STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

APPLICATION OF CROSS TIMBERS OPERATING COMPANY FOR UNIT EXPANSION, LEA COUNTY, NEW MEXICO

CASE NO. 11,742

DEGE VE

MAR I 9 1997

OIL CONSERVATION DIVISION

REPORTER'S TRANSCRIPT OF PROCEEDINGS

EXAMINER HEARING

BEFORE: MICHAEL E. STOGNER, Hearing Examiner

March 6th, 1997

Santa Fe, New Mexico

This matter came on for hearing before the New Mexico Oil Conservation Division, MICHAEL E. STOGNER, Hearing Examiner, on Thursday, March 6th, 1997, at the New Mexico Energy, Minerals and Natural Resources Department, Porter Hall, 2040 South Pacheco, Santa Fe, New Mexico, Steven T. Brenner, Certified Court Reporter No. 7 for the State of New Mexico.

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I N D E X

March 6th, 1997 Examiner Hearing CASE NO. 11,742

	PAGE
EXHIBITS	3
APPEARANCES	3
APPLICANT'S WITNESSES:	
WIN RYAN (Landman) Direct Examination by Mr. Bruce Examination by Examiner Stogner	4 9
<u>JEFFREY HEYER</u> (Geologist) Direct Examination by Mr. Bruce Examination by Examiner Stogner	13 17
JAMES W. CLARK, III (Engineer) Direct Examination by Mr. Bruce Examination by Examiner Stogner	19 25
REPORTER'S CERTIFICATE	33

STEVEN T. BRENNER, CCR (505) 989-9317

EXHIBITS

Applicant's		Identified	Admitted
Exhibit	1	5	9
Exhibit	2	6	9
Exhibit	3	7	9
Exhibit	4	8	9
Exhibit	5	8	9
Exhibit	6	8	9
Exhibit	7	8	9
Exhibit	8	8	9
Exhibit	9	15	17
Exhibit	10	15	17
Exhibit	11	16	17
Exhibit	12	20	25
Exhibit		21	25
Exhibit		21	25
Exhibit		22	25
Exhibit	16	24	25

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APPEARANCES

FOR THE DIVISION:

RAND L. CARROLL
Attorney at Law
Legal Counsel to the Division
2040 South Pacheco
Santa Fe, New Mexico 87505

FOR THE APPLICANT:

JAMES G. BRUCE, Attorney at Law 612 Old Santa Fe Trail, Suite B Santa Fe, New Mexico 87501 P.O. Box 1056 Santa Fe, New Mexico 87504

* * *

1	WHEREUPON, the following proceedings were had at
2	9:16 a.m.:
3	EXAMINER STOGNER: At this time I'll call Case
4	Number 11,742.
5	MR. CARROLL: Application of Cross Timbers
6	Operating Company for unit expansion, Lea County, New
7	Mexico.
8	EXAMINER STOGNER: Call for appearances.
9	MR. BRUCE: Mr. Examiner, Jim Bruce from Santa
10	Fe, representing the Applicant. I have three witnesses to
11	be sworn.
12	EXAMINER STOGNER: Any other appearances?
13	Will the witnesses please stand to be sworn?
14	(Thereupon, the witnesses were sworn.)
15	WIN RYAN,
16	the witness herein, after having been first duly sworn upon
17	his oath, was examined and testified as follows:
18	DIRECT EXAMINATION
19	BY MR. BRUCE:
20	Q. Would you please state your name and city of
21	residence for the record?
22	A. My name is Win Ryan, from Fort Worth, Texas.
23	Q. Who do you work for and in what capacity?
24	A. I work for Cross Timbers Oil Company as a
25	landman.

1	Q. Have you previously testified before the
2	Division?
3	A. Yes, I have.
4	Q. And were your credentials as an expert petroleum
5	landman accepted as a matter of record?
6	A. Yes, they were.
7	Q. And are you familiar with the land matters
8	involved in this Application?
9	A. Yes, I am.
10	Q. First, Mr. Ryan, what is the relationship between
11	the Applicant, Cross Timbers Operating Company, and Cross
12	Timbers Oil Company?
13	A. Cross Timbers Operating Company is a wholly owned
14	subsidiary of Cross Timbers Oil Company, and it's the
15	operating entity for Cross Timbers Oil Company.
16	Q. Okay. What is it that Cross Timbers seeks in
17	this case?
18	A. We are requesting approval to expand our
19	southeast Maljamar Grayburg San Andres unit to include
20	three additional tracts.
21	Q. Okay, let's refer to your Exhibit 1. Would you
22	identify that and tell the Examiner about it, please?
23	A. Okay, Exhibit 1 is an outline of the existing
24	southeast Maljamar Grayburg San Andres unit, which is

comprised of 1080 acres, and then in yellow are the three

highlighted -- they're the three tracts we are proposing to expand into the unit.

- Q. Okay, what percentage -- And this is what? State and federal land in this --
 - A. Yes, it's all state and federal.

- Q. And what is the percentage -- What percentage of the unit is federal and what percentage is state?
- A. Okay, of the new unit with the expansion, it would be 1280 acres, and 31.25 percent is federal and 68.75 percent is state lands.
 - Q. When was the unit formed?
- A. It was formed in 1966 and approved in Order Number R-3130.
 - Q. And what was the purpose of forming the unit?
 - A. It was a voluntary unit for the purposes of conducting a waterflood, which was approved by Order R-3134.
 - O. What is Exhibit 2?
 - A. Exhibit 2 is our notice of proposed enlargement of the southeast Maljamar Grayburg San Andres unit. It includes the original lands in the unit, plus the new lands and leases to be expanded into the unit.
 - Q. And Exhibit 2 was submitted to the BLM and the Commissioner of Public Lands and to the Division last year?
 - A. Yes, it was.

Q. Okay, let's go through Exhibit 2 just very briefly. What does it contain?

A. Well, the first page I just discussed contains the lands, and then the next few pages are the geological and engineering exhibits, which will be testified to by our geologist and engineer.

Then page 9 of Exhibit 2 is the same land plat that was -- is Exhibit 1.

Page 10, 11 and 12 is the revised Exhibit B to the unit agreement, which sets forth each of the tracts in the unit, the working interest owners and the overriding royalty owners.

And then finally page 13 is the tract participation factors.

- Q. Other than these revised Exhibits A, B and C, were there any changes made to the unit agreement or to the unit operating agreement?
 - A. No, there were not.
 - Q. Who are the working interest owners in the unit?
- A. Cross Timbers Oil Company owns 100 percent of the working interest.
 - Q. Okay. And has Cross Timbers ratified the unit expansion?
 - A. Yes, we have, and that is shown in Exhibit 3.
 - Q. Have the Commissioner of Public Lands and the

Bureau of Land Management approved the unit expansion?

A. Yes, they have. Exhibit 4 is approval from the

- Commissioner of Public Lands, State of New Mexico, and Exhibit 5 is the approval from the Bureau of Land Management.
- Q. And are there overriding royalty owners in these tracts to be added to the unit?
- A. Yes, there are, and these were notified and asked to seek their ratification by letter dated October 28th of 1996, which is Exhibit 6.
- Q. Okay. Have any overrides ratified the unit expansion?
- A. Yes, over a majority of the overrides have ratified, and we are continuing to get some in.
- Q. Does Exhibit 7 contain copies of the overrides you had received as of a few days ago?
 - A. Yes, it does.

- Q. Okay. What about nonratifying overriding royalty owners? How will they be paid?
 - A. They will continue to be paid on a lease basis.
 - Q. Okay. And finally, Mr. Ryan, what is Exhibit 8?
 - A. Exhibit 8 is the redesignation of the well names and numbers of the three tracts that we are proposing to be expanded into the unit.
 - Q. Were Exhibits 1 through 8 prepared by you or

1 compiled from company business records? Yes, they were. 2 Α. 3 Q. And is the granting of this Application in the interests of conservation and the prevention of waste? 4 5 Α. Yes, it is. MR. BRUCE: Mr. Examiner, I move the admission of 6 Cross Timbers Exhibits 1 through 8 at this time. 7 8 EXAMINER STOGNER: Exhibits 1 through 8 will be 9 admitted into evidence at this time. 10 MR. BRUCE: Mr. Examiner, although we didn't submit them, they are part of the old -- as exhibits, they 11 12 are part of the original unit case file. I do have for you 13 copies of the unit agreement and unit operating agreement. 14 **EXAMINATION** 15 BY EXAMINER STOGNER: 16 The old unit had ten tracts; is that correct? 0. That is correct. 17 Α. 18 Okay. And so you're proposing -- They go up to Q. 13 now? 19 20 Yes, sir. A. 21 Q. Okay, I just wanted to make sure that I have 22 marked on here -- Tract 11, that would be what? The north 23 half of the southwest quarter? 24 A. Tract 11 is the northwest quarter, northwest 25 quarter, of Section 33.

Okay, that's marked on the map, isn't it --1 Q. Yes, sir. Α. 2 -- Exhibit Number 1? I see it now. 3 Q. 4 In the original unit agreement, had all overrides 5 voluntarily agreed? This is just the old unit? Α. 6 Yes. Or were you paying anybody on a lease basis then? 7 0. No, they had all ratified. 8 Α. So everybody had ratified? 9 Q. 10 Α. Yes. 11 Now, those that -- Will they have to re-ratify, 0. if that's a word, with the expansion coming in? 12 13 Α. No. We did notify them of the proposed expansion. 14 But they would not have to -- They're not 15 required to ratify the expanded area? 16 No, under the unit agreement it gives us the 17 Α. 18 right to expand the unit. 19 0. Now, their interest, the original overrides, will 20 this be a two-step procedure, or will their total -- will 21 their total percentage be changed whenever this unit is ratified? 22 Well, their unit interest will actually -- I 23 mean, it will decrease slightly due to the new tracts 24 coming in. 25

Q. Uh-huh.

- A. But production would increase.
- Q. But their percentage would just decrease -- their formula, or the formula which they're enacted under now, their percentage would just decrease; is that correct?
- A. Right, their tract participation factor was, you know, reduced when the new tracts came in and were given a tract participation factor.
 - Q. And when would that take effect?
 - A. The first month following approval by the NMOCD.
- Q. Okay. Now, the new overrides -- I'll call them the new overrides, in 11, 12 and 13 -- will they enjoy the benefits at that time also as far as their overall percentage?
- A. Yes, if they ratify the unit.
- Q. And those that do not ratify, how will they -- how will their interests be carried?
- A. Well, we will continue to meter the production from those actual leases separately and then pay them on a lease basis.
- Q. Now, which ones have and which ones have not ratified on your Exhibit Number -- is that 3? No, 4 -- I'm sorry. There's a listing of those, we broke them out. I believe that's Exhibit 6.
 - A. Yes, and I can -- It may be easier to look at

page 11 of Exhibit 2, is -- They're listed there. 1 2 Q. Oh, okay. 3 Α. You want the ones that have not ratified? ο. Yeah. 5 Α. Okay, Tract 11, William Grauten and Morton Pepper 6 have not ratified. They actually requested to be paid on a 7 lease basis. 8 0. Okay, so you have documentation that they --9 Α. Yes. 10 Q. Okay. How about in 12? 11 Α. Okay, in 12, Danna Beil has not ratified. 12 Deaton Investments has not ratified, but they 13 actually called me the other day and said they were sending it in. 14 15 Again, William Grauten has not ratified, 16 Elizabeth Knowles, Morton Pepper, Dan Williams and Kim Williams. 17 18 Q. Now, have you been in contact with all of those 19 parties, or are some of them lost? 20 Α. I believe we found them all. We sent them out 21 certified mail, and we've got green cards back on them. We actually sent another follow-up letter last week. 22 When did you first contact? 23 0. October 28th of 1996. 24 Α. 25 And then in Tract 13, James B. Dunigan, Inc. --

Oh -- I'm sorry. Okay, I'm sorry, go ahead, say 1 Q. those in 13 again? 2 Okay, James P. Dunigan, Inc.; J.B. Harrell Jr.; 3 4 and Bubba Spears. 5 0. There again, you have had contact with these 6 parties? 7 Α. Yes. EXAMINER STOGNER: I believe I don't have any 8 other questions, but I will take administrative notice of 9 10 the original case in which Order Number R-3130, I believe, was the original unit agreement issued out of -- approved 11 out of here -- I'll take administrative notice of that 12 13 file. Mr. Bruce? 14 MR. BRUCE: Thank you, Mr. Examiner. 15 16 I'd call Mr. Heyer to the stand. 17 JEFFREY HEYER, 18 the witness herein, after having been first duly sworn upon 19 his oath, was examined and testified as follows: DIRECT EXAMINATION 20 BY MR. BRUCE: 21 22 Q. Will you please state your name for the record? 23 My name is Jeffrey Heyer. Α. And who do you work for? 24 Q. I'm a geologist employed by Cross Timbers Oil 25 Α.

14 1 Company. Have you previously testified before the 2 0. Division? 3 Α. No, I have not. 4 5 0. Would you please outline your educational and employment background? 6 7 In 1977 I received a bachelor of science degree from the State University of New York at Fredonia, began 8 working in the oil industry in August of that year for 9 Columbia Gas Transmission Corporation, have worked for 10 11 Columbia Gas, Crown Central Petroleum Company, and Cross 12 Timbers Oil Company. I've been employed as a petroleum 13 geologist by Cross Timbers since 1988. Does your area of responsibility include 14 Q. 15 southeast New Mexico? 16 Α. Yes, sir, it does. And are you familiar with the geologic matters 17 Q. applicable to this case? 18 Α. Yes, I am. 19 MR. BRUCE: Mr. Examiner, I tender Mr. Heyer as 20 an expert petroleum geologist. 21

22

23

24

25

Q.

contents?

STEVEN T. BRENNER, CCR (505) 989-9317

(By Mr. Bruce) Would you look at your Exhibit 9,

EXAMINER STOGNER: Mr. Heyer is so qualified.

Mr. Heyer, identify it for the Examiner and describe its

A. Exhibit Number 9 is a net sand map for the Premier sandstone. The unit description for southeast Maljamar is -- the unitized interval is from the top of the Grayburg down, to include 100 feet into the San Andres. Within this interval, though, the primary producing interval is the Premier sand. So what we have mapped here is showing the net thickness of the Premier sand.

What it also shows is that the dark solid outline is the current unit boundary, the stippled outline is the proposed unit expansion, and you'll notice that on this exhibit that there is no reservoir boundary between the proposed unit expansion and the current unit boundary.

- Q. So this is all in the original unit, and the additional tracts are underlain by one common source of supply?
 - A. That's correct.

- Q. Okay. Let's move on to your Exhibit 10, and would you describe that for the Examiner?
- A. Exhibit 10 is a Premier sand ϕh map where we have taken the porosity and multiplied it by the thickness of the Premier sands in this area.

And once again, what this shows is that there is no porosity variability from the unit boundary to the expanded tracts. In fact, they all exist into the same common source of supply.

- Q. Okay. What about permeability barriers? Are there any of those in this area?
 - A. No, sir, there are not.

- Q. Okay. And then move on to your Exhibit 11. What is that?
- A. Exhibit 11 is a cross-section that begins in the unit with Well Number 711, goes through Well Number 712, it then extends into US Minerals' tract, which is one of the proposed tracts to be included in the unit, and then also extends down south to what we call the Denius Federal Number 10 well, which is also one of the tracts proposed to be in the unit.

These are gamma-ray/neutron logs, and you can see that the actual producing interval are the sands located within the center of the cross-section.

On the right-hand side of the cross-section, you'll also notice that the unitized interval goes from the top of the Grayburg formation, which would be approximately at the top of the arrow, and then down to -- including 100 feet of the San Andres formation, which is at the bottom of the arrow.

So -- But once again, emphasizing that the primary reservoirs in this area are the Premier sand, and they are, in fact, continuous from the units to the proposed tracts to be included into the unit.

1	Q. Now, this unit has been in effect for 30 years.
2	Has Cross Timbers been further developing the unit
3	recently?
4	A. Yes, sir, we have. In 1996 we drilled 12 wells,
5	and we have seven wells proposed for this unit in 1997,
6	along with a realignment of the injection pattern.
7	Q. Were Exhibits 9 through 11 prepared by you or
8	under your direction?
9	A. Yes, sir, they were.
10	Q. And in your opinion, is the granting of this
11	Application in the interests of conservation and the
12	prevention of waste?
13	A. Yes, sir, they are.
14	MR. BRUCE: Mr. Examiner, at this time I would
15	tender Cross Timbers Exhibits 9 through 11 into the record.
16	EXAMINER STOGNER: Exhibits 9 through 11 will be
17	admitted into evidence.
18	EXAMINATION
19	BY EXAMINER STOGNER:
20	Q. In referring to Exhibit Number 9, you have a type
21	log, Number 64. Which well is that?
22	A. That would be the tract It's supposed to be
23	604, and that would be Tract Number 6, the fourth well in
24	that tract, which is, if you'll notice, in Section 29, is

down in kind of the southeast southeast. And then there's

an arrow pointing to it that says "type log" underneath it. 1 It has 58 feet of sand. 2 Q. You mean the southwest southwest? 3 Excuse me, yes, southwest southwest, I'm sorry. 4 Α. I give up, is that an injector or a 5 0. 6 producer? 7 Α. Currently it is an injector. 0. Okay. You have a circle and a triangle around 8 it. 10 Α. Well, it at one time did produce from the zone. Okay. 11 Q. It has been converted into --12 Α. 13 Q. Now, the perforations that you show on the type log, are those the existing perforations now? 14 A. To the best of my knowledge, yes, sir, they are. 15 16 Q. And I assume that the selected perfs would refer 17 back to Exhibit Number 11. There's an interfingering of 18 what? A limestone or shale? 19 That's correct. Well, actually what it is is an interfingering of dolomite, and in this particular area you 20 have three primary Premier sands, I think, is what we would 21 22 say. And separating those three Premier sands are impermeable dolomite intervals. 23

sand is -- the radioactivity is -- It's a very radioactive

And you'll notice that the log character of the

24

sand. 1 All the wells shown as Exhibits 10 and 11, I know Q. 2 they don't all produce, of course, or inject into this 3 interval, but all the wells shown here, did they penetrate 4 this zone? 5 Α. Yes, sir, they did. 6 7 EXAMINER STOGNER: Okay. No other questions. You may be excused, thank you. 8 9 JAMES W. CLARK, III, 10 the witness herein, after having been first duly sworn upon his oath, was examined and testified as follows: 11 DIRECT EXAMINATION 12 BY MR. BRUCE: 13 14 Q. Would you please state your name for the record? 15 Α. For the record, my name is James Walter Clark, III. 16 And where do you reside? 17 Q. I reside in Mansfield, Texas. 18 A. Who do you work for? 19 Q. 20 I'm a petroleum engineer for Cross Timbers Oil Α. 21 Company. 22 Q. Have you previously testified before the Division? 23 24 Α. No, I have not. 25 Q. Please outline your educational and employment

1 background for the Examiner. 2 Α. I have a BS and MS in petroleum engineering from 3 Texas A&M University. 4 I began working in the industry in 1981, and since that time I've been employed as an engineer with Gulf 5 Oil Corporation, Chevron Corporation and, from 1994 6 7 forward, Cross Timbers Oil Company. Q. Are you familiar with the engineering matters 8 applicable to this case? 9 10 Α. Yes, I am. 11 Q. And I presume this -- your area of responsibility includes southeast New Mexico? 12 13 Α. Yes, it does. MR. BRUCE: Mr. Examiner, I tender Mr. Clark as a 14 15 an expert petroleum engineer. 16 EXAMINER STOGNER: So qualified. Q. 17 (By Mr. Bruce) Would you describe the production history of the unit? And have you refer first to your 18 19 Exhibit 12. On Exhibit 12, this is just another version of 20 Α. 21 the map outlining all of the wells within the existing 22 Maljamar Grayburg San Andres Unit. 23 These leases were developed around 1952, as 24 stated in the record, the unit was formed for waterflooding

in 1966. At that time, the wells in the unit area had

produced about 2.2 million barrels of oil, and waterflood operations have been continuous since that time.

- Q. Why don't you move on to your Exhibit 13 and describe the current state of the area and what you hope to recover with the unit expansion?
- A. Exhibit 13 contains data on the ultimate primary and secondary recovery for the current unit. This exhibit shows that the total recovery from the existing unit will be about 6.1 million barrels of oil, with 58 percent of the production being secondary oil.
- Q. How much oil will you recover by including the additional tracts in the unit?
- A. Referring to Exhibit 13, we believe the ultimate primary to be about 536,000 barrels of oil from Tracts 11, 12 and 13.

If the secondary-to-primary ratio of the new tracts is as good as the original unit acreage, we anticipate we will recover an additional 625,000 barrels of secondary oil.

We have also -- In Exhibit 13, secondary recovery is based on lower secondary-to-primary ratios. Even with the lower ratio, the recovery will be substantial.

- Q. What is Exhibit 14?
- A. Exhibit 14 is a plot of production from the unit from 1981 to date.

As you can see, production has been flat until the end of 1994, and since that time we have been infill drilling in the southern portion of the current waterflood unit, and that is noted with the increases in oil and gas production.

The current daily production from the wells in the unit average about 17 barrels of oil per day, per well.

We anticipate that adding this new acreage and these new wells to the unit will increase the total unit oil production from around 400 barrels of oil per day to approximately 500 per day. Thereafter, we expect that the production from the unit should decline at about 7 percent a year.

- Q. Okay. Referring back to your first exhibit, Exhibit 12, what is the injection pattern for the unit?
- A. The injection pattern is a fivespot or staggered line drive, and the injection locations -- or the pattern is highlighted.
- Q. What are Cross Timbers' plans if these additional tracts are added to the unit?
- A. With Exhibit 15, we have listed out what our plans for 1997 are for these tracts.

For our proposed Tract Number 11, the US Minerals lease, we are anticipating drilling a water injection well to provide injection support for the existing three wells.

We would like to re-fracture-stimulate Well Number 1 to improve its withdrawal capacity.

On the State BY lease, which is proposed Tract
Number 12, we plan to convert Well Number 5 from
temporarily abandoned status to water injection and drill
an offset producer for that well.

On the Denius federal lease, proposed Tract
Number 13, we plan to convert Number 9 to water injection
and drill an offset producer for that water injection well.

Any additional wells drilled, you know, beyond 1997, will be depending upon the results of this initial development.

- Q. Will the unit expansion and the expansion of the waterflood project that you're talking about result in an increase in the amount of oil that will ultimately be recovered from this reservoir?
 - A. Yes, it will.

- Q. Now, looking at Exhibit 12 once again, there are other wells completed in the same pool on leases outside the unit. In your opinion, will these wells be harmed by the unit and the waterflood expansion?
- A. No. Most of the offset leases have injection wells off to the side, and they are injecting into the same pool as we're in.

We believe that the injection will have the beneficial

effect on the wells offsetting the unit as well.

- Q. Would you please summarize your injection operations?
- A. The current injection rates for the unit are 500 barrels of water injection per day. With the expanded unit we anticipate the average injection rate to increase to 750 barrels of water injected per day, with a maximum of 1000 barrels of water per day.
 - Q. What is the source of your injection water?
- A. Our source of injection water comes from produced water in the waterflood, and with makeup water necessary, it comes from the Maljamar cooperative unit, the MCA Unit.
- Q. What is the injection pressure on these wells currently?
- A. The average injection pressure on the current injection wells are approximately 1500 barrels of -- excuse me, 1500 p.s.i. That is above the .2-p.s.i.-per-foot limit, but we have been -- we have gotten approval from the NMOCD with step-rate testing and are staying within -- in compliance with all the regulations, all the injection water zone.
- Q. Now, what participation formula will be used for the expanded unit?
- A. With Exhibit Number 16, shows the tract participation formula with the three new proposed tracts

added.

We are using the same participation formula as was in the existing unit agreement, which is 90 percent of the projected off the primary for each tract, a 5-percent participation for the acreage, and another 5 percent for the developed acreage.

Now, this is under the Phase 2 of the unit agreement.

- Q. Does this formula allocate production to each tract on a fair and equitable basis?
 - A. Yes, it does.
- Q. And in your opinion, is the granting of this Application in the interests of conservation and the prevention of waste?
- A. Yes, it is.
 - Q. Were Exhibits 12 through 16 prepared by you or under your direction, or compiled from company records?
 - A. Yes, they were.

MR. BRUCE: Mr. Examiner, at this time I would move the admission of Cross Timbers Exhibits 12 through 16.

EXAMINER STOGNER: Exhibits 12 through 16 will be admitted into evidence.

EXAMINATION

- BY EXAMINER STOGNER:
 - Q. Let's refer to Exhibit Number 12, and up there in

your proposed Tract Number 11 I'm confused with previous exhibits.

Is there any presently producing wells from this interval in Section 11?

- A. In Section 11 -- or Tract Number 11, excuse me, there are three wells that are producing from the Premier. They're Number 1, Number 2 and Number 3.
- Q. So in looking at Exhibit Number 12, the 2 and 3 will remain as producers, and your Number 1 will be converted into an injection well, and then there will be a new injection well drilled up in the northeastern corner of that quarter-quarter section?
 - A. Yes, sir, that's correct.

- Q. The locations that you show in the proposed producers and injectors, new drills and such, and the three new tracts, they appear to be at least 330 from the quarter-quarter section line; am I reading that right? Are those going to be standard locations?
- A. Yes, sir, we expect they will be standard locations.
- Q. Is there any plans or proposals at this point to infill drill off those quarter-quarter sections and bring them down to a -- more development between the quarter quarters?
 - A. Well, Mr. Examiner, I think that will be

dependent upon the performance of our wells that we put in this year and next year, in those three tracts. If performance dictates that there's additional recovery and we can prevent waste by bringing locations closer to the line, then we'll ask for that to be approved.

- Q. Have you done that in the older unit, the older waterflood area up in Section 29 or 30? Does it warrant it or show it to be warranted up there?
- A. To date we have not requested any nonstandard locations within the unit. But we have --
- Q. But there has been infill drilling prior to Cross Timbers?
- A. To my knowledge, there -- If there was infill drilling, it was not a significant number of wells. Most of the 20-acre infill wells, to my knowledge, have been drilled by Cross Timbers.
- Q. I show a couple of wells between Section 29 and 30 that are right on the section line. I'm wondering if there's going to be any similar developments along those common boundaries with the old unit and the expansion areas.
- A. Well, sir, with the -- if you're referring, for example, between Unit Tract Number 10 in the unit, in the proposed unit, and then, for example, the US Minerals lease -- is that what you're asking as an example?

Q. Okay, you see the section line between Section 29 and 30, you look down there and there's a Number 8 well along that line, and then there's a Number 11 well. Do you see those?

- A. Yes, Mr. Examiner.
- Q. Okay. And those are what I consider infill drills because they look like they're very near that section line; is that correct?
 - A. Yes, sir.

- Q. Okay. What I was asking, is there any plans or initial plans now to drill like this over around the common boundary between the expansion area and your old area?
- A. We have no specific plans, but we will review them as -- from year to year.
- Q. And hopefully by then everybody will ratify it, including the overrides, because if they don't wouldn't that affect that kind of development around that area?
- A. It could possibly. One of the things that we hope to demonstrate for the people that have not ratified that we are preventing waste and we are increasing recovery from the area, and we hope to demonstrate that by the initial plan.

But that's a problem that we'll have to face up to it when the need for those well locations arises if they have not ratified.

Q. And if they haven't ratified, that would severely affect any infill drilling plans, I would assume?

- A. It would affect it. I don't know if I would use the word "severely".
- Q. Whether you would get to or not. How can you assure that protection of correlative rights would -- or that their rates, those that didn't ratify, if you were to put a section well right there on that section in the old unit and drawing from that expanded area that has a different ownership, and some of the overrides over there have not joined, I would say that would be a severe effect on your drilling, would it not?
 - A. It could affect it, yes, sir.
- Q. Could be? Should we put something in there to assure that no additional wells, unless everybody ratified that each well should be at least 330 from the common line, to assure that?
 - A. Yes, sir, I think that would be a good idea.

EXAMINER STOGNER: Mr. Bruce, now this was advertised as in the unit expansion, and you're not requesting any approval of new water injection wells at this time?

MR. BRUCE: No, I believe they've been doing that administratively. And we do not have a request for waterflood expansion in here at this time.

EXAMINER STOGNER: Okay. Well, I mean, are you 1 telling me there's new water injection wells in the 2 expanded area? 3 MR. BRUCE: No, sir, I'm saying when they seek 4 approval for them. 5 6 They have not -- As I understand it, they have proposed injection wells in the expanded area. 7 believe those have been permitted at this time. 8 EXAMINER STOGNER: I don't have a copy of the 9 waterflood order. I believe you all reference R-3134? 10 11 MR. BRUCE: Yes, sir. EXAMINER STOGNER: Do you have a copy, or have 12 13 you reviewed it? Did it specifically designate an area for the 14 waterflood like the way it's done now? I believe the older 15 ones just referenced --16 MR. BRUCE: It referenced the injection wells. 17 Let me give you my copy, Mr. Examiner. It did not 18 19 reference the project area, but it did specify the initial 20 injection wells. 21 EXAMINER STOGNER: Okay, the older orders, such as this one, just refer back to the unit area, as the newer 22 23 ones now not only refer back to it, they also designate it 24 as a project area. So it's assumed that the project area

is the unit.

Just bear in mind, though, that if not everybody 1 ratifies, that could severely affect the way the wording of 2 the rules and regulations are now, to preclude from 3 drilling any in-line or infill wells between that section 4 line that separates those --5 Any orthodox wells, as opposed to --6 MR. BRUCE: 7 EXAMINER STOGNER: When we're talking about unorthodox wells, we're talking anything closer than 330. 8 9 The new rules pretty muchly allow for the drilling within a unit area or a project area of 10 feet internal boundary 10 lines. 11 MR. BRUCE: But what I'm saying, Mr. Examiner, 12 there might be some infill wells that are not unorthodox. 13 EXAMINER STOGNER: Yes. 14 I'll take administrative notice of Case Number 15 3462, which resulted in Order Number R-3134. 16 17 And if there's nothing further in this matter --MR. BRUCE: The only thing, once again, Mr. 18 Examiner, they would like to get the unit instituted as 19 20 soon as possible. 21 They were hoping for an April 1 date, if at all possible. 22 23 EXAMINER STOGNER: I will solicit your expertise 24 in supplying me a rough-draft order then. 25 MR. BRUCE: Yes, sir.

1	EXAMINER STOGNER: With that, if nobody else has
2	anything further in Case Number 11,742, then this matter
3	will be taken under advisement.
4	(Thereupon, these proceedings were concluded at
5	10:03 a.m.)
6	* * *
7	
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20	·
21	I do hereby certify that the foregoing is a complete record of the proceedings in
22	the Examiner hearing of Case No. 1742, heard by me, on 6 March 1997.
23	Mahade Stern, Examiner
24	Oil Conservation Division
25	

CERTIFICATE OF REPORTER

STATE OF NEW MEXICO)
) ss.
COUNTY OF SANTA FE)

I, Steven T. Brenner, Certified Court Reporter and Notary Public, HEREBY CERTIFY that the foregoing transcript of proceedings before the Oil Conservation Division was reported by me; that I transcribed my notes; and that the foregoing is a true and accurate record of the proceedings.

I FURTHER CERTIFY that I am not a relative or employee of any of the parties or attorneys involved in this matter and that I have no personal interest in the final disposition of this matter.

WITNESS MY HAND AND SEAL March 8th, 1997.

STEVEN T. BRENNER

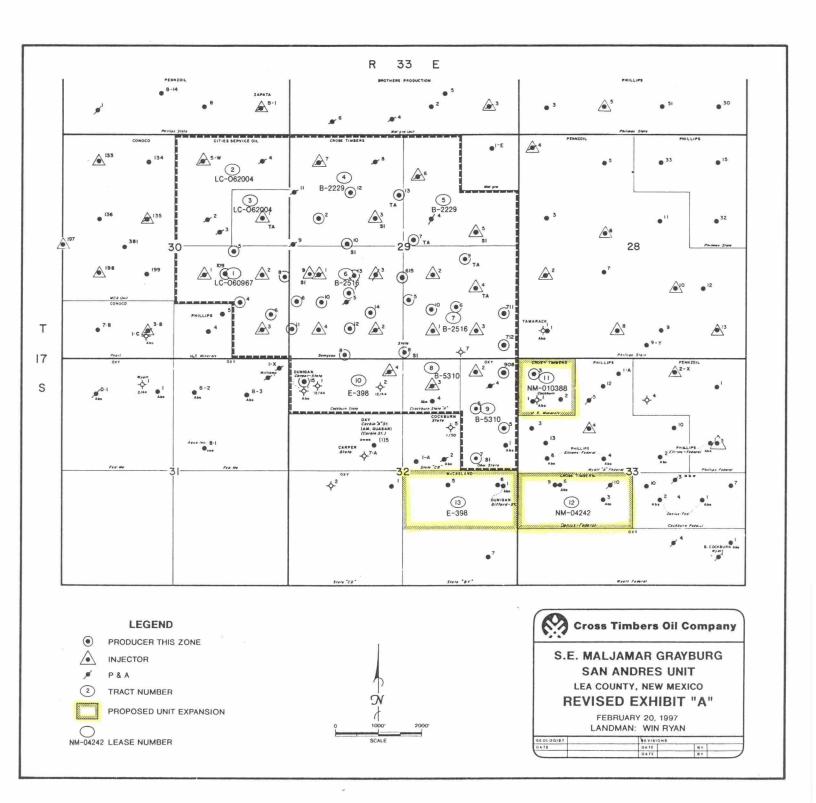
CCR No. 7

My commission expires: October 14, 1998

OIL CONSERVATION DIVISION

EXHIBIT

CASE NO. 1742



FINALIZED NOTICE OF PROPOSED ENLARGEMENT SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT

Cross Timbers Oil Company, the unit operator, proposes to enlarge the Southeast Maljamar Grayburg-San Andres Unit as allowed by Section 3.6 of the Unit Agreement.

<u>Unit Area:</u> The enlarged unit area shall comprise the following lands:

Township 17 South, Range 33 East, NMPM, Lea County, NM

Section 29: All except NE/4 NE/4

Section 30: NE/4, N/2 SE/4 and SE/4 SE/4

Section 32: N/2 N/2, SE/4 NE/4 and N/2 SE/4

Section 33: NW/4 NW/4 and N/2 SW/4

The unit area is being enlarged to include the following leases which are included in the above described unit area:

<u>Lessor</u> <u>Le</u>	ease_#	<u>Description</u>
USA N	M-04242	NW/4 NW/4 Section 33-T17S-R33E N/2 SW/4 Section 33-T17S-R33E N/2 SE/4 Section 32-T17S-R33E

Basis for Enlargement:

See attached Engineering and Geological Data.

<u>Exhibits to Unit Agreement</u>: Attached hereto are revised Exhibits "A", "B", and "C" to the Unit Agreement. The tract participations of existing unit tracts remain in the same ratio one to another after enlargement as before enlargement.

Effective Date: The effective date of enlargement shall be the first day of the month after final approvals for the enlargement are granted by the Commissioner of Public Lands, the Bureau of Land Management, and the Oil Conservation Division.

NEW MEXICO
OIL CONSERVATION DIVISION
EXHIBIT_2
CASE NO. 11742
-

SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT PROPOSED UNIT EXPANSION

Cross Timbers Oil Company (CTOC) proposes to expand the Southeast Maljamar Grayburg San Andres Unit (SEMGSAU) to in include three additional leases that CTOC operates. We believe the addition of these leases to the unit will enhance both unit production as well as the individual lease production. Current plans are to drill additional wells in the unit and on the three leases to be included in the unit. At the same time the waterflood will expand to include the new leases and the areas in the unit that are being infill drilled. If we assume the same secondary to primary ratio for the new tracts (leases) then an additional 625 MBO can be recovered by pulling these leases into the unit. This will also improve waterflood performance within the unit by enabling CTOC to complete additional flood patterns. We believe this is the most prudent way to improve unit and lease performance. Attached are maps showing pertinent engineering and geological data to support our request. A table showing the current unit tract factors and the new unit tract factors is also attached. The same parameters used in the original unit agreement were used to calculate the new tract factors. Another table showing the anticipated additional oil recovery due to the expansion is provided for your review.

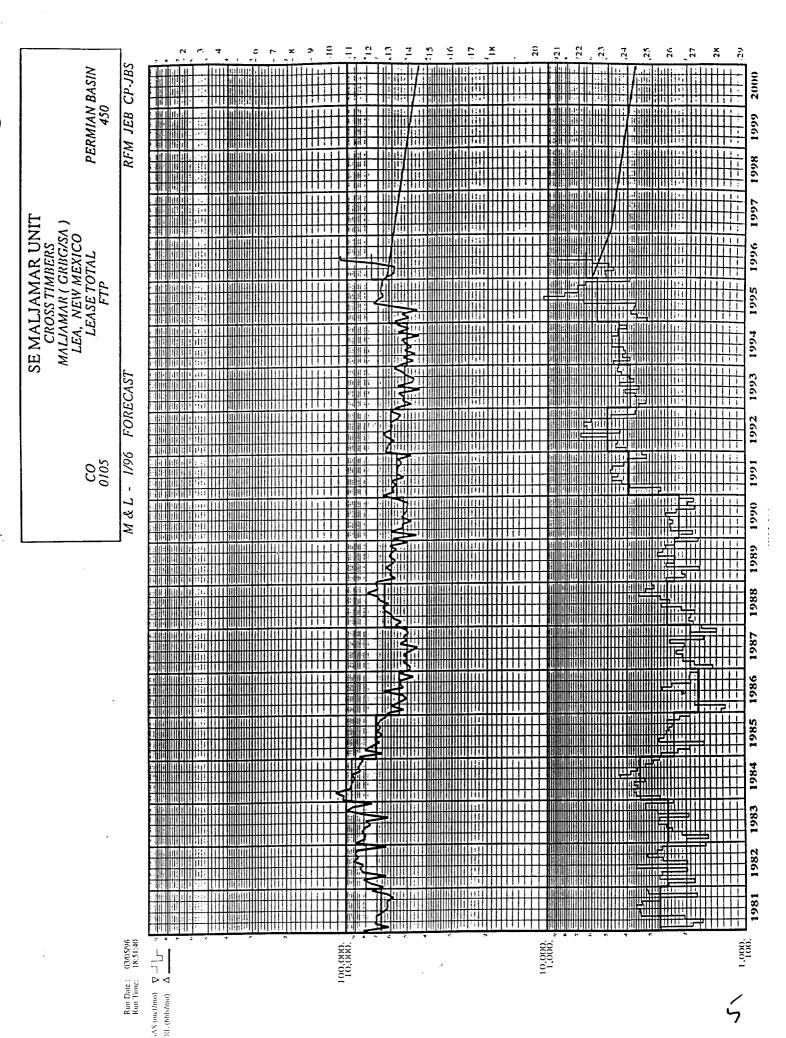
SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT PROPOSED UNIT EXPANSION SECONDARY RESERVE PROJECTIONS

CURRENT UNIT AREA ULTIMATE PRIMARY PRODUCTION -	2,569	МВО
PROJECTED ULTIMATE RECOVERY FROM THE UNIT -	5,563	мво
SECONDARY RECOVERY FROM THE UNIT 5,563 - 2,569 =	2,994	MBO
SECONDARY TO PRIMARY RATIO -	1.1654	
ULTIMATE PRIMARY PRODUCTION FROM THE THREE TRACTS TO BE ADDED TO THE UNIT	536	МВО
ASSUMING THE SAME RATIO FOR THE THREE TRACTS SECONDARY RECOVERY FROM THE ADDITIONAL TRACTS	625	МВО
ASSUMING A ONE TO ONE SECONDARY TO PRIMARY RATIO SECONDARY RECOVERY FROM THE ADDITIONAL TRACTS	536	МВО
ASSUMING A 0.8 TO 1 SECONDARY TO PRIMARY RATIO SECONDARY RECOVERY FROM THE ADDITIONAL TRACTS	429	МВО

AST M	IALJAMAR	SOUTHEAST MALJAMAR GRAYBURG/SAN ANDRES	AN ANDRES U	UNIT						
ULTIMA	TE PRIMA	TRACT ULTIMATE PRIMARY PRODUCTION AND ACI	ION AND ACRE	REAGE						
LATION	OF NEW 7	CALCULATION OF NEW TRACT PARTICIPATION FAC	PATION FACT	CTORS						
				%06	2%	2%				
		TRACT	TRACT	TRACT		TRACT	NEW	OLD		
TRACT	TRACT	DEVELOPED	ULTIMATE	ULTIMATE	TRACT	DEVELOPED	TRACT	TRACT		
NO.	ACREAGE	ACREAGE	PRIMARY	PRIMARY	ACREAGE	ACREAGE	FACTOR	FACTOR	DELTA	
1	120	120	484,383	14.036285%	0.468750%	0.483871%	14.988906%	18.101025%	3.112119%	
2	120	120	42,183	1.222365%	0.468750%	0.483871%	2.174986%	2.610205%	0.435219%	
3	40	40	100,001	2.899533%	0.156250%	0.161290%	3.217074%	3.882765%	0.665691%	
4	160	160	126,650	3.670020%	0.625000%	0.645161%	4.940182%	5.946690%	1.006508%	
5	120	120	48,049	1.392348%	0.468750%	0.483871%	2.344968%	2.815695%	0.470727%	
9	160	160	642,864	18.628693%	0.625000%	0.645161%	19.898855%	24.030305%	4.131450%	
7	160	160	624,736	18.103386%	0.625000%	0.645161%	19.373548%	23.395260%	4.021712%	
8	40	40	209,018	6.056852%	0.156250%	0.161290%	6.374393%	7.699665%	1.325272%	
6	80	80	239,266	6.933368%	0.312500%	0.322581%	7.568449%	9.136770%	1.568321%	
10	80	40	51,923	1.504607%	0.312500%	0.161290%	1.978397%	2.381620%	0.403223%	
1	40	40	124,419	3.605371%	0.156250%	0.161290%	3.922912%	0.000000%	-3.922912%	-3.922912% US MINERALS
12	80	80	198,323	5.746936%	0.312500%	0.322581%	6.382017%	0.000000%	-6.382017%	-6.382017% DENIUS FEDERAL
13	80	80	213,966	6.200234%	0.312500%	0.322581%	6.835314%	0.000000%	-6.835314% STATE BY	STATE BY
-										
	1,280	1,240	3,105,841				100.000000%	100.000000%	%00000000	
OLD TOTALS	1,080	1,040	2,569,133			•				

· TRACFAC.WB2

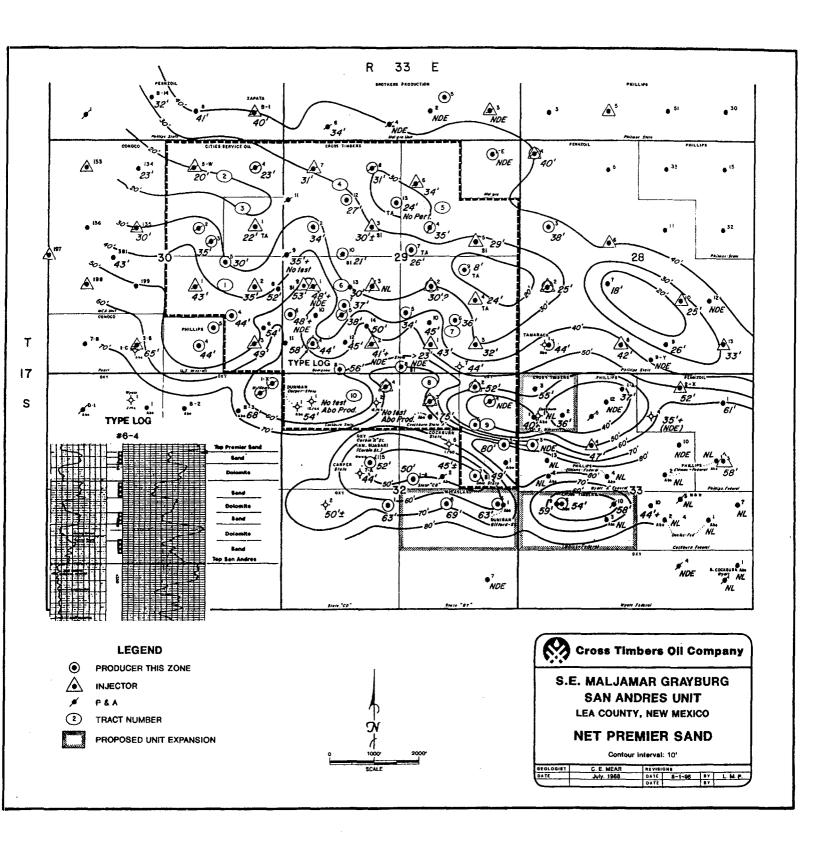
4

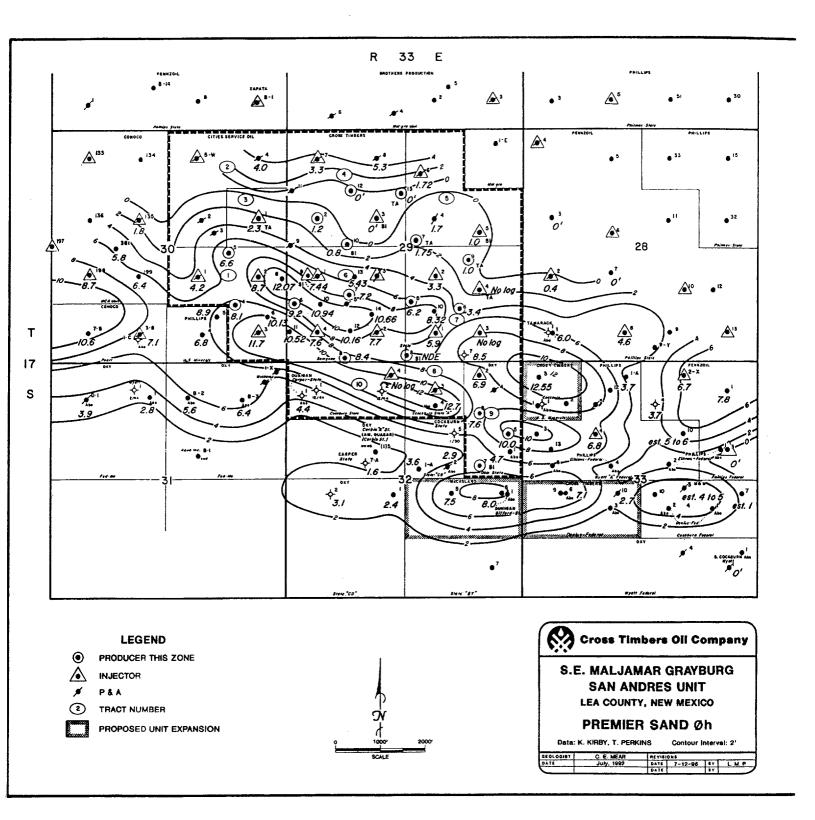


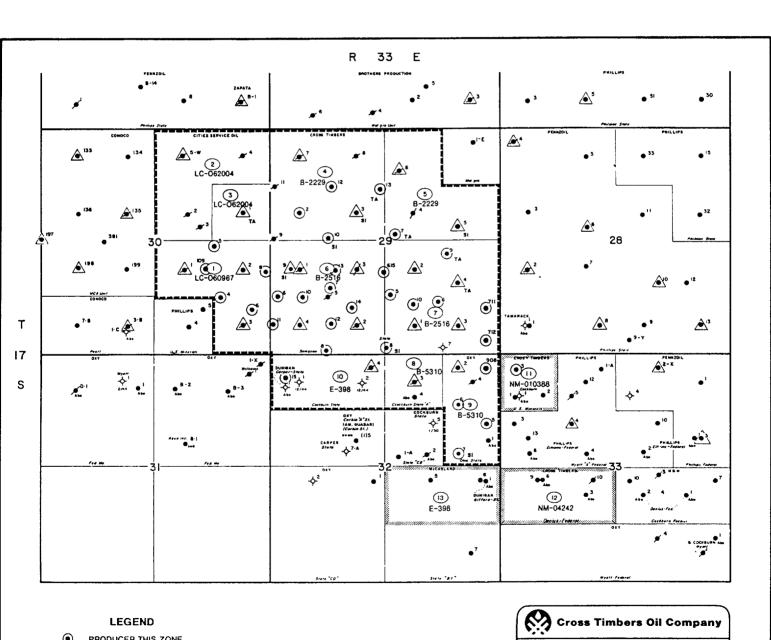
Geologic Discussion

Proposed Unit Revision,
Southeast Maljamar Grayburg-San Andres Unit
T-17-S, R-33-E, Lea County, New Mexico
Cross Timbers Oil Company, Operator

Recent updates of the subsurface geological maps at Southeast Maljamar Grayburg-San Andres Unit, using all available offset logs, have shown that there is additional Premier Sand just outside the current unit boundaries that is connected to the producing sands in the unit. The Premier net sand and Premier phi-h maps (attached) show this pay in the proposed new tracts. This Premier pay could be further developed and produced more efficiently as part of the unit.







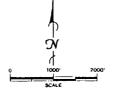
 \odot PRODUCER THIS ZONE

◬ INJECTOR

P & A

3 TRACT NUMBER

PROPOSED UNIT EXPANSION NM-04242 LEASE NUMBER



S.E. MALJAMAR GRAYBURG SAN ANDRES UNIT LEA COUNTY, NEW MEXICO **REVISED EXHIBIT "A"**

FEBRUARY 20, 1997 LANDMAN: WIN RYAN

REVISED EXHIBIT "B" SEPTEMBER 1, 1996

SOUTHEAST MALJAMAR GRAYBURG/SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

					LEA COL	LEA COUNTY, NEW MEXICO						
Tract Number	Description of Land	# Acres Lease #	Lease #	Basic Royalty and Ownership Percentage	Lessee of Record	ORR Owner and Production Payment Owner	ORRI/ PPI	Amount of ORRI/PPI	WIO	Amount of WI	Percent of Participation in Unit Phase II Eff (9/1/70)	Kiga kw a ji
-	N/2 SE/4, SE/4 SE/4 Sec 30-T17S-R33E	120	LC-060967 HBP	US - Sch D	Phillips Petroleum Company	Billy Frank Bunting Robert H. Bunting Charles Brice Dowaliby James M. Dowaliby Mary Evelyn Roberts Betty B. Thompson David H. & Gay B. Bell Trust	ORRI ORRI ORRI ORRI	.0010416 .0010416 .0020837 .0020837 .0083327 .0010417	Cross Timbers Oil Company	100.00000%	14.988906%	
2	N/2 NE/4, SW/4 NE/4 Sec 30-T17S-R33E	120	LC-062004 HBP	US - 12%	OXY USA Inc.	None	None	None	Cross Timbers Oil Company	100.00000%	2.174986%	
က	SE/4 NE/4 Sec 30-T17S- R33E	40	LC-062004 HBP	US - 12½	OXY USA Inc.	None	None	None	Cross Timbers Oil Company	100.00000%	3.217074%	
4	NW/4 Sec 29-T17S- R33E	160	B-2229	State - 121/2	Phillips Petroleum Company	None	None	None	Cross Timbers Oil Company	100.00000%	4.940182%	
ъ	W/2 NE/4, SE/4 NE/4 Sec 29-T17S-R33E	120	B-2229	State - 121/2	Phillips Petroleum Company	Cross Timbers Oil Company Cross Timbers Oil Company Everett R. Jones, Jr. Reuben I. Wolfson Properties Sam Wolfson Oscar A. Bourg, Jr. Bourg Heirs Blind Trust	ORRI ORRI ORRI ORRI	.0546875 .0273438 (1) .0104167 (2) .0213623 (1) (3) .0012207 (1) (3) .0048828 (1) (3)	Cross Timbers Oil Company	100.00000%	2.344968%	
9	SW/4 Sec 29-T17S- R33E	160	B-2516	State - 121/2	OXY USA Inc.	Shirley C. Childress John E. Cochran Cross Timbers Oil Company	ORRI ORRI ORRI	.0078125 .0078125 <u>.109375</u> .125	Cross Timbers Oil Company	100.00000%	19.898855%	
2	SE/4 Sec 29-T17S-R33E	160	B-2516	State - 121/2	Shell Oil Company	None	None	None	Cross Timbers Oil Company	100.00000%	19.373548%	

SOUTHEAST MALJAMAR GRAYBURG/SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

500 500 500 500 500 500 500 500 500 500	Percent of Participation in Unit Phase II Eff (9/1/70)	6.374393%	7.568449%	1.978397%	3.922912%	6.382017%
Section of the sectio	Amount of WI	100.00000%	100.00000%	100.00000%	100.00000%	100.0000%
	WIO	Cross Timbers Oil Company	Cross Timbers Oil Company	Cross Timbers Oil Company	Cross Timbers Oil Company	Cross Timbers Oil Company
	Amount of ORRI/PPI	.009375 .003125 .0010416 .0010417 .003125 .01875	.1093750	None	.0300000	.0050000 .0037500 .0064453 .0128907 .0075000 .0075000 .00109375 .0037500 .00109375 .0025001 .0064453 .0064453 .0064453 .0064453 .0064453 .0064453
	ORRI/ PPI	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	ORRI	None	ORRI	ORRI
LEA COUNTY, MEV WIENIOU	ORR Owner and Production Payment Owner	R. G. Barton and O. Barton Kelly H. Baxter John William McDonald David Graham McDonald Suzanne M. Chambers Milton M. Krasne	Marathon Oil Company	None	William F. Grauten Morton M. Pepper	Danna Lynn Beil Richard Blotter Rev. Trust John W. Boone Trust Cale W. Carson Jr. Estate Mary Kathryn Carson John E. Cochran Shirley C. Childress Deaton Investments Homer R. Denius Trust William F. Grauten Bernard E. Johnston Bernard E. Johnston Mary Ellen Johnston Elizabeth W. Knowles Morton M. Pepper Mary Lee Reese Ralph Albert Shugart Trust Pearl W. Siegenthaler J. B. Stephenson Trust Mary M. Stephenson Trust Neil & Helen Weaver Rev Tr Dan L. Williams William J. Wright
בובא כלו	Lessee of Record	OXY USA Inc.	OXY USA Inc.	OXY USA Inc.	Thelma Cockburn & Maggie Cockburn	John W. Boone Homer R. Denius Neil & Helen Weaver Rev Tr J. B. Stephensen Est Cale W. Carson, Jr. Estate Mary Kathryn Carson W. Siegenthaler J. G. Wright
	Basic Royalty and Ownership Percentage	State - 121/2	State - 121/2	State - 121/2	US - Sch B	US - 121/
	Tease #	B-5310	B-5310	E-398	NM-010388 HBP	NM-04242 HBP
	# Acres	40	80	80	40	08
	Description of Land	NW/4 NE/4 Sec 32- T17S-R33E	E/2 NE/4 Sec 32-T17S- R33E	N/2 NW/4 Sec 32-T17S- R33E	NW/4 NW/4 Sec 33- T17S-R33E	N/2 SW/4 Sec 33-T17S-R33E
	Tract Number		Ø	10	11	2

.0064453 .0050000 .0050000 .0064453 .1750000

SOUTHEAST MALJAMAR GRAYBURG/SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Percent of Participation in Unit Phase II Eff (9/1/70)	6.835313%	30.685895% 69.314105% 100.000000%	
Amount of WI Percent of Participation in Unit Phase II Eff (9/1/70)	100.00000%		
WIO	Cross Timbers Oil Company		
Amount of ORRI/PPI	.000625 .013333 .000625 .0044071 .0002651 .0004927 .0001259		
ORRI/ PPI	ORRI ORRI ORRI ORRI		
ORR Owner and Production Payment Owner	Thelma Cockburn, Trustee Maggie Suetta Cockburn Thelma Cockburn James P. Dunigan, Inc. Nan S. Gullahorn J. B. Harrell, Jr. Justine L. Harrell Estate Bubba Spears		
Basic Royalty Lessee of Record and Ownership	OXY USA Inc.		
Basic Royalty and Ownership Percentage	State - 121/2		
"S. [Fease #	E-398		
# Acre	80	1080 200 1280 400 880	1280
Description of Land # Acres Lease #	N/2 SE/4 Sec 32-T17S-R33E	SUMMARY Original Unit Acres Proposed Expansion (Tr 11, 12, 13) TOTAL 5 Federal Tracts	TOTAL
Tract Number	13		

ල

These ORRI figures are based on average daily production of oil per well being less than 15 BO computed on a monthly basis. £

To be increased to .03125 after 86,000 barrels of oil have been produced from this lease from depths above 4,500' 3

composed of Sam Wolfson and Reuben I. Wolfson, joined by their wives Ruth Ann Wolfson and Sarah Wolfson, and Oscar A. Bourg and Marie Eugenie Bourg, his wife, reserved an overriding royalty equal to the difference between the interest assigned to Carper and the 75520833 would be increased by .02734375 In the assignment to Carper Drilling Company, Inc., dated April 22, 1965, but effective April 1, 1965, recorded in Book 237 at page 188 of the Oil and Gas Records of Lea County, Wolfson Oil Company, a partnership as to any well from which the average daily production of oil averaged on a monthly basis is less than 15 barrels and decreased by .02083333 after the production of the first 86,000 barrels of oil.

REVISED EXHIBIT "C" SEPTEMBER 1, 1996

Tract Number	Percent of Participation in Unit Phase II (Eff 9/1/70)
1	14.988906%
2	2.174986%
3	3.217074%
4	4.940182%
5	2.344968%
6	19.898855%
7	19.373548%
8	6.374393%
9	7.568449%
10	1.978397%
11	3.922912%
12	6.382017%
13	<u>6.835313%</u> 100.000000%

WORKING INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT AND UNIT OPERATING AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Each of the persons who signs this instrument acknowledges receipt of a counterpart of an instrument entitled, "Unit Agreement and Unit Operating Agreement for the Development and Operation of the Southeast Maljamar Grayburg-San Andres Unit, Maljamar Field, Lea County, New Mexico," dated May 2, 1966, for the purpose of conducting Unit Operations with respect to the Grayburg and San Andres Formation underlying the following described Unit Area:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

Township 17 South, Range 33 East

Section 29: NW/4, W/2, SE/4 NE/4 and S/2

Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

Section 33: NW/4 NW/4 and N/2 SW/4 *

* The Unit is being enlarged to include these tracts. Please see the Revised Exhibit "A", "B" and "C" to the Unit Agreement.

Situated in Lea County, New Mexico, containing 1280 acres, more or less.

The Unit Agreement and Unit Operating Agreement provides that any person defined in the Agreements as a Working Interest Owner may become a party to the Agreement by signing the original, a counterpart, or other instrument that evidences an intention to be bound by the terms of both Agreements.

NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement and Unit Operating Agreement as if he had signed the original Agreements and agrees that the parties to the Unit Agreement and Unit Operating Agreement are those that sign the original Agreements, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the 13th day of December, 1996.

WORKING INTEREST OWNER

CROSS TIMBERS OIL COMPANY

Vaughn 0. Vennerberg, Senior Vice President - and

NEW MEXICO OIL CONSERVATION DIVISION

EXHIBIT 3

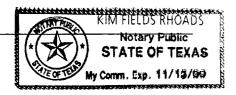
CASE NO 17747

STATE OF	TEXAS	§
COUNTY O	F TARRANT	_

BEFORE ME, the undersigned authority, on this day personally appeared <u>Vaughn 0. Vennerberg, II</u>, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

GIVEN U	NDER M	IY HAND	AND	SEAL	OF	OFFICE	THIS	13th	_ day of
December		_, 1996.							_ ,
My Commission I	Expires:			Kuni	Xu	in Rh	rah	1	

Notary Public





COMMERCIAL RESOURCES (505)-827-5724

SURFACE RESOURCES (505)-827-5795

MINERAL RESOURCES (505)-827-5744

> ROYALTY (505)-827-5772

RECEIVED

OIL CONSERVATION DIVISION

State of New Mexido Commissioner of Public Lands 3 199

Ray Powell, M.S., D.V.M. LAND DEPARTMENT 310 Old Santa Fe Trail, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS (505)-827-5765

ADMINISTRATIVE MOMT. (505)-827-5700

> LEGAL (505)-827-5713

> PLANNING (505)-827-5752

January 29, 1997

Cross Timbers Oil Company 810 Houston Street Suite 2000 Ft. Worth, Texas 76102-6298

Attn: Mr. Edwin S. Ryan, Jr.

Re: Final Approval

Enlargement of Southeast Maljamar Grayburg San Andres Unit Agreement

Lea County, New Mexico

Dear Mr. Ryan:

We are in receipt of your letter and ratifications of January 14, 1997, wherein you have requested final approval to enlarge the boundaries of the Southeast Maljamar Grayburg San Andres Unit Agreement, Lea County, New Mexico.

Please be advised that the Commissioner of Public Lands has this date granted final approval to enlarge the boundaries of the Southeast Maljamar Grayburg San Andres Unit Agreement, Lea County, New Mexico. Also, approved on this date is your initial plan of operation for the above-mentioned unit area. The following lands containing an additional 200.00 acres are now included and are now a part of the existing unit area:

Township 17S, Range 33E

Section 33: NW/4NW/4, N/2SW/4

Section 32: N/2SE/4

Pursuant to Section 3.6 of the unit agreement, this expansion will become effective on the first day of the month following approvals for enlargement by the Oil Conservation Division and the Bureau of Land Management.

Cross Timbers Oil Company January 29, 1997 Page 2

Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management. Please advise this office when all the required agencies have approved this enlargement.

Enclosed are Five (5) Certificates of Approval. Your filing fee in the amount of \$60.00 Dollars has been received.

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

JAMI BAILEY, Director Oil, Gas and Minerals Division

(505) 827-5744

RP/JB/cpm Enclosure

cc: Reader File

BLM--Mr. Armando Lopez OCD--Mr. Roy Johnson TRD--Mr. Valdean Severson

Commissioner's File

NEW MEXICO STATE LAND OFFICE

CERTIFICATE OF APPROVAL

COMMISSIONER OF PUBLIC LANDS, STATE OF NEW MEXICO

CROSS TIMBERS OIL COMPANY
ENLARGEMENT OF SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT
LEA COUNTY, NEW MEXICO

There having been presented to the undersigned Commissioner of Public Lands of the State on New Mexico for examination, a Unit Agreement for the development and operation of acreage which is described within the referenced Agreement, dated MAY 2, 1966, which said Agreement has been executed by parties owning and holding oil and gas leases and royalty interests in and under the property described, and upon examination of said Agreement, the Commissioner finds:

- (a) That such agreement will tend to promote the conservation of oil and gas and the better utilization of reservoir energy in said area.
- (b) That under the proposed agreement, the State of New Mexico will receive its fair share of the recoverable oil or gas in place under its lands in the area.
- (c) That each beneficiary Institution of the State of New Mexico will receive its fair and equitable share of the recoverable oil and gas under its lands within the area.
- (d) That such agreement is in other respects for the best interests of the State, with respect to state lands.

NOW, THEREFORE, by virtue of the authority conferred upon me under Sections 19-10-45, 19-10-46, 19-10-47, New Mexico Statutes Annotated, 1978 Compilation, I, the undersigned Commissioner of Public Lands of the State of New Mexico, do hereby consent to and approve the said Agreement, however, such consent and approval being limited and restricted to such lands within the Unit Area, which are effectively committed to the Unit Agreement as of this date, and further, that leases insofar as the lands covered thereby committed to this Unit Agreement shall be and the same are hereby amended to conform with the terms of such Unit Agreement, and said leases shall remain in full force and effect in accordance with the terms and conditions of said Agreement. This approval is subject to all of the provisions of the aforesaid statutes.

IN WITNESS WHEREOF, this Certificate of Approval is executed, with seal affixed, this 29TH day of JANUARY, 1997

COMMISSIONER OF PUBLIC LANDS
of the State of New Mexico



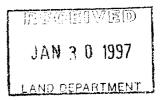
United States Department of the Interior

BUREAU OF LAND MANAGEMENT ROSWELL DISTRICT OFFICE 2909 West Second Street Roswell, New Mexico 88202



IN REPLY REFER TO: 14-08-0001-8814 3180 (06200)

WAN 26 601



Cross Timbers Oil Company Attention: Mr. Edwin S. Ryan, Jr. 810 Houston Street, Suite 2000 Fort Worth, TX 76102-6298

Gentlemen:

The Southeast Maljamar Grayburg-San Andres Unit, No. 14-08-0001-8814, Lea County, New Mexico, was approved on October 10, 1966. Request For final Approval for expansion of the unit was received by letter dated December 20, 1996. All of the requirements set forth in Article 3.6 of the unit agreement have been fulfilled. Said expansion is hereby approved and effective as of January 28, 1997. Approval of this expansion increases the unit area from 1080.00 acres to 1280.00 acres.

Approval of the expansion does not warrant or certify that the operator thereof and other working interest owners hold legal or equitable title to the leases which are committed hereto.

One approved copy of the application is enclosed. You are requested to furnish the Commissioner of Public Lands and other interested principals with appropriate evidence of this approval.

Sincerely,

Tony L. Ferguson

Assistant District Manager,

Minerals Support Team

Enclosure

	EW MEXICO ERVATION DIVISION
	EXHIBIT 5
CASE NO	117+2



October 28, 1996

Certified Mail Return Receipt Requested

Overriding Royalty Owners U.S. Minerals. Denius Federal and State "BY" Leases (See Attached List)

Re:

Notice of Proposed Enlargement

Southeast Maljamar Grayburg San Andres Unit

Lea County, New Mexico

Dear Overriding Royalty Owner:

Cross Timbers Oil Company has received preliminary approval from the BLM and Commissioner of Public Lands to expand the Southeast Maljamar Grayburg San Andres Unit as described on the attached Notice of Proposed Enlargement.

If you are in agreement with the enlargement, please execute the enclosed Ratifications (copy of Unit Agreement attached) before a notary public and return one (1) original to my attention at the address below. Please also be advised that any objections to this enlargement must be made in writing within thirty (30) days of receipt of this letter.

We look forward to receiving the ratifications and if you have any questions please call me at (817) 877-2336.

Yours very truly,

Edwin S. Ryan, Jr.

Edwin L. Ryan FR

cc: w/att.

Mr. Armando Lopez Bureau of Land Management 2909 West Second Street

Roswell, NM 88202

Ms. Jami Bailey

Oil, Gas & Minerals Division Commissioners of Public Lands

310 Old Santa Fe Trail Santa Fe, NM 87501

NEW MEXICO OIL CONSERVATION DIVISION

ROYALTY AND ORRI OWNERS UNDER TRACT #11 OF PROPOSED EXPANSION OF SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT

COGBURN US MINERALS #1&2

WILLIAM F. GRAUTEN
300 W. TEXAS AVE., SUITE 319
MIDLAND, TX 79701-4545

MORTON M. PEPPER 3272 S. STEELE ST. DENVER, CO 80210

BUREAU OF LAND MANAGEMENT ATTN: ARMANDO LOPEZ 2909 WEST SECOND STREET ROSWELL, NM 88201

ROYALTY AND ORRI OWNERS UNDER TRACT #12 OF PROPOSED EXPANSION OF SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT

DENIUS FEDERAL

DANA LYNN BEIL P.O. BOX 442 LAS CRUCES, NM 88004

JOHN W. & LUCY BOONE 2703 ARDSLEY DR. ORLANDO, FL 32804

CALE W. CARSON, JR. 3402 161 ST., CT. SE #27 BELLEVUE, WA 98008-5761

MARY CARSON 8320 OLD MOSS ROAD DALLAS, TX 75231

JOHN E. COCHRAN 1314 TENTH ST., SUITE 130 HUNTSVILLE, TEXAS 77340

SHIRLEY C. CHILDRESS 604 N. DELAWARE, NO.2 ROSWELL, NM 88201

DEATON INVESTMENTS 5415 CHEVY CHASE PKWY NW WASHINGTON, DC 20015

HOMER R. DENIUS TRUST P.O. BOX 360955 MELBOURNE, FL 32936-0955

WILLIAM F. GRAUTEN 300 W. TEXAS AVE, STE. 319 MIDLAND, TEXAS 79701-4545

BERNARD E. JOHNSON 2715 N. KENTUCKY, UNIT 16 ROSWELL, NM 88201 MARY ELLEN JOHNSTON 2715 N. KENTUCKY, UNIT 16 ROSWELL, NM 88201

ELIZABETH W. KNOWLES P.O. BOX 285 ROSWELL, NM 88201

MORTON M. PEPPER 3272 S. STEELE STREET DENVER, CO 80210

MARY LEE REESE P.O. BOX 58531 SALT LAKE SITY, UT 84158

RICHARD BLOTTER REVOCABLE TRUST P.O. BOX 4012 SANTA FE, NM 87502-4012

RALPH ALBERT SHUGART TR DTD 5-26 C/O WELLS FARGO, TRUSTEE P.O. BOX 129113, A117 SAN DIEGO, CA 92112-9113

PEARL W. SIEGENTHALER P.O. DRAWER Z ARTESIA, NM 88210

BRYAN J. STEPHENSON TRUST C/O SUNWEST BANK ALBUQUERQUE P.O. BOX 26900 ALBUQUERQUE, NM 87125

MARY MAUDE STEPHENSON TRUST C/O SUNWEST BANK ALBUQUERQUE P.O. BOX 26900 ALBUQUERQUE, NM 87125

NEIL E. & HELEN W. WEAVER REVOCABLE TRUST 1000 EL ALHAMBRA CIRCLE NW ALBUQUERQUE, NM 87107

DAN WILLIAMS, JR. P.O. BOX 442 LAS CRUCES, NM 88004

BHP PETROLEUM (AMERICAS) INC. ATTN: BOB MCNEIL 1360 POST OAK BLVD., STE. 500 HOUSTON, TEXAS 77056 WILLIAM J. WRIGHT 916 S. ROSELAWN ARTESIA, NM 88210

BUREAU OF LAND MANAGEMENT ATTN: ARMANDO LOPEZ 2909 WEST SECOND STREET ROSWELL, NM 88201

ROYALTY AND ORRI OWNERS UNDER TRACT #13 OF PROPOSED EXPANSION OF SOUTHEAST MALJAMAR GRAYBURG SAN ANDRES UNIT

STATE BY

JOHNEY COCKBURN TRUST THELMA COCKBURN, TRUSTEE 1006 W 3RD ST. LAMPASAS, TX 76550

MAGGIE SUETTA COCKBURN P.O. BOX 386 ARTESIA, NM 88210

THELMA COCKBURN 1006 W 3RD ST. LAMPASAS, TX 76550

JAMES P. DUNIGAN, INC. P.O. BOX 5559 ABILENE, TX 79608

NAN S. GULLAHORN 24 RUE MAISON ABILENE, TX 79605

J.B. HARRELL, JR. 1426 TANGLEWOOD ROAD ABILENE, TX 79605

DON HARRELL, EXECUTOR OF THE ESTATE OF JUSTINE L. HARRELL, DECEASED 1401 WOODLAND TRAIL ABILENE, TX 79605

DALLAS MCCASLAND BOX 206 EUNICE, NM 88231

BUBBA SPEARS BOX 2378 ABILENE, TEXAS 79604

OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Each of the persons who signs this instrument acknowledges receipt of a counterpart of an instrument entitled, "Unit Agreement for the Development and Operation of the Southeast Maljamar Grayburg-San Andres Unit, Maljamar Field, Lea County, New Mexico," dated May 2, 1966, for the purpose of conducting Unit Operations with respect to the Grayburg and San Andres Formation underlying the following described Unit Area:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

Township 17 South, Range 33 East

Section 29: NW/4, W/2, SE/4 NE/4 and S/2

Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

Section 33: NW/4 NW/4 and N/2 SW/4 *

* The Unit is being enlarged to include these tracts. Please see the Revised Exhibit "A", "B" and "C" to the Unit Agreement.

Situated in Lea County, New Mexico, containing 1280 acres, more or less.

The Unit Agreement provides that any person defined in the Unit Agreement as a Royalty Owner may become a party to the Agreement by signing the original, a counterpart, or other instrument that evidences an intention to be bound by the terms of the Agreement.

NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the I day of DC, 1996

ROYALTY OWNER

John YV Boone

Iter-11/25 Trust

Dated May 12, 1986

NEW MEXICO OIL CONSERVATION DIVISION
CASE NOEXHIBIT

STATE OF TEAS §
COUNTY OF WALKER §
BEFORE ME, the undersigned authority, on this day personally appeared to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.
GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 3 rd day of
My Commission Expires:
A lo loo Notary Public Notary Notary Public Notary
A STREET OF TEXTS OF

OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Township 17 South, Range 33 East

Section 29: NW/4, W/2, SE/4 NE/4 and S/2

Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

Section 33: NW/4 NW/4 and N/2 SW/4 *

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NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the 18th day of november 1996.

ROYALTY	OWNER		
Shule	Q.(hilde	w
	0		

		<u></u>	

STATE OF NEW MEXICO	§
COUNTY OF CHAVES.	§ §

BEFORE ME, the undersigned authority, on this day personally appeared <u>SHIRLEY C. CHILDRES</u>\$ known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

GIVEN UNDER MY HANOVEMBER, 199	AND AND SEAL OF OFFICE THIS 18TH day of 96.
My Commission Expires:	Notary Public
	OFFICIAL SEAL SANDIE DAVIES

NOTARY PUBLIC

OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Township 17 South, Range 33 East

Section 29: NW/4, W/2, SE/4 NE/4 and S/2

Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

Section 33: NW/4 NW/4 and N/2 SW/4 *

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Executed as of the 12th day of Mountain, 1996.

ROYALTY OWNE	R
E. Birnard	Johnston
	t

STATE OF COUNTY OF Chares	§ § §
COUNTY OF Chares	§
the foregoing instrument, and and consideration therein expense.	undersigned authority, on this day personally appeared , known to me to be the person whose name is subscribed to acknowledged to me that he executed the same for the purposes ressed and in the capacity stated therein.
GIVEN UNDER MY	HAND AND SEAL OF OFFICE THIS day of 1996.
THEOGRAPH,	1996.
My Commission Expires:	Charles
	Notary Public
5/19/78	į.

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OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Section 32: N/2 SE/4 *

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NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the 12 day of November 1996.

ROYALT	Y OWN	IER	
Mary	Ellen	John	ston
	, <u>.</u>		

STATE OF Lew Mexico	§ .
COUNTY OF Graves	§ §
the foregoing instrument, and a	indersigned authority, on this day personally appeared, known to me to be the person whose name is subscribed to cknowledged to me that he executed the same for the purposes essed and in the capacity stated therein.
GIVEN UNDER MY	HAND AND SEAL OF OFFICE THIS 💋 day of 1996.
My Commission Expires:	Motary Public —
,	

v

OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Executed as of the <u>5</u> day of <u>November</u>, 1996.

ROYALTY OWNER

May Jee Steense

STATE OF UTAH §
COUNTY OF SALVERS

BEFORE ME, the undersigned authority, on this day personally appeared MHYLLIS LEESE, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS day of JOULINACK, 1996.

My Commission Expires:

bles læd

Notary Public

STATE OF UTAH

My Commission Expires

June 15, 2000

180 S. Main St. Salt Lake City, Utah 84101

OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Executed as of the 19 day of November, 1996.

ROYALTY OWNER		
Elusbeta Shugart	Ouncar_	`
Special Thustee	Ouncar- Palph Albert Shyart Tru	et
- '	\mathcal{O}	

STATE OF <u>Colorado</u>		8
COUNTY OF _	Denver	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

BEFORE ME, the undersigned authority, on this day personally appeared Elizabeth Shugart Duran known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

GIVEN UNDER MY November,	HAND AND SEAL OF OFFICE THIS 1996.	19 ^{+h} day of
My Commission Expires:	Lou B. Crosby Notary Public	

July 27, 199B



OVERRIDING ROYALTY INTEREST OWNER AGREEMENT TO BECOME A PARTY TO UNIT AGREEMENT

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Executed as of the Jim day of Mor, 1996.

ROYALTY OWNER

Lean Sugarthan

STATE OF New Myice 8
STATE OF New Mexico & COUNTY OF Eddy &
BEFORE/ ME, the undersigned authority, on this day personally appeared to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.
GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 5th day of Drumber, 1996.
My Commission Expires: Notary Public Notary Public

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Section 32: N/2 SE/4 *

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Executed as of the8 day	y of <u>November</u>	<u>.</u> , 1996.
ROYALTY OWNER		
Sunwest Bank of Albuquerque, N	.A.	
Trustee for J.B. Stephenson		

Catherine E. Rugen

Vice President and Trust Officer

STATE OF NEW MENTO	
COUNTY OF BERNALULO	•

BEFORE ME, the undersigned authority, on this day personally appeared <u>Cotto Consideration</u>, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS day of 1996.

My Commission Expires:

| OFFICIAL SEAL JUDITH E. MAYO | MOTARY PUBLIC STATE OF NEW MEDICO

My commission expires: 6/2//2000

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Executed as of the <u>8</u> day of <u>November</u> , 1990	``
	٠.
ROYALTY OWNER	
Sunwest Bank of Albuquerque, N.A.	
Agent for Ray Zimmer Successor	
For Mary Maude Stephenson	

Catherine E. Rugen

Vice President and Trust Officer

STATE OF <u>AEU MEXICO</u> § COUNTY OF <u>BERNAVILLO</u> §	
Catherine & Rugar, known	ned authority, on this day personally appeared in to me to be the person whose name is subscribed to edged to me that he executed the same for the purposes d in the capacity stated therein.
GIVEN UNDER MY HAND MUENDER., 1996.	AND SEAL OF OFFICE THIS day of
My Commission Expires:	Notary Public & Mayo
<u>8/31/.2000</u>	OFFICIAL SEAL JUDITH E. MAYO NOTARY PUBLIC-STATE OF NEW MEXICO My commission expires: 8/21 2000

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

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Executed as of the 6 day of Mariander, 1996.

ROYALTY OWNER

Helengy. The annual Linear

The Comment Trustee

STATE OF New Mexico 8	
STATE OF New Mexico & SCOUNTY OF Bernalillo &	
Helen Weaver, the undersign	ned authority, on this day personally appeared in to me to be the person whose name is subscribed to adject to me that he executed the same for the purposes d in the capacity stated therein.
-	AND SEAL OF OFFICE THIS 6th day of
My Commission Expires:	Notary Public Mary
6-12-97	

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SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Each of the persons who signs this instrument acknowledges receipt of a counterpart of an instrument entitled, "Unit Agreement for the Development and Operation of the Southeast Maljamar Grayburg-San Andres Unit, Maljamar Field, Lea County, New Mexico," dated May 2, 1966, for the purpose of conducting Unit Operations with respect to the Grayburg and San Andres Formation underlying the following described Unit Area:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

Township 17 South, Range 33 East

Section 29: NW/4, W/2, SE/4 NE/4 and S/2

Section 30: NE/4, N/2 and SE/4 SE/4

Section 32: N/2 NW/4, N/2 and SE/4 NE/4

Section 32: N/2 SE/4 *

Section 33: NW/4 NW/4 and N/2 SW/4 *

* The Unit is being enlarged to include these tracts. Please see the Revised Exhibit "A", "B" and "C" to the Unit Agreement.

Situated in Lea County, New Mexico, containing 1280 acres, more or less.

The Unit Agreement provides that any person defined in the Unit Agreement as a Royalty Owner may become a party to the Agreement by signing the original, a counterpart, or other instrument that evidences an intention to be bound by the terms of the Agreement.

NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the Andrew day of Novel, 1996.

ROYALTY OWNER

In Wan	I shright
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	STATE OF Town Inglin	e) §				
	COUNTY OF Eately	§ §				
This	BEFORE ME, the	undersigned , known to n	authority, on ne to be the pe	this day erson whose	personally a	appeared cribed to
	the foregoing instrument, and and consideration therein exp	acknowledged	to me that he	executed the	same for the	purposes
	GIVEN UNDER MY	HAND AND	SEAL OF O	OFFICE THI	s <u>/2</u> **	day of
	- FRANKE,	1550.		_	4	Л
	My Commission Expires:		1	anne (Dear	len
(June 3 2000	N	lotary Públic			
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SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Section 32: N/2 SE/4 *

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NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the 5 day of Nov., 1996.

ROYALTY OWNER

Thelma Cockhur, Fruster

W/w/o Johny Cockhur

STATE OF §
COUNTY OF Lampasas §
BEFORE ME, the undersigned authority, on this day personally appeared Thelma Cockburn, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.
GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 5th day of November , 1996.
My Commission Expires: Notary Public
Notary Public, State of Texas My Commission Expires MARCH 11, 2000.

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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NOW, THEREFORE, each of the persons who signs this instrument hereby agrees to become a party to, and be bound by provisions of the Unit Agreement as if he had signed the original Agreement and agrees that the parties to the Unit Agreement are those that sign the original Agreement, any counterpart or any instrument that evidences an intention to be so bound.

Executed as of the 19th day of November, 19	96.
ROYALTY OWNER	
Maggio Autola Josephun	
and the second	

STATE OF NEW MEXICO	§
COUNTY OF EDDY	§ §
MAGGIE SUETTA COCKBURN	undersigned authority, on this day personally appeared, known to me to be the person whose name is subscribed to
	acknowledged to me that he executed the same for the purposes
and consideration therein exp	ressed and in the capacity stated therein.
GIVEN UNDER MY	HAND AND SEAL OF OFFICE THIS 19th day of 1996.
My Commission Expires:	Motary Public
August 22 2000	_

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SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

Each of the persons who signs this instrument acknowledges receipt of a counterpart of an instrument entitled, "Unit Agreement for the Development and Operation of the Southeast Maljamar Grayburg-San Andres Unit, Maljamar Field, Lea County, New Mexico," dated May 2, 1966, for the purpose of conducting Unit Operations with respect to the Grayburg and San Andres Formation underlying the following described Unit Area:

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Section 32: N/2 SE/4 *

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Executed as of the 18th day of Movember 1996.

ROYALTY OWNER

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STATE OF Tenfor	§
COUNTY OF Taylor	§ §

BEFORE ME, the undersigned authority, on this day personally appeared Man Succeeding, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.

"GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 18 day of November, 1996.

My Commission Expires:

Notary Public

11-15-00

SHERON BARNHART

Notary Public, State of Texas

My Commission Exp 11-15-00

SOUTHEAST MALJAMAR GRAYBURG-SAN ANDRES UNIT LEA COUNTY, NEW MEXICO

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Executed as of the H day of Accepter, 1996.

ROYALTY OWNER
Justine L. Harrell

STATE OF Tyxas §
COUNTY OF Tinfing §
BEFORE ME, the undersigned authority, on this day personally appeared hor horrell, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity stated therein.
GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 7th day of, 1996.
My Commission Expires: HANNAH KISSICK Notary Public, State of Texas My Commission Expires 217297

RE-DESIGNATION OF WELL NAMES AND NUMBERS

Old Well Name & No.	New Tract No.	New Well No.
U.S. Minerals #1	11	111
U.S. Minerals #2	11	112
U.S. Minerals #3	11	113
Denius Federal #9	12	129
State BY #5	13	135
State BY #6	13	136

NEW MEXICO
OIL CONSERVATION DIVISION

CASE NO. 1742