

ROSWELL BASIN WATERMASTER

31ST

ANNUAL REPORT

1996

RAMON L. TORRES, WATERMASTER

1900 WEST SECOND STREET

ROSWELL, NEW MEXICO 88201

TABLE OF CONTENTS

INTRODUCTION.....1

MAP of ROSWELL UNDERGROUND BASIN.....2

ADMINISTRATION

    General.....3

    Metering Program.....6

    Adjudication.....8

    Violations.....9

WATER DIVERSION

    Use of water in the Roswell Basin in 1996.....10

    Tabulations of Annual Diversions.....12

    Municipal, Indust. and Coml. Diversions.....14

    Map Indicating Areas of Irrigation Use.....15

    Diversion by Area.....16

FINANCIAL STATEMENTS

    Approved Budget for 1997.....17

    Expenditures for 1996.....18

SUMMARY.....19

## INTRODUCTION

On January 10, 1966 Partial Judgement 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 follow

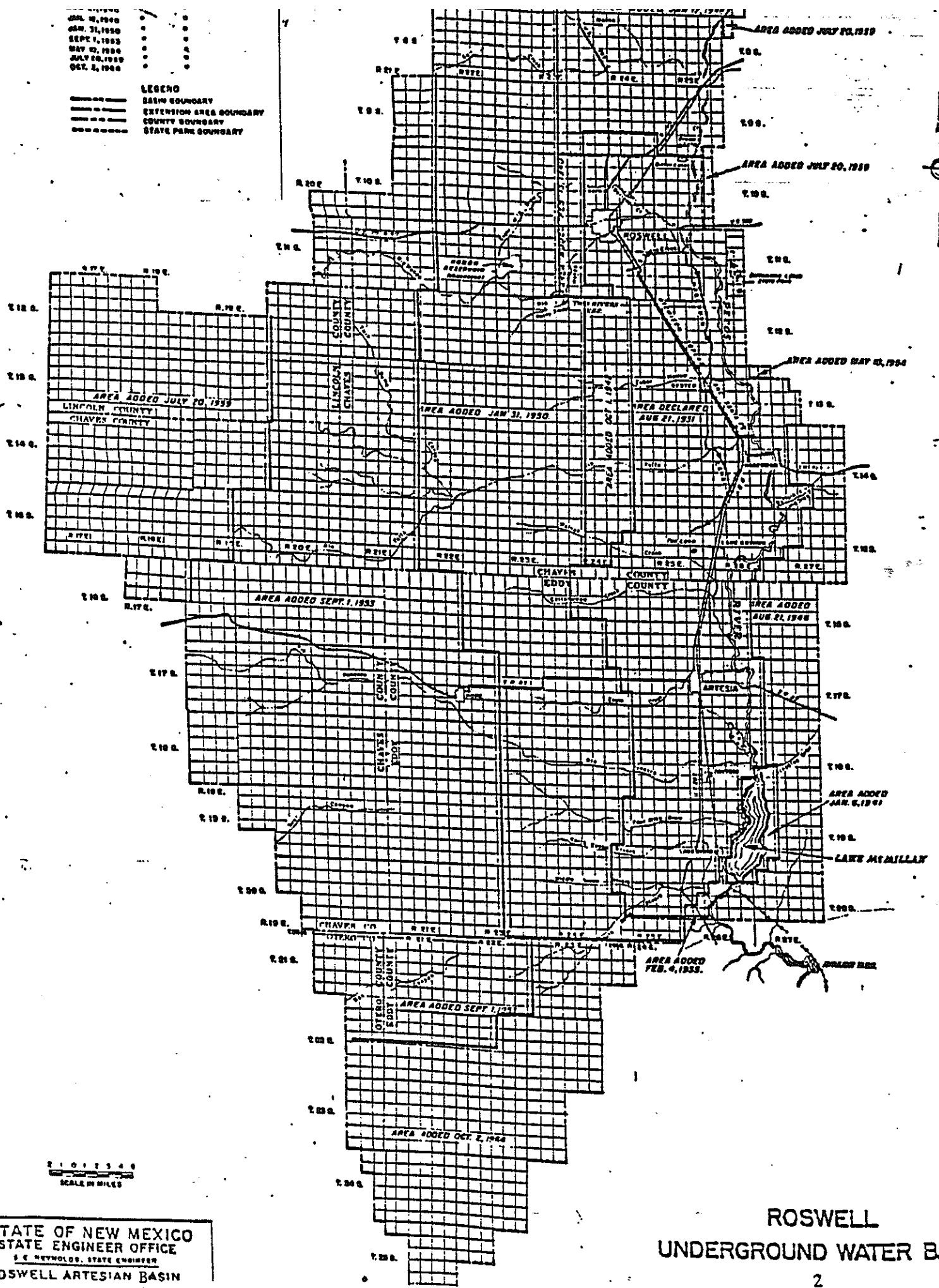
"5. The State Engineer shall appoint and employ a Watermaster and such assistants as are necessary in the administration and enforcement of this Judgement and Decree, provided that the appointment of the Watermaster shall be subject to the approval of the Court. Such Watermaster shall be appointed to commence work not later then 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 Ramon L. Torres was appointed by the Honorable Harl D. Byrd, District Judge, on September 18, 1995.

This is the 31st Annual Report of the Watermaster's Office.

JUL. 10, 1939  
 JAN. 31, 1930  
 SEPT. 1, 1933  
 MAY 12, 1934  
 JUL. 20, 1939  
 OCT. 2, 1944

**LEGEND**  
 Basin Boundary  
 Extension Area Boundary  
 County Boundary  
 State Park Boundary



STATE OF NEW MEXICO  
 STATE ENGINEER OFFICE  
 S. C. REYNOLDS, STATE ENGINEER  
 ROSWELL ARTESIAN BASIN

ROSWELL  
 UNDERGROUND WATER B

## GENERAL

The Roswell Basin Watermaster administers the diversion of water under the Adjudication Decree in an area existing, 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 92.5% of the total water diverted. Municipal use of water accounts for about 6.0% 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 comingled 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 1996 reporting period.

Personnel of the Watermaster Office at the beginning of the 1996 season consisted of Ramon L. Torres, Roswell Basin Watermaster; Rita Valdez, Secretary-Clerk, and David Thomas, Assistant Roswell Basin Watermaster. On March 25th, 1996, Fred McMinn and Phillip Fields transferred from the Water Rights Division to the Watermaster Office to assist during the irrigation season. On December 30th, 1996, Fred McMinn and Phillip Fields transferred from the Watermaster's Office back to 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

Three hundred and ninety four meters were found inoperative during the 1996 irrigation season. Based on a total of 1484 meters installed on irrigation, feed pen, dairy, and Hagerman Canal wells, this is 26.5% as compared to 28.5% found inoperative in 1995. Each meter was read an average of 8.0 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 1996 irrigation season, are listed as follows:

Make of Meter	Total	% of Total	Total Inoper.	Make Inoper.	% of Total Installed
McCrom.	1358.00	91.51	368.00	27.10	24.80
Rock.	78.00	5.26	20.00	25.64	1.35
Sparling	40.00	2.70	4.00	10.00	0.27
Misc.	8.00	0.54	2.00	25.00	0.13
Totals	1484.00	100.00	394.00		26.55

Adjustments in amount of water diverted through inoperative meters for 1996 totaled 4357.1 acre-feet of which 2486.0 acre-feet was artesian and 1871.1 acre-feet of which was shallow diverted for irrigation use.



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

Primary 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 1996 water year.

VIOLATIONS ACTIONS

There was thirty one instances of overuse in 1996

## USE OF WATER IN THE ROSWELL BASIN IN 1996

The total water diverted in the Roswell Ground Water Basin for the water year 1996 (November 1, 1995 - October 31, 1996) under the administrative jurisdiction of the Roswell Basin Watermaster, was 373,305.33 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 sixth five-year period was 1996.

Of the total diversion, 248,390.53 acre-feet (66.5%) was from the artesian source, 113,840.0 acre-feet (30.5%) was from the shallow source and 11,074.8 acre-feet (3.0%) was diverted from combined underground and surface sources primarily under the Hagerman Canal and the Rio Hondo.

Irrigation use accounted for 92.5% of the total diverted, Municipal type use accounted for 6.0% and Miscellaneous, Industrial and Commercial uses accounted for the remaining 1.5%.

The irrigation use on 113,481.6 equivalent water right acres (acres as originally adjudicated) permitted an average diversion of 3.04 acre-feet per acre for the basin as a whole varying from a high of 3.25 acre-feet per acre in the Artesia area to a low of 1.93 acre-feet per acre in the Northern Extension.

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 seventy seven farming units.

ROSWELL BASIN WATERMASTER  
TABULATION OF ANNUAL WATER DIVERTED

1967--1996

YEAR	IRRIGATION ACRE-FEET	IRRIGATION EQ. AC.	ACRE-FEET PER ACRE	MUNICIPAL ACRE-FEET	INDL/COML ACRE-FEET	TOTAL AC. FT.
1967	371,250.60	130,132.70	2.85	14,528.30	1,582.60	387,361.50
1968	323,917.10	128,245.00	2.53	13,596.30	1,611.10	339,124.50
1969	345,087.10	128,330.6	2.69	15,586.90	899.10	361,573.10
1970	358,686.80	126,002.40	2.85	15,888.50	916.30	375,491.60
1971	384,228.10	126,121.00	3.05	16,439.60	3,082.00	403,749.70
5-YR.						
AVG.	356,633.94	127,766.34	2.79	15,207.92	1,618.22	373,460.08
1972	367,363.60	125,233.80	2.93	14,821.20	2,398.90	384,583.70
1973	386,288.80	125,293.00	3.08	15,335.00	2,983.00	404,606.80
1974	392,413.30	124,240.10	3.16	18,318.50	3,646.30	414,378.10
1975	368,512.60	123,740.70	2.98	16,145.90	3,083.90	387,742.40
1976	419,491.90	123,170.10	3.41	18,182.20	3,271.90	440,946.00
5-YR.						
AVG.	386,814.04	124,335.54	3.11	16,560.56	3,076.80	406,451.40
1977	387,858.00	122,703.70	3.16	18,422.70	3,071.40	409,352.10
1978	359,011.00	122,233.70	2.94	15,569.70	3,270.70	377,851.40
1979	355,163.80	122,002.40	2.91	16,181.90	2,853.00	374,198.70
1980	360,484.40	121,763.30	2.96	17,804.30	2,388.60	380,677.30
1981	317,225.20	121,530.00	2.61	14,558.10	2,340.80	334,124.10
5-YR.						
AVG.	355,948.48	122,046.62	2.92	16,507.34	2,784.90	375,240.72
1982	377,179.40	120,932.00	3.12	18,292.10	2,747.20	398,218.70
1983	356,836.00	120,277.70	2.97	19,312.30	2,818.30	378,966.60
1984	304,691.90	119,415.20	2.55	19,246.40	2,424.10	326,362.40
1985	293,465.10	119,333.30	2.46	17,494.40	2,863.70	313,823.20
1986	259,739.90	118,634.10	2.19	17,800.60	2,673.00	280,213.50
5-YR.						
AVG.	318,382.46	119,718.46	2.66	18,429.16	2,705.26	339,516.88

1987	285,389.60	118,324.90	2.41	15,775.50	2,892.50	304,057.60
1988	306,838.70	115,696.10	2.65	16,734.60	4,887.40	328,460.70
1989	364,436.70	115,088.00	3.17	17,771.40	4,566.50	386,774.60
1990	356,612.10	115,433.00	3.09	20,569.60	4,733.20	381,914.90
1991	314,893.30	115,378.30	2.73	18,887.10	9,768.90	343,549.30

5-YR.

AVG.	325,634.08	115,984.06	2.81	17,947.64	5,369.70	348,951.42
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1992	305,168.40	115,510.40	2.64	17,765.70	4,389.80	327,323.90
1993	356,286.10	115,456.10	3.09	23,841.70	6,215.90	386,343.70
1994	352,106.70	114,402.90	3.08	21,024.60	7,060.00	380,191.30
1995	356,806.30	114,507.90	3.12	24,009.90	5,827.80	386,644.00
1996	345,278.53	113,481.60	3.04	22,245.70	4,135.30	373,305.33

5-YR.

AVG.	343,129.20	114,671.80	2.99	21,777.52	5,527.76	370,761.65
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MUNICIPAL, INDUSTRIAL & COMMERCIAL USE

FOR 1998

	PUMPAGE	IN	ACRE FEET	
MUNICIPAL & MUNICIPAL TYPE USE	SHALLOW	ARTESIAN	TOTAL	REMARKS
ROSWELL		13,580.80	13,580.80	
DEXTER	577.70	430.10	1,007.80	
HAGERMAN		439.70	439.70	
LAKE ARTHUR	7.00	57.90	64.90	
ARTESIA		4,490.30	4,490.30	
HOPE		48.10	48.10	
CO OPS		2,408.50	2,408.50	
DOMESTIC UTILITIES	42.00	151.50	193.50	
SCHOOL SYSTEMS	5.90	6.20	12.10	DEXTER & ROSWELL
<b>TOTALS</b>	<b>632.60</b>	<b>21,613.10</b>	<b>22,245.70</b>	
<b>DAIRY &amp; FEED PEN USE</b>				
FEED PEN OPERATIONS (N. F.)	10.50		10.50	Not Farm Connected
FEED PEN OPERATIONS (F. C.)	127.00		127.00	Farm Connected
DAIRIES (F. C.)**	7,121.50	19,345.80	26,467.30	**Included in IRR. Total
DAIRIES (N. F. C.)	1,091.80	416.70	1,508.30	Not Included in IRR. Total
<b>TOTALS</b>	<b>1,229.10</b>	<b>416.70</b>	<b>1,645.80</b>	
<b>MISC. INDUSTRIAL &amp; COMMERCIAL</b>				
CHAVES COUNTY	3,291.80	172.20	3,433.80	
EDDY COUNTY	18.70	684.80	701.80	
<b>TOTALS</b>	<b>3,278.30</b>	<b>857.00</b>	<b>4,135.30</b>	
<b>TOTAL ALL MUNICIPAL &amp; COMMERCIAL &amp; INDUSTRIAL</b>	<b>5,140.00</b>	<b>22,886.80</b>	<b>28,026.80</b>	<b>** EXCLUDES FARM CONNECTED DAIRIES</b>





STATE OF NEW MEXICO  
STATE ENGINEER OFFICE  
SANTA FE

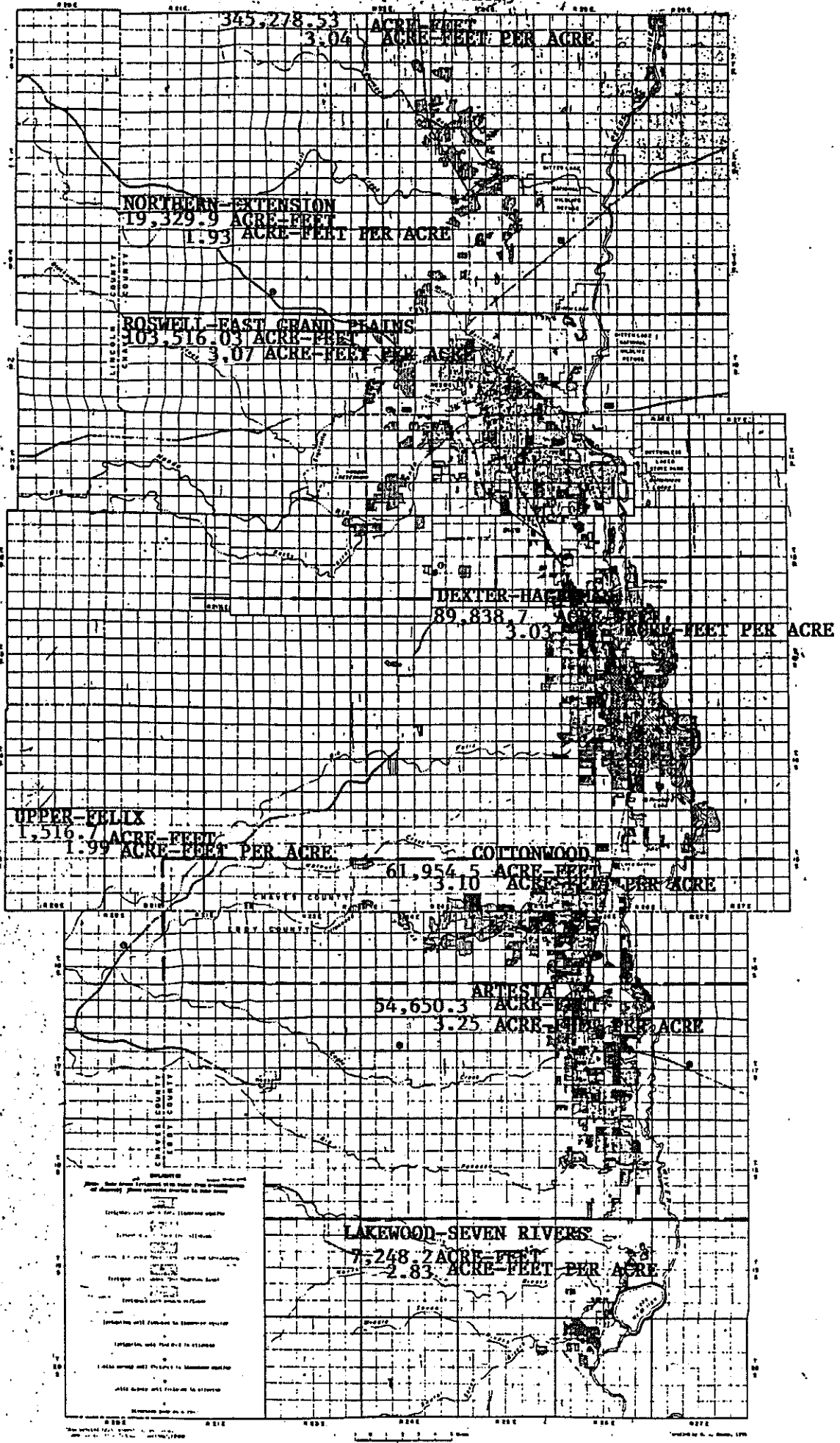
THOMAS C. TURNEY  
State Engineer

BATAAN MEMORIAL BUILDING, ROOM 101  
POST OFFICE BOX 25102  
SANTA FE, NEW MEXICO 87504-5102  
(505) 827-6175  
FAX: (505) 827-6188

ROSWELL BASIN WATER MASTER  
EXPENDITURES FOR CALENDAR YEAR 1996

EXPENDITURE TYPE	JAN. - JUNE (FY 96)	JULY - DEC. (FY 97)	TOTAL
SALARIES	55,341.16	60,730.48	116,071.64
BENEFITS	19,577.36	21,063.68	40,641.04
TRAVEL	590.04	536.58	1,126.62
GASOLINE & OIL	1,280.03	562.00	1,842.03
IN-STATE TRANS. POOL	1,743.76	.00	1,743.76
MAINTENANCE & REPAIR	1,898.74	140.30	2,039.04
FURN/FIXTURES & EQUIP	147.53	8.78	156.31
MAINT.(FIELD) SUPPLIES	1,042.86	.00	1,042.86
OFFICE SUPPLIES	860.89	520.39	1,381.28
POSTAGE	925.37	440.00	1,365.37
RENT & UTILITIES	7,717.35	7,756.50	15,473.85
RENT-COPIER/POST.MACH.	530.18	94.97	625.15
TELEPHONE	947.61	274.95	1,222.56
SUB/DUES & EMP. TRAINING	62.92	.00	62.92
TOTAL	92,665.80	92,128.63	184,794.43

METERED USE (IRRIGATION)



1996

AREA BREAKDOWN

DESCRIPTION	ACRE-FEET	PUMPAGE - IN ACRE FEET			TOTAL	APP. RATE
		SURF	SHALLOW	ARTESIAN		
NORTHERN EXTENSION	30,079.75		0.00	19,329.90	19,329.90	1.93
ROSWELL - EAST GRAND PLAINS	101,089.41		27,576.30	75,939.73	103,516.03	3.07
DEXTER - HAGERMAN	88,917.72	3,850.60	38,814.70	47,173.40	89,838.70	3.03
NON SUPPLEMENTAL CANAL USE		7,224.20			7,224.20	
COTTONWOOD AREA	59,940.74	0.00	17,680.30	44,274.20	61,954.50	3.10
UPPER RIO FELIX	2,281.00	0.00	0.00	1,516.70	1,516.70	1.99
ARTESIA AREA	50,453.70		20,434.00	34,216.30	54,650.30	3.25
LAKEWOOD - SEVEN RIVERS	7,682.40		4,194.70	3,053.50	7,248.20	2.83
TOTAL ALL AREAS	340,444.72	11,074.80	108,700.00	225,503.73	345,278.53	3.04

## SUMMARY

Metered use of water during 1996 resulted in an average use, for irrigation purposes, of 3.04 acre-feet per water right acre. The total quantity diverted for all uses was the twelfth 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 satisfactorily.