

ROSWELL BASIN WATERMASTER

21st

ANNUAL REPORT

1986

Glenn W. Brim, Watermaster

909 East 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:

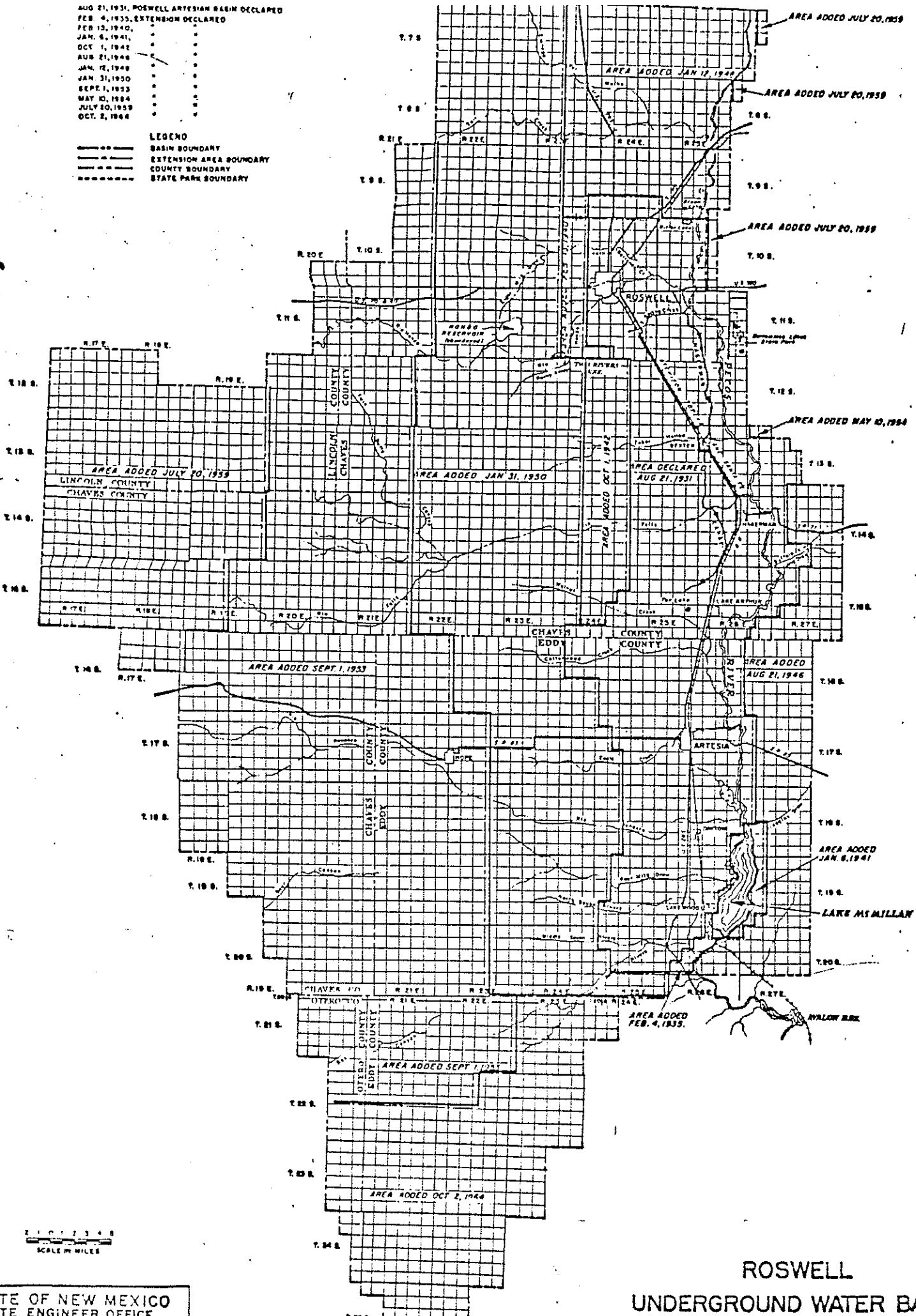
"5. The state engineer shall appoint and employ a watermaster and such assistants as are necessary in the administration and enforcement of this judgment and decree, provided that the appointment of the watermaster shall be subject to the approval of the Court. Such watermaster shall be appointed to 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, Glenn W. Brim was appointed by State Engineer, S. E. Reynolds on January 31, 1969.

This is the 21st Annual Report of the Watermaster Office.

AUG 21, 1931, POSWELL ARTESIAN BASIN DECLARED  
 FEB 4, 1933, EXTENSION DECLARED  
 FEB 13, 1940,  
 JAN 6, 1941,  
 OCT 1, 1942  
 AUG 21, 1946  
 JAN 12, 1949  
 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



1 2 3 4 5  
 SCALE IN MILES

STATE OF NEW MEXICO  
 STATE ENGINEER OFFICE

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 95% 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 Lafel Oman, retired State Supreme Court Chief Justice, sitting by designation as Judge in the Adjudication suit, served during the 1986 reporting period. Personnel of the watermaster office at the beginning of the 1986 season consisted of Glenn W. Brim, Watermaster; Rita Valdez, Secretary-Clerk; and Robert Marr, as assistant to the Watermaster.

On April 1, 1986 Ken Fresquez and Larry Ginn were transferred from the Water Rights Division to the Watermaster's Office to assist during the irrigation season.

Ken Fresquez and Larry Ginn transferred to the Water Rights division on October 1, 1986.

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

Five hundred and nineteen meters were found inoperative during the 1986 irrigation season. Based on a total of 1635 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 31.74% as compared to 29.26% found inoperative in 1985. Each meter was read an average of 9.4 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 1986 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoperative	Make Inoperative	% of Total Installed
BRAND A	34	2.08	4	11.76	0.24
BRAND B	1203	73.58	375	31.17	22.94
BRAND C	281	17.19	103	36.65	6.30
BRAND D	72	4.40	19	26.39	1.16
MISC.	45	2.75	18	4.00	1.10
	1635	100.00	519		31.74

Adjustments in amounts of water diverted through inoperative meters for 1986 totaled 5065.3 acre-feet of which 2746.0 acre-feet was artesian and 2319.3 acre-feet of which was shallow. The total adjustment is 1.95% 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. It is believed that the maintenance program initiated by the Pecos Valley Artesian Conservancy District will alleviate 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 1986 water year.

## VIOLATION ACTIONS

There were twelve instances of over use in 1986.

All the violations were resolved, as each individual entered into a Consent Agreement with the watermaster.

## USE OF WATER IN THE ROSWELL BASIN IN 1986

The total water diverted in the Roswell Ground Water Basin for the water year 1986 (November 1, 1985 - October 31, 1986) under the administrative jurisdiction of the Roswell Basin Watermaster, was 280,213.5 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 fourth five-year period was 1986.

Of the total diversion, 185,573.0 acre-feet (66.2%) was from the artesian source, 87,506.5 acre-feet (31.2%) was from the shallow source and 7,134.0 acre-feet (2.6%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 92.7% of the total diverted, municipal type use accounted for 6.3% and miscellaneous, industrial and commercial uses accounted for the remaining 1%.

The irrigation use on 118,634.1 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 2.19 acre-feet per acre for the basin as a whole varying from a high of 2.64 acre-feet per acre in the Cottonwood area to a low of 1.15 acre-feet per acre in the Upper Felix. The equivalent acreage figures and pumpage figures do not include unmetered stock and domestic uses of water right acreage retired from irrigation under the program of the Pecos Valley Artesian Conservancy District. There are eight hundred and eighty-three farming units.

ROSWELL BASIN WATERMASTER

TABULATION OF ANNUAL WATER DIVERTED

1967 - 1986

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

NEW MEXICO STATE ENGINEER  
METERED PUMPAGE SUMMARY SHEET

TOWNSHIP \_\_\_\_\_ RANGE \_\_\_\_\_ SECTIONS \_\_\_\_\_

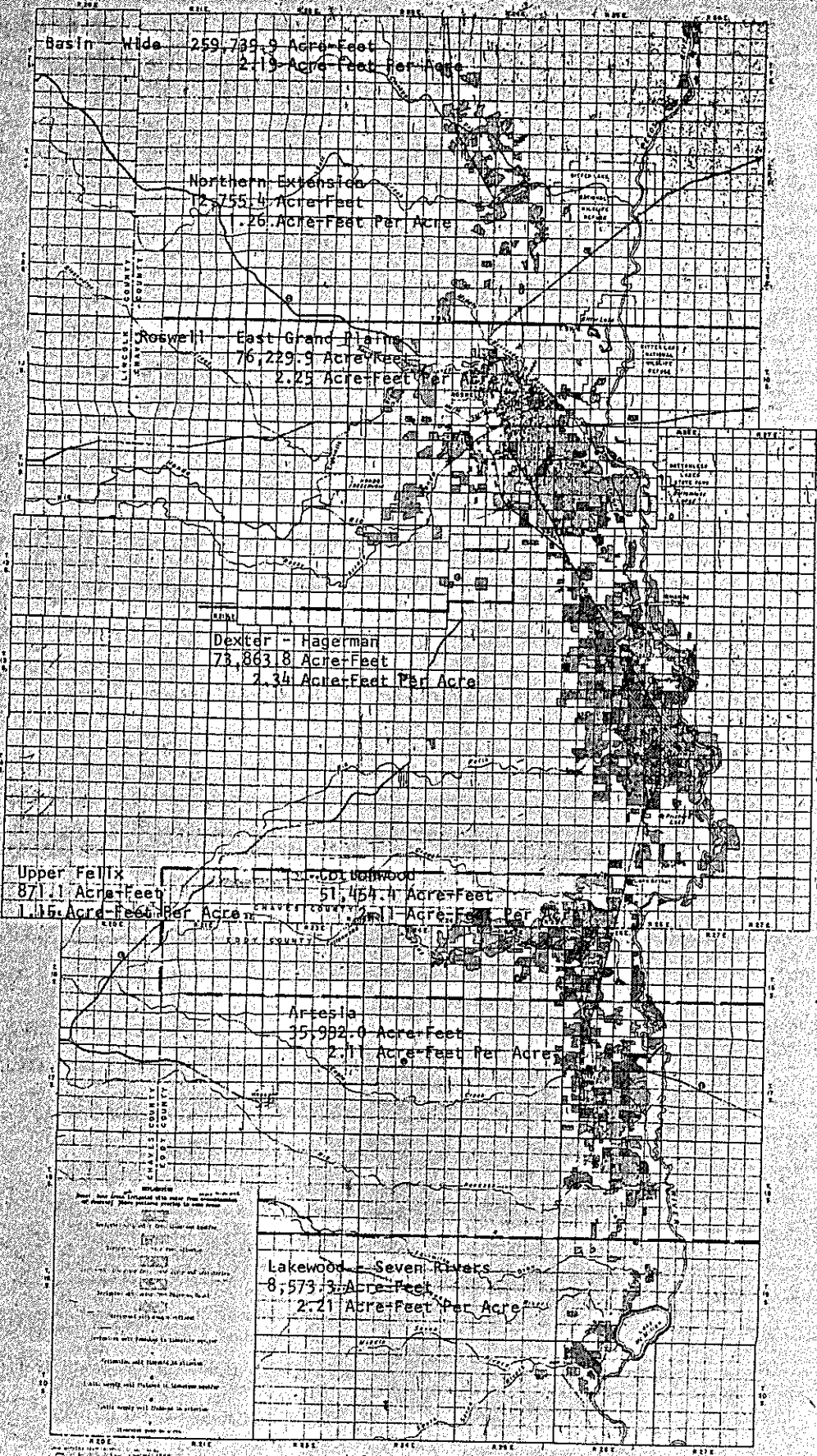
T	R	S	E	Location	Right Acre Feet	PUMPAGE - ACRE FEET			Total	Date	Rate of Application
						Surface	Shallow	Artesian			
T 7,8,9 S;	R 23 Thru 26 E			Northern	30458.0		568.0	12187.4	12755.4	1.25	
				Extension							
T 10,11,12 S;	R 22,23,24 E			Roswell - East	101556.7	50.0	19894.0	56285.9	76229.9	2.25	
T 10,11,12 S;	R 25,26 E			Grand Plains							
T 13,14, 15 S;	R 23,24 E			Dexter-Hagerman	100220.5	7084.0	29490.6	37289.2	74863.8	2.34	
T S $\frac{1}{2}$ 12,13,14;	N $\frac{1}{2}$ 15 S; R 25,26,27 E			Area							
T S $\frac{1}{2}$ 15;	N 2/3 16 S; R 23 thru 26 E			Cottonwood	58509.2		16447.4	35007.0	51454.4	2.64	
				Area							
T 15 S;	R 17, 18 E			Upper Rio	3281.0			871.1	871.1	1.15	
				Felix							
T S 17, 16, 17, 18 S;	R 25,26 E			Artesia	51217.5		13298.3	22693.7	35922.0	2.11	
				Area							
					11659.4						
T 19, 20 S;	R 25,26 E			Lakewood -	11659.4		5705.2	2868.1	8573.3	2.21	
				Seven Rivers							
				Total Irrigation	855902.3	7134.0	85403.2	67202.4	259739.9	2.19	
				Use							

NEW MEXICO STATE ENGINEER  
METERED PUMPAGE SUMMARY SHEET

TOWNSHIP \_\_\_\_\_ RANGE \_\_\_\_\_ SECTIONS \_\_\_\_\_

Water Right No.	Well No.	Source	Use	Well Location	Right Acre Feet	PUMPAGE - ACRE FEET				Date	Remarks
						Surface	Shallow	Artesian	Total		
				MUNICIPAL & MUNICIPAL TYPE USE							
				Roswell				11411.6	11411.6		
				Dexter			337.6	293.8	631.4		
				Hagerman				331.4	331.4		
				Lake Arthur				54.4	54.4		
				Artesia				3737.0	3737.0		
				Hope				44.5	44.5		
				Co-Ops			4.5	1455.4	1459.9		
				Domestic Utilities				130.4	130.4		
				TOTAL			342.1	17458.5	17800.6		
				FEED PEN OPERATIONS (NOT FARM CONNECTED)				17.2	17.8		
				FEED PEN OPERATIONS (FARM CONNECTED)				37.9	481.8		
				DAIRIES - FARM CONNECTED - CHARGED TO				377.2	616.9	994.1	NOT INCLUDED IN TOTAL
				IRRIGATION WATER RIGHTS							
				SCHOOL SYSTEMS: ROSWELL					59.0	59.0	
				MISCELLANEOUS INDUSTRIAL & COMMERCIAL							
				Chaves County			1693.3	295.8	1979.1		
				Eddy County			59.9	557.3	617.1		
				TOTALS			1760.2	912.1	2673.0		
				TOTALS			2103.0	18370.6	20473.6		

1986 METERED USE  
(IRRIGATION)





Glenn W. Brim  
Approved Budget for the  
74th Fiscal Year  
(1986-1987)

SALARIES:

Watermaster	\$ 35,412.00
Assistant	18,900.00
Secretary	12,864.00
Aide 6 mos.	9,450.00
Aide 6 mos.	6,750.00
Temporary	5,145.00

BENEFITS:

Group Insurance	2,815.00
Retirement	10,162.00
FICA	6,329.00
Workman's Compensation	600.00
Unemployment Compensation	470.00
Liability Insurance	300.00

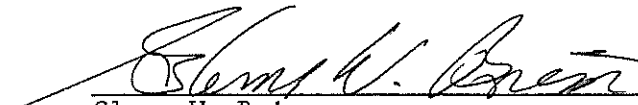
TRAVEL:

Mileage and Fares	18,920.00
Per Diem	3,630.00

Postage	475.00
Maintenance	200.00
Communications	686.00
Rent & Utilities	4,097.00

TOTAL \$137,205.00

It is anticipated that line items will vary, but that the total will not exceed \$127,864.00 for the 74th Fiscal Year.

  
Glenn W. Brim  
Roswell Basin Watermaster

	1985														
	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	FIRST HALF	LAST HALF							
ALARIES:															
Watermaster	\$2,583.84	\$2,583.84	\$2,583.84	\$2,583.84	\$3,229.80	\$3,229.80	\$16,794.96	\$16,785.52							
Assistant Watermaster	1,379.36	1,379.36	1,379.36	1,379.36	1,724.20	1,724.20	8,965.84	8,951.76							
Secretary	938.88	938.88	938.88	938.88	1,173.60	1,173.60	6,102.72	6,086.88							
Other		765.01	765.01	765.01	2,606.39	2,606.39	7,507.81	7,412.98							
Insurance, State Share	\$ 130.02	\$ 160.29	\$ 160.29	\$ 160.29	\$ 247.99	\$ 247.99	\$ 1,106.87	\$ 1,509.52							
Social Security	\$ 350.48	\$ 405.22	\$ 405.22	\$ 405.22	\$ 624.62	\$ 624.62	\$ 2,815.38	\$ 2,928.17							
Retirement	\$ 562.76	\$ 650.40	\$ 650.40	\$ 650.40	\$ 1,003.24	\$ 1,003.24	\$ 4,520.44	\$ 4,340.84							
Workman's Compensation							\$ 370.00								
Unemployment							\$ 93.00								
Mileage, Gas, Maint. & Repairs	\$1,106.38	\$1,561.19	\$1,561.19	\$1,561.19	\$1,964.49	\$1,964.49	\$ 9,718.93	\$ 8,188.40							
Per Diem	\$ 252.00	\$ 226.00	\$ 226.00	\$ 226.00	\$ 615.00	\$ 615.00	\$ 2,160.00	\$ 1,414.00							
Liability Insurance							\$ 253.00								
Communications	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 55.00	\$ 330.00	\$ 325.00							
Rent	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 165.00	\$ 990.00	\$ 975.00							
Maint., Fixt., Supplies							\$ 552.08								
Service to other Agency															
TOTALS	\$7,523.72	\$8,890.20	\$8,890.20	\$8,890.20	\$13,409.33	\$14,677.41	\$62,281.03	\$58,918.07							

	1986							1986	
	July	August	September	October	November	December	LAST HALF	YEAR	
ALARIES:									
Watermaster	\$1,356.00	\$ 4,070.40	\$ 2,713.60	\$2,713.60	\$2,713.60	\$4,070.40	\$17,638.40	\$ 34,433.36	
Assistant Watermaster	724.16	2,172.48	1,448.32	1,448.32	1,448.32	2,172.48	9,414.08	18,379.92	
Secretary	492.88	1,478.64	985.76	985.76	985.76	1,478.64	6,407.44	12,510.16	
Other	948.64	3,405.62	1,990.09	737.36	1,109.89	71.17	8,262.77	15,770.58	
Insurance, State Share	\$ 99.81	\$ 316.63	\$ 206.93	\$ 163.38	\$ 191.03	\$ 212.86	\$ 1,190.64	\$ 2,297.51	
Social Security	\$ 324.31	\$ 794.51	\$ 509.68	\$ 420.54	\$ 446.99	\$ 557.15	\$ 3,053.18	\$ 5,868.56	
Retirement	\$ 403.95	\$ 1,276.07	\$ 818.52	\$ 678.26	\$ 717.76	\$ 894.55	\$ 4,789.11	\$ 9,309.55	
Workman'S Compensation									
Unemployment								\$ 370.00	
Mileage,Gas, Maint. & Repairs	\$2,169.64	\$ 1,759.56	\$ 1,591.48	\$1,685.64	\$ 51.04	\$ 31.46	\$7,288.82	\$ 17,007.75	
Per Diem	\$ 144.00	\$ 432.00	\$ 318.00	\$ 300.00	\$ 180.00	\$ 18.00	\$1,392.00	\$ 3,552.00	
Liability Insurance									
Communications	\$ 57.16	\$ 57.16	\$ 57.16	\$ 57.16	\$ 57.16	\$ 57.16	\$ 342.96	\$ 672.96	
Rent	\$ 341.41	\$ 341.41	\$ 341.41	\$ 341.41	\$ 341.41	\$ 341.41	\$2,048.64	\$ 3,038.46	
Maint.,Fixt.,Supplies	\$ 180.78			\$ 175.91			\$ 356.69	\$ 908.77	
Service to other Agency									
TOTALS	\$7,243.54	\$16,104.48	\$10,980.95	\$9,707.34	\$8,239.96	\$9,905.28	\$62,184.73	\$124,212.58	

## SUMMARY

Metered use of water during 1986 resulted in an average use, for irrigation purposes, of 2.19 acre-feet per water right acre. The total quantity diverted for all uses was the 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.