

IRRIGATION DIVISION THREE  
ANNUAL REPORT FOR  
1968  
BY  
Wayne M. Crosby  
Division Engineer

Enclosure: Tables 1 - 15

Alamosa, Colorado  
November 21, 1968

Mr. A. Ralph Owens, State Engineer  
101 Columbine Building  
1845 Sherman Street  
Denver, Colorado

Dear Mr. Owens:

Herewith is submitted my annual report covering activities in Irrigation Division Three for the irrigation season November 1, 1967 through October 31, 1968.

This report includes the tabulated and summarized records of ditches, canals, reservoirs and trans-mountain diversions.

Reports as of May 1, indicated run-off from snow melt to be above normal; 116% in the Rio Grande Basin and 102% in the Conejos Basin. Some snow courses reached record proportions with Santa Maria 780% of the 1948-62 average and Upper Rio Grande 417% of this average. Snow courses on the east side of the Valley, normally depleted by May 1, were measured this year with the Trinchera course containing 10 inches of water. Major reservoirs on the Rio Grande carried approximately 60% of normal storage as of May 1. Other reservoirs contained over average storage due to twice normal precipitation last year. Sanchez Reservoir 105% and Terrace 162% of normal.

A heavy snow in November, up to 3 feet in some areas on the Valley floor, followed by several adequate snows resulted in sufficient moisture to curtail irrigation until April 1 this year.

Precipitation this summer was about average with most of the rain coming in the first three weeks of August. There were no damaging storms this year.

Mountain pasture again this year was plentiful with a lot of forage left over. Lower pastures were again excellent with abundant quantities of Hay stored.

The stream flow forecast for the Rio Grande River at the Del Norte station was 530,000 acre feet for the period May through September 1968. This is 118% of the 15 year average (1948-62). The forecast for the Conejos River at the **Magote** Station was 185,000 acre feet. This is 106% of the 15 year average. Below is the actual monthly discharge for these two streams.

| Month | Rio Grande River<br>Near Del Norte | Conejos River<br>Near Magote |
|-------|------------------------------------|------------------------------|
| May   | 134,700 A.F.                       | 56,000 A.F.                  |
| June  | 232,000 A.F.                       | 85,500 A.F.                  |
| July  | 90,500 A.F.                        | 25,600 A.F.                  |

|           |             |             |
|-----------|-------------|-------------|
| August    | 77,100 A.F. | 29,200 A.F. |
| September | 31,000 A.F. | 5,800 A.F.  |

---

The discharge for the Rio Grande River was 105% of the forecast and 124% of the 15 year average. The Conejos River was 109% of the forecast and 115% of the 15 year average.

I might note here, to more closely coordinate my annual report with Hydrographic and fiscal cost records, that future reports will be for an irrigation season October 1 to September 30. Therefore to enact a change over additional data based on the time period October 1 to September 30 will be inserted where possible.

The stream flow forecast for the Rio Grande River at the Del Norte station was 630,000 acre feet for the period October 1967 through September 1968. This is 107% of the 15 year average. The actual discharge for this period was 656,400 acre feet or 104% of the forecast. The forecast for Conejos River was 200,000 acre feet for the same period or 92% of the 15 year average. The actual flow at this station was 234,200 acre feet for this period or 117% of the forecast.

Table No. 5 of this summary shows that the 1968 discharge of the Rio Grande was 148% of the 1967 discharge and 118% of the past 10 year average. Table No. 7 shows the 1968 discharge of the Conejos River near Mogote to be 234,200 acre feet, only 96% of last year but 110% of the 10 year average.

The 20 year average figure was compared on a monthly basis. It was included in the report to your office concerning Rio Grande Compact deliveries.

The total reservoir capacity in Division No. 3 of 370,272 acre feet was filled to 36% or 134,574 acre feet. There was 69,904 acre feet of reservoir water delivered to ditches in 1968. Table No. 2

The transmountain diversion records show in Table No. 3 a total of 3,115 acre feet imported from other divisions and of the imported water, 1,832 acre feet was delivered to ditches. 931 acre feet imported from the Tabor Ditch on Spring Creek pass was used to help complete the filling of Big Meadows Reservoir, with 613 acre feet carry-over from last year. The storage in Big Meadows is 1544 acre feet. The remaining 893 acre feet is presently being released from Beaver Park Reservoir on an exchange basis. The Transmountain diversion record does not include the Madena Transmountain diversion in District No. 35, which by decree runs into Division No. 3 from the Arkansas River Basin July 15<sup>th</sup> through the winter. The water from this diversion is all used by each recipient on either side of the divide.

There was 1,263,935 acre feet of water diverted to ditches in this division during 1968 compared to 912,112 acre feet diverted in 1967. This is 118% of the past 10 year average. There were 520,335 acres irrigated in 1968 or 103% of 1967 and 102% of the 10 year average. The number of acre feet used per acre was 134% of last year or 243 acre feet. This is 116% of the past 10 year average.

There was a total of 616 ditches receiving water in 1968. Compared to 516 in 1967. Most of the ditches received good quantities of water i.e.

sufficient to raise crops. It might be interesting to note here that on the Rio Grande the Ditch Diversions' were 157% of last year, while the recorded flow at the Del Norte gage was only 147% of last year. Also the commitments of the Rio Grande Compact were met in 1968 while 1967 had a deficit of 17,000 acre feet. The Conejos River diversions were 92% of last year while the flow at the Mogote Station was 96% of last year. The Conejos definitely shows an effect due to compact deliveries, however, not as much as might be expected. I believe better water conservation practices are in evidence this year. Water was generally used from November 1, 1967 to October 31, 1968 a total of 366 days compared to a total of 245 days last year. This might be misleading as most districts except 20 and 22 used water after November 1, 1967. These of course were not subject to Compact Commitments. A heavy snow the latter part of November 1967 terminated even these ditches until late Spring. Ditches in District 20 and 22 were denied water after November 1, 1967, and due to excellent winter moisture, did not begin irrigation until April 1, 1968.

Most crops in the San Luis Valley were above average this year largely due to heavy summer rains last year and an above average snow pack. Stream flows in the La Garita, Saguache and Culebra Creek areas were of record proportions and almost double the normal flows. These streams stayed up until late fall due to ground water recharge the previous year. Red McClure and Russett potatoes were of good quantity and size this year. Prices at the time of this report are \$2.00 per cwt for Red McClures and \$2.50 per cwt for Russetts. These prices are far below average when you consider retail prices in markets are \$5.90 per cwt for the McClures and as high as \$7.90 per cwt for the Russetts. Lettuce was good, but not as much was raised as last year due to poor market prices. Moravian Barley was good with some loss due to high wind at harvest time. A company other than Coors has been active in contracting barley in the Valley. Coors pays about double the price (\$3.65 per bu.) on contract if the barley is up to specifications. The other company provides an outlet for feed barley at \$2.25 per bu.

The Summary of Ditch Diversion percentage comparisons in Table No. 14 shows that all districts, with the exception of 22, are over 100% of 1967. District No. 22 was 92% with Water District No. 26 as high as 328%. The same holds true comparing 1968 with the past 10 year average, ranging from 100% to 251%. Acres irrigated, 1968 compared with 1967 averaged 123%, while the comparison of 1968 with the past 10 year averaged 103%. Use per acre 1968 compared with 1967 ranged from 90% in District No. 24 to 254% in District No. 27. Compared to the past 10 years, District No. 25 was low with 92% while District No. 27 again was high with 397%. The acreage in District No. 27 remains constant due to a limited drainage basin, while the stream yield fluctuates, consequently, the ballooning of the percentage figures with a heavy water yield. The same is true in the Saguache, Trinchera and Culebra Creek basins.

Most of the Hay Crop was salvaged with some difficulty experienced due to rain the first three weeks in August.

Pumping for supplemental water was heavy in May and June this year largely due to fear that deliveries of compact water would cause shortages in direct flow rights and a late beginning of snow pack run-off.

The scheduled deliveries of the Rio Grande Compact were enforced for the first time, by this division, this year. Orders to meet scheduled

deliveries were received from the State Engineer in February after a commitment drafted by legal counsel of the Attorney General's Office was tendered and agreed to by the States of New Mexico and Texas. A difficult situation developed with the water users of the Valley who were concerned about their economy and the economy of the San Luis Valley as a whole. Many meetings were held and discussions had to familiarize the water users of the importance of complying and the methods undertaken to make these deliveries. Except for a few instances the water users were more than cooperative and interested in complying with the commitment under taken by the State of Colorado. The situation was aggravated when the Water Commissioner of District No. 20, Mr. Phillip McOllough, refused to comply with orders for delivery of compact water issued by this office and by the State Engineer. Mr. McOllough was relieved of his authority and scheduled deliveries were made from the division level until Mr. Lyle Alspaugh could familiarize himself with the duties of the Water Commissioner. Mr. Alspaugh is acting Water Commissioner in District No. 20.

Difficulties again rose during the period of peak flow, sufficient flow past Del Norte to supply all ditches plus an amount to meet delivery schedules was considered by some as flood damage. Acting without authority Mr. McOllough ordered the Rio Grande Reservoir to start storage at a time when there wasn't sufficient flow to satisfy senior rights and make compact deliveries. Consequently illegal storage was contained in this reservoir. After a series of hearings the senior rights suffering loss were satisfied and their water returned to them. An inspection trip by Mr. Ralph Owens, State Engineer and myself, also records of past flows of the Rio Grande proved the flooding incident to be greatly over exaggerated. Mr. McOllough again acted without authority and enacted an exchange of water between Hermit Lakes and the Rio Grande Reservoir of 1000 acre feet of water. This amount of water involved 208 acre feet of compact water used by the San Luis Valley Irrigation District, illegally for irrigation. This 208 acre feet of water is presently impounded in the Rio Grande Reservoir. This exchange was made without the knowledge or approval of the Division Engineer.

These difficulties were finally overcome and scheduled deliveries for compact purposes were computed to be on the credit side for the year. An earlier interpretation of the commitment made by Colorado to New Mexico and Texas indicated any over delivery of compact water made this year would be credited on next year's deliveries. Another interpretation together with correspondence with the Commissioners of New Mexico and Texas proved this to be false just after an order from this office was made to curtail irrigation as of November 1. Needless to say, without credit for any over delivery on next year's deliveries, the shut-off order was verbally rescinded and ditches again returned to irrigating. The forecast for Rio Grande Compact deliveries at the present time is approximately 12,000 acre feet over schedule. This will be credited against Colorado's past indebtedness of approximately 996,000 acre feet. Storage of 9,600 acre feet was gained in Platoro reservoir during this year to be released for Compact commitments. The release of 400 c.f.s. started at 6:00 P.M. November 1. A movement is underway by the Conejos Water Conservancy District to gain control of Platoro Reservoir for irrigation purposes. Their stand is that Colorado has shown its willingness to meet scheduled deliveries under the Compact and have indeed met these deliveries. Therefore waters stored in Platoro Reservoir were, in fact, in excess of the commitment and should be used for irrigation in Colorado. The doubt in my mind lies with Colorado's indebtedness being held by New Mexico and Texas as an insurance of future deliveries by Colorado.

It looks as though more than one year is needed to convince the states of New Mexico and Texas that Colorado will continue to comply with scheduled deliveries. The optimism for this plan to succeed was removed when New Mexico and Texas refused to accept excess water delivered as credit next year.

Platoro releases at 400 cfs were passing the La Sauses station with less transportation loss incurred than in any previous year. At the same time the U. S. Geological Survey was collecting data by way of a Seepage investigation when without prior information an additional 200 cfs was released by the Caretaker of Platoro Reservoir upon orders of his superiors in Amarillo, Texas. The result; data by the USGS became almost worthless and transportation losses were increased needlessly to the expense of Colorado. A letter was written to Mr. Leon Hill, Regional Director for the Bureau of Reclamation by Mr. Owens condemning this action.

Again this year an exerted effort was made by this division for improvement of irrigation systems with the following excellent results.

IRRIGATION DITCH STRUCTURES INSTALLED OR REPAIRED

| Water District | Flumes                            | Headgates | Diversion Dams | Total     |
|----------------|-----------------------------------|-----------|----------------|-----------|
| 20             | 4                                 | 2         | 7              | 13        |
| 21             | 1                                 | 2         | 0              | 3         |
| 22             | 28                                | 35        | 6              | 69        |
| 24             | 4                                 | 0         | 0              | 4         |
| 24             | (5.0 miles of cement lined canal) |           |                |           |
| 25             | 1                                 | 1         | 0              | 2         |
| 26             | 2                                 | 1         | 1              | 4         |
| 27             | 0                                 | 2         | 0              | 2         |
| 35             | 3.5 miles of cement lined canal   |           |                |           |
| <b>TOTAL</b>   | <b>40</b>                         | <b>43</b> | <b>14</b>      | <b>97</b> |

Work was done by the Rio Grande Water Conservancy District in the form of cleaning 5 miles of the old Norton Drain and securing 7 miles of right-of-way for new ditch to be included and connected to the Norton Drain. The district is experiencing difficulty in gaining funds to complete their work. The cooperation received from the board of this district is excellent and in the space of only one year has proven itself to be a very worthwhile organization.

The Monte Vista Canal Company completed channel work at their headgates under the direction of Mr. Trude Glatz, Superintendent.

Levels were run by Kyle Bryning on the Santa Maria Reservoir and storage was found to be in error. The storage was corrected to legal before November 1.

Rock was placed as a tie to the wing walls at the gaging station

below Big Meadows Reservoir. This was then cemented in. The work was done by the U.S. Forest Service upon the request of Mr. Harvey Bray (New Area Supervisor of the Fish, Game and Parks Department) Dirt was placed on the rock prior to capping with cement, not at the request of Mr. Bray. Next years run-off should determine the stability of the work. The spillway of Big Meadows was stabilized with rip-rap by the Fish, Game and Parks Department. The work was inspected by Mr. Paddock, Dams Engineer for the State Engineers' Office and found satisfactory. Mr. Paddock made two trips to the Valley this year and inspected various dams. These will be included in his Annual Report.

The Outlet tunnel for Beaver Park Reservoir was repaired this year. An inspection has not been made due to the amount of water leaking through the gates and coming over the spillway. As soon as the reservoir head is decreased the inspection will be made.

Evaporation losses were not computed this year due to the increased burden of compact deliveries and the inaccuracy of evaporation data. An ammendment to the law is needed to require installation of evaporation gages at reservoirs where evaporation losses are computed.

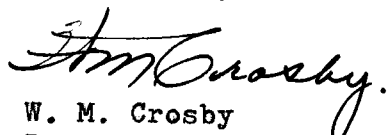
Mr. Roy Varner was hired as deputy in District No. 20 and Mr. Thomas P. Trent as deputy in District No. 22 to help with the increased work load brought on enforcing compact deliveries. Both men are of excellent capabilities and I feel the State Engineer's office is fortunate to gain men of their caliber.

I would like to take this opportunity to thank the Water Commissioners for their conscience efforts this year with particular notice directed to the extra effort freely coming from the Water Commissioners and their Deputies in Districts 20 and 22, whose hours and devotion to duty was increased by the demand for meeting Rio Grande Compact deliveries.

This year, I believe a closer liason was established between this division and the Denver Office.

Again, my heartfelt thanks to all.

Respectfully submitted,



W. M. Crosby  
Division Engineer  
Irrigation Division No. 3

WMC:rc  
Encl:

Table No. 1

RESERVOIR STORAGE IN ACRE FEET

| Date          | Rio Grande | Santa Maria | Continental | Beaver Park | Terrace |
|---------------|------------|-------------|-------------|-------------|---------|
| Dec. 1, 1967  | 3,489      | 1,179       | 2,325       | 1,920       | 6,879   |
| Jan. 1, 1968  | 4,886      | 1,720       | 3,000       | 2,320       | 6,819   |
| Feb. 1, 1968  | 6,276      | 2,110       | 3,485       | 2,612       | 6,784   |
| Mar. 1, 1968  | 7,354      | 2,500       | 3,965       | 2,760       | 6,980   |
| Apr. 1, 1968  | 8,704      | 2,900       | 4,450       | 2,900       | 7,033   |
| May 1, 1968   | 10,614     | 3,369       | 4,927       | 4,053       | 7,697   |
| June 1, 1968  | 15,222     | 3,369       | 4,927       | 4,053       | 8,450   |
| July 1, 1968  | 32,020     | 4,397       | 5,181       | 4,294       | 8,971   |
| Aug. 1, 1968  | 11,000     | 545         | 2,649       | 3,392       | 8,214   |
| Sept. 1, 1968 | 16,080     | 1,344       | 3,446       | 3,768       | 14,207  |
| Oct. 1, 1968  | 16,080     | 2,179       | 3,974       | 3,680       | 12,200  |
| Nov. 1, 1968  | 16,080     | 2,230       | 3,991       | 3,576       | 11,953  |

| Date          | Platoro | Cove Lake | Sanchez | Mountain Home | Smith |
|---------------|---------|-----------|---------|---------------|-------|
| Dec. 1, 1967  | 3,000   | 631       | 11,979  | 1,866         | 1,674 |
| Jan. 1, 1968  | 3,000   | 483       | 12,353  | 2,080         | 1,787 |
| Feb. 1, 1968  | 3,000   | 319       | 12,353  | 2,324         | 1,871 |
| Mar. 1, 1968  | 3,000   | 162       | 12,429  | 2,569         | 2,005 |
| Apr. 1, 1968  | 3,000   | 0         | 12,506  | 2,920         | 2,551 |
| May 1, 1968   | 3,300   | 0         | 12,847  | 3,093         | 2,808 |
| June 1, 1968  | 5,100   | 5,455     | 14,691  | 3,564         | 2,796 |
| July 1, 1968  | 11,300  | 5,016     | 13,527  | 4,350         | 2,172 |
| Aug. 1, 1968  | 11,300  | 2,880     | 9,889   | 3,148         | 2,105 |
| Sept. 1, 1968 | 12,600  | 1,770     | 12,892  | 3,275         | 4,453 |
| Oct. 1, 1968  | 12,600  | 1,169     | 11,979  | 2,524         | 3,322 |
| Nov. 1, 1968  | 12,600  | 567       | 11,434  | 2,154         | 2,551 |



Table No. 2

RESERVOIRS

| Name                  | Capacity<br>in A.F. | Quantity<br>of Water<br>1968 Max.<br>in A.F. | Quantity<br>of Water<br>Nov. 1<br>in A.F. | Quantity of<br>Water Delivered<br>to Ditches<br>in A.F. |
|-----------------------|---------------------|--|---|---|
| Alberta Park          | 598                 | 598  | 598                                       | 0   |
| Beaver Park           | 4,434               | 4,434  | 3,576                                     | 1,000   |
| Big Meadows           | 2,437               | 2,437  | 2,437                                     | 0   |
| Big Ruby              | 94                  | 94   | 94  | 0   |
| Bristol Head No. 1    | 121                 | 0  | 0   | 0   |
| Bristol Head No. 2    | 804                 | 0  | 0   | 0   |
| Continental           | 22,679              | 6,626  | 3,991                                     | 2,652   |
| Cove Lake             | 6,380               | 5,455  | 567                                       | 8,477   |
| Downing               | 30                  | 30   | 30  | 0   |
| Eastdale No. 1        | 3,519               | 0  | 0   | 0   |
| Eastdale No. 2        | 3,041               | 1,548  | 187                                       | 675   |
| Fuchs                 | 238                 | 21   | 21  | 0   |
| Goose Lake            | 232                 | 232  | 232                                       | 0   |
| Hay Press Park        | 200                 | 200  | 200                                       | 0   |
| Hermit No. 1          | 385                 | 385  | 385                                       | 0   |
| Hermit No. 2          | 407                 | 407  | 407                                       | 0   |
| Hermit No. 3          | 192                 | 192  | 192                                       | 1,000 (Hermit total)                                    |
| Humphreys             | 842                 | 842  | 842                                       | 0   |
| Hunters Lake          | 19                  | 19   | 19  | 0   |
| Jumper Creek          | 38                  | 38   | 38  | 0   |
| La Jara               | 14,052              | 7,405  | 5,778                                     | 0   |
| Loch Laven            | 24                  | 0  | 0   | 0 (No Lake)   |
| Lost Lake (Lower)     | 966                 | 771  | 0   | 792   |
| Lost Lake (Upper)     | 68                  | 68   | 47  | 0   |
| Love Lake             | 24                  | 24   | 24  | 0   |
| Meadow Lake (McCrone) | 174                 | 174  | 174                                       | 0   |
| Meadow Lake (Wright)  | 115                 | 115  | 115                                       | 0   |
| Metroz (Lower Basin)  | 396                 | 297  | 297                                       | 0   |
| Metroz (Upper Basin)  | 84                  | 84   | 84  | 0   |
| Mill Creek            | 43                  | 43   | 43  | 0   |
| Mountain Home         | 18,595              | 4,605  | 2,154                                     | 3,635   |
| Platoro               | 60,000              | 12,600                                       | 12,600                                    | 0   |
| Poage                 | 261                 | 261  | 234                                       | 26  |
| Regan's Lake          | 823                 | 379  | 142                                       | 237   |
| Rio Grande            | 51,113              | 37,100                                       | 16,080                                    | 21,020  |
| Rito Hondo            | 561                 | 561  | 561                                       | 0   |

Table No. 2

RESERVOIRS CONTINUED

| Name                  | Capacity<br>in A.F. | Quantity<br>of Water<br>1968 Max.<br>in A.F. | Quantity<br>of Water<br>Nov. 1<br>in A.F. | Quantity of<br>Water Delivered<br>to Ditches<br>in A.F. |
|-----------------------|---------------------|--|---|---|
| Road Canyon No. 1     | 1,367               | 1,367  | 1,367                                     | 0   |
| Road Canyon No. 2     | 84                  | 84   | 84  | 0   |
| Salazar No. 1         | 234                 | 234  | 155                                       | 228   |
| Salazar No. 2         | 35                  | 15   | 0   | 0   |
| Sanchez               | 103,155             | 15,474                                       | 11,434                                    | 17,919  |
| Santa Maria           | 45,070              | 6,436  | 2,230                                     | 4,716   |
| Shaw Lake             | 681                 | 516  | 333                                       | 218   |
| S. Lazy U. Dude Ranch | 106                 | 106  | 106                                       | 0   |
| S. Lazy U No. 2       | 42                  | 42   | 42  | 0   |
| Smith                 | 5,651               | 4,706  | 2,551                                     | 2,242   |
| Sowards No. 1-A       | 8                   | 8  | 8   | 0   |
| Sowards No. 2         | 35                  | 35   | 35  | 0   |
| Sowards No. 3         | 19                  | 19   | 19  | 0   |
| Sowards No. 4         | 45                  | 45   | 45  | 0   |
| Spring Creek          | 97                  | 97   | 97  | 0   |
| Spruce Lake No. 1     | 98                  | 98   | 98  | 0   |
| Spruce Lake No. 2     | 105                 | 105  | 105                                       | 0   |
| Squaw Lake            | 162                 | 0  | 0   | 0   |
| Stabilization (Head)  | 260                 | 260  | No report                                 | ----  |
| Streams Lake          | 41                  | 41   | 41  | 0   |
| Terrace               | 17,233              | 15,124                                       | 11,953                                    | 4,876   |
| Trout Lake            | 198                 | 198  | 7   | 191   |
| Troutvale No. 1       | 201                 | 201  | 201                                       | 0   |
| Troutvale No. 2       | 257                 | 257  | 257                                       | 0   |
| Trujillo Meadows      | 913                 | 913  | 913                                       | 0   |
| Wee Ruby              | 186                 | 148  | 148                                       | 0   |
| <b>TOTAL</b>          | <b>370,272</b>      | <b>134,574</b>                               | <b>84,378</b>                             | <b>69,904</b>   |

Table No. 3

TRANS-MOUNTAIN DIVERSIONS

| Name of Diversion                         | Acre Feet Imported | Acre Feet Delivered to Ditches | Acre Feet Delivered to Reservoirs | Evap. and/or Transportation Loss (Ac.Ft.) <del>Delivered to Senior Decrees</del> | Total Acre Feet Del. |
|---|--------------------|--------------------------------|-----------------------------------|--|----------------------|
| Fuchs Ditch<br>@ Weminuche Pass           | 425                | 375                            | 0                                 | 50   | 375                  |
| Piedra Pass Ditch (East)<br>@ Piedra Pass | 0                  | 0                              | 0                                 | 0  | 0                    |
| Piedra Pass Ditch (West)<br>@ Piedra Pass | 0                  | 0                              | 0                                 | 0  | 0                    |
| Raber-Lohr Ditch<br>@ Weminuche Pass      | 1,388              | 1,175                          | 0                                 | 213  | 1,175                |
| Squaw Pass Ditch<br>@ Squaw Pass          | 137                | 85                             | 0                                 | 52   | 85                   |
| Tabor Ditch<br>@ Spring Creek Pass        | 931                | 0                              | 931                               | 0  | 931                  |
| Tarbell Ditch<br>Near Cochetopa Pass      | 40                 | 36                             | 0                                 | 4  | 36                   |
| Treasure Pass Ditch<br>@ Wolf Creek Pass  | 194                | 161                            | 0                                 | 33   | 161                  |
| TOTAL                                     | 3,115              | 1,832                          | 931                               | 352  | 2,763                |

Table No. 4

DIVERSIONS TO CANALS AND DITCHES DISTRICT NO. 20

| Diverted From   | Direct A.F.    | Trans-Mt. Diversions A.F. | Reservoir A.F. | Total A.F.     | Acres Irrigated | A.F. Per Acre |
|---|----------------|---------------------------|----------------|----------------|-----------------|---------------|
| Rio Grande  | 588,600        | 2,727                     | 31,852         | 623,179        | 290,854         | 2.14          |
| Pinos, Frisco, & Schrader   | 18,746         | 0                         | 0              | 18,746         | 6,795           | 2.76          |
| Rock & Spring *   | 14,042         | 0                         | 0              | 14,086         | 6,406           | 2.20          |
| Other Streams *   | 22,220         | 0                         | 0              | 22,220         | 7,395           | 3.00          |
| *Lower Rock Creek deleted from "Rock and Spring", included with "Other Streams" |                |                           |                |                |                 |               |
| <b>TOTAL</b>  | <b>643,608</b> | <b>2,727</b>              | <b>31,852</b>  | <b>678,231</b> | <b>311,450</b>  | <b>2.18</b>   |

Table No. 5

COMPARISON OF RIVER DISCHARGE, DITCH DIVERSIONS,  
AND ACRES IRRIGATED IN DISTRICT NO. 20

| Year         | Total Acre Feet Discharge of Rio Grande River Near Del Norte Yr. Ending Sept. 30 | Total Acre Feet Diverted From All Streams | Total No. of Acres Irrigated | Acre Feet Per Acre |
|--------------|--|---|------------------------------|--------------------|
| 1959         | 347,500  | 387,147                                   | 278,485                      | 1.39               |
| 1960         | 624,200  | 637,986                                   | 326,884                      | 1.95               |
| 1961         | 478,200  | 558,410                                   | 318,591                      | 1.75               |
| 1962         | 771,600  | 761,901                                   | 341,205                      | 2.23               |
| 1963         | 341,400  | 364,825                                   | 281,629                      | 1.30               |
| 1964         | 372,200  | 425,723                                   | 293,293                      | 1.45               |
| 1965         | 880,000  | 903,847                                   | 333,185                      | 2.71               |
| 1966         | 625,700  | 628,473                                   | 334,336                      | 1.88               |
| 1967         | 444,300  | 432,989                                   | 316,756                      | 2.57               |
| 1968         | 656,400  | 678,231                                   | 311,450                      | 2.18               |
| <b>Total</b> | <b>5,541,500</b>   | <b>5,779,532</b>                          | <b>3,135,814</b>             |                    |
| <b>Mean</b>  | <b>554,150</b>   | <b>577,953</b>                            | <b>313,581</b>               | <b>1.84</b>        |

Table No. 6

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 21

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 47,595  | 30,426                             | 1.56                  |
| 1960  | 86,736  | 45,248                             | 1.92                  |
| 1961  | 72,908  | 45,417                             | 1.61                  |
| 1962  | 116,178   | 47,109                             | 2.47                  |
| 1963  | 39,486  | 24,587                             | 1.61                  |
| 1964  | 56,390  | 35,755                             | 1.58                  |
| 1965  | 136,454   | 51,806                             | 2.63                  |
| 1966  | 105,076   | 43,163                             | 2.43                  |
| 1967  | 84,827  | 40,472                             | 2.10                  |
| 1968  | 104,858   | 43,967                             | 2.38                  |
| Total | 850,508   | 407,950                            |                       |
| Mean  | 85,051  | 40,795                             | 2.08                  |

Table No. 7

COMPARISON OF RIVER DISCHARGE, DITCH DIVERSIONS,  
AND ACRES IRRIGATED IN DISTRICT NO. 22

| Year  | Total Acre Feet<br>Discharge of<br>Conejos River<br>Near Mogote<br>Yr. Ending Sept. 30 | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|--|---|------------------------------------|-----------------------|
| 1959  | 150,600  | 170,793   | 85,306                             | 2.00                  |
| 1960  | 208,300  | 222,302   | 89,094                             | 2.50                  |
| 1961  | 201,600  | 248,348   | 94,781                             | 2.62                  |
| 1962  | 255,300  | 271,729   | 93,823                             | 2.90                  |
| 1963  | 132,600  | 135,835   | 76,228                             | 1.78                  |
| 1964  | 155,500  | 181,686   | 86,966                             | 2.09                  |
| 1965  | 305,500  | 308,980   | 100,412                            | 3.08                  |
| 1966  | 236,900  | 231,226   | 101,004                            | 2.29                  |
| 1967  | 243,200  | 244,148   | 100,349                            | 2.43                  |
| 1968  | 234,200  | 224,238   | 98,829                             | 2.27                  |
| Total | 2,123,700  | 2,239,285                                       | 926,792                            |                       |
| Mean  | 212,370  | 223,928   | 92,679                             | 2.42                  |

Table No. 8

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 24

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 57,959  | 20,074                             | 2.89                  |
| 1960  | 57,993  | 22,720                             | 2.55                  |
| 1961  | 58,882  | 22,205                             | 2.65                  |
| 1962  | 54,973  | 21,654                             | 2.54                  |
| 1963  | 31,426  | 16,885                             | 1.86                  |
| 1964  | 39,226  | 16,735                             | 2.34                  |
| 1965  | 66,173  | 19,562                             | 3.38                  |
| 1966  | 60,864  | 20,303                             | 2.98                  |
| 1967  | 45,891  | 14,091                             | 3.26                  |
| 1968  | 61,842  | 20,969                             | 2.95                  |
| Total | 535,229   | 195,198                            |                       |
| Mean  | 53,523  | 19,520                             | 2.74                  |

Table No. 9

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 25

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 27,395  | 11,366                             | 2.41                  |
| 1960  | 44,530  | 12,467                             | 3.57                  |
| 1961  | 43,633  | 12,755                             | 3.42                  |
| 1962  | 38,655  | 10,102                             | 3.83                  |
| 1963  | 11,795  | 2,099                              | 5.62                  |
| 1964  | 33,961  | 8,021                              | 4.23                  |
| 1965  | 73,552  | 16,299                             | 4.51                  |
| 1966  | 30,320  | 13,632                             | 2.22                  |
| 1967  | 44,084  | 12,825                             | 3.44                  |
| 1968  | 48,481  | 15,199                             | 3.19                  |
| Total | 396,406   | 114,765                            |                       |
| Mean  | 39,641  | 11,476                             | 3.45                  |

Table No. 10

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 26

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 25,295  | 10,076                             | 2.51                  |
| 1960  | 40,036  | 15,535                             | 2.58                  |
| 1961  | 24,624  | 10,034                             | 2.45                  |
| 1962  | 45,624  | 17,490                             | 2.61                  |
| 1963  | 12,718  | 5,513                              | 2.31                  |
| 1964  | 30,063  | 9,189                              | 3.27                  |
| 1965  | 78,474  | 26,939                             | 2.91                  |
| 1966  | 33,542  | 13,921                             | 2.41                  |
| 1967  | 22,074  | 8,821                              | 2.50                  |
| 1968  | 72,407  | 15,221                             | 4.76                  |
| Total | 384,857   | 132,739                            |                       |
| Mean  | 38,486  | 13,274                             | 2.90                  |

Table No. 11

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 27

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 7,368   | 3,057                              | 2.41                  |
| 1960  | 7,341   | 4,420                              | 1.66                  |
| 1961  | 7,047   | 2,555                              | 2.76                  |
| 1962  | 6,785   | 3,088                              | 2.20                  |
| 1963  | 2,710   | 785                                | 3.45                  |
| 1964  | 7,509   | 1,100                              | 6.83                  |
| 1965  | 13,139  | 1,885                              | 6.97                  |
| 1966  | 9,619   | 3,325                              | 2.89                  |
| 1967  | 8,217   | 1,301                              | 6.32                  |
| 1968  | 23,318  | 1,450                              | 16.08                 |
| Total | 93,053  | 22,966                             |                       |
| Mean  | 9,305   | 2,297                              | 4.05                  |

Table No. 12

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DISTRICT NO. 35

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 35,694  | 15,654                             | 2.28                  |
| 1960  | 56,324  | 18,227                             | 3.09                  |
| 1961  | 47,511  | 17,225                             | 2.76                  |
| 1962  | 56,882  | 18,215                             | 3.12                  |
| 1963  | 21,069  | 11,912                             | 1.77                  |
| 1964  | 20,805  | 9,580                              | 2.17                  |
| 1965  | 52,611  | 18,345                             | 2.87                  |
| 1966  | 33,035  | 14,535                             | 2.27                  |
| 1967  | 29,882  | 10,405                             | 2.87                  |
| 1968  | 50,560  | 13,250                             | 3.37                  |
| Total | 404,373   | 147,348                            |                       |
| Mean  | 40,437  | 14,735                             | 2.74                  |

Table No. 13

COMPARISON OF DITCH DIVERSIONS  
AND ACRES IRRIGATED IN DIVISION NO. 3

| Year  | Total Acre Feet<br>Diverted From<br>All Streams | Total No.<br>of Acres<br>Irrigated | Acre Feet<br>Per Acre |
|-------|---|------------------------------------|-----------------------|
| 1959  | 759,246   | 454,444                            | 1.67                  |
| 1960  | 1,153,248                                       | 534,595                            | 2.16                  |
| 1961  | 1,061,317                                       | 523,553                            | 2.03                  |
| 1962  | 1,352,711                                       | 553,111                            | 2.45                  |
| 1963  | 619,864   | 419,638                            | 1.48                  |
| 1964  | 795,363   | 460,639                            | 1.73                  |
| 1965  | 1,633,230                                       | 568,433                            | 2.87                  |
| 1966  | 1,132,155                                       | 544,219                            | 2.08                  |
| 1967  | 912,112   | 505,020                            | 1.81                  |
| 1968  | 1,263,935                                       | 520,335                            | 2.43                  |
| Total | 10,683,181                                      | 5,083,987                          |                       |
| Mean  | 1,068,318                                       | 508,399                            | 2.10                  |



Table No. 14

PERCENTAGE COMPARISONS

| District       | Ditch Diversions in 1968 Compared to 1967 | Ditch Diversions in 1968 Compared to Past 10 Years | Acres Irrigated in 1968 Compared to 1967 | Acres Irrigated in 1968 Compared to Past 10 Years | No. of A.F. Used Per Acre in 1968 Compared to 1967 | No. of A.F. Used Per Acre in 1968 Compared to Past 10 Years |
|----------------|---|--|--|---|--|---|
| 20             | 157%                                      | 117%   | 98%                                      | 99%   | 84%  | 118%  |
| 21             | 124                                       | 123  | 109                                      | 108   | 113  | 114   |
| 22             | 92  | 100  | 98                                       | 107   | 93   | 94  |
| 24             | 135                                       | 116  | 149                                      | 107   | 90   | 108   |
| 25             | 110                                       | 122  | 119                                      | 132   | 93   | 92  |
| 26             | 328                                       | 188  | 173                                      | 115   | 190  | 164   |
| 27             | 284                                       | 251  | 111                                      | 63  | 254  | 397   |
| 35             | 169                                       | 125  | 127                                      | 90  | 117  | 123   |
| <hr/>          |   |  |  |   |  |   |
| DIVISION No. 3 | 175%                                      | 143%   | 123%                                     | 103%  | 129%   | 151%  |

Table No. 15

WATER COMMISSIONER'S DITCH REPORTS  
IRRIGATION DIVISION No. 3

| Water District | Number of Ditches Using Water | First Day Water Was Used | Last Day Water Was Used | No. of Days Water Was Carried | No. of Acre Feet Used | No. of Acres Irrigated |
|----------------|-------------------------------|--------------------------|-------------------------|-------------------------------|-----------------------|------------------------|
| 20             | 209                           | Apr. 1, 1968             | Oct. 31, 1968           | 214                           | 678,231               | 311,450                |
| 21             | 65                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 104,858               | 43,967                 |
| 22             | 90                            | Apr. 1, 1968             | Oct. 31, 1968           | 214                           | 224,238               | 98,829                 |
| 24             | 57                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 61,842                | 20,969                 |
| 25             | 59                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 48,481                | 15,199                 |
| 26             | 76                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 72,407                | 15,221                 |
| 27             | 16                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 23,318                | 1,450                  |
| 35             | 44                            | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 50,560                | 13,250                 |
| <hr/>          |                               |                          |                         |                               |                       |                        |
| DIVISION No. 3 | 616                           | Nov. 1, 1967             | Oct. 31, 1968           | 366                           | 1,263,935             | 520,335                |