

ROSWELL BASIN WATERMASTER

26th

ANNUAL REPORT

1991

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:

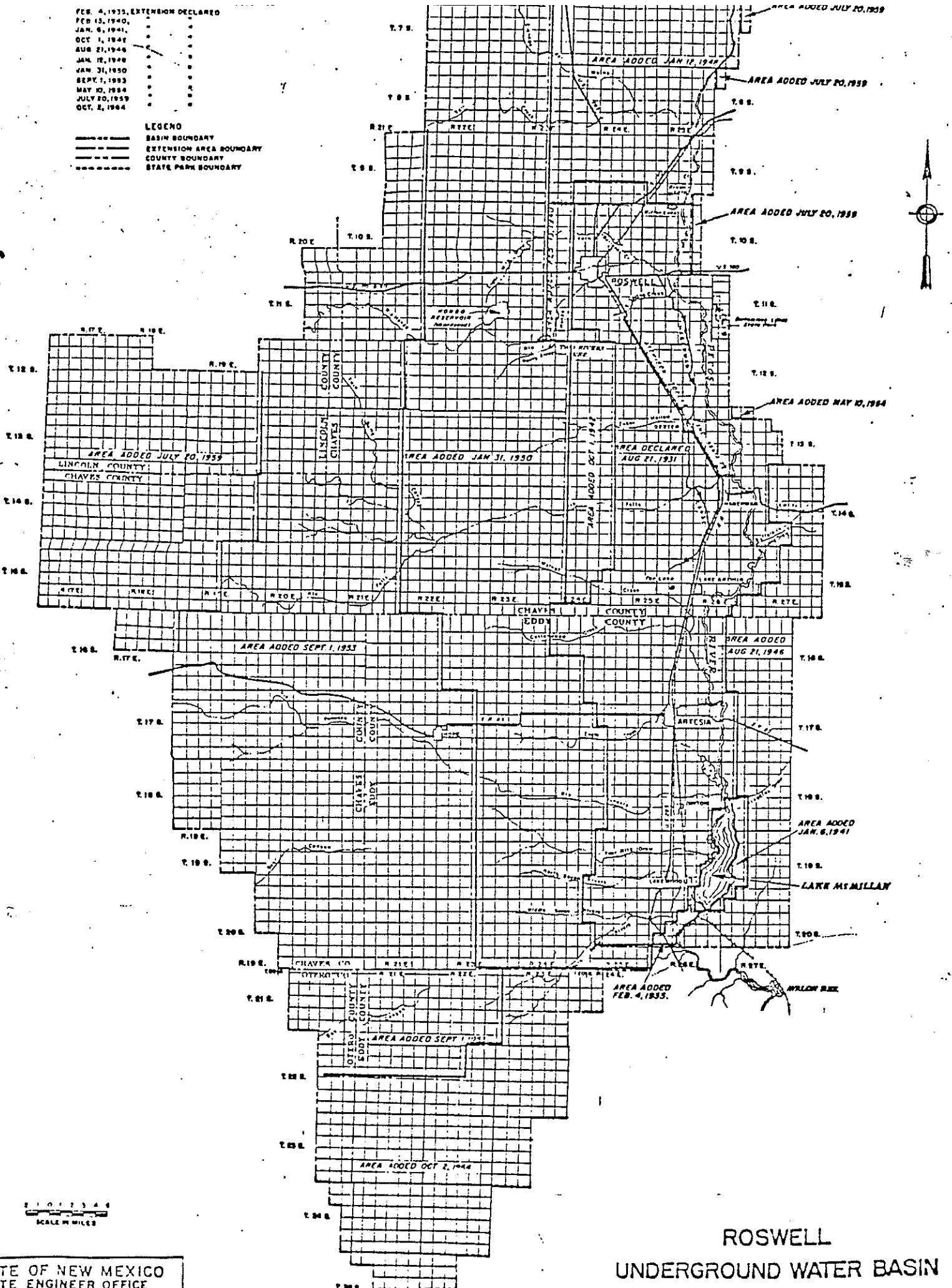
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to 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 26th Annual Report of the Watermaster Office.

FEB. 4, 1935, EXTENSION DECLARED
 FEB. 13, 1940,
 JAN. 6, 1941,
 OCT. 1, 1942
 AUG. 21, 1946
 JAN. 12, 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 92% of the total water diverted. Municipal use of water accounts for less than 5% 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 Paul Snead served during the 1991 reporting period. Personnel of the watermaster office at the beginning of the 1991 season consisted of Robert R. Marr, Watermaster; Rita Valdez, Secretary-Clerk. On April 4, 1991, Joe Jankowsky transferred to the Watermaster Office to assist during the irrigation season. Joe Jankowsky left the Watermaster Office on June 28, 1991.

On April 15, 1991 Ramon Torres and Mary F. Nunez transferred to the Watermaster office to assist during the irrigation season.

David Thomas transferred from the Water Rights Division to the Watermaster Office on July 1, 1991 and became assistant Watermaster.

Ramon Torres transferred back to the Water Rights Division on August 2, 1991.

Sheldon Dorman transferred to the Watermaster Office on August 5, 1991 to assist with the meter reading for the remainder of the 1991 irrigation season.

Mary F. Nunez terminated her employment with the State Engineer Office on August 20, 1991.

Sheldon Dorman transferred from the Watermaster Office on September 27, 1991.

On October 21, 1991 Ramon Torres transferred back to the Watermaster Office to assist with the annual accounting. Ramon Torres remained in the Watermaster Office through January 3, 1992.

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 eighty meters were found inoperative during the 1991 irrigation season. Based on a total of 1661 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 40.9% as compared to 46.8% found inoperative in 1990. Each meter was read an average of 7.0 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 1991 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoperative	Make Inoperative	% of Total Installed
BRAND A	110	6.6	40	36.4	2.41
BRAND B	1419	85.4	604	42.6	36.36
BRAND C	102	6.2	28	27.5	1.69
BRAND D	30	1.8	8	26.7	0.01
	1661	100.00	680		40.47

Adjustments in amounts of water diverted through inoperative meters for 1991 totaled 8749.9 acre-feet of which 5413.0 acre-feet was artesian and 3336.9 acre-feet of which was shallow. The total adjustment is 2.69% 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. The maintenance program initiated by the Pecos Valley Artesian Conservancy District is alleviating some of this problem.

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 1991 water year.

VIOLATION ACTIONS

There were twenty instances of overuse in 1991. All were resolved as the individuals involved entered into Consent Agreements.

USE OF WATER IN THE ROSWELL BASIN IN 1991

The total water diverted in the Roswell Ground Water Basin for the water year 1991 (November 1, 1990 - October 31, 1991) under the administrative jurisdiction of the Roswell Basin Watermaster, was 343,549.3 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 fifth year of the fifth five-year period was 1991.

Of the total diversion, 229,465.5 acre-feet (66.8%) was from the artesian source, 101,192.0 acre-feet (29.4%) was from the shallow source and 12,911.8 acre-feet (3.8%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 91.7% of the total diverted, municipal type use accounted for 5.5% and miscellaneous, industrial and commercial uses accounted for the remaining 2.8%.

The irrigation use on 115,378.3 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 2.73 acre-feet per acre for the basin as a whole varying from a high of 3.25 acre-feet per acre in the Dexter-Hagerman area to a low of 1.34 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 nine hundred and thirty-six farming units.

ROSWELL BASIN WATERMASTER
TABULATION OF ANNUAL WATER DIVERTED

1967 - 1991

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	9,333.0 5,369.7	349,113.2 348,951.4
					4,682.5	348,264.2

NEW MEXICO STATE ENGINEER
METERED PUMPAGE SUMMARY SHEET

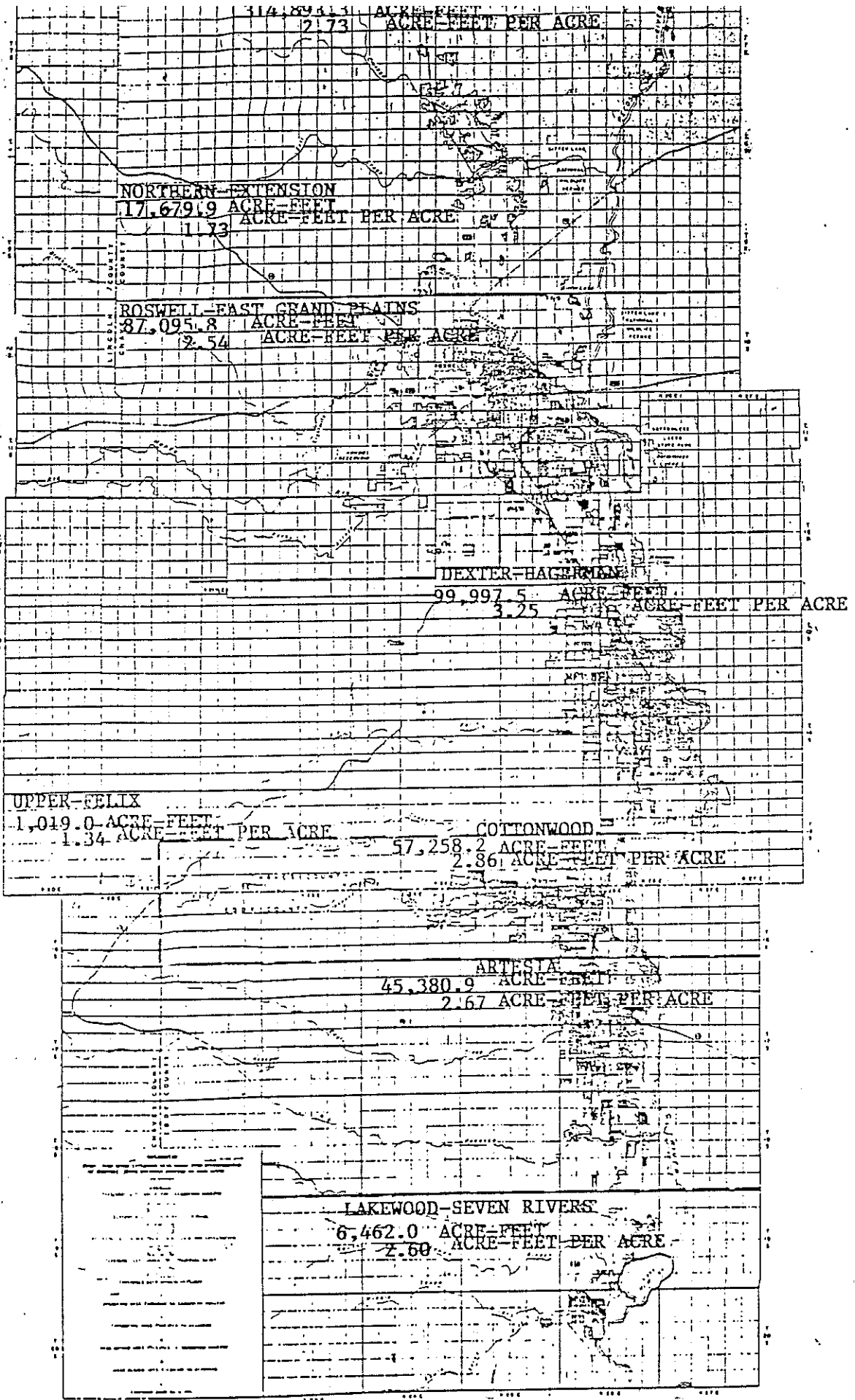
TOWNSHIP	RANGE	SECTIONS	Location	Rient Acres Feet	Surface	Shallow	PUMPAGE - ACRES FEET		Date of Application
							Attesian	Total	
1991									
T 7,8,9 S; R 23 Thru 26 E			Northern	30,573.5		270.8	17,409.1	17,679.9	1.73
			Extension						
T 10,11,12 S; R 22,23,24 E			Roswell - East	102,718.9	789.0	22,265.1	64,041.7	87,095.8	2.54
T 10,11,12 S; R 25,26 E			Grand Plains						
T 13,14, 14 1/2 S; R 23,24 E			Dexter-Harman	92,209.5	12,122.8	39,481.3	48,393.4	99,997.5	3.25
T 14, 14 1/2 S; R 25,26 E			Area						
T 15 S; R 16 S; R 23 thru 26 E			Cottonwood	60,004.4	-0-	18,048.1	39,210.1	57,258.2	2.86
			Area						
T 15 S; R 17, 18 E			Upper Rio	2,281.0	-0-	-0-	1,019.0	1,019.0	1.34
			Felix						
T 15 S 1/3 16,17,18 S; R 25,26 E			Attasia	50,905.5	-0-	15,185.2	30,195.7	45,380.9	2.67
			Area						
T 19,20 S; R 25,26 E			Lakerood -	7,442.2	-0-	2,244.9	4,217.1	6,462.0	2.60
			Seven Rivers						
			Total Irrigation	346,135.0	12,911.8	97,495.4	204,486.1	314,893.3	2.73
			Use						

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NEW MEXICO STATE ENGINEER
 METERED PUMPAGE SUMMARY SHEET

1991 Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	SECTIONS			Date	Remarks	
						Surface	Shallow	Artesian			
MUNICIPAL & MUNICIPAL TYPE USE						PUMPAGE - ACRE FEET			Total		
				Roswell				12,489.9		12,489.9	
				Dexter			597.0	384.0		981.0	
				Hagerman				415.4		415.4	
				Lake Arthur			6.5	52.6		59.1	
				Artesia				3,012.5		3,012.5	
				Hope				46.2		46.2	
				Co-Ops				1,696.2		1,696.2	
				Domestic Utilities			33.1	153.7		186.8	
				TOTAL			636.6	18,250.5		18,887.1	
				FEED PEN OPERATIONS (NOT FARM CONNECTED)			573.0	2,972.8		3,545.8	
				FEED PEN OPERATIONS (FARM CONNECTED)			534.4	2,901.5		3,435.9	*
				DAIRIES-FARM CONNECTED- CHARGED TO			4,941.2	13,697.3		18,638.5	*
				IRRIGATION WATER RIGHTS							* INCLUDED IN IRRIGATION TOTALS
				SCHOOL SYSTEMS: ROSWELL				62.3		62.3	
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL							
				Chaves County			1,833.6	58.8		1,892.4	
				Eddy County			99.0	733.5		832.5	
				TOTALS			3,142.2	22,077.9		25,220.1	

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ROSWELL BASIN WATERMASTER
BUDGET FOR THE 80TH FISCAL YEAR

1991 - 1992

SALARIES:

Watermaster-Marr	\$25,550.00 ✓	
-Assistant-Torrez	23,437.00 ✓	
Secretary-Valdez	18,803.00 ✓	
Aide/6 months-Ludwick	<u>8,174.00</u>	
		\$75,964.00

BENEFITS:

Group Insurance	6,081.00	
Retirement	10,506.00	
FICA	5,811.00	
Workman's Compensation	787.00 ✓	
Unemployment Compensation	160.00 ✓	
Liability Insurance	506.00	
Retiree Health Care	<u>760.00</u>	
		24,611.00

TRAVEL:

Mileage & Fares	13,650.00	
Per Diem	<u>3,738.00</u>	
		17,388.00

POSTAGE 450.00

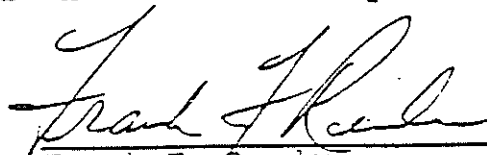
COMMUNICATIONS 512.00

RENT & UTILITIES 8,231.00

\$127,156.00

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It is anticipated that line items will vary, but that the total will not exceed \$127,156.00 for the 80th fiscal year.



Frank F. Rendon
Chief, Management Services Div.

	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	1991 FIRST HALF	1990 LAST HALF
SALARIES:								
Watermaster	956.92	1,791.93	938.63	1,755.36	2,754.94	2,029.64	1,0227.42	10,164.72
Assistant Watermaster	292.39			365.49	2,192.94	1,985.83	4,836.65	9,646.39
Secretary	932.98	1,336.68	1,408.45	1,323.22	1,973.61	1,161.75	8,136.69	6,349.21
Other				1,392.28	4,574.92	3,503.80	4,926.74	2,022.96
Insurance, State Share	33.24	5.81	6.12	98.86	363.71	290.14	797.88	1,209.27
Retirement	301.82	432.70	324.61	618.34	1,286.68	925.95	3,890.10	3,897.78
Social Security	133.24	239.34	179.54	337.25	716.78	498.52	2,104.67	2,103.93
Workman's Compensation	90.00	90.00	90.00	90.00	90.00	90.00	540.00	540.00
Unemployment	17.00	17.00	17.00	17.00	17.00	17.00	102.00	102.00
Liability	63.50	63.50	63.50	63.50	63.50	63.50	381.00	381.00
Retiree Health Care Act	21.79	31.23	23.43	44.64	92.91	66.88	280.88	271.56
Mileage, Gas, Maint. & Repairs	1,522.01	161.76	87.47	144.41		611.82	2,527.47	
Communications	42.67	42.67	42.67	42.67	42.67	42.67	256.02	255.98
Rent & Utilities	784.75	784.75	784.75	784.75	784.75	784.75	4,708.50	4,708.50
Postage	37.50	37.50	37.50	37.50	37.50	37.50	225.00	225.00
TOTAL	5,229.81	5,034.87	4,003.67	6,749.78	12,798.97	10,123.92	43,941.02	41,878.30

	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	1991 LAST HALF	1991 TOTAL
Salaries:								
Watermaster	1,232.64	1,837.39	1,880.70	1,862.14	2,258.08	1,274.42	10,345.37	20,572.79
Assistant Watermaster	857.25	1,493.76	1,307.04	1,419.07	2,016.57	1,344.38	8,438.07	13,274.72
Secretary	810.46	1,356.80	1,215.65	1,411.43	1,689.16	1,215.66	7,699.16	15,835.85
Other	1,743.73	1,031.89	1,105.36	707.44	3,199.20	1,582.85	9,370.47	14,297.21
Insurance, State Share	263.93	303.09	298.12	278.86	621.99	391.04	2,157.03	2,954.91
Retirement	642.28	791.05	772.83	746.82	1,267.24	749.20	4,969.42	8,859.52
Social Security	352.79	426.47	420.57	402.43	674.51	398.02	2,674.79	7,779.46
Workman's Compensation	65.62	65.58	65.58	65.58	65.58	65.58	393.52	933.52
Unemployment	13.37	13.33	13.33	13.33	13.33	13.33	80.02	182.02
Liability, ...	42.13	42.17	42.17	42.17	42.17	42.17	252.98	633.98
Retiree Health Care Act	46.38	57.12	55.79	53.93	91.52	54.11	358.85	639.73
LiJage, Gas, Maint. & Repairs		929.48	17.93	253.65	294.74	133.54	1,629.34	4,156.81
Communications	42.63	42.67	42.67	42.67	42.67	42.67	255.98	512.00
Rent & Utilities	685.88	685.92	685.92	685.92	685.92	685.92	4,115.48	8,823.98
Postage	37.50	37.50	37.50	37.50	37.50	37.50	225.00	450.00
TOTAL	6,836.59	9,114.22	7,961.16	8,022.94	13,000.18	8,030.39	52,965.48	96,906.50

SUMMARY

Metered use of water during 1991 resulted in an average use, for irrigation purposes, of 2.73 acre-feet per water right acre. The total quantity diverted for all uses was the ninth lowest 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.