**Julian Ard**
**4808 Westridge Avenue**
**Fort Worth, TX 76116**

**(817) 377-4830**

June 10, 1996

**Oil Conservation Division**
**2040 South Pacheco**
**Santa Fe, NM 87505**

**Via Federal Express 9314580085**

**Attn: Mr. William J. LeMay, Director**

Re: Case No. 11504
Order No. R-10597

Gentlemen:

In March of this year we were given notice, as an off-set Operator, of Manzano Oil Corporation's request for the promulgation of special pool rules (the above referenced Case and subsequent Order Nos.) in association with the drilling and completion of their "SV" Vest State Well No. 1 located in the $SE\frac{1}{4}SW\frac{1}{4}$ of Section 16, Township 14 South, Range 30 East, Chaves County, New Mexico.

As you are aware, we protested their Application, primarily because we had our own plans to drill an off-set to their well, on a 40 acre lease that we own in the same quarter section where their well is located. As you are also aware, normal statewide spacing for these wells is 40 acres. We also protested their Application because we did not feel there had been adequate time to evaluate any production data on their well (which information had been "tight"), which was a wildcat to the area.

At the Hearing, held April 11, 1996 in Santa Fe, Manzano presented evidence stating their well appeared very similiar to Bough C production in the Cuerno Largo field, which they operate and which they felt would drain 160 acres. They also testified that based on the data they had (and again, we had nothing to refute this with) the areal extent of drainage from their well was 121 acres. This was based on their geologic and engineering evaluation and was duly admitted into evidence at the Hearing. Again, we could not refute this as the data used for these calculations had been held "tight".

One of the key factors in determining the areal extent of drainage in a reservoir is the Gas/Oil Ratio (GOR). Manzano's calculations were based on a GOR of 1,694 cu. ft/bbl. (their Exhibit No. 7, copy enclosed). This GOR was based on "the first eight days of metered production after our gas-measurement facilities were in place" (Page 33 of the Transcript of the Hearing). This was for the period February 27th thru March 5th. By the time the Hearing was held, however, the GOR had in fact changed. Enclosed is a copy of Manzano's C-115 for March production from this well. It shows the well produced 11,481,000 cu. ft. gas and 5,176 bbls. of oil, for a GOR of 2,218 cu. ft/bbl. As this was a discovery well, the gas had been flared for

the period January 15th, when the well was completed, until February 27th, when their well was connected to a gas sales line, although they were aware that the volume of gas to be produced would warrant a gas connection in a relatively short period of time.

As stated previously, Manzano's calculations on the areal extent of drainage (121 acres) were based on a GOR of 1,694/1. Although they stated several times in the course of their testimony that they felt this well closely resembled wells that they were familiar with in the Cuerno Largo field which they felt drained 160 acres, when asked why they were only asking for 80 acre spacing if their well would drain more than that, their reply was " Well, I'll show later, the Bough C is easily drained on 160 or greater acres. With this limited data, we're requesting 80 acres as being prudent and reasonable with this limited data." (Donnie Brown, Page 37 of Transcript). We suspect the reason they were only requesting 80 acres when they calculated a 121 acre drainage area (based on a GOR of 1,694/1) has more to do with the fact that of the 160 acres they felt would normally be drained by a well with characteristics of this type, they only owned 120 acres and we owned the other 40.

That suspicion aside, however, the fact is that the GOR at the time of the Hearing was over 2,000 to 1. By the time the Order was signed by you, on May 10th, the GOR was apparently in excess of 7,500/1 and is apparently now in excess of 14,000/1. When we say apparently, this information is from production data faxed by Manzano to the OCD District 1 Office on May 29th. C-115's for April are still not available and May's will not be turned in until mid-July.

We have been trying to obtain production data on this well since we learned of its completion. Logs were only released in mid-May. We felt that we should probably off-set it (and filed an APD which as you know was approved in late March) to protect our acreage from being drained. Part of Manzano's stated reasons for their Application was to prevent the drilling of unnecessary wells. From what we have seen thus far, based on their own evidence and coupled with the additional production data now available, it appears to us that a well drilled on our acreage would be an "unnecessary" well. Our acreage should have been included in the proration unit for their well, and we should be allowed to pay our proportionate part (or they should be allowed to recoup the costs attributable to our proportionate part of the proration unit out of the production attributable to the well) of the costs involved in the Bough C drilling and completion.

As you may be aware, we filed, through our attorney in Santa Fe, Mr. Ernie Padilla, an Appeal to this Order by date of June 5th, and have requested a De Novo Hearing on this matter. In the meantime, however, another well has been drilled and completed to the South (by Yates Petroleum) and Manzano, from the production data faxed the OCD District 1 office, is producing their well at a rate well over (the gas) allowable. Inasmuch as it may be some time before this matter is resolved, and inasmuch as there

is an issue of correlative rights involved here, we ask that you take the above matters under advisement as soon as possible. We are contemporaneously sending a copy of this letter to Mr. Jerry Sexton, NMOCD District 1 Supervisor in Hobbs, as well as Mr. Padilla in Santa Fe, and Mr. Allen Harvey with the Stubbeman, McRae, Sealy, Laughlin & Browder firm, our attorneys in Midland.

Thank you very much for your attention in this matter.

Very truly yours,

Julian Ard by C. Mark Maloney, Agent

JA/cmm
encs.
cc: Mr. Jerry Sexton
New Mexico Oil Conservation Division
District 1 Office
P.O. Box 1980
Hobbs, NM 88240

Mr. Ernie Padilla
Padilla Law Firm
P.O. Box 2523
Santa Fe, NM 87504-2523

Mr. Allen G. Harvey
Stubbeman, McRae, Sealy, Laughlin & Browder, Inc.
P.O. Box 1540
Midland, TX 79702-1540

# "SV" VEST STATE #1
# Section 16, Township 14 South, Range 30 East
# Chaves County, New Mexico

| DATE | BOPD | MCFGPD |
|---|---|---|
| 2/27/96 | 162 | 282 |
| 2/28/96 | 126 | 276 |
| 2/29/96 | 184 | 257 |
| 3/01/96 | 152 | 271 |
| 3/02/96 | 178 | 271 |
| 3/03/96 | 124 | 271 |
| 3/04/96 | 188 | 267 |
| 3/05/96 | 162 | 267 |
| Total | 1276 | 2162 |

AVG GOR = $\frac{2162000}{1276}$ = 1694 cu.ft./bbl

Gas Gravity = 0.7

Oil API Gravity = 45.5° at 60° F

BEFORE THE
OIL CONSERVATION DIVISION
Santa Fe, New Mexico

Case No 11504 Exhibit No. 7

Submitted by: Manzano Oil Corporation

Hearing Date: April 4,1996

A. Yes, I am.

MR. CARR: Are the witness's qualifications acceptable?

EXAMINER STOGNER: Any objections?

MR. PADILLA: No.

EXAMINER STOGNER: Mr. Donnie Brown is so qualified.

Q. (By Mr. Carr) Mr. Brown, have you made an engineering study of the data available on the Bough C formation in the area surrounding the Vest State Number 1 well?

A. Yes, I have.

Q. And in making this study, what was it you were actually trying to determine?

A. My main purpose was to determine the areal drainage based on the information we have to date from the Vest State well.

Q. Could you refer to what has been marked as Manzano Exhibit Number 7, identify this and review it for Mr. Stogner?

A. Yes, this exhibit shows the first eight days of production after our gas-measurement facilities were in place.

In eight days it showed the well produced 1276 barrels of oil and 2162 MCF of gas. I had an average GOR

| Manzano Oil Corporation | 3 OGRID 013954 | 4 Month/Year 03/96 | 6 Page 13 of 13 |
|---|---|---|---|

| 7 POOL NO. AND NAME / Property No. and Name / Well No. & U-L-S-T-R / API No. | 8 CODE | INJECTION 9 Volume | INJECTION 10 Pressure | 11 CODE | PRODUCTION 12 Barrels of oil/condensate produced | PRODUCTION 13 Barrels of water produced | PRODUCTION 14 MCF Gas Produced | PRODUCTION 15 Days Produced | DISPOSITION OF OIL, GAS, AND WATER 16 CODES | 17 Point of Disposition | 18 Gas BTU or Oil API Gravity | 19 Oil on hand at beginning of month | 20 Volume (Bbls/mcf) | 21 Transporter OGRID | 22 CODE | 23 Oil on hand at end of month |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 92693 LEA UNDES. WOLFCAMP (GAS) | | | | | | | | | | | | | | | | |
| 006303 Neuhaus 14 Federal | | | | | | | | | | | | | | | | |
| 002 B-14-20S-35E | | | | | | | | | | | | | | | | |
| 30-025-31970 | F | | | | 145 | 503 | 3012 | 31 | O | 1233410 | | 64 | 0 | | | 209 |
| | | | | | | | | | G | 1233430 | 1222 | | 3012 | 009171 | | |
| | | | | | | | | | W | 1233450 | | | 503 | | | |
| 96100 SWD; DELAWARE | | | | | | | | | | | | | | | | |
| 006316 Texaco Federal | | | | | | | | | | | | | | | | |
| 002 G-14-19S-33E | | | | | | | | | | | | | | | | |
| 30-025-30943 | D | 7488 | 600 | W | | | | | | | | | | | | |
| 96101 SWD; DEVONIAN | | | | | | | | | | | | | | | | |
| 17886 J.L. Reed | | | | | | | | | | | | | | | | |
| 001 H-35-13S-37E | | | | | | | | | | | | | | | | |
| 30-025-05091 | D | 711 | 190 | W | | | | | | | | | | | | |
| 96127 SWD; SAN ANDRES GLORIETA | | | | | | | | | | | | | | | | |
| 17886 J.L. Reed | | | | | | | | | | | | | | | | |
| 003 G-35-13S-37E | | | | | | | | | | | | | | | | |
| 30-025-05093 | D | 304 | 190 | W | | | | | | | | | | | | |
| 96374 ECHOL-DEVONIAN, NE | | | | | | | | | | | | | | | | |
| 16113 "SV" Sundown St. | | | | | | | | | | | | | | | | |
| 001 M-14-10S-37E | | | | | | | | | | | | | | | | |
| 30-025-32750 | P | | | | 952 | 4992 | 0 | 31 | O | 2814893 | 42.6 | 346 | 850 | 015694 | | 44 |
| | | | | | | | | | W | 2814894 | | | 4992 | | | |
| 96452 WILDCAT UPPER PENN | | | | | | | | | | | | | | | | |
| 17651 "SV" Vest State | | | | | | | | | | | | | | | | |
| 001 N-16-14S-30E | | | | | | | | | | | | | | | | |
| 30-005-21138 | F | | | | 5176 | 0 | 11481 | 31 | O | 2816677 | 45.5 | 633 | 4990 | 015694 | | 81 |
| | | | | | | | | | G | 2817038 | 1025 | | 11481 | 602 | | |

If the 51,000 represents 20 percent of the original oil in place, then the original oil in place in the Vest State is 255,000 barrels.

Now, based on the 1.6 formation volume factor and a porosity of 6.4 percent and a water saturation of 32 percent as determined from our log analysis and our net pay over 4 percent of 10 feet, I calculate that the drainage is 121 acres.

Q. If you calculate 121 acres, why are you asking for 80-acre spacing?

A. Well, as I'll show later, the Bough C is easily drained on 160 or greater acres. With this limited data, we're requesting 80 acres as being prudent and reasonable with this limited data.

Q. Let's go to Manzano's Exhibit 13. What is this?

A. Well, this is a Horner plot of our pressure buildup from our second bottomhole pressure test.

Q. And what does this show you?

A. It shows where we derive the second pressure point at 2753, and it also shows that the -- calculates that the permeability of the Bough C formation is 97.6 millidarcies. Very good permeability for a Penn carbonate. It's equivalent to most Bough C permeabilities that drain in excess of 80 acres and 160 acres.

Q. Let's go to Exhibit 14. And I think in working