMAR GRAYBURG SAN ANDRES
LEA, NM
OPR: WISER OIL CO.
GROSS OIL -BBL/MO
100000
10000
1000
100
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
YEARS
T. Scott Hickman & Associates, Inc.
Petroleum Engineers

FIGURE 22

QUALITY PRODUCTION CORP.

P. O. Box 250
Hobbs, New Mexico 88241

Phone (505) 397-2727
FAX (505) 393-3290

Case 10931

18 February 1994

State of New Mexico
Energy, Minerals and Natural Resources Department
Oil Conservation Division
P O Box 2088
Santa Fe, NM 87504

FEB 18 1994

Re: The Wiser Oil Company
Application for Statutory Unitization
and Approval of Waterflood Project
Caprock Maljamar Unit
Lea County, New Mexico

Gentlemen:

Supplement to our application dated 4 Feb 94 and filed with the Division on 8 Feb 94, enclosed is the Form C-108 and the required attachments.

Respectfully submitted,

Quality Production Corp.

R M Williams, Agent for
The Wiser Oil Company

cc: District Office - Hobbs

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 10
CASE NO. 10931

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

Case 10931
FEB 18 1994

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: [X] Secondary Recovery [ ] Pressure Maintenance [ ] Disposal [ ] Storage
Application qualifies for administrative approval? [ ] yes [ ] no

II. Operator: THE WISER OIL COMPANY

Address: P.O.Box 250 Hobbs, NM 88241

Contact party: R M Williams Phone: 505-397-2727

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? [X] yes [ ] no
If yes, give the Division order number authorizing the project See Attachment.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

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

Name: R M Williams Title Agent

Signature: R M Williams Date: 18 Feb 94

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal.

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

ATTACHMENT to OCD FORM C-108

THE WISER OIL COMPANY
CAPROCK MALJAMAR UNIT
WATERFLOOD PROJECT

I. Purpose - Application is made for authorization to inject water into the Grayburg/San Andres formation underlying a portion of the Caprock Maljamar Unit in Sections 17, 19 & 20 of Township 17 South - Range 33 East, Lea County, New Mexico, as shown on the enclosed Exhibit "A". The proposed project is an enhanced recovery program designed to economically recover additional oil reserves to the benefit of all parties holding an interest in the Unit Area.

II. Operator - The Wiser Oil Company

III. Injection Well Data - Phase I of the waterflood program proposes injection into the following Caprock Maljamar Unit Well Nos.:

19	31	42	54	68
20	32	43	55	
21	39	44	56	
29	40	52	57	
30	41	53	67	

The required well data and schematic diagrams are enclosed as Exhibit "B".

IV. The proposed Caprock Maljamar Unit waterflood project is a consolidation and expansion of existing waterflood projects on nine individual leases and the Mal Gra Unit, authorized under Oil Conservation Division Order Nos. R-2156, R-2157, R-3011, R-3129, and WFX Nos. 132, 139, 149, 160, 171, 173, 185, 200, 211, and 295.

V. Map - The enclosed Exhibit "A" identifies the proposed injection wells, the Area of Review within one-half mile of a proposed injection well, and all wells and leases within two miles of a proposed injection well.

VI. Well Data - The well data for the wells within the Area of Review are enclosed as Exhibit "C" and the well data and schematic diagrams for all plugged and abandoned well bores within the Area of Review are enclosed as Exhibit "D".

VII. Proposed Operations:

1. Proposed average daily injection rate - 250 BWPD/well
   Proposed maximum daily injection rate - 500 BWPD/well

2. A closed injection system will be maintained.

3. An average injection pressure of approximately 1000 psi is anticipated. The maximum injection pressure will be subject to the injection pressures authorized by the Oil Conservation Division.

4. The proposed injection fluid will consist of all of the Unit's produced water and fresh Ogallala water as required to make-up reservoir withdrawal volumes. The Ogallala water will be obtained from current water supply wells located on the caprock to the east of the Unit. Water compatibility studies have not been obtained nor considered pertinent in view of the actual injection experience in the Unit Area of injecting Grayburg/San Andres produced water and Ogallala fresh water in a wide range of proportions into the proposed injection interval since the 1960's without any evidence of compatibility problems.

VIII. Geological Data - The proposed injection interval is in the Grayburg/San Andres formations at a depth of 3900 to 5500 feet. The Grayburg formation primarily consists of quartz sands with dolomitic cementation; while, the San Andres formation primarily consists of dolomite with intermingled stringers of quartz sand with dolomitic cementation. The surface formation is Cretaceous and has no known sources of drinking water. The Ogallala aquifer and the caprock overlies the northeastern portion of the Unit Area; while there are no known sources of drinking water underlying the injection interval.

IX. Stimulation - Small acid treatments of about 2000 gallons per well have been sufficient to open the perforations for injection.

X. Logging Data - The available logs are those on file with the Oil Conservation Division from the original operators of the wells.

XI. Fresh Water Wells - The enclosed Exhibit "E" shows the fresh water wells located in the area, as recorded in the office of the State Engineer. None of these wells are still active or productive.

XII. Not applicable.

XIII. Proof of Notice - Copies of this C-108 Application will be furnished to the surface owners and to each leasehold operator within one-half mile of the proposed injection wells. An Affidavit of such notice with the return receipts will be presented at the time of the hearing on this matter.

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

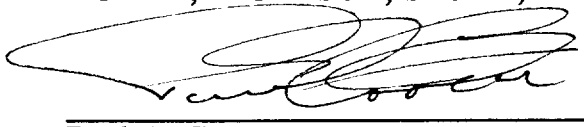
IN THE MATTER OF THE APPLICATION OF THE WISER OIL COMPANY FOR APPROVAL OF A WATERFLOOD PROJECT, LEA COUNTY, NEW MEXICO.

CASE NO. 10931

AFFIDAVIT OF MAILING

Paul A. Cooter being duly sworn stated that on February 17, 1994, copies of the referenced Application and the Division's Form C-108 were mailed by certified mail, return receipt requested, to the persons identified on Exhibit "A" attached hereto, in compliance with the rules and regulations of the Oil Conservation Division.

RODEY, DICKASON, SLOAN, AKIN & ROBB, P.A.

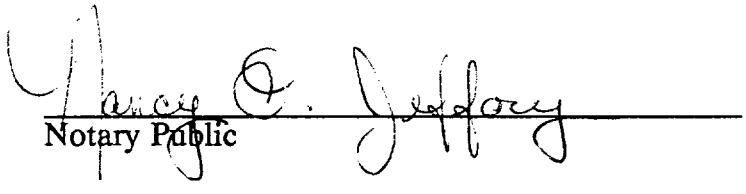


Paul A. Cooter
Post Office Box 1357
Santa Fe, New Mexico 87504-1357
(505) 984-0100

BEFORE EXAMINER CATANACH
OIL CONSERVATION DIVISION
EXHIBIT NO. 11
CASE NO. 10930

STATE OF NEW MEXICO)
)ss.
County of Santa Fe)

SUBSCRIBED AND SWORN to before me this 1st day of March, 1994, by Paul A. Cooter.



Notary Public

My Commission Expires:
October 7, 1996

EXHIBIT "A"

Conoco, INC.
10 Desta Drive, Ste 100 W
Midland, TX 79705-4500

Cross Timbers Operating Company
P.O. Box 50847
Midland, TX 79710

Lynx Petroleum Consultants, Inc.
P.O. Box 1979
Hobbs, NM 88241

Mack Energy Corp.
P.O. Box 1359
Artesia, NM 88241

Penroc Oil Corp.
P.O. Box 5970
Hobbs, NM 88241

Phillips Petroleum Company
4001 Penbrook
Odessa, TX 79762

Southwest Royalties, Inc.
Drawer 11390
Midland, TX 79702