

ROSWELL BASIN WATERMASTER

28th

ANNUAL REPORT

1993

Robert R. Marr, Watermaster

1900 West Second Street

Roswell, New Mexico 88201

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INTRODUCTION

On January 10, 1966 Partial Judgment and Decree was entered under Cause No. 20294 and No. 22600 Consolidated in Chaves County, New Mexico. This Decree which adjudicated all ground water rights for irrigation, municipal, and industrial purposes in the Roswell Artesian Basin in Chaves and Eddy Counties, further provided for the metering of wells to commence January 1, 1967 and the establishment of a watermaster as follows:

"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to commence work not later than July 1, 1966. The watermaster and any assistants appointed shall serve under the direction of the state engineer and under the general supervision of the Court."

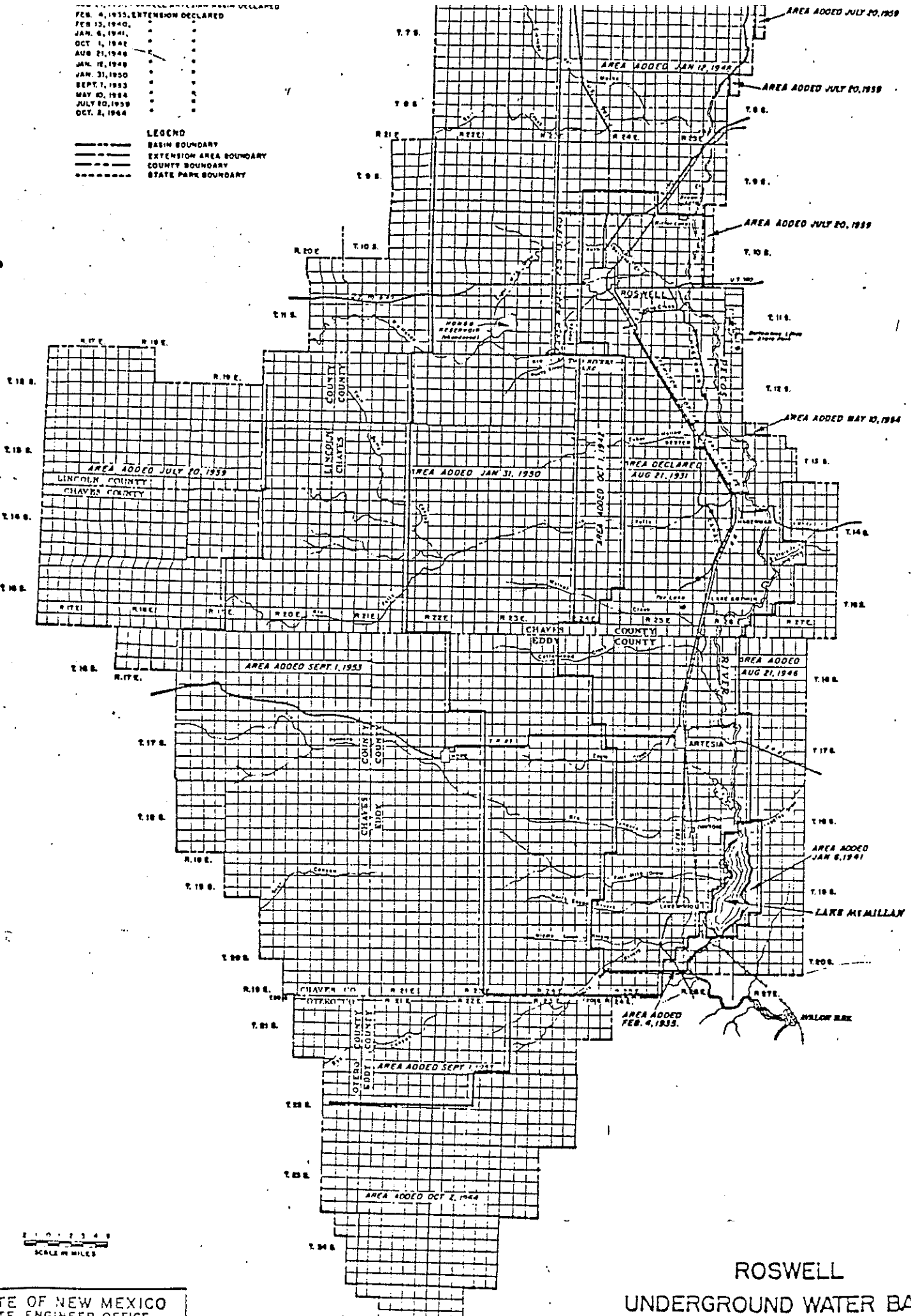
The office was established with the appointment of a watermaster on February 2, 1966. The present Watermaster, Robert R. Marr was appointed by State Engineer, S. E. Reynolds on April 5, 1988.

This is the 28th Annual Report of the Watermaster Office.

DECLARED
 FEB. 4, 1935, EXTENSION DECLARED
 FEB. 13, 1940,
 JAN. 6, 1941,
 OCT. 1, 1942
 AUG. 21, 1946
 JAN. 18, 1948
 JAN. 31, 1950
 SEPT. 1, 1953
 MAY 10, 1954
 JULY 20, 1959
 OCT. 2, 1964

LEGEND

- BASIN BOUNDARY
- EXTENSION AREA BOUNDARY
- COUNTY BOUNDARY
- STATE PARK BOUNDARY



**ROSWELL
 UNDERGROUND WATER BASIN**

GENERAL

The Roswell Basin Watermaster administers the diversion of water under the Adjudication Decree in an area extending, in general, six to eighteen miles west of the Pecos River and twenty miles north of Roswell in Chaves County to twenty miles south of Artesia, in Eddy County. A distance of approximately eighty miles. The principal use of water in the area is for agricultural purposes which accounts for about 86.9% of the total water diverted. Municipal use of water accounts for about 5.8% and the remainder is used for commercial and industrial purposes.

Ground water is the principal source of water diverted under the Decree and this is further divided into artesian and shallow ground water. Generally, a little less than two-thirds of the water is diverted from the artesian source, about one-third is diverted from the shallow source. A small portion is diverted from a combination of surface and well waters primarily through the Hagerman Canal.

Approximately, 130,000 acres of land were adjudicated irrigation rights under this Decree. The amount of acreage actually irrigated, however, varies from year to year as some rights have, under permit, been spread over larger acreages. Some rights have been transferred to municipal and industrial uses, while some rights have been retired by the Pecos Valley Artesian Conservancy District, and some acreage is fallow.

Procedures for accounting of water diverted under the Hagerman Canal were revised in January 1977. Rights under the Hagerman Canal not having a supplemental source from individually owned shallow or artesian wells are considered by this office to be adjudicated under the Hope Community Ditch Decree and not under Chaves County Cause No. 22600 and No. 20294 Consolidated. Thereafter, diversion of water for rights under the Hagerman Canal were accounted by the Roswell Basin Watermaster as follows:

- (1) Water diverted to farms having canal rights only will not be accounted.
- (2) Water diverted to farms having an underground right adjudicated or permitted to supplement the entire canal right shall be accounted as other adjudicated ground water rights with appropriate provisions for 5-year accounting, carriage loss and carryover.
- (3) Water diverted to farms having a combined or commingled right (either as decreed or permitted) where part of the canal right is not supplemented by ground water shall be accounted by considering the canal water diverted to be in direct proportion to the ratio of the unsupplemented canal right and only the supplemented right shall be accounted unless otherwise indicated by conditions of approval of an individual permit.

The Honorable Judge Harl Byrd served during the 1993 reporting period.

Personnel of the watermaster office at the beginning of the 1993 season consisted of Robert R. Marr, Watermaster; Rita Valdez, Secretary-Clerk, and David Thomas, Assistant Roswell Basin Watermaster.

On March 29, 1993, Sheldon Dorman and Phillip Fields transferred from the Water Rights Division to the Watermaster office to assist during the irrigation season.

On September 24, 1993, Sheldon Dorman and Phillip Fields transferred from the watermaster's office back to the Water Rights Division.

The operations of the Watermaster office are financed through the Pecos Valley Artesian Conservancy District. Under the terms of the Adjudication Decree the state engineer annually submits to PVACD a budget for the operations of the watermaster office and the PVACD Board then moves the Court to approve or modify the budget submitted. PVACD then reimburses the state engineer for monthly expenses incurred. The funds of PVACD are derived from a levy of lands within the district.

METERING PROGRAM

Six hundred and ninety three meters were found inoperative during the 1993 irrigation season. Based on a total of 1583 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 43.8% as compared to 52.1% found inoperative in 1992. Each meter was read an average of 10.0 times, including the beginning and year end readings.

The number of totalizing meters, by brand installed on these wells and the number of each brand found to be inoperative during the 1993 irrigation season, are listed as follows:

<u>Make of Meter</u>	<u>Total</u>	<u>% of Total</u>	<u>Total Inoperative</u>	<u>Make Inoperative</u>	<u>% of Total Installed</u>
BRAND A	66	4.2	29	43.9	1.83
BRAND B	1418	89.6	644	45.4	40.68
BRAND C	81	5.1	17	21.0	1.07
BRAND D	18	1.1	03	16.7	0.19
	1583	100.00	693		43.77

Adjustments in amounts of water diverted through inoperative meters for 1993 totaled 8,645.1 acre-feet of which 4,652.2 acre-feet was artesian and 3,992.9 acre-feet of which was shallow. The total adjustment is 2.43% of the total diverted for irrigation use.

The problem remains of having a large percentage of the water meters inoperative at the onset of spring pumping.

Meters are being maintained, repaired and/or replaced by field personnel of the PVACD at no cost to the water user.

CHANGES IN THE ADJUDICATION DECREE

There were no changes in the Adjudication Decree during the 1993 water year.

VIOLATION ACTIONS

There was one instance of overuse in 1993.

USE OF WATER IN THE ROSWELL BASIN IN 1993

The total water diverted in the Roswell Ground Water Basin for the water year 1993 (November 1, 1992 - October 31, 1993) under the administrative jurisdiction of the Roswell Basin Watermaster, was 386,343.7 acre-feet. Under the decree adjudicating water rights in the basin, discrete five-year periods were set-up for accounting of the metered water. The second year of the sixth five-year period was 1993.

Of the total diversion, 261,117.3 acre-feet (67.6%) was from the artesian source, 111,809.0 acre-feet (28.9%) was from the shallow source and 13,417.4 acre-feet (3.5%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 92.2% of the total diverted, municipal type use accounted for 6.2% and miscellaneous, industrial and commercial uses accounted for the remaining 1.6%.

The irrigation use on 115,456.1 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 3.09 acre-feet per acre for the basin as a whole varying from a high of 3.42 acre-feet per acre in the Artesia area to a low of 0.83 acre-feet per acre in the Upper Rio Felix. The equivalent acreage figures and pumpage figures do not include unmetered stock and domestic uses or water right acreage retired from irrigation under the program of the Pecos Valley Artesian Conservancy District. There are eight hundred and seventy-five farming units.

ROSWELL BASIN WATERMASTER

TABULATION OF ANNUAL WATER DIVERTED

1967 - 1993

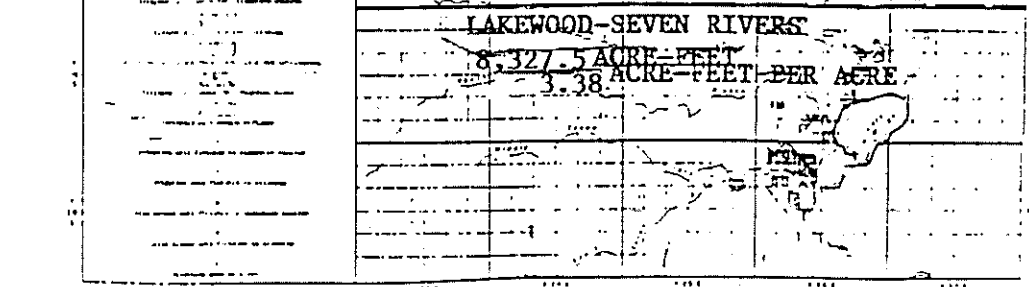
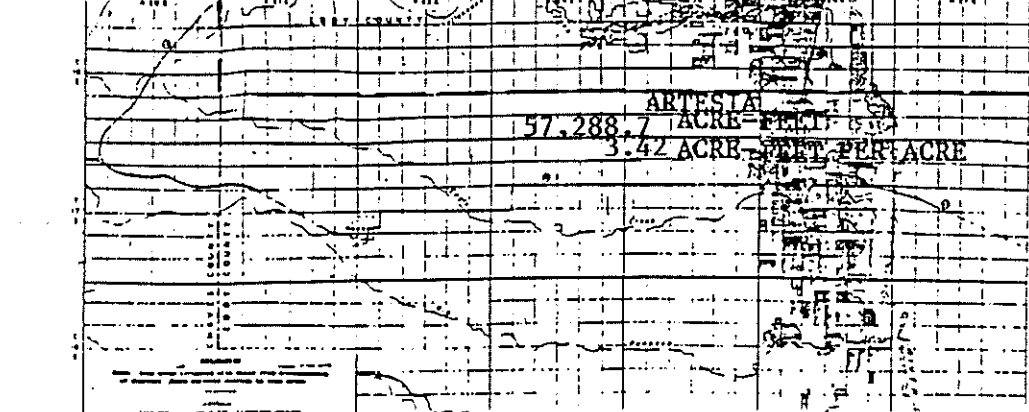
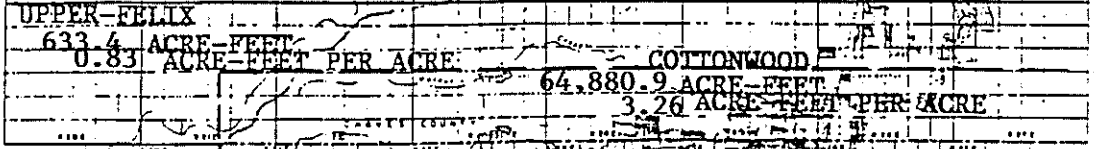
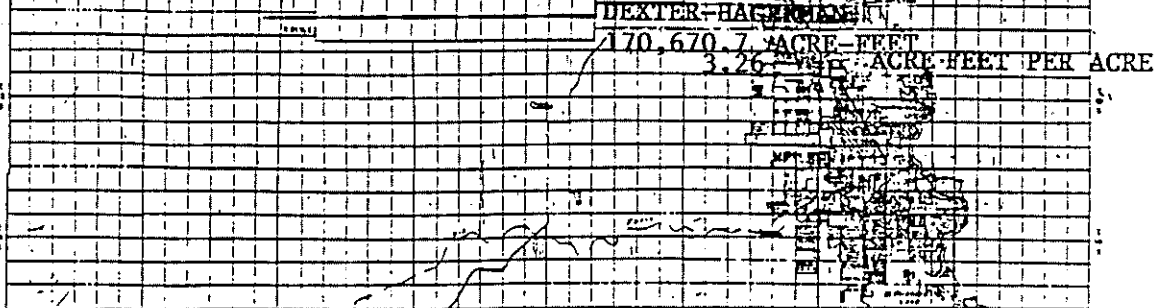
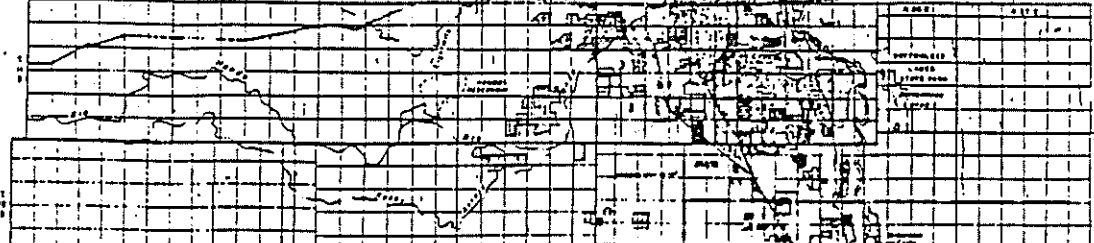
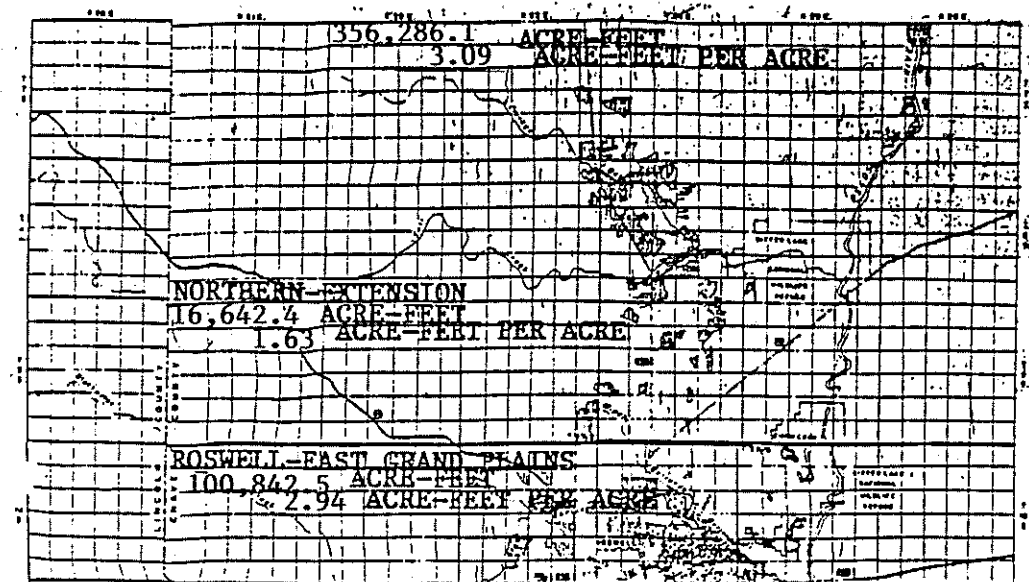
YEAR	ACRE-FEET	IRRIGATION EQ. AC.	ACRE-FEET PER ACRE	MUNICIPAL ACRE-FEET	INDL./COML. ACRE-FEET	TOTAL ACRE-FEET
1967	371,250.6	130,132.7	2.85	14,528.3	1,582.6	387,361.5
1968	323,917.1	128,245.0	2.53	13,596.3	1,611.1	339,124.5
1969	345,087.1	128,330.6	2.69	15,586.9	899.1	361,573.1
1970	358,686.8	126,002.4	2.85	15,888.5	916.3	375,491.6
1971	384,228.1	126,121.0	3.05	16,439.6	3,082.0	403,749.7
5-Year						
AVER.	356,633.9	127,766.3	2.79	15,207.9	1,618.2	373,460.0
1972	367,363.6	125,233.8	2.93	14,821.2	2,398.9	384,583.7
1973	386,288.8	125,293.0	3.08	15,335.0	2,983.0	404,606.8
1974	392,413.3	124,240.1	3.16	18,318.5	3,646.3	414,378.1
1975	368,512.6	123,740.7	2.98	16,145.9	3,083.9	387,742.4
1976	419,491.9	123,170.1	3.41	18,182.2	3,271.9	440,946.0
5 Year						
AVER.	386,814.0	124,335.5	3.11	16,560.6	3,076.8	406,451.4
1977	387,858.0	122,703.7	3.16	18,422.7	3,071.4	409,352.2
1978	359,011.0	122,233.7	2.94	15,569.7	3,270.7	377,851.4
1979	355,163.8	122,002.4	2.91	16,181.9	2,853.0	374,198.7
1980	360,484.4	121,763.3	2.96	17,804.3	2,388.6	380,677.3
1981	317,225.2	121,530.0	2.61	14,558.1	2,340.8	334,124.1
5 Year						
AVER.	355,948.5	122,046.6	2.92	16,507.3	2,784.9	375,240.7
1982	377,179.4	120,932.0	3.12	18,292.1	2,747.2	398,218.7
1983	356,836.0	120,277.7	2.97	19,312.3	2,818.3	378,966.6
1984	304,691.9	119,415.2	2.55	19,246.4	2,424.1	326,362.4
1985	293,465.1	119,333.3	2.46	17,494.4	2,863.7	313,823.2
1986	259,739.9	118,634.1	2.19	17,800.6	2,673.0	280,213.5
5 Year						
AVER.	318,382.5	119,718.5	2.66	18,429.2	2,705.3	339,516.9
1987	285,389.6	118,324.9	2.41	15,775.5	2,892.5	304,057.6
1988	306,838.7	115,696.1	2.65	16,734.6	4,887.4	328,460.7
1989	364,436.7	115,088.0	3.17	17,771.4	4,566.5	386,774.6
1990	356,612.1	115,433.0	3.09	20,569.6	4,733.2	381,914.9
1991	314,893.3	115,378.3	2.73	18,887.1	9,768.9	343,549.3
5 Year						
AVER.	325,634.1	115,984.1	2.81	17,947.6	5,369.7	348,951.4
1992	305,168.4	115,510.4	2.64	17,765.7	4,389.8	327,323.9
1993	356,286.1	115,456.1	3.09	23,841.7	6,215.9	386,343.7

METERED PUMPAGE SUMMARY SHEET

1993

Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	SECTIONS			Total
						Surface	Shallow	Artesian	
			MUNICIPAL & MUNICIPAL TYPE USE						
			Roswell						
			Dexter					16,654.2	16,654.2
			Hagerman				545.0	383.5	928.5
			Lake Arthur					388.2	388.2
			Artesia					73.4	73.4
			Hope					3,391.3	3,391.3
			Co-Ops					95.8	95.8
			Domestic Utilities				39.1	2,101.3	2,101.3
								169.9	209.0
			TOTAL				584.1	23,257.6	23,841.7
			FEED PEN OPERATIONS (NOT FARM CONNECTED)						
			FEED PEN OPERATIONS (FARM CONNECTED)				18.6	6.2	24.8
			DAIRIES-FARM CONNECTED- CHARGED TO						
			IRRIGATION WATER RIGHTS				7.3		7.3
			Dairies-Not Farm Connected				7,016.0	23,548.3	30,564.3
			SCHOOL SYSTEMS: RUSSELL						
							657.8	1,561.3	2,219.1
							*14.0	268.6	282.6
			MISCELLANEOUS INDUSTRIAL & COMMERCIAL						
			Chaves County				1,451.8	1,052.0	2,503.8
			Eddy County				14.8	1,163.5	1,178.3
			TOTALS				2,748.4	27,309.2	30,057.6

RNG



ROSWELL BASIN WATERMASTER

BUDGET
82ND FY
(1993 - 1994)

Salaries:

Watermaster	29,950
Water Resource Tech. III	20,209
Clerk Specialist	20,224
Water Resource Spec. I (.5 FTE)	11,504
Water Resource Aide (.5 FTE)	<u>9,190</u>

Total Salaries: 91,077

Benefits:

Group Insurance	5,446
Retirement	12,596
FICA	6,967
Workman's Compensation	45
Retiree Health Care	<u>911</u>

Total Benefits: 25,965

Travel:

In-State Travel	600
Gasoline	3,400
Oil & Maintenance	<u>3,000</u>

Total Travel: 7,000

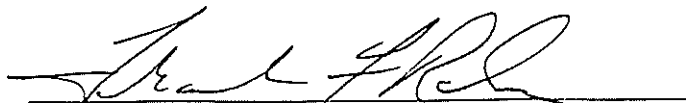
Other Costs:

Telephone	1,400
Supplies	308
Rent & Utilities	6,000
Postage	<u>450</u>

Total Other Costs: 8,158

Total Budget: 132,200

It is anticipated that line items will vary, but that the total will not exceed \$132,200 for the 82nd fiscal year.



Frank F. Rendon, Chief
Management Services Division

1993 001 10 11 1 21

**PECOS VALLEY ARTESIAN CONSERVANCY DISTRICT
ROSWELL BASIN WATERMASTER
EXPENDITURES**

JANUARY 01, 1993 TO JUNE 31, 1993

ACCOUNT DESCRIPTION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	TOTAL
SALARIES:							
WATERMASTER - MARR	2,367.77	2,367.77	2,367.77	2,367.77	2,367.77	2,367.77	14,206.64
CLERK SPECIALIST - VALDEZ	1,604.56	1,604.56	1,604.56	1,604.56	1,604.56	1,604.56	9,627.37
WATER RESOURCE TECH - THOMAS	1,626.23	1,626.23	1,626.23	1,626.23	1,626.23	1,626.23	9,757.37
WATER RES. SPC. I - SHELDON (.5FTE)	1,028.69	1,028.69	1,028.69	1,028.69	1,028.69	1,028.69	6,172.12
WATER RES. AIDE - FIELDS (.5FTE)	823.37	823.37	823.37	823.37	823.37	823.37	4,940.22
SUB - TOTAL SALARIES:	7,450.62	7,450.62	7,450.62	7,450.62	7,450.62	7,450.62	44,703.72
BENEFITS:							
INSURANCE	472.02	472.02	472.02	472.02	472.02	472.02	2,832.13
RETIREMENT	1,018.63	1,018.63	1,018.63	1,018.63	1,018.63	1,018.63	6,111.80
SOCIAL SECURITY	529.56	529.56	529.56	529.56	529.56	529.56	3,177.33
WORKMEN'S COMPENSATION	6.01	0.00	0.00	10.00	0.00	0.00	16.01
RETIREE HEALTH CARE ACT	72.96	72.96	72.96	72.96	72.96	72.96	437.75
SUB - TOTAL BENEFITS	2,099.18	2,093.17	2,093.17	2,103.17	2,093.17	2,093.17	12,575.02
TRAVEL:							
GAS & OIL	157.81	0.00	135.20	171.68	442.30	648.70	1,555.69
MAINTENANCE	23.47	23.47	72.32	119.75	133.39	836.81	1,209.21
PERDIEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUB - TOTAL TRAVEL	181.28	23.47	207.52	291.43	575.69	1,485.51	2,764.90
OTHER:							
COMMUNICATIONS	124.56	124.56	124.56	124.56	124.56	124.56	747.35
SUPPLIES	0.00	0.00	100.24	39.95	0.00	0.00	140.19
RENT & UTILITIES	504.09	504.09	504.09	504.09	504.09	504.09	3,024.54
SUB - TOTAL OTHER	628.65	628.65	728.89	668.60	628.65	628.65	3,912.08
POSTAGE	0.00	0.00	0.00	0.00	29.00	0.00	29.00
TOTAL	10,359.73	10,195.91	10,480.20	10,513.82	10,777.13	11,657.95	63,984.72

91 JUN 26 10 10 '98

PECOS VALLEY ARTESIAN CONSERVANCY DISTRICT
 ROSWELL BASIN WATERMASTER
 EXPENDITURES

JULY 1, 1993 TO DECEMBER 31, 1993

ACCOUNT DESCRIPTION	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	TOTAL
SALARIES:							
WATERMASTER - MARR	2,506.61	2,278.72	2,278.74	2,278.75	2,278.73	2,278.72	13,900.27
CLERK SPECIALIST - VALDEZ	1,655.99	1,594.24	1,683.06	1,683.04	1,683.04	1,683.04	9,982.41
WATER RESOURCE TECH - THOMAS	1,702.07	1,547.84	1,547.84	1,547.83	1,547.84	1,547.83	9,441.25
WATER RES. SPC. I - SHELDON (.5FTE)	946.21	868.08	868.09	868.09	868.08	868.08	5,286.63
WATER RES. AIDE - FIELDS (.5FTE)	752.75	684.32	707.44	707.44	707.44	707.44	4,266.83
SUB - TOTAL SALARIES:	7,563.63	6,973.20	7,085.17	7,085.15	7,085.13	7,085.11	42,877.39
BENEFITS:							
INSURANCE	557.29	508.23	507.98	507.96	507.97	507.96	3,097.39
RETIREMENT	1,047.05	964.38	979.87	979.85	979.86	979.86	5,930.87
SOCIAL SECURITY	556.99	514.47	521.28	523.04	523.06	523.05	3,161.89
WORKMEN'S COMPENSATION	1.60	0.00	0.00	8.02	0.00	0.00	9.62
RETIREE HEALTH CARE ACT	76.05	69.65	70.75	70.75	70.76	70.73	428.69
SUB - TOTAL BENEFITS	2,238.98	2,056.73	2,079.88	2,089.62	2,081.65	2,081.60	12,628.46
TRAVEL:							
GAS & OIL	0.00	676.77	136.35	365.06	493.85	96.23	1,768.26
MAINTENANCE	320.06	416.71	271.07	101.81	91.71	0.00	1,201.36
PERDIEM	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SUB - TOTAL TRAVEL	320.06	1,093.48	407.42	466.87	585.56	96.23	2,969.62
OTHER:							
COMMUNICATIONS	105.14	105.14	105.14	105.14	105.14	105.14	630.84
RENT; COPY/POSTAGE EQUIP.	25.68	25.68	25.68	25.68	25.68	25.68	154.07
RENT & UTILITIES	515.72	515.72	515.72	515.72	515.72	515.72	3,094.30
SUB - TOTAL OTHER	646.54	646.54	646.54	646.54	646.54	646.54	3,879.21
POSTAGE	29.00	29.00	29.00	29.00	29.00	29.00	174.00
TOTAL	10,382.20	10,798.95	10,248.01	10,317.18	10,427.88	9,938.48	62,528.68

SUMMARY

Metered use of water during 1993 resulted in an average use, for irrigation purposes, of 3.09 acre-feet per water right acre. The total quantity diverted for all uses was the tenth highest since metering began in 1967.

Inoperative meters continued to present some problems, however, under the present system of making adjustments essentially all of the water diverted through inoperative meters is accounted for. The program of checking and rating meters with the present staff seems to be working satisfactory.