

SOIL SALINITY AND COTTON YIELDS
AS AFFECTED BY SURFACE AND TRICKLE IRRIGATION

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ABSTRACT

The quality of the water in the Rio Grande deteriorates as the river flows through New Mexico from north to south. This quality degradation is partly a result of the return of poor quality drainage water into the river. Improved irrigation management could reduce the volume of drainage water and thereby improve the quality of the water in the river. This report deals with a field study in the Mesilla Valley in New Mexico on the effects of irrigation management on soil salinity, crop yields and return flow quality. Cotton yields and salinity were measured in plots irrigated by surface flooding and with a trickle system. The quality of the groundwater near the plot area and the quality of the water in a drain along the plot area were also measured.

In 1976 and 1977, irrigation treatments (efficiency and irrigation interval) had a significant effect on the electrical conductivity and chloride concentration of saturation extracts of samples taken from the root zone of surface irrigated plots. However, irrigation treatments did have no significant effect below 150 cm, indicating that improving irrigation efficiency is not expected to have an immediate effect on the quality of percolation water, and on the quality of return flow water. Surface irrigation treatments had no significant effect on cotton yields during the years 1972 through 1977, but trickle irrigated plots yielded six percent more lint cotton than the surface irrigated plots with 35 percent less water. Soil salinity in plots which were irrigated for five years with a trickle system increased by 25 percent for plots irrigated at a soil-water tension of 0.2 bar, and by 110 percent for plots receiving only three-fourth the amount of water applied to the 0.2 bar treatment. The electrical conductivity of the water in the Del Rio drain along the experimental site was nearly the same from 1971 to 1977 as between the years 1921 and 1936, indicating no major changes in return flow quality over the last forty to fifty years.

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INTRODUCTION

The quality of irrigation return flow represents a major problem in the western United States. The water of the Upper Rio Grande has been reported as a classic example of water quality degradation. Mineral pollution is the most serious problem in the Upper Rio Grande Basin as the basin is approaching, or has approached, conditions of full development and utilization of the available water resources. There is a progressive increase in the concentration of total dissolved solids and percent sodium from the upper to the lower sampling stations in the Upper Rio Grande Basin. The relatively large increase in dissolved solids in the river along the irrigated areas is due, to a large extent, to the concentrating effect of irrigation.

Nearly all of the valley land in the Upper Rio Grande Basin has a high water table and, where irrigation exists, drainage canals divert water from the "near-surface aquifers" into the Rio Grande. In the Mesilla Valley, as in many other areas, high equilibrium salinity concentrations are known to exist in the near surface aquifer. The key to achieving a reduction in salt loading is to lower the groundwater levels. The most effective means for lowering groundwater levels is to reduce the source of groundwater flows, which can be accomplished by reducing seepage losses through canals and laterals, or by reducing deep percolation losses resulting from excessive irrigation by improved on-farm water management practices. The latter approach is dealt with in this project.

Field plot studies were conducted at the New Mexico State University Plant Science Research Center located along the east bank of the Rio Grande River eight miles southwest of Las Cruces, New Mexico. The Research Center consists

of 82 hectares of irrigated farmland and supports a diversity of research projects in such areas as plant breeding, soil-water management and weed control. Crops under investigation include: cotton, alfalfa, pecans, chile peppers, turf grass and crambe, in addition to others. An underground irrigation system provides for the transport of both surface water and groundwater to individual fields.

In 1971, a detailed field plot experiment was initiated on a 0.81 hectare (2-acre) site at this farm (Wierenga, 1977). The field plot experiment reported here was conducted at the same site.

MATERIALS AND METHODS

FIELD FACILITIES

The soil at the Plant Science Research Center was heterogeneous which is characteristic of alluvial soils in the Mesilla Valley. The soil profile consisted of about 30 cm silty clay loam over 20 to 30 cm of clay, over a variable amount of silty loam. The latter changed rather abruptly into a medium sand. The depth to the sand on the two acre site varied from 60 to 120 cm below the soil surface. Root penetration into the medium to fine sandy subsoil appeared to be almost negligible. Data on the physical properties of the soil at the site are reported in Wierenga (1977).

The field plot layout at the experimental site was modified from the layout used during the previous study. The plastic and wood borders installed in the fall of 1971 had deteriorated, and needed to be rebuilt. Furthermore, it has been very difficult to till the soil and prepare a seedbed within the plastic borders of the 8 x 8 m² plots. As it had been impossible to construct furrows within the borders, the area within each plot had to be irrigated by surface flooding. Flooding caused compacting of the surface soil resulting in the development of a surface crust which impeded germination and stand development.

In the modified design, standard furrows with 1 m row spacings were made in the north to south direction. The uncultivated area adjacent to the old plots was also prepared for planting so that the size of each "new" plot became nearly double the size of each "old" plot. Figure 1 shows that each new plot lies over two old plots, and that one plot number per replication was deleted (e.g., numbers 10, 20, and 30). Table 1 lists new plot numbers

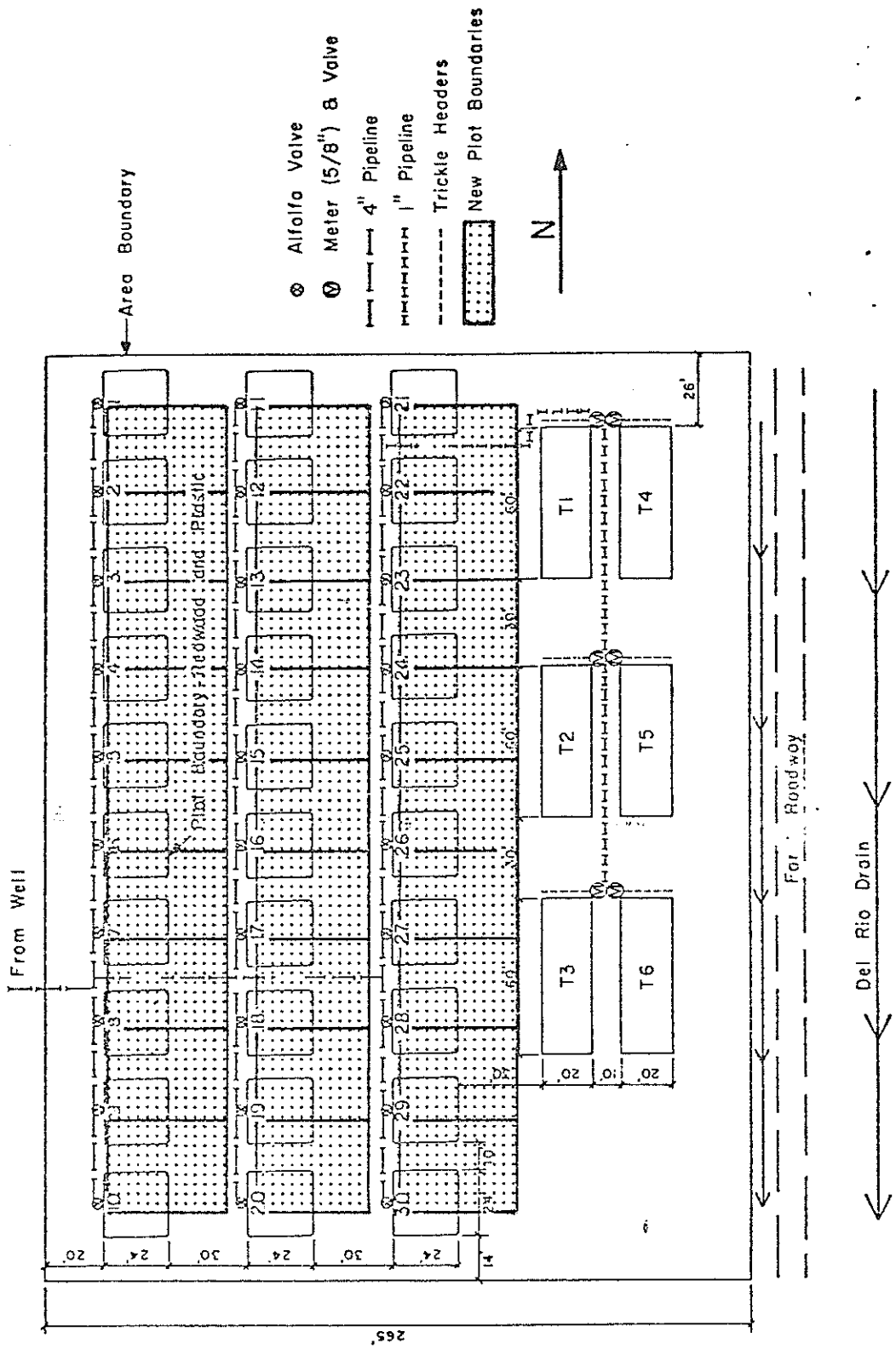


Figure 1. Layout of experimental site with the numbering system for new and old plots.

and treatments along with the old plot numbers and treatments. For the purpose of data analysis, one half of the "new" plots - those overlying "old" plots - were called "A" plots, while the other half - on the previously uncultivated area - were called "B" plots.

The trickle plots, also represented in Figure 1, were maintained at the same location for the duration of the experiment. However, trickle lines with Drip-Eze emitters, which had been used during the early part of the experiment, were replaced with Bi-Wall tubing having orifices spaced at 30 cm intervals (Reed Irrigation Systems, El Cajon, California). The Bi-Wall tubing was installed 5 cm below the surface of the soil.

Irrigation water for the experiment was obtained from the 20 cm irrigation well adjacent to the field plot area. The quality of the water was monitored by taking water samples at regular time intervals, and analyzing the samples in the laboratory.

The observation wells, which had been installed during the previous study to monitor quality changes in the underlying aquifer and to monitor the water quality versus depth relationship within the shallow aquifer, were sampled throughout the study.

During the previous study, two water monitoring stations had been constructed along the Del Rio Drain. The Del Rio Drain runs approximately parallel to the Rio Grande for a distance of about 32 km, and drains a large portion of the Mesilla Valley. It is one of the eight major drains in the valley having continuous flow throughout the year. The drain borders the experimental site to the east. One station, station B, was located adjacent to the plot area, and the second station, station A, was situated 4.5 km upstream. Water samples were taken at the two stations at weekly

intervals. The discharge at each of the two locations was determined with a current meter once a week.

Weather data were collected at a station west of the experimental site. The following measurements were made: incoming solar radiation, wind velocity, air temperature, relative humidity, rainfall, pan evaporation, and maximum and minimum temperature. The weather station and instruments are described in Wierenga (1977).

EXPERIMENTAL DESIGN AND FIELD PLOT MEASUREMENTS

The main treatment effects applied to the surface-irrigated plots were frequency of irrigation and rate of water application. During the previous study, frequency of irrigation was determined on the basis of the amount of "available" water in the soil profile. During the present study, irrigation frequency was arbitrarily set at intervals of 1 week, 2 weeks, or 3 weeks, respectively (Table 1).

These latter frequencies differed from those used before, especially during the early part of the growing season. However, during the main part of the growing season, differences between the new and old frequency treatments were relatively small. From a project management point of view, it was more convenient to irrigate at regular, predetermined time intervals.

The rates of water application to the surface-irrigated plots were also changed for the present study. Application rates of 51, 51, and 71 cm of water, including rainfall, were chosen for the last two years of the experiment. From previous experience, it was found that cotton plots receiving a total of 51 cm of water had essentially no leaching losses and approximated 100 percent irrigation efficiency. The use of predetermined amounts of irrigation water was more convenient from an experimental point of view than

Table 1. Former and new irrigation treatments at the experimental site.

| Treatment Number | Former Plot Numbers | Former Treatments | | New Plot Numbers | Present Treatments | |
|------------------|---------------------|---------------------|----------------------|------------------|----------------------------|--------------------------------|
| | | Depletion (percent) | Efficiency (percent) | | Irrigation Interval (days) | Depth of Irrigation Water (cm) |
| 1 | 2, 14, 29 | 25 | 80 | 2, 14, 28 | 7 | 71.1 |
| 2 | 5, 20, 25 | 50 | 80 | 4, 19, 25 | 14 | 71.1 |
| 3 | 6, 16, 21 | 75 | 80 | 5, 16, 21 | 21 | 71.1 |
| 4 | 10, 18, 24 | 25 | 90 | 9, 18, 24 | 7 | 61.0 |
| 5 | 1, 15, 30 | 50 | 90 | 1, 15, 29 | 14 | 61.0 |
| 6 | 3, 11, 23 | 75 | 90 | 3, 11, 23 | 21 | 61.0 |
| 7 | 9, 12, 26 | 25 | 100 | 8, 12, 26 | 7 | 50.8 |
| 8 | 8, 17, 27 | 50 | 100 | 7, 17, 27 | 14 | 50.8 |
| 9 | 7, 13, 22 | 75 | 100 | 6, 13, 22 | 21 | 50.8 |

the use of variable rates which had to be determined for each irrigation. The irrigations were scaled to an estimated evapotranspiration curve so that the heavy irrigations coincided with the peak evapotranspiration rates.

During the first year of the experiment, a Mexican dwarf spring wheat (variety Cajame 71) was seeded. Following the harvest of the wheat, the plots were rebuilt and, during the summer, fallowed. Winter barley was planted in the fall of 1975 and harvested in April 1976. No yield data were taken because of plant damage from aphids. The barley was primarily planted to control soil-born diseases. Variety 1517-75 cotton was planted on May 7, 1976 and variety 52-44 cotton was planted on April 23, 1977 in both the area overlying the "old" plots, and in the previously uncultivated area adjacent to it. All plots were machine harvested. Yield data for the cotton were obtained by harvesting four rows in each plot. Cotton sub-samples were taken from each plot for quality analysis by the New Mexico State University Cotton Quality Analysis Laboratory.

As soon after harvest as possible, soil samples were taken inside each plot at 20 cm depth increments to a final depth of 160 cm below the soil surface. The samples were air dried and saturation extracts prepared. The electrical conductivities of the saturation extracts were determined. The chloride concentrations of the fall '76 and fall '77 saturation extracts were also determined. In the previous experiment, soil samples had been taken at two locations within each plot and composited. During the last two years of the present experiment, soil samples were taken at three locations within each plot and analyzed separately. Two of the three locations in each plot were over the "old" plots, while the third location was within the previously uncultivated area (Figure 1).

In 1976, soil solution samples were withdrawn with 5-cm O.D. soil solution samplers placed with their tips 30 cm below the clay-loam overlying the sand in each plot. The samples were collected throughout the growing season and analyzed for chloride concentration only.

LABORATORY PROCEDURES

The procedures used for the chemical analyses were the same as those formerly used (Wierenga, 1977) and are described in "Methods for Chemical Analysis of Water and Wastes" (Environmental Protection Agency, 1971).

Electrical conductivity was determined with a Barnstead conductivity bridge. pH was determined with a digital pH meter. An atomic absorption-flame emission spectrophotometer was utilized in the analysis of the cations with sodium and potassium concentrations determined by flame emission and calcium and magnesium concentrations determined by atomic absorption. These procedures are described in "Analytical Methods for Atomic Absorption Spectrophotometry" (Perkin-Elmer, 1971). Sulfate concentrations were determined by the nitrochromeazo titrimetric method developed by Rasnick and Nakayama (1973). Carbonate and bicarbonate concentrations were determined by titration with 0.01 N sulfuric acid in the presence of phenolphthalein and methyl orange (U. S. Salinity Laboratory, 1954). Chloride analyses were completed on a Buchler-Cotlove chloridometer (Cotlove et al., 1958). Nitrate analyses were done spectrophotometrically (Lambers and Dubois, 1971).

RESULTS AND DISCUSSION

WATER APPLICATION AND WEATHER DATA

Depths of water applied to the cotton during the 1976 growing season are listed in Table 2 for the surface-irrigated plots and in Table 3 for the trickle-irrigated plots. The last irrigation was on August 20. In 1976 there was no pre-irrigation.

Depths of water applied to the cotton during the 1977 growing season are listed in Tables 4 and 5 for the surface- and trickle-irrigated plots, respectively.

The weather data for the years 1975-1977 is presented in Sammis (1979).

Pan evaporation data collected during the 1976 and 1977 cotton growing seasons are listed in Table 6. They show that pan evaporation during the summer of 1977 was higher than during the summers of 1975 and 1976, largely due to the high pan evaporation during September 1977. For the months of June, July and August, when the cotton transpires most actively, the total pan evaporation was 86.8, 84.6 and 86.0 cm, respectively. This indicates that the actual crop water use during these months was fairly constant over the three years.

SOIL SALINITY IN SURFACE-IRRIGATED PLOTS

a. Saturation Extracts

Soil samples were taken from the surface-irrigated plots and saturation extracts were prepared. The analyses of the saturation extracts are presented in Appendix Tables 1-29. Listed are the electrical conductivities (EC_e) and chloride concentrations (for Dec. '76 and Dec. '77) of the saturation extracts as well as the saturation percentages for the soil samples. Calculated salt contents in g/100g soil (see Wierenga (1977)) are also given.

Table 2. Depths of water applied to the surface-irrigated plots from May 6 to August 20, 1976*.

| Irrigation Interval | Planned Irrigation Efficiency | | | | | |
|---------------------|-------------------------------|--------------------|---------|--------------------|---------|--------------------|
| | 100% | | 90% | | 80% | |
| | Plot No | Water Applied (cm) | Plot No | Water Applied (cm) | Plot No | Water Applied (cm) |
| 1 week | 8 | 46.2 | 9 | 56.1 | 2 | 65.8 |
| | 12 | 46.2 | 18 | 56.1 | 14 | 66.3 |
| | 26 | 46.2 | 24 | 56.1 | 28 | 66.5 |
| 2 weeks | 7 | 46.7 | 1 | 56.1 | 4 | 66.3 |
| | 17 | 46.2 | 15 | 55.9 | 19 | 66.3 |
| | 27 | 46.2 | 29 | 54.9 | 25 | 66.3 |
| 3 weeks | 6 | 46.5 | 3 | 54.1 | 5 | 61.5 |
| | 13 | 46.5 | 11 | 54.1 | 16 | 62.2 |
| | 22 | 46.2 | 23 | 54.1 | 21 | 61.2 |
| Average | | 46.3 | | 55.3 | | 64.7 |

* Does not include rainfall of 8.9 cm over this period.

Table 3. Depths of water applied to the trickle-irrigated plots from May 6 to August 20, 1976*.

| Irrigation Treatment | | | |
|----------------------|------|--------------------------|------|
| 0.2 BAR | | 0.7 of Amount at 0.2 BAR | |
| Plot No | cm | Plot No | cm |
| 3 | 40.6 | 1 | 42.8 |
| 4 | 50.7 | 2 | 42.9 |
| 5 | 48.4 | 6 | 42.2 |
| Average | 49.0 | | 42.6 |

* Does not include rainfall of 8.9 cm over this period.

Table 4. Depths of water applied to the surface-irrigated plots from April 28 to August 19, 1977*.

| Irrigation Interval | Planned Irrigation Efficiency | | | | | |
|---------------------|-------------------------------|--------------------|---------|--------------------|---------|--------------------|
| | 100% | | 90% | | 80% | |
| | Plot No | Water Applied (cm) | Plot No | Water Applied (cm) | Plot No | Water Applied (cm) |
| 1 week | 8 | 51.0 | 9 | 59.7 | 2 | 71.2 |
| | 12 | 50.8 | 13 | 60.1 | 14 | 69.9 |
| | 26 | 50.2 | 24 | 60.3 | 28 | 70.0 |
| 2 weeks | 7 | 50.2 | 1 | 61.2 | 4 | 70.5 |
| | 17 | 51.1 | 15 | 60.8 | 19 | 70.1 |
| | 27 | 51.8 | 29 | 59.9 | 25 | 71.1 |
| 3 weeks | 6 | 52.1 | 3 | 60.7 | 5 | 69.7 |
| | 13 | 50.1 | 11 | 60.1 | 16 | 70.3 |
| | 22 | 49.1 | 23 | 60.2 | 21 | 70.2 |
| Average | | 50.7 | | 60.3 | | 70.3 |

* Does not include rainfall of 15.5 cm over this period.

Table 5. Depths of water applied to the trickle-irrigated plots from May 1 to September 1, 1977*.

| Irrigation Treatment | | | |
|----------------------|------|--------------------------|------|
| 0.2 BAR | | 0.7 of Amount of 0.2 BAR | |
| Plot No | cm | Plot No | cm |
| 3 | 48.7 | 1 | 37.0 |
| 4 | 50.7 | 2 | 38.5 |
| 5 | 51.2 | 6 | 36.0 |
| Average | 50.2 | | 37.2 |

* Does not include rainfall of 15.6 cm over this period.

Table 6. Pan evaporation during the summer months of 1975, 1976, and 1977

| Month | Year | | | Average (cm) |
|-----------|--------------|--------------|--------------|-----------------|
| | 1975 (cm) | 1976 (cm) | 1977 (cm) | |
| April | 23.6 | 23.6 | 23.8 | 23.7 |
| May | 28.1 | 30.0 | 28.0 | 28.7 |
| June | 33.3 | 34.0 | 29.4 | 32.2 |
| July | 27.9 | 26.8 | 29.2 | 28.0 |
| August | 25.6 | 23.8 | 27.4 | 25.6 |
| September | 17.8 | 17.6 | 23.3 | 19.6 |
| Total | 156.3 | 155.8 | 161.1 | 157.8 |

In 1976 and 1977, the soil was sampled at three locations per plot in 20 cm depth increments down to 180 cm.

Saturation percentages, chloride concentrations, and electrical conductivities (EC_e) from samples in the first two plot rows down to 80 cm, and from samples in the third plot row at two depths. In December 1976 and in December 1977, these differences in salinity between the three locations had largely disappeared. Out of the 27 electrical conductivity comparisons (9 depths and 3 rows) made between the A, B and C locations in December 1976, only 3 showed a significant difference. Only 4 out of the 27 comparisons of chloride concentration showed significant differences by location in December 1976. In December 1977 there were significant differences by location in 6 out of the 27 comparisons of electrical conductivity and in 4 of the 27 comparisons of chloride concentration and saturation percentage.

Combining the data from the three rows, the analysis showed some significant differences in EC_e by location for samples taken at the 0-20 cm depth in May

1976. There were no significant differences at the other depths. The combined analysis showed no significant differences in EC_e for samples taken in December 1976 and December 1977. Because the differences in EC_e were significant only near the soil surface and had generally disappeared after one irrigation season, the data from the three sample locations within each plot were averaged for the subsequent analysis.

An analysis of variance was performed to determine the effects of irrigation treatments on EC_e and chloride concentrations. Tables 8, 9 and 10 present the treatment means for EC_e for May 1976, December 1976, and December 1977, respectively. The treatment means for the chloride concentrations of the saturation extracts are listed in Tables 11 and 12 for December 1976 and December 1977, respectively. Treatment means for EC_e and chloride concentration are also represented in Figures 2-7.

Table 8 and Figure 2, presenting data from the spring of 1976, show no differences in soil salinity (EC_e) due to irrigation efficiency treatments during the years before 1976. There were, however, significant differences in soil salinity at the 80-160 cm soil depth due to irrigation interval or percent depletion treatments.

In the fall of 1976, soil salinity was significantly affected by irrigation efficiency (Table 9 and Figure 3) and by irrigation interval (Table 9). The chloride concentrations of the saturation extracts were also significantly affected by irrigation treatments (Table 11). EC_e and chloride concentration tended to be highest in the surface soil of the 100 percent efficiency treatment, as expected, and lowest in the 80 percent efficiency treatment. The effects of irrigation intervals appear to be restricted to the upper 40 to 60 cm of the soil profile.

Table 7. Significant differences in EC_e, chloride concentration, and saturation percent between the A, B, and C locations within plots.

| Depth (cm) | EC _e | | | Chloride | | | Saturation Percent | | |
|-----------------------|-----------------|----|----|----------|----|---|--------------------|----|---|
| | Row | | | Row | | | Row | | |
| | 1 | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 3 |
| <u>May, 1976</u> | | | | | | | | | |
| 0- 20 | ** | ** | - | | | | ** | ** | - |
| 20- 40 | ** | ** | - | | | | - | ** | - |
| 40- 60 | ** | ** | ** | | | | - | * | - |
| 60- 80 | ** | * | ** | no data | | | - | - | - |
| 80-100 | - | - | - | | | | - | - | - |
| 100-120 | - | ** | - | | | | - | * | - |
| 120-140 | - | - | - | | | | - | - | - |
| 140-160 | - | - | - | | | | - | - | - |
| 160-180 | - | - | - | | | | - | - | - |
| <u>December, 1976</u> | | | | | | | | | |
| 0- 20 | - | - | ** | - | - | - | - | - | - |
| 20- 40 | - | - | - | - | ** | - | * | ** | - |
| 40- 60 | - | - | - | - | * | - | - | ** | - |
| 60- 80 | - | - | - | ** | * | - | - | ** | - |
| 80-100 | - | ** | - | - | - | - | - | ** | - |
| 100-120 | * | - | - | - | - | - | - | - | - |
| 120-140 | - | - | - | - | - | - | - | - | - |
| 140-160 | - | - | - | - | - | - | - | - | - |
| 160-180 | - | - | - | - | - | - | - | - | - |
| <u>December, 1977</u> | | | | | | | | | |
| 0- 20 | - | - | - | - | - | - | - | - | - |
| 20- 40 | - | - | - | - | - | - | - | - | - |
| 40- 60 | ** | ** | - | * | - | - | - | - | - |
| 60- 80 | - | ** | - | ** | * | - | - | - | - |
| 80-100 | - | * | - | - | - | - | - | ** | - |
| 100-120 | - | ** | - | - | ** | - | - | * | - |
| 120-140 | - | - | - | - | - | - | ** | - | - |
| 140-160 | - | ** | - | - | - | - | - | * | - |
| 160-180 | - | - | - | - | - | - | - | - | - |

** Significant differences at the 10% confidence interval.

* Significant differences at the 5% confidence interval.

Table 8. Treatment means of EC_e in the surface-irrigated plots (May 1976)

| Item | Depth (cm) | | | | | | | | | | All Depths | |
|---------------------------------|---------------|-------|-------|-------|--------|---------|---------|---------|---------|---------|---------------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 | | |
| <u>Efficiency (percent)</u> | | | | | | | | | | | | |
| 80 | 1.80 | 2.80 | 3.48 | 4.70 | 4.82 | 3.11 | 2.31 | 1.91 | 1.60 | 2.95 | | |
| 90 | 2.14 | 3.24 | 3.88 | 5.29 | 5.07 | 3.10 | 2.12 | 1.87 | 1.74 | 3.16 | | |
| 100 | 1.82 | 3.14 | 4.32 | 5.16 | 5.41 | 3.50 | 2.43 | 2.03 | 1.74 | 3.28 | | |
| <u>Interval (weeks)</u> | | | | | | | | | | | | |
| 1 | 2.08 | 3.38 | 4.00 | 5.41 | 5.64** | 3.98** | 2.86** | 2.32* | 1.95 | 3.51 | | |
| 2 | 1.90 | 3.02 | 3.77 | 5.13 | 5.34** | 3.28** | 2.34** | 1.97* | 1.77 | 3.19 | | |
| 3 | 1.79 | 2.78 | 3.91 | 4.62 | 4.32** | 2.46** | 1.67** | 1.52* | 1.35 | 2.71 | | |
| <u>All Treatments</u> | 1.92 | 3.06 | 3.89 | 5.05 | 5.10 | 3.24 | 2.29 | 1.94 | 1.69 | 3.13 | | |

Table 9. Treatment means of EC_e in the surface-irrigated plots (December 1976)

| Item | Depth | | | | | | | | | | All Depths | |
|----------------------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|------------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 | | |
| Efficiency (percent) | | | | | | | | | | | | |
| 80 | 2.01 | 3.05* | 4.38* | 4.79** | 3.13** | 2.03 | 1.74 | 1.72 | 1.54 | 2.71 | | |
| 90 | 2.42 | 3.42* | 4.87* | 5.25** | 3.03** | 2.10 | 1.90 | 2.09 | 1.94 | 3.00 | | |
| 100 | 2.38 | 3.88* | 5.62* | 6.31** | 4.79** | 2.88 | 2.28 | 2.18 | 1.88 | 3.58 | | |
| Interval (weeks) | | | | | | | | | | | | |
| 1 | 2.65** | 4.07** | 5.33** | 5.88** | 4.12** | 2.55 | 2.46* | 2.60* | 2.09 | 3.53 | | |
| 2 | 2.22** | 3.34** | 5.04** | 5.78** | 3.86** | 2.45 | 1.80* | 1.88** | 1.82 | 3.13 | | |
| 3 | 1.98** | 2.95** | 4.50** | 4.69** | 2.97** | 2.01 | 1.66* | 1.50** | 1.45 | 2.63 | | |
| All Treatments | 2.27 | 3.45 | 4.96 | 5.45 | 3.65 | 2.34 | 1.97 | 2.00 | 1.79 | 3.10 | | |

Table 10. Treatment means of EC_e in the surface-irrigated plots (December 1977)

| Item | Depth (cm) | | | | | | | | | | All Depths | |
|-------------------------|---------------|--------|-------|--------|--------|---------|---------|---------|---------|------|---------------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | |
| Efficiency (percent) | | | | | | | | | | | | |
| 80 | 2.46** | 2.89** | 4.55* | 4.87** | 3.44** | 2.18 | 1.61* | 1.76 | 1.44 | 2.80 | | |
| 90 | 2.72** | 3.68** | 5.57* | 5.80** | 3.38** | 2.22 | 2.11* | 2.01 | 1.63 | 3.24 | | |
| 100 | 3.57** | 4.26** | 5.59* | 6.38** | 4.59** | 2.63 | 2.42* | 1.86 | 1.70 | 3.67 | | |
| Interval (weeks) | | | | | | | | | | | | |
| 1 | 3.34** | 4.06** | 5.11 | 5.54 | 4.15 | 2.66* | 2.06* | 2.37** | 1.52** | 3.50 | | |
| 2 | 3.23** | 3.54** | 5.38 | 6.05 | 4.03 | 2.61* | 2.42* | 1.87** | 2.11** | 3.47 | | |
| 3 | 2.18** | 3.24** | 5.22 | 5.45 | 3.22 | 1.76* | 1.66* | 1.38** | 1.15** | 2.81 | | |
| All Treatments | 2.92 | 3.61 | 5.24 | 5.68 | 3.80 | 2.34 | 2.05 | 1.88 | 1.59 | 3.25 | | |

Table 11. Treatment means of chloride concentrations (meg/l) of saturation extracts from surface-irrigated plots (December 1976)

| Item | Depth | | | | | | | | | | All Depths | |
|----------------------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--|------------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | |
| Efficiency (percent) | | | | | | | | | | | | |
| 80 | 5.27* | 7.02** | 9.38** | 11.48** | 7.47** | 4.81* | 3.87 | 3.72 | 3.10 | | 6.24 | |
| 90 | 6.23* | 9.12** | 12.63** | 13.09** | 7.10** | 4.39* | 4.03 | 4.57 | 3.89 | | 7.23 | |
| 100 | 6.69* | 10.07** | 18.91** | 21.25** | 14.17** | 7.45* | 5.82 | 4.39 | 4.57 | | 10.37 | |
| Interval (weeks) | | | | | | | | | | | | |
| 1 | 7.55** | 10.88** | 15.01 | 15.83 | 9.91 | 5.61 | 5.74 | 4.78 | 3.42 | | 8.75 | |
| 2 | 6.08** | 8.67** | 13.66 | 16.47 | 11.16 | 5.80 | 4.22 | 4.55 | 4.47 | | 8.37 | |
| 3 | 4.56** | 6.66** | 12.24 | 13.25 | 7.66 | 5.24 | 3.76 | 3.37 | 3.66 | | 6.71 | |
| All Treatments | 6.06 | 8.73 | 13.64 | 15.27 | 9.58 | 5.55 | 4.58 | 4.23 | 3.85 | | 7.95 | |

Table 12. Treatment means of chloride concentrations (meg/l) of saturation extracts from surface-irrigated plots (December 1977)

| Item | Depth | | | | | | | | All Depths | |
|----------------------|--------|---------|---------|---------|--------|---------|---------|---------|------------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | 160-180 |
| Efficiency (percent) | | | | | | | | | | |
| 80 | 5.11** | 6.45** | 12.38** | 13.49** | 9.37* | 5.56 | 3.03 | 3.41 | 3.12 | 6.88 |
| 90 | 8.24** | 10.26** | 19.24** | 17.85** | 8.62* | 4.84 | 4.36 | 3.58 | 2.58 | 8.84 |
| 100 | 9.99** | 11.61** | 20.27** | 22.34** | 13.48* | 8.19 | 5.32 | 3.89 | 3.25 | 10.93 |
| Interval (weeks) | | | | | | | | | | |
| 1 | 0.97** | 11.02** | 17.41 | 15.47 | 10.69 | 6.91 | 3.77 | 4.94 | 2.55 | 9.08 |
| 2 | 9.60** | 9.42** | 17.53 | 19.62 | 10.60 | 6.97 | 5.18 | 3.38 | 4.31 | 9.62 |
| 3 | 4.78** | 7.87** | 17.21 | 18.60 | 10.18 | 4.70 | 3.77 | 2.56 | 2.09 | 7.97 |
| All Treatments | 7.78 | 9.44 | 17.38 | 17.90 | 10.49 | 6.19 | 4.24 | 3.63 | 2.99 | 8.89 |

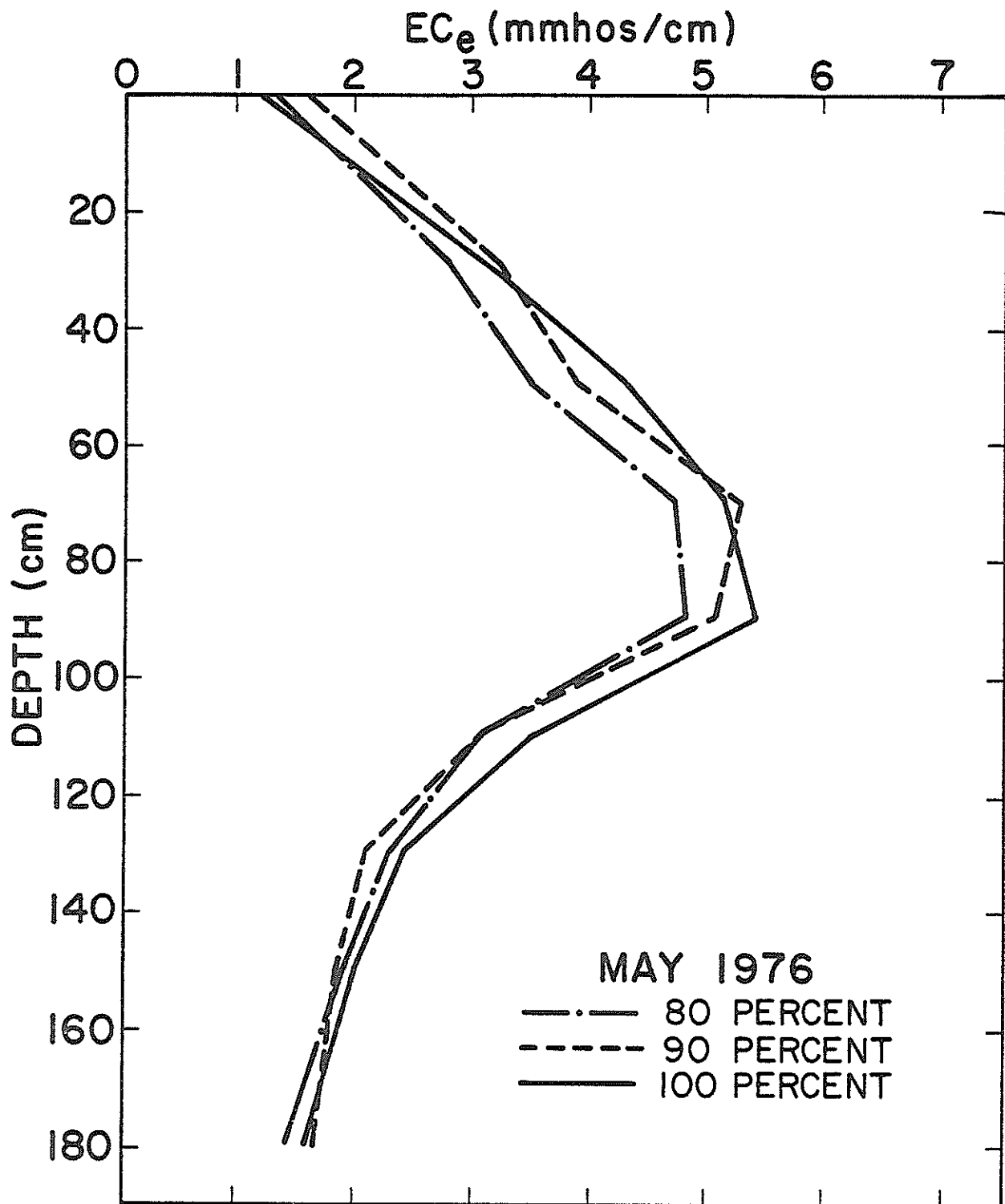


Figure 2. Electrical conductivity of saturation extracts by depth for the 80, 90, and 100 percent irrigation efficiency levels for May 1976.

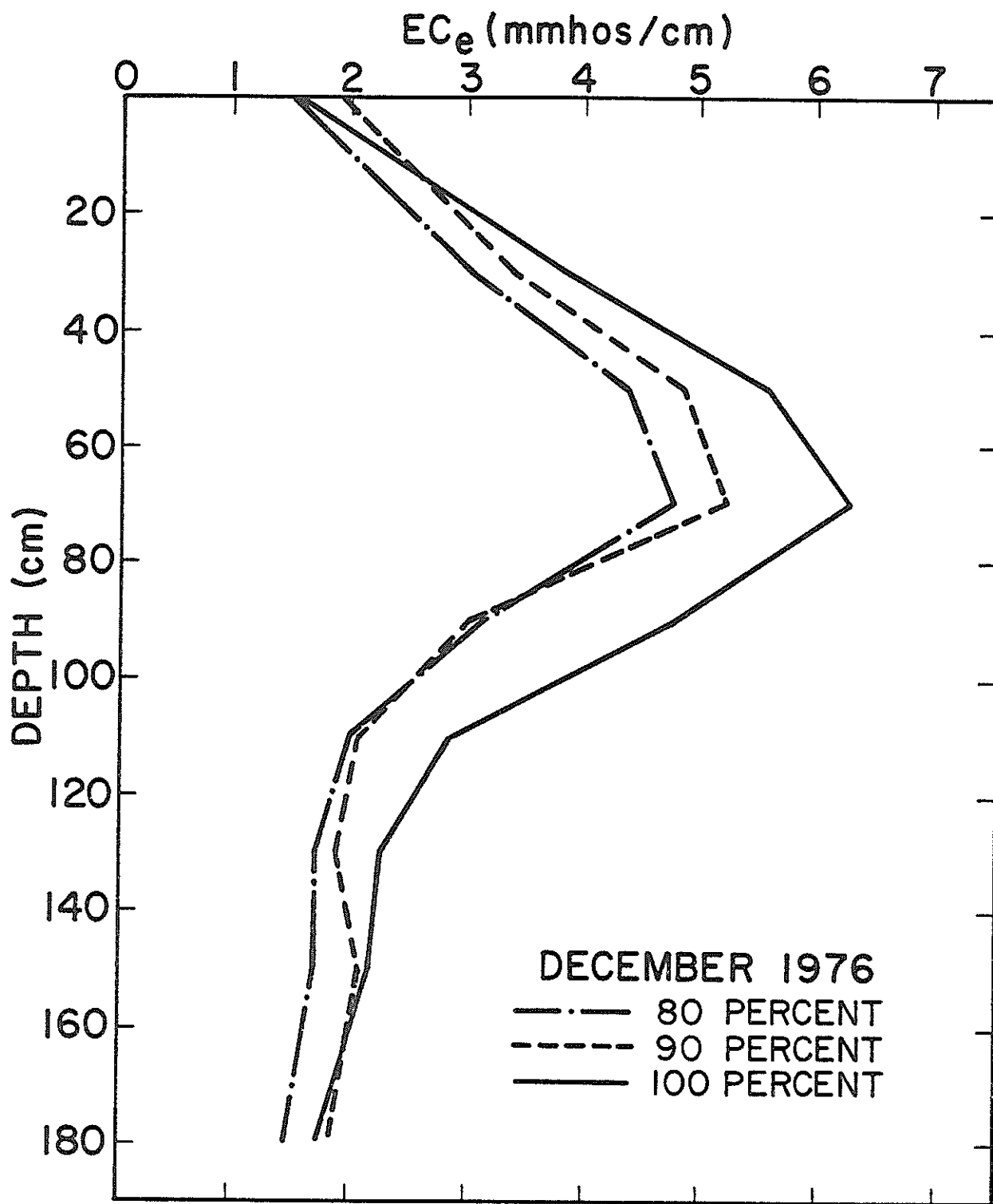


Figure 3. Electrical conductivity of saturation extracts by depth for the 80, 90, and 100 percent irrigation efficiency levels for December 1976.

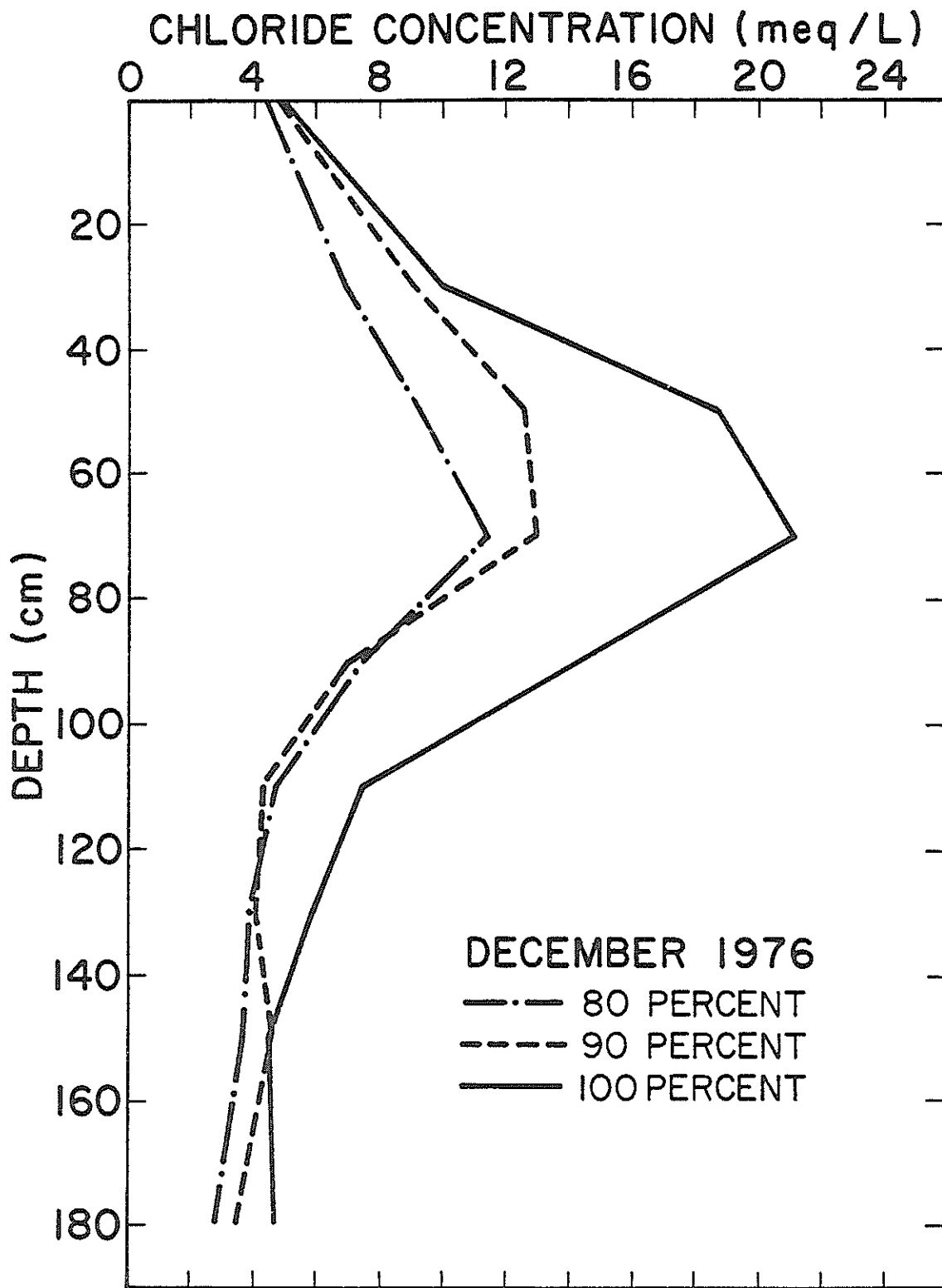


Figure 4. Chloride concentrations of saturation extracts by depth for the 80, 90, and 100 percent irrigation efficiency levels for December 1976.

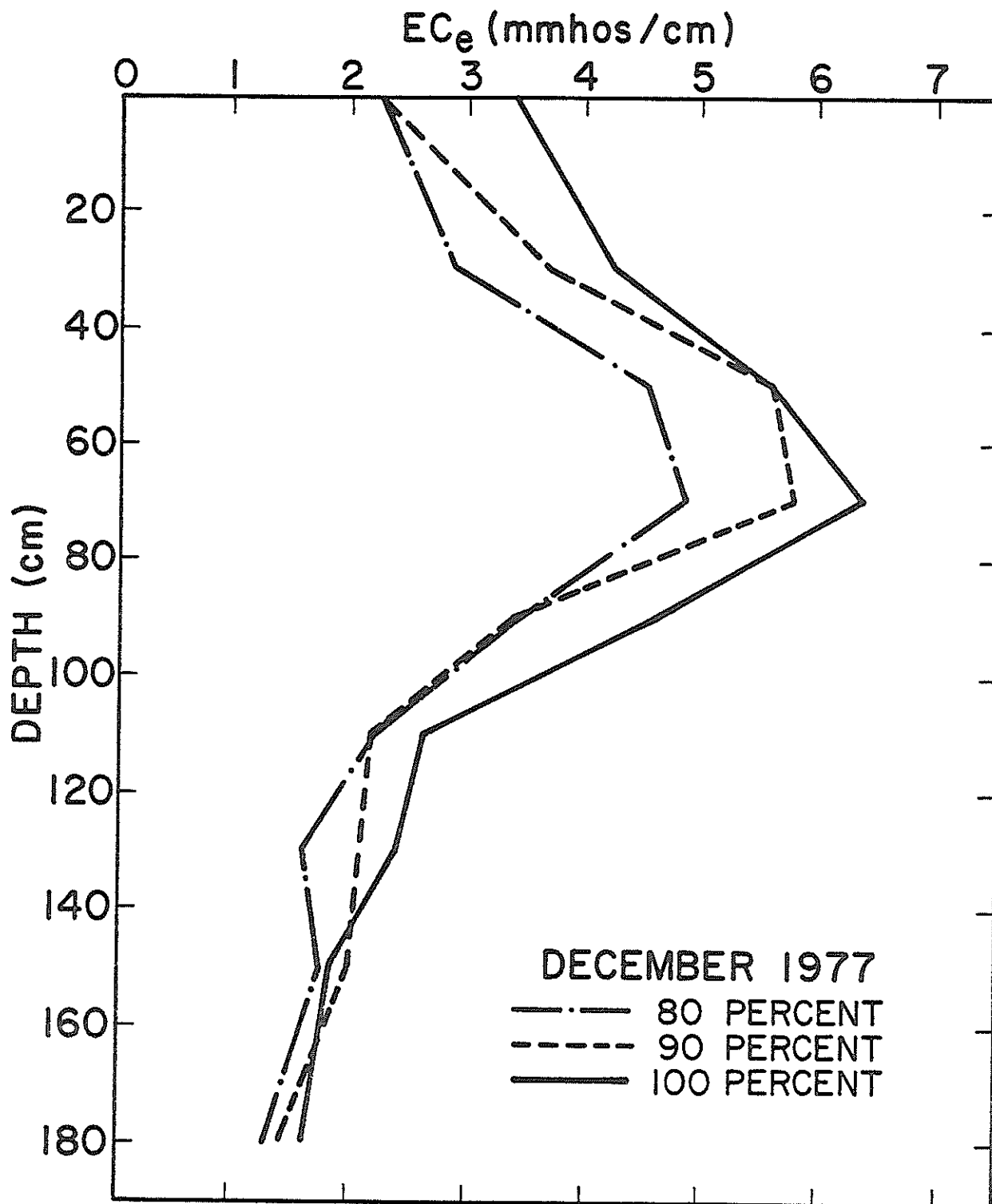


Figure 5. Electrical conductivity of saturation extracts for the 80, 90, and 100 percent irrigation efficiency levels for December 1977.

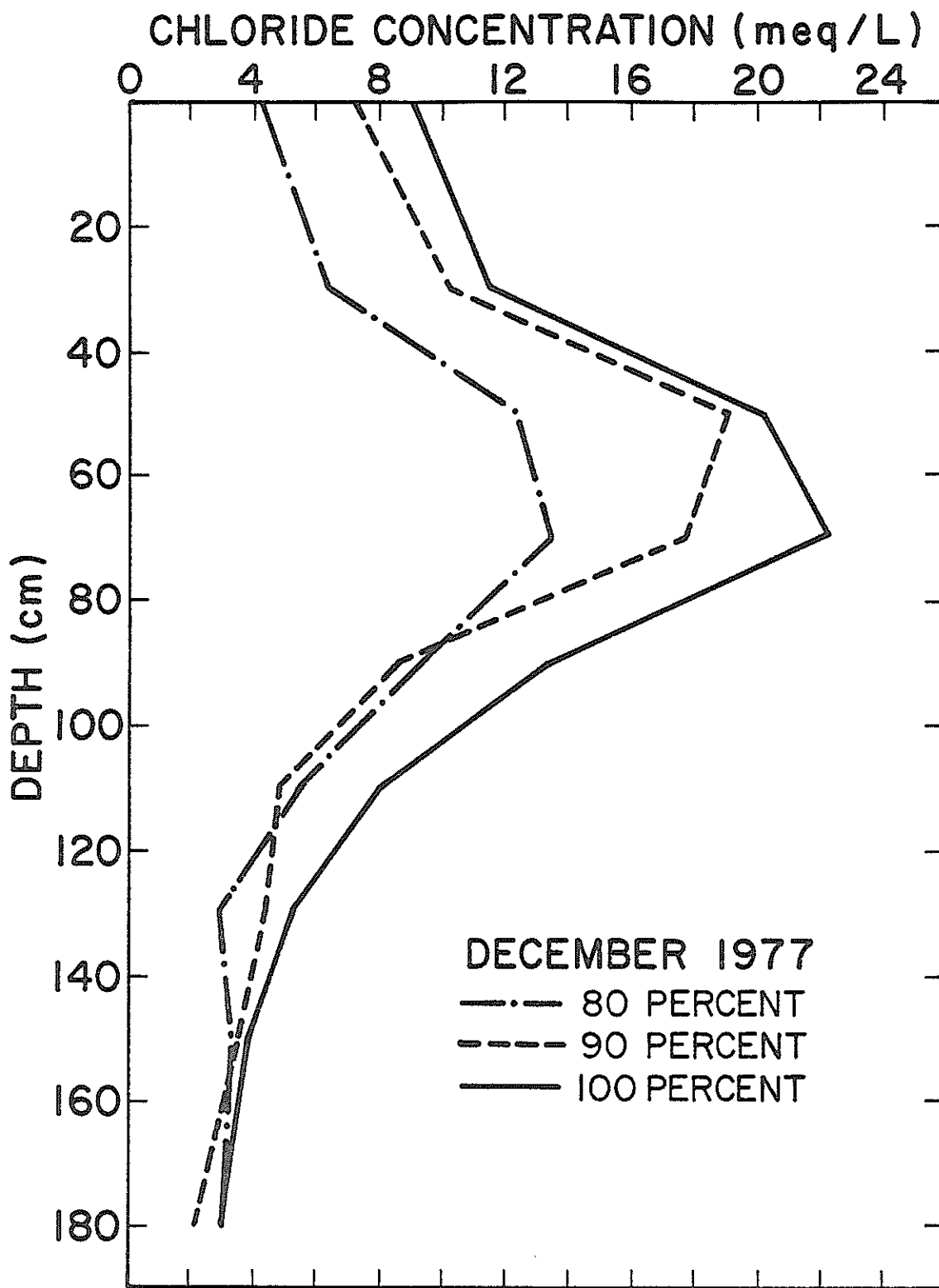


Figure 6. Chloride concentrations of saturation extracts for the 80, 90, and 100 percent irrigation efficiency levels for December 1977.

Irrigation efficiency had no significant effect on EC_e or chloride concentration in the subsoil (140-180 cm) indicating that improving irrigation efficiency would have no immediate effect on the quality of percolation water.

Tables 10 and 12 and Figures 5 and 6 show the response of EC_e and chloride concentration to treatments as measured in the fall of 1977. The results are similar to those of 1976 with the effects of irrigation efficiency and interval most pronounced in the surface soil. Again, irrigation interval had a significant impact on subsoil salinity (Table 10) but not on subsoil chloride concentration (Table 12). It is assumed that the significant differences in EC_e at 80-160 cm due to irrigation interval in May 1976 are a result of previous irrigation treatments. As reported before (Wierenga 1977), irrigation depletion or interval had five times the effect that efficiency had on the EC_e in plots irrigated at different efficiencies and intervals during 1972, 1973 and 1974.

Table 13 presents the mean EC_e 's as measured in the falls of 1972, 1973, 1974, 1976 and 1977 for plots irrigated near 100 percent efficiency. This same information is presented in Table 14 for the 80 percent efficiency irrigation treatment. A gradual increase in mean EC_e is shown between 1972 and 1974 and from 1976 to 1977 (last column of Tables 13 and 14). Between 1974 and 1976, there was a decrease in soil salinity, probably due to over-irrigation of the wheat crop in the spring of 1975 and over-irrigation of the barley crop during the 1975/76 winter. The mean EC_e values, averaged over the years 1972 to 1977 for the 100 percent and 80 percent efficiency treatments, are plotted in Figure 7. Averages of the EC_e values for all plots before the start of irrigation treatments are also presented. The latter data were available for four depths only.

Figure 7 shows the influence of leaching on soil salinity. The 80 percent efficiency treatment, which received 20 percent more water than the 100 percent treatment, has a lower overall salt content than the 100 percent efficiency treatment (the mean EC_e for all depths is 3.3 mmhos/cm for the 80 percent treatment versus 3.9 mmhos/cm for the 100 percent treatment). Surprisingly the average salt distribution in the surface soil did not change much from the salt distribution as measured before the start of irrigation treatments. This indicates that there was just enough leaching, even in the 100 percent efficiency plots, to prevent a drastic increase in soil salinity in these plots. Some leaching of the 100 percent efficiency plots may have occurred during pre-irrigation in 1972-1974, and during irrigation of the wheat and barley crops in 1975. Table 15 lists the EC_e values averaged over all treatments by depth and year. The general trend is the same as for the data in Tables 13 and 14.

Figures 2-7 show a nearly linear increase in salt distribution with depth down to 60-80 cm, and then a decrease. The increase in salinity with depth is a result of the water uptake by roots. Near the soil surface only a small fraction of the applied water is taken up. Most of this water moves to the soil below resulting in extensive leaching of the soil at this depth. From the surface on down, the amount of water that is not taken up (i.e. is available for leaching) gradually decreases. Since little of the salt in the irrigation water is taken up by plants, the salt concentration in the soil increases. When this process goes on for a fairly long time, a linear or curvilinear increase in soil salinity with depth may be expected (Ayers and Westcot, 1976).

Table 13. Mean EC_e by depth and year for plots irrigated near 100% efficiency.

| Date | Depth (cm) | | | | | | | | | | All Depths |
|-----------|---------------|------------|------------|------------|------------|------------|------------|------------|--|--|---------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | | |
| Dec. 1972 | 1.9 | 3.2 | 5.1 | 5.3 | 4.3 | 2.9 | 2.3 | 2.2 | | | 3.4 |
| Dec. 1973 | 2.1 | 2.7 | 5.0 | 6.2 | 5.9 | 3.5 | 2.6 | 2.6 | | | 3.8 |
| Dec. 1974 | 2.5 | 4.2 | 5.8 | 6.7 | 6.4 | 4.5 | 3.1 | 2.5 | | | 4.5 |
| Dec. 1976 | 2.4 | 3.9 | 5.6 | 6.3 | 4.8 | 2.9 | 2.3 | 2.2 | | | 3.8 |
| Dec. 1977 | <u>3.6</u> | <u>4.3</u> | <u>5.6</u> | <u>6.4</u> | <u>4.6</u> | <u>2.6</u> | <u>2.4</u> | <u>1.9</u> | | | <u>3.9</u> |
| All Years | 2.5 | 3.7 | 5.4 | 6.2 | 5.2 | 3.3 | 2.5 | 2.3 | | | 3.9 |

Table 14. Mean E_c by depth and year for plots irrigated near 80% efficiency.

| Date | Depth (cm) | | | | | | | | All Depths |
|-----------|---------------|------------|------------|------------|------------|------------|------------|------------|---------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | |
| Dec. 1972 | 1.7 | 2.5 | 4.5 | 5.0 | 4.9 | 3.6 | 2.6 | 1.7 | 3.3 |
| Dec. 1973 | 1.9 | 2.4 | 4.7 | 5.8 | 4.7 | 3.2 | 2.8 | 2.7 | 3.5 |
| Dec. 1974 | 2.6 | 3.9 | 5.2 | 6.8 | 4.8 | 3.1 | 2.4 | 2.2 | 3.9 |
| Dec. 1976 | 2.0 | 3.1 | 4.4 | 4.8 | 3.1 | 2.0 | 1.7 | 1.7 | 2.9 |
| Dec. 1977 | <u>2.5</u> | <u>2.9</u> | <u>4.6</u> | <u>4.9</u> | <u>3.4</u> | <u>2.2</u> | <u>1.6</u> | <u>1.8</u> | <u>3.0</u> |
| All Years | 2.1 | 3.0 | 4.7 | 5.5 | 4.2 | 2.8 | 2.2 | 2.0 | 3.3 |

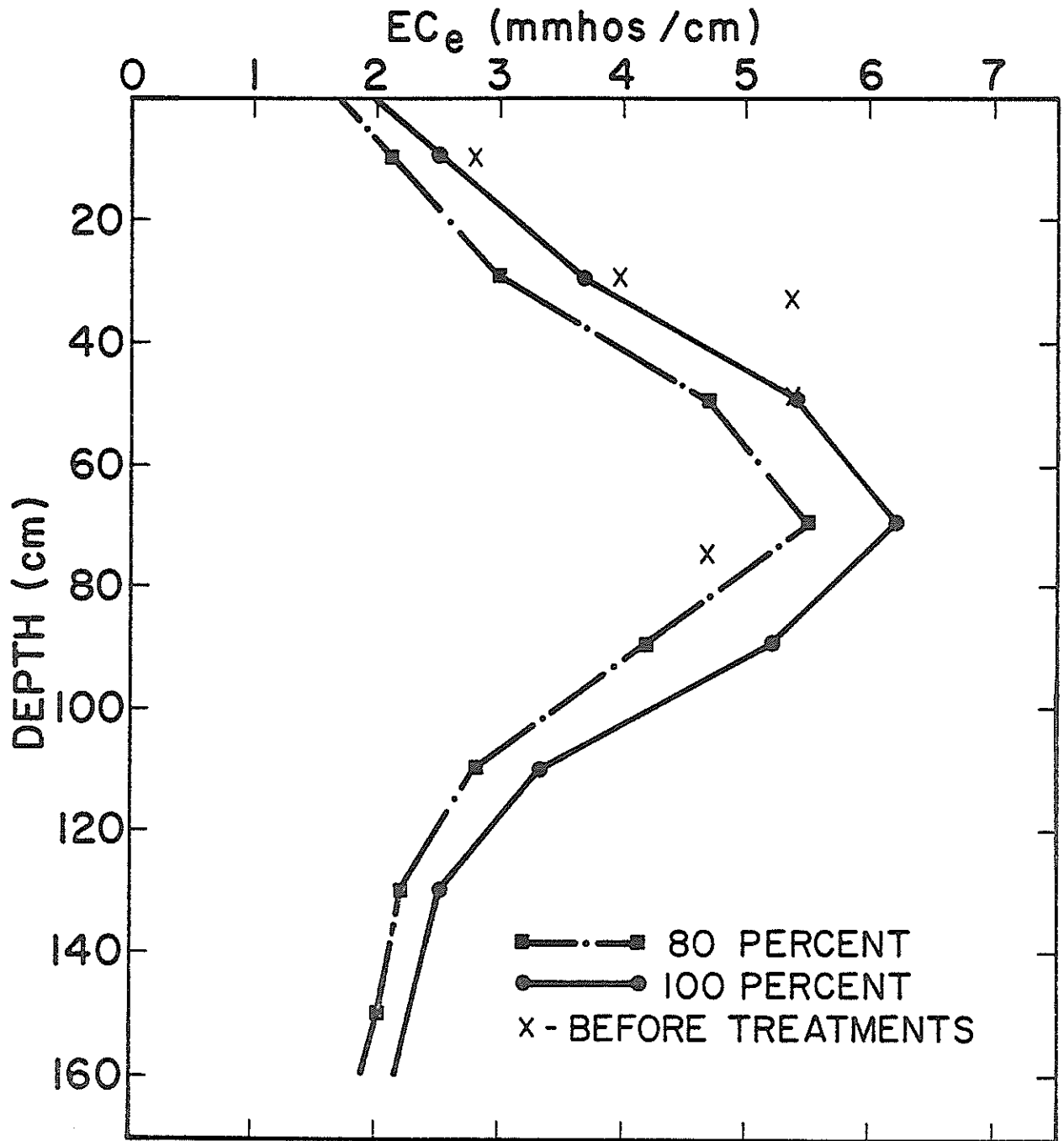


Figure 7. Mean electrical conductivities of saturation extracts for the samples from the 80 and 100 percent irrigation efficiency treatments averaged over the period 1972-1977.

Table 15. Mean EC_e by depth and year for the surface-irrigated plots.

| Date | Depth (cm) | | | | | | | | All Depths |
|-----------|---------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | |
| Dec. 1972 | 1.84 | 2.95 | 4.96 | 5.24 | 4.88 | 3.38 | 2.65 | 2.25 | 3.52 |
| Dec. 1973 | 2.05 | 2.63 | 4.81 | 6.05 | 5.30 | 3.33 | 2.62 | 2.48 | 3.66 |
| Dec. 1974 | 2.47 | 4.05 | 5.50 | 6.65 | 5.74 | 3.70 | 2.74 | 2.11 | 4.12 |
| Dec. 1976 | 2.27 | 3.45 | 4.96 | 5.45 | 3.65 | 2.34 | 1.97 | 2.00 | 3.26 |
| Dec. 1977 | <u>2.92</u> | <u>3.61</u> | <u>5.24</u> | <u>5.68</u> | <u>3.80</u> | <u>2.34</u> | <u>2.05</u> | <u>1.88</u> | <u>3.44</u> |
| All Years | 2.31 | 3.34 | 5.09 | 5.81 | 4.67 | 3.02 | 2.41 | 2.14 | 3.60 |

Below the root zone, the concentration of saturation extracts should remain approximately constant with depth in uniform soils. Figures 2-7 show that the EC_e values decrease with depth below 80 cm due to the textural changes in the soil profile. The surface soil (0-80 cm) at the site is a clay loam while the subsoil is sandy. As a result, the volume of water required to make saturation extracts changed with depth, varying from an average of 66.6 ml per 100 g of soil at the 20 to 60 cm depth to 26.7 ml per 100 g of soil at the 140 to 180 cm depth. Based on the measured mean field water contents (Appendix Table 59) and bulk density values of 1.4 and 16. g/cm³ for the clay loam and sand, respectively, the mean EC of the soil solution at the 40-60 cm depth for the 80 percent efficiency treatment (see Table 14) is $4.7 \times 2.2 = 10.33$ mmhos/cm. At the 140-160 cm depth, the EC of the soil solution is $4.54 \times 2.0 = 9.0$ mmhos/cm. The decrease in EC with depth below 60 cm, then, is much less than Figures 2-7 would indicate. In fact, assuming steady state conditions and some leaching, one would expect a fairly constant EC for the soil solution (not a constant EC_e) with depth below the root zone.

Table 16 presents the mean EC_e values for plots irrigated at 25 percent depletion (or once a week) from 1972 through 1977. Table 17 presents this data for the 75 percent depletion (or once every three weeks) treatment. The EC_e values averaged over the years of the experiment are also presented for each depth interval. Comparing Tables 16 and 17 with Tables 13 and 14 and Figure 7, it appears that the differences in soil salinity between the one and three week irrigation treatments are about the same as between the 80 and 100 percent efficiency treatments. This indicates that when limited amounts of water are available, less frequent irrigation (once every three weeks) causes less salt accumulation than does frequent irrigation.

Table 16. Mean EC_e by depth and year for plots irrigated at 25% depletion (or once a week).

| Date | Depth (cm) | | | | | | | | | | All Depths |
|-----------|---------------|------------|------------|------------|------------|------------|------------|------------|--|--|---------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | | |
| Dec. 1972 | 2.3 | 3.3 | 5.6 | 6.1 | 6.3 | 4.4 | 3.2 | 2.6 | | | 4.2 |
| Dec. 1973 | 2.1 | 2.9 | 5.3 | 6.5 | 5.3 | 3.5 | 3.1 | 3.4 | | | 4.0 |
| Dec. 1974 | 2.5 | 4.3 | 5.3 | 6.6 | 5.4 | 3.7 | 2.6 | 2.1 | | | 4.1 |
| Dec. 1976 | 2.7 | 4.1 | 5.3 | 5.9 | 4.1 | 2.6 | 2.5 | 2.6 | | | 3.7 |
| Dec. 1977 | <u>3.3</u> | <u>4.1</u> | <u>5.1</u> | <u>5.5</u> | <u>4.2</u> | <u>2.7</u> | <u>2.1</u> | <u>2.4</u> | | | <u>3.7</u> |
| All Years | 2.6 | 3.7 | 5.3 | 6.1 | 5.1 | 3.4 | 2.7 | 2.6 | | | 3.9 |

Table 17. Mean EC_e by depth and year for plots irrigated at 75% depletion (or once every three weeks).

| Date | Depth (cm) | | | | | | | | | | All Depths |
|-----------|---------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|---------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | | |
| Dec. 1972 | 1.6 | 2.9 | 4.4 | 4.8 | 4.0 | 2.6 | 2.3 | 2.3 | 2.3 | 3.1 | |
| Dec. 1973 | 1.9 | 2.2 | 4.4 | 5.3 | 4.4 | 2.7 | 2.3 | 2.3 | 1.6 | 3.1 | |
| Dec. 1974 | 2.6 | 3.7 | 5.5 | 6.0 | 5.0 | 3.3 | 2.4 | 2.4 | 2.0 | 3.8 | |
| Dec. 1976 | 2.0 | 3.0 | 4.5 | 4.7 | 3.0 | 2.0 | 1.7 | 1.5 | 1.5 | 2.8 | |
| Dec. 1977 | <u>2.2</u> | <u>3.2</u> | <u>5.2</u> | <u>5.5</u> | <u>3.2</u> | <u>1.8</u> | <u>1.7</u> | <u>1.4</u> | <u>1.4</u> | <u>3.0</u> | |
| All Years | 2.1 | 3.0 | 4.8 | 5.3 | 3.9 | 2.7 | 2.1 | 1.8 | 1.8 | 3.2 | |

B. Soil Solution Samples

In 1976, soil solution samplers (Soil Moisture Equipment Company, Santa Barbara, California) were installed at two locations within each plot with their tips 30 cm below the clay-loam overlying the sand in each plot. Samples were collected throughout the 1976 growing season and analyzed for chloride concentration only. The results of the analyses are presented in Table 18. These data show considerable variation with time and location. It is not clear what caused the variation in chloride concentration with the time of year. In some plots the chloride concentration increased (e.g. plot 3A) while in others it decreased regardless of treatment. The spatial variation in chloride concentration of the soil solution samples is rather pronounced and of the same magnitude as that of the saturation extracts. The mean chloride concentration of the soil solution from the A-plots is 20.8 meq/l (Std. Dev. = 13.6) versus 27.4 meq/l (Std. Dev. = 17.9) for the B-plots. The overall mean is 24.1 meq/l, with a standard deviation of 16.1. The average chloride concentration of the irrigation water is 2.66 meq/l. This represents a nine-fold increase ($24.1/2.66$) in the chloride concentration of the percolation water as compared to the chloride concentration of the irrigation water. Assuming steady state conditions, this would imply a leaching factor (depth of irrigation water divided by depth of drainage water) or $2.66/24.1 = 0.11$. Previously a leaching factor of 0.10, based on the average electrical conductivity of the irrigation water, was calculated (Wierenga, 1977).

Separating the mean chloride concentrations in Table 18 by treatment, the average chloride concentrations for the 80, 90 and 100 percent efficiency

Table 18. Chloride concentrations (meq/l) of soil solution samples withdrawn through suction cups placed 30 cm below the clay-loam soil in the surface-irrigated plots.

| Date | Plot | | | | | | | | | | | | | | | | | | |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|
| | 1A | 1B | 2A | 2B | 3A | 3B | 4A | 4B | 5A | 5B | 6A | 6B | 7A | 7B | 8A | 8B | 9A | 9B | |
| <u>1976</u> | | | | | | | | | | | | | | | | | | | |
| 6-21 | | | | | | | | | 10.8 | 10.4 | | | | | | | | | |
| 6-23 | | | | | | | | | | | | | | | 27.2 | | | | |
| 6-25 | | | 18.6 | | | | | | 10.2 | 10.8 | 9.5 | | | | | 26.7 | | | |
| 6-28 | | | 14.3 | | | | 3.4 | 15.6 | 10.3 | 10.4 | 7.0 | 35.0 | | | | 24.8 | | | |
| 7-11 | 12.1 | | 12.2 | 27.6 | 12.8 | 13.1 | 3.4 | | 16.6 | 12.0 | 7.5 | 34.1 | | 24.0 | | 25.1 | 15.9 | 44.6 | |
| 7-18 | 10.1 | 69.9 | 11.7 | 28.2 | 12.2 | | 7.0 | | 19.6 | | 33.3 | 34.8 | 16.6 | 23.8 | | 25.3 | 14.8 | 44.2 | |
| 7-25 | 8.6 | 63.8 | 11.2 | 26.8 | 19.3 | | 7.8 | | 18.2 | 19.0 | 8.5 | 35.9 | | 25.1 | | 24.1 | 12.4 | 41.9 | |
| 8-1 | 7.7 | 73.7 | 10.4 | 26.9 | 24.4 | 12.0 | 8.7 | 24.4 | 13.1 | 22.3 | 16.9 | 38.7 | | | | 24.4 | 11.3 | 43.1 | |
| 8-8 | 7.8 | 58.6 | 9.7 | 26.2 | 27.0 | | 9.9 | 25.0 | 12.4 | 27.3 | 28.2 | 42.1 | | 33.1 | 46.0 | 23.6 | 10.8 | 42.4 | |
| 8-15 | 8.8 | 58.9 | 9.5 | 33.1 | 22.4 | 13.4 | 12.3 | | 10.3 | 43.5 | 32.5 | 65.0 | | | | 24.9 | 12.2 | 47.2 | |
| 8-25 | 8.9 | 49.7 | 8.7 | | 36.4 | 14.2 | 15.8 | | 7.7 | 46.9 | 33.9 | 68.5 | | | | 24.5 | 11.5 | | |
| 8-31 | | | 8.6 | 39.4 | 32.5 | 14.8 | 15.5 | | 5.1 | 54.4 | 34.4 | | | | | 24.8 | | 57.7 | |
| Mean | 9.2 | 62.4 | 11.5 | 29.7 | 23.4 | 13.5 | 9.3 | 21.7 | 12.2 | 25.7 | 21.2 | 44.6 | | 26.5 | 41.4 | 24.8 | 12.7 | 45.9 | |
| Std. Dev. | 1.5 | 8.6 | 3.0 | 4.8 | 8.6 | 1.1 | 4.6 | 5.3 | 4.4 | 16.8 | 12.3 | 14.1 | | 4.44 | 12.5 | 0.8 | 1.9 | 5.5 | |

Mean of samples from A-plots = 20.83 meq/l; Std. Dev. = 13.64.

Mean of samples from B-plots = 27.39 meq/l; Std. Dev. = 17.88.

Overall mean = 24.10 meq/l; Std. Dev. = 16.06.

Table 18. Continued

| Date | Plot | | | | | | | | | | | | | | | | | | |
|-----------|------|------|------|------|------|------|------|------|-----|------|------|------|------|-----|------|------|------|------|--|
| | 11A | 11B | 12A | 12B | 13A | 13B | 14A | 14B | 15A | 15B | 16A | 16B | 17A | 17B | 18A | 18B | 19A | 19B | |
| 1976 | | | | | | | | | | | | | | | | | | | |
| 6-20 | | | | | | | | | | | 16.6 | | | | | | | | |
| 6-25 | | | | | | | | | | | | 14.9 | | | | | | | |
| 6-30 | | | | | | | | | | | | | | | | | | | |
| 7-6 | 11.8 | | | | | | 18.2 | 22.5 | | 32.3 | 40.4 | 14.8 | | | | 43.7 | | | |
| 7-13 | 10.5 | 47.8 | 24.6 | | 30.0 | 67.4 | 12.0 | 23.7 | | 28.7 | 42.9 | 14.9 | | | | 36.7 | 29.5 | | |
| 7-20 | 11.1 | | 20.1 | | 22.1 | 58.9 | 13.3 | 22.3 | | 27.5 | 35.7 | 27.5 | 66.2 | | 10.7 | 38.1 | 26.2 | 13.4 | |
| 7-27 | | | 39.4 | | 18.6 | 58.7 | 12.7 | 24.7 | | 26.5 | 36.7 | 34.3 | 70.9 | | 9.5 | 38.0 | 26.5 | 27.5 | |
| 8-3 | 9.2 | | 20.1 | | 30.2 | 53.0 | 11.4 | 25.4 | | 33.6 | 36.2 | 36.7 | 79.2 | | 9.5 | 38.0 | 23.2 | 27.6 | |
| 8-10 | 7.8 | 40.3 | 20.7 | 26.9 | 31.6 | 47.3 | | 23.9 | | 37.9 | 34.4 | 71.0 | | | 9.2 | 33.8 | 23.8 | 29.2 | |
| 8-25 | 9.2 | 44.7 | 24.0 | 33.3 | 28.7 | 51.2 | 8.2 | 27.1 | | 36.9 | | 31.1 | 63.5 | | 11.6 | 30.6 | 22.8 | 29.2 | |
| 8-31 | | 47.7 | | 26.4 | 29.4 | 50.9 | 7.1 | 24.7 | | 39.3 | | 27.9 | 58.9 | | 16.5 | | 14.6 | | |
| Mean | 9.9 | 45.1 | 24.8 | 28.9 | 27.2 | 55.3 | 12.1 | 23.9 | | 38.9 | 43.2 | 28.1 | | | 15.8 | 32.2 | 19.2 | | |
| Std. Dev. | 1.5 | 3.5 | 7.4 | 3.9 | 4.9 | 6.8 | 3.4 | 1.7 | | 33.0 | 36.2 | 26.5 | 68.3 | | 11.8 | 36.4 | 20.3 | 25.4 | |
| | | | | | | | | | | 5.1 | 8.4 | 8.6 | 7.1 | | 3.1 | 4.1 | 9.3 | 6.8 | |

Table 18. Continued

| Date | Plot | | | | | | | | | | | | | | | | | | |
|-----------|------|------|------|-----|-----|-----|-----|------|------|------|------|-----|------|------|------|------|-----|------|------|
| | 21A | 21B | 22A | 22B | 23A | 23B | 24A | 24B | 25A | 25B | 26A | 26B | 27A | 27B | 28A | 28B | 29A | 29B | |
| 1976 | | | | | | | | | | | | | | | | | | | |
| 6-23 | | | | | | | | | 7.2 | | | | | | | | | | |
| 6-25 | | | | | | 5.1 | | | | | 41.8 | | | | | | | | |
| 7-2 | 10.2 | 4.8 | | 5.1 | | | 4.2 | 30.9 | 6.5 | 6.5 | 15.7 | 5.7 | | | | 14.9 | | | |
| 7-8 | 10.2 | 5.0 | 12.7 | 5.5 | 6.8 | 7.6 | 4.7 | 27.0 | 6.9 | 21.3 | 5.6 | | | 15.0 | | | | | |
| 7-15 | 3.8 | 15.5 | 5.5 | 5.5 | 8.4 | 6.9 | 9.2 | 3.7 | 22.8 | 6.9 | 17.3 | 6.3 | | 13.3 | 7.8 | | | | 71.1 |
| 7-18 | | | 22.6 | | 6.3 | | | | | | | | | | | | | | |
| 7-22 | 7.6 | 4.4 | 25.5 | | 6.0 | 6.7 | 4.0 | 25.1 | 7.2 | 19.4 | 5.4 | | | 13.3 | 26.0 | | | | 68.5 |
| 7-29 | 7.2 | | 24.8 | | 5.8 | 6.8 | 6.9 | 14.9 | 25.4 | 7.7 | 19.8 | 5.6 | 17.8 | 12.3 | 29.0 | | | 28.4 | 67.4 |
| 8-5 | 5.5 | 4.3 | 31.6 | | 6.5 | | 6.6 | 5.9 | 27.1 | | 17.6 | 5.2 | 19.3 | | | | | 26.3 | 61.4 |
| 8-19 | 4.7 | 4.6 | 33.8 | | 6.3 | | 6.8 | 9.9 | 31.8 | 7.1 | 29.7 | 5.5 | 35.2 | 15.7 | 19.8 | | | 28.4 | 61.8 |
| 8-27 | 4.8 | | 30.3 | | 6.0 | 6.0 | 6.3 | 10.1 | 32.1 | 7.0 | 22.4 | | 32.6 | 15.4 | 16.5 | | | 26.4 | 62.1 |
| Mean | 7.2 | 4.5 | 24.6 | 5.4 | 6.5 | 6.5 | 7.2 | 7.2 | 27.8 | 7.1 | 22.8 | 5.6 | 26.2 | 14.2 | 19.8 | | | 27.4 | 65.4 |
| Std. Dev. | 2.3 | 0.4 | 7.5 | 0.2 | 0.8 | 0.9 | 1.2 | 4.1 | 3.5 | 0.4 | 8.2 | 0.4 | 9.0 | 1.4 | 8.3 | | | 1.2 | 4.2 |

treatments were 18.9, 24.9 and 28.8 meq/l, respectively. Based on these concentrations, the leaching factors for the 80, 90 and 100 percent efficiency treatments were 0.14, 0.11 and 0.09, respectively. The average chloride concentrations for the 1 week, 2 week and 3 week irrigation interval treatments were 21.6, 29.6 and 22.0 meq/l, respectively.

SOIL SALINITY IN TRICKLE-IRRIGATED PLOTS

Analyses of the saturation extracts of soil samples from the trickle plots are listed in Appendix Tables 30-58. Trickle plot soil samples were taken immediately below the trickle lines and also at the mid-point between trickle lines. In order to better compare the salinity distributions from one year to another, and in order to compute a salt balance, the salt contents in grams per 100 grams of soil were calculated. This calculation was based on the saturation percentage of each soil sample and the electrical conductivity of the saturation extract (Wierenga, 1977).

Figure 11 shows the salt distributions for December 1972, May 1976, December 1976 and December 1977. The electrical conductivities plotted are mean values, averaged over treatments and locations (below the trickle line and between the trickle lines). The data show a significant increase in soil salinity between 1972 and 1977, most pronounced in the subsoil from about 30 cm down to 130 cm. It is not known why the increase in soil salinity is greater for the period December 1976 to December 1977 than during any previous period as the same sampling technique was used from year to year. The preparation of saturation extracts by different technicians from year to year may have caused some variation. However, when the salt contents in grams per 100 grams of soil were plotted (to eliminate differences in saturation extract preparation) versus depth, a figure very similar to Figure 8 was obtained.

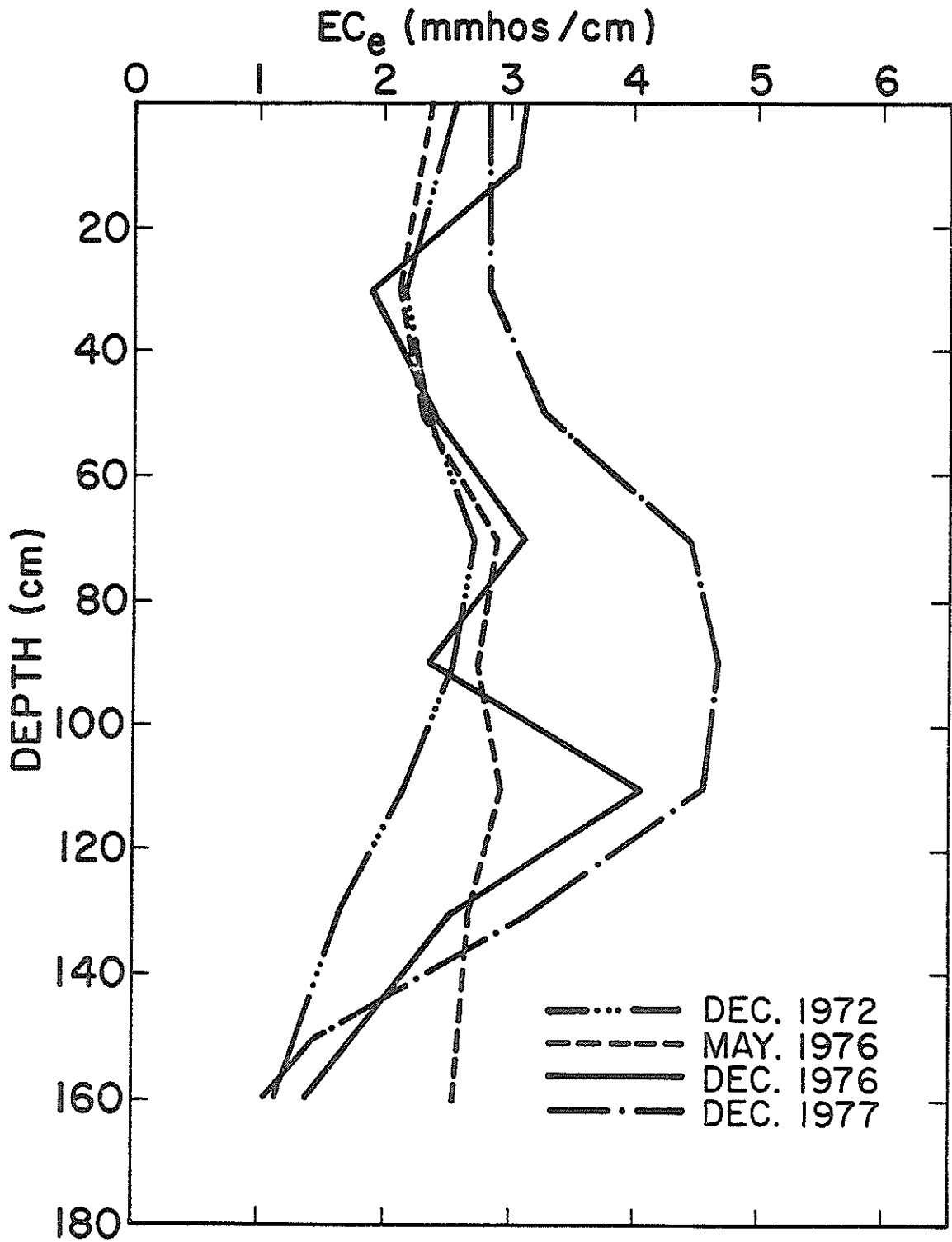


Figure 8. Mean salt distributions in the trickle-irrigated plots for December 1972, May 1976, December 1976, and December 1977.

Table 19 lists soil salinity values expressed in gram per 100 grams soil, for the years 1972 to 1977. The average soil salinity increased from 0.096 gram per 100 grams in 1972, to 0.150 gram per 100 grams in 1977, a 65 percent increase. For the wet (0.2 BAR) treatment the increase in mean salt content was about 25 percent and for the dry treatment (0.6 BAR the first three years, and 0.7x the amount of water on the 0.2 BAR treatment the last two years) the increase was about 110 percent.

The salinity distribution by irrigation treatment for December 1977 is shown in Figure 9. This figure shows the cumulative effect of applying about 30 percent less irrigation water to the dry treatment. Even though the total amount of water applied to the wet (0.2 BAR) treatment was close to the estimated consumptive use, enough leaching took place to prevent any large increase in soil salinity in this treatment. Over a five year period, the increase in soil salinity was only 25 percent and the average amount of irrigation water applied was 42 cm/year. It appears, then, that soil salinity can be kept at a fairly constant level with trickle irrigation, even with minimum use of water.

Figure 10 shows the salt distributions below the trickle lines and in between trickle lines for December 1977. The data plotted are averaged over the treatments. As expected, the soil salinity was higher in between the trickle lines near the soil surface than just below the trickle lines. Salts are moved away from trickle lines, and tend to accumulate in the center. However below 50 cm, differences in soil salinity as measured below and between trickle lines tend to disappear.

Table 19. Soil salinity (g/100 g soil) for sampling locations below and between trickle lines as a function of depth and years.

| Location | Depth (cm) | | | | | | All Depths | | |
|----------------------|------------|-------|-------|-------|--------|---------|------------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | | 120-140 | 140-160 |
| <u>December 1972</u> | | | | | | | | | |
| Below | 0.12 | 0.14 | 0.11 | 0.11 | 0.11 | 0.09 | 0.06 | 0.03 | 0.096 |
| Between | 0.18 | 0.14 | 0.11 | 0.10 | 0.09 | 0.08 | 0.04 | 0.03 | 0.096 |
| <u>December 1973</u> | | | | | | | | | |
| Below | 0.10 | 0.12 | 0.11 | 0.12 | 0.13 | 0.13 | 0.06 | 0.04 | 0.101 |
| Between | 0.10 | 0.11 | 0.12 | 0.12 | 0.14 | 0.13 | 0.07 | 0.05 | 0.105 |
| <u>December 1974</u> | | | | | | | | | |
| Below | 0.07 | 0.08 | 0.11 | 0.13 | 0.17 | 0.19 | 0.17 | 0.08 | 0.125 |
| Between | 0.12 | 0.07 | 0.20 | 0.15 | 0.19 | 0.19 | 0.14 | 0.08 | 0.142 |
| <u>May 1976</u> | | | | | | | | | |
| Below | 0.09 | 0.10 | 0.14 | 0.08 | 0.14 | 0.17 | 0.14 | 0.10 | 0.120 |
| Between | 0.15 | 0.16 | 0.15 | 0.13 | 0.15 | 0.15 | 0.14 | 0.09 | 0.140 |
| <u>December 1976</u> | | | | | | | | | |
| Below | 0.15 | 0.09 | 0.11 | 0.12 | 0.14 | 0.18 | 0.09 | 0.08 | 0.120 |
| Between | 0.21 | 0.14 | 0.16 | 0.14 | 0.15 | 0.19 | 0.10 | 0.05 | 0.143 |
| <u>December 1977</u> | | | | | | | | | |
| Below | 0.09 | 0.14 | 0.16 | 0.22 | 0.21 | 0.22 | 0.11 | 0.07 | 0.153 |
| Between | 0.23 | 0.20 | 0.17 | 0.18 | 0.22 | 0.16 | 0.11 | 0.03 | 0.163 |
| <u>All Years</u> | | | | | | | | | |
| Below | 0.103 | 0.111 | 0.123 | 0.130 | 0.150 | 0.163 | 0.105 | 0.067 | 0.119 |
| Between | 0.165 | 0.137 | 0.152 | 0.137 | 0.157 | 0.150 | 0.100 | 0.055 | 0.132 |

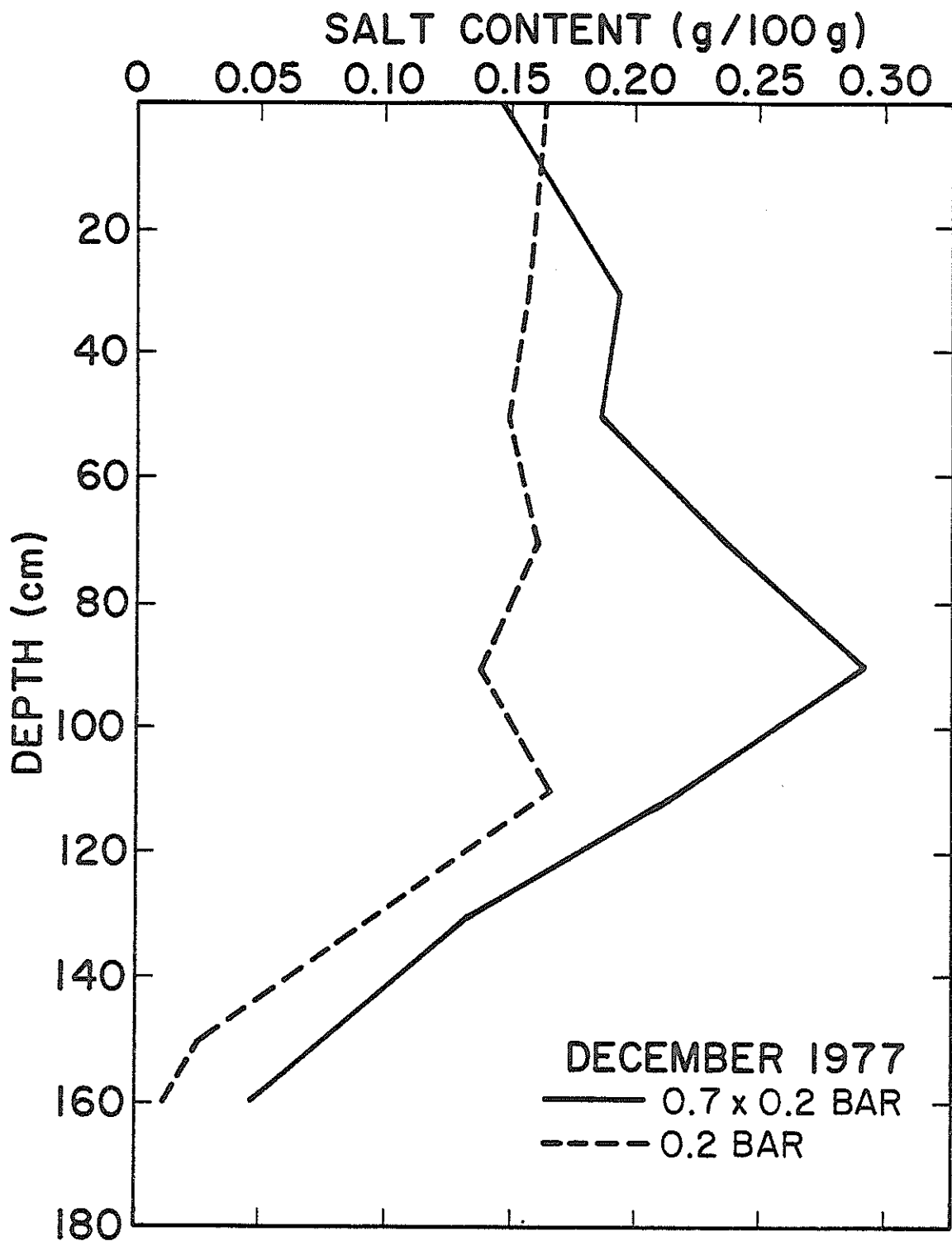


Figure 9. Salt distributions (g/100g soil) in trickle plots irrigated with different amounts of water (December 1977).

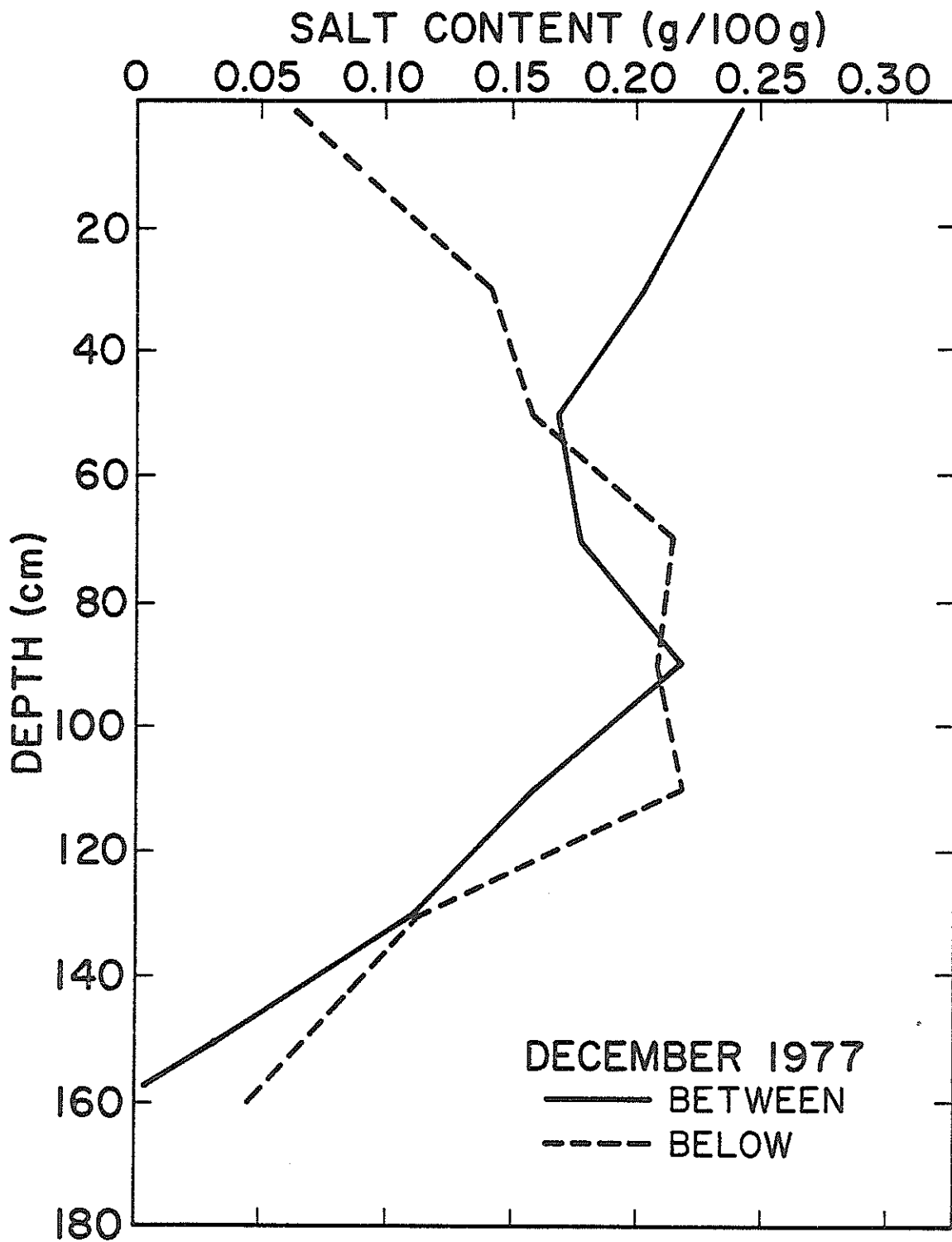


Figure 10. Salt distributions (g/100g soil) below and between trickle lines in December 1977.

YIELD AND QUALITY OF SURFACE-IRRIGATED COTTON FOR 1976

Cotton yield and quality data for 1976 are presented in Appendix Table 60. The average yields for each irrigation treatment are listed in Table 20. Yields from the B plots were considerably higher than yields from the A plots. The A plots, or "old" plots, had undergone irrigation treatments for four years. The B plots were on the area adjacent to the "old" plots which were planted with cotton for the first time in five years. The cotton in the A plots showed some yellowing, perhaps the result of a nitrogen deficiency due to enhanced leaching of the soil during previous years, or due to nitrogen losses caused by the less than favorable soil structure (lack of aeration) in many of the A plots.

The first crop year that irrigation treatments had a significant effect on yield was 1976. The 100 percent efficiency treatment resulted in a significantly higher yield for the A plots (LSD (.05) = 157), perhaps a result of less nutrient losses due to leaching from this treatment during previous years. Irrigating the B plots at three week intervals resulted in reduced yields (LSD (.01) = 129). This would indicate that when total water applied is nearly equal to consumptive use, more frequent irrigation will produce higher yields.

An analysis of variance on the cotton quality factors showed no significant effects except the 2.5% span values for the A plots and lint % for the B plots. The 2.5% span value for the 100 percent efficiency treatment on the A plots was significantly higher (LSD (.05) = .036) than this value for the 90 percent efficiency treatment or the 80 percent efficiency treatment. Mean 2.5% span values for the 100, 90 and 80 percent efficiency treatments were 1.18, 1.13 and 1.15, respectively. The 100 percent efficiency treatment, then, resulted in larger yields and higher 2.5% span values.

Lint % for cotton from the B plots was significantly higher (LSD (.05) = 1.1) when the plots were irrigated at one week intervals as opposed to two or three week intervals. Lint % values for the one, two and three week frequency treatments on the B plots were 37.5, 36.3 and 35.8 percent, respectively. Extending the irrigation interval decreased yield and lint % for the B plots, but not for the A plots.

YIELD AND QUALITY OF SURFACE-IRRIGATED COTTON FOR 1977

Cotton yield and quality data for 1977 are presented in Appendix Table 61. The average yields for each irrigation treatment are listed in Table 21. In 1977, yields were significantly higher for the 80 percent irrigation efficiency treatment than for the 100 percent efficiency treatment on both the A plots (LSD (.05) = 267) and the B plots (LSD (.05) = 135).

The 1977 rainfall was below average while air temperatures during the summer months were above those of 1976. However, the pan evaporation for the months of May, June, July and August 1977 was 114.0 cm as opposed to 114.6 cm for the same period in 1976, indicating that the potential evapotranspiration may have been about the same in 1977 and 1976. The total amounts of irrigation and rain water were also about the same for 1976 and 1977. Yields from the 90 and 100 percent efficiency treatments may have been reduced as a result of lack of water. Since the amount of salinity in the 80 and 90 percent efficiency plots was not significantly different from the salinity in the 100 percent efficiency plots, salt content is not a probable cause for the yield differences between irrigation efficiency treatments in 1977.

An analysis of variance on the cotton quality factors showed an effect of depletion on micronaire and an effect of irrigation efficiency on strength for the A plots in 1977. Mean micronaire values for the one, two and three

Table 20. Effects of irrigation efficiency and water depletion on cotton yields from the surface-irrigated plots (1976).

| Irrigation Interval | Irrigation Efficiency Percent | | | Average Yield |
|---------------------|-------------------------------|-------|-------|---------------|
| | 80 | 90 | 100 | |
| ----- (kg/ha) ----- | | | | |
| <u>A-plots</u> | | | | |
| 1 week | 1100 | 1099 | 1455 | 1218 |
| 2 weeks | 1087 | 1305 | 1502 | 1298 |
| 3 weeks | 1362 | 1338 | 1375 | 1358 |
| Average | 1183a* | 1247a | 1444b | 1292 |
| <u>B-plots</u> | | | | |
| 1 week | 1581 | 1482 | 1551 | 1538a |
| 2 weeks | 1586 | 1642 | 1538 | 1587a |
| 3 weeks | 1446 | 1347 | 1338 | 1377b |
| Average | 1538a | 1490a | 1475a | 1501 |

* Yield means followed by the same letter are not significantly different at the five percent or less level of probability.

Table 21. Effects of irrigation efficiency and water depletion on cotton yields from the surface-irrigated plots (1977).

| Irrigation Interval | Irrigation Efficiency Percent | | | Average Yield |
|---------------------|-------------------------------|-------|------|---------------|
| | 80 | 90 | 100 | |
| ----- (kg/ha) ----- | | | | |
| <u>A-plots</u> | | | | |
| 1 week | 1173 | 635 | 357 | 772 |
| 2 weeks | 1158 | 1064 | 727 | 983 |
| 3 weeks | 1252 | 1110 | 723 | 1038 |
| Average | 1194a* | 937a | 612b | 914 |
| <u>B-plots</u> | | | | |
| 1 week | 1444 | 1257 | 734 | 1145 |
| 2 weeks | 1457 | 1097 | 1024 | 1193 |
| 3 weeks | 1536 | 1287 | 1026 | 1283 |
| Average | 1479a | 1214b | 928c | 1207 |

* Yield means followed by same letter are not significantly different at the five percent or less level of probability.

week irrigation intervals were 3.61, 3.82 and 4.06, respectively (LSD (.05) = .30). Fiber strength was highest for the 100 percent efficiency treatment and lowest for the 90 percent efficiency treatment. Mean values of fiber strength for the 80, 90 and 100 percent efficiency treatments were 21.9, 21.8 and 23.4, respectively (LSD (.05) = 1.04). No significant effects of treatment on cotton quality were observed for the B plots in 1977.

YIELD AND QUALITY OF SURFACE-IRRIGATED COTTON FOR THE COMBINED YEARS 1972-1977

Table 22 presents the yield data for the years 1972, 1973, 1974, 1976 and 1977 (see Wierenga (1977) for cotton data for 1972-1974). For 1976 and 1977, only the data from the A plots are given in order to compare yields from the same plot area in all years. The yields averaged over the years 1972-1977 are also given for the various treatments.

An analysis of variance on the yield data for the combined years 1972-1977 showed no significant effects due to depletion or efficiency at the 5% confidence level. However, there was significant interaction ($5\% < P(F) < 10\%$) between depletion and efficiency effects. This is illustrated in Figure 11. While yields from the 25 percent (1 week interval) and 75 percent (3 week interval) depletion treatments decreased sharply with increased irrigation efficiency, yields from the 50 percent depletion treatments were affected little by efficiency treatments. The general trends shown in Figure 11 are similar to those shown before in 1972, 1973 and 1974 (Wierenga, 1977). For the experimental soil, infrequent irrigating combined with some leaching provided the highest yields. When water is scarce it appears advantageous to irrigate more frequently (every two weeks), but irrigating too frequently (once a week) may greatly reduce yields.

Table 22. Effects of irrigation efficiency and water depletion on cotton yields from the surface-irrigated plots (1972, 1973, 1974, 1976*, 1977*).

| Water Depletion Percent Or Irrigation Interval | Irrigation Efficiency Percent | | | Average Yield |
|---|-------------------------------|------|------|------------------|
| | 80 | 90 | 100 | |
| | ----- (kg/ha) ----- | | | |
| <u>1972</u> | | | | |
| 25% | 930 | 753 | 803 | 829 |
| 50% | 842 | 962 | 1001 | 935 |
| 75% | 1067 | 977 | 889 | 978 |
| Average | 946 | 897 | 898 | 914 |
| <u>1973</u> | | | | |
| 25% | 1487 | 1270 | 1177 | 1312 |
| 50% | 1388 | 1407 | 1392 | 1395 |
| 75% | 1338 | 1283 | 1306 | 1309 |
| Average | 1404 | 1320 | 1292 | 1339 |
| <u>1974</u> | | | | |
| 25% | 1054 | 1018 | 930 | 1001 |
| 50% | 1143 | 1132 | 1029 | 1102 |
| 75% | 1084 | 942 | 929 | 984 |
| Average | 1094 | 1031 | 963 | 1229 |
| <u>1976*</u> | | | | |
| 1 week | 1100 | 1099 | 1455 | 1218 |
| 2 week | 1087 | 1306 | 1502 | 1298 |
| 3 week | 1362 | 1338 | 1375 | 1358 |
| Average | 1183 | 1247 | 1444 | 1292 |
| <u>1977*</u> | | | | |
| 1 week | 1173 | 635 | 359 | 722 |
| 2 week | 1158 | 1065 | 727 | 983 |
| 3 week | 1252 | 1109 | 753 | 1038 |
| Average | 1194 | 937 | 612 | 914 |
| <u>1972, 1973, 1974, 1976*, 1977*</u> | | | | |
| 25%, 1 week | 1149 | 955 | 945 | 1016 |
| 50%, 2 week | 1124 | 1174 | 1130 | 1142 |
| 75%, 3 week | 1220 | 1130 | 1050 | 1134 |
| Average | 1164 | 1087 | 1042 | 1098 |

* For 1976 and 1977, data from only the A-plots are presented in order to compare yields from the same plot area in all years.

The effects of irrigation treatments on the cotton quality factors over the years 1972-1977 are summarized in Table 23. A summary of the analysis of variance on the yield and quality data is presented in Table 24. For all quality factors except micronaire, there were highly significant differences between years indicating that the weather during a particular crop year has an important effect on cotton quality.

The two most important crop quality parameters are lint % and 2.5% span. Irrigation efficiency had a significant effect on lint %, but not on 2.5% span, while depletion had a significant effect on 2.5% span, but not on lint %. For both factors, however, there was a significant efficiency x depletion interaction. It is interesting to note that micronaire did not differ significantly from year to year, but was very significantly affected by percent depletion. Apparently frequent irrigation does not favor high micronaire values. Fiber strength, also, was affected by efficiency and depletion treatments tending to be highest for the 100 percent efficiency treatment and the three week irrigation interval. There was in addition, however, a years x efficiency interaction with fiber strength. In general, frequent low efficiency irrigation reduced the fiber strength of the cotton.

YIELD AND QUALITY OF TRICKLE-IRRIGATED COTTON

An analysis of variance was performed on the cotton yield and quality data from the trickle plots for the years 1976 and 1977, and for 1976 and 1977 combined. There were no significant differences in yield or quality between treatments in 1976 or 1977 nor between treatments for 1976 and 1977 combined. The trickle irrigation treatments consisted of: a. Irrigation when the soil water tension 20 cm below the trickle line reached 0.2 bars; b. Irrigation

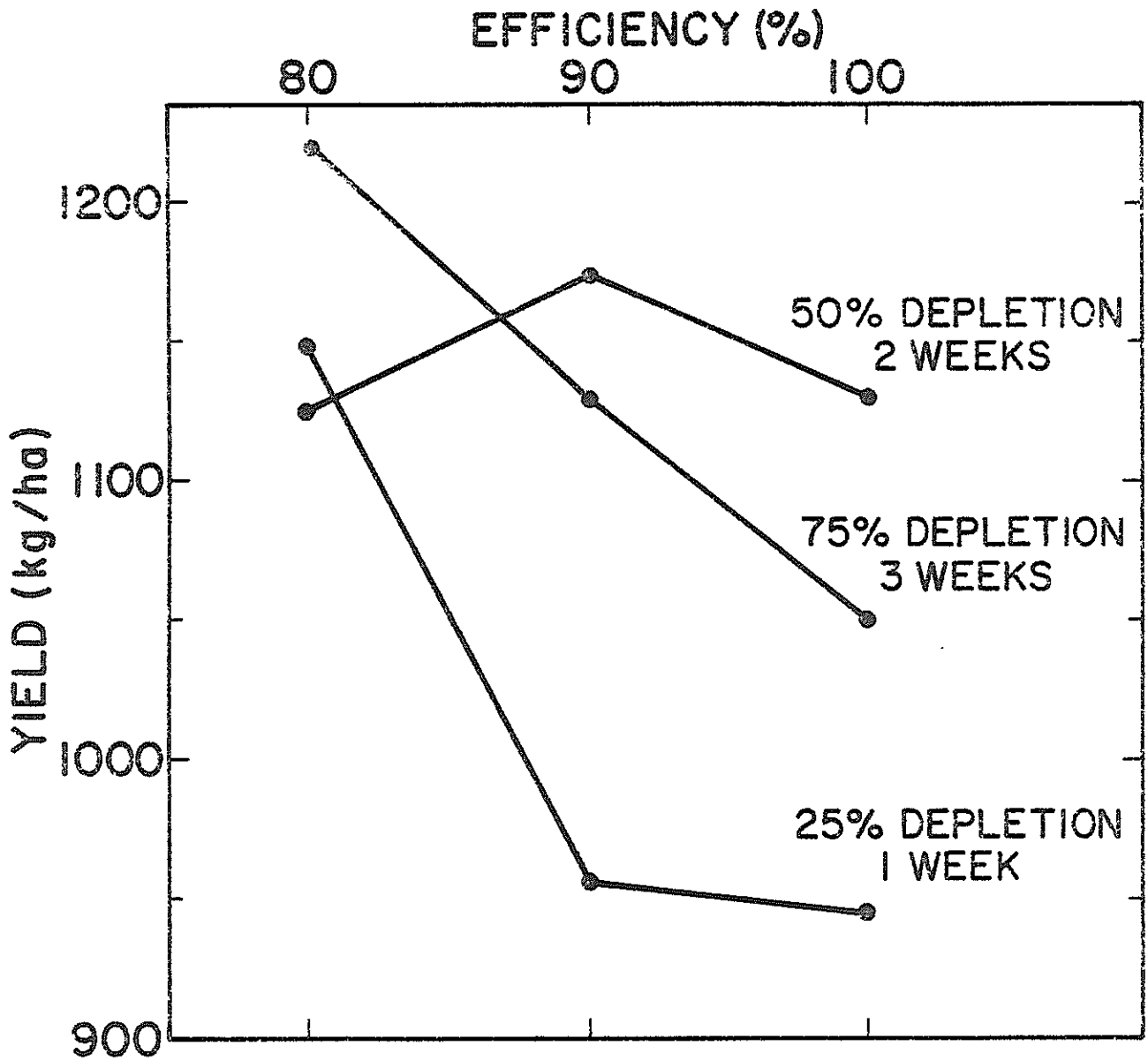


Figure 11. General trends in cotton yield as affected by depletion (irrigation interval) and efficiency (averages of 1972, 1973, 1974, 1976 and 1977).

Table 23. Effects of irrigation efficiency and water depletion on the quality of cotton from the surface-irrigated plots for the combined years 1972-1977.

| Water Depletion Percent And Irrigation Interval | Unit | Irrigation Efficiency Percent | | | Average |
|--|------------------|-------------------------------|------|------|---------|
| | | 80 | 90 | 100 | |
| 25%, 1 week | Lint % | 38.8 | 37.9 | 37.3 | 38.0 |
| 50%, 2 weeks | Lint % | 38.6 | 38.0 | 37.0 | 37.9 |
| 75%, 3 weeks | Lint % | 37.5 | 37.6 | 38.1 | 37.8 |
| Average | Lint % | 38.3 | 37.8 | 37.5 | 37.9 |
| 25%, 1 week | 2.5% Span | 1.16 | 1.16 | 1.17 | 1.16 |
| 50%, 2 weeks | 2.5% Span | 1.17 | 1.18 | 1.17 | 1.17 |
| 75%, 3 weeks | 2.5% Span | 1.20 | 1.17 | 1.17 | 1.18 |
| Average | 2.5% Span | 1.18 | 1.17 | 1.17 | 1.17 |
| 25%, 1 week | Uniformity Ratio | 47.0 | 46.5 | 45.4 | 46.3 |
| 50%, 2 weeks | Uniformity Ratio | 46.5 | 46.3 | 46.2 | 46.3 |
| 75%, 3 weeks | Uniformity Ratio | 46.7 | 46.3 | 46.5 | 46.5 |
| Average | Uniformity Ratio | 46.7 | 46.3 | 46.0 | 46.4 |
| 25%, 1 week | Micronaire | 3.8 | 3.6 | 3.5 | 3.6 |
| 50%, 2 weeks | Micronaire | 3.8 | 3.8 | 3.8 | 3.8 |
| 75%, 3 weeks | Micronaire | 3.8 | 4.0 | 3.8 | 3.9 |
| Average | Micronaire | 3.8 | 3.8 | 3.7 | 3.8 |
| 25%, 1 week | Strength | 22.5 | 22.5 | 22.9 | 22.6 |
| 50%, 2 weeks | Strength | 22.1 | 22.7 | 23.1 | 22.6 |
| 75%, 3 weeks | Strength | 23.1 | 22.9 | 23.3 | 23.1 |
| Average | Strength | 22.5 | 22.7 | 23.1 | 22.8 |
| 25%, 1 week | Elongation | 6.6 | 6.7 | 6.3 | 6.5 |
| 50%, 2 weeks | Elongation | 6.4 | 6.8 | 6.8 | 6.6 |
| 75%, 3 weeks | Elongation | 6.9 | 6.7 | 6.6 | 6.7 |
| Average | Elongation | 6.6 | 6.7 | 6.6 | 6.6 |

Table 24. Analysis of variance on cotton yield and quality factors for the surface-irrigated plots for the combined years 1972, 1973, 1974, 1976, and 1977.

| Source Of Variation | Yield | Lint Percent | 2.5% Span | Unif. Ratio | Micronaire | Strength | Elongation |
|--------------------------------|-------|--------------|-----------|-------------|------------|----------|------------|
| years | ** | ** | ** | ** | ns | ** | ** |
| efficiency | ** | * | ns | ns | ns | ** | ns |
| depletion | ** | ns | * | ns | ** | * | ns |
| efficiency x depletion | *' | * | * | ns | ns | ns | ns |
| years x efficiency | ** | ns | ns | ns | ns | * | ns |
| years x depletion | ns | ns | ns | ns | ns | ns | ns |
| years x depletion x efficiency | ns | ns | ns | ns | ns | ns | ns |

** and * denote significant differences at the 5 percent and 1 percent levels of significance, respectively.

*' $5\% < P(F) < 10\%$

at the same time as in treatment a., but with 0.7 of the amount of water applied to treatment a. The difference between the amounts of water applied to the two treatments was apparently not enough to have a significant effect on cotton yield or quality.

Effects of the amount of soil-water on the yield and quality of cotton from the trickle-irrigated plots for the years 1972-1977, and for these years combined, are shown in Table 25. Note that from 1972 to 1974 the "dry" treatment consisted of irrigating when the soil-water tension 20 cm below the trickle line reached 0.6 bars. Since it was difficult to keep the tensiometers in operating condition in the 0.6 bar treatment, this treatment was changed to one in which 0.7 x the amount of the water for the .2 bar treatment was applied. A separate analysis of variance was made, therefore, for the years 1972-1974, but no significant effects were detected in yield or quality as a result of treatments. Table 26 presents the analysis of variance on cotton yield and quality factors for the combined years 1972-1977.

Except for the 2.5% span factor, there was a strong year effect on yield and quality. Water amount affected micronaire, but had no significant effect on yield or the other quality parameters.

It is of interest to compare the mean yield and quality data for the trickle-irrigated plots with those for the surface-irrigated plots (Table 27). The data show a 6% higher yield for the trickle-irrigated plots, but very little difference in cotton quality parameters.

WATER QUALITY IN OBSERVATION WELLS AND IRRIGATION WELL

The electrical conductivities and chemical composition of water samples from the five test wells and the irrigation well are presented along with

Table 25. Effects of amount of soil-water on yield and quality of cotton from the trickle-irrigated plots for 1972, 1973, 1974, 1976 and 1977.

| Tension Bars | Yield (kg/ha) | Lint Percent (%) | 2.5% Span | Unif. Ratio | Micronaire | Strength | Elongation |
|-------------------------------------|------------------|------------------------|--------------|----------------|------------|----------|------------|
| <u>1972</u> | | | | | | | |
| 0.2 | 1254 | 36.3 | 1.21 | 44.6 | 3.5 | 22.7 | 7.2 |
| 0.6 | 1119 | 37.2 | 1.16 | 44.7 | 4.1 | 24.8 | 6.3 |
| Average | 1186 | 36.7 | 1.18 | 44.7 | 3.8 | 23.8 | 6.8 |
| <u>1973</u> | | | | | | | |
| 0.2 | 1244 | 37.7 | 1.16 | 44.0 | 3.2 | 24.0 | 5.9 |
| 0.6 | 1375 | 37.3 | 1.19 | 44.3 | 3.7 | 23.4 | 6.5 |
| Average | 1310 | 37.5 | 1.18 | 44.1 | 3.5 | 23.7 | 6.2 |
| <u>1974</u> | | | | | | | |
| 0.2 | 1065 | 36.6 | 1.20 | 45.9 | 3.3 | 20.7 | 6.3 |
| 0.6 | 1074 | 37.4 | 1.17 | 46.1 | 3.2 | 21.3 | 6.3 |
| Average | 1070 | 37.0 | 1.19 | 46.0 | 3.3 | 21.0 | 6.3 |
| <u>1976</u> | | | | | | | |
| 0.2 | 1302 | 38.8 | 1.18 | 45.6 | 3.7 | 23.4 | 6.4 |
| .7x | 1328 | 38.5 | 1.18 | 45.5 | 3.7 | 22.5 | 7.0 |
| Average | 1315 | 38.6 | 1.18 | 45.6 | 3.7 | 23.0 | 6.7 |
| <u>1977</u> | | | | | | | |
| 0.2 | 1097 | 40.1 | 1.20 | 47.9 | 3.7 | 22.6 | 7.2 |
| .7x | 775 | 39.6 | 1.17 | 48.0 | 4.2 | 23.5 | 7.2 |
| Average | 936 | 39.8 | 1.18 | 47.9 | 4.0 | 23.0 | 7.2 |
| <u>1972, 1973, 1974, 1976, 1977</u> | | | | | | | |
| 0.2 | 1192 | 37.9 | 1.19 | 45.6 | 3.5 | 22.7 | 6.6 |
| 0.6 and .7x | 1134 | 38.0 | 1.17 | 45.7 | 3.8 | 23.1 | 6.7 |
| Average | 1163 | 37.9 | 1.18 | 45.7 | 3.7 | 22.9 | 6.6 |

Table 26. Analysis of variance on the cotton yield and quality factors for the trickle-irrigated plots for the combined years 1972, 1973, 1974, 1976 and 1977.

| Source of Variation | Yield | Lint Percent | 2.5% Span | Unif. Ratio | Micronaire | Strength | Elongation |
|---------------------|-------|--------------|-----------|-------------|------------|----------|------------|
| years | ** | ** | ns | ** | ** | * | ** |
| tension | ns | ns | ns | ns | * | ns | ns |
| years x tension | * | ns | ns | ns | ns | ns | ns |

** and * denote significant differences at the 5 percent and 1 percent levels of significance, respectively.

Table 27. Mean yield and quality data (averaged for all years and treatments) for the surface- and trickle-irrigated plots.

| Irrigation Method | Yield (kg/ha) | Lint Percent (%) | 2.5% Span | Unif. Ratio | Micronaire | Strength | Elongation |
|-------------------|---------------|------------------|-----------|-------------|------------|----------|------------|
| Surface Irr. | 1098 | 37.9 | 1.17 | 46.4 | 3.8 | 22.8 | 6.6 |
| Trickle Irr. | 1163 | 37.9 | 1.18 | 45.7 | 3.7 | 22.9 | 6.6 |

means and standard deviations in Appendix Tables 62-97 for the years 1972-1977. Yearly averages of the chemical analyses are given, also, in Table 28. Analyses averaged over the period April 20, 1972 to October 6, 1977 for the samples from the test wells (October 13, 1972 to October 5, 1977 for the irrigation well) are presented in Table 29.

Changes in the quality of the water from the test wells and irrigation well during the six years of this study are illustrated in Figure 12. Water in the deeper wells was of a better quality than the water in the shallow wells. The irrigation well, located about 100 m north of the test wells, had water of a quality intermediate between that of the test wells at 15.5 and 22.9 m.

The rather sharp increase in electrical conductivity in the test wells in 1974 may be the result of a leaching experiment conducted during the spring of that year. In that period, plot no. 4 (located 20 m west of the test wells) was irrigated at a constant rate of 2 cm/day (evaporation prevented) for 128 days. From January 11 until February 22, 1974, plot 4 was irrigated with water from the irrigation well which had a chloride concentration of 2.5 meq/liter. Starting on February 22 for a period of 36 days, calcium chloride was added to the irrigation water resulting in a chloride concentration of 16.2 meq/liter. On March 30, leaching was continued with well water without calcium chloride added. During the experiment, the electrical conductivity of the well water was 1.16 mmhos/cm, whereas the electrical conductivity of the concentrated leaching water was 2.5 mmhos/cm (van de Pol, Wierenga and Nielsen, 1977).

Figure 12 shows that the increase in electrical conductivity of the water in the shallow wells corresponds with the leaching of plot no. 4.

Table 28. Mean yearly chemical composition (meq/l, except NO₃⁻ in ppm) of water samples from test wells and irrigation well for 1972-1977.

| Well | Year | Depth | ECx10 ³ | Ph | Total | | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|---------|-------|--------------------|-----|---------|--------|-----|-----|-----|-----|-----|-----------------|------------------|-----------------|-----------------|
| | | | | | Cations | Anions | | | | | | | | | |
| (meq/l) ----- (ppm) | | | | | | | | | | | | | | | |
| 1 | 1972 | 22.9 | 1.14 | 7.6 | 11.4 | 11.7 | 5.1 | 1.6 | 4.5 | 0.2 | 2.7 | 0.3 | 3.8 | 4.9 | 0.1 |
| 1 | 1973 | 22.9 | 1.07 | 7.4 | 11.1 | 11.3 | 5.3 | 1.5 | 4.1 | 0.2 | 2.7 | 0.2 | 3.8 | 4.5 | 1.5 |
| 1 | 1974 | 22.9 | 1.05 | 8.0 | 11.5 | 11.4 | 6.1 | 1.7 | 3.6 | 0.2 | 2.9 | 0.1 | 3.6 | 4.8 | 0.2 |
| 1 | 1975 | 22.9 | 1.03 | 8.1 | 11.4 | 11.3 | 5.5 | 1.6 | 4.2 | 0.2 | 2.7 | 0.0 | 3.8 | 4.7 | 0.4 |
| 1 | 1976 | 22.9 | 0.94 | 8.2 | 10.8 | 10.6 | 5.5 | 1.7 | 3.5 | 0.1 | 2.6 | 0.3 | 3.5 | 4.2 | 0.7 |
| 1 | 1977 | 22.9 | 1.09 | 8.1 | 11.5 | 11.7 | 5.7 | 1.6 | 4.0 | 0.1 | 2.6 | 0.2 | 4.0 | 4.9 | 0.1 |
| Mean | 1972-77 | | 1.05 | 7.9 | 11.3 | 11.3 | 5.5 | 1.6 | 4.0 | 0.2 | 2.7 | 0.2 | 3.8 | 4.7 | 0.5 |
| 2 | 1972 | 15.5 | 1.51 | 7.5 | 16.5 | 16.7 | 8.3 | 2.2 | 5.8 | 0.3 | 3.5 | 0.1 | 6.1 | 7.1 | -- |
| 2 | 1973 | 15.5 | 1.45 | 7.4 | 16.0 | 16.2 | 7.9 | 2.1 | 5.8 | 0.2 | 3.3 | 0.4 | 5.9 | 6.6 | 2.0 |
| 2 | 1974 | 15.5 | 1.37 | 8.1 | 15.0 | 15.3 | 6.8 | 2.0 | 6.0 | 0.2 | 2.8 | 0.1 | 5.9 | 6.6 | 0.3 |
| 2 | 1975 | 15.5 | 1.17 | 8.0 | 13.3 | 13.2 | 6.0 | 1.8 | 5.4 | 0.2 | 2.4 | 0.1 | 5.4 | 5.4 | 0.2 |
| 2 | 1976 | 15.5 | 1.14 | 8.1 | 12.7 | 12.8 | 5.3 | 1.8 | 5.4 | 0.2 | 2.3 | 0.1 | 5.0 | 5.3 | 0.5 |
| 2 | 1977 | 15.5 | 1.39 | 8.0 | 15.1 | 15.3 | 7.4 | 1.9 | 5.5 | 0.2 | 2.8 | 0.2 | 5.9 | 6.5 | 0.0 |
| Mean | 1972-77 | | 1.34 | 7.9 | 14.8 | 15.1 | 7.0 | 2.0 | 5.7 | 0.2 | 2.9 | 0.2 | 5.7 | 6.3 | 0.6 |
| 3 | 1972 | 11.0 | 1.60 | 7.5 | 17.0 | 17.2 | 8.1 | 2.4 | 6.3 | 0.2 | 3.5 | 0.0 | 6.4 | 7.4 | -- |
| 3 | 1973 | 11.0 | 1.49 | 7.3 | 16.3 | 16.4 | 7.5 | 2.3 | 6.3 | 0.2 | 3.2 | 0.3 | 6.1 | 6.8 | 2.0 |
| 3 | 1974 | 11.0 | 1.74 | 8.0 | 19.4 | 19.1 | 9.3 | 2.8 | 7.1 | 0.3 | 4.5 | 0.1 | 6.0 | 8.6 | 0.3 |
| 3 | 1975 | 11.0 | 1.35 | 8.0 | 15.6 | 15.2 | 7.1 | 2.1 | 6.2 | 0.2 | 2.8 | 0.0 | 6.0 | 6.4 | 0.2 |
| 3 | 1976 | 11.0 | 1.15 | 8.3 | 13.0 | 13.1 | 5.0 | 1.7 | 6.1 | 0.2 | 2.3 | 0.4 | 5.1 | 5.3 | 0.9 |
| 3 | 1977 | 11.0 | 1.35 | 8.1 | 14.4 | 14.8 | 6.5 | 1.8 | 6.0 | 0.2 | 2.8 | 0.3 | 5.8 | 6.0 | 0.1 |
| Mean | 1972-77 | | 1.45 | 7.9 | 16.0 | 16.0 | 7.3 | 2.2 | 6.3 | 0.2 | 3.2 | 0.2 | 5.9 | 6.8 | 0.7 |

Table 28. Continued

| Well | Year | Depth (m) | ECx10 ³ | Ph | Total | | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|------|---------|--------------|--------------------|-----|---------|--------|------|-----|-----|-----|-----|-----------------|------------------|-----------------|-----------------|
| | | | | | Cations | Anions | | | | | | | | | |
| 4 | 1972 | 8.2 | 1.46 | 7.5 | 15.2 | 15.4 | 6.9 | 2.3 | 5.6 | 0.2 | 3.1 | 0.0 | 5.7 | 6.6 | -- |
| 4 | 1973 | 8.2 | 1.53 | 7.3 | 17.0 | 16.5 | 7.8 | 2.6 | 6.3 | 0.3 | 3.1 | 0.2 | 6.8 | 6.4 | 1.7 |
| 4 | 1974 | 8.2 | 1.89 | 8.0 | 20.8 | 21.1 | 9.3 | 3.2 | 8.1 | 0.3 | 4.7 | 0.0 | 6.5 | 9.9 | 0.6 |
| 4 | 1975 | 8.2 | 1.30 | 8.1 | 15.0 | 14.5 | 5.1 | 1.7 | 8.0 | 0.2 | 2.7 | 0.1 | 6.0 | 5.7 | 0.2 |
| 4 | 1976 | 8.2 | 1.24 | 8.1 | 13.9 | 13.8 | 5.1 | 2.0 | 6.6 | 0.2 | 2.8 | 0.1 | 5.3 | 5.6 | 0.7 |
| 4 | 1977 | 8.2 | 1.40 | 7.9 | 15.1 | 15.5 | 6.6 | 2.1 | 6.2 | 0.2 | 2.7 | 0.1 | 6.7 | 6.0 | 0.0 |
| Mean | 1972-77 | | 1.47 | 7.8 | 16.2 | 16.1 | 6.8 | 2.3 | 6.8 | 0.2 | 3.2 | 0.1 | 6.2 | 6.7 | 0.6 |
| 5 | 1972 | 5.8 | 1.50 | 7.3 | 15.6 | 16.2 | 6.7 | 2.9 | 5.7 | 0.3 | 3.3 | 0.2 | 6.0 | 6.7 | -- |
| 5 | 1973 | 5.8 | 1.40 | 7.4 | 15.5 | 14.9 | 6.8 | 2.6 | 5.8 | 0.3 | 3.2 | 0.3 | 5.9 | 5.4 | 1.2 |
| 5 | 1974 | 5.8 | 2.00 | 7.9 | 22.3 | 22.3 | 10.5 | 3.9 | 7.6 | 0.3 | 5.4 | 0.0 | 6.1 | 10.9 | 0.8 |
| 5 | 1975 | 5.8 | 1.44 | 8.0 | 16.3 | 16.1 | 6.0 | 2.3 | 7.7 | 0.3 | 3.1 | 0.0 | 6.1 | 6.9 | 0.3 |
| 5 | 1976 | 5.8 | 1.28 | 8.1 | 14.4 | 14.5 | 4.6 | 2.0 | 7.5 | 0.3 | 2.7 | 0.2 | 5.9 | 5.7 | 0.5 |
| 5 | 1977 | 5.8 | 1.36 | 7.9 | 14.5 | 14.6 | 5.7 | 2.1 | 6.5 | 0.2 | 2.4 | 0.1 | 6.6 | 5.5 | 0.1 |
| Mean | 1972-77 | | 1.50 | 7.8 | 16.4 | 15.1 | 6.7 | 2.6 | 6.8 | 0.3 | 3.4 | 0.1 | 6.1 | 6.9 | 0.6 |
| Irr | 1972 | 26.0 | 1.35 | 7.7 | 12.9 | 12.7 | 5.4 | 1.9 | 5.3 | 0.2 | 2.8 | 0.4 | 4.0 | 5.5 | -- |
| Irr | 1973 | 26.0 | 1.28 | 7.4 | 13.3 | 14.0 | 5.8 | 1.8 | 5.5 | 0.2 | 2.7 | 0.2 | 5.0 | 6.1 | 1.7 |
| Irr | 1974 | 26.0 | 1.16 | 7.9 | 13.2 | 12.9 | 5.9 | 1.6 | 5.5 | 0.2 | 2.4 | 0.1 | 5.3 | 5.2 | 0.4 |
| Irr | 1975 | 26.0 | 1.16 | 8.0 | 13.0 | 12.7 | 5.7 | 1.6 | 5.5 | 0.2 | 2.6 | 0.0 | 4.7 | 5.4 | 0.3 |
| Irr | 1976 | 26.0 | 1.18 | 8.2 | 13.1 | 13.3 | 5.4 | 1.8 | 5.7 | 0.2 | 2.9 | 0.2 | 4.4 | 5.8 | 0.5 |
| Irr | 1977 | 26.0 | 1.28 | 8.0 | 13.8 | 13.9 | 6.4 | 1.7 | 5.5 | 0.2 | 2.8 | 0.0 | 5.2 | 5.8 | 0.5 |
| Mean | 1972-77 | | 1.23 | 7.9 | 13.2 | 13.2 | 5.8 | 1.7 | 5.5 | 0.2 | 2.7 | 0.2 | 4.8 | 5.6 | 0.7 |

Table 29. Mean chemical composition (meq/l, except NO₃⁻ in ppm) of water samples from test wells and irrigation well for 1972-1977.

| Well Number | Depth (m) | ECx10 ³ | Ph | Total Cations | Total Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------------|--------------|--------------------|-----|------------------|-----------------|-----|-----|-----|-----|-----|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- (ppm) | | | | | | | | | | | | | | |
| 1 | 22.9 | 1.05 | 7.9 | 11.3 | 11.3 | 5.5 | 1.6 | 4.0 | 0.2 | 2.7 | 0.2 | 3.8 | 4.7 | 0.5 |
| 2 | 15.5 | 1.34 | 7.9 | 14.8 | 15.1 | 7.0 | 2.0 | 5.7 | 0.2 | 2.9 | 0.2 | 5.7 | 6.3 | 0.6 |
| 3 | 11.0 | 1.45 | 7.9 | 16.0 | 16.0 | 7.3 | 2.2 | 6.3 | 0.2 | 3.2 | 0.2 | 5.9 | 6.8 | 0.7 |
| 4 | 8.2 | 1.47 | 7.8 | 16.2 | 16.1 | 6.8 | 2.3 | 6.8 | 0.2 | 3.2 | 0.1 | 6.2 | 6.7 | 0.6 |
| 5 | 5.8 | 1.50 | 7.8 | 16.4 | 15.1 | 6.7 | 2.6 | 6.8 | 0.3 | 3.4 | 0.1 | 6.1 | 6.9 | 0.6 |
| Irr well | 26.0 | 1.23 | 7.9 | 13.2 | 13.2 | 5.8 | 1.7 | 5.5 | 0.2 | 2.7 | 0.2 | 4.8 | 5.6 | 0.7 |

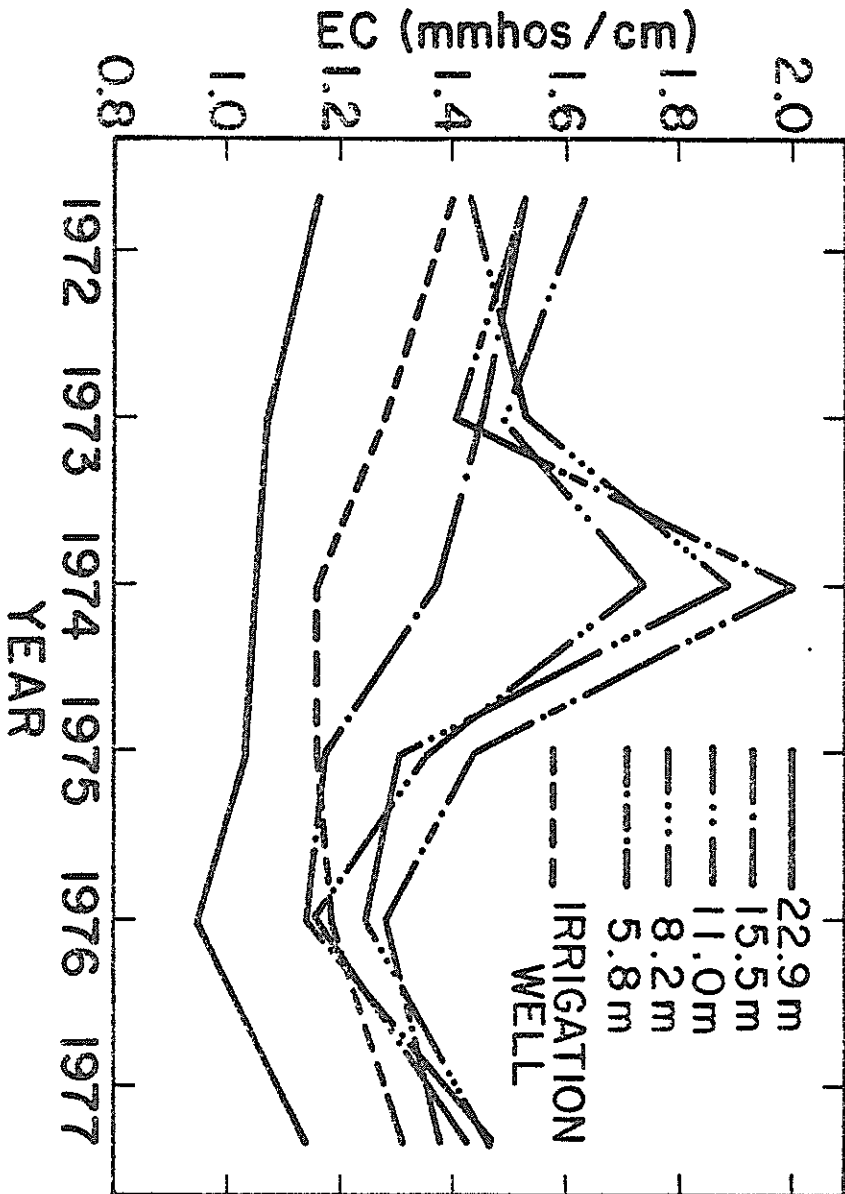


Figure 12. Mean annual electrical conductivity (mmhos/cm) of water in observation wells and irrigation well.

As expected, there is a decrease in peak concentration and a flattening of the concentration versus time curve with increasing depth below the soil surface. The quality of the water in the irrigation well (located about 100 m north of plot 4) was not affected by the leaching experiment.

QUALITY AND QUANTITY OF WATER IN THE DEL RIO GRAIN

a. Quantity of Drain Flow

Flow rates at Del Rio Drain sampling stations A and B are plotted for the years 1975-1977 (Figures 13-15). There is a gradual increase in drain flow during the irrigation season, with the maximum flow occurring during August or the early part of September. After September drain flow gradually levels off, and approximates the drain flow at the beginning of the irrigation season. The flow patterns shown in Figures 13-15 are very similar to those measured at Del Rio sites A and B during the years 1972-1974 (Wierenga, 1977). There are, however, fairly large fluctuations in flow from one year to another which are largely a result of the varying amounts of surface water allotted by the Elephant Butte Irrigation district (see Table 30). The surface water allocations for the years 1972 to 1977 are listed in the last column of Table 30. 1972 and 1977 were dry years, resulting in small water allocations and reduced drain flow. Flow in 1973 was less than in the three following years, possibly due to the heavy pumping for irrigation water and lowered water tables in 1972.

The increase in flow between Del Rio Drain sampling sites A and B (located 4.5 km apart) fluctuated from one year to another and was lowest in 1977 when the surface water allocation was limited to 38.1 cm (Table 30). The average increase in drain flow for the six years of the study was $0.162 \text{ m}^3/\text{sec}$, equivalent to $0.36 \text{ m}^3/\text{sec}$ per kilometer of drain.

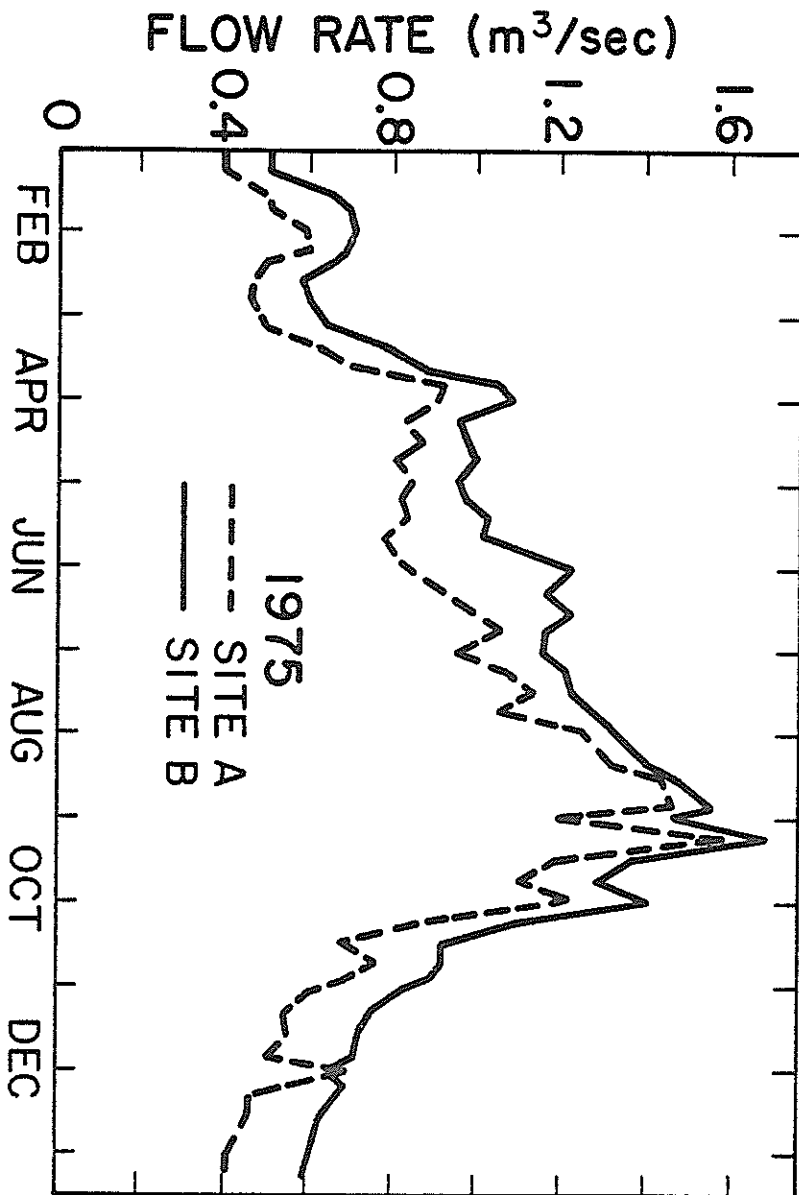


Figure 13. Flow at the Del Rio Drain sampling sites A and B in 1975.

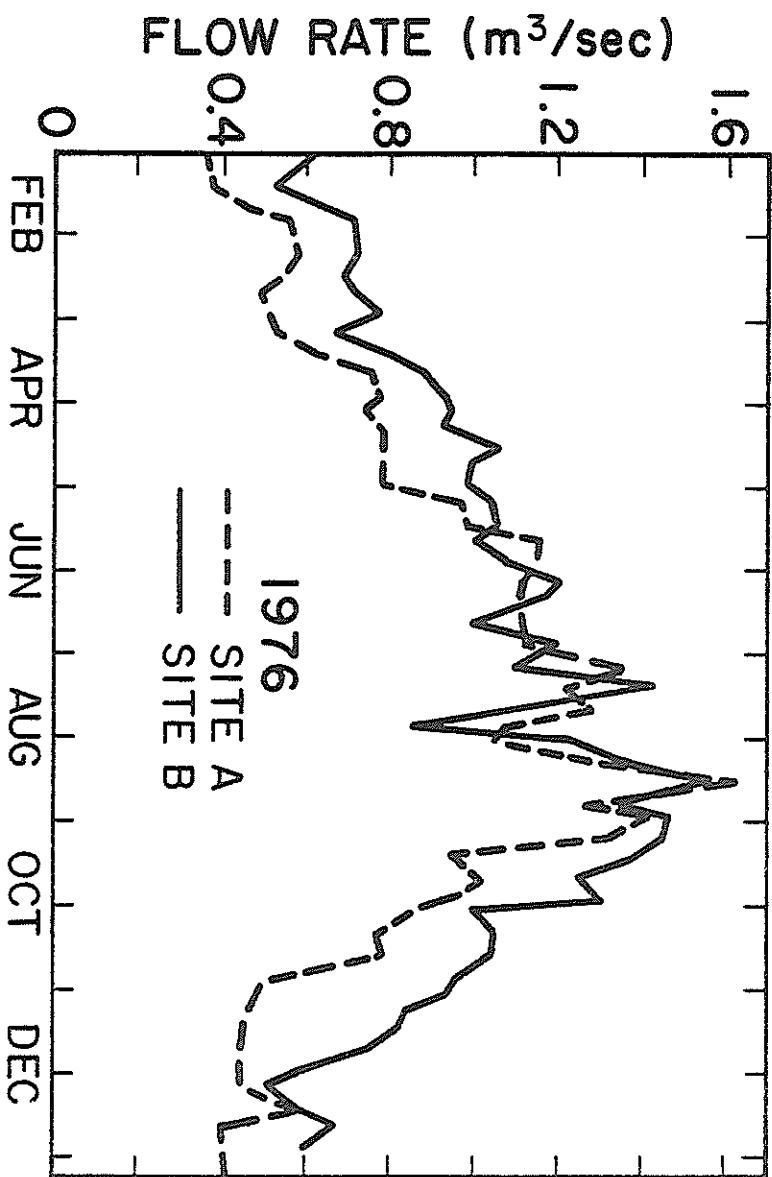


Figure 14. Flow at Del Rio Drain sampling sites A and B in 1976.

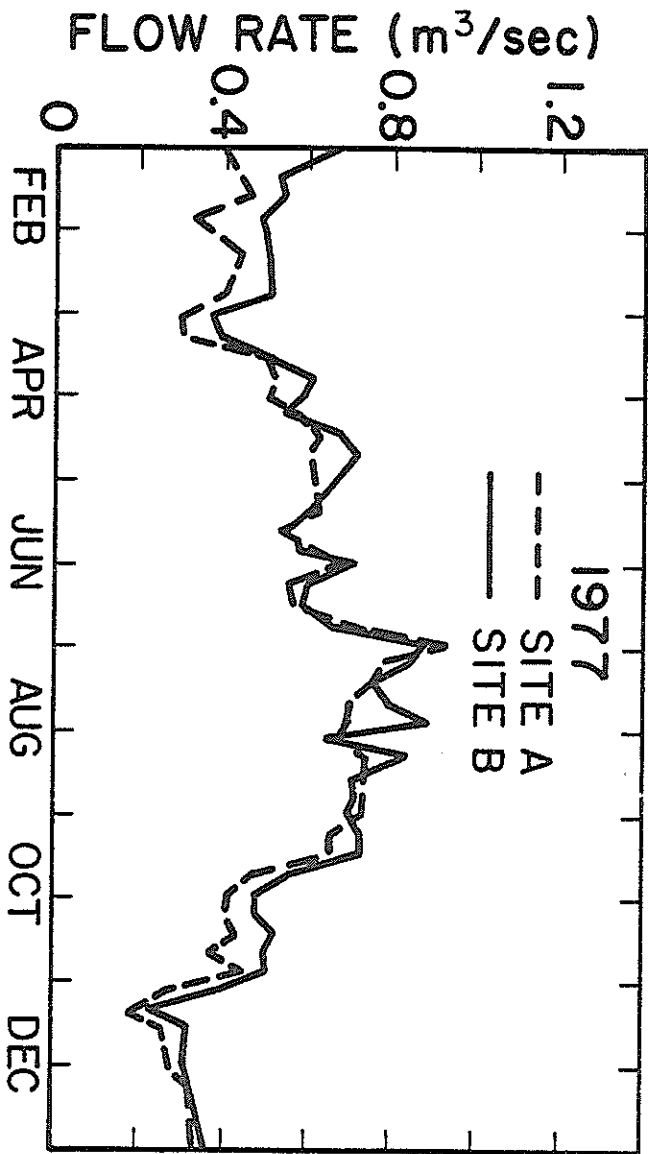


Figure 15. Flow at Del Rio Drain sampling sites A and B in 1977.

b. Quality of Drain Flow

The chemical composition of water samples from Del Rio Drain sites A and B are presented along with means and standard deviations in Appendix Tables 98-109 for the years 1972-1977. Electrical conductivities and flow rates for sites A and B are listed in Appendix Tables 110-115. Electrical conductivities of water samples taken from the Del Rio Drain during 1975, 1976 and 1977 are plotted in Figures 16-18. As before (Wierenga, 1977), the conductivities decreased with increasing drain flow and were lowest in the summer months and highest in the winter months.

The weighted mean electrical conductivities at Del Rio Drain sites A and B are presented in Table 31 for the years 1972-1977. The average increase in electrical conductivity between the two stations is presented in the last column of this table. For the combined years 1972 through 1977, the increase in EC was 0.47 mmhos/cm, equivalent to 0.01 mmhos/cm per km of drain length.

The weighted mean electrical conductivities and average flow rates measured at Del Rio site A are plotted in Figure 19. A strong inverse correlation between flow rate and the electrical conductivity is shown.

The arrow on the left hand scale of Figure 19 indicates the weighted mean electrical conductivity of Del Rio Drain water samples taken between 1921 and 1936 above the outlet to the river approximately 18 km downstream from Station A (U.S.G.S., 1938). During those years, the salinity and flow rates were measured about four times per year in contrast to the weekly measurements made during the present study. If it is assumed that the average yearly increase in salinity between sites A and B for the period 1972 to 1978 (0.01 mmhos/cm per km) was the same as between site A and the outlet into the river for the period 1921 to 1936, then the weighted mean EC at site A for the period

Table 30. Mean annual drain flow (m^3/sec) at Del Rio Drain sites A and B, and irrigation water allotted by the irrigation district for 1972 through 1977.

| Year | Site A (m^3/sec) | Site B (m^3/sec) | Increase (m^3/sec) | Allotment (cm) |
|------|-------------------------|-------------------------|---------------------------|-------------------|
| 1972 | .418 | .543 | .125 | 20.3 |
| 1973 | .670 | .797 | .127 | 91.4 |
| 1974 | .809 | 1.007 | .198 | 91.4 |
| 1975 | .841 | .990 | .149 | 91.4 |
| 1976 | .807 | .963 | .156 | 91.4 |
| 1977 | .512 | .567 | .055 | 38.1 |

Table 31. Weighted mean annual electrical conductivity (mmhos/cm) of water at Del Rio Drain sites A and B for the years 1972-1977

| Year | Site A | Site B | B-A |
|---------|------------------------|--------|-------|
| | ----- (mmhos/cm) ----- | | |
| 1972 | 1.295 | 1.345 | 0.050 |
| 1973 | 1.222 | 1.284 | 0.062 |
| 1974 | 1.215 | 1.268 | 0.053 |
| 1975 | 1.203 | 1.255 | 0.052 |
| 1976 | 1.162 | 1.200 | 0.038 |
| 1977 | 1.250 | 1.277 | 0.027 |
| Average | 1.255 | 1.272 | 0.047 |

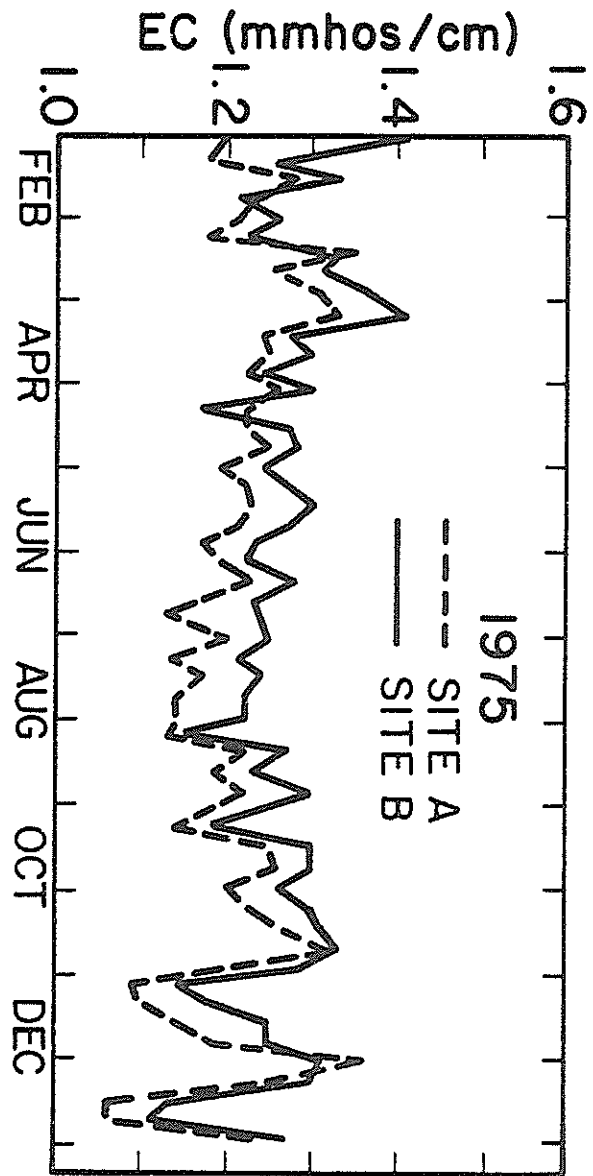


Figure 16. Electrical conductivities of water samples from Del Rio Drain sites A and B in 1975.

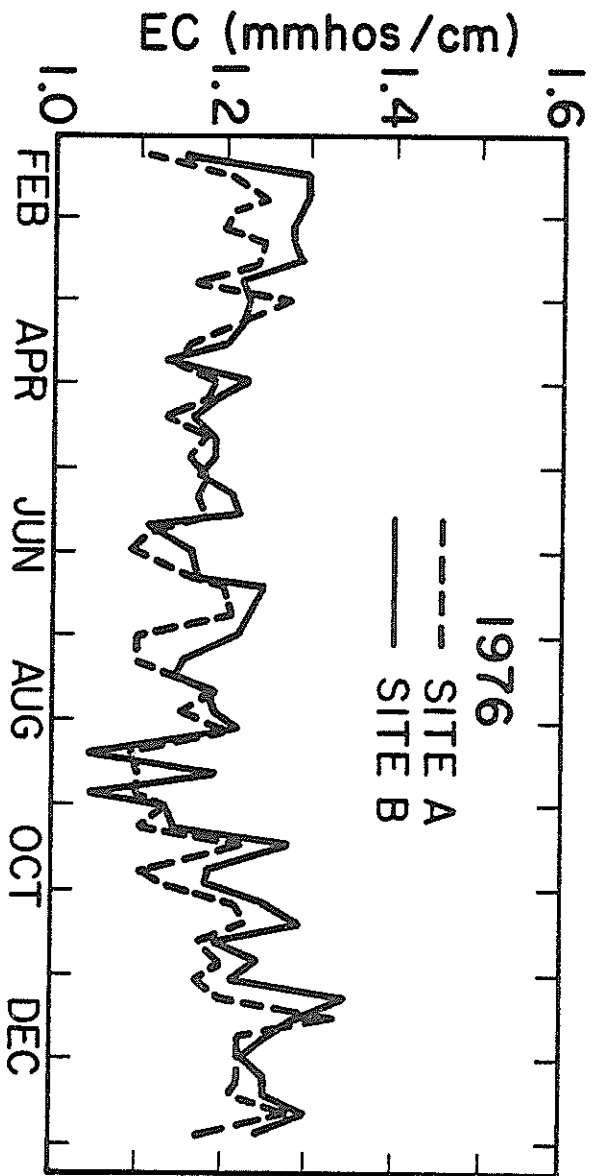


Figure 17. Electrical conductivities of water samples from Del Rio Drain sites A and B in 1976.

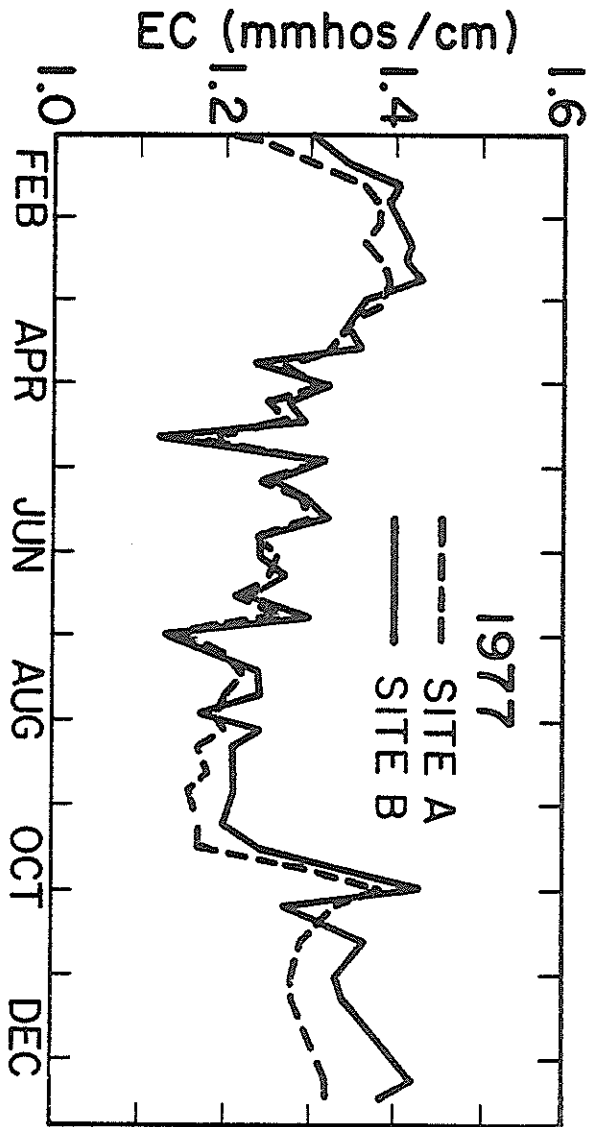


Figure 18. Electrical conductivities of water samples from Del Rio Drain sites A and B in 1977.

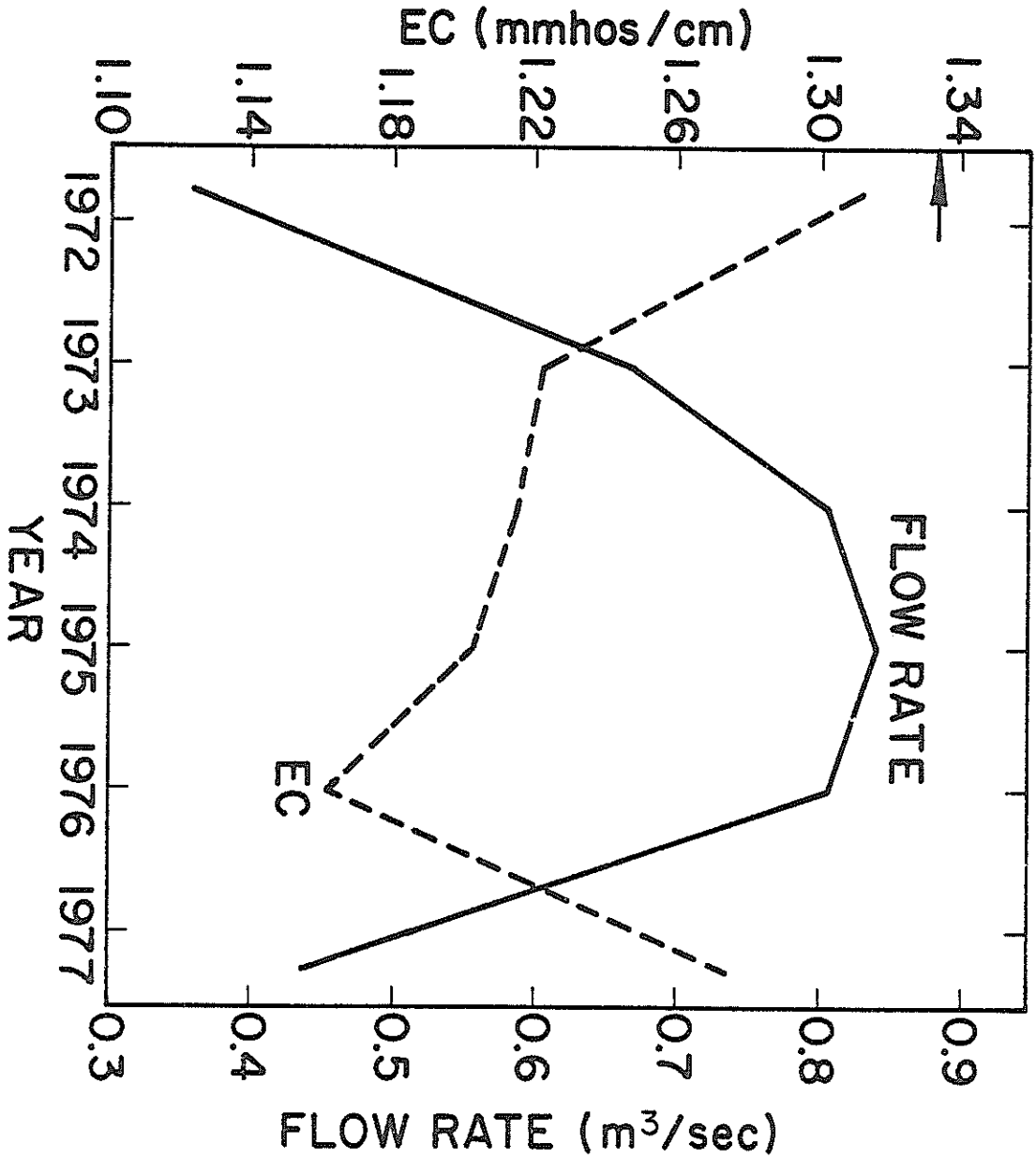


Figure 19. Weighted mean electrical conductivity and flow of water in the Del Rio Drain at site A for the years 1972-1977. The arrow indicates the weighted mean EC of Del Rio Drain water measured above the outlet to the Rio Grande River from 1921 to 1936.

1921-1936 was $1.338 - 18 \times 0.01 = 1.158$ mmhos/cm. From 1972 to 1977, the weighted mean EC at site A was 1.255 mmhos/cm (see Table 31). On this basis then, there would appear to be a very small increase in salinity (0.07 mmhos/cm) between the periods 1921-1936 and 1972-1977. Though the assumption of a uniform increase of 0.01 mmhos/cm per km with time and distance along the drain may not be correct, the data show no indication of a substantial increase in salinity in the Del Rio Drain between 1921 and 1978.

c. Calculated Quality of Return Flow

The flow and water quality data taken at Del Rio drain sites A and B were used to calculate the quality of the return flow entering the Del Rio drain between sites A and B (see Wierenga, 1977). Values of the electrical conductivity (mmhos/cm) and chloride concentration (meq/l) of the return flow water obtained by this method for the years 1972-1977 are listed in Appendix Tables 116-119.

The computed return flow EC and Cl concentrations are summarized in Table 32. The first column in Table 32 presents the computed electrical

Table 32. Computed EC (mmhos/cm) and Cl⁻ (meq/l) concentration of return flow entering the Del Rio Drain between sites A and B. Mean values of the EC and of the Cl⁻ concentration of the test wells from 1972 to 1977 are also presented.

| | Return Flow | | Observation wells | |
|------|-------------|-----------------|-------------------|-----------------|
| | EC | Cl ⁻ | EC | Cl ⁻ |
| 1972 | 1.54 | 3.83 | 1.44 | 3.21 |
| 1973 | 1.53 | 3.94 | 1.39 | 3.11 |
| 1974 | 1.52 | 3.80 | 1.61 | 4.05 |
| 1975 | 1.25 | 3.54 | 1.26 | 2.75 |
| 1976 | 1.35 | 3.28 | 1.15 | 2.55 |
| 1977 | 1.55 | 3.23 | 1.32 | 2.66 |
| Mean | 1.46 | 3.62 | 1.36 | 3.06 |

conductivity of the return flow (mmhos/cm), while the second column presents the computed chloride concentration (meq/l). The third and fourth columns present the average EC and chloride concentration for the five test wells. The data show agreement between the computed values and measured values, indicating that the five test wells fairly represent the quality of the water entering the drain between sites A and B.

No efforts were made to measure the quality of the water in the Rio Grande that is used for irrigating the land bordering the Del Rio Drain. However, data published by Wilcox (1963) show that the weighted mean electrical conductivity of the Rio Grande Water at Leasburg Dam between 1951 and 1963 was 0.89 mmhos/cm. Between April 1975 and September 1978 the U.S. Geological Survey collected 20 samples (6 or 7 per year) at Leasburg Dam, which is located approximately 20 miles north of site A. The arithmetic average electrical conductivity of the river water was 0.81 mmhos/cm. The ratio of the average electrical conductivity of irrigation water at Leasburg Dam (0.85 mmhos/cm) to the average electrical conductivity of the drainage return flow water (1.46 mmhos/cm) is 0.58. Assuming that the quality of the water used for irrigating the land bordering the Del Rio Drain between A and B is well represented by the river water quality as measured at Leasburg Dam, and assuming steady state conditions, this indicates that the ratio of the depths of drainage water to the depths of irrigation water is also 0.58. Thus, on the average, 58% of the irrigation water applied to the land bordering the Del Rio drain between A and B is lost to the subsoil by deep percolation.

CONCLUSIONS

In 1976 and 1977, irrigation treatment (efficiency and irrigation interval) had a significant effect on the electrical conductivity and chloride concentration of saturation extracts of samples taken from the rooting depth in the surface-irrigated plots. EC_e and chloride concentrations were significantly higher for the plots irrigated near 100 percent efficiency. However, irrigation treatments did not have a significant effect on EC_e and chloride concentration of soil below 150 cm, indicating that improving irrigation efficiency has no immediate effect on the quality of percolation water.

Based on the chloride concentrations of the soil water percolating below the root zone in the surface-irrigated plots, leaching fractions of 0.14, 0.11 and 0.09 were obtained for the planned 80, 90 and 100 percent efficiency treatments, respectively.

Surface irrigation treatments had no significant effect on cotton yield at the 5 percent level of probability during the years 1972 through 1977. However, yields tended to decrease with increased irrigation efficiency, except in the 50 percent depletion (2 weeks irrigation interval) treatment. For the conditions of the experiment, less frequent irrigating with some leaching provided the highest cotton yields.

There was a significant increase in the salt content of the soil irrigated for five years with a trickle system, especially in the 30 to 130 cm depth range. The salinity increase was 25 percent for the plots irrigated at 0.2 bar, and 110 percent for the plots receiving 25 percent less water than the 0.2 bar treatment.

Salt contents were significantly higher in the soil between the trickle lines than below the trickle lines to a depth of 50 cm. Below 50 cm, there were no significant differences in salt content below or between the trickle lines.

Averaged over five years and all treatments, the trickle-irrigated plots yielded six percent more lint cotton than the surface-irrigated plots, with essentially no differences in lint quality. An average of 35 percent more water (irrigation and rain) was applied to the surface-irrigated plots than to the trickle-irrigated plots.

There was a strong inverse correlation between flow of water in the Del Rio Drain and its quality. The average electrical conductivity of the water in the Del Rio Drain as measured from 1972 to 1978 was very close to the average electrical conductivity of the water in this drain from 1921 to 1936, indicating a near equilibrium in salinity along the Del Rio Drain. The quality of return flow calculated from flow and EC measurements at two locations along the Del Rio drain adjacent to the experimental farm, agreed with the average water quality in five test wells extending from 5 to 22 m below the soil surface, and located at the experimental site. The electrical conductivity of this return flow was 1.7 x the electrical conductivity of the Rio Grande river water 20 miles upstream. This indicates that on the average about 60% of the irrigation water applied on the land along the Del Rio Drain is lost by deep percolation to the ground water.

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Appendix Table 1. EC values (mmhos/cm) for saturation extracts of soil samples taken within or outside of (south of) surface-irrigated plots (spring 1972, prior to planting).

| PLOT NO. | DEPTH (CM) | | | |
|--------------|------------|-------|-------|-------|
| | 0-20 | 20-40 | 40-60 | 60-90 |
| P 1 | 1.96 | 2.36 | 7.39 | 1.45 |
| P 2 | 2.78 | 3.10 | 6.02 | 0.96 |
| P 3 | 2.21 | 4.85 | 7.74 | 2.70 |
| P 6 | 1.93 | 2.81 | 5.79 | 3.52 |
| P 7 | 3.43 | 8.10 | 6.83 | 6.42 |
| P 8 | 2.97 | 4.43 | 7.78 | 10.27 |
| P 9 | 2.23 | 2.47 | 4.35 | 4.29 |
| P10 | 5.41 | 7.97 | 8.74 | 9.86 |
| P11S | 3.11 | 5.43 | 6.20 | 6.45 |
| P12S | 3.25 | 4.37 | 5.98 | 2.78 |
| P13S | 3.17 | 4.37 | 6.93 | -- |
| P14S | 3.10 | 5.21 | 5.97 | 5.23 |
| P15S | 1.90 | 2.48 | 4.32 | 4.06 |
| P16S | 2.15 | 2.71 | 4.50 | 5.00 |
| P17S | 2.00 | 3.14 | 4.65 | 5.15 |
| P18S | 3.35 | 5.51 | 6.30 | 4.52 |
| P19S | 3.42 | 5.18 | 6.96 | 7.36 |
| P21S | 1.20 | 1.42 | 1.40 | 1.14 |
| P22S | 1.20 | 1.22 | 1.14 | 0.90 |
| P23S | 2.02 | 1.20 | 1.00 | -- |
| P24S | 2.34 | 2.00 | 4.04 | 3.84 |
| P25S | 4.41 | 5.10 | 5.32 | 5.22 |
| P26S | 3.58 | 4.70 | 4.90 | 3.90 |
| P27S | 3.36 | 5.20 | 6.04 | 6.40 |
| P28S | 2.74 | 4.00 | 5.58 | 6.06 |
| P29S | 2.70 | 3.38 | 4.34 | 5.42 |
| MEAN | 2.77 | 3.95 | 5.39 | 4.70 |
| STD. DEV. | 0.94 | 1.82 | 1.97 | 2.46 |
| GENERAL MEAN | 4.20 | | | |

Appendix Table 2. EC values (mmhos/cm) for saturation extracts of soil samples from surface-irrigated plots (Dec. 1972).^e

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P1 | 1.46 | 2.98 | 5.08 | 5.06 | 4.28 | 2.56 | 1.74 | 1.20 | | |
| P2 | 1.36 | 2.92 | 4.66 | 6.70 | 7.32 | 3.36 | 2.68 | 4.48 | | |
| P3 | 1.56 | 2.72 | 5.34 | 3.58 | 7.32 | 2.46 | 1.68 | 2.20 | | |
| P5 | 1.04 | 2.22 | 3.84 | 5.38 | 4.32 | 2.46 | 2.68 | 2.08 | | |
| P6 | 1.12 | 2.58 | 4.18 | 4.18 | 3.72 | 2.46 | 1.48 | 1.68 | | |
| P7 | 1.42 | 2.48 | 4.84 | 5.18 | 5.48 | 2.46 | 2.68 | 2.08 | | |
| P8 | 1.92 | 2.48 | 5.90 | 6.24 | 6.48 | 2.46 | 2.68 | 2.08 | | |
| P9 | 1.42 | 3.44 | 6.32 | 7.08 | 8.48 | 3.36 | 2.68 | 2.08 | | |
| P10 | 1.82 | 4.44 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P11 | 1.82 | 4.44 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P12 | 1.82 | 4.44 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P13 | 1.90 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P14 | 1.86 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P15 | 1.30 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P16 | 1.30 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P17 | 1.68 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P18 | 1.98 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P20 | 1.62 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P21 | 1.16 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P22 | 1.43 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P23 | 1.52 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P24 | 2.62 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P25 | 2.68 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P26 | 1.68 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P27 | 1.68 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P29 | 1.08 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| P30 | 1.82 | 4.18 | 5.18 | 6.24 | 5.78 | 3.36 | 2.68 | 2.08 | | |
| MEAN | 1.84 | 2.95 | 4.96 | 5.24 | 4.88 | 3.38 | 2.65 | 2.25 | | |
| STD. DEV. | 0.60 | 0.83 | 1.21 | 1.45 | 1.80 | 1.04 | 1.43 | 1.35 | | |
| GENERAL MEAN | 3.52 | | | | | | | | | |

Appendix Table 3. EC values (mmhos/cm) for saturation extracts of soil samples from surface-irrigated plots (May 1973)^e.

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P1 | 1.27 | 1.29 | 3.95 | 5.15 | 6.57 | 4.63 | 2.24 | 1.74 | | |
| P2 | 1.57 | 2.32 | 4.84 | 6.80 | 8.21 | 3.16 | 2.51 | 3.12 | | |
| P3 | 1.01 | 1.54 | 1.77 | 3.59 | 7.36 | 3.76 | 6.83 | 2.30 | | |
| P5 | 1.54 | 1.26 | 1.61 | 5.28 | 3.12 | 1.77 | 0.87 | 0.82 | | |
| P6 | 1.06 | 1.33 | 1.95 | 2.66 | 5.50 | 1.40 | 2.50 | 1.17 | | |
| P7 | 1.05 | 1.52 | 2.84 | 7.73 | 9.56 | 8.08 | 3.96 | 3.40 | | |
| P8 | 2.08 | 1.96 | 1.15 | 7.48 | 8.63 | 3.86 | 5.70 | 3.00 | | |
| P9 | 1.68 | 1.85 | 3.37 | 9.23 | 1.37 | 3.87 | 3.06 | 4.00 | | |
| P11 | 2.08 | 1.65 | 5.15 | 7.49 | 8.31 | 3.67 | 3.30 | 2.03 | | |
| P12 | 2.66 | 1.36 | 7.45 | 6.77 | 1.81 | 4.28 | 3.64 | 2.35 | | |
| P13 | 1.73 | 1.39 | 4.03 | 6.15 | 6.60 | 2.99 | 1.84 | 5.29 | | |
| P14 | 1.78 | 1.08 | 4.03 | 7.24 | 6.78 | 2.48 | 1.50 | 2.36 | | |
| P15 | 2.29 | 1.64 | 1.77 | 3.91 | 8.10 | 3.68 | 2.55 | 1.82 | | |
| P16 | 1.98 | 2.77 | 4.87 | 6.82 | 7.72 | 2.96 | 1.53 | 2.23 | | |
| P17 | 1.67 | 1.44 | 5.87 | 5.85 | 8.38 | 3.44 | 2.46 | 1.33 | | |
| P18 | 1.96 | 1.60 | 4.84 | 8.05 | 7.22 | 3.40 | 2.64 | 1.89 | | |
| P20 | 1.77 | 1.38 | 1.81 | 3.01 | 3.67 | 2.53 | 2.86 | 1.35 | | |
| P21 | 1.76 | 1.01 | 2.23 | 3.83 | 4.46 | 3.66 | 2.64 | 1.39 | | |
| P22 | 3.13 | 2.80 | 4.23 | 7.03 | 2.27 | 3.59 | 3.74 | 1.64 | | |
| P23 | 2.26 | 2.78 | 5.66 | 6.82 | 4.19 | 6.95 | 4.92 | 2.91 | | |
| P24 | 2.61 | 3.50 | 4.06 | 8.54 | 5.25 | 6.57 | 6.68 | 4.75 | | |
| P25 | 1.93 | 1.63 | 5.08 | 5.42 | 8.32 | 5.78 | 7.68 | 5.79 | | |
| P26 | 1.79 | 1.98 | 3.84 | 6.91 | 8.23 | 8.42 | 7.18 | 6.60 | | |
| P29 | 2.21 | 1.91 | 3.58 | 5.91 | 8.25 | 6.78 | 6.30 | 7.01 | | |
| P30 | | | | | | | | | | |
| MEAN | 1.89 | 2.13 | 4.07 | 6.17 | 7.11 | 4.57 | 3.60 | 3.26 | | |
| STD. DEV. | 0.47 | 0.95 | 1.66 | 1.66 | 2.09 | 2.06 | 1.88 | 1.83 | | |
| GENERAL MEAN | 4.10 | | | | | | | | | |

Appendix Table 4. EC_e values (mmhos/cm) for saturation extracts of soil samples from surface-irrigated lots (Dec. 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P1 | 1.28 | 1.88 | 3.98 | 6.92 | 6.20 | 2.56 | 1.50 | 2.32 | 3.2 | |
| P2 | 1.78 | 2.26 | 6.68 | 5.32 | 3.56 | 2.26 | 2.32 | 2.22 | 2.56 | |
| P3 | 1.75 | 1.00 | 5.18 | 5.88 | 2.16 | 1.28 | 1.16 | 1.30 | 1.30 | |
| P5 | 1.08 | 1.68 | 2.68 | 5.48 | 5.80 | 1.08 | 1.58 | 1.68 | 1.68 | |
| P6 | 1.70 | 2.24 | 3.06 | 6.76 | 7.80 | 2.08 | 2.16 | 2.58 | 2.58 | |
| P7 | 1.88 | 2.06 | 4.06 | 6.78 | 7.80 | 3.00 | 2.36 | 2.44 | 2.44 | |
| P8 | 1.12 | 2.42 | 5.02 | 6.54 | 5.90 | 3.40 | 2.44 | 2.66 | 2.66 | |
| P9 | 1.24 | 3.42 | 7.94 | 6.58 | 5.26 | 4.40 | 3.24 | 3.24 | 3.24 | |
| P10 | 2.08 | 3.04 | 7.91 | 7.58 | 6.22 | 4.40 | 4.24 | 4.52 | 4.52 | |
| P11 | 2.98 | 3.15 | 6.91 | 7.26 | 5.48 | 3.72 | 3.24 | 3.24 | 3.24 | |
| P12 | 2.44 | 3.00 | 3.91 | 4.72 | 4.78 | 4.40 | 3.52 | 3.52 | 3.52 | |
| P13 | 2.81 | 3.40 | 4.31 | 5.04 | 4.80 | 2.08 | 1.96 | 1.96 | 1.96 | |
| P14 | 2.86 | 2.40 | 3.94 | 4.04 | 4.78 | 2.08 | 1.42 | 1.42 | 1.42 | |
| P15 | 1.72 | 2.20 | 3.76 | 5.04 | 5.28 | 2.08 | 1.42 | 1.42 | 1.42 | |
| P16 | 2.02 | 2.74 | 4.62 | 6.04 | 6.20 | 2.42 | 2.08 | 2.08 | 2.08 | |
| P17 | 2.88 | 3.88 | 5.72 | 7.56 | 6.96 | 3.42 | 2.42 | 2.42 | 2.42 | |
| P18 | 2.80 | 3.84 | 5.56 | 6.56 | 6.56 | 3.42 | 2.42 | 2.42 | 2.42 | |
| P20 | 2.96 | 3.88 | 6.40 | 7.40 | 7.50 | 3.42 | 2.42 | 2.42 | 2.42 | |
| P22 | 1.46 | 1.74 | 3.44 | 4.16 | 4.24 | 2.42 | 1.84 | 1.84 | 1.84 | |
| P23 | 1.40 | 1.16 | 2.36 | 2.84 | 2.14 | 2.08 | 1.82 | 1.82 | 1.82 | |
| P24 | 3.02 | 4.16 | 4.78 | 5.64 | 5.04 | 3.54 | 2.80 | 2.80 | 2.80 | |
| P25 | 3.70 | 4.44 | 4.88 | 5.08 | 4.70 | 4.06 | 3.68 | 3.68 | 3.68 | |
| P26 | 2.46 | 3.18 | 3.66 | 4.38 | 4.50 | 4.68 | 4.20 | 4.20 | 4.20 | |
| P27 | 2.66 | 3.18 | 3.34 | 4.02 | 4.30 | 4.96 | 4.54 | 4.54 | 4.54 | |
| P29 | 2.20 | 2.80 | 3.48 | 5.02 | 5.64 | 6.96 | 6.34 | 6.34 | 6.34 | |
| P30 | 2.06 | 2.63 | 4.81 | 6.05 | 6.30 | 3.38 | 2.62 | 2.62 | 2.62 | |
| MEAN | 2.06 | 2.63 | 4.81 | 6.05 | 5.30 | 3.38 | 2.62 | 2.62 | 2.62 | |
| STD. DEV. | 0.73 | 0.97 | 1.58 | 1.31 | 1.95 | 1.78 | 1.38 | 1.38 | 1.38 | |
| GENERAL MEAN | 3.66 | | | | | | | | | |

Appendix Table 5. EC values (mmhos/cm) for saturation extracts of soil samples from surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| P 1 | 1.51 | 2.75 | 4.74 | 6.69 | 7.93 | 2.30 | 1.30 | 1.19 |
| P 2 | 1.60 | 4.31 | 5.79 | 7.96 | 2.17 | 1.20 | 1.51 | 1.43 |
| P 3 | 1.71 | 3.73 | 7.52 | 7.96 | 5.40 | 2.01 | 1.58 | 1.83 |
| P 5 | 1.15 | 3.30 | 5.61 | 8.82 | 4.33 | 1.43 | 1.10 | 2.10 |
| P 6 | 1.96 | 3.30 | 6.08 | 6.46 | 2.64 | 1.70 | 1.73 | 1.59 |
| P 7 | 1.52 | 3.71 | 4.38 | 5.10 | 7.38 | 2.30 | 1.52 | 2.34 |
| P 8 | 1.32 | 2.78 | 6.51 | 9.10 | 6.03 | 3.03 | 2.34 | 2.10 |
| P 9 | 1.24 | 4.30 | 5.76 | 7.08 | 6.03 | 3.03 | 2.34 | 2.10 |
| P 10 | 2.97 | 4.30 | 5.76 | 6.50 | 6.03 | 3.03 | 2.34 | 2.10 |
| P 11 | 2.14 | 4.28 | 5.57 | 6.53 | 5.48 | 3.47 | 2.00 | 1.44 |
| P 12 | 3.14 | 5.08 | 7.45 | 7.99 | 5.96 | 3.71 | 2.04 | 1.44 |
| P 13 | 1.96 | 2.84 | 4.45 | 6.19 | 5.50 | 2.30 | 1.04 | 1.28 |
| P 14 | 1.96 | 2.84 | 4.45 | 6.19 | 5.50 | 2.30 | 1.04 | 1.28 |
| P 15 | 1.61 | 2.15 | 4.35 | 5.97 | 6.68 | 1.92 | 1.90 | 1.49 |
| P 16 | 2.62 | 5.30 | 4.55 | 6.76 | 5.68 | 2.47 | 1.52 | 1.42 |
| P 17 | 1.96 | 4.31 | 6.04 | 5.54 | 6.54 | 2.47 | 1.52 | 1.85 |
| P 18 | 1.27 | 4.99 | 6.44 | 7.65 | 5.56 | 2.47 | 1.52 | 1.85 |
| P 20 | 1.33 | 4.11 | 5.87 | 6.95 | 6.23 | 2.28 | 1.76 | 1.36 |
| P 22 | 1.59 | 3.39 | 4.87 | 5.50 | 5.30 | 2.28 | 1.76 | 1.54 |
| P 23 | 1.57 | 3.03 | 4.27 | 3.88 | 3.10 | 3.03 | 2.81 | 2.68 |
| P 24 | 1.92 | 4.55 | 4.82 | 5.16 | 3.24 | 2.73 | 2.89 | 0.68 |
| P 25 | 1.51 | 4.95 | 5.82 | 6.57 | 6.34 | 2.63 | 1.68 | 0.64 |
| P 26 | 4.71 | 6.63 | 5.84 | 6.17 | 5.61 | 6.39 | 5.48 | 3.86 |
| P 27 | 2.44 | 5.39 | 6.46 | 6.73 | 8.06 | 6.06 | 5.86 | 3.41 |
| P 29 | 1.41 | 3.61 | 3.46 | 7.37 | 7.00 | 7.09 | 2.77 | 1.92 |
| P 30 | 2.09 | 4.90 | 5.94 | 7.25 | 7.64 | 3.55 | 1.61 | 1.45 |
| MEAN | 2.47 | 4.05 | 5.50 | 6.65 | 5.74 | 4.70 | 2.74 | 2.11 |
| STD. DEV. | 1.03 | 1.01 | 0.97 | 1.25 | 1.64 | 1.88 | 1.84 | 1.20 |
| GENERAL MEAN | 4.12 | | | | | | | |

Appendix Table 6. EC values (mmhos/cm) for saturation extracts of soil samples taken outside of (east of) surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| P 1E | 4.77 | 4.37 | 5.87 | 5.58 | 1.91 | 1.90 | 2.18 | 1.56 |
| P 3E | 4.78 | 3.62 | 5.90 | 6.32 | 7.57 | 2.23 | 2.28 | -- |
| P 5E | 2.82 | 3.45 | 4.92 | 5.50 | 3.70 | 1.91 | 3.75 | -- |
| P 7E | 3.08 | 3.83 | 4.92 | 6.71 | 5.60 | 5.90 | 5.11 | 1.74 |
| P 9E | 6.75 | 6.09 | 6.42 | 7.55 | 7.69 | 4.90 | 2.87 | 1.11 |
| P11E | 6.56 | 6.45 | 7.02 | 7.02 | 6.25 | 4.47 | 3.32 | 3.30 |
| P13E | 3.93 | 4.51 | 5.87 | 5.64 | 7.20 | 1.31 | 2.66 | 3.52 |
| P15E | 3.93 | 3.56 | 5.30 | 6.43 | 5.27 | 1.52 | 1.83 | 1.81 |
| P17E | 5.42 | 4.90 | 6.26 | 6.30 | 4.18 | 1.82 | 0.51 | 2.17 |
| P19E | 2.06 | 1.69 | 1.86 | 2.00 | 1.50 | 1.82 | 1.94 | 0.67 |
| P21E | 3.36 | 2.01 | 1.92 | 1.56 | 1.37 | 2.05 | 1.05 | 0.94 |
| P23E | 3.30 | 2.24 | 1.92 | 1.80 | 1.48 | 1.55 | 2.25 | 0.47 |
| P25E | 3.32 | 2.71 | 2.03 | 2.19 | 2.21 | 2.56 | 2.02 | 0.70 |
| P27E | 6.17 | 5.76 | 6.38 | 6.44 | 6.33 | 7.40 | 6.39 | 4.87 |
| P29E | | | | | | | | |
| MEAN | 4.40 | 4.07 | 4.89 | 5.22 | 4.51 | 3.00 | 2.61 | 1.90 |
| STD. DEV. | 1.53 | 1.53 | 1.94 | 2.09 | 2.22 | 2.92 | 1.73 | 1.35 |
| GENERAL MEAN | 3.83 | | | | | | | |

Appendix Table 7. EC values (mmhos/cm) for saturation extracts of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| 1A | 1.40 | 1.90 | 5.09 | 6.05 | 2.53 | 2.98 | 1.15 | 1.50 | 1.42 |
| P2A | 1.92 | 3.67 | 5.58 | 7.93 | 4.33 | 5.40 | 4.44 | 4.01 | 2.02 |
| P3A | 1.12 | 1.45 | 5.19 | 1.02 | 4.86 | 1.69 | 1.43 | 1.25 | 1.46 |
| P4A | 1.97 | 1.65 | 0.88 | 1.83 | 1.08 | 0.39 | 0.43 | 0.34 | 0.92 |
| P5A | 2.05 | 1.55 | 1.22 | 3.70 | 5.56 | 5.24 | 1.88 | 1.19 | 0.93 |
| P6A | 1.92 | 2.23 | 4.34 | 6.55 | 7.25 | 1.82 | 0.90 | 2.39 | 0.97 |
| P7A | 2.23 | 2.63 | 3.95 | 6.93 | 5.74 | 2.26 | 1.18 | 1.95 | 1.42 |
| P8A | 2.62 | 2.06 | 5.05 | 4.77 | 4.80 | 1.24 | 1.92 | 1.86 | 1.42 |
| P9A | 2.10 | 2.90 | 1.58 | 6.68 | 6.49 | 0.70 | 0.73 | 0.48 | 0.53 |
| P11A | 2.22 | 3.65 | 7.18 | 5.47 | 5.78 | 1.51 | 1.14 | 1.69 | 4.22 |
| P13A | 2.22 | 3.45 | 4.62 | 6.98 | 7.22 | 1.45 | 2.14 | 1.31 | 2.05 |
| P14A | 1.55 | 2.16 | 3.33 | 5.23 | 5.75 | 1.21 | 1.49 | 1.18 | 1.05 |
| P15A | 1.49 | 2.16 | 3.32 | 5.78 | 5.40 | 1.16 | 1.77 | 1.94 | 1.78 |
| P16A | 1.53 | 2.16 | 4.20 | 5.96 | 6.84 | 2.16 | 1.27 | 1.44 | 1.28 |
| P17A | 2.26 | 2.99 | 4.02 | 6.30 | 7.45 | 2.97 | 2.87 | 1.51 | 1.36 |
| P18A | 1.55 | 1.99 | 4.34 | 7.13 | 5.37 | 2.66 | 1.55 | 2.29 | 3.66 |
| P19A | 1.96 | 1.91 | 4.33 | 6.69 | 6.63 | 0.88 | 1.99 | 0.99 | 0.89 |
| P21A | 1.16 | 1.13 | 2.75 | 3.49 | 1.79 | 2.44 | 2.49 | 0.54 | 0.58 |
| P22A | 1.34 | 2.04 | 2.15 | 3.15 | 2.07 | 1.54 | 1.49 | 0.54 | 0.64 |
| P23A | 1.21 | 2.63 | 4.24 | 5.40 | 4.66 | 2.43 | 1.16 | 2.05 | 1.79 |
| P24A | 1.15 | 3.89 | 5.08 | 7.42 | 5.29 | 4.38 | 5.44 | 4.82 | 4.05 |
| P25A | 1.10 | 3.89 | 5.08 | 5.12 | 5.23 | 4.16 | 4.44 | 4.05 | 4.03 |
| P26A | 1.11 | 3.06 | 5.64 | 5.67 | 6.35 | 7.46 | 2.11 | 0.92 | 1.09 |
| P27A | 1.11 | 3.06 | 5.64 | 4.14 | 5.05 | 5.95 | 4.13 | 1.82 | 1.09 |
| P28A | 1.31 | 1.86 | 2.05 | 4.50 | 5.49 | 4.71 | 4.55 | 1.83 | 1.61 |
| P29A | 1.23 | 1.86 | 2.05 | 4.50 | 5.49 | 4.71 | 4.55 | 1.83 | 1.61 |
| MEAN | 1.67 | 2.48 | 3.74 | 5.44 | 5.20 | 2.89 | 2.08 | 1.93 | 1.75 |
| STD. DEV. | 0.56 | 0.72 | 1.52 | 1.60 | 1.77 | 1.55 | 1.30 | 1.32 | 1.36 |
| GENERAL MEAN | 3.02 | | | | | | | | |

Appendix Table 7 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| P 1B | 1.99 | 2.04 | 2.30 | 5.84 | 3.32 | 2.31 | 2.06 | 2.97 | 1.50 |
| P 2B | 1.35 | 1.08 | 2.70 | 5.36 | 5.80 | 2.50 | 2.09 | 2.78 | 1.85 |
| P 3B | 1.23 | 1.72 | 2.00 | 3.65 | 2.33 | 1.51 | 0.89 | 0.59 | 0.49 |
| P 4B | 1.33 | 1.13 | 1.63 | 4.65 | 2.14 | 1.72 | 0.89 | 1.74 | 0.94 |
| P 5B | 1.74 | 3.91 | 4.53 | 1.56 | 5.86 | 3.47 | 5.15 | 2.23 | 0.65 |
| P 6B | 1.03 | 2.54 | 3.15 | 4.95 | 5.87 | 4.74 | 2.02 | 2.16 | 1.90 |
| P 7B | 2.49 | 3.93 | 3.31 | 6.11 | 7.86 | 7.40 | 2.82 | 2.05 | 1.53 |
| P 8B | 2.01 | 2.52 | 3.73 | 5.06 | 8.83 | 5.33 | 2.08 | 2.50 | 2.27 |
| P 11B | 1.65 | 2.90 | 4.85 | 7.46 | 6.18 | 2.26 | 2.57 | 1.40 | 1.69 |
| P 12B | 3.26 | 2.90 | 4.85 | 6.46 | 4.15 | 2.93 | 1.84 | 0.97 | 1.14 |
| P 13B | 1.59 | 2.15 | 3.67 | 5.51 | 7.55 | 1.26 | 1.84 | 1.09 | 1.05 |
| P 14B | 1.94 | 2.56 | 4.36 | 6.01 | 5.20 | 2.42 | 0.95 | 0.99 | 1.05 |
| P 15B | 1.44 | 2.15 | 3.67 | 5.51 | 7.55 | 1.26 | 1.84 | 1.09 | 1.05 |
| P 16B | 1.61 | 2.29 | 4.22 | 5.22 | 5.31 | 1.42 | 0.20 | 1.68 | 1.47 |
| P 17B | 1.47 | 2.79 | 4.98 | 4.79 | 5.73 | 2.17 | 1.20 | 0.72 | 1.02 |
| P 18B | 1.51 | 2.49 | 4.48 | 4.46 | 4.56 | 1.52 | 1.45 | 0.70 | 0.77 |
| P 19B | 1.33 | 2.28 | 4.30 | 4.33 | 6.05 | 1.40 | 1.69 | 1.00 | 0.20 |
| P 21B | 1.36 | 2.37 | 4.43 | 3.37 | 4.42 | 1.67 | 1.68 | 1.33 | 1.33 |
| P 22B | 1.18 | 2.57 | 5.66 | 5.62 | 2.42 | 1.40 | 2.04 | 0.34 | 0.51 |
| P 23B | 1.82 | 2.78 | 5.48 | 4.24 | 1.62 | 2.81 | 0.98 | 0.59 | 0.44 |
| P 24B | 1.50 | 3.45 | 6.68 | 5.67 | 3.33 | 2.91 | 4.34 | 4.50 | 0.31 |
| P 25B | 1.23 | 2.45 | 5.68 | 4.73 | 5.94 | 4.61 | 5.08 | 2.24 | 2.03 |
| P 26B | 1.91 | 2.32 | 5.51 | 5.85 | 4.43 | 4.99 | 5.85 | 3.77 | 1.72 |
| P 27B | 1.45 | 2.00 | 4.23 | 4.82 | 5.43 | 4.05 | 5.85 | 1.17 | 0.85 |
| P 28B | 1.25 | 2.32 | 4.43 | 5.26 | 6.23 | 5.19 | 3.08 | 0.84 | 1.48 |
| P 29B | 1.64 | 2.42 | 3.71 | 5.12 | 5.23 | 3.93 | 2.08 | 1.03 | 1.18 |
| MEAN | 1.64 | 2.42 | 3.71 | 5.12 | 5.25 | 3.01 | 2.22 | 1.79 | 1.60 |
| STD. | 0.48 | 0.71 | 1.45 | 1.42 | 1.83 | 1.03 | 1.49 | 1.10 | 1.03 |
| GENERAL MEAN | 2.97 | | | | | | | | |

Appendix Table 7 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN | DEV. | GENERAL |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|------|------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | | |
| P1C | 4.78 | 6.19 | 5.72 | 6.33 | 6.60 | 1.75 | 1.25 | 1.64 | 1.57 | 1.25 | | | |
| P2C | 5.27 | 5.01 | 5.68 | 6.63 | 5.56 | 2.07 | 2.18 | 3.81 | 2.25 | 3.09 | | | |
| P3C | 3.15 | 5.21 | 4.33 | 5.03 | 6.74 | 3.73 | 3.73 | 1.95 | 1.65 | 1.73 | | | |
| P4C | 3.51 | 3.40 | 3.39 | 4.53 | 4.37 | 1.94 | 1.53 | 1.29 | 1.07 | 1.38 | | | |
| P5C | 1.89 | 3.09 | 3.49 | 5.82 | 5.91 | 3.99 | 3.09 | 1.38 | 1.64 | 1.28 | | | |
| P6C | 1.25 | 2.49 | 3.40 | 3.52 | 5.86 | 2.79 | 2.55 | 1.27 | 1.78 | 1.85 | | | |
| P7C | 2.45 | 5.37 | 4.06 | 5.52 | 5.69 | 5.23 | 2.46 | 1.48 | 1.39 | 1.33 | | | |
| P8C | 3.74 | 1.42 | 6.27 | 5.81 | 6.94 | 5.04 | 5.81 | 4.99 | 1.3 | 1.53 | | | |
| P9C | 1.94 | 5.42 | 5.86 | 5.91 | 6.56 | 5.23 | 1.42 | 1.39 | 1.2 | 1.68 | | | |
| P10C | 1.70 | 3.67 | 5.87 | 5.52 | 6.25 | 2.10 | 1.4 | 1.34 | 1.2 | 1.82 | | | |
| P11C | 5.24 | 3.81 | 5.08 | 5.17 | 6.51 | 2.69 | 2.4 | 1.37 | 1.4 | 1.80 | | | |
| P12C | 4.33 | 4.57 | 5.35 | 5.83 | 6.87 | 4.89 | 2.7 | 1.0 | 1.4 | 1.77 | | | |
| P13C | 1.03 | 4.17 | 5.20 | 5.99 | 7.07 | 3.28 | 1.1 | 1.6 | 1.2 | 1.34 | | | |
| P14C | 3.03 | 4.37 | 6.20 | 5.83 | 6.47 | 7.89 | 2.7 | 1.3 | 1.6 | 1.83 | | | |
| P15C | 1.11 | 2.57 | 1.92 | 1.03 | 1.06 | 1.27 | 1.1 | 1.0 | 0.0 | 0.48 | | | |
| P16C | 1.15 | 1.70 | 1.03 | 1.22 | 1.52 | 1.27 | 1.1 | 1.0 | 0.0 | 0.91 | | | |
| P17C | 1.15 | 1.53 | 1.03 | 1.22 | 1.52 | 1.27 | 1.1 | 1.0 | 0.0 | 0.37 | | | |
| P18C | 1.08 | 2.29 | 1.92 | 1.03 | 1.52 | 1.27 | 1.1 | 1.0 | 0.0 | 0.30 | | | |
| P19C | 1.42 | 2.46 | 1.65 | 1.4 | 1.66 | 1.73 | 1.4 | 1.5 | 1.0 | 0.44 | | | |
| P20C | 1.41 | 5.96 | 5.4 | 5.05 | 6.72 | 5.7 | 3.6 | 3.1 | 1.1 | 1.74 | | | |
| P21C | 2.46 | 4.28 | 4.24 | 4.60 | 4.85 | 3.82 | 2.57 | 2.09 | 1.73 | 1.52 | | | |
| P22C | 1.45 | 1.58 | 1.68 | 1.80 | 1.99 | 2.27 | 1.70 | 1.42 | 1.07 | 1.37 | | | |
| P23C | 3.41 | | | | | | | | | | | | |

Appendix Table 8. ECe values (mmhos/cm) for saturation extracts of soil samples taken from "A", "B", and "C" locations within surface-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1A | 2.23 | 4.44 | 4.91 | 5.07 | 2.28 | 0.81 | 1.37 | 1.12 | 1.12 | 0.99 |
| P 2A | 1.13 | 2.23 | 4.54 | 3.78 | 1.49 | 1.58 | 3.00 | 3.41 | 2.41 | 2.55 |
| P 3A | 1.20 | 1.55 | 1.84 | 6.23 | 0.30 | 0.68 | 2.00 | 2.64 | 2.64 | 2.87 |
| P 4A | 1.70 | 1.26 | 4.44 | 1.75 | 0.79 | 0.74 | 0.83 | 0.93 | 0.93 | 1.21 |
| P 5A | 1.89 | 2.92 | 6.43 | 7.90 | 1.47 | 1.60 | 0.71 | 2.25 | 2.25 | 0.76 |
| P 6A | 1.48 | 1.50 | 5.45 | 5.79 | 3.22 | 1.34 | 1.49 | 1.88 | 1.88 | 1.38 |
| P 7A | 2.62 | 2.02 | 2.15 | 5.51 | 2.11 | 1.34 | 3.05 | 5.28 | 5.28 | 1.54 |
| P 8A | 2.42 | 4.07 | 6.02 | 5.78 | 6.80 | 4.97 | 0.95 | 5.19 | 5.19 | 1.10 |
| P 9A | 3.99 | 3.27 | 4.27 | 7.65 | 3.31 | 1.66 | 1.39 | 0.90 | 0.90 | 1.10 |
| P 11A | 3.81 | 3.39 | 6.27 | 6.82 | 6.33 | 1.37 | 4.27 | 6.16 | 6.16 | 3.84 |
| P 13A | 1.75 | 3.62 | 5.06 | 3.89 | 0.88 | 1.26 | 0.87 | 1.01 | 1.01 | 1.99 |
| P 14A | 1.53 | 4.24 | 4.56 | 5.90 | 0.98 | 1.21 | 1.17 | 1.11 | 1.11 | 0.95 |
| P 15A | 2.02 | 3.23 | 5.37 | 5.87 | 2.04 | 1.19 | 1.31 | 2.25 | 2.25 | 1.84 |
| P 16A | 1.02 | 3.01 | 5.93 | 8.18 | 4.05 | 1.82 | 1.24 | 1.56 | 1.56 | 1.70 |
| P 17A | 1.97 | 4.15 | 4.04 | 5.74 | 7.08 | 1.74 | 2.37 | 2.45 | 2.45 | 2.87 |
| P 18A | 1.31 | 1.78 | 4.64 | 4.64 | 1.73 | 1.15 | 1.65 | 2.55 | 2.55 | 0.59 |
| P 19A | 1.63 | 4.73 | 3.41 | 2.64 | 3.34 | 2.75 | 0.85 | 0.69 | 0.69 | 0.59 |
| P 22A | 1.08 | 2.33 | 4.95 | 5.35 | 2.34 | 1.55 | 1.73 | 5.51 | 5.51 | 0.63 |
| P 23A | 1.53 | 2.31 | 3.74 | 2.37 | 4.06 | 3.07 | 0.77 | 0.33 | 0.33 | 0.53 |
| P 24A | 2.14 | 3.74 | 6.01 | 6.01 | 2.36 | 2.27 | 1.80 | 4.28 | 4.28 | 4.40 |
| P 25A | 2.56 | 5.18 | 7.24 | 7.83 | 5.41 | 3.04 | 4.34 | 2.88 | 2.88 | 3.27 |
| P 26A | 2.56 | 5.51 | 6.20 | 5.83 | 6.12 | 3.40 | 1.93 | 1.09 | 1.09 | 1.24 |
| P 27A | 2.88 | 3.89 | 7.45 | 7.83 | 4.89 | 1.80 | 1.19 | 0.95 | 0.95 | 1.24 |
| P 28A | 2.00 | 1.89 | 4.45 | 4.58 | 4.89 | 1.53 | 0.03 | 1.35 | 1.35 | 1.35 |
| P 29A | 1.75 | 1.90 | 3.88 | 5.39 | 4.78 | 4.77 | 5.03 | 0.90 | 0.90 | 1.35 |
| MEAN | 2.32 | 3.29 | 4.79 | 5.44 | 3.59 | 2.09 | 1.95 | 2.08 | 2.08 | 1.64 |
| STD. | 0.99 | 1.19 | 1.37 | 1.96 | 2.23 | 1.41 | 1.47 | 1.52 | 1.52 | 1.05 |
| GENERAL MEAN | 3.02 | | | | | | | | | |

Appendix Table 8 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1B | 31 | 99 | 88 | 48 | 81 | 55 | 69 | 63 | 53 | |
| P 2B | 38 | 73 | 60 | 41 | 83 | 97 | 42 | 19 | 64 | |
| P 4B | 87 | 56 | 36 | 12 | 68 | 08 | 92 | 17 | 61 | |
| P 5B | 90 | 23 | 28 | 50 | 51 | 00 | 16 | 65 | 60 | |
| P 6B | 80 | 63 | 07 | 20 | 45 | 27 | 34 | 69 | 51 | |
| P 7B | 69 | 57 | 32 | 03 | 93 | 18 | 45 | 58 | 25 | |
| P 8B | 53 | 24 | 06 | 94 | 23 | 47 | 73 | 43 | 99 | |
| P 9B | 06 | 94 | 31 | 38 | 34 | 22 | 18 | 03 | 47 | |
| P 11B | 09 | 13 | 40 | 19 | 67 | 10 | 29 | 34 | 49 | |
| P 14B | 08 | 21 | 05 | 37 | 20 | 26 | 23 | 05 | 41 | |
| P 15B | 08 | 31 | 05 | 17 | 30 | 02 | 28 | 87 | 13 | |
| P 16B | 52 | 83 | 58 | 36 | 75 | 74 | 64 | 47 | 11 | |
| P 17B | 27 | 50 | 14 | 20 | 90 | 12 | 00 | 03 | 17 | |
| P 18B | 88 | 09 | 69 | 45 | 05 | 79 | 62 | 85 | 08 | |
| P 19B | 39 | 48 | 86 | 36 | 87 | 31 | 37 | 64 | 13 | |
| P 21B | 42 | 68 | 98 | 61 | 07 | 98 | 74 | 34 | 08 | |
| P 22B | 23 | 22 | 40 | 52 | 43 | 15 | 94 | 03 | 46 | |
| P 23B | 35 | 47 | 33 | 68 | 50 | 80 | 57 | 60 | 39 | |
| P 24B | 07 | 27 | 16 | 58 | 67 | 58 | 47 | 40 | 27 | |
| P 25B | 17 | 23 | 33 | 25 | 74 | 63 | 39 | 55 | 09 | |
| P 26B | 27 | 26 | 55 | 82 | 45 | 83 | 92 | 30 | 95 | |
| P 27B | 55 | 06 | 65 | 81 | 53 | 37 | 12 | 18 | 20 | |
| P 28B | 45 | 33 | 53 | 04 | 48 | 27 | 45 | 27 | 96 | |
| P 29B | 48 | 49 | 97 | 29 | 08 | 60 | 21 | 83 | 82 | |
| MEAN | 2.14 | 2.84 | 4.48 | 4.95 | 3.08 | 2.35 | 2.18 | 1.79 | 1.70 | |
| STD. DEV. | 0.66 | 1.10 | 1.56 | 1.66 | 1.76 | 1.64 | 1.77 | 1.16 | 1.03 | |
| GENERAL MEAN | 2.84 | | | | | | | | | |

Appendix Table 8 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P1C | 2.20 | 5.48 | 7.41 | 8.21 | 0.58 | 1.46 | 1.48 | 1.20 | 1.20 | 1.20 |
| P2C | 1.70 | 5.82 | 6.88 | 7.57 | 1.34 | 1.33 | 1.32 | 2.20 | 1.90 | 4.35 |
| P3C | 1.46 | 4.81 | 4.66 | 4.73 | 1.58 | 1.40 | 1.28 | 2.21 | 2.20 | 1.96 |
| P4C | 1.40 | 2.84 | 5.20 | 6.84 | 1.70 | 1.00 | 1.00 | 1.12 | 1.21 | 1.68 |
| P5C | 1.82 | 3.50 | 6.20 | 6.36 | 1.67 | 1.51 | 1.43 | 1.19 | 1.29 | 0.91 |
| P6C | 2.10 | 3.78 | 4.74 | 6.91 | 5.24 | 1.18 | 1.28 | 1.13 | 1.36 | 2.46 |
| P7C | 2.76 | 5.22 | 6.04 | 6.57 | 7.40 | 1.25 | 1.11 | 1.56 | 1.66 | 1.43 |
| P8C | 1.97 | 5.19 | 8.23 | 6.56 | 5.06 | 1.64 | 1.76 | 1.94 | 1.66 | 2.48 |
| P9C | 2.84 | 5.22 | 5.08 | 6.57 | 5.75 | 1.54 | 1.03 | 1.24 | 1.64 | 6.53 |
| PI1C | 2.68 | 5.47 | 6.13 | 6.07 | 6.95 | 1.59 | 1.30 | 1.41 | 1.41 | 3.87 |
| PI2C | 4.43 | 5.49 | 6.38 | 7.57 | 6.16 | 1.49 | 1.32 | 1.67 | 1.60 | 1.81 |
| PI3C | 3.54 | 5.34 | 6.81 | 7.97 | 6.74 | 1.52 | 1.11 | 1.57 | 1.22 | 1.08 |
| PI4C | 4.26 | 5.11 | 5.66 | 6.00 | 2.45 | 1.63 | 1.01 | 1.22 | 1.80 | 1.14 |
| PI5C | 2.26 | 5.95 | 4.61 | 6.53 | 2.74 | 1.39 | 1.29 | 2.20 | 1.80 | 1.40 |
| PI6C | 2.71 | 5.26 | 6.19 | 6.64 | 4.31 | 1.11 | 1.86 | 2.09 | 1.80 | 1.14 |
| PI7C | 2.33 | 5.68 | 6.33 | 7.44 | 7.37 | 1.13 | 1.22 | 2.15 | 1.30 | 1.12 |
| PI8C | 1.29 | 5.94 | 6.63 | 7.44 | 7.77 | 1.37 | 1.19 | 2.06 | 1.42 | 1.42 |
| PI9C | 1.24 | 5.46 | 6.63 | 7.58 | 7.91 | 1.21 | 1.36 | 1.73 | 1.40 | 1.44 |
| P21C | 1.67 | 1.79 | 3.44 | 4.12 | 1.34 | 2.03 | 1.00 | 0.73 | 0.00 | 0.51 |
| P22C | 1.82 | 2.65 | 3.86 | 4.84 | 2.60 | 2.02 | 1.70 | 0.71 | 0.00 | 0.46 |
| P23C | 1.50 | 3.95 | 4.20 | 4.84 | 1.50 | 1.32 | 1.04 | 0.44 | 0.00 | 0.56 |
| P24C | 1.17 | 1.09 | 3.71 | 4.42 | 3.74 | 1.25 | 2.02 | 1.41 | 0.00 | 0.36 |
| P25C | 2.27 | 5.52 | 6.08 | 6.77 | 6.14 | 1.02 | 2.58 | 4.02 | 3.55 | 2.57 |
| P26C | 2.63 | 5.54 | 7.08 | 7.62 | 7.34 | 1.06 | 2.65 | 4.26 | 2.07 | 2.32 |
| P27C | 2.57 | 5.39 | 6.31 | 6.21 | 6.08 | 1.33 | 1.20 | 1.24 | 2.32 | 2.07 |
| P28C | 2.35 | 4.22 | 5.60 | 5.96 | 4.28 | 1.57 | 1.78 | 2.12 | 2.03 | 2.03 |
| P29C | 0.80 | 1.41 | 1.37 | 1.92 | 2.41 | 1.68 | 1.25 | 1.56 | 1.53 | 1.53 |
| MEAN | 2.35 | 4.22 | 5.60 | 5.96 | 4.28 | 2.57 | 1.78 | 2.12 | 2.03 | 2.03 |
| STD. DEV. | 0.80 | 1.41 | 1.37 | 1.92 | 2.41 | 1.68 | 1.25 | 1.56 | 1.53 | 1.53 |
| GENERAL MEAN | 3.43 | | | | | | | | | |

Appendix Table 9. EC values (mmhos/cm) for saturation extracts of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| P 1A | 1.69 | 1.6 | 2.18 | 6.66 | 3.12 | 0.77 | 5.41 | 4.75 | 4.58 |
| P 2A | 1.55 | 2.07 | 2.98 | 7.22 | 1.04 | 1.54 | 2.19 | 1.35 | 1.07 |
| P 3A | 1.73 | 2.72 | 3.64 | 4.56 | 0.92 | 0.42 | 1.45 | 1.48 | 1.34 |
| P 4A | 1.73 | 2.53 | 5.93 | 4.75 | 0.92 | 0.41 | 0.58 | 0.73 | 1.09 |
| P 5A | 1.43 | 2.87 | 6.74 | 3.24 | 3.27 | 0.98 | 1.16 | 1.18 | 0.83 |
| P 6A | 3.43 | 3.67 | 5.76 | 7.80 | 3.52 | 1.21 | 1.60 | 3.27 | 1.39 |
| P 7A | 3.28 | 4.25 | 2.71 | 4.95 | 3.35 | 1.05 | 1.51 | 2.27 | 1.79 |
| P 8A | 6.08 | 4.59 | 3.51 | 7.73 | 2.38 | 1.30 | 0.84 | 2.14 | 0.86 |
| P 11A | 4.18 | 4.92 | 6.88 | 8.05 | 2.35 | 0.30 | 2.25 | 1.48 | 1.17 |
| P 12A | 4.44 | 4.67 | 7.68 | 4.54 | 3.39 | 0.43 | 0.45 | 1.44 | 2.12 |
| P 13A | 2.44 | 3.67 | 6.23 | 4.93 | 2.90 | 0.27 | 2.97 | 1.28 | 0.93 |
| P 14A | 1.44 | 3.85 | 5.44 | 8.93 | 1.90 | 0.74 | 0.76 | 1.04 | 1.16 |
| P 15A | 1.53 | 2.58 | 4.35 | 5.31 | 3.87 | 0.83 | 0.70 | 2.29 | 0.92 |
| P 16A | 1.94 | 4.58 | 4.48 | 3.34 | 3.55 | 0.38 | 0.71 | 1.23 | 1.31 |
| P 17A | 1.53 | 3.41 | 5.44 | 5.35 | 3.66 | 0.43 | 0.76 | 1.08 | 1.16 |
| P 18A | 3.16 | 3.41 | 6.70 | 5.34 | 3.57 | 1.48 | 0.99 | 2.05 | 0.92 |
| P 19A | 4.49 | 3.41 | 4.38 | 6.59 | 1.80 | 0.38 | 1.09 | 1.75 | 1.19 |
| P 21A | 2.00 | 3.22 | 4.78 | 4.40 | 1.54 | 0.54 | 0.54 | 1.10 | 1.68 |
| P 22A | 2.46 | 3.52 | 4.27 | 3.90 | 3.47 | 0.41 | 1.58 | 1.46 | 1.58 |
| P 23A | 2.46 | 3.14 | 5.02 | 4.07 | 1.98 | 0.74 | 1.99 | 1.55 | 0.62 |
| P 24A | 3.36 | 3.60 | 5.05 | 6.05 | 5.76 | 1.10 | 1.86 | 3.40 | 2.55 |
| P 25A | 3.09 | 4.49 | 6.55 | 6.11 | 5.78 | 0.20 | 0.86 | 4.80 | 1.85 |
| P 26A | 6.13 | 5.46 | 6.23 | 7.45 | 7.10 | 0.61 | 0.73 | 1.05 | 0.91 |
| P 27A | 4.31 | 3.66 | 3.16 | 3.45 | 5.55 | 0.47 | 0.91 | 1.05 | 0.84 |
| P 28A | 4.46 | 3.10 | 3.56 | 6.80 | 5.65 | 0.74 | 0.65 | 1.58 | 1.14 |
| P 29A | 4.46 | 3.57 | 3.56 | 3.80 | 5.65 | 0.46 | 0.65 | 1.24 | 1.14 |
| MEAN | 3.13 | 3.59 | 4.92 | 5.82 | 3.69 | 2.49 | 2.15 | 1.82 | 1.67 |
| DEV. | 1.49 | 0.93 | 1.55 | 1.84 | 1.83 | 2.08 | 1.79 | 1.07 | 1.31 |
| GENERAL MEAN | 3.26 | | | | | | | | |

Appendix Table 9 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN | DEV. | GENERAL MEAN | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|------|------|--------------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | | | | |
| P1B | 1.76 | 2.62 | 5.55 | 2.45 | 0.73 | 0.83 | 1.80 | 1.69 | 0.79 | 0.79 | | | | | |
| P23B | 2.20 | 3.15 | 3.94 | 4.66 | 0.51 | 1.47 | 1.86 | 4.47 | 0.39 | 1.96 | | | | | |
| P4B | 2.20 | 1.84 | 4.47 | 4.71 | 0.01 | 0.62 | 0.87 | 0.41 | 0.39 | 0.96 | | | | | |
| P5B | 2.30 | 3.42 | 4.99 | 3.93 | 0.76 | 0.28 | 0.75 | 0.58 | 0.25 | 0.96 | | | | | |
| P6B | 3.30 | 4.28 | 6.48 | 7.66 | 1.03 | 1.08 | 1.35 | 4.96 | 3.24 | 1.24 | | | | | |
| P7B | 3.30 | 2.81 | 6.48 | 6.27 | 1.40 | 1.34 | 1.85 | 1.20 | 1.42 | 1.42 | | | | | |
| P8B | 3.30 | 2.22 | 5.98 | 6.58 | 0.59 | 0.44 | 0.89 | 1.77 | 1.00 | 1.43 | | | | | |
| P11B | 1.42 | 1.87 | 4.75 | 5.90 | 0.61 | 0.94 | 0.22 | 1.68 | 1.39 | 1.16 | | | | | |
| P12B | 1.42 | 2.77 | 5.33 | 6.40 | 0.94 | 1.23 | 0.42 | 1.90 | 1.39 | 1.58 | | | | | |
| P14B | 1.10 | 2.44 | 4.94 | 6.48 | 0.92 | 0.71 | 0.77 | 1.68 | 1.32 | 1.19 | | | | | |
| P15B | 1.10 | 1.63 | 4.18 | 3.84 | 1.18 | 0.68 | 0.56 | 1.76 | 1.00 | 1.52 | | | | | |
| P17B | 1.40 | 1.38 | 2.53 | 3.15 | 1.27 | 0.68 | 0.38 | 0.72 | 1.30 | 0.76 | | | | | |
| P18B | 2.30 | 3.35 | 3.92 | 4.20 | 0.45 | 1.53 | 0.83 | 0.53 | 1.24 | 0.76 | | | | | |
| P19B | 2.30 | 3.69 | 3.02 | 4.29 | 0.40 | 1.15 | 0.78 | 0.85 | 1.00 | 0.69 | | | | | |
| P21B | 1.20 | 3.96 | 3.02 | 5.18 | 0.49 | 0.31 | 0.53 | 1.66 | 1.00 | 0.34 | | | | | |
| P22B | 1.40 | 3.27 | 3.07 | 5.58 | 0.72 | 0.74 | 0.29 | 0.78 | 0.00 | 0.44 | | | | | |
| P23B | 1.40 | 3.07 | 3.55 | 4.97 | 0.54 | 0.38 | 0.79 | 0.68 | 0.00 | 0.44 | | | | | |
| P24B | 4.40 | 3.48 | 5.57 | 5.57 | 0.33 | 0.81 | 0.48 | 0.48 | 0.00 | 0.52 | | | | | |
| P25B | 4.40 | 3.58 | 5.37 | 5.23 | 0.23 | 0.85 | 0.16 | 0.88 | 0.00 | 0.92 | | | | | |
| P26B | 4.40 | 3.51 | 5.06 | 5.75 | 0.69 | 0.30 | 0.80 | 0.26 | 0.00 | 0.37 | | | | | |
| P27B | 3.30 | 3.57 | 3.67 | 5.15 | 0.74 | 0.70 | 0.73 | 0.09 | 0.00 | 0.93 | | | | | |
| P28B | 3.30 | 3.57 | 3.67 | 5.15 | 0.74 | 0.70 | 0.73 | 0.09 | 0.00 | 0.93 | | | | | |
| P29B | 3.30 | 3.57 | 3.67 | 5.15 | 0.74 | 0.70 | 0.73 | 0.09 | 0.00 | 0.93 | | | | | |
| MEAN | 3.02 | 3.37 | 4.81 | 5.23 | 3.53 | 1.79 | 1.81 | 1.80 | 1.50 | 1.50 | | | | | |
| STD. | 1.31 | 1.12 | 1.49 | 1.62 | 2.00 | 1.40 | 1.41 | 1.45 | 1.18 | 1.18 | | | | | |
| GENERAL MEAN | 2.98 | | | | | | | | | | | | | | |

Appendix Table 9 (Continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1C | 1.49 | 2.57 | 7.82 | 9.41 | 0.85 | 2.19 | 0.93 | 1.59 | 1.33 | |
| P 2C | 2.06 | 2.26 | 7.72 | 1.44 | 0.92 | 1.16 | 0.99 | 2.10 | 1.95 | |
| P 3C | 1.95 | 1.09 | 3.10 | 4.58 | 1.64 | 1.73 | 3.09 | 3.33 | 1.46 | |
| P 4C | 1.63 | 1.52 | 3.40 | 6.86 | 1.61 | 0.97 | 0.96 | 1.07 | 1.68 | |
| P 5C | 1.25 | 1.42 | 4.56 | 8.82 | 1.41 | 2.48 | 0.77 | 0.92 | 0.58 | |
| P 6C | 3.18 | 5.22 | 6.37 | 7.38 | 3.79 | 4.43 | 1.06 | 2.48 | 1.64 | |
| P 7C | 0.15 | 2.63 | 6.62 | 8.12 | 4.92 | 1.75 | 5.06 | 3.40 | 1.05 | |
| P 8C | 1.94 | 4.05 | 7.17 | 6.62 | 5.56 | 4.41 | 0.27 | 4.09 | 2.47 | |
| P 9C | 2.35 | 5.63 | 7.78 | 6.23 | 6.07 | 5.41 | 2.02 | 2.30 | 1.80 | |
| P 10C | 3.75 | 6.05 | 7.88 | 6.95 | 7.37 | 9.96 | 3.23 | 2.97 | 2.43 | |
| P 11C | 3.38 | 6.48 | 8.40 | 6.69 | 6.41 | 9.63 | 2.08 | 5.02 | 1.80 | |
| P 12C | 2.47 | 4.77 | 5.44 | 7.10 | 1.46 | 1.96 | 1.45 | 2.18 | 1.24 | |
| P 13C | 2.77 | 4.77 | 5.84 | 7.42 | 2.45 | 1.28 | 2.84 | 0.82 | 1.64 | |
| P 14C | 2.54 | 2.65 | 6.36 | 7.93 | 3.45 | 1.65 | 2.61 | 1.20 | 1.88 | |
| P 15C | 2.78 | 4.07 | 5.39 | 6.74 | 7.23 | 1.85 | 1.84 | 3.21 | 1.71 | |
| P 16C | 2.05 | 2.19 | 4.60 | 6.31 | 7.35 | 2.59 | 1.61 | 0.43 | 0.52 | |
| P 17C | 2.11 | 2.80 | 4.10 | 3.79 | 8.99 | 1.6 | 1.38 | 0.45 | 0.37 | |
| P 18C | 1.95 | 2.22 | 2.60 | 2.27 | 3.16 | 2.92 | 1.55 | 0.54 | 0.39 | |
| P 19C | 2.75 | 2.48 | 4.69 | 3.03 | 3.6 | 1.71 | 1.86 | 1.6 | 0.41 | |
| P 20C | 3.08 | 3.28 | 4.95 | 3.45 | 1.0 | 1.9 | 4.00 | 3.68 | 1.39 | |
| P 21C | 2.29 | 1.78 | 4.45 | 2.13 | 3.61 | 3.5 | 2.5 | 1.78 | 0.41 | |
| P 22C | 3.47 | 4.27 | 5.66 | 5.13 | 3.88 | 2.5 | 3.5 | 3.4 | 2.08 | |
| P 23C | 2.34 | 4.96 | 6.65 | 7.49 | 7.16 | 6.4 | 1.5 | 4.08 | 2.5 | |
| P 24C | 2.37 | 6.01 | 8.91 | 6.87 | 7.92 | 1.1 | 1.4 | 3.28 | 1.08 | |
| P 25C | 4.77 | 6.63 | 6.91 | 6.87 | 6.53 | 4.6 | 1.4 | 1.05 | 0.37 | |
| P 26C | 2.97 | 6.01 | 6.55 | 7.99 | 7.92 | 4.8 | 2.0 | 2.85 | 1.60 | |
| P 27C | 4.34 | 4.96 | 6.65 | 5.49 | 7.16 | 1.9 | 1.5 | 3.4 | 1.27 | |
| P 28C | 2.77 | 6.01 | 6.55 | 6.87 | 6.53 | 4.8 | 1.5 | 4.08 | 2.5 | |
| P 29C | 2.97 | 6.01 | 6.55 | 7.99 | 7.92 | 4.8 | 2.0 | 2.85 | 1.60 | |
| MEAN | 2.60 | 3.86 | 5.98 | 6.00 | 4.19 | 2.75 | 2.18 | 2.00 | 1.60 | |
| STD. DEV. | 1.00 | 1.63 | 1.95 | 2.11 | 2.39 | 2.23 | 1.41 | 1.45 | 1.27 | |
| GENERAL MEAN | 3.46 | | | | | | | | | |

Appendix Table 10. Saturation percentages for soil samples taken within or outside of (south of) surface-irrigated plots (spring 1972, prior to planting).

| PLOT NO. | DEPTH (CM) | | | |
|--------------|------------|-------|-------|-------|
| | 0-20 | 20-40 | 40-60 | 60-90 |
| P 1 | 66.4 | 61.6 | 64.8 | 24.8 |
| P 2 | 68.8 | 72.0 | 48.8 | 24.8 |
| P 3 | 68.0 | 66.4 | 64.0 | 24.0 |
| P 6 | 57.6 | 65.6 | 68.8 | 30.4 |
| P 7 | 58.4 | 72.0 | 57.6 | 23.2 |
| P 8 | 61.6 | 66.4 | 70.4 | 37.6 |
| P 9 | 57.6 | 65.6 | 67.2 | 24.0 |
| P10 | 65.6 | 69.6 | 47.2 | 28.0 |
| P11S | 68.0 | 89.6 | 91.2 | 24.0 |
| P12S | 69.6 | 76.0 | 54.4 | 28.8 |
| P13S | 67.2 | 88.0 | 42.4 | -- |
| P14S | 64.0 | 84.8 | 54.4 | 36.0 |
| P15S | 70.4 | 78.4 | 82.2 | 30.4 |
| P16S | 62.4 | 72.0 | 66.4 | 26.4 |
| P17S | 70.4 | 70.4 | 92.0 | 47.2 |
| P18S | 62.4 | 69.6 | 68.0 | 23.2 |
| P19S | 62.4 | 75.2 | 86.4 | 40.0 |
| P21S | 60.0 | 58.4 | 35.2 | 36.0 |
| P22S | 62.4 | 41.6 | 28.0 | 26.4 |
| P23S | 61.6 | 51.2 | 25.6 | -- |
| P24S | 65.6 | 73.6 | 96.0 | 39.2 |
| P25S | 82.4 | 89.6 | 70.4 | 86.4 |
| P26S | 62.4 | 88.0 | 94.4 | 96.0 |
| P27S | 69.6 | 68.0 | 89.6 | 28.0 |
| P28S | 68.0 | 74.4 | 94.4 | 49.6 |
| P29S | 60.0 | 67.2 | 77.6 | 80.0 |
| MEAN | 65.1 | 71.4 | 66.9 | 38.1 |
| STD. DEV. | 5.3 | 11.3 | 20.8 | 20.6 |
| GENERAL MEAN | 60.4 | | | |

Appendix Table 11. Saturation percentages for soil samples from surface-irrigated plots
(Dec. 1972).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| P 1 | 60.0 | 57.6 | 63.2 | 56.0 | 27.8 | 24.2 | 23.4 | 27.8 |
| P 2 | 61.6 | 65.0 | 76.0 | 36.6 | 24.0 | 21.6 | 26.4 | 24.8 |
| P 3 | 64.8 | 68.0 | 76.8 | 65.6 | 24.0 | 21.6 | 22.6 | 23.2 |
| P 5 | 69.6 | 67.2 | 48.2 | 76.8 | 28.8 | 29.6 | 21.6 | 22.4 |
| P 7 | 68.8 | 63.6 | 75.6 | 62.4 | 37.2 | 40.8 | 4.0 | 21.6 |
| P 8 | 64.8 | 69.8 | 84.8 | 52.4 | 28.8 | 24.0 | 24.0 | 21.6 |
| P 9 | 67.6 | 60.8 | 80.8 | 58.6 | 25.6 | 19.8 | 21.8 | 22.0 |
| P 10 | 60.8 | 68.0 | 72.8 | 71.2 | 24.0 | 20.8 | 22.4 | 22.0 |
| P 11 | 67.2 | 68.0 | 89.6 | 59.2 | 23.0 | 23.0 | 22.4 | 22.0 |
| P 12 | 67.2 | 68.0 | 89.6 | 59.2 | 23.0 | 23.0 | 22.4 | 22.0 |
| P 13 | 75.0 | 76.8 | 89.6 | 43.6 | 21.6 | 22.4 | 22.4 | 22.8 |
| P 14 | 68.8 | 73.2 | 75.6 | 36.8 | 22.4 | 22.4 | 21.6 | 22.8 |
| P 15 | 68.6 | 73.2 | 75.6 | 36.8 | 22.4 | 22.4 | 21.6 | 22.8 |
| P 16 | 65.6 | 67.2 | 73.2 | 32.4 | 22.4 | 21.6 | 22.4 | 22.8 |
| P 17 | 67.2 | 66.0 | 68.8 | 32.4 | 22.4 | 21.6 | 22.4 | 22.8 |
| P 18 | 67.2 | 66.0 | 68.8 | 32.4 | 22.4 | 21.6 | 22.4 | 22.8 |
| P 20 | 52.8 | 60.8 | 70.8 | 52.8 | 22.0 | 22.8 | 23.2 | 24.0 |
| P 21 | 56.8 | 60.8 | 70.8 | 32.8 | 36.0 | 40.8 | 31.0 | 24.0 |
| P 22 | 60.8 | 64.8 | 70.8 | 42.8 | 36.0 | 43.2 | 37.0 | 24.0 |
| P 23 | 61.6 | 64.8 | 41.6 | 32.0 | 36.0 | 22.8 | 37.0 | 24.0 |
| P 24 | 61.6 | 64.8 | 41.6 | 32.0 | 36.0 | 22.8 | 37.0 | 24.0 |
| P 25 | 76.8 | 73.6 | 86.8 | 62.4 | 51.2 | 59.8 | 52.8 | 45.0 |
| P 26 | 68.8 | 76.0 | 88.0 | 82.0 | 48.0 | 75.8 | 45.6 | 40.6 |
| P 27 | 68.8 | 67.2 | 88.0 | 96.0 | 97.6 | 108.0 | 45.6 | 40.6 |
| P 29 | 60.8 | 64.8 | 80.8 | 74.4 | 29.6 | 21.6 | 21.6 | 22.4 |
| P 30 | 60.8 | 65.6 | 82.4 | 80.0 | 30.4 | 20.8 | 20.0 | 18.4 |
| MEAN | 63.6 | 65.2 | 70.7 | 57.6 | 33.1 | 33.2 | 27.5 | 25.9 |
| STD. DEV. | 5.8 | 6.3 | 13.4 | 17.6 | 17.3 | 22.1 | 10.7 | 12.6 |
| GENERAL MEAN | 47.1 | | | | | | | |

Appendix Table 12. Saturation percentages for soil samples from surface-irrigated plots (May 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| P 1 | 59.8 | 61.0 | 72.2 | 51.6 | 24.6 | 19.4 | 21.5 | 1.6 |
| P 2 | 63.4 | 56.4 | 74.2 | 42.0 | 19.3 | 21.2 | 20.2 | 3.0 |
| P 3 | 57.8 | 58.6 | 70.2 | 65.2 | 19.8 | 18.6 | 22.6 | 2.2 |
| P 5 | 60.3 | 60.3 | 49.0 | 32.8 | 20.3 | 18.8 | 21.4 | 2.4 |
| P 6 | 57.6 | 57.0 | 71.2 | 51.3 | 18.4 | 19.9 | 22.2 | 2.5 |
| P 7 | 55.2 | 59.3 | 75.9 | 63.6 | 22.9 | 20.3 | 17.0 | 2.9 |
| P 8 | 54.7 | 57.3 | 66.5 | 60.6 | 22.5 | 18.3 | 21.0 | 2.3 |
| P 9 | 58.1 | 61.4 | 69.5 | 75.3 | 22.3 | 20.7 | 20.9 | 3.4 |
| P 10 | 50.8 | 64.0 | 67.5 | 46.3 | 19.5 | 18.0 | 22.0 | 1.4 |
| P 11 | 53.8 | 65.9 | 67.9 | 74.8 | 22.0 | 21.0 | 20.8 | 1.6 |
| P 12 | 55.4 | 59.6 | 68.1 | 47.8 | 22.8 | 19.2 | 22.7 | 1.1 |
| P 13 | 56.4 | 58.8 | 68.5 | 51.0 | 22.8 | 20.8 | 21.0 | 1.7 |
| P 14 | 56.2 | 57.7 | 68.1 | 44.0 | 22.8 | 19.0 | 20.2 | 1.7 |
| P 15 | 57.9 | 58.1 | 64.9 | 50.6 | 21.8 | 19.4 | 19.4 | 1.4 |
| P 16 | 56.9 | 54.7 | 57.3 | 43.8 | 23.9 | 19.0 | 22.0 | 4.4 |
| P 17 | 55.9 | 55.2 | 53.8 | 30.6 | 23.0 | 19.8 | 21.0 | 2.0 |
| P 18 | 55.9 | 58.2 | 63.5 | 30.8 | 23.9 | 20.8 | 21.0 | 1.8 |
| P 20 | 55.9 | 59.9 | 64.8 | 33.8 | 23.9 | 27.3 | 23.0 | 1.9 |
| P 22 | 57.4 | 61.4 | 61.4 | 26.8 | 28.9 | 20.9 | 27.8 | 5.7 |
| P 23 | 54.6 | 58.4 | 47.5 | 26.8 | 28.6 | 49.4 | 36.1 | 1.9 |
| P 24 | 55.6 | 59.8 | 59.8 | 51.9 | 25.6 | 45.4 | 45.0 | 2.2 |
| P 25 | 56.6 | 61.8 | 63.2 | 74.2 | 52.6 | 47.4 | 50.1 | 2.8 |
| P 26 | 57.3 | 61.4 | 61.4 | 48.7 | 48.2 | 33.5 | 62.8 | 4.4 |
| P 27 | 55.8 | 60.5 | 58.5 | 71.1 | 48.7 | 42.3 | 41.3 | 5.7 |
| P 29 | 53.4 | 60.4 | 58.5 | 54.1 | 54.1 | 42.3 | 40.3 | 7.9 |
| P 30 | 53.8 | 52.3 | 52.6 | 65.1 | 28.2 | 19.8 | 20.8 | 2.0 |
| MEAN | 56.6 | 58.5 | 62.4 | 55.7 | 30.4 | 27.9 | 26.9 | 5.9 |
| STD. DEV. | 2.4 | 2.7 | 10.2 | 14.7 | 15.1 | 14.0 | 11.4 | 10.9 |
| GENERAL MEAN | 42.9 | | | | | | | |

Appendix Table 13. Saturation percentages for soil samples from surface-irrigated plots (Dec. 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. GENERAL |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|------|------|-------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | | |
| P1 | 62.8 | 65.8 | 68.2 | 34.5 | 20.4 | 22.6 | 20.9 | 21.8 | 23.5 | 21.8 | |
| P2 | 57.2 | 62.1 | 71.8 | 53.4 | 20.3 | 21.9 | 22.0 | 23.0 | 21.4 | 23.4 | |
| P3 | 61.6 | 60.2 | 83.4 | 32.4 | 21.4 | 20.9 | 21.0 | 22.1 | 21.8 | 22.8 | |
| P5 | 62.6 | 60.8 | 84.2 | 38.6 | 20.3 | 22.5 | 22.2 | 22.6 | 22.6 | 24.0 | |
| P6 | 59.5 | 61.2 | 66.2 | 55.2 | 20.8 | 21.0 | 21.4 | 22.0 | 22.0 | 22.7 | |
| P7 | 61.2 | 60.8 | 74.0 | 47.0 | 20.6 | 21.6 | 22.3 | 22.3 | 22.3 | 23.0 | |
| P8 | 58.6 | 66.6 | 80.8 | 58.8 | 20.6 | 21.9 | 22.0 | 22.8 | 22.8 | 23.0 | |
| P9 | 62.8 | 65.8 | 70.6 | 61.2 | 20.8 | 22.5 | 22.2 | 22.3 | 22.3 | 23.0 | |
| P11 | 62.8 | 64.4 | 76.2 | 73.8 | 21.8 | 21.0 | 22.0 | 22.0 | 22.0 | 22.6 | |
| P12 | 63.4 | 66.6 | 67.4 | 63.2 | 20.8 | 22.2 | 22.6 | 22.6 | 22.6 | 24.0 | |
| P13 | 62.5 | 66.6 | 82.1 | 50.4 | 20.8 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P14 | 65.2 | 65.9 | 78.7 | 42.6 | 22.8 | 21.6 | 22.7 | 22.7 | 22.7 | 24.0 | |
| P15 | 60.7 | 62.4 | 75.4 | 44.6 | 22.0 | 22.6 | 22.8 | 22.8 | 22.8 | 24.0 | |
| P16 | 61.0 | 63.0 | 75.0 | 42.2 | 20.5 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P17 | 61.7 | 63.6 | 74.4 | 42.6 | 20.5 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P18 | 58.4 | 68.6 | 76.2 | 52.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P20 | 67.4 | 66.2 | 76.2 | 57.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P21 | 62.8 | 68.4 | 73.2 | 53.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P22 | 62.6 | 65.9 | 73.8 | 51.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P23 | 62.8 | 67.4 | 73.8 | 51.6 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P24 | 64.2 | 67.6 | 79.8 | 51.0 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P25 | 62.0 | 67.0 | 79.8 | 78.0 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P26 | 64.0 | 69.6 | 80.6 | 94.0 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P27 | 61.0 | 64.9 | 70.6 | 62.6 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P28 | 67.0 | 69.5 | 71.8 | 51.3 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P29 | 57.7 | 55.5 | 65.5 | 64.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| P30 | 57.7 | 55.5 | 65.5 | 64.2 | 20.9 | 22.0 | 22.0 | 22.0 | 22.0 | 22.4 | |
| MEAN | 61.9 | 63.4 | 71.0 | 52.9 | 32.5 | 32.8 | 32.8 | 32.8 | 32.8 | 32.8 | |
| DEV. | 2.5 | 4.4 | 12.9 | 16.6 | 21.6 | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | |
| GENERAL MEAN | 45.9 | | | | | | | | | | |

Appendix Table 14. Saturation percentages for soil samples from surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| P 1 | 53.6 | 56.0 | 49.6 | 58.4 | 32.0 | 20.6 | 22.4 | 22.4 |
| P 2 | 42.8 | 55.2 | 64.4 | 34.6 | 20.8 | 21.0 | 21.6 | 24.0 |
| P 3 | 51.2 | 52.8 | 66.4 | 41.6 | 20.6 | 21.6 | 21.6 | 21.6 |
| P 5 | 49.6 | 50.4 | 64.8 | 30.4 | 20.2 | 20.0 | 20.4 | 20.8 |
| P 6 | 51.6 | 54.0 | 57.6 | 46.0 | 24.0 | 20.8 | 22.6 | 20.8 |
| P 7 | 53.8 | 52.4 | 57.2 | 46.0 | 24.6 | 26.8 | 22.4 | 20.8 |
| P 8 | 52.0 | 54.0 | 57.4 | 52.0 | 24.6 | 26.8 | 22.4 | 20.8 |
| P 9 | 57.6 | 56.0 | 62.0 | 52.0 | 23.6 | 20.8 | 22.4 | 20.6 |
| P 10 | 54.6 | 57.6 | 61.6 | 61.6 | 22.4 | 22.4 | 21.6 | 20.6 |
| P 11 | 53.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 12 | 55.6 | 61.6 | 66.0 | 61.6 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 13 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 14 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 15 | 54.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 16 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 17 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 18 | 54.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 20 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 21 | 54.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 22 | 54.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 23 | 54.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 24 | 53.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 25 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 26 | 56.0 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 27 | 59.2 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 29 | 55.6 | 60.6 | 66.0 | 50.4 | 22.4 | 22.4 | 21.6 | 20.4 |
| P 30 | 50.4 | 57.6 | 60.6 | 69.6 | 34.4 | 26.8 | 22.4 | 20.8 |
| MEAN | 53.4 | 55.9 | 60.4 | 53.4 | 32.5 | 29.9 | 26.5 | 24.0 |
| STD. DEV. | 2.3 | 3.5 | 7.0 | 13.3 | 15.4 | 16.4 | 11.8 | 8.7 |
| GENERAL MEAN | 42.0 | | | | | | | |

Appendix Table 15. Saturation percentages for soil samples taken outside of (east of) surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P 1E | 53.6 | 56.8 | 72.0 | 23.2 | 20.8 | 20.0 | 19.2 | 24.8 | | |
| P 3E | 74.4 | 52.0 | 58.6 | 28.0 | 19.2 | 20.8 | 20.8 | --- | | |
| P 5E | 50.4 | 45.6 | 65.6 | 28.0 | 16.4 | 18.4 | 20.8 | --- | | |
| P 7E | 48.4 | 50.4 | 61.6 | 36.0 | 18.0 | 22.4 | 23.2 | 21.6 | | |
| P 9E | 46.4 | 52.0 | 64.6 | 60.8 | 28.8 | 27.2 | 35.2 | --- | | |
| P 11E | 49.6 | 54.4 | 65.6 | 72.6 | 36.8 | 21.6 | 20.8 | 22.4 | | |
| P 13E | 49.2 | 48.8 | 45.6 | 42.6 | 36.0 | 24.0 | 20.8 | 20.8 | | |
| P 15E | 49.6 | 49.6 | 45.6 | 20.6 | 20.4 | 20.8 | 20.8 | 21.6 | | |
| P 17E | 48.8 | 47.2 | 62.4 | 33.8 | 18.4 | 21.8 | 23.2 | 21.6 | | |
| P 19E | 46.4 | 51.2 | 42.4 | 32.8 | 19.6 | 28.8 | 22.4 | 21.6 | | |
| P 21E | 48.8 | 50.4 | 31.2 | 31.2 | 32.6 | 28.8 | 21.6 | 21.6 | | |
| P 23E | 48.0 | 47.2 | 28.8 | 32.0 | 31.0 | 38.4 | 27.2 | 24.0 | | |
| P 25E | 48.0 | 45.6 | 28.8 | 24.8 | 33.6 | 33.2 | 20.8 | 21.6 | | |
| P 27E | 48.8 | 60.0 | 67.2 | 67.2 | 76.8 | 48.2 | 43.2 | 22.4 | | |
| MEAN | 50.8 | 51.2 | 54.6 | 37.6 | 31.6 | 29.8 | 24.3 | 22.0 | | |
| STD. | 6.8 | 4.3 | 15.0 | 16.3 | 18.1 | 12.8 | 6.8 | 1.3 | | |
| GENERAL MEAN | 6.8 | 7.7 | | | | | | | | |

Appendix Table 16. Saturation percentages for soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| 1A | 70.3 | 67.0 | 74.1 | 32.0 | 21.4 | 22.4 | 25.9 | 23.9 | 25.0 | 26.6 |
| 2A | 64.8 | 66.3 | 86.7 | 40.0 | 22.4 | 23.1 | 47.0 | 24.3 | 25.4 | 27.0 |
| 3A | 61.9 | 66.3 | 74.4 | 46.0 | 47.3 | 31.0 | 30.8 | 29.4 | 29.8 | 24.0 |
| 4A | 63.4 | 62.0 | 58.4 | 67.3 | 30.6 | 23.0 | 31.4 | 23.7 | 23.3 | 24.5 |
| 5A | 61.0 | 62.8 | 65.3 | 78.1 | 35.1 | 19.9 | 35.9 | 33.9 | 23.7 | 23.8 |
| 6A | 66.8 | 67.0 | 68.7 | 66.1 | 34.0 | 21.9 | 35.7 | 23.9 | 22.2 | 22.6 |
| 7A | 63.9 | 61.6 | 69.3 | 70.2 | 35.9 | 11.4 | 45.0 | 23.2 | 22.5 | 21.0 |
| 8A | 67.5 | 66.0 | 71.3 | 82.9 | 35.0 | 22.8 | 25.8 | 24.0 | 22.6 | 25.0 |
| 9A | 75.8 | 61.0 | 75.6 | 59.8 | 27.9 | 24.8 | 23.1 | 25.0 | 23.1 | 24.2 |
| P11A | 59.8 | 67.5 | 73.6 | 77.8 | 27.0 | 24.5 | 45.1 | 23.5 | 22.3 | 22.6 |
| P12A | 59.8 | 61.0 | 70.6 | 50.6 | 28.0 | 25.7 | 28.2 | 23.3 | 22.5 | 24.4 |
| P13A | 66.1 | 66.2 | 66.4 | 76.7 | 25.0 | 24.5 | 33.1 | 22.5 | 22.4 | 24.5 |
| P14A | 66.1 | 66.2 | 66.4 | 76.7 | 25.0 | 24.5 | 33.1 | 22.5 | 22.4 | 24.5 |
| P15A | 62.6 | 61.0 | 66.2 | 65.8 | 25.9 | 23.0 | 31.9 | 22.3 | 22.4 | 24.5 |
| P16A | 65.6 | 66.0 | 63.2 | 61.6 | 25.0 | 23.0 | 31.9 | 22.3 | 22.4 | 24.5 |
| P17A | 64.0 | 66.0 | 63.2 | 61.6 | 25.9 | 23.0 | 31.9 | 22.3 | 22.4 | 24.5 |
| P18A | 62.0 | 62.7 | 67.3 | 81.6 | 25.0 | 23.1 | 30.4 | 22.3 | 22.4 | 24.5 |
| P19A | 60.5 | 64.2 | 63.0 | 72.6 | 20.9 | 20.8 | 48.8 | 22.5 | 22.5 | 23.0 |
| P21A | 68.2 | 64.7 | 73.4 | 60.9 | 20.8 | 20.8 | 30.5 | 22.8 | 22.8 | 23.8 |
| P22A | 61.1 | 61.7 | 57.6 | 31.5 | 28.5 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P23A | 61.8 | 60.7 | 57.6 | 31.5 | 28.5 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P24A | 58.6 | 61.9 | 72.0 | 71.4 | 28.0 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P25A | 69.5 | 63.9 | 81.8 | 64.0 | 23.8 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P26A | 64.5 | 63.6 | 59.8 | 74.0 | 23.8 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P27A | 55.9 | 68.6 | 59.8 | 64.0 | 23.8 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P28A | 59.0 | 59.1 | 67.4 | 74.0 | 23.8 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| P29A | 59.7 | 59.1 | 67.4 | 74.0 | 23.8 | 25.0 | 48.6 | 25.8 | 25.8 | 24.9 |
| MEAN | 63.2 | 63.5 | 68.2 | 63.2 | 39.5 | 33.1 | 30.9 | 26.8 | 25.3 | 25.3 |
| STD. | 4.2 | 3.8 | 9.0 | 17.8 | 20.9 | 20.4 | 17.8 | 11.7 | 3.5 | 3.5 |
| GENERAL MEAN | 46.0 | | | | | | | | | |

Appendix Table 16 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. GENERAL MEAN |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|------------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| P 1B | 62.8 | 54.0 | 72.0 | 33.0 | 21.9 | 0.4 | 23.6 | 27.4 | 1.4 | 1.4 | 24.8 |
| P 2B | 58.6 | 64.0 | 83.0 | 28.0 | 22.7 | 2.0 | 22.5 | 21.0 | 3.4 | 3.0 | 23.0 |
| P 3B | 61.2 | 65.8 | 71.0 | 49.0 | 22.2 | 0.5 | 25.8 | 25.0 | 4.5 | 5.0 | 22.5 |
| P 4B | 61.1 | 65.4 | 66.0 | 77.0 | 25.9 | 8.0 | 31.0 | 23.0 | 4.9 | 5.8 | 22.1 |
| P 5B | 60.8 | 64.2 | 58.0 | 68.0 | 32.0 | 1.4 | 22.5 | 41.0 | 3.3 | 1.8 | 22.2 |
| P 6B | 64.0 | 61.1 | 63.0 | 72.0 | 33.0 | 0.6 | 29.0 | 22.0 | 4.3 | 5.8 | 22.6 |
| P 7B | 63.0 | 66.0 | 65.0 | 84.0 | 34.0 | 1.4 | 25.0 | 22.0 | 2.2 | 1.8 | 22.2 |
| P 8B | 59.0 | 55.8 | 66.0 | 76.0 | 31.0 | 6.0 | 22.5 | 22.0 | 4.5 | 4.0 | 22.4 |
| P 9B | 56.0 | 64.0 | 57.0 | 77.0 | 33.0 | 0.6 | 25.8 | 22.0 | 2.9 | 0.8 | 22.6 |
| P 11B | 67.0 | 67.0 | 60.0 | 63.0 | 23.0 | 0.6 | 22.4 | 22.0 | 4.4 | 4.1 | 22.4 |
| P 12B | 65.0 | 62.5 | 66.0 | 73.0 | 23.0 | 0.4 | 22.5 | 22.0 | 4.4 | 4.8 | 22.4 |
| P 13B | 67.0 | 64.0 | 66.0 | 63.0 | 21.0 | 3.8 | 22.4 | 22.0 | 4.1 | 1.6 | 22.5 |
| P 14B | 66.0 | 62.0 | 66.0 | 63.0 | 23.0 | 0.3 | 22.4 | 22.0 | 4.4 | 1.1 | 22.4 |
| P 15B | 60.0 | 68.0 | 61.0 | 67.0 | 21.0 | 4.0 | 22.4 | 22.0 | 4.5 | 3.8 | 22.4 |
| P 16B | 64.0 | 62.0 | 66.0 | 67.0 | 23.0 | 0.3 | 22.4 | 22.0 | 4.4 | 1.6 | 22.5 |
| P 17B | 67.0 | 68.0 | 61.0 | 68.0 | 21.0 | 3.8 | 22.4 | 22.0 | 4.4 | 4.8 | 22.4 |
| P 18B | 61.0 | 67.0 | 67.0 | 61.0 | 33.0 | 4.0 | 22.3 | 22.0 | 3.3 | 3.8 | 22.3 |
| P 19B | 65.0 | 63.0 | 67.0 | 64.0 | 33.0 | 0.5 | 23.9 | 23.0 | 2.8 | 2.0 | 22.1 |
| P 21B | 62.0 | 64.0 | 33.0 | 34.0 | 33.0 | 0.8 | 39.0 | 33.0 | 4.0 | 3.8 | 22.5 |
| P 22B | 58.0 | 60.0 | 33.0 | 35.0 | 55.0 | 0.5 | 26.0 | 26.0 | 2.4 | 2.0 | 22.4 |
| P 23B | 68.0 | 72.0 | 49.0 | 28.0 | 77.0 | 0.0 | 18.0 | 18.0 | 4.0 | 4.0 | 22.7 |
| P 24B | 60.0 | 71.0 | 69.0 | 107.0 | 81.0 | 0.0 | 79.0 | 79.0 | 4.0 | 0.0 | 22.4 |
| P 25B | 59.0 | 62.0 | 66.0 | 79.0 | 75.0 | 0.2 | 61.0 | 61.0 | 4.0 | 0.9 | 22.5 |
| P 26B | 58.0 | 60.0 | 66.0 | 82.0 | 73.0 | 0.6 | 96.0 | 96.0 | 4.0 | 4.0 | 22.4 |
| P 27B | 57.0 | 62.0 | 60.0 | 75.0 | 33.0 | 0.6 | 22.6 | 22.0 | 4.0 | 4.6 | 22.3 |
| P 28B | 58.0 | 61.0 | 60.0 | 86.0 | 33.0 | 0.0 | 22.6 | 22.0 | 4.0 | 4.0 | 22.7 |
| P 29B | 61.0 | 64.0 | 62.0 | 68.0 | 40.0 | 0.8 | 31.0 | 31.0 | 4.0 | 4.0 | 24.8 |
| MEAN | 61.6 | 64.0 | 62.4 | 68.3 | 40.0 | 30.8 | 31.1 | 27.7 | 27.0 | 24.8 | 24.8 |
| STD. | 3.3 | 3.6 | 11.0 | 21.0 | 20.2 | 16.1 | 17.8 | 12.0 | 12.0 | 3.3 | 3.3 |
| GENERAL MEAN | 45.6 | | | | | | | | | | |

Appendix Table 16 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN | STD. DEV. | GENERAL MEAN | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|------|-----------|--------------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | | | |
| P1C | 62.3 | 60.6 | 75.7 | 65.0 | 23.4 | 23.6 | 24.8 | 33.8 | 27.1 | 27.0 | 27.1 | 27.1 | 27.1 | 27.1 |
| P3C | 52.3 | 62.8 | 66.2 | 75.0 | 33.4 | 23.5 | 23.9 | 21.5 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 |
| P4C | 55.8 | 61.4 | 62.8 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P5C | 57.4 | 61.8 | 63.4 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P6C | 59.9 | 61.6 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P7C | 61.7 | 62.6 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P8C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P9C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P11C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P12C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P13C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P14C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P15C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P16C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P17C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P18C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P19C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P22C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P23C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P24C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P25C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P26C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P27C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P28C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| P29C | 67.1 | 62.9 | 63.0 | 65.8 | 22.9 | 22.5 | 21.9 | 24.8 | 23.1 | 22.9 | 22.9 | 23.1 | 23.1 | 23.1 |
| MEAN | 59.3 | 60.5 | 63.2 | 66.5 | 45.7 | 41.3 | 32.9 | 26.8 | 27.9 | 26.8 | 26.8 | 26.8 | 26.8 | 26.8 |
| STD. DEV. | 2.5 | 3.0 | 10.2 | 18.0 | 23.2 | 25.5 | 18.3 | 10.0 | 9.9 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 |
| GENERAL MEAN | 47.1 | | | | | | | | | | | | | |

Appendix Table 17. Saturation percentages for soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| 1A | 57.8 | 61.9 | 85.1 | 29.7 | 27.0 | 23.5 | 29.3 | 25.3 | 24.7 |
| 2A | 62.7 | 61.1 | 73.0 | 26.0 | 22.4 | 22.5 | 25.0 | 21.0 | 38.5 |
| 3A | 57.2 | 55.9 | 83.0 | 34.0 | 27.0 | 25.0 | 25.6 | 22.7 | 24.2 |
| 4A | 51.2 | 55.9 | 59.7 | 39.6 | 22.2 | 22.6 | 28.9 | 22.8 | 27.0 |
| 5A | 54.7 | 53.1 | 74.5 | 34.2 | 26.8 | 24.1 | 27.8 | 26.0 | 27.6 |
| 6A | 54.8 | 54.6 | 64.3 | 45.4 | 38.5 | 25.0 | 20.8 | 23.0 | 24.0 |
| 7A | 53.2 | 58.7 | 67.9 | 51.4 | 46.1 | 24.8 | 25.0 | 33.5 | 25.6 |
| 8A | 66.3 | 63.3 | 80.8 | 87.8 | 44.8 | 24.8 | 22.5 | 23.5 | 25.6 |
| PI1A | 64.0 | 66.1 | 80.1 | 51.0 | 21.8 | 24.8 | 25.3 | 26.6 | 25.0 |
| PI2A | 63.0 | 65.3 | 84.1 | 83.6 | 22.3 | 23.7 | 25.6 | 26.6 | 24.0 |
| PI3A | 62.9 | 64.7 | 71.3 | 33.7 | 22.3 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI4A | 60.5 | 60.7 | 87.4 | 30.5 | 22.3 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI5A | 62.6 | 59.8 | 69.1 | 33.4 | 22.3 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI6A | 56.5 | 58.4 | 67.7 | 32.4 | 22.3 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI7A | 61.8 | 62.5 | 94.6 | 37.4 | 22.3 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI8A | 65.0 | 62.8 | 83.1 | 45.8 | 21.9 | 23.0 | 24.0 | 24.0 | 26.0 |
| PI9A | 55.9 | 66.8 | 53.2 | 40.0 | 31.9 | 23.0 | 24.0 | 24.0 | 26.0 |
| P21A | 59.6 | 67.0 | 43.8 | 41.9 | 38.7 | 23.0 | 24.0 | 24.0 | 26.0 |
| P22A | 57.4 | 67.0 | 28.2 | 43.9 | 39.7 | 23.0 | 24.0 | 24.0 | 26.0 |
| P23A | 68.4 | 73.0 | 53.5 | 49.9 | 41.5 | 23.0 | 24.0 | 24.0 | 26.0 |
| P24A | 67.4 | 81.6 | 73.0 | 75.2 | 106.1 | 23.0 | 24.0 | 24.0 | 26.0 |
| P25A | 67.1 | 74.6 | 81.8 | 98.2 | 83.0 | 23.0 | 24.0 | 24.0 | 26.0 |
| P26A | 64.2 | 77.8 | 78.6 | 88.0 | 74.0 | 23.0 | 24.0 | 24.0 | 26.0 |
| P27A | 64.3 | 70.9 | 70.6 | 90.2 | 40.9 | 23.0 | 24.0 | 24.0 | 26.0 |
| P28A | 57.3 | 65.9 | 77.9 | 82.3 | 74.0 | 23.0 | 24.0 | 24.0 | 26.0 |
| P29A | 58.4 | 58.2 | 79.8 | 62.5 | 36.2 | 23.0 | 24.0 | 24.0 | 26.0 |
| MEAN | 59.6 | 61.7 | 72.4 | 51.6 | 37.5 | 34.6 | 28.4 | 26.9 | 28.2 |
| STD. | 9.0 | 9.2 | 14.9 | 22.1 | 20.3 | 23.0 | 11.3 | 9.1 | 7.9 |
| GENERAL MEAN | 44.5 | | | | | | | | |

Appendix Table 17 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. GENERAL |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|-----|-------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| P18 | 86.0 | 63.7 | 78.1 | 33.7 | 22.8 | 23.3 | 32.0 | 42.2 | 22.0 | 0.8 | |
| P23 | 59.0 | 61.5 | 79.2 | 52.5 | 23.2 | 21.5 | 21.8 | 22.2 | 22.5 | 2.8 | |
| P48 | 65.0 | 60.0 | 68.7 | 60.2 | 19.2 | 24.8 | 22.6 | 24.5 | 22.8 | 5.6 | |
| P58 | 55.7 | 54.0 | 77.9 | 53.2 | 32.1 | 31.5 | 29.3 | 27.8 | 23.3 | 6.5 | |
| P68 | 55.8 | 55.8 | 61.9 | 45.8 | 26.2 | 28.4 | 29.6 | 27.7 | 22.7 | 7.3 | |
| P78 | 54.2 | 55.4 | 66.4 | 45.8 | 32.0 | 30.1 | 29.6 | 23.5 | 22.0 | 6.9 | |
| P88 | 59.1 | 62.7 | 75.2 | 49.6 | 28.0 | 30.8 | 33.8 | 31.5 | 22.6 | 7.2 | |
| P118 | 24.5 | 61.1 | 81.9 | 36.3 | 22.1 | 23.8 | 29.5 | 25.0 | 22.8 | 0.2 | |
| P138 | 60.2 | 61.9 | 75.5 | 36.0 | 22.9 | 23.6 | 24.5 | 22.5 | 22.6 | 1.2 | |
| P148 | 60.8 | 64.8 | 54.4 | 60.2 | 22.9 | 24.8 | 25.8 | 23.0 | 22.6 | 2.9 | |
| P158 | 62.5 | 56.8 | 58.7 | 33.9 | 22.6 | 21.0 | 25.5 | 23.2 | 22.4 | 1.5 | |
| P168 | 61.9 | 66.2 | 77.6 | 37.0 | 22.0 | 24.5 | 27.4 | 26.7 | 23.1 | 8.7 | |
| P178 | 59.0 | 66.5 | 79.6 | 37.5 | 22.6 | 25.7 | 34.9 | 26.5 | 25.4 | 7.8 | |
| P188 | 63.0 | 66.5 | 79.6 | 34.0 | 22.4 | 25.2 | 32.6 | 28.2 | 25.2 | 4.9 | |
| P218 | 63.6 | 37.5 | 31.2 | 34.8 | 32.0 | 45.5 | 25.4 | 24.9 | 22.5 | 8.5 | |
| P228 | 63.4 | 67.3 | 36.6 | 19.8 | 45.6 | 55.9 | 49.6 | 51.5 | 23.8 | 5.7 | |
| P248 | 64.8 | 100.1 | 104.5 | 77.8 | 108.6 | 89.2 | 99.7 | 64.5 | 24.7 | 5.5 | |
| P258 | 65.6 | 82.5 | 95.0 | 81.8 | 188.3 | 100.2 | 97.2 | 47.6 | 21.5 | 7.5 | |
| P268 | 63.9 | 59.8 | 83.5 | 54.6 | 22.5 | 19.5 | 26.7 | 24.6 | 24.4 | 5.6 | |
| P278 | 56.9 | 62.4 | 75.6 | 49.6 | 38.5 | 21.5 | 57.2 | 64.8 | 24.4 | 7.5 | |
| P288 | 57.4 | 64.3 | 79.0 | 49.6 | 21.6 | 19.5 | 54.2 | 15.8 | 22.2 | 6.6 | |
| P298 | 58.9 | 64.3 | 79.0 | 49.6 | 21.6 | 19.5 | 54.2 | 15.8 | 22.2 | 6.6 | |
| MEAN | 59.5 | 59.9 | 69.2 | 48.7 | 32.9 | 35.0 | 31.8 | 27.6 | 25.5 | 5.5 | |
| DEV. | 9.4 | 14.0 | 17.2 | 20.0 | 20.0 | 20.5 | 12.5 | 10.2 | 6.1 | 6.1 | |
| GENERAL | 43.4 | | | | | | | | | | |

Appendix Table 17 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN | DEV. | GENERAL MEAN |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|---------|------|------|--------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | 180-200 | | | |
| P 1C | 62.7 | 75.9 | 74.6 | 32.8 | 6.0 | 1.0 | 25.0 | 5.4 | 30.0 | 0.6 | | | |
| P 2C | 54.7 | 60.0 | 72.0 | 26.1 | 5.0 | 2.5 | 25.4 | 3.8 | 29.0 | 0.2 | | | |
| P 3C | 55.4 | 61.0 | 72.0 | 37.8 | 5.8 | 4.6 | 22.0 | 2.8 | 27.0 | 5.0 | | | |
| P 4C | 55.4 | 57.4 | 72.0 | 30.5 | 2.8 | 2.0 | 22.4 | 0.9 | 23.0 | 2.6 | | | |
| P 5C | 52.0 | 57.0 | 68.6 | 46.2 | 1.8 | 2.4 | 22.0 | 2.4 | 25.0 | 1.3 | | | |
| P 6C | 56.9 | 55.4 | 77.8 | 48.5 | 8.0 | 1.7 | 22.4 | 0.9 | 26.0 | 6.6 | | | |
| P 7C | 53.0 | 57.8 | 68.8 | 79.3 | 5.4 | 2.9 | 24.0 | 6.7 | 22.0 | 0.8 | | | |
| P 8C | 62.0 | 62.6 | 88.6 | 93.6 | 4.5 | 1.9 | 23.3 | 7.7 | 24.0 | 2.3 | | | |
| P 9C | 61.1 | 63.2 | 78.0 | 96.0 | 4.4 | 3.7 | 22.6 | 6.2 | 25.0 | 3.5 | | | |
| P 10C | 60.4 | 61.8 | 82.0 | 33.6 | 4.4 | 0.5 | 22.5 | 2.8 | 26.0 | 5.2 | | | |
| P 11C | 54.8 | 57.3 | 68.7 | 43.6 | 4.5 | 2.0 | 22.5 | 4.0 | 25.0 | 2.0 | | | |
| P 12C | 56.4 | 57.7 | 75.4 | 22.0 | 7.0 | 0.9 | 24.0 | 1.8 | 25.0 | 6.3 | | | |
| P 13C | 54.4 | 61.3 | 79.6 | 40.7 | 1.0 | 0.8 | 24.1 | 6.3 | 28.0 | 1.8 | | | |
| P 14C | 55.9 | 65.6 | 77.4 | 54.0 | 2.6 | 0.6 | 44.0 | 4.7 | 27.0 | 1.1 | | | |
| P 15C | 54.9 | 63.4 | 41.8 | 37.8 | 5.5 | 2.8 | 41.0 | 3.4 | 25.0 | 1.4 | | | |
| P 16C | 56.7 | 64.6 | 35.8 | 37.0 | 4.6 | 0.6 | 42.0 | 4.3 | 27.0 | 1.7 | | | |
| P 17C | 57.2 | 65.3 | 38.9 | 33.5 | 6.8 | 2.8 | 37.0 | 3.4 | 24.0 | 4.7 | | | |
| P 18C | 57.8 | 64.0 | 35.8 | 33.5 | 4.4 | 0.8 | 41.0 | 4.3 | 27.0 | 1.1 | | | |
| P 19C | 57.2 | 64.0 | 35.8 | 33.5 | 6.8 | 2.8 | 37.0 | 3.4 | 24.0 | 4.7 | | | |
| P 20C | 56.8 | 65.6 | 42.0 | 35.5 | 4.4 | 0.8 | 41.0 | 4.3 | 27.0 | 1.1 | | | |
| P 21C | 57.2 | 64.0 | 35.8 | 33.5 | 6.8 | 2.8 | 37.0 | 3.4 | 24.0 | 4.7 | | | |
| P 22C | 56.8 | 65.6 | 42.0 | 35.5 | 4.4 | 0.8 | 41.0 | 4.3 | 27.0 | 1.1 | | | |
| P 23C | 57.2 | 64.0 | 35.8 | 33.5 | 6.8 | 2.8 | 37.0 | 3.4 | 24.0 | 4.7 | | | |
| P 24C | 56.8 | 65.6 | 42.0 | 35.5 | 4.4 | 0.8 | 41.0 | 4.3 | 27.0 | 1.1 | | | |
| P 25C | 57.2 | 64.0 | 35.8 | 33.5 | 6.8 | 2.8 | 37.0 | 3.4 | 24.0 | 4.7 | | | |
| P 26C | 56.8 | 65.6 | 42.0 | 35.5 | 4.4 | 0.8 | 41.0 | 4.3 | 27.0 | 1.1 | | | |
| P 27C | 38.0 | 62.0 | 40.0 | 70.0 | 4.4 | 0.8 | 39.0 | 4.8 | 24.0 | 4.9 | | | |
| P 28C | 34.6 | 60.4 | 80.0 | 70.0 | 4.4 | 0.8 | 38.0 | 3.6 | 23.0 | 4.6 | | | |
| P 29C | 57.9 | 69.0 | 80.0 | 92.0 | 4.5 | 3.7 | 44.0 | 5.4 | 23.0 | 6.3 | | | |
| MEAN | 56.2 | 61.2 | 67.7 | 53.6 | 39.3 | 33.3 | 29.7 | 26.2 | 27.0 | 27.0 | | | |
| STD. | 5.1 | 7.6 | 17.1 | 22.1 | 21.3 | 16.9 | 9.0 | 3.4 | 3.5 | 5.1 | | | |
| GENERAL | 43.8 | | | | | | | | | | | | |

Appendix Table 18. Saturation percentages for soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-4C | 40-6C | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1A | 56.0 | 50.4 | 80.0 | 32.0 | 23.2 | 24.8 | 22.4 | 25.6 | 24.0 | |
| P 2A | 54.4 | 66.4 | 56.4 | 38.4 | 19.2 | 25.6 | 21.6 | 27.2 | 25.8 | |
| P 3A | 52.8 | 37.6 | 62.0 | 45.6 | 18.0 | 20.8 | 25.6 | 23.4 | 24.8 | |
| P 4A | 52.0 | 52.0 | 64.0 | 31.2 | 20.8 | 44.0 | 24.0 | 24.0 | 23.8 | |
| P 5A | 56.8 | 60.8 | 60.0 | 44.0 | 24.0 | 24.0 | 22.0 | 24.0 | 25.0 | |
| P 6A | 56.2 | 61.6 | 66.2 | 44.0 | 24.0 | 46.0 | 24.0 | 27.0 | 21.6 | |
| P 7A | 53.6 | 58.4 | 71.0 | 71.0 | 40.8 | 46.0 | 24.0 | 24.0 | 25.6 | |
| P 8A | 54.4 | 59.2 | 72.0 | 43.2 | 32.5 | 25.0 | 24.0 | 31.0 | 28.0 | |
| P 9A | 54.4 | 60.2 | 71.0 | 68.4 | 25.6 | 46.0 | 24.0 | 26.0 | 28.0 | |
| PI1A | 54.0 | 61.6 | 80.0 | 34.0 | 22.5 | 26.0 | 26.0 | 24.0 | 27.0 | |
| PI2A | 54.0 | 61.6 | 80.0 | 40.0 | 22.4 | 25.0 | 24.0 | 28.0 | 28.0 | |
| PI3A | 41.0 | 61.6 | 80.0 | 40.0 | 22.4 | 25.0 | 24.0 | 28.0 | 28.0 | |
| PI4A | 56.8 | 60.8 | 77.0 | 38.0 | 24.0 | 25.0 | 23.0 | 25.0 | 25.0 | |
| PI5A | 56.8 | 60.8 | 85.0 | 49.0 | 24.0 | 23.0 | 24.0 | 25.0 | 25.0 | |
| PI6A | 54.4 | 61.6 | 22.0 | 26.0 | 25.0 | 23.0 | 24.0 | 25.0 | 25.0 | |
| PI7A | 54.4 | 61.6 | 49.0 | 26.0 | 25.0 | 23.0 | 24.0 | 25.0 | 25.0 | |
| PI8A | 54.4 | 61.6 | 61.0 | 26.0 | 25.0 | 23.0 | 24.0 | 25.0 | 25.0 | |
| PI9A | 54.4 | 61.6 | 61.0 | 26.0 | 25.0 | 23.0 | 24.0 | 25.0 | 25.0 | |
| P21A | 61.6 | 62.0 | 38.0 | 36.0 | 30.0 | 49.0 | 34.0 | 36.0 | 26.0 | |
| P22A | 61.6 | 62.0 | 39.0 | 44.0 | 32.8 | 49.0 | 34.0 | 36.0 | 26.0 | |
| P23A | 64.0 | 62.0 | 61.0 | 44.0 | 30.8 | 44.0 | 34.0 | 36.0 | 26.0 | |
| P24A | 58.0 | 69.0 | 80.0 | 89.0 | 104.0 | 93.0 | 76.0 | 76.0 | 26.0 | |
| P25A | 59.2 | 63.2 | 84.0 | 92.0 | 89.0 | 80.0 | 93.0 | 76.0 | 26.0 | |
| P26A | 58.4 | 61.6 | 22.0 | 82.0 | 60.8 | 80.0 | 24.0 | 24.0 | 26.0 | |
| P27A | 58.4 | 60.0 | 61.0 | 83.2 | 63.2 | 23.0 | 25.6 | 24.0 | 27.0 | |
| P28A | 53.6 | 56.0 | 61.0 | 67.2 | 40.0 | 36.0 | 25.6 | 21.6 | 24.0 | |
| P29A | 56.0 | 56.0 | 61.0 | 67.2 | 40.0 | 36.0 | 25.6 | 21.6 | 24.0 | |
| MEAN | 56.5 | 59.9 | 65.1 | 51.6 | 36.4 | 37.0 | 31.3 | 27.9 | 26.0 | |
| STD. DEV. | 4.7 | 7.0 | 16.4 | 20.0 | 21.1 | 22.0 | 17.8 | 10.1 | 1.9 | |
| GENERAL MEAN | | 43.5 | | | | | | | | |

Appendix Table 18 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. DEV. GENERAL MEAN |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|-----------------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| P 1B | 60.0 | 60.8 | 73.6 | 32.0 | 23.2 | 26.4 | 27.2 | 24.0 | 28.8 | 24.0 | 28.8 |
| P 2B | 28.4 | 24.8 | 57.0 | 49.6 | 24.6 | 24.8 | 24.8 | 23.0 | 26.4 | 23.0 | 26.4 |
| P 3B | 51.6 | 38.8 | 64.8 | 34.0 | 22.4 | 24.0 | 26.4 | 24.0 | 25.0 | 23.0 | 26.4 |
| P 4B | 61.6 | 52.0 | 44.8 | 48.0 | 24.8 | 24.8 | 24.8 | 31.0 | 25.6 | 24.8 | 26.4 |
| P 5B | 49.6 | 52.8 | 52.0 | 28.0 | 22.0 | 25.6 | 24.0 | 24.0 | 23.0 | 24.8 | 26.4 |
| P 6B | 54.4 | 57.6 | 64.8 | 44.6 | 40.0 | 27.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 7B | 55.4 | 65.8 | 60.8 | 48.0 | 40.8 | 29.0 | 25.6 | 22.0 | 25.0 | 24.0 | 26.4 |
| P 8B | 55.4 | 57.8 | 64.0 | 56.0 | 39.6 | 22.4 | 25.6 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 9B | 55.6 | 60.8 | 64.0 | 36.0 | 22.4 | 22.0 | 23.0 | 28.0 | 24.0 | 24.0 | 26.4 |
| P 10B | 55.6 | 56.8 | 57.6 | 56.8 | 24.8 | 27.0 | 24.8 | 28.0 | 26.4 | 24.0 | 26.4 |
| P 11B | 54.0 | 61.0 | 74.6 | 44.0 | 20.0 | 24.0 | 24.8 | 21.0 | 25.6 | 22.0 | 26.4 |
| P 12B | 24.0 | 60.6 | 81.6 | 45.6 | 20.8 | 24.0 | 24.8 | 24.0 | 24.8 | 24.0 | 26.4 |
| P 13B | 68.0 | 57.6 | 72.0 | 64.8 | 20.8 | 22.0 | 24.8 | 24.0 | 28.0 | 24.0 | 26.4 |
| P 14B | 60.0 | 58.0 | 69.6 | 40.0 | 22.4 | 26.4 | 24.8 | 25.0 | 26.0 | 24.0 | 26.4 |
| P 15B | 60.0 | 56.4 | 45.6 | 76.8 | 48.0 | 55.6 | 24.8 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 16B | 53.0 | 44.8 | 45.6 | 46.4 | 48.0 | 55.6 | 24.8 | 26.0 | 24.0 | 24.0 | 26.4 |
| P 17B | 52.0 | 68.8 | 45.6 | 23.0 | 43.6 | 57.8 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 18B | 64.6 | 68.0 | 81.0 | 91.0 | 59.6 | 49.6 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 19B | 60.0 | 56.8 | 45.6 | 36.8 | 48.0 | 55.6 | 24.8 | 26.0 | 24.0 | 24.0 | 26.4 |
| P 20B | 52.0 | 44.8 | 45.6 | 46.4 | 48.0 | 55.6 | 24.8 | 26.0 | 24.0 | 24.0 | 26.4 |
| P 21B | 65.6 | 68.0 | 81.0 | 72.0 | 80.0 | 66.4 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 22B | 56.8 | 60.8 | 76.0 | 96.0 | 57.6 | 67.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 23B | 42.0 | 61.0 | 76.0 | 67.0 | 32.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 24B | 57.6 | 56.0 | 75.0 | 71.0 | 23.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 25B | 42.0 | 61.0 | 76.0 | 67.0 | 32.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 26B | 57.6 | 56.0 | 75.0 | 71.0 | 23.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 27B | 53.6 | 58.4 | 63.2 | 84.0 | 40.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 26.4 |
| P 28B | 54.3 | 56.6 | 64.3 | 53.8 | 33.9 | 32.7 | 29.9 | 26.9 | 27.7 | 27.7 | 26.9 |
| P 29B | 9.7 | 8.7 | 11.0 | 19.9 | 18.4 | 18.0 | 13.2 | 10.8 | 6.9 | 6.9 | 6.9 |
| GENERAL MEAN | 42.2 | | | | | | | | | | |

Appendix Table 18 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. DEV. GENERAL MEAN |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|-----------------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| 1C | 52.0 | 58.4 | 71.2 | 41.2 | 23.8 | 8.0 | 27.8 | 23.4 | 25.6 | 25.6 | |
| 12C | 56.8 | 60.8 | 68.0 | 25.5 | 24.5 | 24.3 | 24.3 | 23.0 | 22.6 | 22.6 | |
| 3C | 52.0 | 59.4 | 56.0 | 32.0 | 29.0 | 25.5 | 24.5 | 24.0 | 24.5 | 24.5 | |
| 4C | 52.0 | 59.6 | 64.0 | 48.0 | 44.0 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| 5C | 55.0 | 60.8 | 75.0 | 44.8 | 33.8 | 22.4 | 22.4 | 23.6 | 24.8 | 24.8 | |
| 6C | 55.0 | 60.8 | 64.0 | 46.8 | 45.8 | 22.6 | 22.6 | 23.2 | 24.0 | 24.0 | |
| 7C | 51.0 | 69.6 | 74.0 | 49.0 | 39.0 | 22.8 | 22.8 | 25.3 | 24.4 | 24.4 | |
| 8C | 63.0 | 72.0 | 75.0 | 88.0 | 99.0 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | |
| 11C | 63.0 | 64.8 | 82.0 | 86.4 | 93.6 | 22.2 | 22.2 | 24.0 | 24.0 | 24.0 | |
| 12C | 63.0 | 64.8 | 80.0 | 42.5 | 28.0 | 22.7 | 22.7 | 24.5 | 25.6 | 25.6 | |
| 13C | 55.0 | 64.8 | 76.0 | 36.0 | 23.0 | 22.2 | 22.2 | 23.6 | 25.0 | 25.0 | |
| 14C | 58.4 | 67.6 | 80.0 | 40.8 | 28.0 | 22.3 | 22.3 | 23.0 | 23.6 | 23.6 | |
| 15C | 57.6 | 67.6 | 76.0 | 34.0 | 22.4 | 22.4 | 22.4 | 24.5 | 25.6 | 25.6 | |
| 16C | 57.6 | 67.6 | 80.0 | 40.8 | 28.0 | 22.2 | 22.2 | 23.6 | 25.0 | 25.0 | |
| 17C | 57.6 | 67.6 | 60.0 | 38.0 | 23.4 | 22.8 | 22.8 | 23.8 | 24.8 | 24.8 | |
| 18C | 57.6 | 67.6 | 60.0 | 47.8 | 30.5 | 22.8 | 22.8 | 23.8 | 24.8 | 24.8 | |
| 19C | 55.0 | 61.0 | 64.0 | 33.3 | 24.5 | 22.3 | 22.3 | 24.0 | 25.0 | 25.0 | |
| 21C | 56.8 | 64.8 | 41.0 | 36.0 | 20.6 | 22.0 | 22.0 | 24.0 | 24.8 | 24.8 | |
| 22C | 54.4 | 61.0 | 53.0 | 33.3 | 26.0 | 22.4 | 22.4 | 24.0 | 24.8 | 24.8 | |
| 23C | 58.0 | 61.0 | 46.0 | 35.5 | 24.0 | 22.4 | 22.4 | 24.0 | 24.8 | 24.8 | |
| 24C | 58.0 | 61.0 | 46.0 | 35.5 | 24.0 | 22.4 | 22.4 | 24.0 | 24.8 | 24.8 | |
| 25C | 56.8 | 60.8 | 37.0 | 37.0 | 27.0 | 22.8 | 22.8 | 24.0 | 24.8 | 24.8 | |
| 26C | 56.8 | 60.8 | 37.0 | 37.0 | 27.0 | 22.8 | 22.8 | 24.0 | 24.8 | 24.8 | |
| 27C | 56.8 | 60.8 | 37.0 | 37.0 | 27.0 | 22.8 | 22.8 | 24.0 | 24.8 | 24.8 | |
| 28C | 48.8 | 57.0 | 72.0 | 38.0 | 26.0 | 22.6 | 22.6 | 24.0 | 24.8 | 24.8 | |
| 29C | 52.8 | 60.8 | 66.0 | 38.0 | 26.0 | 22.4 | 22.4 | 24.0 | 24.8 | 24.8 | |
| MEAN | 57.2 | 58.8 | 66.8 | 52.5 | 43.6 | 40.3 | 29.3 | 26.0 | 27.1 | 27.1 | |
| STD. DEV. | 4.1 | 11.2 | 14.9 | 20.9 | 24.8 | 23.0 | 9.0 | 4.4 | 7.0 | 7.0 | |
| GENERAL MEAN | 44.6 | | | | | | | | | | |

Appendix Table 19. Calculated salt contents (g/100 g soil) of soil samples taken within or outside of (south of) surface-irrigated plots (spring 1972, prior to planting).

| PLOT NO. | DEPTH (CM) | | |
|--------------|------------|-------|-------|
| | 0-20 | 20-40 | 40-60 |
| P 1 | 0.13 | 0.15 | 0.04 |
| P 2 | 0.19 | 0.22 | 0.02 |
| P 3 | 0.15 | 0.32 | 0.06 |
| P 6 | 0.11 | 0.18 | 0.11 |
| P 7 | 0.20 | 0.58 | 0.39 |
| P 8 | 0.13 | 0.26 | 0.10 |
| P 9 | 0.36 | 0.16 | 0.28 |
| P10 | 0.21 | 0.49 | 0.15 |
| P11 | 0.23 | 0.33 | 0.08 |
| P12 | 0.21 | 0.38 | 0.19 |
| P13 | 0.20 | 0.44 | 0.12 |
| P14 | 0.13 | 0.19 | 0.13 |
| P15 | 0.13 | 0.20 | 0.24 |
| P16 | 0.14 | 0.22 | 0.10 |
| P17 | 0.21 | 0.38 | 0.29 |
| P18 | 0.07 | 0.08 | 0.04 |
| P19 | 0.07 | 0.05 | 0.04 |
| P22 | 0.12 | 0.06 | 0.05 |
| P23 | 0.15 | 0.15 | 0.37 |
| P24 | 0.36 | 0.46 | 0.45 |
| P25 | 0.22 | 0.41 | 0.37 |
| P26 | 0.23 | 0.35 | 0.18 |
| P27 | 0.19 | 0.30 | 0.30 |
| P28 | 0.16 | 0.23 | 0.43 |
| P29 | 0.18 | 0.29 | 0.18 |
| MEAN | 0.07 | 0.15 | 0.13 |
| STD. DEV. | 0.07 | 0.15 | 0.13 |
| GENERAL MEAN | 0.26 | | |

Appendix Table 20. Calculated salt contents (g/100 g soil) of soil samples from surface-irrigated plots (Dec. 1972).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P1 | 0.09 | 0.17 | 0.34 | 0.28 | 0.12 | 0.06 | 0.03 | 0.03 | | |
| P2 | 0.08 | 0.13 | 0.41 | 0.24 | 0.18 | 0.05 | 0.05 | 0.05 | | |
| P3 | 0.10 | 0.12 | 0.36 | 0.41 | 0.12 | 0.05 | 0.06 | 0.10 | | |
| P5 | 0.08 | 0.15 | 0.27 | 0.26 | 0.14 | 0.09 | 0.04 | 0.04 | | |
| P6 | 0.10 | 0.16 | 0.41 | 0.30 | 0.14 | 0.05 | 0.05 | 0.03 | | |
| P7 | 0.09 | 0.28 | 0.46 | 0.41 | 0.19 | 0.06 | 0.06 | 0.06 | | |
| P8 | 0.13 | 0.21 | 0.51 | 0.42 | 0.23 | 0.15 | 0.12 | 0.05 | | |
| P9 | 0.11 | 0.30 | 0.43 | 0.33 | 0.13 | 0.07 | 0.05 | 0.05 | | |
| PI1 | 0.16 | 0.32 | 0.41 | 0.36 | 0.13 | 0.08 | 0.05 | 0.04 | | |
| PI2 | 0.15 | 0.41 | 0.51 | 0.33 | 0.11 | 0.07 | 0.05 | 0.06 | | |
| PI3 | 0.11 | 0.34 | 0.45 | 0.21 | 0.14 | 0.06 | 0.05 | 0.04 | | |
| PI4 | 0.13 | 0.48 | 0.54 | 0.21 | 0.11 | 0.06 | 0.05 | 0.05 | | |
| PI5 | 0.09 | 0.18 | 0.34 | 0.15 | 0.05 | 0.04 | 0.03 | 0.02 | | |
| PI6 | 0.10 | 0.17 | 0.43 | 0.31 | 0.05 | 0.03 | 0.05 | 0.05 | | |
| PI7 | 0.10 | 0.15 | 0.33 | 0.31 | 0.12 | 0.05 | 0.05 | 0.05 | | |
| PI8 | 0.09 | 0.21 | 0.45 | 0.42 | 0.13 | 0.08 | 0.06 | 0.02 | | |
| P20 | 0.12 | 0.15 | 0.31 | 0.03 | 0.05 | 0.04 | 0.02 | 0.02 | | |
| P21 | 0.07 | 0.14 | 0.17 | 0.03 | 0.05 | 0.07 | 0.04 | 0.02 | | |
| P22 | 0.09 | 0.15 | 0.28 | 0.10 | 0.09 | 0.07 | 0.04 | 0.04 | | |
| P23 | 0.20 | 0.24 | 0.34 | 0.38 | 0.27 | 0.19 | 0.42 | 0.03 | | |
| P24 | 0.22 | 0.33 | 0.45 | 0.43 | 0.50 | 0.39 | 0.16 | 0.03 | | |
| P25 | 0.11 | 0.17 | 0.33 | 0.28 | 0.23 | 0.11 | 0.11 | 0.10 | | |
| P26 | 0.11 | 0.11 | 0.22 | 0.23 | 0.13 | 0.07 | 0.06 | 0.05 | | |
| P27 | 0.11 | 0.11 | 0.22 | 0.23 | 0.13 | 0.07 | 0.06 | 0.05 | | |
| P29 | 0.12 | 0.15 | 0.36 | 0.30 | 0.16 | 0.11 | 0.08 | 0.06 | | |
| P30 | 0.04 | 0.06 | 0.12 | 0.12 | 0.05 | 0.09 | 0.09 | 0.06 | | |
| MEAN | 0.12 | 0.19 | 0.36 | 0.30 | 0.16 | 0.11 | 0.08 | 0.06 | | |
| STD. DEV. | 0.04 | 0.06 | 0.12 | 0.12 | 0.05 | 0.11 | 0.09 | 0.06 | | |
| GENERAL MEAN | 0.17 | | | | | | | | | |

Appendix Table 21. Calculated salt contents (g/100 g soil) of soil samples from surface-irrigated plots (May 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | | |
| P1 | 0.07 | 0.08 | 0.29 | 0.27 | 0.17 | 0.09 | 0.05 | 0.04 | | | |
| P2 | 0.10 | 0.13 | 0.36 | 0.47 | 0.16 | 0.13 | 0.13 | 0.07 | | | |
| P3 | 0.10 | 0.15 | 0.29 | 0.47 | 0.16 | 0.08 | 0.06 | 0.05 | | | |
| P5 | 0.06 | 0.07 | 0.09 | 0.13 | 0.06 | 0.03 | 0.05 | 0.02 | | | |
| P6 | 0.09 | 0.07 | 0.12 | 0.27 | 0.10 | 0.05 | 0.06 | 0.03 | | | |
| P7 | 0.06 | 0.09 | 0.16 | 0.45 | 0.23 | 0.19 | 0.08 | 0.07 | | | |
| P8 | 0.11 | 0.11 | 0.20 | 0.45 | 0.23 | 0.16 | 0.06 | 0.06 | | | |
| P9 | 0.10 | 0.12 | 0.28 | 0.45 | 0.22 | 0.16 | 0.08 | 0.06 | | | |
| P10 | 0.13 | 0.18 | 0.55 | 0.70 | 0.34 | 0.07 | 0.07 | 0.07 | | | |
| P11 | 0.13 | 0.10 | 0.36 | 0.51 | 0.15 | 0.07 | 0.04 | 0.05 | | | |
| P12 | 0.15 | 0.14 | 0.50 | 0.31 | 0.15 | 0.09 | 0.05 | 0.05 | | | |
| P13 | 0.15 | 0.08 | 0.30 | 0.36 | 0.14 | 0.05 | 0.06 | 0.05 | | | |
| P14 | 0.09 | 0.12 | 0.26 | 0.40 | 0.15 | 0.05 | 0.05 | 0.10 | | | |
| P15 | 0.10 | 0.09 | 0.28 | 0.16 | 0.16 | 0.06 | 0.03 | 0.03 | | | |
| P16 | 0.10 | 0.14 | 0.08 | 0.32 | 0.16 | 0.07 | 0.05 | 0.05 | | | |
| P17 | 0.13 | 0.16 | 0.27 | 0.57 | 0.21 | 0.07 | 0.05 | 0.04 | | | |
| P18 | 0.09 | 0.09 | 0.31 | 0.37 | 0.21 | 0.08 | 0.05 | 0.07 | | | |
| P20 | 0.11 | 0.09 | 0.17 | 0.09 | 0.09 | 0.12 | 0.04 | 0.04 | | | |
| P21 | 0.10 | 0.08 | 0.07 | 0.08 | 0.05 | 0.13 | 0.10 | 0.03 | | | |
| P22 | 0.17 | 0.12 | 0.24 | 0.36 | 0.41 | 0.14 | 0.11 | 0.05 | | | |
| P23 | 0.13 | 0.17 | 0.40 | 0.40 | 0.28 | 0.43 | 0.25 | 0.10 | | | |
| P24 | 0.15 | 0.22 | 0.26 | 0.45 | 0.60 | 0.31 | 0.48 | 0.28 | | | |
| P25 | 0.11 | 0.10 | 0.31 | 0.45 | 0.41 | 0.20 | 0.28 | 0.33 | | | |
| P26 | 0.11 | 0.11 | 0.21 | 0.45 | 0.41 | 0.28 | 0.26 | 0.45 | | | |
| P29 | 0.10 | 0.15 | 0.19 | 0.46 | 0.45 | 0.36 | 0.26 | 0.45 | | | |
| P30 | 0.12 | 0.15 | 0.19 | 0.39 | 0.24 | 0.13 | 0.08 | 0.06 | | | |
| MEAN | 0.11 | 0.13 | 0.26 | 0.36 | 0.22 | 0.14 | 0.11 | 0.09 | | | |
| STD. DEV. | 0.03 | 0.06 | 0.12 | 0.16 | 0.13 | 0.11 | 0.11 | 0.10 | | | |
| GENERAL MEAN | 0.18 | | | | | | | | | | |

Appendix Table 22. Calculated salt contents (g/100 g soil) of soil samples from surface-irrigated plots (Dec. 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P1 | 0.08 | 0.12 | 0.27 | 0.24 | 0.13 | 0.05 | 0.03 | 0.05 | 0.05 | |
| P2 | 0.10 | 0.14 | 0.49 | 0.30 | 0.08 | 0.06 | 0.06 | 0.05 | 0.05 | |
| P3 | 0.11 | 0.15 | 0.43 | 0.15 | 0.11 | 0.03 | 0.03 | 0.03 | 0.03 | |
| P5 | 0.17 | 0.09 | 0.18 | 0.23 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | |
| P6 | 0.06 | 0.16 | 0.33 | 0.38 | 0.17 | 0.06 | 0.05 | 0.06 | 0.06 | |
| P7 | 0.11 | 0.14 | 0.33 | 0.32 | 0.30 | 0.07 | 0.05 | 0.04 | 0.04 | |
| P8 | 0.13 | 0.23 | 0.48 | 0.39 | 0.12 | 0.08 | 0.07 | 0.07 | 0.07 | |
| P10 | 0.19 | 0.21 | 0.52 | 0.48 | 0.14 | 0.09 | 0.05 | 0.04 | 0.04 | |
| P11 | 0.12 | 0.18 | 0.61 | 0.54 | 0.14 | 0.05 | 0.08 | 0.04 | 0.04 | |
| P13 | 0.15 | 0.16 | 0.35 | 0.17 | 0.11 | 0.03 | 0.03 | 0.03 | 0.03 | |
| P14 | 0.02 | 0.15 | 0.33 | 0.27 | 0.12 | 0.05 | 0.03 | 0.03 | 0.03 | |
| P15 | 0.12 | 0.15 | 0.42 | 0.27 | 0.10 | 0.07 | 0.05 | 0.04 | 0.04 | |
| P16 | 0.17 | 0.18 | 0.35 | 0.31 | 0.17 | 0.05 | 0.05 | 0.05 | 0.05 | |
| P17 | 0.12 | 0.18 | 0.42 | 0.31 | 0.10 | 0.07 | 0.04 | 0.04 | 0.04 | |
| P18 | 0.18 | 0.35 | 0.50 | 0.38 | 0.15 | 0.08 | 0.04 | 0.04 | 0.04 | |
| P20 | 0.13 | 0.25 | 0.20 | 0.15 | 0.14 | 0.16 | 0.11 | 0.03 | 0.03 | |
| P21 | 0.09 | 0.12 | 0.26 | 0.07 | 0.08 | 0.13 | 0.07 | 0.02 | 0.02 | |
| P22 | 0.13 | 0.15 | 0.28 | 0.44 | 0.10 | 0.14 | 0.05 | 0.03 | 0.03 | |
| P23 | 0.25 | 0.33 | 0.44 | 0.48 | 0.56 | 0.54 | 0.50 | 0.21 | 0.21 | |
| P24 | 0.13 | 0.33 | 0.42 | 0.40 | 0.48 | 0.54 | 0.33 | 0.09 | 0.09 | |
| P25 | 0.25 | 0.21 | 0.42 | 0.40 | 0.29 | 0.44 | 0.27 | 0.03 | 0.03 | |
| P26 | 0.10 | 0.11 | 0.21 | 0.45 | 0.44 | 0.46 | 0.27 | 0.03 | 0.03 | |
| P27 | 0.11 | 0.16 | 0.19 | 0.38 | 0.24 | 0.14 | 0.07 | 0.05 | 0.05 | |
| P29 | 0.13 | 0.17 | 0.35 | 0.33 | 0.17 | 0.12 | 0.09 | 0.07 | 0.07 | |
| P30 | 0.13 | 0.16 | 0.19 | 0.38 | 0.24 | 0.14 | 0.07 | 0.05 | 0.05 | |
| MEAN | 0.13 | 0.17 | 0.35 | 0.33 | 0.17 | 0.12 | 0.09 | 0.07 | 0.07 | |
| STD. DEV. | 0.05 | 0.07 | 0.14 | 0.13 | 0.13 | 0.14 | 0.11 | 0.08 | 0.08 | |
| GENERAL MEAN | 0.18 | | | | | | | | | |

Appendix Table 23. Calculated salt contents (g/100 g soil) of soil samples from surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | |
| P 1 | 0.08 | 0.15 | 0.46 | 0.39 | 0.25 | 0.04 | 0.03 | 0.03 | |
| P 2 | 0.13 | 0.21 | 0.48 | 0.33 | 0.13 | 0.06 | 0.06 | 0.06 | |
| P 3 | 0.09 | 0.17 | 0.37 | 0.28 | 0.09 | 0.03 | 0.04 | 0.04 | |
| P 5 | 0.10 | 0.17 | 0.39 | 0.33 | 0.06 | 0.02 | 0.02 | 0.02 | |
| P 6 | 0.08 | 0.16 | 0.40 | 0.42 | 0.18 | 0.05 | 0.04 | 0.05 | |
| P 7 | 0.07 | 0.15 | 0.46 | 0.37 | 0.20 | 0.18 | 0.06 | 0.05 | |
| P 8 | 0.07 | 0.15 | 0.46 | 0.37 | 0.20 | 0.18 | 0.06 | 0.05 | |
| P 9 | 0.07 | 0.15 | 0.46 | 0.37 | 0.20 | 0.18 | 0.06 | 0.05 | |
| P 10 | 0.07 | 0.15 | 0.46 | 0.37 | 0.20 | 0.18 | 0.06 | 0.05 | |
| P 11 | 0.17 | 0.25 | 0.33 | 0.43 | 0.14 | 0.04 | 0.04 | 0.03 | |
| P 12 | 0.17 | 0.25 | 0.33 | 0.43 | 0.14 | 0.04 | 0.04 | 0.03 | |
| P 13 | 0.21 | 0.31 | 0.43 | 0.48 | 0.16 | 0.08 | 0.11 | 0.13 | |
| P 14 | 0.10 | 0.17 | 0.22 | 0.33 | 0.14 | 0.03 | 0.03 | 0.05 | |
| P 15 | 0.20 | 0.30 | 0.26 | 0.40 | 0.13 | 0.06 | 0.08 | 0.03 | |
| P 16 | 0.14 | 0.23 | 0.28 | 0.39 | 0.13 | 0.05 | 0.05 | 0.04 | |
| P 17 | 0.17 | 0.28 | 0.46 | 0.47 | 0.12 | 0.05 | 0.08 | 0.04 | |
| P 18 | 0.10 | 0.23 | 0.36 | 0.41 | 0.14 | 0.04 | 0.04 | 0.04 | |
| P 21 | 0.28 | 0.18 | 0.27 | 0.17 | 0.14 | 0.04 | 0.11 | 0.08 | |
| P 22 | 0.09 | 0.13 | 0.16 | 0.10 | 0.10 | 0.09 | 0.10 | 0.08 | |
| P 23 | 0.10 | 0.26 | 0.25 | 0.25 | 0.12 | 0.05 | 0.05 | 0.01 | |
| P 24 | 0.20 | 0.29 | 0.36 | 0.39 | 0.48 | 0.47 | 0.43 | 0.42 | |
| P 25 | 0.28 | 0.40 | 0.44 | 0.51 | 0.43 | 0.47 | 0.36 | 0.10 | |
| P 26 | 0.13 | 0.32 | 0.44 | 0.49 | 0.49 | 0.47 | 0.48 | 0.03 | |
| P 27 | 0.08 | 0.21 | 0.21 | 0.45 | 0.24 | 0.17 | 0.08 | 0.06 | |
| P 29 | 0.11 | 0.28 | 0.36 | 0.51 | 0.20 | 0.07 | 0.03 | 0.03 | |
| MEAN | 0.13 | 0.23 | 0.34 | 0.36 | 0.19 | 0.12 | 0.08 | 0.06 | |
| STD. DEV. | 0.06 | 0.07 | 0.08 | 0.11 | 0.12 | 0.10 | 0.08 | 0.08 | |
| GENERAL MEAN | 0.19 | | | | | | | | |

Appendix Table 24. Calculated salt contents (g/100 g soil) of soil samples taken outside of (east of) surface-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| P 1E | 0.26 | 0.25 | 0.42 | 0.13 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| P 3E | 0.36 | 0.21 | 0.35 | 0.18 | 0.15 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| P 5E | 0.14 | 0.18 | 0.32 | 0.16 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| P 7E | 0.19 | 0.17 | 0.31 | 0.20 | 0.10 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| P 9E | 0.28 | 0.31 | 0.41 | 0.28 | 0.23 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |
| P11E | 0.34 | 0.35 | 0.46 | 0.39 | 0.27 | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 |
| P13E | 0.34 | 0.35 | 0.46 | 0.51 | 0.27 | 0.28 | 0.28 | 0.28 | 0.28 | 0.28 |
| P15E | 0.19 | 0.22 | 0.27 | 0.26 | 0.10 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| P17E | 0.20 | 0.18 | 0.33 | 0.13 | 0.08 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 |
| P19E | 0.26 | 0.23 | 0.35 | 0.21 | 0.08 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| P21E | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 | 0.06 |
| P23E | 0.16 | 0.10 | 0.06 | 0.06 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 |
| P25E | 0.11 | 0.11 | 0.06 | 0.05 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| P27E | 0.16 | 0.12 | 0.06 | 0.05 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 |
| P29E | 0.30 | 0.35 | 0.43 | 0.43 | 0.45 | 0.32 | 0.28 | 0.28 | 0.28 | 0.28 |
| MEAN | 0.23 | 0.21 | 0.25 | 0.21 | 0.15 | 0.10 | 0.07 | 0.07 | 0.07 | 0.07 |
| STD. DEV. | 0.09 | 0.09 | 0.15 | 0.14 | 0.14 | 0.11 | 0.07 | 0.07 | 0.07 | 0.07 |
| GENERAL MEAN | 0.16 | | | | | | | | | |

Appendix Table 25. Calculated salt contents (g/100 g soil) of soil samples taken from "A", "B", and "C" locations within surface-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P1A | 0.10 | 0.13 | 0.38 | 0.20 | 0.05 | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 |
| P2A | 0.12 | 0.13 | 0.22 | 0.24 | 0.14 | 0.14 | 0.11 | 0.10 | 0.06 | 0.06 |
| P3A | 0.14 | 0.13 | 0.38 | 0.50 | 0.12 | 0.12 | 0.13 | 0.03 | 0.03 | 0.03 |
| P4A | 0.07 | 0.10 | 0.05 | 0.05 | 0.05 | 0.01 | 0.01 | 0.03 | 0.01 | 0.01 |
| P5A | 0.06 | 0.10 | 0.12 | 0.26 | 0.17 | 0.10 | 0.03 | 0.03 | 0.02 | 0.02 |
| P6A | 0.13 | 0.16 | 0.26 | 0.53 | 0.18 | 0.04 | 0.02 | 0.05 | 0.02 | 0.02 |
| P7A | 0.13 | 0.15 | 0.22 | 0.37 | 0.19 | 0.03 | 0.06 | 0.05 | 0.05 | 0.04 |
| P8A | 0.21 | 0.22 | 0.27 | 0.53 | 0.22 | 0.02 | 0.04 | 0.04 | 0.04 | 0.03 |
| P9A | 0.15 | 0.18 | 0.10 | 0.55 | 0.14 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 |
| P11A | 0.13 | 0.23 | 0.53 | 0.33 | 0.14 | 0.03 | 0.03 | 0.04 | 0.10 | 0.06 |
| P12A | 0.13 | 0.17 | 0.32 | 0.54 | 0.15 | 0.03 | 0.05 | 0.13 | 0.06 | 0.03 |
| P13A | 0.10 | 0.14 | 0.26 | 0.44 | 0.15 | 0.03 | 0.04 | 0.03 | 0.02 | 0.02 |
| P14A | 0.09 | 0.13 | 0.22 | 0.39 | 0.14 | 0.03 | 0.03 | 0.02 | 0.03 | 0.03 |
| P15A | 0.10 | 0.13 | 0.22 | 0.57 | 0.17 | 0.06 | 0.07 | 0.04 | 0.08 | 0.09 |
| P16A | 0.14 | 0.20 | 0.28 | 0.55 | 0.24 | 0.07 | 0.04 | 0.05 | 0.09 | 0.09 |
| P17A | 0.10 | 0.12 | 0.30 | 0.49 | 0.25 | 0.07 | 0.07 | 0.02 | 0.02 | 0.02 |
| P18A | 0.10 | 0.13 | 0.32 | 0.08 | 0.07 | 0.04 | 0.07 | 0.01 | 0.01 | 0.01 |
| P19A | 0.13 | 0.13 | 0.14 | 0.08 | 0.06 | 0.06 | 0.09 | 0.05 | 0.05 | 0.05 |
| P21A | 0.07 | 0.11 | 0.11 | 0.10 | 0.06 | 0.06 | 0.07 | 0.01 | 0.02 | 0.02 |
| P22A | 0.09 | 0.13 | 0.48 | 0.37 | 0.18 | 0.06 | 0.09 | 0.05 | 0.05 | 0.05 |
| P23A | 0.07 | 0.16 | 0.17 | 0.40 | 0.41 | 0.18 | 0.49 | 0.12 | 0.17 | 0.13 |
| P24A | 0.08 | 0.25 | 0.41 | 0.53 | 0.41 | 0.18 | 0.40 | 0.41 | 0.13 | 0.13 |
| P25A | 0.07 | 0.21 | 0.33 | 0.36 | 0.57 | 0.41 | 0.55 | 0.02 | 0.03 | 0.03 |
| P27A | 0.06 | 0.12 | 0.11 | 0.31 | 0.46 | 0.51 | 0.05 | 0.04 | 0.03 | 0.03 |
| P28A | 0.08 | 0.11 | 0.14 | 0.37 | 0.46 | 0.12 | 0.05 | 0.04 | 0.03 | 0.03 |
| P29A | 0.07 | 0.11 | 0.14 | 0.37 | 0.20 | 0.29 | 0.13 | 0.04 | 0.04 | 0.04 |
| MEAN | 0.11 | 0.16 | 0.26 | 0.36 | 0.21 | 0.11 | 0.08 | 0.06 | 0.05 | 0.05 |
| STD. DEV. | 0.04 | 0.05 | 0.12 | 0.16 | 0.13 | 0.13 | 0.11 | 0.08 | 0.04 | 0.04 |
| GENERAL MEAN | 0.15 | | | | | | | | | |

Appendix Table 25 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. GENERAL |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|-------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| P 1B | 0.13 | 0.11 | 0.17 | 0.14 | 0.15 | 0.16 | 0.05 | 0.08 | 0.03 | | |
| P 2B | 0.07 | 0.14 | 0.21 | 0.09 | 0.05 | 0.10 | 0.02 | 0.06 | 0.01 | | |
| P 3B | 0.08 | 0.18 | 0.18 | 0.23 | 0.10 | 0.03 | 0.02 | 0.05 | 0.03 | | |
| P 4B | 0.11 | 0.20 | 0.22 | 0.45 | 0.35 | 0.10 | 0.05 | 0.05 | 0.12 | | |
| P 5B | 0.13 | 0.21 | 0.22 | 0.37 | 0.19 | 0.06 | 0.04 | 0.05 | 0.04 | | |
| P 6B | 0.12 | 0.23 | 0.26 | 0.46 | 0.32 | 0.12 | 0.07 | 0.08 | 0.05 | | |
| P 7B | 0.10 | 0.17 | 0.32 | 0.50 | 0.62 | 0.13 | 0.04 | 0.05 | 0.04 | | |
| P 8B | 0.18 | 0.22 | 0.38 | 0.20 | 0.20 | 0.10 | 0.03 | 0.10 | 0.03 | | |
| P 9B | 0.11 | 0.24 | 0.31 | 0.38 | 0.28 | 0.03 | 0.02 | 0.02 | 0.03 | | |
| P 11B | 0.13 | 0.16 | 0.22 | 0.33 | 0.18 | 0.03 | 0.02 | 0.02 | 0.04 | | |
| P 13B | 0.10 | 0.14 | 0.19 | 0.40 | 0.12 | 0.03 | 0.03 | 0.02 | 0.02 | | |
| P 14B | 0.10 | 0.16 | 0.22 | 0.34 | 0.19 | 0.03 | 0.03 | 0.02 | 0.02 | | |
| P 15B | 0.10 | 0.14 | 0.18 | 0.40 | 0.11 | 0.03 | 0.03 | 0.02 | 0.02 | | |
| P 16B | 0.14 | 0.19 | 0.20 | 0.36 | 0.16 | 0.03 | 0.03 | 0.02 | 0.02 | | |
| P 17B | 0.10 | 0.16 | 0.17 | 0.45 | 0.24 | 0.03 | 0.03 | 0.02 | 0.02 | | |
| P 18B | 0.09 | 0.12 | 0.17 | 0.35 | 0.14 | 0.06 | 0.03 | 0.02 | 0.03 | | |
| P 19B | 0.08 | 0.15 | 0.14 | 0.42 | 0.05 | 0.06 | 0.03 | 0.02 | 0.03 | | |
| P 22B | 0.07 | 0.15 | 0.18 | 0.12 | 0.14 | 0.08 | 0.11 | 0.02 | 0.01 | | |
| P 23B | 0.12 | 0.20 | 0.28 | 0.57 | 0.42 | 0.12 | 0.03 | 0.01 | 0.01 | | |
| P 24B | 0.09 | 0.25 | 0.34 | 0.66 | 0.44 | 0.27 | 0.38 | 0.16 | 0.16 | | |
| P 25B | 0.07 | 0.18 | 0.19 | 0.45 | 0.47 | 0.37 | 0.06 | 0.05 | 0.05 | | |
| P 26B | 0.05 | 0.10 | 0.13 | 0.40 | 0.18 | 0.57 | 0.09 | 0.04 | 0.04 | | |
| P 27B | 0.05 | 0.13 | 0.16 | 0.40 | 0.18 | 0.02 | 0.03 | 0.02 | 0.02 | | |
| P 28B | 0.08 | 0.20 | 0.25 | 0.54 | 0.28 | 0.08 | 0.03 | 0.02 | 0.03 | | |
| P 29B | 0.07 | 0.20 | 0.25 | 0.54 | 0.28 | 0.08 | 0.03 | 0.02 | 0.03 | | |
| MEAN | 0.10 | 0.16 | 0.23 | 0.36 | 0.22 | 0.10 | 0.09 | 0.06 | 0.04 | | |
| DEV. | 0.03 | 0.05 | 0.05 | 0.16 | 0.14 | 0.10 | 0.12 | 0.07 | 0.03 | | |
| GENERAL | 0.15 | | | | | | | | | | |

Appendix Table 25 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P1C | 0.30 | 0.37 | 0.43 | 0.47 | 0.15 | 0.04 | 0.03 | 0.04 | 0.04 | 0.04 |
| P2C | 0.28 | 0.30 | 0.34 | 0.40 | 0.18 | 0.09 | 0.04 | 0.05 | 0.06 | 0.06 |
| P3C | 0.19 | 0.32 | 0.35 | 0.48 | 0.20 | 0.09 | 0.05 | 0.05 | 0.04 | 0.04 |
| P4C | 0.09 | 0.21 | 0.25 | 0.32 | 0.13 | 0.07 | 0.03 | 0.04 | 0.03 | 0.03 |
| P5C | 0.11 | 0.19 | 0.22 | 0.42 | 0.16 | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 |
| P6C | 0.14 | 0.13 | 0.24 | 0.39 | 0.19 | 0.05 | 0.06 | 0.04 | 0.05 | 0.05 |
| P7C | 0.31 | 0.35 | 0.29 | 0.45 | 0.38 | 0.21 | 0.37 | 0.14 | 0.08 | 0.08 |
| P8C | 0.22 | 0.31 | 0.44 | 0.53 | 0.45 | 0.49 | 0.33 | 0.15 | 0.04 | 0.04 |
| P11C | 0.17 | 0.31 | 0.40 | 0.45 | 0.52 | 0.24 | 0.03 | 0.03 | 0.04 | 0.05 |
| P12C | 0.17 | 0.31 | 0.44 | 0.40 | 0.21 | 0.04 | 0.03 | 0.04 | 0.04 | 0.05 |
| P14C | 0.06 | 0.29 | 0.34 | 0.40 | 0.17 | 0.04 | 0.06 | 0.07 | 0.11 | 0.13 |
| P15C | 0.34 | 0.36 | 0.18 | 0.51 | 0.17 | 0.04 | 0.03 | 0.04 | 0.02 | 0.02 |
| P17C | 0.24 | 0.34 | 0.34 | 0.45 | 0.17 | 0.10 | 0.03 | 0.02 | 0.02 | 0.05 |
| P18C | 0.14 | 0.26 | 0.35 | 0.42 | 0.27 | 0.13 | 0.05 | 0.15 | 0.05 | 0.05 |
| P19C | 0.18 | 0.26 | 0.39 | 0.42 | 0.27 | 0.07 | 0.26 | 0.15 | 0.01 | 0.01 |
| P22C | 0.05 | 0.17 | 0.14 | 0.07 | 0.07 | 0.09 | 0.04 | 0.02 | 0.02 | 0.02 |
| P23C | 0.06 | 0.15 | 0.13 | 0.04 | 0.05 | 0.09 | 0.04 | 0.01 | 0.01 | 0.01 |
| P24C | 0.07 | 0.15 | 0.05 | 0.04 | 0.05 | 0.05 | 0.04 | 0.02 | 0.02 | 0.02 |
| P25C | 0.06 | 0.14 | 0.15 | 0.08 | 0.06 | 0.09 | 0.04 | 0.04 | 0.03 | 0.03 |
| P26C | 0.05 | 0.14 | 0.38 | 0.22 | 0.44 | 0.08 | 0.06 | 0.39 | 0.01 | 0.01 |
| P27C | 0.03 | 0.17 | 0.38 | 0.32 | 0.44 | 0.12 | 0.39 | 0.29 | 0.34 | 0.34 |
| P28C | 0.14 | 0.27 | 0.54 | 0.44 | 0.54 | 0.46 | 0.37 | 0.08 | 0.05 | 0.05 |
| P29C | 0.09 | 0.25 | 0.34 | 0.44 | 0.49 | 0.26 | 0.07 | 0.05 | 0.04 | 0.04 |
| MEAN | 0.15 | 0.26 | 0.28 | 0.33 | 0.23 | 0.17 | 0.10 | 0.06 | 0.05 | 0.05 |
| STD. DEV. | 0.09 | 0.09 | 0.13 | 0.17 | 0.17 | 0.17 | 0.12 | 0.07 | 0.06 | 0.06 |
| GENERAL MEAN | 0.18 | | | | | | | | | |

Appendix Table 26. Calculated salt contents (g/100 g soil) of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| 1A | 0.13 | 0.15 | 0.42 | 0.15 | 0.06 | 0.04 | 0.02 | 0.04 | 0.03 | 0.02 |
| P2A | 0.10 | 0.14 | 0.31 | 0.10 | 0.04 | 0.09 | 0.09 | 0.05 | 0.09 | 0.06 |
| P3A | 0.12 | 0.29 | 0.46 | 0.17 | 0.03 | 0.05 | 0.05 | 0.05 | 0.05 | 0.11 |
| P4A | 0.07 | 0.11 | 0.17 | 0.06 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| P5A | 0.09 | 0.13 | 0.37 | 0.06 | 0.02 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 |
| P6A | 0.11 | 0.21 | 0.51 | 0.31 | 0.04 | 0.07 | 0.04 | 0.07 | 0.04 | 0.04 |
| P7A | 0.10 | 0.23 | 0.35 | 0.20 | 0.32 | 0.07 | 0.05 | 0.05 | 0.05 | 0.04 |
| P8A | 0.13 | 0.14 | 0.47 | 0.42 | 0.06 | 0.06 | 0.06 | 0.17 | 0.05 | 0.04 |
| P9A | 0.17 | 0.14 | 0.17 | 0.29 | 0.31 | 0.31 | 0.02 | 0.12 | 0.03 | 0.03 |
| PI1A | 0.24 | 0.30 | 0.50 | 0.51 | 0.08 | 0.08 | 0.04 | 0.14 | 0.14 | 0.10 |
| PI2A | 0.11 | 0.22 | 0.33 | 0.39 | 0.14 | 0.14 | 0.11 | 0.04 | 0.08 | 0.05 |
| PI3A | 0.10 | 0.23 | 0.37 | 0.57 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.04 |
| PI4A | 0.12 | 0.21 | 0.47 | 0.18 | 0.05 | 0.05 | 0.04 | 0.03 | 0.03 | 0.05 |
| PI5A | 0.10 | 0.18 | 0.17 | 0.37 | 0.13 | 0.13 | 0.03 | 0.03 | 0.03 | 0.07 |
| PI6A | 0.14 | 0.26 | 0.40 | 0.35 | 0.21 | 0.21 | 0.04 | 0.06 | 0.06 | 0.04 |
| PI7A | 0.10 | 0.18 | 0.39 | 0.21 | 0.09 | 0.09 | 0.02 | 0.05 | 0.05 | 0.08 |
| PI8A | 0.14 | 0.22 | 0.35 | 0.21 | 0.17 | 0.17 | 0.04 | 0.06 | 0.06 | 0.02 |
| PI9A | 0.10 | 0.16 | 0.18 | 0.11 | 0.14 | 0.14 | 0.02 | 0.02 | 0.02 | 0.04 |
| P21A | 0.12 | 0.13 | 0.18 | 0.23 | 0.17 | 0.17 | 0.04 | 0.04 | 0.04 | 0.02 |
| P22A | 0.11 | 0.16 | 0.18 | 0.06 | 0.09 | 0.09 | 0.02 | 0.02 | 0.02 | 0.02 |
| P23A | 0.31 | 0.27 | 0.56 | 0.30 | 0.15 | 0.15 | 0.07 | 0.07 | 0.07 | 0.01 |
| P24A | 0.14 | 0.42 | 0.44 | 0.46 | 0.57 | 0.57 | 0.24 | 0.16 | 0.16 | 0.16 |
| P25A | 0.31 | 0.41 | 0.55 | 0.54 | 0.45 | 0.45 | 0.35 | 0.30 | 0.30 | 0.08 |
| P26A | 0.19 | 0.37 | 0.55 | 0.69 | 0.25 | 0.25 | 0.03 | 0.03 | 0.03 | 0.03 |
| P27A | 0.11 | 0.26 | 0.31 | 0.41 | 0.37 | 0.37 | 0.03 | 0.03 | 0.03 | 0.03 |
| P28A | 0.10 | 0.11 | 0.31 | 0.34 | 0.17 | 0.17 | 0.12 | 0.02 | 0.02 | 0.03 |
| P29A | 0.14 | 0.21 | 0.35 | 0.29 | 0.15 | 0.15 | 0.06 | 0.06 | 0.06 | 0.05 |
| MEAN | 0.14 | 0.21 | 0.35 | 0.17 | 0.14 | 0.14 | 0.15 | 0.07 | 0.06 | 0.05 |
| STD. | 0.06 | 0.09 | 0.13 | 0.17 | 0.14 | 0.14 | 0.15 | 0.07 | 0.06 | 0.03 |
| GENERAL MEAN | 0.16 | | | | | | | | | |

Appendix Table 26 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. GENERAL |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|-------------------------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | |
| P18 | 0.11 | 0.12 | 0.33 | 0.08 | 0.13 | 0.04 | 0.05 | 0.07 | 0.04 | 0.04 | |
| P38 | 0.08 | 0.12 | 0.16 | 0.25 | 0.02 | 0.02 | 0.05 | 0.01 | 0.01 | 0.01 | |
| P48 | 0.11 | 0.15 | 0.35 | 0.15 | 0.03 | 0.02 | 0.04 | 0.04 | 0.04 | 0.04 | |
| P58 | 0.11 | 0.10 | 0.42 | 0.18 | 0.21 | 0.07 | 0.10 | 0.11 | 0.11 | 0.11 | |
| P68 | 0.10 | 0.24 | 0.32 | 0.40 | 0.09 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | |
| P78 | 0.15 | 0.12 | 0.33 | 0.45 | 0.14 | 0.16 | 0.05 | 0.05 | 0.05 | 0.05 | |
| P88 | 0.03 | 0.11 | 0.29 | 0.41 | 0.05 | 0.04 | 0.05 | 0.08 | 0.07 | 0.07 | |
| P112 | 0.13 | 0.20 | 0.61 | 0.27 | 0.06 | 0.05 | 0.06 | 0.05 | 0.05 | 0.05 | |
| P138 | 0.13 | 0.09 | 0.45 | 0.31 | 0.06 | 0.05 | 0.06 | 0.05 | 0.04 | 0.04 | |
| P148 | 0.10 | 0.09 | 0.28 | 0.17 | 0.02 | 0.03 | 0.02 | 0.02 | 0.03 | 0.03 | |
| P158 | 0.11 | 0.16 | 0.35 | 0.17 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | |
| P168 | 0.13 | 0.18 | 0.58 | 0.34 | 0.25 | 0.27 | 0.06 | 0.03 | 0.09 | 0.09 | |
| P178 | 0.13 | 0.18 | 0.33 | 0.16 | 0.09 | 0.03 | 0.05 | 0.03 | 0.03 | 0.03 | |
| P188 | 0.08 | 0.10 | 0.32 | 0.29 | 0.10 | 0.10 | 0.02 | 0.02 | 0.02 | 0.02 | |
| P218 | 0.14 | 0.15 | 0.11 | 0.09 | 0.09 | 0.03 | 0.05 | 0.03 | 0.01 | 0.01 | |
| P223 | 0.26 | 0.53 | 0.12 | 0.06 | 0.12 | 0.08 | 0.18 | 0.02 | 0.05 | 0.05 | |
| P238 | 0.21 | 0.43 | 0.51 | 0.51 | 0.46 | 0.24 | 0.20 | 0.12 | 0.06 | 0.06 | |
| P258 | 0.16 | 0.34 | 0.51 | 0.50 | 0.49 | 0.56 | 0.31 | 0.39 | 0.06 | 0.06 | |
| P268 | 0.14 | 0.17 | 0.47 | 0.37 | 0.12 | 0.04 | 0.02 | 0.05 | 0.02 | 0.02 | |
| P278 | 0.15 | 0.22 | 0.45 | 0.44 | 0.12 | 0.06 | 0.07 | 0.05 | 0.02 | 0.02 | |
| P298 | 0.15 | 0.22 | 0.45 | 0.36 | 0.04 | 0.06 | 0.07 | 0.07 | 0.08 | 0.08 | |
| MEAN | 0.13 | 0.18 | 0.32 | 0.25 | 0.12 | 0.10 | 0.08 | 0.06 | 0.04 | 0.04 | |
| DEV. | 0.05 | 0.11 | 0.14 | 0.14 | 0.12 | 0.13 | 0.08 | 0.07 | 0.02 | 0.02 | |
| GENERAL | MEAN 0.14 | | | | | | | | | | |

Appendix Table 26 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P1C | 0.14 | 0.42 | 0.58 | 0.27 | 0.03 | 0.04 | 0.04 | 0.07 | 0.04 | 0.04 |
| P2C | 0.08 | 0.19 | 0.40 | 0.15 | 0.01 | 0.03 | 0.06 | 0.06 | 0.06 | 0.13 |
| P3C | 0.08 | 0.17 | 0.39 | 0.18 | 0.03 | 0.03 | 0.03 | 0.05 | 0.05 | 0.06 |
| P4C | 0.09 | 0.16 | 0.42 | 0.23 | 0.04 | 0.04 | 0.04 | 0.06 | 0.07 | 0.07 |
| P5C | 0.13 | 0.20 | 0.36 | 0.34 | 0.14 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 |
| P6C | 0.16 | 0.16 | 0.50 | 0.51 | 0.25 | 0.07 | 0.07 | 0.04 | 0.07 | 0.07 |
| P7C | 0.11 | 0.31 | 0.42 | 0.51 | 0.48 | 0.20 | 0.20 | 0.12 | 0.10 | 0.15 |
| P8C | 0.15 | 0.30 | 0.53 | 0.57 | 0.54 | 0.23 | 0.04 | 0.04 | 0.08 | 0.08 |
| P11C | 0.17 | 0.47 | 0.55 | 0.62 | 0.36 | 0.04 | 0.03 | 0.04 | 0.04 | 0.05 |
| P12C | 0.16 | 0.34 | 0.57 | 0.29 | 0.16 | 0.14 | 0.03 | 0.18 | 0.06 | 0.06 |
| P13C | 0.21 | 0.37 | 0.54 | 0.33 | 0.06 | 0.14 | 0.03 | 0.07 | 0.03 | 0.03 |
| P14C | 0.21 | 0.34 | 0.57 | 0.38 | 0.19 | 0.14 | 0.03 | 0.17 | 0.02 | 0.02 |
| P15C | 0.12 | 0.17 | 0.20 | 0.23 | 0.12 | 0.04 | 0.03 | 0.02 | 0.03 | 0.03 |
| P16C | 0.15 | 0.32 | 0.53 | 0.38 | 0.19 | 0.03 | 0.03 | 0.02 | 0.02 | 0.02 |
| P17C | 0.21 | 0.35 | 0.51 | 0.40 | 0.32 | 0.09 | 0.03 | 0.03 | 0.03 | 0.04 |
| P18C | 0.21 | 0.27 | 0.51 | 0.80 | 0.07 | 0.07 | 0.04 | 0.01 | 0.01 | 0.01 |
| P19C | 0.07 | 0.09 | 0.14 | 0.16 | 0.13 | 0.06 | 0.03 | 0.02 | 0.01 | 0.01 |
| P21C | 0.10 | 0.13 | 0.14 | 0.16 | 0.11 | 0.09 | 0.02 | 0.01 | 0.01 | 0.01 |
| P22C | 0.09 | 0.11 | 0.16 | 0.13 | 0.10 | 0.06 | 0.10 | 0.05 | 0.01 | 0.01 |
| P23C | 0.12 | 0.25 | 0.23 | 0.58 | 0.27 | 0.09 | 0.10 | 0.15 | 0.01 | 0.01 |
| P24C | 0.12 | 0.33 | 0.65 | 0.53 | 0.25 | 0.06 | 0.09 | 0.10 | 0.17 | 0.17 |
| P25C | 0.14 | 0.37 | 0.51 | 0.53 | 0.27 | 0.03 | 0.03 | 0.03 | 0.05 | 0.05 |
| P26C | 0.21 | 0.37 | 0.51 | 0.53 | 0.27 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 |
| P28C | 0.13 | 0.26 | 0.35 | 0.35 | 0.19 | 0.10 | 0.06 | 0.06 | 0.06 | 0.06 |
| P29C | 0.05 | 0.10 | 0.15 | 0.17 | 0.17 | 0.13 | 0.08 | 0.04 | 0.04 | 0.04 |
| MEAN | 0.13 | 0.26 | 0.35 | 0.35 | 0.19 | 0.10 | 0.06 | 0.06 | 0.06 | 0.05 |
| STD. | 0.05 | 0.10 | 0.15 | 0.17 | 0.17 | 0.13 | 0.08 | 0.04 | 0.04 | 0.04 |
| GENERAL MEAN | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.13 | 0.08 | 0.04 | 0.04 | 0.04 |

Appendix Table 27. Calculated salt contents (g/100 g soil) of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1A | 0.09 | 0.11 | 0.50 | 0.21 | 0.07 | 0.02 | 0.12 | 0.12 | 0.11 | 0.11 |
| P 2A | 0.12 | 0.13 | 0.12 | 0.13 | 0.03 | 0.02 | 0.05 | 0.06 | 0.03 | 0.03 |
| P 3A | 0.08 | 0.11 | 0.25 | 0.33 | 0.03 | 0.02 | 0.05 | 0.03 | 0.04 | 0.04 |
| P 4A | 0.16 | 0.20 | 0.27 | 0.15 | 0.01 | 0.01 | 0.01 | 0.04 | 0.01 | 0.01 |
| P 5A | 0.09 | 0.13 | 0.35 | 0.14 | 0.02 | 0.01 | 0.02 | 0.02 | 0.03 | 0.02 |
| P 6A | 0.18 | 0.17 | 0.58 | 0.34 | 0.09 | 0.02 | 0.07 | 0.03 | 0.04 | 0.02 |
| P 7A | 0.21 | 0.23 | 0.16 | 0.34 | 0.15 | 0.03 | 0.03 | 0.09 | 0.02 | 0.07 |
| P 8A | 0.37 | 0.25 | 0.27 | 0.35 | 0.14 | 0.27 | 0.04 | 0.06 | 0.02 | 0.12 |
| P 9A | 0.12 | 0.21 | 0.48 | 0.33 | 0.06 | 0.02 | 0.15 | 0.04 | 0.04 | 0.06 |
| P11A | 0.25 | 0.30 | 0.51 | 0.43 | 0.10 | 0.05 | 0.03 | 0.04 | 0.02 | 0.03 |
| P12A | 0.13 | 0.26 | 0.35 | 0.59 | 0.05 | 0.01 | 0.03 | 0.04 | 0.02 | 0.05 |
| P14A | 0.09 | 0.23 | 0.43 | 0.17 | 0.09 | 0.02 | 0.02 | 0.02 | 0.04 | 0.04 |
| P15A | 0.06 | 0.18 | 0.45 | 0.20 | 0.09 | 0.02 | 0.03 | 0.02 | 0.04 | 0.02 |
| P16A | 0.36 | 0.20 | 0.50 | 0.47 | 0.16 | 0.04 | 0.02 | 0.03 | 0.04 | 0.06 |
| P17A | 0.18 | 0.22 | 0.27 | 0.27 | 0.14 | 0.16 | 0.04 | 0.04 | 0.04 | 0.02 |
| P18A | 0.24 | 0.16 | 0.23 | 0.13 | 0.12 | 0.18 | 0.06 | 0.01 | 0.03 | 0.03 |
| P19A | 0.10 | 0.19 | 0.16 | 0.11 | 0.06 | 0.15 | 0.11 | 0.04 | 0.01 | 0.02 |
| P21A | 0.15 | 0.20 | 0.34 | 0.17 | 0.26 | 0.24 | 0.12 | 0.04 | 0.04 | 0.17 |
| P22A | 0.21 | 0.22 | 0.31 | 0.57 | 0.52 | 0.40 | 0.45 | 0.11 | 0.08 | 0.08 |
| P23A | 0.36 | 0.35 | 0.57 | 0.69 | 0.43 | 0.59 | 0.49 | 0.32 | 0.03 | 0.03 |
| P24A | 0.25 | 0.35 | 0.05 | 0.69 | 0.43 | 0.59 | 0.49 | 0.01 | 0.03 | 0.03 |
| P27A | 0.14 | 0.19 | 0.21 | 0.32 | 0.36 | 0.18 | 0.02 | 0.03 | 0.03 | 0.03 |
| P28A | 0.24 | 0.20 | 0.34 | 0.45 | 0.23 | 0.18 | 0.32 | 0.03 | 0.06 | 0.04 |
| P29A | 0.18 | 0.22 | 0.34 | 0.31 | 0.16 | 0.12 | 0.09 | 0.06 | 0.04 | 0.04 |
| MEAN | 0.18 | 0.22 | 0.34 | 0.31 | 0.16 | 0.12 | 0.09 | 0.06 | 0.06 | 0.04 |
| STD. DEV. | 0.09 | 0.07 | 0.15 | 0.17 | 0.15 | 0.17 | 0.13 | 0.06 | 0.06 | 0.04 |
| GENERAL MEAN | 0.17 | | | | | | | | | |

Appendix Table 27 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN STD. DEV. GENERAL MEAN | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|-----------------------------------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | |
| P1B | 0.11 | 0.16 | 0.41 | 0.08 | 0.02 | 0.02 | 0.05 | 0.04 | 0.02 | | | 0.02 |
| P2B | 0.07 | 0.12 | 0.23 | 0.15 | 0.01 | 0.07 | 0.05 | 0.13 | 0.01 | | | 0.01 |
| P3B | 0.13 | 0.19 | 0.20 | 0.21 | 0.07 | 0.01 | 0.02 | 0.02 | 0.02 | | | 0.03 |
| P4B | 0.16 | 0.22 | 0.26 | 0.24 | 0.13 | 0.02 | 0.09 | 0.15 | 0.09 | | | 0.09 |
| P5B | 0.19 | 0.21 | 0.25 | 0.23 | 0.16 | 0.03 | 0.05 | 0.08 | 0.03 | | | 0.03 |
| P6B | 0.33 | 0.30 | 0.36 | 0.35 | 0.21 | 0.04 | 0.04 | 0.04 | 0.03 | | | 0.03 |
| P7B | 0.19 | 0.31 | 0.33 | 0.43 | 0.11 | 0.04 | 0.04 | 0.03 | 0.02 | | | 0.02 |
| P11B | 0.09 | 0.13 | 0.30 | 0.33 | 0.16 | 0.04 | 0.18 | 0.04 | 0.05 | | | 0.04 |
| P13B | 0.26 | 0.23 | 0.34 | 0.35 | 0.12 | 0.03 | 0.02 | 0.04 | 0.04 | | | 0.04 |
| P14B | 0.10 | 0.15 | 0.30 | 0.23 | 0.02 | 0.02 | 0.03 | 0.05 | 0.04 | | | 0.04 |
| P15B | 0.05 | 0.08 | 0.18 | 0.19 | 0.02 | 0.01 | 0.02 | 0.02 | 0.02 | | | 0.02 |
| P16B | 0.07 | 0.13 | 0.21 | 0.21 | 0.09 | 0.02 | 0.03 | 0.02 | 0.02 | | | 0.02 |
| P17B | 0.31 | 0.24 | 0.15 | 0.17 | 0.07 | 0.03 | 0.02 | 0.03 | 0.07 | | | 0.07 |
| P18B | 0.16 | 0.21 | 0.27 | 0.37 | 0.05 | 0.01 | 0.02 | 0.05 | 0.02 | | | 0.02 |
| P19B | 0.29 | 0.21 | 0.14 | 0.30 | 0.16 | 0.03 | 0.04 | 0.01 | 0.01 | | | 0.01 |
| P22B | 0.12 | 0.15 | 0.19 | 0.15 | 0.32 | 0.02 | 0.06 | 0.02 | 0.01 | | | 0.01 |
| P23B | 0.29 | 0.28 | 0.24 | 0.41 | 0.14 | 0.16 | 0.16 | 0.17 | 0.01 | | | 0.01 |
| P24B | 0.23 | 0.21 | 0.43 | 0.49 | 0.24 | 0.16 | 0.32 | 0.04 | 0.10 | | | 0.10 |
| P25B | 0.13 | 0.18 | 0.35 | 0.51 | 0.34 | 0.33 | 0.39 | 0.42 | 0.09 | | | 0.09 |
| P27B | 0.28 | 0.28 | 0.54 | 0.37 | 0.21 | 0.33 | 0.02 | 0.03 | 0.03 | | | 0.03 |
| P28B | 0.19 | 0.28 | 0.28 | 0.60 | 0.42 | 0.24 | 0.05 | 0.04 | 0.03 | | | 0.03 |
| P29B | 0.31 | 0.28 | 0.37 | 0.60 | 0.22 | 0.24 | 0.02 | 0.10 | 0.30 | | | 0.30 |
| MEAN | 0.17 | 0.19 | 0.31 | 0.29 | 0.13 | 0.07 | 0.07 | 0.06 | 0.05 | | | 0.05 |
| DEV. | 0.08 | 0.07 | 0.11 | 0.14 | 0.11 | 0.09 | 0.09 | 0.08 | 0.06 | | | 0.06 |
| GENERAL MEAN | 0.15 | | | | | | | | | | | |

Appendix Table 27 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1C | 0.08 | 0.15 | 0.56 | 0.39 | 0.02 | 0.03 | 0.03 | 0.04 | 0.03 | 0.03 |
| P 2C | 0.12 | 0.21 | 0.73 | 0.23 | 0.05 | 0.04 | 0.09 | 0.05 | 0.05 | 0.04 |
| P 3C | 0.09 | 0.03 | 0.17 | 0.16 | 0.02 | 0.02 | 0.02 | 0.13 | 0.04 | 0.05 |
| P 4C | 0.06 | 0.18 | 0.42 | 0.43 | 0.04 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 |
| P 5C | 0.14 | 0.31 | 0.41 | 0.37 | 0.03 | 0.03 | 0.02 | 0.04 | 0.09 | 0.02 |
| P 6C | 0.05 | 0.30 | 0.48 | 0.44 | 0.10 | 0.08 | 0.05 | 0.07 | 0.03 | 0.02 |
| P 7C | 0.10 | 0.26 | 0.50 | 0.41 | 0.32 | 0.03 | 0.03 | 0.13 | 0.06 | 0.06 |
| P 8C | 0.14 | 0.39 | 0.61 | 0.55 | 0.16 | 0.02 | 0.03 | 0.10 | 0.04 | 0.02 |
| P 11C | 0.20 | 0.44 | 0.51 | 0.60 | 0.56 | 0.42 | 0.28 | 0.05 | 0.02 | 0.02 |
| P 12C | 0.22 | 0.44 | 0.72 | 0.68 | 0.45 | 0.53 | 0.08 | 0.03 | 0.06 | 0.04 |
| P 13C | 0.16 | 0.22 | 0.47 | 0.28 | 0.15 | 0.03 | 0.05 | 0.07 | 0.04 | 0.04 |
| P 14C | 0.16 | 0.35 | 0.67 | 0.46 | 0.14 | 0.10 | 0.04 | 0.14 | 0.03 | 0.04 |
| P 15C | 0.15 | 0.25 | 0.54 | 0.28 | 0.06 | 0.03 | 0.07 | 0.02 | 0.05 | 0.03 |
| P 16C | 0.13 | 0.16 | 0.41 | 0.21 | 0.16 | 0.03 | 0.04 | 0.03 | 0.07 | 0.05 |
| P 17C | 0.10 | 0.25 | 0.51 | 0.31 | 0.16 | 0.03 | 0.07 | 0.05 | 0.10 | 0.10 |
| P 18C | 0.12 | 0.13 | 0.28 | 0.51 | 0.32 | 0.04 | 0.07 | 0.08 | 0.01 | 0.01 |
| P 19C | 0.18 | 0.10 | 0.08 | 0.13 | 0.16 | 0.42 | 0.04 | 0.01 | 0.01 | 0.01 |
| P 21C | 0.13 | 0.15 | 0.05 | 0.31 | 0.13 | 0.19 | 0.05 | 0.01 | 0.01 | 0.01 |
| P 22C | 0.13 | 0.06 | 0.23 | 0.12 | 0.13 | 0.08 | 0.07 | 0.01 | 0.01 | 0.01 |
| P 23C | 0.18 | 0.20 | 0.30 | 0.14 | 0.12 | 0.18 | 0.11 | 0.03 | 0.01 | 0.01 |
| P 24C | 0.13 | 0.15 | 0.05 | 0.07 | 0.12 | 0.08 | 0.08 | 0.02 | 0.01 | 0.01 |
| P 25C | 0.21 | 0.29 | 0.51 | 0.60 | 0.57 | 0.21 | 0.18 | 0.02 | 0.01 | 0.01 |
| P 26C | 0.13 | 0.29 | 0.75 | 0.61 | 0.14 | 0.12 | 0.20 | 0.17 | 0.03 | 0.03 |
| P 27C | 0.23 | 0.36 | 0.75 | 0.60 | 0.63 | 0.77 | 0.27 | 0.17 | 0.05 | 0.05 |
| P 28C | 0.16 | 0.53 | 0.46 | 0.55 | 0.66 | 0.55 | 0.12 | 0.03 | 0.16 | 0.16 |
| P 29C | 0.15 | 0.24 | 0.42 | 0.33 | 0.21 | 0.14 | 0.07 | 0.05 | 0.05 | 0.05 |
| MEAN | 0.15 | 0.13 | 0.19 | 0.19 | 0.21 | 0.18 | 0.06 | 0.04 | 0.04 | 0.04 |
| STD. DEV. | 0.06 | 0.13 | 0.19 | 0.19 | 0.21 | 0.18 | 0.06 | 0.04 | 0.04 | 0.04 |
| GENERAL MEAN | 0.18 | | | | | | | | | |

Appendix Table 28. Chloride concentrations (meq/l) of saturation extracts of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1A | 7.07 | 6.83 | 9.68 | 5.41 | 3.09 | 1.24 | 2.13 | 2.16 | 1.35 | |
| P 2A | 4.28 | 10.31 | 3.40 | 1.69 | 1.16 | 1.24 | 4.72 | 4.65 | 1.42 | |
| P 3A | 5.03 | 6.86 | 13.09 | 12.89 | 3.31 | 3.84 | 0.34 | 0.82 | 0.51 | |
| P 4A | | 4.86 | 4.99 | 2.47 | 0.47 | 0.59 | 1.00 | 1.40 | 2.49 | |
| P 5A | 4.45 | 5.67 | 6.60 | 1.47 | 4.37 | 1.3 | 1.19 | 1.48 | 1.54 | |
| P 6A | 4.27 | 8.07 | 2.88 | 19.39 | 7.53 | 4.13 | 5.19 | 4.48 | 2.34 | |
| P 7A | 5.55 | 3.65 | 17.98 | 41.54 | 4.86 | 2.36 | 3.02 | 3.82 | 1.57 | |
| P 8A | 7.08 | 1.20 | 29.19 | 11.05 | 7.26 | 9.36 | 7.67 | 10.68 | 3.56 | |
| P 9A | 7.90 | 4.08 | 4.08 | 11.93 | 14.20 | 5.76 | 1.00 | 1.43 | 2.97 | |
| P 11A | 4.84 | 15.28 | 10.15 | 28.44 | 17.27 | 1.80 | 2.78 | 8.69 | 3.69 | |
| P 12A | 14.46 | 16.61 | 25.45 | 12.21 | 12.27 | 1.15 | 1.51 | 4.53 | 3.99 | |
| P 13A | 14.45 | 3.41 | 3.81 | 13.56 | 11.38 | 2.14 | 2.34 | 1.89 | 1.41 | |
| P 14A | 3.98 | 7.40 | 6.22 | 14.03 | 15.25 | 1.48 | 1.89 | 1.80 | 2.74 | |
| P 15A | 5.68 | 4.00 | 6.68 | 21.03 | 12.39 | 3.15 | 2.33 | 1.85 | 2.52 | |
| P 16A | 4.57 | 7.20 | 6.10 | 23.48 | 20.33 | 4.22 | 3.83 | 2.67 | 3.74 | |
| P 17A | 5.48 | 6.53 | 20.64 | 6.17 | 12.58 | 7.07 | 4.21 | 2.36 | 2.68 | |
| P 18A | 3.98 | 8.98 | 5.11 | 4.62 | 1.58 | 1.07 | 1.42 | 1.03 | 0.78 | |
| P 19A | 5.20 | 3.98 | 7.25 | 8.95 | 11.79 | 1.58 | 1.33 | 1.07 | 1.01 | |
| P 21A | 5.53 | 6.37 | 9.05 | 21.76 | 15.15 | 5.38 | 3.93 | 1.59 | 1.00 | |
| P 22A | 3.76 | 13.55 | 6.25 | 14.93 | 10.00 | 6.22 | 0.43 | 1.50 | 0.31 | |
| P 23A | 13.77 | 8.40 | 16.46 | 14.76 | 14.62 | 5.62 | 4.13 | 1.47 | 20.50 | |
| P 24A | 16.55 | 10.98 | 15.95 | 16.22 | 14.05 | 1.16 | 18.77 | 19.47 | 10.66 | |
| P 25A | 14.83 | 15.65 | 21.95 | 17.12 | 15.03 | 3.49 | 11.84 | 1.91 | 2.76 | |
| P 26A | 19.83 | 12.14 | 21.47 | 3.69 | 16.19 | 1.49 | 0.85 | 6.14 | 1.50 | |
| P 27A | 5.70 | 17.94 | 5.73 | 9.65 | 13.29 | 4.27 | 1.85 | 1.48 | 1.76 | |
| P 28A | 4.12 | 4.43 | 6.80 | 9.61 | 9.61 | 8.27 | 11.49 | 1.48 | 2.76 | |
| P 29A | 6.54 | 7.80 | 11.73 | 14.27 | 9.91 | 4.28 | 4.24 | 4.11 | 3.55 | |
| MEAN | 6.22 | 3.56 | 7.60 | 10.83 | 10.77 | 3.80 | 4.24 | 4.16 | 3.99 | |
| STD. DEV. | | | | | | | | | | |
| GENERAL MEAN | 7.39 | | | | | | | | | |

Appendix Table 28 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1B | 2.56 | 4.55 | 7.49 | 4.76 | 1.19 | 1.37 | 3.30 | 6.99 | 3.04 | |
| P 2B | 3.43 | 3.97 | 5.15 | 6.35 | 8.65 | 3.37 | 1.65 | 1.96 | 1.83 | |
| P 3B | 5.21 | 4.61 | 5.14 | 2.47 | 1.62 | 1.33 | 1.88 | 1.96 | 1.95 | |
| P 4B | 4.74 | 6.30 | 8.01 | 4.71 | 1.67 | 0.70 | 2.69 | 2.66 | --- | |
| P 5B | 4.62 | 3.40 | 5.40 | 19.00 | 2.08 | 0.28 | 1.77 | 1.06 | 0.66 | |
| P 6B | 5.33 | 10.22 | 12.10 | 25.74 | 3.56 | 0.26 | 1.73 | 3.10 | 1.42 | |
| P 7B | 5.95 | 10.92 | 21.63 | 7.31 | 7.69 | 0.88 | 4.42 | 4.01 | 1.48 | |
| P 8B | 5.25 | 5.49 | 7.31 | 2.71 | 4.88 | 1.57 | 3.68 | 3.27 | 1.52 | |
| P 9B | 2.27 | 5.58 | 7.66 | 2.96 | 3.95 | 1.47 | 1.82 | 4.37 | 4.19 | |
| P 11B | 5.87 | 9.87 | 25.68 | 19.69 | 9.73 | 1.19 | 3.00 | 3.57 | 3.49 | |
| P 13B | 5.12 | 8.44 | 4.73 | 5.06 | 2.82 | 1.92 | 4.07 | 4.41 | 1.49 | |
| P 14B | 6.30 | 7.58 | 3.31 | 3.16 | 1.80 | 1.72 | 1.11 | 1.18 | 2.49 | |
| P 15B | 4.14 | 4.58 | 6.02 | 8.16 | 1.25 | 1.99 | 1.22 | 1.80 | 2.49 | |
| P 16B | 4.90 | 6.77 | 9.02 | 3.48 | 1.42 | 1.97 | 1.56 | 2.66 | 2.20 | |
| P 17B | 5.15 | 7.22 | 5.11 | 10.87 | 2.73 | 1.99 | 0.99 | 1.90 | 1.52 | |
| P 18B | 4.15 | 6.32 | 4.22 | 5.35 | 3.73 | 1.97 | 1.59 | 2.66 | 1.49 | |
| P 19B | 10.28 | 9.71 | 5.16 | 10.85 | 10.93 | 1.55 | 0.96 | 1.95 | 1.89 | |
| P 22B | 3.69 | 2.50 | 0.13 | 11.49 | 8.93 | 3.25 | 1.03 | 1.01 | 1.58 | |
| P 23B | 6.95 | 10.44 | 9.95 | 10.69 | 9.33 | 1.55 | 3.21 | 1.50 | 0.34 | |
| P 24B | 16.69 | 10.44 | 5.89 | 17.76 | 17.16 | 1.15 | 5.79 | 4.99 | 1.61 | |
| P 25B | 19.06 | 11.91 | 7.46 | 15.92 | 19.31 | 0.26 | 3.39 | 5.69 | 5.11 | |
| P 26B | 7.51 | 12.91 | 9.40 | 17.13 | 7.10 | 0.49 | 16.05 | 13.14 | 7.42 | |
| P 27B | 7.24 | 10.95 | 10.79 | 16.84 | 10.97 | 2.69 | 1.48 | 6.76 | 0.82 | |
| P 28B | 7.27 | 8.24 | 13.84 | 22.66 | 13.24 | 0.63 | 1.63 | 2.56 | 0.99 | |
| P 29B | 6.31 | 8.23 | 14.10 | 25.45 | 6.46 | 0.79 | 9.24 | 7.59 | 5.66 | |
| MEAN | 5.86 | 7.50 | 10.81 | 11.68 | 7.64 | 5.22 | 5.09 | 3.50 | 3.65 | |
| STD. DEV. | 2.85 | 2.88 | 10.49 | 17.99 | 6.62 | 5.21 | 6.57 | 3.03 | 3.81 | |
| GENERAL MEAN | 6.78 | | | | | | | | | |

Appendix Table 28 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P1C | 6.19 | 13.23 | 24.15 | 26.10 | 1.87 | 2.79 | 2.46 | 3.12 | 2.71 | |
| P2C | 6.38 | 17.17 | 20.51 | 24.95 | 1.93 | 2.73 | 3.51 | 3.05 | 4.02 | |
| P3C | 4.56 | 3.33 | 9.68 | 19.01 | 0.69 | 2.28 | 5.78 | 6.33 | 6.08 | |
| P4C | 3.40 | 7.42 | 18.28 | 24.18 | 2.36 | 1.78 | 1.51 | 2.36 | 3.56 | |
| P5C | 5.14 | 7.29 | 21.81 | 30.03 | 16.16 | 4.09 | 3.21 | 3.31 | 3.55 | |
| P6C | 5.27 | 16.39 | 20.97 | 30.82 | 13.46 | 2.95 | 2.81 | 2.69 | 3.44 | |
| P7C | 5.48 | 16.38 | 21.85 | 28.91 | 21.66 | 2.78 | 1.81 | 3.90 | 5.25 | |
| P8C | 6.24 | 11.15 | 19.52 | 17.80 | 13.48 | 2.91 | 0.28 | 1.55 | 4.91 | |
| P9C | 8.13 | 16.41 | 19.59 | 17.89 | 11.58 | 1.48 | 2.69 | 4.19 | 6.69 | |
| P10C | 7.89 | 11.44 | 22.63 | 31.89 | 20.58 | 3.41 | 4.59 | 4.85 | 4.02 | |
| P11C | 5.28 | 19.30 | 22.66 | 11.47 | 10.41 | 4.87 | 2.23 | 1.85 | 3.76 | |
| P12C | 8.64 | 4.30 | 27.68 | 30.57 | 4.26 | 4.87 | 2.08 | 2.74 | 2.07 | |
| P13C | 5.41 | 23.07 | 24.55 | 15.53 | 8.51 | 2.77 | 1.55 | 1.05 | 2.83 | |
| P14C | 6.46 | 14.64 | 26.25 | 27.22 | 29.28 | 1.51 | 1.20 | 2.11 | 2.29 | |
| P15C | 5.71 | 18.74 | 24.54 | 30.62 | 17.65 | 3.93 | 1.20 | 2.58 | 2.81 | |
| P16C | 4.46 | 10.03 | 4.96 | 4.72 | 24.53 | 1.93 | 1.20 | 0.96 | 0.35 | |
| P17C | 3.25 | 4.61 | 8.77 | 6.30 | 4.85 | 3.37 | 0.28 | 0.96 | 0.54 | |
| P18C | 4.94 | 6.55 | 11.84 | 13.48 | 6.96 | 2.07 | 1.42 | 0.20 | 0.54 | |
| P19C | 3.40 | 9.55 | 19.85 | 9.64 | 2.45 | 3.74 | 4.22 | 0.44 | 0.63 | |
| P20C | 3.90 | 11.37 | 12.78 | 5.64 | 6.57 | 4.01 | 3.87 | 2.43 | 0.14 | |
| P21C | 5.47 | 15.38 | 15.25 | 22.95 | 6.88 | 3.09 | 3.77 | 1.60 | 1.35 | |
| P22C | 10.67 | 13.13 | 18.66 | 33.35 | 31.66 | 7.01 | 3.08 | 3.29 | 19.55 | |
| P23C | 8.03 | 19.95 | 24.80 | 21.65 | 18.80 | 4.40 | 3.78 | 3.63 | 6.79 | |
| P24C | 5.84 | 10.88 | 18.38 | 19.87 | 11.15 | 6.75 | 4.65 | 5.07 | 4.57 | |
| P25C | 1.98 | 15.92 | 8.12 | 10.03 | 9.26 | 6.61 | 6.35 | 6.06 | 5.43 | |
| P26C | | | | | | | | | | |
| P27C | | | | | | | | | | |
| P28C | | | | | | | | | | |
| P29C | | | | | | | | | | |
| MEAN | 5.84 | 10.88 | 18.38 | 19.87 | 11.15 | 6.75 | 4.65 | 5.07 | 4.57 | |
| STD. | 1.98 | 15.92 | 8.12 | 10.03 | 9.26 | 6.61 | 6.35 | 6.06 | 5.43 | |
| GENERAL MEAN | 9.67 | | | | | | | | | |

Appendix Table 29. Chloride concentrations (meq/l) of saturation extracts of soil samples taken from "A", "B" and "C" locations within surface-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| P1A | 11.33 | 5.05 | 21.45 | 23.50 | 7.78 | 0.60 | 13.49 | 7.72 | 3.78 |
| P2A | 3.35 | 4.61 | 3.63 | 10.10 | 1.30 | 0.34 | 2.67 | 4.89 | 1.50 |
| P3A | 4.70 | 6.49 | 7.45 | 21.48 | 4.11 | 0.74 | 5.75 | 3.32 | 1.25 |
| P4A | 3.58 | 8.30 | 4.85 | 0.18 | 0.88 | 0.13 | 0.20 | 0.33 | 0.83 |
| P5A | 8.08 | 4.19 | 2.38 | 6.22 | 5.92 | 2.27 | 2.75 | 5.60 | 1.48 |
| P6A | 7.80 | 7.95 | 2.90 | 16.74 | 10.32 | 3.55 | 9.22 | 2.92 | 1.04 |
| P7A | 8.72 | 14.95 | 31.65 | 24.89 | 11.36 | 7.58 | 4.70 | 4.54 | 1.38 |
| P8A | 26.90 | 14.75 | 10.83 | 5.78 | 5.58 | 3.10 | 1.90 | 4.04 | 2.35 |
| P11A | 5.68 | 8.45 | 20.83 | 20.31 | 3.47 | 0.40 | 1.38 | 5.35 | 1.58 |
| P12A | 13.85 | 4.74 | 24.51 | 27.52 | 4.97 | 2.06 | 2.88 | 1.55 | 3.56 |
| P13A | 16.28 | 10.11 | 9.51 | 6.65 | 3.15 | 0.48 | 1.85 | 2.36 | 1.20 |
| P14A | 2.49 | 9.18 | 10.00 | 14.20 | 5.78 | 0.78 | 0.77 | 0.85 | 3.60 |
| P15A | 7.97 | 6.58 | 10.52 | 13.49 | 15.92 | 1.04 | 0.89 | 2.75 | 1.38 |
| P16A | 3.27 | 10.22 | 27.72 | 40.35 | 26.82 | 2.29 | 2.96 | 2.26 | 1.55 |
| P17A | 2.76 | 11.86 | 7.72 | 7.75 | 3.45 | 4.78 | 1.96 | 3.34 | 3.40 |
| P18A | 5.80 | 6.33 | 11.32 | 15.15 | 3.88 | 2.88 | 0.43 | 1.33 | 3.50 |
| P19A | 4.02 | 7.48 | 16.19 | 20.67 | 15.99 | 4.50 | 0.96 | 2.00 | 2.96 |
| P22A | 5.24 | 6.95 | 11.46 | 22.74 | 12.76 | 2.50 | 3.18 | 0.67 | 0.36 |
| P23A | 5.33 | 6.45 | 11.16 | 28.67 | 16.96 | 1.13 | 6.01 | 3.93 | 2.59 |
| P24A | 11.48 | 7.22 | 14.84 | 3.30 | 15.66 | 8.61 | 2.01 | 3.30 | 0.20 |
| P25A | 16.20 | 8.14 | 19.54 | 19.23 | 18.41 | 6.91 | 3.62 | 3.25 | 4.85 |
| P26A | 13.01 | 12.54 | 26.62 | 21.79 | 14.89 | 4.85 | 13.42 | 11.54 | 1.49 |
| P27A | 16.40 | 18.94 | 4.04 | 25.83 | 17.99 | 1.25 | 10.55 | 1.24 | 1.48 |
| P28A | 17.51 | 18.04 | 10.97 | 28.94 | 17.99 | 1.74 | 7.19 | 1.15 | 1.21 |
| P29A | | 12.71 | 18.65 | 20.01 | 12.20 | | | | |
| MEAN | 9.26 | 9.05 | 15.61 | 17.50 | 9.26 | 5.60 | 4.55 | 3.68 | 3.27 |
| STD. | 6.43 | 3.49 | 7.51 | 8.75 | 6.63 | 6.76 | 4.56 | 3.34 | 4.57 |
| GENERAL MEAN | 8.66 | | | | | | | | |

Appendix Table 29 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| P 1B | 3.73 | 7.80 | 17.91 | 8.91 | 0.59 | 0.42 | 4.13 | 4.18 | 0.29 | |
| P 2B | 7.23 | 7.35 | 13.70 | 13.16 | 15.58 | 2.93 | 1.20 | 1.68 | 1.38 | |
| P 3B | 4.35 | 4.78 | 14.60 | 12.70 | 9.28 | 0.38 | 0.88 | 0.85 | 1.63 | |
| P 4B | 5.35 | 7.58 | 19.52 | 15.28 | 1.10 | 1.23 | 1.58 | 0.23 | 1.33 | |
| P 5B | 8.73 | 10.85 | 21.98 | 12.18 | 12.80 | 0.81 | 2.48 | 9.43 | 1.38 | |
| P 6B | 20.34 | 12.07 | 13.58 | 17.10 | 11.89 | 2.15 | 3.88 | 1.79 | 1.66 | |
| P 7B | 6.15 | 17.42 | 17.14 | 16.82 | 16.07 | 4.08 | 2.06 | 2.72 | 1.54 | |
| P 8B | 3.86 | 15.10 | 10.88 | 13.98 | 17.27 | 2.50 | 1.68 | 1.49 | 1.11 | |
| P 9B | 10.20 | 17.79 | 18.48 | 28.20 | 6.25 | 3.59 | 1.30 | 1.38 | 1.20 | |
| P 10B | 4.15 | 7.23 | 8.78 | 8.65 | 18.35 | 1.00 | 1.18 | 2.08 | 1.75 | |
| P 11B | 4.94 | 6.25 | 2.76 | 8.55 | 1.35 | 0.30 | 0.42 | 0.88 | 0.00 | |
| P 12B | 2.27 | 5.66 | 7.93 | 12.61 | 10.27 | 0.34 | 0.12 | 0.55 | 1.20 | |
| P 13B | 18.73 | 9.82 | 8.56 | 9.26 | 9.75 | 0.36 | 0.74 | 1.45 | 0.92 | |
| P 14B | 5.15 | 14.53 | 9.95 | 7.43 | 4.54 | 1.91 | 0.47 | 0.52 | 2.08 | |
| P 15B | 6.73 | 17.69 | 8.26 | 9.07 | 7.87 | 3.08 | 1.49 | 0.87 | 2.44 | |
| P 16B | 2.70 | 2.61 | 4.50 | 5.40 | 9.65 | 7.09 | 4.69 | 1.14 | 0.48 | |
| P 17B | 3.83 | 9.27 | 14.02 | 33.40 | 36.52 | 7.27 | 7.18 | 0.86 | 0.10 | |
| P 18B | 14.93 | 12.86 | 11.81 | 23.62 | 13.32 | 1.27 | 2.59 | 0.17 | 0.16 | |
| P 19B | 11.72 | 17.67 | 14.28 | 11.40 | 11.52 | 8.49 | 9.73 | 5.55 | 0.27 | |
| P 20B | 16.19 | 10.55 | 14.45 | 11.03 | 18.27 | 1.06 | 1.54 | 2.55 | 1.29 | |
| P 21B | 17.12 | 8.44 | 27.50 | 22.86 | 16.40 | 0.63 | 0.22 | 1.17 | 1.50 | |
| P 22B | 28.78 | 9.35 | 18.03 | 21.84 | 7.02 | 3.13 | 5.18 | 3.05 | 1.80 | |
| MEAN | 8.40 | 8.71 | 14.92 | 14.97 | 9.43 | 4.86 | 3.43 | 3.34 | 2.68 | |
| STD. DEV. | 6.26 | 3.49 | 7.37 | 6.67 | 7.62 | 8.83 | 3.30 | 4.03 | 3.36 | |
| GENERAL MEAN | 7.87 | | | | | | | | | |

Appendix Table 29 (continued).

| PLOT NO. | DEPTH (CM) | | | | | | | | | | MEAN | STD. DEV. | GENERAL MEAN | | |
|----------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|------|-----------|--------------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | | | | | | |
| P1C | 2.47 | 12.65 | 31.36 | 38.01 | 2.92 | 7.27 | 0.64 | 2.56 | 1.86 | | | | | | |
| P2C | 4.96 | 15.41 | 27.72 | 33.07 | 1.87 | 2.13 | 4.05 | 2.07 | 1.66 | | | | | | |
| P3C | 3.68 | 13.43 | 45.08 | 20.14 | 4.54 | 0.45 | 1.49 | 1.59 | 6.43 | | | | | | |
| P4C | 1.76 | 2.26 | 17.43 | 27.04 | 0.79 | 0.73 | 1.52 | 1.04 | 0.33 | | | | | | |
| P5C | 6.68 | 8.66 | 21.84 | 35.80 | 3.58 | 1.15 | 1.73 | 1.03 | 0.33 | | | | | | |
| P6C | 0.54 | 12.55 | 22.90 | 18.95 | 8.15 | 4.08 | 1.88 | 1.06 | 0.33 | | | | | | |
| P7C | 5.14 | 15.51 | 25.90 | 31.57 | 2.73 | 2.69 | 1.27 | 2.87 | 1.51 | | | | | | |
| P8C | 2.61 | 16.96 | 32.14 | 25.80 | 5.19 | 4.29 | 1.79 | 2.59 | 4.37 | | | | | | |
| P9C | 6.33 | 21.07 | 35.14 | 19.96 | 1.71 | 2.72 | 2.79 | 3.33 | 1.43 | | | | | | |
| P11C | 4.82 | 3.27 | 31.45 | 24.29 | 15.74 | 2.06 | 1.24 | 2.64 | 0.66 | | | | | | |
| P12C | 5.70 | 13.87 | 10.14 | 13.99 | 2.70 | 1.69 | 2.22 | 2.95 | 1.38 | | | | | | |
| P13C | 4.31 | 20.27 | 34.34 | 18.70 | 3.34 | 1.55 | 2.47 | 5.15 | 1.43 | | | | | | |
| P14C | 5.00 | 3.82 | 19.14 | 13.70 | 4.98 | 1.95 | 2.70 | 2.50 | 1.88 | | | | | | |
| P15C | 4.30 | 15.47 | 33.54 | 18.72 | 2.34 | 1.95 | 2.41 | 1.23 | 1.43 | | | | | | |
| P16C | 15.05 | 8.58 | 19.80 | 20.92 | 2.98 | 1.52 | 2.09 | 5.09 | 1.35 | | | | | | |
| P17C | 4.90 | 9.38 | 30.15 | 21.84 | 3.60 | 2.20 | 2.40 | 2.09 | 3.42 | | | | | | |
| P18C | 7.98 | 3.73 | 7.80 | 17.07 | 1.59 | 1.70 | 3.26 | 2.43 | 3.24 | | | | | | |
| P19C | 3.32 | 7.29 | 40.82 | 17.84 | 2.34 | 1.45 | 2.37 | 0.16 | 2.16 | | | | | | |
| P21C | 6.61 | 7.80 | 17.23 | 18.56 | 9.37 | 3.09 | 3.17 | 0.14 | 0.29 | | | | | | |
| P22C | 7.72 | 11.54 | 17.11 | 19.34 | 11.79 | 4.28 | 3.50 | 0.16 | 0.14 | | | | | | |
| P23C | 4.97 | 15.07 | 18.41 | 18.69 | 7.90 | 2.85 | 1.19 | 2.09 | 0.16 | | | | | | |
| P24C | 9.37 | 14.65 | 21.10 | 14.95 | 12.53 | 5.08 | 1.39 | 2.82 | 0.16 | | | | | | |
| P25C | 6.10 | 19.65 | 38.68 | 23.93 | 28.89 | 7.25 | 2.67 | 8.78 | 3.82 | | | | | | |
| P26C | 11.80 | 19.33 | 35.44 | 30.30 | 32.81 | 5.40 | 2.30 | 16.67 | 8.22 | | | | | | |
| P27C | 9.63 | 24.90 | 25.09 | 23.38 | 11.11 | 2.47 | 15.30 | 2.42 | 1.30 | | | | | | |
| P28C | 5.68 | 10.57 | 21.62 | 21.22 | 12.78 | 7.82 | 4.73 | 3.87 | 3.00 | | | | | | |
| P29C | 3.24 | 6.17 | 10.74 | 10.27 | 9.73 | 9.81 | 4.01 | 4.01 | 3.11 | | | | | | |
| GENERAL | 10.14 | | | | | | | | | | | | | | |

Appendix Table 30. EC values (mmhos/cm) for saturation extracts of soil samples taken within or outside of (east of) trickle-irrigated plots (spring 1972, prior to planting)

| PLOT NO. | DEPTH (CM) | | | | |
|--------------|------------|-------|-------|-------|--|
| | 0-20 | 20-40 | 40-60 | 60-90 | |
| T 2E | 1.29 | 1.18 | 1.22 | 1.48 | |
| T 3 | 1.02 | 1.16 | 1.39 | | |
| T 3E | 1.81 | 2.22 | 3.55 | 3.61 | |
| T 5 | 1.78 | 1.94 | 2.11 | 1.85 | |
| T 6 | 2.85 | 4.23 | 4.94 | 5.02 | |
| MEAN | 1.75 | 2.15 | 2.65 | 2.99 | |
| STD. DEV. | 0.70 | 1.25 | 1.59 | 1.64 | |
| GENERAL MEAN | 2.38 | | | | |

Appendix Table 31. EC values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (Dec. 1972).^e

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| T 1, CENTER | 2.80 | 2.20 | 1.44 | 1.34 | 1.32 | 1.30 | 0.90 | 1.32 | | |
| T 1, CENTER | 3.02 | 1.82 | 1.28 | 1.52 | 1.32 | 1.02 | 1.18 | 1.02 | | |
| T 2, CENTER | 3.07 | 2.24 | 1.90 | 3.18 | 1.60 | 1.24 | 1.46 | 1.36 | | |
| T 3, CENTER | 1.06 | 1.70 | 1.70 | 1.50 | 3.68 | 1.40 | 0.82 | 1.58 | | |
| T 3, CENTER | 4.70 | 1.34 | 2.52 | 2.72 | 1.34 | 1.16 | 2.22 | 1.06 | | |
| T 4, CENTER | 0.94 | 2.80 | 2.48 | 2.92 | 2.58 | 2.06 | 1.74 | 0.90 | | |
| T 4, CENTER | 0.94 | 1.60 | 2.68 | 4.10 | 2.88 | 2.64 | 1.50 | 1.18 | | |
| T 5, CENTER | 1.62 | 2.64 | 3.44 | 4.52 | 3.30 | 3.10 | 2.12 | 0.94 | | |
| T 5, CENTER | 2.40 | 3.40 | 2.52 | 2.90 | 3.92 | 3.58 | 2.64 | 2.29 | | |
| T 6, CENTER | 2.44 | 2.68 | 2.16 | 2.74 | 2.74 | 2.30 | 1.80 | 1.52 | | |
| T 6, CENTER | 2.28 | 2.16 | 3.04 | 2.86 | 3.06 | 2.34 | 1.86 | 1.36 | | |
| MEAN | 2.44 | 2.22 | 2.35 | 2.69 | 2.57 | 2.18 | 1.66 | 1.31 | | |
| STD. DEV. | 0.99 | 0.58 | 0.68 | 0.99 | 0.85 | 0.72 | 0.53 | 0.38 | | |
| MEAN, CENTER | 1.91 | 2.16 | 2.35 | 2.85 | 2.86 | 2.38 | 1.76 | 1.43 | | |
| GENERAL MEAN | 2.18 | | | | | | | | | |

Appendix Table 32. EC_e values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (May 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| 1, CENTER | 1.27 | 1.17 | 1.45 | 2.00 | 2.03 | 2.56 | 1.56 | 1.81 |
| 1, CENTER | 1.05 | 1.23 | 1.74 | 2.29 | 2.52 | 2.07 | 2.02 | 1.45 |
| 2, CENTER | 1.15 | 1.65 | 1.65 | 1.40 | 2.37 | 2.74 | 2.17 | 1.03 |
| 3, CENTER | 1.40 | 1.54 | 2.58 | 1.91 | 2.20 | 2.56 | 2.63 | 3.79 |
| 4, CENTER | 1.26 | 1.44 | 1.22 | 1.58 | 2.07 | 2.95 | 2.96 | 3.00 |
| 5, CENTER | 1.58 | 1.65 | 1.94 | 1.77 | 5.08 | 5.52 | 3.09 | 1.91 |
| 5, CENTER | 1.53 | 2.34 | 1.67 | 1.73 | 4.28 | 4.62 | 4.09 | 1.90 |
| 5, CENTER | 1.59 | 2.34 | 1.88 | 1.99 | 3.53 | 4.11 | 4.84 | 3.39 |
| 6, CENTER | 1.44 | 1.28 | 1.37 | 1.97 | 2.53 | 3.00 | 2.71 | 2.58 |
| 6, CENTER | 2.44 | 2.06 | 2.30 | 2.01 | 3.26 | 3.39 | 3.23 | 2.28 |
| MEAN | 1.91 | 1.80 | 1.94 | 2.53 | 2.93 | 3.55 | 3.03 | 2.53 |
| STD. DEV. | 0.85 | 0.53 | 0.52 | 1.08 | 0.90 | 1.07 | 1.13 | 0.69 |
| MEAN, ROW | 1.28 | 1.48 | 1.77 | 2.36 | 2.91 | 3.70 | 3.25 | 2.57 |
| MEAN, CENTER | 2.53 | 2.13 | 2.12 | 2.70 | 2.95 | 3.39 | 2.80 | 2.49 |
| GENERAL MEAN | | | | | | | | |

Appendix Table 33. EC values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (Dec. 1973)^e.

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, | 2.42 | 1.44 | 2.00 | 3.58 | 2.66 | 2.84 | 3.08 | 1.36 |
| T 1, | 1.80 | 1.94 | 2.62 | 3.60 | 4.27 | 3.78 | 1.22 | 1.76 |
| T 2, | 0.62 | 1.56 | 1.86 | 2.80 | 2.78 | 2.84 | 1.24 | 0.42 |
| T 3, | 1.42 | 1.76 | 1.46 | 2.42 | 2.34 | 1.16 | 1.92 | 0.46 |
| T 3, | 2.20 | 2.42 | 2.38 | 2.44 | 3.04 | 1.74 | 1.84 | 1.60 |
| T 4, | 1.56 | 1.96 | 2.40 | 3.04 | 3.10 | 4.08 | 0.84 | 2.42 |
| T 4, | 2.56 | 2.36 | 3.14 | 2.72 | 2.42 | 3.02 | 1.34 | 0.76 |
| T 5, | 1.38 | 1.70 | 1.94 | 2.80 | 3.38 | 2.24 | 1.70 | 1.58 |
| T 5, | 1.62 | 1.70 | 2.58 | 2.66 | 2.38 | 2.24 | 2.26 | 1.06 |
| T 6, | 1.80 | 2.44 | 5.66 | 5.00 | 6.18 | 9.32 | 3.82 | 0.72 |
| T 6, | 1.62 | 2.00 | 2.90 | 3.02 | 6.84 | 5.64 | 3.96 | 2.54 |
| MEAN | 1.73 | 1.95 | 2.56 | 3.16 | 3.48 | 3.30 | 2.08 | 1.52 |
| DEV. | 0.49 | 0.33 | 1.09 | 0.72 | 1.52 | 1.45 | 1.04 | 0.95 |
| STD. MEAN, | 1.78 | 1.90 | 2.55 | 3.27 | 3.51 | 3.34 | 2.19 | 1.29 |
| CENTER | 1.69 | 2.00 | 2.56 | 3.05 | 3.55 | 3.26 | 1.97 | 1.75 |
| GENERAL MEAN | 2.47 | | | | | | | |

Appendix Table 34. EC values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (Dec. 1974).^e

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| 1, CENTER | 1.23 | 1.49 | 2.13 | 3.83 | 6.00 | 5.95 | 5.55 | 2.71 |
| 1, CENTER | 1.54 | 2.58 | 2.98 | 7.80 | 5.82 | 5.13 | 4.46 | 2.31 |
| 2, CENTER | 1.57 | 2.87 | 3.18 | 4.46 | 5.38 | 5.46 | 5.46 | 2.38 |
| 2, CENTER | 1.38 | 1.62 | 2.88 | 2.58 | 4.35 | 4.89 | 3.73 | 1.77 |
| 3, CENTER | 1.03 | 1.84 | 1.64 | 2.99 | 2.65 | 3.67 | 2.90 | 1.14 |
| 3, CENTER | 1.80 | 1.10 | 2.30 | 2.54 | 3.55 | 4.12 | 2.12 | 1.83 |
| 4, CENTER | 1.56 | 1.51 | 4.35 | 3.85 | 4.97 | 4.92 | 5.03 | 2.75 |
| 4, CENTER | 0.88 | 1.14 | 1.61 | 5.19 | 5.87 | 5.16 | 4.03 | 1.65 |
| 5, CENTER | 1.82 | 1.02 | 3.58 | 2.20 | 3.61 | 4.27 | 3.41 | 2.37 |
| 5, CENTER | 1.23 | 2.21 | 3.05 | 3.48 | 4.64 | 5.04 | 3.59 | 2.87 |
| 6, CENTER | 2.67 | 3.29 | 5.80 | 4.69 | 6.23 | 7.04 | 6.17 | 5.46 |
| 6, CENTER | 1.90 | 2.41 | 3.02 | 5.17 | 8.86 | 7.39 | 6.50 | 5.96 |
| MEAN | 1.90 | 2.41 | 3.02 | 4.06 | 5.16 | 5.27 | 4.47 | 2.77 |
| STD. DEV. | 0.75 | 0.99 | 1.22 | 1.55 | 1.62 | 1.10 | 1.39 | 1.47 |
| MEAN, CENTER | 1.34 | 1.63 | 2.29 | 3.67 | 4.80 | 5.21 | 4.86 | 2.80 |
| GENERAL MEAN | 2.45 | 3.18 | 3.74 | 4.46 | 5.51 | 5.33 | 4.07 | 2.73 |

Appendix Table 35. EC_e values (mmhos/cm) for saturation extracts of soil samples taken outside of (west or east of) trickle-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 |
| T 1W | 0.80 | 2.35 | 2.33 | 2.74 | 2.64 | 1.99 |
| T 2W | 1.05 | 3.13 | 2.45 | 2.80 | 1.98 | 1.99 |
| T 3W | 1.47 | 3.02 | 3.66 | 2.88 | 2.11 | 2.59 |
| T 1E | 1.85 | 1.90 | 2.29 | 2.40 | 3.56 | 2.03 |
| T 2E | 1.90 | 1.24 | 2.25 | 2.39 | 2.22 | 2.17 |
| T 3E | 1.96 | 2.44 | 2.94 | 2.38 | 2.84 | 3.59 |
| T 4E | 0.59 | 1.17 | 1.82 | 2.71 | 2.84 | 2.94 |
| T 5E | 2.38 | 2.49 | 2.39 | 2.44 | 2.53 | 2.75 |
| T 6E | 3.07 | 3.37 | 4.83 | 4.59 | 5.73 | 5.43 |
| MEAN | 1.56 | 2.35 | 2.77 | 2.80 | 2.98 | 2.60 |
| STD. DEV. | 0.82 | 0.79 | 0.93 | 0.70 | 1.10 | 1.12 |
| GENERAL MEAN | 2.52 | | | | | |

Appendix Table 36. EC_e values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 |
| T 1, CENTER | 2.09 | 1.68 | 2.62 | 4.68 | 5.31 | 1.44 |
| T 2, CENTER | 3.42 | 4.57 | 1.83 | 3.30 | 4.15 | 3.56 |
| T 3, CENTER | 1.78 | 1.04 | 2.62 | 1.48 | 4.30 | 1.91 |
| T 4, CENTER | 2.50 | 2.18 | 1.29 | 4.48 | 5.66 | 3.55 |
| T 5, CENTER | 2.79 | 1.03 | 2.62 | 1.22 | 1.82 | 2.89 |
| T 6, CENTER | 1.44 | 1.90 | 1.31 | 2.13 | 1.04 | 2.43 |
| T 7, CENTER | 3.44 | 1.67 | 1.41 | 1.41 | 4.04 | 1.64 |
| T 8, CENTER | 2.75 | 3.27 | 3.93 | 4.71 | 3.34 | 1.31 |
| T 9, CENTER | 2.14 | 2.80 | 1.55 | 2.30 | 3.11 | 4.47 |
| T 10, CENTER | 1.24 | 2.11 | 2.05 | 2.64 | 2.58 | 4.36 |
| T 11, CENTER | 3.13 | 2.36 | 2.79 | 4.82 | 4.50 | 3.26 |
| MEAN | 2.32 | 2.16 | 2.32 | 2.91 | 3.76 | 2.61 |
| STD. DEV. | 0.85 | 0.97 | 0.91 | 1.42 | 1.25 | 1.36 |
| MEAN, CENTER | 1.69 | 1.63 | 2.16 | 3.65 | 3.95 | 2.64 |
| GENERAL MEAN | 2.85 | 2.68 | 2.47 | 3.65 | 3.95 | 2.58 |

Appendix Table 37. EC_e values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (Dec. 1976).^e

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| T 1, | 2.55 | 1.72 | 2.33 | 3.15 | 5.07 | 3.62 | 1.30 | 1.93 | 1.58 | |
| T 1, CENTER | 4.55 | 1.77 | 2.05 | 3.51 | 3.93 | 4.12 | 1.82 | 1.21 | 1.56 | |
| T 2, | 3.01 | 1.16 | 1.33 | 2.96 | 3.73 | 4.76 | 2.49 | 0.64 | 0.44 | |
| T 2, CENTER | 4.54 | 2.83 | 3.16 | 2.17 | 4.73 | 3.64 | 2.68 | 0.47 | 0.42 | |
| T 3, | 2.45 | 0.52 | 0.78 | 0.92 | 2.45 | 2.15 | 1.58 | 1.02 | 1.12 | |
| T 3, CENTER | 2.75 | 1.70 | 1.56 | 1.21 | 1.84 | 2.25 | 0.98 | 1.02 | 0.70 | |
| T 4, | 3.59 | 1.36 | 0.83 | 2.51 | 2.79 | 3.51 | 1.86 | 0.51 | 0.38 | |
| T 4, CENTER | 2.86 | 3.82 | 1.83 | 3.94 | 1.66 | 5.14 | 2.86 | 0.68 | 0.43 | |
| T 5, | 2.13 | 1.30 | 2.23 | 3.92 | 2.07 | 3.38 | 2.41 | 2.87 | 0.42 | |
| T 5, CENTER | 2.13 | 1.47 | 3.02 | 4.16 | 3.26 | 3.93 | 1.33 | 1.34 | 0.49 | |
| T 6, | 1.64 | 3.06 | 4.75 | 4.48 | 4.16 | 6.06 | 5.49 | 5.08 | 4.83 | |
| T 6, CENTER | 3.72 | 2.08 | 4.90 | 4.75 | 4.85 | 0.15 | 5.86 | 4.09 | 4.68 | |
| MEAN | 3.06 | 1.90 | 2.39 | 3.14 | 3.38 | 4.06 | 2.55 | 1.77 | 1.42 | |
| STD. DEV. | 0.89 | 0.92 | 1.36 | 1.24 | 1.21 | 1.28 | 1.57 | 1.49 | 1.62 | |
| MEAN, ROW | 2.58 | 1.52 | 2.03 | 2.99 | 3.38 | 3.92 | 2.52 | 2.08 | 1.46 | |
| MEAN, CENTER | 3.55 | 2.28 | 2.75 | 3.29 | 3.38 | 4.20 | 2.59 | 1.47 | 1.38 | |
| GENERAL MEAN | 2.63 | | | | | | | | | |

Appendix Table 38. EC values (mmhos/cm) for saturation extracts of soil samples from trickle-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|------------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| T 1, ROW CENTER | 2.01 | 3.55 | 2.16 | 5.07 | 6.68 | 4.34 | 2.28 | 1.65 | 1.73 |
| T 1, CENTER | 4.30 | 3.02 | 2.70 | 3.70 | 2.91 | 3.06 | 1.28 | 1.58 | 2.20 |
| T 2, ROW CENTER | 1.57 | 2.17 | 2.89 | 5.22 | 3.72 | 3.84 | 1.43 | 1.52 | 0.56 |
| T 2, CENTER | 3.96 | 2.08 | 2.08 | 4.19 | 6.32 | 4.37 | 2.74 | 0.66 | 0.41 |
| T 3, ROW CENTER | 1.07 | 1.08 | 2.11 | 2.74 | 2.44 | 2.21 | 1.62 | 0.66 | 0.47 |
| T 3, CENTER | 4.60 | 2.46 | 2.52 | 3.94 | 2.68 | 2.44 | 1.34 | 0.47 | 0.35 |
| T 4, ROW CENTER | 1.24 | 1.20 | 2.75 | 3.34 | 1.96 | 1.40 | 2.02 | 1.65 | 2.85 |
| T 4, CENTER | 4.17 | 4.69 | 4.55 | 3.69 | 3.10 | 1.47 | 4.35 | 1.85 | 0.72 |
| T 5, ROW CENTER | 1.55 | 1.61 | 3.10 | 4.97 | 5.08 | 1.47 | 3.78 | 0.99 | 0.56 |
| T 5, CENTER | 4.25 | 4.54 | 4.13 | 3.38 | 5.08 | 6.76 | 4.97 | 0.57 | 0.60 |
| T 6, ROW CENTER | 2.04 | 4.23 | 5.24 | 6.36 | 8.11 | 9.96 | 6.38 | 5.51 | 4.35 |
| T 6, CENTER | 3.16 | 3.71 | 4.85 | 7.00 | 8.17 | 9.96 | 5.80 | 1.98 | 0.93 |
| MEAN | 2.83 | 2.86 | 3.29 | 4.47 | 4.70 | 4.57 | 3.16 | 1.46 | 1.31 |
| STD. DEV. | 1.37 | 1.28 | 1.18 | 1.29 | 2.22 | 2.03 | 1.83 | 1.37 | 1.25 |
| MEAN, ROW CENTER | 1.58 | 2.31 | 1.04 | 4.62 | 4.68 | 2.14 | 2.91 | 1.83 | 1.75 |
| MEAN, CENTER | 4.07 | 3.42 | 3.54 | 4.32 | 4.71 | 4.00 | 3.41 | 1.08 | 0.87 |
| GENERAL MEAN | 3.18 | | | | | | | | |

Appendix Table 39. Saturation percentages for soil samples taken within or outside of (east of) trickle-irrigated plots (spring 1972, prior to planting).

| PLOT NO. | DEPTH (CM) | | | | |
|--------------|------------|-------|-------|-------|--|
| | 0-20 | 20-40 | 40-60 | 60-90 | |
| T 2E | 70.4 | 78.4 | 36.8 | 35.2 | |
| T 3 | 43.2 | 75.2 | 24.0 | -- | |
| T 3E | 52.8 | 84.0 | 38.4 | 44.8 | |
| T 5 | 65.6 | 89.6 | 54.4 | 46.4 | |
| T 6 | 65.6 | 76.0 | 35.2 | 43.2 | |
| MEAN | 59.5 | 80.6 | 37.8 | 42.4 | |
| STD. | 11.2 | 6.1 | 10.9 | 5.0 | |
| GENERAL MEAN | 55.1 | | | | |

Appendix Table 40. Saturation percentages for soil samples from trickle-irrigated plots (Dec. 1972).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, CENTER | 60.8 | 63.2 | 37.6 | 32.0 | 38.4 | 39.2 | 30.4 | 20.0 |
| T 1, CENTER | 60.0 | 66.4 | 32.0 | 40.8 | 39.2 | 24.0 | 26.4 | 24.0 |
| T 2, CENTER | 56.8 | 60.8 | 50.4 | 36.8 | 38.4 | 40.8 | 30.4 | 28.8 |
| T 2, CENTER | 59.2 | 64.8 | 51.2 | 40.0 | 38.4 | 39.2 | 35.2 | 25.6 |
| T 3, CENTER | 61.6 | 64.0 | 36.0 | 22.0 | 30.4 | 40.0 | 35.2 | 27.2 |
| T 3, CENTER | 58.4 | 60.2 | 38.4 | 52.0 | 40.0 | 28.8 | 30.4 | 23.2 |
| T 4, CENTER | 65.6 | 67.4 | 55.2 | 52.0 | 36.8 | 29.2 | 27.2 | 24.0 |
| T 4, CENTER | 64.0 | 62.4 | 42.4 | 41.6 | 41.6 | 40.8 | 29.6 | 23.2 |
| T 5, CENTER | 68.0 | 68.0 | 38.4 | 38.4 | 39.2 | 39.2 | 31.2 | 26.4 |
| T 5, CENTER | 60.8 | 61.6 | 64.0 | 30.4 | 40.8 | 40.8 | 35.2 | 28.0 |
| T 6, CENTER | 64.8 | 68.0 | 60.8 | 34.4 | 40.8 | 44.0 | 31.2 | 28.8 |
| T 6, CENTER | 61.7 | 64.5 | 46.6 | 37.7 | 37.9 | 38.4 | 30.3 | 25.0 |
| MEAN | 61.7 | 64.5 | 46.6 | 37.7 | 37.9 | 38.4 | 30.3 | 25.0 |
| STD. | 3.3 | 3.0 | 10.5 | 6.2 | 3.6 | 5.0 | 4.1 | 3.1 |
| MEAN, CENTER | 62.1 | 65.2 | 47.6 | 37.5 | 36.8 | 38.8 | 31.2 | 24.1 |
| GENERAL MEAN | 61.2 | 63.9 | 45.6 | 38.0 | 39.1 | 38.0 | 29.3 | 25.9 |
| GENERAL MEAN | 42.8 | | | | | | | |

Appendix Table 41. Saturation percentages for soil samples from trickle-irrigated plots (May 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|--|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | | |
| 1, CENTER | 63.3 | 62.8 | 58.6 | 37.9 | 39.1 | 49.1 | 28.9 | 38.2 | | |
| 2, CENTER | 64.0 | 64.2 | 51.1 | 42.6 | 47.3 | 33.9 | 25.4 | 31.7 | | |
| 3, CENTER | 69.0 | 70.9 | 70.4 | 36.2 | 39.7 | 43.8 | 26.9 | 24.3 | | |
| 4, CENTER | 64.6 | 66.0 | 45.6 | 27.5 | 25.7 | 33.6 | 29.6 | 21.4 | | |
| 5, CENTER | 59.0 | 59.0 | 49.5 | 28.7 | 34.3 | 34.6 | 19.8 | 23.8 | | |
| 6, CENTER | 57.4 | 62.4 | 68.6 | 43.9 | 29.6 | 32.0 | 17.3 | 20.7 | | |
| 1, CENTER | 65.4 | 69.1 | 79.6 | 40.9 | 29.8 | 36.7 | 25.3 | 20.8 | | |
| 2, CENTER | 64.6 | 42.2 | 56.9 | 37.6 | 33.2 | 35.5 | 32.4 | 22.0 | | |
| 3, CENTER | 63.4 | 59.8 | 51.5 | 28.8 | 36.0 | 37.6 | 39.5 | 25.8 | | |
| 4, CENTER | 63.8 | 56.9 | 51.5 | 31.0 | 36.0 | 42.3 | 24.2 | 25.3 | | |
| MEAN | 62.4 | 61.9 | 58.6 | 35.3 | 35.8 | 38.5 | 27.7 | 25.5 | | |
| STD. DEV. | 4.1 | 7.4 | 9.7 | 5.6 | 5.9 | 6.7 | 4.9 | 5.2 | | |
| MEAN, CENTER | 62.5 | 59.2 | 60.9 | 35.4 | 37.3 | 38.9 | 28.3 | 25.4 | | |
| GENERAL MEAN | 43.2 | 64.5 | 56.3 | 35.3 | 37.3 | 38.1 | 27.0 | 25.6 | | |

Appendix Table 42. Saturation percentages for soil samples from trickle-irrigated plots (Dec. 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, CENTER | 58.4 | 78.4 | 41.6 | 44.0 | 45.6 | 36.4 | 28.8 | 28.8 |
| T 1, CENTER | 68.0 | 67.2 | 53.6 | 45.6 | 44.0 | 38.0 | 28.8 | 31.2 |
| T 2, CENTER | 54.4 | 34.4 | 34.4 | 37.6 | 36.8 | 39.2 | 24.8 | 24.8 |
| T 3, CENTER | 53.6 | 54.4 | 32.0 | 30.6 | 38.4 | 48.0 | 28.0 | 25.6 |
| T 3, CENTER | 57.6 | 52.0 | 32.8 | 33.6 | 39.2 | 47.2 | 24.4 | 22.4 |
| T 4, CENTER | 58.4 | 64.0 | 50.6 | 48.8 | 32.0 | 38.4 | 22.4 | 20.0 |
| T 4, CENTER | 52.0 | 63.2 | 36.8 | 38.4 | 35.6 | 31.2 | 22.4 | 23.2 |
| T 5, CENTER | 56.0 | 62.4 | 42.4 | 44.0 | 41.6 | 37.2 | 24.0 | 24.8 |
| T 5, CENTER | 60.0 | 60.8 | 49.6 | 28.8 | 37.8 | 37.6 | 35.2 | 32.8 |
| T 6, CENTER | 54.4 | 60.8 | 52.0 | 30.4 | 43.2 | 44.8 | 52.0 | 33.6 |
| MEAN | 56.8 | 59.1 | 43.6 | 38.9 | 39.1 | 38.3 | 29.9 | 26.2 |
| STD. DEV. | 4.6 | 10.5 | 8.2 | 6.8 | 3.9 | 6.9 | 9.2 | 4.9 |
| MEAN, CENTER | 58.9 | 61.5 | 42.4 | 37.7 | 38.8 | 37.5 | 26.8 | 25.9 |
| GENERAL MEAN | 41.5 | 56.7 | 44.8 | 40.0 | 39.3 | 39.2 | 32.9 | 26.5 |

Appendix Table 43. Saturation percentages for soil samples from trickle-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|------------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, ROW CENTER | 54.4 | 57.6 | 49.6 | 32.8 | 37.6 | 31.2 | 24.8 | 23.2 |
| T 1, ROW CENTER | 54.4 | 54.4 | 68.0 | 34.4 | 36.0 | 32.0 | 21.6 | 21.6 |
| T 2, ROW CENTER | 55.2 | 58.4 | 55.2 | 28.8 | 36.8 | 34.4 | 32.8 | 24.0 |
| T 3, ROW CENTER | 48.0 | 51.2 | 38.4 | 28.0 | 36.8 | 36.0 | 25.6 | 23.2 |
| T 4, ROW CENTER | 52.0 | 50.4 | 32.8 | 29.6 | 32.0 | 35.2 | 26.4 | 24.8 |
| T 4, ROW CENTER | 52.8 | 50.8 | 35.2 | 36.8 | 35.6 | 36.0 | 31.2 | 22.4 |
| T 5, ROW CENTER | 52.8 | 56.6 | 33.6 | 36.0 | 35.2 | 32.8 | 30.4 | 28.8 |
| T 6, ROW CENTER | 51.2 | 53.6 | 60.8 | 40.0 | 36.0 | 42.4 | 30.4 | 31.2 |
| T 6, ROW CENTER | 51.2 | 56.8 | 59.2 | 41.6 | 32.8 | 40.8 | 52.0 | 34.4 |
| MEAN | 50.3 | 54.3 | 48.5 | 35.5 | 34.7 | 35.3 | 32.5 | 26.1 |
| STD. DEV. | 7.2 | 2.5 | 12.4 | 8.7 | 1.9 | 3.4 | 9.9 | 5.6 |
| MEAN, ROW CENTER | 51.6 | 53.6 | 45.5 | 36.7 | 35.5 | 35.7 | 32.9 | 26.5 |
| GENERAL MEAN | 49.1 | 54.9 | 51.5 | 34.3 | 33.9 | 34.9 | 32.1 | 25.7 |

Appendix Table 44. Saturation percentages for soil samples taken outside of (west or east of) trickle-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 |
| T 1W | 46.4 | 44.0 | 54.4 | 34.4 | 34.4 | 32.0 |
| T 1E | 48.8 | 52.0 | 50.4 | 29.6 | 31.2 | 33.6 |
| T 2W | 51.2 | 52.8 | 45.6 | 20.8 | 27.2 | 34.4 |
| T 2E | 49.6 | 52.0 | 36.0 | 36.8 | 34.4 | 33.6 |
| T 3E | 48.0 | 50.4 | 50.4 | 30.4 | 33.6 | 28.0 |
| T 4E | 49.6 | 58.4 | 40.4 | 32.8 | 34.8 | 34.6 |
| T 5E | 48.8 | 50.4 | 46.4 | 39.8 | 40.8 | 34.4 |
| T 6E | 51.2 | 56.0 | 63.2 | 29.6 | 32.0 | 48.0 |
| MEAN | 48.4 | 52.3 | 49.5 | 32.3 | 33.0 | 35.8 |
| STD. DEV. | 2.7 | 4.1 | 8.7 | 5.5 | 3.9 | 5.7 |
| GENERAL MEAN | 39.0 | | | | | |

Appendix Table 45. Saturation percentages for soil samples from trickle-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 |
| T 1, CENTER | 58.4 | 64.0 | 44.9 | 46.1 | 44.7 | 41.2 |
| T 2, CENTER | 49.0 | 60.6 | 67.8 | 39.2 | 43.9 | 47.3 |
| T 3, CENTER | 58.2 | 57.7 | 54.5 | 32.0 | 36.2 | 41.0 |
| T 4, CENTER | 44.8 | 63.2 | 55.8 | 28.4 | 40.2 | 27.5 |
| T 5, CENTER | 54.0 | 58.6 | 58.0 | 30.6 | 32.9 | 26.8 |
| T 6, CENTER | 57.4 | 60.1 | 33.6 | 33.3 | 35.8 | 37.8 |
| T 7, CENTER | 55.2 | 59.7 | 73.6 | 39.6 | 29.0 | 43.6 |
| T 8, CENTER | 51.4 | 60.8 | 59.0 | 35.2 | 42.0 | 44.2 |
| T 9, CENTER | 61.9 | 62.6 | 40.5 | 50.2 | 40.8 | 30.2 |
| T 10, CENTER | 56.2 | 60.2 | 81.1 | 29.6 | 30.8 | 48.8 |
| T 11, CENTER | 39.4 | 63.0 | 70.0 | 23.1 | 32.0 | 47.0 |
| MEAN | 53.2 | 60.5 | 60.6 | 35.9 | 37.0 | 40.3 |
| STD. DEV. | 6.4 | 2.5 | 15.0 | 6.7 | 5.3 | 6.6 |
| GENERAL MEAN | 56.1 | 60.0 | 53.0 | 35.0 | 37.0 | 42.6 |
| GENERAL MEAN | 50.4 | 60.9 | 59.2 | 36.9 | 37.0 | 38.0 |

Appendix Table 46. Saturation percentages for soil samples from trickle-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| 1, CENTER | 58.4 | 64.2 | 37.6 | 42.7 | 44.1 | 37.5 | 23.3 | 23.8 | 60.9 | |
| 1, CENTER | 62.7 | 75.4 | 47.4 | 57.3 | 54.7 | 42.4 | 30.8 | 29.6 | 31.0 | |
| 2, CENTER | 59.5 | 58.2 | 54.0 | 41.7 | 42.5 | 47.5 | 25.8 | 24.3 | 24.3 | |
| 3, CENTER | 55.8 | 63.4 | 56.2 | 32.5 | 33.8 | 41.4 | 26.2 | 25.0 | 25.4 | |
| 3, CENTER | 59.0 | 25.6 | 26.2 | 32.3 | 30.8 | 44.2 | 33.2 | 37.8 | 25.1 | |
| 4, CENTER | 57.6 | 62.1 | 40.5 | 48.2 | 37.1 | 45.3 | 33.2 | 24.2 | 24.6 | |
| 4, CENTER | 55.2 | 56.0 | 36.0 | 43.7 | 30.6 | 43.5 | 31.4 | 23.7 | 26.8 | |
| 5, CENTER | 57.7 | 57.1 | 37.8 | 44.4 | 41.9 | 41.7 | 35.7 | 33.0 | 25.0 | |
| 5, CENTER | 57.4 | 67.2 | 71.9 | 46.5 | 42.6 | 41.3 | 37.3 | 31.1 | 26.5 | |
| 6, CENTER | 55.8 | 66.6 | 69.2 | 34.7 | 39.5 | 52.5 | 42.4 | 46.6 | 47.2 | |
| 6, CENTER | 55.1 | 63.0 | 71.7 | 34.0 | 46.2 | 52.8 | 54.7 | 40.3 | 68.2 | |
| MEAN | 57.7 | 59.6 | 50.4 | 40.5 | 41.4 | 44.1 | 33.5 | 30.6 | 37.3 | |
| STD. DEV. | 2.1 | 12.0 | 15.3 | 8.4 | 6.1 | 5.2 | 8.6 | 7.5 | 17.2 | |
| MEAN, CENTER | 57.9 | 54.6 | 46.7 | 39.9 | 35.8 | 43.9 | 32.3 | 31.5 | 40.7 | |
| GENERAL MEAN | 43.9 | 64.7 | 54.2 | 41.0 | 43.0 | 43.9 | 34.6 | 29.6 | 33.8 | |

Appendix Table 47. Saturation percentages for soil samples from trickle-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|------------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| T 1, ROW CENTER | 53.6 | 57.6 | 47.2 | 46.4 | 50.4 | 40.8 | 22.4 | 24.8 | 30.4 | |
| T 1, ROW CENTER | 50.4 | 57.6 | 38.6 | 44.8 | 56.8 | 44.4 | 28.0 | 32.8 | 26.4 | |
| T 2, ROW CENTER | 55.2 | 57.2 | 37.6 | 49.6 | 44.8 | 48.4 | 27.2 | 23.2 | 26.4 | |
| T 3, ROW CENTER | 62.4 | 57.6 | 43.2 | 36.8 | 42.4 | 43.2 | 24.0 | 24.0 | 26.4 | |
| T 3, ROW CENTER | 55.2 | 64.8 | 45.6 | 36.8 | 37.6 | 47.2 | 32.0 | 25.6 | 25.6 | |
| T 4, ROW CENTER | 58.4 | 60.8 | 46.4 | 35.2 | 39.2 | 44.2 | 26.4 | 25.6 | 25.6 | |
| T 4, ROW CENTER | 56.0 | 62.4 | 55.2 | 48.8 | 37.6 | 43.2 | 25.6 | 37.6 | 36.0 | |
| T 5, ROW CENTER | 56.8 | 61.6 | 48.8 | 50.4 | 41.6 | 44.8 | 41.6 | 25.6 | 24.0 | |
| T 5, ROW CENTER | 56.8 | 54.4 | 38.4 | 44.0 | 40.8 | 40.8 | 37.0 | 24.8 | 28.0 | |
| T 6, ROW CENTER | 58.0 | 58.4 | 38.4 | 45.6 | 41.6 | 31.3 | 22.4 | 21.6 | 23.2 | |
| T 6, ROW CENTER | 58.4 | 60.0 | 73.6 | 50.4 | 45.6 | 47.2 | 56.0 | 48.8 | 39.2 | |
| T 6, ROW CENTER | 58.4 | 60.0 | 64.0 | 40.0 | 52.8 | 45.6 | 41.6 | 32.8 | 24.8 | |
| MEAN | 56.5 | 60.7 | 48.1 | 44.0 | 44.3 | 40.8 | 32.0 | 28.9 | 28.0 | |
| STD. DEV. | 2.9 | 3.8 | 11.2 | 5.7 | 6.1 | 6.7 | 10.2 | 7.9 | 4.9 | |
| MEAN, ROW CENTER | 55.9 | 62.0 | 45.6 | 46.0 | 42.8 | 42.7 | 33.4 | 30.8 | 30.9 | |
| MEAN, CENTER | 57.1 | 59.3 | 46.5 | 42.0 | 45.7 | 38.9 | 30.7 | 27.1 | 25.1 | |
| GENERAL MEAN | 42.6 | | | | | | | | | |

Appendix Table 48. Calculated salt contents (g/100 g soil) of soil samples taken within or outside of (east of) trickle-irrigated plots (spring 1972, prior to planting).

| PLOT NO. | DEPTH (CM) | | | | |
|--------------|------------|-------|-------|-------|--|
| | 0-20 | 20-40 | 40-60 | 60-90 | |
| T 2E | 0.09 | 0.09 | 0.04 | 0.05 | |
| T 3E | 0.04 | 0.09 | 0.03 | | |
| T 5 | 0.10 | 0.19 | 0.14 | 0.16 | |
| T 6 | 0.12 | 0.17 | 0.11 | 0.09 | |
| | 0.19 | 0.32 | 0.17 | 0.22 | |
| MEAN | 0.11 | 0.17 | 0.10 | 0.13 | |
| DEV. | 0.05 | 0.10 | 0.06 | 0.07 | |
| GENERAL MEAN | 0.13 | | | | |

Appendix Table 49. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (Dec. 1972).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, CENTER | 0.17 | 0.14 | 0.05 | 0.04 | 0.05 | 0.05 | 0.03 | 0.03 |
| T 1, CENTER | 0.18 | 0.12 | 0.04 | 0.06 | 0.05 | 0.03 | 0.02 | 0.02 |
| T 2, CENTER | 0.17 | 0.14 | 0.10 | 0.12 | 0.14 | 0.04 | 0.04 | 0.03 |
| T 2, CENTER | 0.16 | 0.11 | 0.09 | 0.06 | 0.07 | 0.08 | 0.05 | 0.05 |
| T 3, CENTER | 0.27 | 0.09 | 0.09 | 0.09 | 0.10 | 0.06 | 0.03 | 0.03 |
| T 3, CENTER | 0.06 | 0.17 | 0.15 | 0.21 | 0.09 | 0.05 | 0.02 | 0.02 |
| T 4, CENTER | 0.15 | 0.16 | 0.18 | 0.20 | 0.12 | 0.08 | 0.05 | 0.05 |
| T 4, CENTER | 0.11 | 0.16 | 0.11 | 0.12 | 0.16 | 0.06 | 0.04 | 0.04 |
| T 5, CENTER | 0.15 | 0.17 | 0.08 | 0.11 | 0.11 | 0.06 | 0.04 | 0.04 |
| T 5, CENTER | 0.15 | 0.15 | 0.19 | 0.09 | 0.12 | 0.07 | 0.04 | 0.04 |
| T 6, CENTER | 0.15 | 0.14 | 0.19 | 0.07 | 0.09 | 0.05 | 0.04 | 0.04 |
| MEAN | 0.15 | 0.14 | 0.11 | 0.10 | 0.10 | 0.08 | 0.05 | 0.03 |
| DEV. | 0.06 | 0.04 | 0.05 | 0.05 | 0.04 | 0.03 | 0.02 | 0.01 |
| MEAN, CENTER | 0.12 | 0.14 | 0.12 | 0.11 | 0.11 | 0.09 | 0.06 | 0.03 |
| GENERAL MEAN | 0.18 | 0.14 | 0.11 | 0.10 | 0.09 | 0.08 | 0.05 | 0.03 |

Appendix Table 50. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (May 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, CENTER | 0.08 | 0.07 | 0.08 | 0.08 | 0.08 | 0.19 | 0.05 | 0.07 |
| T 1, CENTER | 0.09 | 0.13 | 0.09 | 0.10 | 0.12 | 0.09 | 0.05 | 0.05 |
| T 2, CENTER | 0.06 | 0.08 | 0.12 | 0.05 | 0.09 | 0.14 | 0.06 | 0.07 |
| T 2, CENTER | 0.15 | 0.12 | 0.07 | 0.07 | 0.11 | 0.12 | 0.06 | 0.08 |
| T 3, CENTER | 0.09 | 0.10 | 0.15 | 0.05 | 0.06 | 0.12 | 0.10 | 0.06 |
| T 3, CENTER | 0.19 | 0.17 | 0.16 | 0.10 | 0.05 | 0.18 | 0.08 | 0.07 |
| T 4, CENTER | 0.16 | 0.09 | 0.12 | 0.23 | 0.15 | 0.14 | 0.10 | 0.04 |
| T 4, CENTER | 0.10 | 0.11 | 0.15 | 0.15 | 0.13 | 0.19 | 0.12 | 0.04 |
| T 5, CENTER | 0.22 | 0.09 | 0.10 | 0.07 | 0.11 | 0.15 | 0.09 | 0.07 |
| T 5, CENTER | 0.08 | 0.14 | 0.17 | 0.08 | 0.09 | 0.11 | 0.05 | 0.06 |
| T 6, CENTER | 0.13 | 0.07 | 0.12 | 0.06 | 0.12 | 0.14 | 0.09 | 0.07 |
| T 6, CENTER | 0.13 | 0.14 | 0.12 | 0.06 | 0.12 | 0.14 | 0.09 | 0.07 |
| MEAN | 0.12 | 0.11 | 0.11 | 0.09 | 0.10 | 0.13 | 0.08 | 0.06 |
| STD. DEV. | 0.05 | 0.03 | 0.03 | 0.05 | 0.02 | 0.03 | 0.02 | 0.01 |
| MEAN, CENTER | 0.08 | 0.09 | 0.11 | 0.09 | 0.10 | 0.14 | 0.09 | 0.06 |
| GENERAL MEAN | 0.16 | 0.14 | 0.12 | 0.10 | 0.11 | 0.13 | 0.08 | 0.06 |
| GENERAL MEAN | 0.10 | 0.14 | 0.12 | 0.10 | 0.11 | 0.13 | 0.08 | 0.06 |

Appendix Table 51. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (Dec. 1973).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 |
| T 1, CENTER | 0.14 | 0.11 | 0.08 | 0.16 | 0.12 | 0.15 | 0.09 | 0.04 |
| T 1, CENTER | 0.12 | 0.12 | 0.14 | 0.16 | 0.19 | 0.15 | 0.04 | 0.05 |
| T 2, CENTER | 0.11 | 0.10 | 0.06 | 0.11 | 0.11 | 0.08 | 0.04 | 0.01 |
| T 2, CENTER | 0.03 | 0.05 | 0.05 | 0.07 | 0.09 | 0.08 | 0.03 | 0.04 |
| T 3, CENTER | 0.12 | 0.13 | 0.08 | 0.08 | 0.12 | 0.08 | 0.02 | 0.05 |
| T 3, CENTER | 0.09 | 0.13 | 0.12 | 0.14 | 0.10 | 0.18 | 0.07 | 0.02 |
| T 4, CENTER | 0.13 | 0.15 | 0.17 | 0.18 | 0.09 | 0.12 | 0.05 | 0.04 |
| T 4, CENTER | 0.07 | 0.09 | 0.17 | 0.11 | 0.14 | 0.17 | 0.05 | 0.02 |
| T 5, CENTER | 0.09 | 0.11 | 0.11 | 0.12 | 0.05 | 0.06 | 0.05 | 0.02 |
| T 5, CENTER | 0.11 | 0.15 | 0.28 | 0.14 | 0.23 | 0.24 | 0.13 | 0.08 |
| T 6, CENTER | 0.09 | 0.12 | 0.15 | 0.09 | 0.30 | 0.25 | 0.21 | 0.12 |
| MEAN | 0.10 | 0.12 | 0.12 | 0.12 | 0.14 | 0.13 | 0.07 | 0.04 |
| STD. DEV. | 0.03 | 0.03 | 0.06 | 0.03 | 0.07 | 0.06 | 0.05 | 0.03 |
| MEAN, CENTER | 0.10 | 0.12 | 0.11 | 0.12 | 0.13 | 0.13 | 0.06 | 0.04 |
| GENERAL MEAN | 0.10 | 0.11 | 0.12 | 0.12 | 0.14 | 0.13 | 0.07 | 0.05 |

Appendix Table 52. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|------|------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | | |
| 1, CENTER | 0.07 | 0.09 | 0.11 | 0.13 | 0.23 | 0.19 | 0.14 | 0.06 |
| 1, CENTER | 0.11 | 0.14 | 0.20 | 0.27 | 0.21 | 0.17 | 0.10 | 0.05 |
| 2, CENTER | 0.08 | 0.12 | 0.17 | 0.17 | 0.14 | 0.17 | 0.18 | 0.06 |
| 2, CENTER | 0.14 | 0.17 | 0.15 | 0.08 | 0.10 | 0.13 | 0.12 | 0.04 |
| 3, CENTER | 0.07 | 0.09 | 0.07 | 0.08 | 0.11 | 0.15 | 0.06 | 0.03 |
| 3, CENTER | 0.06 | 0.15 | 0.09 | 0.08 | 0.11 | 0.18 | 0.18 | 0.05 |
| 4, CENTER | 0.09 | 0.06 | 0.08 | 0.19 | 0.18 | 0.17 | 0.10 | 0.06 |
| 4, CENTER | 0.19 | 0.24 | 0.28 | 0.08 | 0.23 | 0.16 | 0.11 | 0.07 |
| 5, CENTER | 0.05 | 0.06 | 0.13 | 0.12 | 0.17 | 0.18 | 0.11 | 0.09 |
| 5, CENTER | 0.10 | 0.17 | 0.13 | 0.28 | 0.17 | 0.30 | 0.33 | 0.21 |
| 6, CENTER | 0.06 | 0.12 | 0.15 | 0.22 | 0.20 | 0.30 | 0.34 | 0.21 |
| 6, CENTER | 0.14 | 0.19 | 0.34 | 0.22 | 0.29 | 0.30 | 0.34 | 0.21 |
| MEAN | 0.10 | 0.13 | 0.15 | 0.15 | 0.18 | 0.19 | 0.15 | 0.08 |
| STD. DEV. | 0.04 | 0.05 | 0.09 | 0.07 | 0.05 | 0.05 | 0.09 | 0.06 |
| MEAN, CENTER | 0.07 | 0.09 | 0.11 | 0.14 | 0.17 | 0.19 | 0.17 | 0.08 |
| MEAN, CENTER | 0.12 | 0.17 | 0.20 | 0.16 | 0.15 | 0.19 | 0.14 | 0.08 |
| GENERAL MEAN | 0.14 | 0.17 | 0.20 | 0.16 | 0.15 | 0.19 | 0.14 | 0.08 |

Appendix Table 53. Calculated salt contents (g/100 g soil) of soil samples taken outside of (west or east of) trickle-irrigated plots (Dec. 1974).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| T 1W | 0.04 | 0.10 | 0.13 | 0.09 | 0.09 | 0.06 | 0.06 | 0.06 | 0.07 |
| T 2W | 0.05 | 0.16 | 0.12 | 0.08 | 0.06 | 0.07 | 0.07 | 0.07 | 0.07 |
| T 3W | 0.08 | 0.16 | 0.17 | 0.06 | 0.06 | 0.11 | 0.12 | 0.12 | 0.07 |
| T 1E | 0.09 | 0.10 | 0.08 | 0.09 | 0.10 | 0.06 | 0.09 | 0.09 | 0.04 |
| T 2E | 0.04 | 0.06 | 0.11 | 0.07 | 0.11 | 0.07 | 0.08 | 0.08 | 0.04 |
| T 3E | 0.10 | 0.14 | 0.12 | 0.07 | 0.10 | 0.12 | 0.08 | 0.03 | 0.03 |
| T 4E | 0.03 | 0.06 | 0.08 | 0.11 | 0.08 | 0.11 | 0.07 | 0.03 | 0.03 |
| T 5E | 0.12 | 0.14 | 0.14 | 0.09 | 0.10 | 0.08 | 0.05 | 0.06 | 0.06 |
| T 6E | 0.16 | 0.19 | 0.31 | 0.14 | 0.18 | 0.26 | 0.21 | 0.18 | 0.18 |
| MEAN | 0.08 | 0.12 | 0.14 | 0.09 | 0.10 | 0.11 | 0.09 | 0.06 | 0.06 |
| STD. DEV. | 0.04 | 0.05 | 0.07 | 0.02 | 0.04 | 0.06 | 0.05 | 0.05 | 0.05 |
| GENERAL MEAN | 0.10 | | | | | | | | |

Appendix Table 54. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (May 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 |
| T 1, CENTER | 0.12 | 0.11 | 0.12 | 0.22 | 0.24 | 0.17 | 0.04 | 0.03 | 0.07 |
| T 1, CENTER | 0.17 | 0.28 | 0.12 | 0.16 | 0.18 | 0.17 | 0.09 | 0.05 | 0.10 |
| T 2, CENTER | 0.12 | 0.06 | 0.09 | 0.04 | 0.16 | 0.17 | 0.19 | 0.19 | 0.02 |
| T 3, CENTER | 0.08 | 0.14 | 0.20 | 0.13 | 0.23 | 0.14 | 0.13 | 0.03 | 0.01 |
| T 3, CENTER | 0.15 | 0.06 | 0.08 | 0.04 | 0.06 | 0.11 | 0.06 | 0.07 | 0.03 |
| T 4, CENTER | 0.18 | 0.10 | 0.10 | 0.05 | 0.07 | 0.18 | 0.06 | 0.03 | 0.03 |
| T 4, CENTER | 0.19 | 0.18 | 0.10 | 0.17 | 0.14 | 0.12 | 0.13 | 0.04 | 0.03 |
| T 5, CENTER | 0.14 | 0.14 | 0.11 | 0.06 | 0.14 | 0.15 | 0.11 | 0.14 | 0.05 |
| T 5, CENTER | 0.13 | 0.11 | 0.10 | 0.12 | 0.12 | 0.16 | 0.12 | 0.14 | 0.02 |
| T 6, CENTER | 0.12 | 0.15 | 0.20 | 0.08 | 0.08 | 0.22 | 0.31 | 0.13 | 0.14 |
| T 6, CENTER | 0.12 | 0.15 | 0.20 | 0.16 | 0.14 | 0.27 | 0.30 | 0.22 | 0.20 |
| MEAN | 0.12 | 0.13 | 0.15 | 0.11 | 0.14 | 0.16 | 0.14 | 0.09 | 0.06 |
| STD. DEV. | 0.04 | 0.06 | 0.08 | 0.06 | 0.06 | 0.05 | 0.09 | 0.07 | 0.06 |
| MEAN, CENTER | 0.09 | 0.10 | 0.14 | 0.08 | 0.14 | 0.17 | 0.14 | 0.10 | 0.06 |
| GENERAL MEAN | 0.12 | | | | | | | | |

Appendix Table 55. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|------------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| T 1, | 0.15 | 0.11 | 0.09 | 0.13 | 0.22 | 0.14 | 0.03 | 0.05 | 0.10 | |
| T 1, | 0.28 | 0.13 | 0.10 | 0.20 | 0.22 | 0.18 | 0.05 | 0.04 | 0.05 | |
| T 2, | 0.18 | 0.07 | 0.07 | 0.12 | 0.16 | 0.23 | 0.07 | 0.02 | 0.01 | |
| T 3, | 0.27 | 0.18 | 0.18 | 0.07 | 0.21 | 0.17 | 0.05 | 0.01 | 0.01 | |
| T 3, | 0.14 | 0.01 | 0.02 | 0.03 | 0.08 | 0.08 | 0.03 | 0.05 | 0.02 | |
| T 4, | 0.16 | 0.11 | 0.06 | 0.04 | 0.08 | 0.16 | 0.03 | 0.01 | 0.01 | |
| T 4, | 0.17 | 0.08 | 0.03 | 0.12 | 0.10 | 0.22 | 0.06 | 0.02 | 0.01 | |
| T 5, | 0.20 | 0.22 | 0.07 | 0.17 | 0.05 | 0.14 | 0.09 | 0.09 | 0.01 | |
| T 5, | 0.12 | 0.07 | 0.13 | 0.19 | 0.09 | 0.16 | 0.05 | 0.04 | 0.01 | |
| T 6, | 0.09 | 0.10 | 0.22 | 0.16 | 0.14 | 0.32 | 0.23 | 0.24 | 0.23 | |
| T 6, | 0.21 | 0.13 | 0.35 | 0.16 | 0.22 | 0.33 | 0.32 | 0.16 | 0.32 | |
| MEAN | 0.18 | 0.12 | 0.14 | 0.13 | 0.14 | 0.18 | 0.10 | 0.06 | 0.07 | |
| STD. DEV. | 0.06 | 0.06 | 0.11 | 0.06 | 0.06 | 0.08 | 0.09 | 0.07 | 0.10 | |
| MEAN, ROW CENTER | 0.15 | 0.09 | 0.11 | 0.12 | 0.14 | 0.18 | 0.09 | 0.08 | 0.07 | |
| GENERAL MEAN | 0.21 | 0.14 | 0.16 | 0.14 | 0.15 | 0.19 | 0.10 | 0.05 | 0.07 | |
| GENERAL MEAN | 0.12 | | | | | | | | | |

Appendix Table 56. Calculated salt contents (g/100 g soil) of soil samples from trickle-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| T 1, CENTER | 0.11 | 0.20 | 0.10 | 0.24 | 0.34 | 0.17 | 0.05 | 0.04 | 0.05 | |
| T 1, CENTER | 0.22 | 0.17 | 0.10 | 0.17 | 0.17 | 0.14 | 0.04 | 0.05 | 0.06 | |
| T 2, CENTER | 0.09 | 0.15 | 0.11 | 0.26 | 0.17 | 0.15 | 0.04 | 0.01 | 0.01 | |
| T 2, CENTER | 0.25 | 0.12 | 0.09 | 0.15 | 0.27 | 0.19 | 0.07 | 0.02 | 0.01 | |
| T 3, CENTER | 0.06 | 0.15 | 0.10 | 0.14 | 0.09 | 0.11 | 0.05 | 0.01 | 0.01 | |
| T 3, CENTER | 0.27 | 0.07 | 0.12 | 0.16 | 0.17 | 0.19 | 0.04 | 0.01 | 0.01 | |
| T 4, CENTER | 0.24 | 0.29 | 0.15 | 0.19 | 0.13 | 0.24 | 0.05 | 0.06 | 0.10 | |
| T 4, CENTER | 0.09 | 0.29 | 0.22 | 0.22 | 0.21 | 0.28 | 0.18 | 0.02 | 0.02 | |
| T 5, CENTER | 0.24 | 0.27 | 0.16 | 0.15 | 0.21 | 0.18 | 0.14 | 0.02 | 0.02 | |
| T 5, CENTER | 0.12 | 0.28 | 0.39 | 0.32 | 0.37 | 0.33 | 0.11 | 0.02 | 0.01 | |
| T 6, CENTER | 0.18 | 0.22 | 0.31 | 0.28 | 0.43 | 0.32 | 0.36 | 0.27 | 0.17 | |
| T 6, CENTER | 0.16 | 0.17 | 0.17 | 0.20 | 0.21 | 0.19 | 0.11 | 0.05 | 0.04 | |
| MEAN | 0.08 | 0.08 | 0.10 | 0.07 | 0.12 | 0.09 | 0.10 | 0.07 | 0.05 | |
| STD. DEV. | 0.09 | 0.14 | 0.16 | 0.22 | 0.21 | 0.22 | 0.12 | 0.07 | 0.05 | |
| MEAN, CENTER | 0.23 | 0.20 | 0.17 | 0.18 | 0.22 | 0.16 | 0.11 | 0.07 | 0.06 | |
| GENERAL MEAN | 0.15 | | | | | | | 0.03 | 0.02 | |

Appendix Table 57. Chloride concentrations (meq/l) of saturation extracts of soil samples from trickle-irrigated plots (Dec. 1976).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| T 1, CENTER | 7.10 | 4.11 | 5.02 | 9.31 | 18.81 | 16.38 | 3.45 | 6.13 | 4.53 | |
| T 1, CENTER | 16.31 | 5.17 | 6.67 | 17.91 | 25.58 | 18.29 | 5.47 | 3.06 | 4.23 | |
| T 2, CENTER | 10.31 | 2.18 | 2.63 | 17.66 | 10.35 | 16.14 | 8.25 | 0.94 | 0.34 | |
| T 2, CENTER | 14.20 | 5.02 | 4.59 | 6.59 | 17.01 | 12.11 | 10.08 | 0.70 | 0.48 | |
| T 3, CENTER | 6.29 | 0.72 | 1.52 | 1.77 | 5.61 | 2.20 | 1.39 | 3.65 | 2.39 | |
| T 3, CENTER | 6.79 | 3.79 | 2.81 | 2.21 | 3.65 | 5.11 | 1.99 | 1.89 | 1.19 | |
| T 4, CENTER | 7.30 | 3.35 | 1.36 | 4.76 | 5.03 | 13.61 | 5.34 | 0.86 | 0.50 | |
| T 4, CENTER | 12.09 | 7.79 | 3.19 | 5.86 | 4.03 | 23.94 | 10.93 | 1.30 | 0.55 | |
| T 5, CENTER | 18.04 | 2.40 | 5.68 | 7.74 | 5.77 | 11.02 | 17.44 | 9.31 | 0.52 | |
| T 5, CENTER | 5.38 | 2.70 | 7.71 | 14.23 | 9.17 | 19.17 | 3.79 | 3.89 | 0.68 | |
| T 5, CENTER | 4.55 | 3.51 | 11.60 | 12.09 | 17.71 | 23.07 | 22.08 | 17.02 | 12.76 | |
| T 6, CENTER | 12.93 | 4.30 | 18.82 | 10.69 | 5.48 | 63.66 | 24.08 | 17.43 | 12.94 | |
| MEAN | 9.27 | 3.75 | 5.13 | 8.40 | 10.68 | 13.56 | 8.82 | 5.51 | 3.43 | |
| STD. DEV. | 3.81 | 1.79 | 3.13 | 4.77 | 7.28 | 15.77 | 7.22 | 6.01 | 4.64 | |
| MEAN, CENTER | 7.25 | 2.71 | 4.63 | 7.22 | 10.55 | 15.07 | 8.38 | 6.32 | 3.51 | |
| GENERAL MEAN | 11.28 | 4.79 | 5.63 | 9.58 | 10.82 | 22.05 | 9.38 | 4.71 | 3.34 | |
| GENERAL MEAN | 8.17 | | | | | | | | | |

Appendix Table 58. Chloride concentrations (meq/l) of saturation extracts of soil samples from trickle-irrigated plots (Dec. 1977).

| PLOT NO. | DEPTH (CM) | | | | | | | | | |
|--------------|------------|-------|-------|-------|--------|---------|---------|---------|---------|--|
| | 0-20 | 20-40 | 40-60 | 60-80 | 80-100 | 100-120 | 120-140 | 140-160 | 160-180 | |
| 1, CENTER | 6.20 | 10.38 | 10.58 | 20.40 | 31.15 | 20.35 | 4.38 | 3.78 | 3.80 | |
| 2, CENTER | 20.93 | 17.00 | 17.20 | 13.10 | 14.03 | 11.88 | 3.58 | 9.85 | 5.88 | |
| 3, CENTER | 14.15 | 5.03 | 8.79 | 27.46 | 14.09 | 12.61 | 3.48 | 0.22 | 0.78 | |
| 4, CENTER | 14.26 | 5.60 | 5.12 | 21.33 | 13.39 | 17.08 | 9.75 | 1.20 | 0.19 | |
| 5, CENTER | 28.53 | 7.32 | 4.34 | 8.66 | 7.22 | 9.92 | 1.37 | 0.88 | 0.22 | |
| 6, CENTER | 2.10 | 15.25 | 6.81 | 13.41 | 10.12 | 7.80 | 5.19 | 0.34 | 0.16 | |
| 1, CENTER | 15.36 | 19.68 | 7.20 | 11.49 | 18.41 | 38.60 | 7.27 | 5.31 | 14.31 | |
| 2, CENTER | 13.40 | 3.30 | 19.04 | 24.84 | 11.28 | 3.59 | 17.33 | 1.50 | 0.72 | |
| 3, CENTER | 11.69 | 19.25 | 14.27 | 12.98 | 25.20 | 30.17 | 15.65 | 2.97 | 0.57 | |
| 4, CENTER | 14.24 | 12.96 | 17.34 | 29.85 | 50.53 | 30.32 | 19.83 | 2.09 | 1.00 | |
| 5, CENTER | 10.37 | 15.68 | 14.72 | 31.00 | 44.35 | 31.01 | 28.73 | 20.98 | 18.71 | |
| 6, CENTER | 10.24 | 10.37 | 10.43 | 19.14 | 23.25 | 21.87 | 11.38 | 4.56 | 4.04 | |
| MEAN | 8.34 | 6.03 | 4.85 | 7.73 | 14.58 | 13.74 | 8.92 | 5.87 | 6.01 | |
| STD. DEV. | 3.63 | 8.32 | 9.64 | 20.39 | 23.39 | 25.46 | 9.65 | 5.69 | 6.31 | |
| GENERAL MEAN | 12.81 | 12.42 | 11.22 | 17.88 | 23.11 | 18.28 | 13.12 | 3.43 | 1.78 | |

Appendix Table 59. Mean field water contents (cm^3/cm^3) as measured with a neutron probe between June 5, 1973 and July 5, 1973.

| Plot No. | Depth (cm) | | | | | | | | |
|----------|------------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 25 | 37.5 | 50 | 62.5 | 75 | 100 | 125 | 150 | 180 |
| 1 | 37.4 | 38.1 | 39.6 | 40.9 | 32.7 | 10.4 | 8.5 | 8.4 | -- |
| 2 | 37.4 | 40.5 | 42.4 | 38.4 | 28.4 | 7.9 | 6.9 | 9.4 | -- |
| 3 | 38.1 | 39.6 | 42.5 | 41.8 | 36.6 | 11.7 | 6.5 | 6.1 | -- |
| 5 | 38.2 | 39.4 | 42.8 | 40.1 | 33.6 | 14.2 | 9.2 | 6.3 | -- |
| 6 | 37.9 | 40.0 | 41.8 | 39.4 | 31.2 | 25.2* | 12.6 | 9.4 | -- |
| 7 | 37.8 | 38.2 | 39.5 | 40.3 | 35.0 | 12.8 | 10.2 | 8.3 | -- |
| 8 | 39.1 | 41.2 | 43.5 | 38.9 | 36.0 | 8.9 | 10.2 | 13.7 | -- |
| 9 | 37.7 | 40.5 | 41.6 | 41.6 | 38.6 | 34.3* | 10.8 | 12.7 | -- |
| 10 | 39.8 | 41.1 | 42.7 | 39.9 | 38.2 | 11.4 | 16.1 | 11.5 | -- |
| 11 | 39.7 | 40.1 | 40.2 | 39.7 | 35.4 | 23.0* | 6.5 | 6.5 | -- |
| 12 | 39.5 | 40.9 | 43.2 | 37.7 | 23.9 | 11.8 | 7.3 | 10.8 | -- |
| 13 | 39.3 | 40.0 | 42.4 | 43.1 | 35.5 | 8.7 | 7.4 | 11.2 | -- |
| 14 | 38.7 | 41.4 | 44.1 | 39.5 | 35.2 | 11.7 | 11.8 | 13.1 | -- |
| 15 | 39.8 | 41.5 | 43.3 | 37.8 | 29.0 | 13.8 | 9.6 | 10.1 | |
| 16 | 38.6 | 40.3 | 42.8 | 36.1 | 30.5 | 10.5 | 9.0 | 8.0 | -- |
| 17 | 37.8 | 40.7 | 43.1 | 37.8 | 31.9 | 16.3 | 11.8 | 7.1 | -- |
| 18 | 38.0 | 40.3 | 43.1 | 42.6 | 35.5 | 15.2 | 13.2 | 9.9 | -- |
| 20 | 38.9 | 41.2 | 43.1 | 41.1 | 34.5 | 10.4 | 11.9 | 11.7 | -- |
| 21 | 37.0 | 36.0* | 34.2* | 37.6 | 40.3* | 42.5* | 29.9* | 12.3 | 8.5 |
| 22 | 35.9 | 32.3* | 27.5* | 31.2* | 26.5 | 40.6* | 25.3* | 16.0* | 24.2* |
| 23 | 37.5 | 36.5* | 33.8* | 34.9* | 31.1 | 39.7* | 38.8* | 16.8* | 16.8* |
| 24 | 36.0 | 39.9 | 41.5 | 33.7* | 27.0 | 40.1* | 22.4* | 7.5 | 8.5 |
| 25 | 37.2 | 40.9 | 42.3 | 42.6 | 42.9 | 44.6* | 41.1* | 24.4* | 33.5* |
| 26 | 38.9 | 42.5 | 43.4 | 44.6 | 43.1 | 45.1* | 42.3* | 20.9* | 6.8 |
| 27 | 39.6 | 41.4 | 41.6 | 42.2 | 43.5 | 33.7* | 8.3 | 8.2 | 7.0 |
| 29 | 38.9 | 41.4 | 43.1 | 43.0 | 42.7 | 37.2* | 19.6* | 7.2 | 10.3 |
| 30 | 38.4 | 39.8 | 42.7 | 42.6 | 36.8 | 11.5 | 10.1 | 6.7 | 7.6 |
| Mean | 38.3 | 40.4 | 42.3 | 40.4 | 34.4 | 11.7 | 9.9 | 9.4 | 8.1 |
| Std.dev | 1.1 | 1.0 | 1.2 | 2.2 | 5.2 | 2.3 | 2.5 | 2.4 | 1.3 |
| n | 27 | 24 | 24 | 24 | 26 | 16 | 20 | 23 | 6 |

*Value eliminated from the mean and standard deviation.

Appendix Table 60. Cotton yield and quality for 1976.

| Plot No. | Surface-Irrigated Plots | | | | | | |
|----------|-------------------------|-----------|--------------|---------------------|-----|----------|------------|
| | Yield kg/ha | Lint % | 2.5% Span | Uniformity Ratio | MIC | Strength | Elongation |
| P 1A | 1,351 | 39.0 | 1.15 | 47.0 | 3.7 | 20.9 | 7.0 |
| P 2A | 1,227 | 41.8 | 1.13 | 46.9 | 3.4 | 22.8 | 6.8 |
| P 3A | 1,272 | 36.5 | 1.10 | 48.2 | 3.2 | 23.7 | 8.3 |
| P 4A | 975 | 41.3 | 1.17 | 47.0 | 3.4 | 24.3 | 7.0 |
| P 5A | 1,239 | 36.2 | 1.12 | 48.2 | 3.7 | 23.9 | 6.5 |
| P 6A | 1,261 | 36.5 | 1.18 | 48.3 | 3.7 | 22.5 | 7.8 |
| P 7A | 1,485 | 36.8 | 1.19 | 46.2 | 3.9 | 23.4 | 7.0 |
| P 8A | 1,373 | 37.7 | 1.18 | 45.8 | 3.5 | 22.6 | 6.3 |
| P 9A | 773 | 41.1 | 1.11 | 47.7 | 3.1 | 23.0 | 7.3 |
| P11A | 1,317 | 42.5 | 1.15 | 47.8 | 4.6 | 21.7 | 7.3 |
| P12A | 1,452 | 38.5 | 1.17 | 45.3 | 3.4 | 24.6 | 6.0 |
| P13A | 1,424 | 42.3 | 1.15 | 47.8 | 3.6 | 23.9 | 8.0 |
| P14A | 717 | 39.0 | 1.06 | 47.2 | 3.6 | 22.1 | 6.5 |
| P15A | 986 | 41.1 | 1.12 | 48.2 | 3.6 | 21.0 | 6.8 |
| P16A | 1,267 | 40.8 | 1.16 | 45.7 | 3.7 | 22.2 | 8.0 |
| P17A | 1,418 | 36.6 | 1.19 | 50.4 | 3.9 | 23.4 | 8.3 |
| P18A | 1,227 | 40.5 | 1.12 | 49.0 | 3.5 | 22.8 | 7.0 |
| P19A | 1,026 | 40.2 | 1.19 | 47.1 | 3.5 | 22.4 | 6.3 |
| P21A | 1,581 | 39.1 | 1.26 | 49.2 | 3.7 | 21.8 | 8.0 |
| P22A | 1,440 | 39.0 | 1.23 | 48.9 | 3.2 | 22.7 | 6.8 |
| P23A | 1,424 | 39.7 | 1.10 | 49.1 | 3.7 | 23.8 | 7.3 |
| P24A | 1,295 | 36.5 | 1.18 | 44.1 | 3.5 | 21.3 | 7.5 |
| P25A | 1,261 | 36.2 | 1.15 | 47.8 | 3.2 | 21.1 | 7.0 |
| P26A | 1,541 | 38.5 | 1.14 | 44.7 | 3.5 | 24.2 | 8.3 |
| P27A | 1,603 | 36.2 | 1.19 | 47.1 | 4.0 | 22.6 | 7.3 |
| P28A | 1,356 | 39.6 | 1.14 | 49.1 | 3.6 | 21.7 | 6.8 |
| P29A | 1,581 | 38.0 | 1.17 | 45.3 | 3.2 | 22.1 | 8.0 |
| | | | | | | | |
| P 1B | 1,614 | 36.7 | 1.18 | 42.4 | 3.6 | 21.9 | 7.5 |
| P 2B | 1,530 | 37.7 | 1.17 | 45.3 | 3.3 | 21.4 | 7.5 |
| P 3B | 1,390 | 34.9 | 1.21 | 47.1 | 3.8 | 24.5 | 9.0 |
| P 4B | 1,480 | 35.6 | 1.19 | 44.5 | 2.8 | 23.6 | 9.3 |
| P 5B | 1,452 | 36.3 | 1.24 | 47.6 | 3.1 | 21.8 | 7.8 |
| P 6B | 1,446 | 34.8 | 1.23 | 43.1 | 3.6 | 21.5 | 6.3 |
| P 7B | 1,468 | 36.6 | 1.19 | 46.2 | 3.1 | 22.4 | 7.5 |
| P 8B | 1,502 | 36.8 | 1.14 | 41.2 | 2.9 | 21.2 | 8.0 |
| P 9B | 1,581 | 39.0 | 1.14 | 46.5 | 3.6 | 24.5 | 9.0 |
| P11B | 1,340 | 37.6 | 1.16 | 46.6 | 3.8 | 21.8 | 7.5 |
| P12B | 1,457 | 37.1 | 1.19 | 45.4 | 3.3 | 22.2 | 7.0 |
| P13B | 1,233 | 34.3 | 1.12 | 50.9 | 4.0 | 23.4 | 7.5 |
| P14B | 1,614 | 38.1 | 1.14 | 47.4 | 3.6 | 21.4 | 7.5 |
| P15B | 1,581 | 35.5 | 1.24 | 47.6 | 3.6 | 23.2 | 7.5 |
| P16B | 1,491 | 38.3 | 1.14 | 43.6 | 3.8 | 20.8 | 8.3 |
| P17B | 1,558 | 36.7 | 1.15 | 46.1 | 4.0 | 21.7 | 7.5 |
| P18B | 1,525 | 37.1 | 1.20 | 47.5 | 3.5 | 21.5 | 8.0 |
| P19B | 1,698 | 36.3 | 1.19 | 46.2 | 3.5 | 22.3 | 8.3 |
| P21B | 1,396 | 34.7 | 1.22 | 46.7 | 3.3 | 24.0 | 8.0 |
| P22B | 1,334 | 35.7 | 1.20 | 46.7 | 3.1 | 22.5 | 7.3 |
| P23B | 1,312 | 35.4 | 1.23 | 44.7 | 3.3 | 20.1 | 6.8 |
| P24B | 1,340 | 35.5 | 1.26 | 41.3 | 3.1 | 22.0 | 6.5 |
| P25B | 1,581 | 36.5 | 1.22 | 46.7 | 3.7 | 21.6 | 7.3 |
| P26B | 1,693 | 36.7 | 1.21 | 44.6 | 3.2 | 22.3 | 7.0 |
| P27B | 1,586 | 36.8 | 1.21 | 47.9 | 3.9 | 20.5 | 7.5 |
| P28B | 1,597 | 39.2 | 1.16 | 46.6 | 4.1 | 20.6 | 6.8 |
| P29B | 1,732 | 35.8 | 1.20 | 47.5 | 3.5 | 22.6 | 7.0 |
| | | | | | | | |
| | Trickle-Irrigated Plots | | | | | | |
| T 1 | 1,457 | 39.3 | 1.18 | 45.8 | 3.9 | 23.0 | 6.8 |
| T 2 | 1,239 | 37.0 | 1.22 | 43.4 | 3.9 | 23.3 | 6.8 |
| T 3 | 1,289 | 39.7 | 1.19 | 44.5 | 4.0 | 22.0 | 6.0 |
| T 4 | 1,412 | 38.3 | 1.17 | 46.2 | 3.4 | 24.7 | 6.3 |
| T 5 | 1,205 | 38.4 | 1.19 | 46.2 | 3.8 | 23.5 | 7.0 |
| T 6 | 1,289 | 39.1 | 1.14 | 47.4 | 3.4 | 21.3 | 7.5 |

Appendix Table 61. Cotton yield and quality for 1977.

| Plot No. | Surface-Irrigated Plots | | | | | | |
|----------|-------------------------|-----------|-------------|---------------------|-----|----------|------------|
| | Yield kg/ha | Lint % | 25% Span | Uniformity Ratio | MIC | Strength | Elongation |
| P 1A | 1,289 | 40.0 | 1.22 | 46.7 | 3.9 | 21.3 | 8.5 |
| P 2A | 1,283 | 40.4 | 1.14 | 50.9 | 4.0 | 20.1 | 6.0 |
| P 3A | 1,261 | 40.3 | 1.13 | 48.7 | 4.2 | 19.1 | 8.0 |
| P 4A | 1,306 | 39.4 | 1.23 | 49.6 | 3.7 | 20.9 | 6.0 |
| P 5A | 1,340 | 38.7 | 1.19 | 49.6 | 3.6 | 22.9 | 7.3 |
| P 6A | 600 | 37.2 | 1.20 | 55.0 | 3.8 | 23.5 | 5.8 |
| P 7A | 303 | 35.6 | 1.11 | 49.5 | 3.4 | 22.9 | 7.6 |
| P 8A | 286 | 38.9 | 1.15 | 42.6 | 3.3 | 22.1 | 5.8 |
| P 9A | 437 | 40.4 | 1.14 | 46.5 | 3.6 | 21.2 | 7.0 |
| P11A | 1,026 | 35.5 | 1.19 | 43.7 | 4.0 | 22.9 | 6.5 |
| P12A | 319 | 38.7 | 1.15 | 44.3 | 3.2 | 24.0 | 6.5 |
| P13A | 673 | 42.5 | 1.13 | 43.4 | 3.9 | 25.2 | 7.5 |
| P14A | 1,132 | 42.7 | 1.11 | 45.9 | 3.8 | 23.1 | 7.8 |
| P15A | 1,194 | 40.8 | 1.16 | 46.6 | 4.1 | 22.6 | 7.0 |
| P16A | 1,071 | 38.3 | 1.24 | 54.8 | 4.1 | 23.1 | 7.3 |
| P17A | 1,143 | 39.7 | 1.22 | 50.8 | 3.4 | 24.2 | 7.3 |
| P18A | 706 | 39.7 | 1.16 | 48.3 | 2.9 | 24.2 | 6.8 |
| P19A | 678 | 38.6 | 1.17 | 47.0 | 3.4 | 20.9 | 6.8 |
| P21A | 1,345 | 39.4 | 1.21 | 46.3 | 4.2 | 23.0 | 6.5 |
| P22A | 986 | 40.5 | 1.19 | 49.6 | 4.6 | 23.5 | 6.0 |
| P23A | 1,042 | 38.7 | 1.17 | 48.7 | 4.1 | 23.0 | 7.0 |
| P24A | 762 | 39.5 | 1.15 | 50.4 | 4.5 | 19.7 | 6.8 |
| P25A | 1,491 | 43.0 | 1.14 | 46.5 | 4.0 | 21.0 | 6.8 |
| P26A | 465 | 37.7 | 1.16 | 50.0 | 5.3 | 22.3 | 7.5 |
| P27A | 734 | 40.8 | 1.12 | 47.3 | 4.1 | 23.0 | 7.0 |
| P28A | 1,104 | 41.1 | 1.13 | 47.8 | 3.9 | 22.6 | 7.5 |
| P29A | 712 | 37.9 | 1.18 | 47.5 | 4.2 | 22.9 | 6.5 |
| P 1B | 1,009 | 41.4 | 1.14 | 46.5 | 4.3 | 23.1 | 8.7 |
| P 2B | 1,586 | 41.7 | 1.25 | 42.4 | 3.7 | 22.4 | 7.3 |
| P 3B | 1,328 | 39.4 | 1.13 | 53.9 | 4.0 | 22.2 | 7.0 |
| P 4B | 1,440 | 40.1 | 1.19 | 46.2 | 3.9 | 22.1 | 7.3 |
| P 5B | 1,368 | 39.8 | 1.19 | 49.6 | 3.4 | 20.3 | 6.3 |
| P 6B | 807 | 39.8 | 1.16 | 50.0 | 3.8 | 23.5 | 6.8 |
| P 7B | 768 | 39.7 | 1.14 | 45.6 | 3.2 | 25.7 | 7.0 |
| P 8B | 628 | 37.5 | 1.16 | 46.6 | 3.0 | 21.2 | 7.3 |
| P 9B | 1,110 | 39.4 | 1.14 | 44.7 | 3.8 | 24.2 | 8.3 |
| P11B | 1,216 | 35.5 | 1.14 | 46.5 | 4.6 | 25.4 | 7.8 |
| P12B | 622 | 38.7 | 1.16 | 46.6 | 3.9 | 22.9 | 7.0 |
| P13B | 914 | 42.5 | 1.09 | 44.0 | 4.2 | 23.3 | 7.5 |
| P14B | 1,295 | 42.8 | 1.13 | 42.5 | 4.0 | 22.0 | 6.5 |
| P15B | 1,003 | 40.8 | 1.18 | 46.6 | 3.8 | 22.9 | 7.8 |
| P16B | 1,396 | 38.3 | 1.19 | 46.2 | 4.1 | 24.1 | 6.5 |
| P17B | 1,071 | 39.7 | 1.15 | 47.0 | 4.0 | 24.0 | 7.0 |
| P18B | 1,110 | 39.7 | 1.19 | 47.9 | 3.0 | 20.2 | 8.8 |
| P19B | 1,435 | 38.6 | 1.18 | 46.6 | 3.4 | 24.8 | 8.5 |
| P21B | 1,844 | 38.2 | 1.18 | 50.8 | 3.9 | 22.4 | 7.5 |
| P22B | 1,356 | 40.9 | 1.15 | 47.8 | 4.6 | 25.1 | 7.0 |
| P23B | 1,317 | 39.8 | 1.15 | 47.0 | 4.5 | 19.7 | 6.5 |
| P24B | 1,553 | 39.2 | 1.22 | 47.6 | 3.7 | 22.1 | 7.3 |
| P25B | 1,496 | 40.3 | 1.15 | 49.6 | 3.8 | 23.1 | 7.0 |
| P26B | 953 | 40.4 | 1.22 | 47.6 | 4.5 | 21.5 | 6.5 |
| P27B | 1,233 | 41.4 | 1.19 | 46.2 | 4.3 | 23.2 | 7.0 |
| P28B | 1,452 | 40.0 | 1.16 | 48.3 | 4.0 | 21.9 | 7.0 |
| P29B | 1,278 | 41.9 | 1.14 | 47.4 | 4.2 | 22.6 | 5.5 |
| | Trickle-Irrigated Plots | | | | | | |
| T 1 | 970 | 40.6 | 1.15 | 47.8 | 4.2 | 21.3 | 7.5 |
| T 2 | 824 | 39.8 | 1.18 | 47.5 | 4.6 | 24.1 | 6.8 |
| T 3 | 1,059 | 42.1 | 1.17 | 46.2 | 4.0 | 22.9 | 7.0 |
| T 4 | 1,171 | 39.0 | 1.21 | 47.9 | 3.8 | 23.1 | 6.8 |
| T 5 | 1,059 | 39.2 | 1.21 | 49.6 | 3.4 | 21.8 | 7.8 |
| T 6 | 532 | 38.3 | 1.17 | 48.7 | 3.9 | 25.1 | 7.3 |

Appendix Table 62. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| 1 | 4/20/72 | 1.07 | 7.20 | 10.79 | 11.04 | 5.53 | 1.68 | 3.44 | 0.14 | 2.54 | 0.0 | 3.66 | 4.33 | 0.62 |
| 1 | 6/26/72 | 1.22 | 7.75 | 13.34 | 13.94 | 6.38 | 1.77 | 4.97 | 0.22 | 2.94 | 0.0 | 4.79 | 6.21 | — |
| 1 | 7/ 7/72 | 1.18 | 7.74 | 11.11 | 12.59 | 4.96 | 1.52 | 4.44 | 0.19 | 2.79 | 0.94 | 3.42 | 5.44 | — |
| 1 | 8/ 3/72 | 1.14 | 7.67 | 10.39 | 11.57 | 3.87 | 1.56 | 4.78 | 0.18 | 2.74 | 0.0 | 3.96 | 4.87 | — |
| 1 | 9/ 1/72 | 1.14 | 7.64 | 12.27 | 12.47 | 5.65 | 1.66 | 4.78 | 0.18 | 2.72 | 0.54 | 4.00 | 5.21 | — |
| 1 | 10/ 7/72 | 1.13 | 7.48 | 11.97 | 11.76 | 5.62 | 1.50 | 4.66 | 0.19 | 2.75 | 0.0 | 4.54 | 4.47 | — |
| 1 | 11/10/72 | 1.16 | 7.70 | 10.49 | 10.25 | 4.21 | 1.57 | 4.53 | 0.18 | 2.75 | 0.62 | 2.03 | 4.85 | — |
| 1 | 12/ 8/72 | 1.10 | 7.65 | 10.68 | 10.03 | 4.80 | 1.53 | 4.18 | 0.17 | 2.73 | 0.0 | 3.86 | 3.44 | — |
| Mean | | 1.14 | 7.60 | 11.38 | 11.71 | 5.13 | 1.60 | 4.47 | 0.18 | 2.74 | 0.26 | 3.78 | 4.91 | — |
| Std. Dev. | | 0.05 | 0.18 | 1.05 | 1.30 | 0.83 | 0.09 | 0.48 | 0.02 | 0.11 | 0.38 | 0.84 | 0.80 | — |

Appendix Table 63. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- | | | | | | | | | | | | | | |
| 1 | 1/ 5/73 | 0.98 | 7.35 | 10.61 | 10.11 | 5.36 | 1.58 | 3.51 | 0.16 | 2.71 | 0.0 | 3.66 | 3.74 | -- |
| 1 | 2/ 2/73 | 1.14 | 7.16 | 12.17 | 11.60 | 5.94 | 1.60 | 4.46 | 0.17 | 2.77 | 0.83 | 3.72 | 4.23 | -- |
| 1 | 3/ 9/73 | 1.18 | 7.10 | 11.19 | 11.79 | 4.36 | 1.58 | 5.05 | 0.20 | 2.80 | 0.52 | 3.95 | 4.50 | 1.15 |
| 1 | 4/ 6/73 | 1.18 | 7.16 | 12.67 | 11.04 | 5.88 | 1.60 | 4.98 | 0.21 | 2.75 | 0.0 | 4.88 | 3.38 | 2.02 |
| 1 | 5/ 4/73 | 1.17 | 6.80 | 12.85 | 13.05 | 6.18 | 1.56 | 4.92 | 0.19 | 2.92 | 0.44 | 4.00 | 5.67 | 1.30 |
| 1 | 6/ 8/73 | 1.04 | 7.00 | 10.21 | 12.43 | 3.73 | 1.56 | 4.72 | 0.20 | 2.76 | 0.0 | 4.70 | 4.95 | 1.52 |
| 1 | 6/15/73 | 1.12 | 6.90 | 11.21 | 11.63 | 4.83 | 1.56 | 4.63 | 0.19 | 2.74 | 0.0 | 4.15 | 4.72 | 1.30 |
| 1 | 7/ 6/73 | 1.14 | 7.00 | 12.29 | 13.10 | 5.80 | 1.51 | 4.78 | 0.20 | 2.82 | 0.0 | 5.50 | 4.77 | 0.60 |
| 1 | 8/17/73 | 1.12 | 7.54 | 12.41 | 11.28 | 6.09 | 1.60 | 4.52 | 0.20 | 2.58 | 0.38 | 3.50 | 4.78 | 2.57 |
| 1 | 9/14/73 | 0.97 | -- | 10.01 | 11.50 | 5.45 | 1.36 | 3.05 | 0.15 | 2.65 | 0.25 | 2.95 | 5.63 | 1.54 |
| 1 | 10/12/73 | 0.97 | 8.25 | 10.19 | 9.87 | 5.43 | 1.43 | 3.18 | 0.15 | 2.62 | 0.0 | 3.10 | 4.11 | 2.34 |
| 1 | 11/ 9/73 | 0.90 | 8.43 | 9.74 | 10.05 | 4.64 | 1.62 | 3.31 | 0.17 | 2.64 | 0.0 | 3.06 | 4.33 | 1.26 |
| 1 | 12/21/73 | 0.95 | 8.04 | 8.71 | 9.26 | 5.14 | 1.49 | 1.91 | 0.17 | 2.57 | 0.10 | 2.78 | 3.80 | 0.93 |
| Mean | | 1.07 | 7.39 | 11.10 | 11.29 | 5.29 | 1.54 | 4.08 | 0.18 | 2.72 | 0.20 | 3.84 | 4.51 | 1.50 |
| Std. Dev. | | 0.10 | 0.55 | 1.30 | 1.20 | 0.73 | 0.08 | 0.98 | 0.02 | 0.10 | 0.28 | 0.81 | 0.68 | 0.59 |

Appendix Table 64. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | X | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|---------|-------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | (meq/l) | | | | | | | | | (ppm) |
| 1 | 2/19/74 | 0.88 | 7.93 | 10.17 | 10.44 | 5.56 | 1.44 | 3.02 | 0.15 | 2.76 | 0.0 | 3.75 | 3.92 | 0.65 |
| 1 | 4/16/74 | 0.99 | 7.97 | 12.54 | 12.46 | 6.56 | 1.78 | 4.00 | 0.20 | 3.21 | 0.20 | 4.00 | 5.05 | 0.0 |
| 1 | 5/14/74 | 1.03 | 7.84 | 10.05 | 10.38 | 5.59 | 1.54 | 2.72 | 0.20 | 2.72 | 0.0 | 3.54 | 4.12 | 0.0 |
| 1 | 5/28/74 | 1.03 | 7.91 | 10.65 | 11.01 | 5.02 | 1.81 | 3.66 | 0.16 | 2.87 | 0.0 | 3.70 | 4.44 | 0.0 |
| 1 | 6/11/74 | 1.04 | 7.80 | 11.54 | 10.69 | 6.26 | 1.65 | 3.48 | 0.15 | 2.77 | 0.0 | 3.60 | 4.32 | 0.0 |
| 1 | 6/25/74 | 1.07 | 8.13 | 10.68 | 10.94 | 5.61 | 1.54 | 3.30 | 0.23 | 2.80 | 0.12 | 3.50 | 4.52 | 0.02 |
| 1 | 7/ 9/74 | 1.79 | 7.44 | 19.56 | 18.64 | 10.59 | 2.17 | 6.55 | 0.25 | 4.49 | 0.0 | 5.26 | 8.89 | 0.15 |
| 1 | 7/23/74 | 1.01 | 8.29 | 10.60 | 11.07 | 5.63 | 1.52 | 3.30 | 0.15 | 2.78 | 0.04 | 3.40 | 4.85 | 0.05 |
| 1 | 8/ 6/74 | 1.34 | 7.68 | 13.41 | 14.16 | 5.69 | 2.33 | 5.17 | 0.22 | 3.58 | 0.0 | 4.72 | 5.86 | 0.18 |
| 1 | 8/20/74 | 0.94 | 8.13 | 11.21 | 10.81 | 6.04 | 1.68 | 3.33 | 0.16 | 2.73 | 0.0 | 3.68 | 4.40 | 0.20 |
| 1 | 9/ 3/74 | 1.01 | 8.05 | 11.47 | 11.06 | 6.22 | 1.76 | 3.33 | 0.16 | 2.92 | 0.0 | 3.64 | 4.48 | 1.34 |
| 1 | 9/17/74 | 0.97 | 8.30 | 10.98 | 10.21 | 6.23 | 1.64 | 2.97 | 0.14 | 2.71 | 0.10 | 3.00 | 4.40 | 0.14 |
| 1 | 10/ 1/74 | 1.00 | 8.42 | 10.67 | 10.36 | 5.81 | 1.60 | 3.12 | 0.14 | 2.68 | 0.40 | 3.04 | 4.24 | 0.14 |
| 1 | 10/15/74 | 1.04 | 7.93 | 11.15 | 10.79 | 6.14 | 1.68 | 3.17 | 0.16 | 2.78 | 0.0 | 3.48 | 4.52 | 0.32 |
| 1 | 11/12/74 | 0.92 | 8.32 | 9.20 | 9.30 | 4.67 | 1.52 | 2.87 | 0.14 | 2.70 | 0.0 | 2.48 | 4.12 | 0.14 |
| 1 | 11/26/74 | 0.90 | 8.25 | 11.21 | 11.27 | 5.86 | 1.59 | 3.62 | 0.14 | 2.93 | 0.0 | 3.53 | 4.80 | 0.43 |
| 1 | 12/10/74 | 0.93 | 8.35 | 10.47 | 10.42 | 5.86 | 1.52 | 2.95 | 0.14 | 2.72 | 0.0 | 3.50 | 4.20 | 0.23 |
| Mean | | 1.05 | 8.04 | 11.50 | 11.41 | 6.08 | 1.69 | 3.56 | 0.17 | 2.95 | 0.05 | 3.64 | 4.77 | 0.23 |
| Std. Dev. | | 0.22 | 0.27 | 2.28 | 2.13 | 1.25 | 0.24 | 0.95 | 0.04 | 0.46 | 0.11 | 0.62 | 1.15 | 0.33 |

Appendix Table 65. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1975

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| 1 | 1/14/75 | 0.99 | 7.87 | 10.74 | 10.75 | 5.97 | 1.56 | 3.07 | 0.14 | 2.79 | 0.0 | 3.56 | 4.40 | 0.0 |
| 1 | 1/28/75 | 0.95 | 8.11 | 10.57 | 10.96 | 5.79 | 1.58 | 3.05 | 0.15 | 2.82 | 0.0 | 3.50 | 4.64 | 0.0 |
| 1 | 2/10/75 | 1.05 | 8.43 | 11.73 | 11.51 | 6.22 | 1.71 | 3.65 | 0.15 | 2.86 | 0.0 | 3.92 | 4.72 | 0.43 |
| 1 | 2/24/75 | 0.96 | 8.45 | 11.37 | 10.79 | 6.22 | 1.65 | 3.35 | 0.15 | 2.64 | 0.44 | 3.18 | 4.52 | 0.61 |
| 1 | 3/10/75 | 1.08 | 8.12 | 12.28 | 11.95 | 6.49 | 1.75 | 3.88 | 0.16 | 2.84 | 0.0 | 4.18 | 4.92 | 0.38 |
| 1 | 3/24/75 | 1.02 | 8.00 | 11.06 | 11.13 | 5.74 | 1.59 | 3.58 | 0.15 | 2.78 | 0.20 | 3.62 | 4.52 | 0.45 |
| 1 | 4/ 7/75 | 0.95 | 8.24 | 10.64 | 10.70 | 5.16 | 1.68 | 3.65 | 0.15 | 2.82 | 0.0 | 2.96 | 4.92 | 0.10 |
| 1 | 4/21/75 | 0.95 | 8.20 | 12.13 | 11.19 | 4.75 | 1.71 | 5.49 | 0.18 | 2.41 | 0.0 | 3.42 | 5.36 | 0.0 |
| 1 | 5/ 5/75 | 1.02 | 8.11 | 10.83 | 9.97 | 3.26 | 1.69 | 5.68 | 0.20 | 2.52 | 0.0 | 2.32 | 5.12 | 0.81 |
| 1 | 5/19/75 | 1.07 | 8.16 | 11.63 | 10.86 | 4.17 | 1.72 | 5.57 | 0.17 | 2.47 | 0.0 | 3.02 | 5.36 | 0.47 |
| 1 | 6/ 2/75 | 1.26 | 8.10 | 14.87 | 13.63 | 7.19 | 1.77 | 5.73 | 0.18 | 2.64 | 0.0 | 5.62 | 5.36 | 0.51 |
| 1 | 6/16/75 | 1.18 | 7.80 | 11.87 | 12.47 | 6.12 | 1.34 | 4.19 | 0.22 | 2.61 | 0.0 | 4.94 | 4.92 | 0.14 |
| 1 | 6/30/75 | 1.14 | 8.31 | 10.72 | 9.79 | 3.63 | 1.69 | 5.20 | 0.20 | 2.64 | 0.0 | 2.07 | 5.08 | 0.0 |
| 1 | 7/14/75 | 1.19 | 8.05 | 12.79 | 14.01 | 6.17 | 1.69 | 4.72 | 0.21 | 3.71 | 0.0 | 5.00 | 5.28 | 1.15 |
| 1 | 7/28/75 | 1.12 | 7.99 | 12.48 | 11.82 | 6.16 | 1.72 | 4.43 | 0.17 | 2.52 | 0.0 | 4.18 | 5.12 | 0.11 |
| 1 | 8/11/75 | 1.13 | 7.85 | 11.74 | 10.87 | 5.70 | 1.57 | 4.31 | 0.16 | 2.58 | 0.0 | 4.66 | 3.60 | 2.00 |
| 1 | 8/25/75 | 1.03 | 7.90 | 10.82 | 10.22 | 5.77 | 1.60 | 3.29 | 0.16 | 2.64 | 0.0 | 3.54 | 4.02 | 1.09 |
| 1 | 9/ 8/75 | 1.05 | 8.05 | 11.45 | 10.88 | 5.85 | 1.44 | 3.99 | 0.17 | 2.56 | 0.0 | 3.80 | 4.52 | 0.0 |
| 1 | 9/23/75 | 1.01 | 8.11 | 10.95 | 12.31 | 5.15 | 1.38 | 4.26 | 0.16 | 2.69 | 0.0 | 5.50 | 4.12 | 0.13 |
| 1 | 10/ 7/75 | 1.05 | 7.98 | 12.31 | 12.29 | 6.04 | 1.78 | 4.31 | 0.18 | 2.46 | 0.0 | 5.37 | 4.46 | 0.09 |
| 1 | 11/ 4/75 | 0.86 | 8.03 | 9.65 | 10.44 | 3.86 | 1.74 | 3.89 | 0.16 | 2.67 | 0.0 | 3.26 | 4.49 | 0.97 |
| 1 | 11/18/75 | 0.95 | 8.46 | 11.32 | 10.87 | 5.93 | 1.61 | 3.61 | 0.17 | 2.69 | 0.0 | 3.80 | 4.37 | 0.81 |
| 1 | 12/ 2/75 | 1.02 | 8.11 | 11.51 | 10.58 | 6.11 | 1.63 | 3.59 | 0.18 | 2.60 | 0.0 | 3.64 | 4.34 | 0.11 |
| 1 | 12/16/75 | 0.86 | 7.53 | 10.24 | 10.60 | 4.83 | 1.59 | 3.66 | 0.16 | 2.66 | 0.0 | 3.52 | 4.41 | 0.40 |
| 1 | 12/30/75 | 0.87 | 8.02 | 10.02 | 10.54 | 4.79 | 1.49 | 3.58 | 0.16 | 2.69 | 0.0 | 2.93 | 4.92 | 0.17 |
| Mean | | 1.03 | 8.08 | 11.43 | 11.25 | 5.48 | 1.63 | 4.15 | 0.17 | 2.69 | 0.03 | 3.82 | 4.70 | 0.44 |
| Std. Dev. | | 0.10 | 0.21 | 1.07 | 1.04 | 0.96 | 0.12 | 0.82 | 0.02 | 0.24 | 0.10 | 0.93 | 0.45 | 0.48 |

Appendix Table 66. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1976.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|---------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | (meq/l) | | | | | | (ppm) |
| 1 | 1/13/76 | 0.95 | 7.98 | 11.02 | 10.63 | 5.44 | 1.68 | 3.76 | 0.14 | 2.65 | 0.0 | 3.83 | 4.15 | 0.17 |
| 1 | 1/26/76 | 0.95 | 8.09 | 10.45 | 10.82 | 5.47 | 1.47 | 3.38 | 0.13 | 2.53 | 0.0 | 4.27 | 4.01 | 0.60 |
| 1 | 2/ 7/76 | 0.97 | 8.07 | 10.34 | 10.87 | 4.46 | 1.72 | 4.02 | 0.14 | 2.78 | 0.0 | 3.97 | 4.12 | 0.12 |
| 1 | 2/21/76 | 0.90 | 7.90 | 11.23 | 10.89 | 5.43 | 1.65 | 4.01 | 0.14 | 2.63 | 0.0 | 4.24 | 4.00 | 1.39 |
| 1 | 3/ 6/76 | 0.92 | 8.06 | 10.90 | 10.78 | 5.52 | 1.59 | 3.66 | 0.13 | 2.64 | 0.0 | 4.12 | 4.00 | 1.32 |
| 1 | 3/20/76 | 0.91 | 8.29 | 11.47 | 10.72 | 6.15 | 1.65 | 3.53 | 0.14 | 2.52 | 0.0 | 4.28 | 3.90 | 1.10 |
| 1 | 4/ 3/76 | 0.95 | 8.35 | 10.78 | 10.56 | 5.50 | 1.65 | 3.49 | 0.14 | 2.63 | 0.0 | 3.94 | 3.97 | 1.40 |
| 1 | 4/10/76 | 0.85 | 7.36 | 10.40 | 9.97 | 5.46 | 1.57 | 3.23 | 0.14 | 2.59 | 0.0 | 3.40 | 3.97 | 0.73 |
| 1 | 5/ 1/76 | 0.94 | 8.10 | 10.66 | 10.48 | 5.36 | 1.64 | 3.53 | 0.13 | 2.61 | 0.0 | 3.38 | 4.48 | 0.80 |
| 1 | 5/15/76 | 0.97 | 8.33 | 10.63 | 10.21 | 5.40 | 1.64 | 3.45 | 0.14 | 2.66 | 0.0 | 3.02 | 4.53 | 0.08 |
| 1 | 6/11/76 | 0.97 | 7.71 | 10.15 | 9.59 | 5.50 | 1.62 | 2.89 | 0.14 | 2.69 | 0.0 | 2.65 | 4.25 | 0.0 |
| 1 | 6/28/76 | 0.98 | 8.37 | 10.41 | 9.67 | 5.26 | 1.66 | 3.34 | 0.15 | 2.73 | 0.0 | 2.78 | 4.16 | 0.19 |
| 1 | 7/13/76 | 1.01 | 8.39 | 11.94 | 11.51 | 5.98 | 1.66 | 4.15 | 0.15 | 2.73 | 0.96 | 3.66 | 4.16 | 0.31 |
| 1 | 7/26/76 | 0.93 | 8.42 | 10.88 | 10.62 | 5.76 | 1.66 | 3.34 | 0.12 | 2.56 | 0.56 | 3.32 | 4.16 | 1.25 |
| 1 | 8/11/76 | 0.91 | 8.44 | 9.47 | 9.73 | 4.49 | 1.64 | 3.21 | 0.13 | 2.65 | 0.44 | 3.06 | 3.56 | 1.35 |
| 1 | 8/25/76 | 0.91 | 8.67 | 10.75 | 11.00 | 5.71 | 1.60 | 3.31 | 0.13 | 2.61 | 0.72 | 2.80 | 4.84 | 2.05 |
| 1 | 9/ 7/76 | 0.94 | 8.63 | 10.76 | 11.33 | 5.59 | 1.57 | 3.47 | 0.13 | 2.63 | 1.04 | 2.86 | 4.80 | 0.0 |
| 1 | 9/23/76 | 0.95 | 8.46 | 10.71 | 11.18 | 5.71 | 1.61 | 3.26 | 0.13 | 2.59 | 0.68 | 3.24 | 4.64 | 1.92 |
| 1 | 10/ 5/76 | 0.95 | 8.39 | 10.44 | 10.81 | 5.53 | 1.57 | 3.22 | 0.12 | 2.55 | 0.74 | 3.04 | 4.48 | 0.02 |
| 1 | 10/21/76 | 0.97 | 8.20 | 11.69 | 10.27 | 6.21 | 1.77 | 3.57 | 0.14 | 2.49 | 0.64 | 3.40 | 3.74 | 0.25 |
| 1 | 11/ 2/76 | 0.93 | 8.33 | 9.03 | 9.00 | 3.80 | 1.78 | 3.32 | 0.13 | 2.54 | 0.56 | 3.48 | 2.42 | 0.10 |
| 1 | 12/14/76 | 0.97 | 8.09 | 12.13 | 11.85 | 6.47 | 1.79 | 3.73 | 0.14 | 2.57 | 0.0 | 4.00 | 5.28 | 0.10 |
| 1 | 12/28/76 | 0.97 | 7.88 | 12.14 | 11.87 | 6.35 | 1.83 | 3.82 | 0.14 | 2.69 | 0.0 | 4.06 | 5.12 | 0.10 |
| Mean | | 0.94 | 8.20 | 10.80 | 10.63 | 5.50 | 1.65 | 3.51 | 0.14 | 2.62 | 0.28 | 3.51 | 4.21 | 0.67 |
| Std. Dev. | | 0.03 | 0.30 | 0.75 | 0.71 | 0.61 | 0.08 | 0.30 | 0.01 | 0.07 | 0.37 | 0.53 | 0.58 | 0.66 |

Appendix Table 67. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 1 in 1977.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- (ppm) | | | | | | | | | | | | | | |
| 1 | 1/11/77 | 0.95 | 8.02 | 11.06 | 11.27 | 5.91 | 1.68 | 3.33 | 0.14 | 2.66 | 0.0 | 3.78 | 4.83 | 0.05 |
| 1 | 1/26/77 | 1.05 | 8.15 | 11.42 | 11.29 | 6.07 | 1.71 | 3.51 | 0.13 | 2.66 | 0.0 | 3.68 | 4.95 | 0.10 |
| 1 | 2/ 9/77 | 1.09 | 8.37 | 11.00 | 11.58 | 5.58 | 1.64 | 3.64 | 0.14 | 2.63 | 0.0 | 4.24 | 4.71 | 0.15 |
| 1 | 2/23/77 | 1.01 | 8.16 | 10.53 | 10.45 | 5.56 | 1.57 | 3.27 | 0.13 | 2.56 | 0.0 | 3.60 | 4.29 | 0.05 |
| 1 | 3/ 9/77 | 1.01 | 7.83 | 10.03 | 10.45 | 5.36 | 1.54 | 2.99 | 0.14 | 2.63 | 0.0 | 3.44 | 4.37 | 0.35 |
| 1 | 3/23/77 | 1.06 | 7.99 | 10.93 | 11.30 | 5.59 | 1.57 | 3.61 | 0.16 | 2.54 | 0.0 | 4.08 | 4.68 | 0.10 |
| 1 | 4/ 6/77 | 0.97 | 8.21 | 11.21 | 11.47 | 5.68 | 1.66 | 3.73 | 0.14 | 2.57 | 0.0 | 4.18 | 4.72 | 0.02 |
| 1 | 4/20/77 | 0.90 | 8.59 | 10.00 | 9.90 | 5.25 | 1.50 | 3.12 | 0.13 | 2.42 | 0.60 | 2.82 | 4.06 | 0.13 |
| 1 | 7/14/77 | 1.27 | 7.82 | 12.55 | 13.02 | 5.48 | 1.70 | 5.22 | 0.15 | 2.74 | 0.16 | 4.36 | 5.76 | -- |
| 1 | 8/ 5/77 | 1.22 | 7.60 | 12.94 | 13.26 | 5.85 | 1.66 | 5.28 | 0.15 | 2.74 | 0.96 | 4.20 | 5.36 | 0.0 |
| 1 | 9/15/77 | 1.34 | 8.05 | 13.18 | 13.59 | 6.17 | 1.72 | 5.14 | 0.15 | 2.75 | 0.0 | 5.20 | 5.64 | 0.05 |
| 1 | 10/ 6/77 | 1.26 | 8.39 | 12.54 | 12.81 | 5.82 | 1.61 | 4.95 | 0.16 | 2.77 | 0.52 | 4.36 | 5.16 | 0.0 |
| Mean | | 1.09 | 8.10 | 11.45 | 11.70 | 5.69 | 1.63 | 3.98 | 0.14 | 2.64 | 0.19 | 3.99 | 4.88 | 0.09 |
| Std. Dev. | | 0.14 | 0.28 | 1.10 | 1.20 | 0.28 | 0.07 | 0.89 | 0.01 | 0.10 | 0.32 | 0.59 | 0.53 | 0.10 |

Appendix Table 68. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------------|----------|--------------------|------|---------|--------|-------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- (ppm) | | | | | | | | | | | | | | |
| 2 | 4/20/72 | 1.36 | 7.25 | 14.55 | 13.81 | 6.82 | 1.86 | 5.68 | 0.19 | 2.88 | 0.0 | 5.18 | 5.73 | 1.24 |
| 2 | 6/17/72 | 1.68 | 7.58 | 19.64 | 19.12 | 10.75 | 2.50 | 6.13 | 0.26 | 3.94 | 0.0 | 6.99 | 8.19 | -- |
| 2 | 6/26/72 | 1.78 | 7.61 | 21.31 | 20.39 | 11.72 | 2.73 | 6.59 | 0.27 | 4.18 | 0.0 | 7.52 | 8.69 | -- |
| 2 | 7/ 7/72 | 1.80 | 7.55 | 19.98 | 20.42 | 11.09 | 2.67 | 5.98 | 0.24 | 4.13 | 0.0 | 7.49 | 8.80 | -- |
| 2 | 8/ 3/72 | 1.46 | 7.62 | 13.36 | 16.37 | 5.35 | 2.03 | 5.77 | 0.21 | 3.21 | 0.0 | 6.10 | 7.06 | -- |
| 2 | 9/ 1/72 | 1.44 | 7.48 | 16.03 | 15.69 | 8.01 | 2.14 | 5.67 | 0.21 | 3.15 | 0.74 | 5.17 | 6.63 | -- |
| 2 | 10/ 7/72 | 1.40 | 7.47 | 15.50 | 15.47 | 7.78 | 2.00 | 5.49 | 0.23 | 3.15 | 0.0 | 6.10 | 6.22 | -- |
| 2 | 11/10/72 | 1.26 | 7.54 | 13.73 | 14.45 | 6.20 | 2.07 | 5.25 | 0.21 | 3.26 | 0.0 | 4.70 | 6.49 | -- |
| 2 | 12/ 8/72 | 1.44 | 7.55 | 14.18 | 14.54 | 6.69 | 2.06 | 5.22 | 0.21 | 3.20 | 0.0 | 5.72 | 5.62 | -- |
| Mean | | 1.51 | 7.52 | 16.48 | 16.70 | 8.27 | 2.23 | 5.75 | 0.23 | 3.46 | 0.08 | 6.11 | 7.05 | -- |
| Std. Dev. | | 0.19 | 0.11 | 3.02 | 2.60 | 2.34 | 0.32 | 0.43 | 0.03 | 0.49 | 0.25 | 1.03 | 1.23 | -- |

Appendix Table 69. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|-------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | (ppm) | | | | | | |
| 2 | 1/ 5/73 | 1.40 | 7.27 | 15.65 | 15.11 | 8.18 | 2.09 | 5.17 | 0.21 | 3.22 | 0.0 | 5.95 | 5.94 | -- |
| 2 | 2/ 2/73 | 1.44 | 7.16 | 15.74 | 15.12 | 8.04 | 2.05 | 5.45 | 0.20 | 3.23 | 0.71 | 5.24 | 5.94 | -- |
| 2 | 3/ 9/73 | 1.47 | 7.11 | 12.82 | 15.38 | 4.43 | 2.06 | 6.09 | 0.24 | 3.17 | 0.26 | 5.55 | 6.37 | 1.70 |
| 2 | 4/ 6/73 | 1.50 | 7.00 | 16.13 | 16.31 | 7.75 | 2.11 | 6.04 | 0.23 | 3.17 | 0.0 | 6.68 | 6.46 | -- |
| 2 | 5/ 4/73 | 1.46 | 6.98 | 16.93 | 16.81 | 8.80 | 2.18 | 5.71 | 0.24 | 3.16 | 0.0 | 6.50 | 7.12 | 2.02 |
| 2 | 6/ 8/73 | 1.26 | 7.00 | 13.63 | 16.57 | 5.91 | 1.98 | 5.52 | 0.22 | 3.17 | 0.0 | 6.80 | 6.58 | 1.15 |
| 2 | 6/15/73 | 1.44 | 7.10 | 16.25 | 16.37 | 8.42 | 2.01 | 5.60 | 0.22 | 3.17 | 0.0 | 6.80 | 6.37 | 2.00 |
| 2 | 7/ 6/73 | 1.42 | 7.00 | 15.71 | 16.85 | 7.99 | 1.98 | 5.50 | 0.24 | 2.86 | 0.0 | 7.60 | 6.37 | 1.55 |
| 2 | 8/17/73 | 1.47 | 7.38 | 16.99 | 15.35 | 8.76 | 2.08 | 5.94 | 0.21 | 2.94 | 2.20 | 3.70 | 6.49 | 1.10 |
| 2 | 9/14/73 | 1.45 | -- | 16.50 | 15.69 | 9.11 | 1.44 | 5.74 | 0.21 | 3.15 | 1.00 | 4.90 | 6.60 | 2.50 |
| 2 | 10/12/73 | 1.46 | 8.09 | 16.82 | 15.78 | 8.61 | 2.05 | 5.95 | 0.21 | 3.12 | 0.40 | 5.72 | 6.50 | 2.59 |
| 2 | 11/ 9/73 | 1.48 | 8.17 | 16.78 | 16.79 | 7.31 | 2.43 | 6.80 | 0.24 | 3.17 | 0.0 | 6.60 | 7.00 | 1.26 |
| 2 | 12/21/73 | 1.66 | 7.88 | 17.58 | 18.08 | 9.21 | 2.89 | 5.25 | 0.23 | 4.81 | 0.0 | 4.65 | 8.56 | 3.88 |
| Mean | | 1.45 | 7.35 | 15.96 | 16.17 | 7.89 | 2.10 | 5.75 | 0.22 | 3.26 | 0.35 | 5.90 | 6.64 | 1.97 |
| Std. Dev. | | 0.09 | 0.44 | 1.35 | 0.87 | 1.35 | 0.32 | 0.43 | 0.01 | 0.48 | 0.64 | 1.08 | 0.67 | 0.85 |

Appendix Table 70. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 2 | 2/19/74 | 1.62 | 8.06 | 17.47 | 18.07 | 8.31 | 2.56 | 6.35 | 0.25 | 4.67 | 0.0 | 4.62 | 8.77 | 0.50 |
| 2 | 4/16/74 | 1.38 | 7.90 | 16.07 | 16.55 | 6.97 | 2.37 | 6.51 | 0.22 | 3.92 | 0.0 | 5.20 | 7.43 | 0.07 |
| 2 | 5/14/74 | 1.64 | 7.83 | 17.43 | 17.20 | 9.57 | 2.30 | 5.26 | 0.30 | 3.57 | 0.0 | 6.08 | 7.55 | 0.0 |
| 2 | 5/28/74 | 1.98 | 7.82 | 19.72 | 20.13 | 8.31 | 3.63 | 7.45 | 0.33 | 5.22 | 0.0 | 5.94 | 8.97 | 0.0 |
| 2 | 6/11/74 | 1.38 | 7.97 | 15.62 | 15.23 | 7.63 | 1.86 | 5.93 | 0.20 | 2.63 | 0.0 | 6.50 | 6.10 | 0.0 |
| 2 | 6/25/74 | 1.32 | 8.48 | 16.31 | 16.87 | 7.70 | 1.88 | 6.43 | 0.30 | 2.41 | 0.40 | 6.80 | 7.26 | 0.0 |
| 2 | 7/ 9/74 | 1.40 | 7.46 | 15.12 | 14.86 | 7.77 | 1.36 | 5.79 | 0.20 | 2.56 | 0.0 | 5.94 | 6.26 | 0.15 |
| 2 | 7/23/74 | 1.32 | 8.15 | 15.21 | 14.64 | 7.24 | 1.77 | 6.00 | 0.20 | 2.36 | 0.0 | 6.46 | 5.82 | 0.02 |
| 2 | 8/ 6/74 | 1.52 | 7.98 | 15.27 | 16.11 | 7.36 | 1.80 | 5.88 | 0.23 | 2.28 | 0.0 | 4.98 | 8.85 | 0.22 |
| 2 | 8/20/74 | 1.21 | 8.26 | 15.46 | 14.97 | 7.47 | 1.74 | 6.06 | 0.19 | 2.25 | 0.44 | 6.18 | 6.10 | 0.20 |
| 2 | 9/ 3/74 | 1.28 | 8.33 | 15.24 | 15.22 | 7.50 | 1.76 | 5.77 | 0.21 | 2.28 | 0.0 | 6.66 | 6.26 | 1.12 |
| 2 | 9/17/74 | 1.30 | 8.31 | 13.25 | 13.44 | 5.66 | 1.86 | 5.54 | 0.19 | 2.26 | 0.44 | 4.80 | 5.94 | 0.21 |
| 2 | 10/ 1/74 | 1.26 | 8.09 | 13.41 | 13.50 | 5.70 | 1.84 | 5.68 | 0.19 | 2.13 | 0.0 | 6.12 | 5.25 | 0.0 |
| 2 | 10/15/74 | 1.25 | 7.98 | 11.57 | 14.09 | 4.09 | 1.70 | 5.60 | 0.18 | 2.10 | 0.0 | 6.70 | 5.29 | 0.0 |
| 2 | 11/12/74 | 1.20 | 8.10 | 13.09 | 14.43 | 5.76 | 1.62 | 5.52 | 0.19 | 2.16 | 0.0 | 6.74 | 5.49 | 2.68 |
| 2 | 11/26/74 | 1.03 | 8.33 | 14.02 | 14.63 | 6.30 | 1.51 | 6.03 | 0.18 | 2.40 | 0.0 | 6.82 | 5.40 | 0.33 |
| 2 | 12/10/74 | 1.28 | 8.16 | 10.79 | 10.84 | 2.98 | 1.73 | 5.88 | 0.20 | 2.37 | 0.0 | 3.02 | 5.45 | 0.31 |
| Mean | | 1.37 | 8.07 | 15.00 | 15.34 | 6.84 | 1.96 | 5.98 | 0.22 | 2.80 | 0.08 | 5.86 | 6.60 | 0.34 |
| Std. Dev. | | 0.22 | 0.24 | 2.20 | 2.08 | 1.62 | 0.53 | 0.50 | 0.05 | 0.95 | 0.17 | 1.03 | 1.29 | 0.66 |

Appendix Table 71. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1975.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| 2 | 1/14/75 | 1.29 | 7.95 | 15.31 | 15.34 | 7.56 | 1.74 | 5.82 | 0.19 | 2.58 | 0.0 | 7.10 | 5.66 | 0.30 |
| 2 | 1/28/75 | 1.25 | 7.97 | 14.42 | 14.87 | 7.01 | 1.74 | 5.49 | 0.18 | 2.33 | 0.0 | 7.02 | 5.52 | 0.0 |
| 2 | 2/10/75 | 1.27 | 8.23 | 14.33 | 14.07 | 7.15 | 1.74 | 5.27 | 0.17 | 2.24 | 0.0 | 6.70 | 5.12 | 0.33 |
| 2 | 2/24/75 | 1.20 | 8.32 | 15.08 | 14.77 | 7.34 | 1.77 | 5.80 | 0.17 | 2.61 | 0.60 | 5.88 | 5.68 | 0.10 |
| 2 | 3/10/75 | 1.22 | 8.35 | 12.91 | 14.07 | 5.36 | 1.75 | 5.62 | 0.18 | 2.31 | 0.96 | 5.48 | 5.32 | 0.14 |
| 2 | 3/24/75 | 1.20 | 8.06 | 14.03 | 13.64 | 6.56 | 1.81 | 5.48 | 0.18 | 2.27 | 0.20 | 6.00 | 5.16 | 0.33 |
| 2 | 4/ 7/75 | 1.00 | 8.19 | 10.90 | 10.48 | 3.81 | 1.69 | 5.23 | 0.17 | 2.40 | 0.0 | 2.28 | 5.80 | 0.0 |
| 2 | 4/21/75 | 1.16 | 8.02 | 13.84 | 13.20 | 4.87 | 2.15 | 6.63 | 0.19 | 3.14 | 0.0 | 3.62 | 6.44 | 0.06 |
| 2 | 5/ 5/75 | 1.01 | 8.14 | 10.92 | 10.23 | 3.36 | 1.68 | 5.70 | 0.18 | 2.28 | 0.0 | 2.42 | 5.52 | 0.50 |
| 2 | 5/19/75 | 1.10 | 8.14 | 11.80 | 11.32 | 4.37 | 1.74 | 5.51 | 0.18 | 2.23 | 0.0 | 3.56 | 5.52 | 0.62 |
| 2 | 6/ 2/75 | 1.26 | 7.90 | 12.65 | 13.76 | 4.98 | 1.84 | 5.65 | 0.18 | 2.38 | 0.0 | 6.26 | 5.12 | 0.25 |
| 2 | 6/16/75 | 1.28 | 7.80 | 13.62 | 13.49 | 6.50 | 1.78 | 5.14 | 0.20 | 2.45 | 0.0 | 5.92 | 5.12 | 0.14 |
| 2 | 6/30/75 | 1.12 | 8.07 | 11.27 | 11.42 | 3.30 | 1.86 | 5.91 | 0.20 | 2.48 | 0.0 | 3.38 | 5.56 | 0.0 |
| 2 | 7/14/75 | 1.29 | 7.87 | 14.20 | 14.00 | 6.99 | 1.75 | 5.26 | 0.20 | 2.64 | 0.0 | 5.32 | 6.04 | 0.11 |
| 2 | 7/28/75 | 1.19 | 8.06 | 14.57 | 14.31 | 7.02 | 1.87 | 5.49 | 0.19 | 2.25 | 0.0 | 6.04 | 6.00 | 1.32 |
| 2 | 8/11/75 | 1.29 | 7.82 | 14.16 | 14.21 | 6.85 | 1.74 | 5.40 | 0.17 | 2.33 | 0.0 | 6.44 | 5.44 | 0.0 |
| 2 | 8/25/75 | 1.28 | 7.86 | 14.27 | 13.01 | 6.88 | 1.80 | 5.41 | 0.18 | 2.29 | 0.0 | 6.16 | 4.55 | 0.92 |
| 2 | 9/ 8/75 | 1.16 | 8.04 | 12.70 | 12.53 | 5.49 | 1.64 | 5.38 | 0.19 | 2.26 | 0.0 | 5.04 | 5.23 | 0.0 |
| 2 | 9/23/75 | 1.21 | 8.08 | 12.76 | 13.43 | 6.45 | 1.58 | 4.54 | 0.19 | 2.34 | 0.0 | 6.14 | 4.95 | 0.0 |
| 2 | 10/ 7/75 | 1.20 | 7.67 | 14.02 | 13.09 | 6.56 | 1.86 | 5.42 | 0.18 | 2.20 | 0.0 | 5.94 | 4.95 | 0.0 |
| 2 | 11/ 4/75 | 0.96 | 8.04 | 12.80 | 12.30 | 5.82 | 1.76 | 5.04 | 0.18 | 2.31 | 0.0 | 4.82 | 5.17 | 0.12 |
| 2 | 11/18/75 | 1.03 | 8.22 | 13.59 | 13.65 | 6.73 | 1.72 | 4.94 | 0.20 | 2.27 | 0.0 | 6.08 | 5.29 | 0.67 |
| 2 | 12/ 2/75 | 1.20 | 8.07 | 13.80 | 13.08 | 6.89 | 1.73 | 4.96 | 0.22 | 2.13 | 0.0 | 6.10 | 4.85 | 0.05 |
| 2 | 12/16/75 | 1.01 | 7.98 | 12.83 | 13.09 | 6.01 | 1.55 | 5.09 | 0.18 | 2.10 | 0.0 | 6.14 | 4.85 | 0.0 |
| 2 | 12/30/75 | 0.97 | 7.90 | 11.65 | 11.69 | 4.97 | 1.55 | 4.94 | 0.19 | 2.15 | 0.0 | 4.50 | 5.04 | 0.0 |
| Mean | | 1.17 | 8.03 | 13.30 | 13.16 | 5.95 | 1.75 | 5.40 | 0.19 | 2.36 | 0.07 | 5.37 | 5.36 | 0.24 |
| Std. Dev. | | 0.11 | 0.16 | 1.25 | 1.32 | 1.26 | 0.12 | 0.41 | 0.01 | 0.21 | 0.22 | 1.35 | 0.43 | 0.34 |

Appendix Table 72. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1976.

| well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SC ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | | | | | | | (ppm) |
| 2 | 1/13/76 | 1.07 | 7.89 | 12.69 | 12.60 | 5.56 | 1.73 | 5.21 | 0.19 | 2.12 | 0.0 | 5.78 | 4.70 | 0.0 |
| 2 | 1/26/76 | 1.00 | 8.03 | 12.71 | 13.08 | 6.14 | 1.54 | 4.86 | 0.17 | 2.02 | 0.0 | 6.80 | 4.26 | 0.0 |
| 2 | 2/ 7/76 | 1.14 | 8.11 | 13.22 | 13.97 | 4.11 | 1.76 | 7.17 | 0.18 | 2.19 | 0.0 | 6.85 | 4.93 | 0.06 |
| 2 | 2/21/76 | 1.12 | 7.89 | 11.57 | 12.18 | 4.11 | 1.68 | 5.61 | 0.17 | 2.18 | 0.0 | 5.50 | 4.47 | 1.63 |
| 2 | 3/ 6/76 | 1.16 | 8.22 | 13.20 | 13.71 | 5.47 | 1.78 | 5.78 | 0.17 | 2.27 | 0.0 | 6.78 | 4.66 | 0.0 |
| 2 | 3/20/76 | 1.08 | 8.21 | 13.59 | 13.61 | 5.54 | 1.87 | 6.00 | 0.18 | 2.26 | 0.0 | 6.28 | 5.04 | 1.79 |
| 2 | 4/ 3/76 | 1.20 | 8.22 | 13.15 | 12.59 | 5.24 | 1.84 | 5.90 | 0.17 | 2.26 | 0.0 | 4.36 | 5.96 | 0.40 |
| 2 | 4/10/76 | 1.21 | 7.62 | 12.50 | 12.92 | 5.28 | 1.76 | 5.27 | 0.19 | 2.26 | 0.0 | 5.79 | 4.85 | 1.09 |
| 2 | 5/ 1/76 | 1.21 | 8.20 | 12.95 | 13.17 | 5.33 | 1.85 | 5.60 | 0.17 | 2.33 | 0.0 | 5.99 | 4.85 | 0.15 |
| 2 | 5/15/76 | 1.21 | 8.39 | 13.15 | 12.58 | 5.33 | 1.87 | 5.78 | 0.17 | 2.36 | 0.16 | 4.08 | 5.98 | 0.08 |
| 2 | 6/11/76 | 1.11 | 7.91 | 11.55 | 11.13 | 4.32 | 1.81 | 5.24 | 0.18 | 2.53 | 0.0 | 3.00 | 5.60 | 0.30 |
| 2 | 6/28/76 | 1.20 | 8.42 | 10.42 | 10.22 | 3.15 | 1.83 | 5.25 | 0.19 | 2.47 | 0.0 | 2.22 | 5.52 | 0.50 |
| 2 | 7/13/76 | 1.18 | 8.14 | 12.80 | 12.62 | 5.56 | 1.84 | 5.21 | 0.19 | 2.44 | 0.0 | 5.10 | 5.08 | 0.10 |
| 2 | 7/26/76 | 1.15 | 8.23 | 13.20 | 12.55 | 5.83 | 1.88 | 5.34 | 0.15 | 2.40 | 0.0 | 5.14 | 5.00 | 0.47 |
| 2 | 8/11/76 | 1.14 | 8.12 | 11.29 | 10.88 | 4.15 | 1.75 | 5.22 | 0.17 | 2.39 | 0.0 | 4.24 | 4.20 | 2.92 |
| 2 | 8/25/76 | 0.95 | 8.28 | 10.86 | 10.92 | 3.90 | 1.78 | 5.01 | 0.17 | 2.36 | 0.0 | 2.88 | 5.68 | 0.0 |
| 2 | 9/ 7/76 | 0.94 | 8.26 | 10.78 | 11.00 | 3.90 | 1.73 | 4.99 | 0.16 | 2.36 | 0.0 | 2.80 | 5.84 | 0.0 |
| 2 | 9/23/76 | 1.19 | 8.42 | 11.99 | 12.42 | 5.04 | 1.78 | 5.01 | 0.16 | 2.31 | 0.32 | 4.20 | 5.56 | 2.11 |
| 2 | 10/ 5/76 | 1.12 | 8.32 | 13.10 | 13.43 | 6.17 | 1.85 | 4.97 | 0.11 | 2.31 | 0.96 | 4.64 | 5.52 | 0.01 |
| 2 | 10/21/76 | 1.18 | 8.20 | 11.34 | 12.49 | 4.09 | 1.96 | 5.13 | 0.16 | 2.31 | 0.24 | 3.78 | 6.16 | 0.20 |
| 2 | 11/ 2/76 | 1.17 | 8.48 | 14.68 | 14.34 | 7.44 | 2.02 | 5.06 | 0.16 | 2.42 | 0.84 | 5.32 | 5.76 | 0.13 |
| 2 | 12/14/76 | 1.25 | 7.84 | 15.60 | 15.88 | 7.99 | 2.04 | 5.39 | 0.18 | 2.56 | 0.0 | 6.76 | 6.56 | 0.05 |
| 2 | 12/28/76 | 1.24 | 7.70 | 15.64 | 16.05 | 7.94 | 2.02 | 5.51 | 0.17 | 2.73 | 0.0 | 6.60 | 6.72 | 0.05 |
| Mean | | 1.14 | 8.13 | 12.69 | 12.80 | 5.29 | 1.82 | 5.41 | 0.17 | 2.34 | 0.11 | 5.00 | 5.34 | 0.52 |
| Std. Dev. | | 0.08 | 0.23 | 1.39 | 1.46 | 1.28 | 0.11 | 0.50 | 0.02 | 0.15 | 0.26 | 1.43 | 0.69 | 0.81 |

Appendix Table 73. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 2 in 1977.

| well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 2 | 1/11/77 | 1.31 | 7.77 | 16.32 | 16.23 | 7.97 | 2.03 | 6.14 | 0.18 | 2.91 | 0.0 | 6.44 | 6.88 | 0.05 |
| 2 | 1/26/77 | 1.45 | 7.86 | 15.09 | 15.83 | 7.14 | 2.11 | 5.67 | 0.17 | 2.99 | 0.0 | 5.64 | 7.20 | 0.05 |
| 2 | 2/ 9/77 | 1.49 | 8.38 | 15.77 | 16.20 | 7.63 | 1.98 | 5.99 | 0.17 | 3.14 | 0.40 | 5.78 | 6.88 | 0.05 |
| 2 | 2/23/77 | 1.47 | 8.21 | 15.93 | 15.84 | 8.04 | 2.05 | 5.67 | 0.17 | 3.06 | 0.52 | 5.72 | 6.54 | 0.0 |
| 2 | 3/ 9/77 | 1.45 | 7.94 | 15.10 | 15.47 | 7.92 | 2.05 | 4.95 | 0.18 | 2.94 | 0.0 | 6.46 | 6.07 | 0.10 |
| 2 | 3/23/77 | 1.41 | 7.88 | 15.36 | 15.95 | 7.80 | 2.00 | 5.37 | 0.19 | 2.78 | 0.0 | 6.62 | 6.55 | 0.03 |
| 2 | 4/ 6/77 | 1.26 | 8.01 | 14.66 | 15.20 | 7.47 | 1.94 | 5.08 | 0.17 | 2.65 | 0.0 | 6.50 | 6.05 | 0.01 |
| 2 | 4/20/77 | 1.19 | 8.23 | 13.69 | 13.35 | 6.83 | 1.76 | 4.92 | 0.16 | 2.47 | 0.24 | 4.00 | 6.64 | 0.05 |
| 2 | 7/14/77 | 1.36 | 7.55 | 13.17 | 13.56 | 6.05 | 1.84 | 5.12 | 0.16 | 2.46 | 0.0 | 5.14 | 5.96 | — |
| 2 | 8/ 5/77 | 1.33 | 7.58 | 14.30 | 14.79 | 6.6 | 1.72 | 5.78 | 0.17 | 2.43 | 1.16 | 5.36 | 5.84 | 0.0 |
| 2 | 9/15/77 | 1.55 | 7.75 | 16.02 | 16.10 | 7.72 | 1.98 | 6.16 | 0.16 | 2.64 | 0.0 | 6.62 | 6.84 | 0.0 |
| 2 | 10/ 6/77 | 1.40 | 8.27 | 15.14 | 15.25 | 7.78 | 1.96 | 5.22 | 0.18 | 2.77 | 0.36 | 6.08 | 6.04 | 0.0 |
| Mean | | 1.39 | 7.95 | 15.05 | 15.31 | 7.41 | 1.95 | 5.51 | 0.17 | 2.77 | 0.22 | 5.86 | 6.46 | 0.03 |
| Std. Dev. | | 0.10 | 0.27 | 0.96 | 0.97 | 0.62 | 0.12 | 0.45 | 0.01 | 0.24 | 0.35 | 0.78 | 0.45 | 0.03 |

Appendix Table 74. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 3 | 4/20/72 | 1.60 | 7.37 | 17.49 | 16.10 | 8.45 | 2.29 | 6.53 | 0.22 | 3.31 | 0.0 | 5.66 | 7.11 | 1.24 |
| 3 | 6/17/72 | 1.60 | 7.63 | 18.73 | 18.44 | 9.63 | 2.41 | 6.43 | 0.26 | 3.44 | 0.0 | 7.08 | 7.92 | -- |
| 3 | 6/26/72 | 1.62 | 7.60 | 18.85 | 18.30 | 9.86 | 2.41 | 6.33 | 0.25 | 3.42 | 0.0 | 6.69 | 8.19 | -- |
| 3 | 7/ 7/72 | 1.60 | 7.57 | 16.02 | 17.97 | 7.50 | 2.32 | 5.95 | 0.25 | 3.40 | 0.0 | 6.98 | 7.59 | -- |
| 3 | 8/ 3/72 | 1.62 | 7.57 | 15.50 | 18.13 | 5.89 | 2.35 | 7.00 | 0.26 | 3.49 | 0.0 | 6.68 | 7.96 | -- |
| 3 | 9/ 1/72 | 1.56 | 7.44 | 18.25 | 17.67 | 9.18 | 2.39 | 6.45 | 0.23 | 3.42 | 0.08 | 6.46 | 7.71 | -- |
| 3 | 10/ 7/72 | 1.56 | 7.26 | 18.05 | 17.50 | 9.21 | 2.30 | 6.29 | 0.25 | 3.56 | 0.0 | 6.54 | 7.40 | -- |
| 3 | 11/10/72 | 1.60 | 7.45 | 14.67 | 14.73 | 6.19 | 2.38 | 5.87 | 0.23 | 3.45 | 0.0 | 4.45 | 6.83 | -- |
| 3 | 12/ 8/72 | 1.64 | 7.47 | 15.67 | 15.97 | 6.90 | 2.57 | 5.97 | 0.23 | 3.52 | 0.0 | 6.63 | 5.82 | -- |
| Mean | | 1.60 | 7.48 | 17.03 | 17.20 | 8.09 | 2.38 | 6.31 | 0.24 | 3.45 | 0.01 | 6.35 | 7.39 | -- |
| Std. Dev. | | 0.03 | 0.12 | 1.57 | 1.29 | 1.51 | 0.08 | 0.35 | 0.01 | 0.07 | 0.03 | 0.82 | 0.73 | -- |

Appendix Table 75. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 3 | 1/ 5/73 | 1.58 | 7.25 | 16.63 | 17.49 | 7.46 | 2.57 | 6.36 | 0.24 | 3.50 | 0.0 | 7.17 | 6.82 | -- |
| 3 | 2/ 2/73 | 1.58 | 7.16 | 16.78 | 15.35 | 8.09 | 2.39 | 6.08 | 0.22 | 3.44 | 0.80 | 5.61 | 5.50 | -- |
| 3 | 3/ 9/73 | 1.56 | 7.05 | 13.85 | 15.94 | 4.96 | 2.25 | 6.39 | 0.25 | 3.33 | 0.10 | 5.95 | 6.52 | 2.35 |
| 3 | 4/ 6/73 | 1.50 | 7.01 | 15.32 | 15.84 | 6.73 | 2.13 | 6.21 | 0.25 | 3.23 | 0.0 | 6.20 | 6.41 | -- |
| 3 | 5/ 4/73 | 1.50 | 6.95 | 17.85 | 17.76 | 9.03 | 2.30 | 6.23 | 0.29 | 3.22 | 0.20 | 6.78 | 7.53 | 1.62 |
| 3 | 6/ 8/73 | 1.32 | 7.00 | 14.70 | 15.67 | 5.86 | 2.21 | 6.37 | 0.26 | 3.18 | 0.0 | 5.30 | 7.16 | 1.80 |
| 3 | 6/15/73 | 1.52 | 7.10 | 17.52 | 17.66 | 8.79 | 2.27 | 6.23 | 0.23 | 3.22 | 0.0 | 7.40 | 7.00 | 2.55 |
| 3 | 7/ 6/73 | 1.52 | 7.00 | 17.24 | 17.64 | 8.73 | 2.26 | 6.01 | 0.24 | 3.27 | 0.0 | 7.40 | 6.96 | 0.32 |
| 3 | 8/17/73 | 1.52 | 7.28 | 17.64 | 15.69 | 8.67 | 2.26 | 6.48 | 0.23 | 3.07 | 1.60 | 4.30 | 6.69 | 2.08 |
| 3 | 9/14/73 | 1.48 | -- | 16.30 | 15.22 | 7.82 | 2.25 | 5.99 | 0.24 | 3.22 | 0.75 | 5.00 | 6.20 | 3.32 |
| 3 | 10/12/73 | 1.53 | 7.94 | 17.66 | 16.55 | 8.72 | 2.35 | 6.37 | 0.22 | 3.12 | 0.75 | 5.92 | 6.71 | 2.98 |
| 3 | 11/ 9/73 | 1.38 | 8.33 | 16.63 | 17.25 | 7.12 | 2.37 | 6.89 | 0.25 | 3.09 | 0.0 | 7.02 | 7.12 | 1.55 |
| 3 | 12/21/73 | 1.37 | 8.02 | 14.30 | 14.52 | 5.14 | 2.30 | 6.65 | 0.21 | 2.92 | 0.10 | 4.28 | 7.19 | 1.58 |
| Mean | | 1.49 | 7.34 | 16.34 | 16.35 | 7.47 | 2.30 | 6.33 | 0.24 | 3.22 | 0.33 | 6.03 | 6.75 | 2.01 |
| Std. Dev. | | 0.08 | 0.47 | 1.37 | 1.10 | 1.42 | 0.11 | 0.25 | 0.02 | 0.15 | 0.50 | 1.10 | 0.52 | 0.85 |

Appendix Table 76. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------------|----------|--------------------|------|---------|--------|-------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- (ppm) | | | | | | | | | | | | | | |
| 3 | 2/19/74 | 1.40 | 8.17 | 14.18 | 14.80 | 5.23 | 2.26 | 6.45 | 0.24 | 3.04 | 0.15 | 4.28 | 7.31 | 1.30 |
| 3 | 4/16/74 | 1.49 | 7.79 | 17.15 | 18.29 | 7.31 | 2.67 | 6.95 | 0.22 | 4.18 | 0.0 | 6.35 | 7.76 | 0.06 |
| 3 | 5/14/74 | 1.88 | 7.85 | 19.84 | 18.88 | 10.60 | 2.76 | 6.16 | 0.32 | 4.42 | 0.0 | 6.54 | 7.92 | 0.0 |
| 3 | 5/28/74 | 2.27 | 7.87 | 22.20 | 22.50 | 10.29 | 3.91 | 7.73 | 0.27 | 5.76 | 0.0 | 6.44 | 10.30 | 0.0 |
| 3 | 6/11/74 | 1.81 | 7.87 | 20.76 | 19.44 | 10.82 | 2.77 | 6.94 | 0.23 | 4.48 | 0.0 | 6.84 | 8.12 | 0.0 |
| 3 | 6/25/74 | 1.85 | 8.20 | 19.93 | 19.63 | 9.01 | 2.80 | 7.78 | 0.34 | 4.45 | 0.16 | 6.66 | 8.36 | 0.04 |
| 3 | 7/ 9/74 | 1.89 | 7.42 | 20.49 | 19.52 | 11.32 | 2.12 | 6.80 | 0.25 | 4.68 | 0.0 | 6.20 | 8.64 | 0.11 |
| 3 | 7/23/74 | 1.86 | 8.22 | 21.86 | 22.06 | 10.77 | 3.09 | 7.73 | 0.27 | 5.01 | 0.0 | 6.65 | 10.40 | 0.16 |
| 3 | 8/ 6/74 | 1.82 | 7.95 | 22.41 | 21.25 | 11.58 | 2.97 | 7.61 | 0.25 | 5.64 | 0.0 | 6.48 | 9.13 | 0.22 |
| 3 | 8/20/74 | 1.74 | 8.20 | 21.11 | 20.65 | 10.56 | 2.95 | 7.37 | 0.23 | 4.93 | 0.0 | 6.50 | 9.21 | 0.45 |
| 3 | 9/17/74 | 1.91 | 8.25 | 20.60 | 19.45 | 10.02 | 3.21 | 7.13 | 0.24 | 5.08 | 0.24 | 4.68 | 9.45 | 0.14 |
| 3 | 10/ 1/74 | 1.86 | 7.93 | 20.72 | 19.97 | 10.23 | 3.06 | 7.20 | 0.23 | 4.62 | 0.0 | 6.38 | 8.97 | 0.14 |
| 3 | 10/15/74 | 1.68 | 8.20 | 16.57 | 18.63 | 6.82 | 2.71 | 6.83 | 0.21 | 4.05 | 0.52 | 5.94 | 8.12 | 0.09 |
| 3 | 11/12/74 | 1.60 | 8.15 | 19.43 | 18.74 | 9.23 | 2.46 | 7.52 | 0.22 | 4.03 | 0.0 | 6.44 | 8.24 | 1.72 |
| 3 | 11/26/74 | 1.34 | 8.07 | 18.32 | 18.43 | 9.16 | 2.39 | 6.57 | 0.20 | 3.89 | 0.0 | 6.58 | 7.96 | 0.21 |
| 3 | 12/10/74 | 1.43 | 8.30 | 14.39 | 13.28 | 5.45 | 2.28 | 6.44 | 0.22 | 3.08 | 0.0 | 2.52 | 7.68 | 0.31 |
| Mean | | 1.74 | 8.03 | 19.37 | 19.10 | 9.27 | 2.78 | 7.08 | 0.25 | 4.46 | 0.07 | 5.97 | 8.60 | 0.31 |
| Std. Dev. | | 0.24 | 0.23 | 2.57 | 2.35 | 2.02 | 0.44 | 0.52 | 0.04 | 0.76 | 0.14 | 1.16 | 0.91 | 0.49 |

Appendix Table 77. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1975.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ (ppm) |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|--------------------------|
| ----- (meq/l) ----- | | | | | | | | | | | | | | |
| 3 | 1/14/75 | 1.51 | 7.99 | 17.88 | 17.90 | 9.02 | 2.23 | 6.43 | 0.20 | 3.51 | 0.0 | 7.00 | 7.39 | 0.13 |
| 3 | 1/28/75 | 1.48 | 7.97 | 18.09 | 17.46 | 8.97 | 2.37 | 6.56 | 0.19 | 3.20 | 0.0 | 7.22 | 7.04 | 0.0 |
| 3 | 2/10/75 | 1.50 | 8.09 | 18.02 | 16.80 | 8.94 | 2.28 | 6.59 | 0.21 | 3.06 | 0.0 | 7.34 | 6.40 | 0.28 |
| 3 | 2/24/75 | 1.45 | 8.25 | 18.24 | 17.00 | 9.10 | 2.32 | 6.62 | 0.20 | 2.90 | 0.0 | 7.10 | 7.00 | 0.18 |
| 3 | 3/10/75 | 1.58 | 8.29 | 17.10 | 17.45 | 7.50 | 2.58 | 6.85 | 0.17 | 3.39 | 0.36 | 6.22 | 7.48 | 0.14 |
| 3 | 3/24/75 | 1.59 | 7.83 | 17.42 | 17.44 | 7.67 | 2.66 | 6.88 | 0.21 | 3.53 | 0.0 | 6.34 | 7.56 | 0.45 |
| 3 | 4/ 7/75 | 1.31 | 8.10 | 15.01 | 15.37 | 5.78 | 2.50 | 6.54 | 0.19 | 3.53 | 0.0 | 3.96 | 7.88 | 0.0 |
| 3 | 4/21/75 | 1.27 | 8.21 | 16.27 | 14.86 | 6.78 | 2.52 | 6.77 | 0.20 | 3.40 | 0.0 | 4.02 | 7.44 | 0.0 |
| 3 | 5/ 5/75 | 1.34 | 8.07 | 14.80 | 13.58 | 5.51 | 2.34 | 6.74 | 0.21 | 3.17 | 0.0 | 3.16 | 7.24 | 0.69 |
| 3 | 5/19/75 | 1.29 | 8.10 | 13.76 | 13.30 | 4.78 | 2.17 | 6.61 | 0.20 | 2.77 | 0.0 | 3.96 | 6.56 | 0.47 |
| 3 | 6/ 2/75 | 1.45 | 7.86 | 16.87 | 16.25 | 8.21 | 2.12 | 6.35 | 0.19 | 2.77 | 0.0 | 7.04 | 6.44 | 0.19 |
| 3 | 6/16/75 | 1.50 | 7.70 | 15.97 | 16.21 | 7.19 | 2.02 | 6.54 | 0.22 | 2.89 | 0.0 | 7.00 | 6.32 | 0.0 |
| 3 | 6/30/75 | 1.14 | 8.29 | 17.05 | -- | 7.93 | 2.12 | 6.77 | 0.23 | -- | 0.0 | 5.30 | 6.44 | -- |
| 3 | 7/14/75 | 1.42 | 7.77 | 15.37 | 15.89 | 7.12 | 1.91 | 6.12 | 0.22 | 2.67 | 0.0 | 6.34 | 6.88 | 0.28 |
| 3 | 7/28/75 | 1.32 | 8.01 | 13.69 | 14.74 | 8.01 | 2.13 | 3.35 | 0.20 | 2.64 | 0.0 | 5.82 | 6.28 | 0.0 |
| 3 | 8/11/75 | 1.47 | 7.81 | 16.65 | 16.98 | 7.87 | 2.05 | 6.54 | 0.19 | 2.88 | 0.0 | 7.10 | 7.00 | 0.0 |
| 3 | 8/25/75 | 1.43 | 7.85 | 13.95 | 13.89 | 5.76 | 1.52 | 6.47 | 0.20 | 2.69 | 0.0 | 6.80 | 4.40 | 0.0 |
| 3 | 9/ 8/75 | 1.23 | 8.04 | 13.80 | 13.45 | 5.83 | 1.33 | 6.43 | 0.21 | 2.52 | 0.0 | 5.02 | 5.91 | 0.0 |
| 3 | 9/23/75 | 1.36 | 8.16 | 15.59 | 14.96 | 7.08 | 1.85 | 6.45 | 0.21 | 2.82 | 0.0 | 7.00 | 5.14 | 0.0 |
| 3 | 10/ 7/75 | 1.34 | 7.57 | 16.27 | 14.11 | 7.29 | 2.12 | 6.65 | 0.21 | 2.39 | 0.0 | 6.74 | 4.98 | 0.05 |
| 3 | 11/ 4/75 | 1.03 | 8.09 | 14.53 | 13.32 | 6.58 | 1.95 | 5.81 | 0.19 | 2.49 | 0.0 | 4.94 | 5.88 | 0.40 |
| 3 | 11/18/75 | 1.24 | 8.29 | 14.27 | 14.41 | 6.65 | 1.76 | 5.67 | 0.19 | 2.37 | 0.0 | 6.12 | 5.91 | 0.54 |
| 3 | 12/ 2/75 | 1.28 | 8.08 | 14.42 | 13.75 | 6.77 | 1.80 | 5.62 | 0.23 | 2.19 | 0.0 | 6.34 | 5.22 | 0.05 |
| 3 | 12/16/75 | 1.05 | 7.64 | 13.05 | 13.74 | 6.09 | 1.57 | 5.19 | 0.20 | 2.15 | 0.0 | 6.30 | 5.29 | 0.12 |
| 3 | 12/30/75 | 1.07 | 7.96 | 13.05 | 11.96 | 6.02 | 1.50 | 5.35 | 0.18 | 2.11 | 0.0 | 4.93 | 4.92 | 0.0 |
| Mean | | 1.35 | 8.00 | 15.64 | 15.20 | 7.14 | 2.07 | 6.24 | 0.20 | 2.83 | 0.01 | 5.96 | 6.36 | 0.17 |
| Std. Dev. | | 0.16 | 0.20 | 1.67 | 1.69 | 1.20 | 0.35 | 0.76 | 0.01 | 0.44 | 0.07 | 1.22 | 0.96 | 0.21 |

Appendix Table 78. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1976.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- | | | | | | | | | | | | | | |
| ----- (ppm) ----- | | | | | | | | | | | | | | |
| 3 | 1/13/76 | 1.10 | 7.93 | 14.21 | 13.67 | 6.63 | 1.67 | 5.72 | 0.19 | 2.02 | 0.0 | 6.50 | 5.15 | 0.0 |
| 3 | 1/26/76 | 1.05 | 8.06 | 12.48 | 13.15 | 5.58 | 1.44 | 5.29 | 0.17 | 1.90 | 0.0 | 6.51 | 4.74 | 0.0 |
| 3 | 2/ 7/76 | 1.17 | 7.95 | 15.36 | 14.45 | 5.54 | 1.63 | 8.02 | 0.17 | 1.97 | 0.0 | 7.77 | 4.71 | 0.0 |
| 3 | 2/21/76 | 1.09 | 7.95 | 10.94 | 11.59 | 3.60 | 1.59 | 5.57 | 0.18 | 1.98 | 0.0 | 5.14 | 4.40 | 4.25 |
| 3 | 3/ 6/76 | 1.09 | 8.19 | 13.21 | 13.14 | 5.09 | 1.54 | 6.41 | 0.17 | 1.95 | 0.0 | 6.82 | 4.37 | 0.0 |
| 3 | 3/20/76 | 1.08 | 8.72 | 13.61 | 12.98 | 5.28 | 1.60 | 6.56 | 0.17 | 1.97 | 1.56 | 4.74 | 4.67 | 2.25 |
| 3 | 4/ 3/76 | 1.13 | 8.30 | 13.52 | 13.12 | 5.17 | 1.57 | 6.61 | 0.17 | 1.98 | 0.0 | 5.58 | 5.56 | 0.29 |
| 3 | 4/10/76 | 1.13 | 7.48 | 12.73 | 12.39 | 5.31 | 1.51 | 5.72 | 0.19 | 2.00 | 1.49 | 4.50 | 4.37 | 1.90 |
| 3 | 5/ 1/76 | 1.13 | 8.16 | 10.86 | 10.35 | 2.83 | 1.55 | 6.31 | 0.17 | 1.99 | 0.91 | 2.89 | 4.56 | 0.21 |
| 3 | 5/15/76 | 1.16 | 8.47 | 13.27 | 12.61 | 5.18 | 1.63 | 6.29 | 0.17 | 2.15 | 0.16 | 5.10 | 5.20 | 0.14 |
| 3 | 6/11/76 | 1.10 | 8.52 | 10.69 | 10.81 | 3.70 | 1.59 | 5.23 | 0.17 | 2.38 | 0.0 | 3.15 | 5.28 | 0.06 |
| 3 | 6/28/76 | 1.20 | 8.58 | 10.52 | 10.26 | 2.44 | 1.68 | 6.21 | 0.19 | 2.56 | 0.0 | 2.48 | 5.22 | 0.24 |
| 3 | 7/13/76 | 1.22 | 8.27 | 13.39 | 12.99 | 5.26 | 1.67 | 6.27 | 0.19 | 2.61 | 0.0 | 5.26 | 5.12 | 0.15 |
| 3 | 7/26/76 | 1.18 | 8.13 | 13.45 | 13.21 | 5.22 | 1.78 | 6.29 | 0.16 | 2.54 | 0.0 | 5.46 | 5.20 | 0.40 |
| 3 | 8/11/76 | 1.21 | 8.20 | 11.59 | 11.12 | 3.58 | 1.76 | 6.08 | 0.17 | 2.60 | 0.0 | 4.42 | 4.04 | 3.71 |
| 3 | 8/25/76 | 1.19 | 8.79 | 13.81 | 14.57 | 5.79 | 1.76 | 6.08 | 0.18 | 2.63 | 0.92 | 5.00 | 5.96 | 3.49 |
| 3 | 9/ 7/76 | 1.03 | 8.20 | 11.69 | 12.37 | 3.62 | 1.67 | 6.23 | 0.17 | 2.61 | 0.0 | 3.84 | 5.92 | 0.0 |
| 3 | 9/23/76 | 1.24 | 8.56 | 13.44 | 13.61 | 5.40 | 1.74 | 6.13 | 0.17 | 2.61 | 0.40 | 5.12 | 5.44 | 2.58 |
| 3 | 10/ 5/76 | 1.15 | 8.33 | 13.27 | 13.95 | 5.46 | 1.68 | 5.97 | 0.16 | 2.63 | 0.84 | 4.68 | 5.80 | 0.02 |
| 3 | 10/21/76 | 1.20 | 8.39 | 11.83 | 14.20 | 3.83 | 1.86 | 5.97 | 0.17 | 2.52 | 0.44 | 3.92 | 7.32 | 0.20 |
| 3 | 11/ 2/76 | 1.20 | 8.65 | 14.95 | 15.07 | 7.06 | 1.90 | 5.82 | 0.17 | 2.65 | 1.40 | 5.02 | 6.00 | 0.10 |
| 3 | 12/14/76 | 1.21 | 8.16 | 15.08 | 15.36 | 6.99 | 1.82 | 6.09 | 0.18 | 2.62 | 0.16 | 6.26 | 6.32 | 0.05 |
| 3 | 12/28/76 | 1.17 | 8.14 | 14.61 | 15.37 | 6.61 | 1.78 | 6.05 | 0.17 | 2.67 | 0.0 | 6.42 | 6.28 | 0.10 |
| Mean | | 1.15 | 8.27 | 12.98 | 13.06 | 5.01 | 1.67 | 6.13 | 0.17 | 2.33 | 0.36 | 5.07 | 5.29 | 0.88 |
| Std. Dev. | | 0.06 | 0.30 | 1.44 | 1.49 | 1.27 | 0.12 | 0.54 | 0.01 | 0.31 | 0.54 | 1.30 | 0.78 | 1.38 |

Appendix Table 79. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 3 in 1977.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 3 | 1/11/77 | 1.17 | 8.10 | 13.96 | 14.42 | 5.99 | 1.63 | 6.17 | 0.17 | 2.55 | 0.56 | 5.62 | 5.68 | 0.90 |
| 3 | 1/26/77 | 1.29 | 8.14 | 13.10 | 13.72 | 5.38 | 1.72 | 5.84 | 0.16 | 2.56 | 0.0 | 5.50 | 5.66 | 0.10 |
| 3 | 2/ 9/77 | 1.28 | 8.47 | 13.73 | 13.96 | 5.79 | 1.58 | 6.20 | 0.16 | 2.55 | 0.64 | 5.30 | 5.47 | 0.05 |
| 3 | 2/23/77 | 1.27 | 8.21 | 13.93 | 13.64 | 6.24 | 1.69 | 5.84 | 0.16 | 2.52 | 0.36 | 5.44 | 5.32 | 0.0 |
| 3 | 3/ 9/77 | 1.28 | 7.93 | 13.31 | 13.91 | 6.09 | 1.68 | 5.37 | 0.17 | 2.53 | 0.0 | 6.00 | 5.38 | 0.07 |
| 3 | 3/23/77 | 1.27 | 8.02 | 13.81 | 14.03 | 6.30 | 1.71 | 5.62 | 0.18 | 2.55 | 0.0 | 6.14 | 5.34 | 0.05 |
| 3 | 4/ 6/77 | 1.22 | 8.00 | 14.02 | 14.69 | 6.43 | 1.78 | 5.64 | 0.17 | 2.74 | 0.0 | 6.14 | 5.81 | 0.01 |
| 3 | 4/20/77 | 1.18 | 8.34 | 13.48 | 12.94 | 6.13 | 1.67 | 5.51 | 0.17 | 2.60 | 0.20 | 4.72 | 5.42 | 0.02 |
| 3 | 7/14/77 | 1.53 | 7.48 | 16.02 | 16.64 | 7.48 | 1.88 | 6.47 | 0.19 | 3.14 | 1.16 | 5.26 | 7.08 | -- |
| 3 | 8/ 5/77 | 1.45 | 7.69 | 15.05 | 15.82 | 6.83 | 1.84 | 6.20 | 0.18 | 3.02 | 0.76 | 5.56 | 6.48 | 0.0 |
| 3 | 9/15/77 | 1.73 | 8.00 | 17.19 | 17.53 | 7.92 | 2.10 | 7.00 | 0.17 | 3.17 | 0.0 | 6.74 | 7.62 | 0.0 |
| 3 | 10/ 6/77 | 1.54 | 8.19 | 15.71 | 16.31 | 7.43 | 1.97 | 6.13 | 0.18 | 3.21 | 0.0 | 6.62 | 6.48 | 0.0 |
| Mean | | 1.35 | 8.05 | 14.44 | 14.80 | 6.50 | 1.77 | 6.00 | 0.17 | 2.76 | 0.31 | 5.75 | 5.98 | 0.11 |
| Std. Dev. | | 0.17 | 0.27 | 1.27 | 1.43 | 0.76 | 0.15 | 0.46 | 0.01 | 0.28 | 0.39 | 0.59 | 0.76 | 0.26 |

Appendix Table 80. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|--------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| (meq/l)----- (ppm) | | | | | | | | | | | | | | |
| 4 | 4/20/72 | 1.70 | 7.47 | 18.03 | 17.49 | 8.77 | 2.68 | 6.36 | 0.22 | 3.66 | 0.0 | 5.97 | 7.86 | 0.0 |
| 4 | 6/17/72 | 1.44 | 7.69 | 16.48 | 16.47 | 8.33 | 2.31 | 5.59 | 0.25 | 3.15 | 0.0 | 5.84 | 7.48 | -- |
| 4 | 6/26/72 | 1.42 | 7.62 | 16.11 | 16.51 | 8.09 | 2.24 | 5.54 | 0.24 | 3.08 | 0.0 | 5.95 | 7.48 | -- |
| 4 | 7/ 7/72 | 1.42 | 7.58 | 14.67 | 16.16 | 7.00 | 2.20 | 5.25 | 0.22 | 3.07 | 0.0 | 5.78 | 7.31 | -- |
| 4 | 8/ 3/72 | 1.38 | 7.59 | 13.65 | 15.37 | 5.70 | 2.23 | 5.49 | 0.23 | 3.01 | 0.0 | 5.74 | 6.62 | -- |
| 4 | 9/ 1/72 | 1.38 | 7.40 | 14.21 | 14.43 | 6.24 | 2.17 | 5.58 | 0.22 | 3.04 | 0.10 | 4.39 | 6.90 | -- |
| 4 | 10/ 7/72 | 1.41 | 7.30 | 15.78 | 15.72 | 7.78 | 2.23 | 5.52 | 0.25 | 3.01 | 0.12 | 6.42 | 6.17 | -- |
| 4 | 11/10/72 | 1.44 | 7.42 | 12.50 | 12.25 | 4.58 | 2.27 | 5.42 | 0.23 | 2.97 | 0.0 | 3.94 | 5.34 | -- |
| 4 | 12/ 8/72 | 1.52 | 7.56 | 14.79 | 14.55 | 5.95 | 2.70 | 5.90 | 0.24 | 2.95 | 0.0 | 7.57 | 4.03 | -- |
| Mean | | 1.46 | 7.51 | 15.14 | 15.44 | 6.94 | 2.34 | 5.63 | 0.23 | 3.10 | 0.02 | 5.73 | 6.58 | -- |
| Std. Dev. | | 0.10 | 0.12 | 1.65 | 1.54 | 1.41 | 0.20 | 0.32 | 0.01 | 0.22 | 0.05 | 1.06 | 1.23 | -- |

Appendix Table 81. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------------|--------|-------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) (ppm) | | | | | | | | | | |
| 4 | 1/ 5/73 | 1.54 | 7.25 | 17.73 | 17.54 | 9.03 | 2.72 | 5.73 | 0.25 | 3.01 | 0.0 | 8.37 | 6.16 | -- |
| 4 | 2/ 2/73 | 1.54 | 7.04 | 17.00 | 15.33 | 8.36 | 2.58 | 5.83 | 0.23 | 2.95 | 0.0 | 7.82 | 4.56 | -- |
| 4 | 3/ 9/73 | 1.54 | 7.11 | 12.91 | 15.17 | 3.53 | 2.49 | 6.62 | 0.27 | 2.93 | 0.10 | 7.84 | 4.28 | 0.95 |
| 4 | 4/ 6/73 | 1.53 | 7.14 | 16.20 | 16.17 | 6.37 | 2.51 | 7.07 | 0.25 | 2.91 | 0.0 | 8.54 | 4.72 | -- |
| 4 | 5/ 4/73 | 1.50 | 7.01 | 16.69 | 15.42 | 7.95 | 2.44 | 6.01 | 0.29 | 2.96 | 0.16 | 5.78 | 6.48 | 2.55 |
| 4 | 6/ 8/73 | 1.31 | 7.00 | 14.54 | 16.20 | 5.82 | 2.58 | 5.88 | 0.26 | 2.98 | 0.0 | 6.50 | 6.69 | 1.62 |
| 4 | 6/15/73 | 1.56 | 7.20 | 18.15 | 18.16 | 9.16 | 2.64 | 6.10 | 0.25 | 2.93 | 0.0 | 8.50 | 6.69 | 2.55 |
| 4 | 7/ 6/73 | 1.51 | 7.00 | 16.59 | 15.96 | 7.76 | 2.51 | 6.07 | 0.25 | 2.96 | 0.0 | 6.40 | 6.59 | 0.80 |
| 4 | 8/17/73 | 1.54 | 7.28 | 18.13 | 15.92 | 8.89 | 2.55 | 6.46 | 0.23 | 2.78 | 1.70 | 5.15 | 6.27 | 1.10 |
| 4 | 9/14/73 | 1.58 | -- | 19.27 | 17.31 | 10.06 | 2.65 | 6.29 | 0.27 | 3.19 | 0.25 | 6.87 | 6.96 | 2.68 |
| 4 | 10/12/73 | 1.65 | 7.85 | 19.18 | 17.71 | 9.52 | 2.69 | 6.73 | 0.24 | 3.76 | 0.15 | 6.52 | 7.24 | 2.75 |
| 4 | 11/ 9/73 | 1.54 | 8.13 | 17.51 | 17.32 | 7.83 | 2.64 | 6.77 | 0.27 | 3.62 | 0.0 | 6.28 | 7.40 | 1.10 |
| 4 | 12/21/73 | 1.53 | 8.03 | 16.76 | 16.29 | 7.14 | 2.61 | 6.78 | 0.23 | 3.77 | 0.20 | 3.75 | 8.56 | 0.70 |
| Mean | | 1.53 | 7.34 | 16.97 | 16.50 | 7.80 | 2.59 | 6.33 | 0.25 | 3.13 | 0.20 | 6.79 | 6.35 | 1.68 |
| Std. Dev. | | 0.08 | 0.42 | 1.76 | 0.99 | 1.77 | 0.08 | 0.43 | 0.02 | 0.34 | 0.46 | 1.42 | 1.21 | 0.86 |

Appendix Table 82. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|-------|------|---------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | (meq/l) | | | | | | (ppm) |
| 4 | 2/19/74 | 1.73 | 8.13 | 19.11 | 19.75 | 8.65 | 3.19 | 7.01 | 0.26 | 5.26 | 0.15 | 4.98 | 9.33 | 1.96 |
| 4 | 4/16/74 | 1.84 | 7.62 | 20.69 | 20.82 | 9.14 | 3.66 | 7.63 | 0.26 | 5.93 | 0.0 | 6.57 | 8.32 | 0.06 |
| 4 | 5/14/74 | 2.24 | 7.73 | 23.83 | 22.51 | 13.18 | 3.69 | 6.59 | 0.37 | 5.69 | 0.0 | 6.20 | 10.62 | 0.0 |
| 4 | 5/28/74 | 1.88 | 7.93 | 20.84 | 20.65 | 10.77 | 2.89 | 6.94 | 0.24 | 4.47 | 0.0 | 6.74 | 9.44 | 0.0 |
| 4 | 6/11/74 | 2.16 | 7.71 | 24.74 | 23.35 | 13.07 | 3.65 | 7.75 | 0.27 | 5.68 | 0.0 | 6.48 | 11.19 | 0.0 |
| 4 | 6/25/74 | 2.10 | 8.15 | 24.10 | 23.84 | 11.55 | 3.58 | 8.58 | 0.39 | 5.77 | 0.12 | 6.72 | 11.23 | 0.02 |
| 4 | 7/ 9/74 | 2.11 | 7.70 | 23.29 | 22.26 | 11.82 | 2.95 | 8.25 | 0.27 | 5.27 | 0.0 | 5.88 | 11.11 | 0.08 |
| 4 | 7/23/74 | 2.36 | 8.04 | 26.52 | 27.42 | 12.54 | 4.56 | 9.10 | 0.32 | 6.06 | 0.0 | 7.12 | 14.24 | 0.02 |
| 4 | 8/ 6/74 | 2.11 | 7.66 | 26.27 | 24.90 | 13.68 | 3.90 | 8.40 | 0.29 | 5.10 | 0.0 | 7.12 | 12.68 | 0.14 |
| 4 | 8/20/74 | 2.07 | 8.15 | 26.11 | 25.47 | 12.86 | 4.14 | 8.84 | 0.27 | 5.18 | 0.0 | 7.72 | 12.56 | 0.37 |
| 4 | 9/ 3/74 | 1.98 | 8.21 | 20.23 | 21.13 | 7.50 | 3.88 | 8.57 | 0.28 | 4.84 | 0.0 | 6.20 | 10.01 | 5.03 |
| 4 | 9/17/74 | 1.92 | 8.25 | 20.46 | 20.16 | 8.92 | 3.25 | 8.03 | 0.26 | 4.12 | 0.12 | 5.62 | 10.30 | 0.14 |
| 4 | 10/ 1/74 | 1.85 | 8.01 | 20.61 | 20.41 | 10.13 | 2.94 | 7.29 | 0.25 | 3.76 | 0.0 | 7.52 | 9.13 | 0.09 |
| 4 | 10/15/74 | 1.59 | 8.18 | 15.24 | 17.79 | 4.16 | 2.32 | 8.53 | 0.23 | 3.16 | 0.0 | 6.92 | 7.71 | 0.0 |
| 4 | 11/12/74 | 1.41 | 8.15 | 15.41 | 16.89 | 4.93 | 1.75 | 8.51 | 0.22 | 3.00 | 0.0 | 6.88 | 6.99 | 1.12 |
| 4 | 11/26/74 | 1.22 | 8.26 | 13.67 | 16.86 | 3.01 | 1.92 | 8.53 | 0.21 | 3.16 | 0.0 | 7.02 | 6.68 | 0.10 |
| 4 | 12/10/74 | 1.50 | 8.11 | 13.21 | 14.22 | 2.45 | 1.73 | 8.80 | 0.23 | 3.66 | 0.0 | 3.92 | 6.64 | 0.15 |
| Mean | | 1.89 | 8.00 | 20.84 | 21.08 | 9.32 | 3.18 | 8.08 | 0.27 | 4.71 | 0.02 | 6.45 | 9.89 | 0.55 |
| Std. Dev. | | 0.31 | 0.23 | 4.36 | 3.42 | 3.72 | 0.84 | 0.75 | 0.05 | 1.05 | 0.05 | 0.94 | 2.20 | 1.26 |

Appendix Table 83. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1975.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ (ppm) |
|-----------|----------|--------------------|------|---------|--------|------|------|---------|------|------|-----------------|------------------|-----------------|--------------------------|
| | | | | | | | | (meq/l) | | | | | | |
| 4 | 1/14/75 | 1.50 | 7.88 | 17.39 | 17.20 | 6.41 | 1.84 | 8.92 | 0.22 | 3.23 | 0.0 | 7.22 | 6.75 | 0.13 |
| 4 | 1/28/75 | 1.45 | 7.81 | 17.01 | 17.18 | 6.14 | 1.89 | 8.77 | 0.21 | 3.14 | 0.0 | 7.32 | 6.72 | 0.0 |
| 4 | 2/10/75 | 1.51 | 8.28 | 17.43 | 16.66 | 6.30 | 2.00 | 8.91 | 0.22 | 3.02 | 0.0 | 7.20 | 6.44 | 0.21 |
| 4 | 2/24/75 | 1.40 | 8.24 | 17.26 | 15.90 | 6.29 | 1.85 | 8.91 | 0.21 | 2.88 | 0.0 | 7.02 | 6.00 | 0.23 |
| 4 | 3/10/75 | 1.44 | 8.38 | 16.52 | 16.05 | 5.72 | 1.81 | 8.77 | 0.22 | 3.01 | 0.60 | 6.16 | 6.28 | 0.14 |
| 4 | 3/24/75 | 1.38 | 8.14 | 16.58 | 14.87 | 5.82 | 1.81 | 8.74 | 0.21 | 2.80 | 0.16 | 6.26 | 5.64 | 0.57 |
| 4 | 4/7/75 | 1.19 | 8.46 | 12.57 | 12.02 | 2.15 | 1.61 | 8.61 | 0.20 | 2.82 | 0.0 | 2.92 | 6.28 | 0.0 |
| 4 | 4/21/75 | 1.20 | 8.44 | 13.25 | 12.74 | 2.59 | 1.68 | 8.78 | 0.20 | 2.84 | 0.0 | 3.66 | 6.24 | 0.0 |
| 4 | 5/5/75 | 1.22 | 8.34 | 13.07 | 12.47 | 1.96 | 1.60 | 9.29 | 0.22 | 2.74 | 0.0 | 3.56 | 6.16 | 0.50 |
| 4 | 5/19/75 | 1.30 | 8.18 | 13.94 | 13.25 | 3.23 | 1.66 | 8.84 | 0.21 | 2.68 | 0.0 | 4.68 | 5.88 | 0.47 |
| 4 | 6/2/75 | 1.41 | 7.91 | 16.06 | 15.38 | 5.40 | 1.68 | 8.78 | 0.20 | 2.62 | 0.0 | 7.12 | 5.64 | 0.19 |
| 4 | 6/16/75 | 1.44 | 7.80 | 15.51 | 15.49 | 5.37 | 1.79 | 8.12 | 0.23 | 2.63 | 0.0 | 7.18 | 5.68 | 0.0 |
| 4 | 6/30/75 | 1.18 | 8.43 | 15.95 | 13.02 | 4.93 | 1.58 | 9.21 | 0.23 | 3.52 | 0.0 | 3.34 | 6.16 | 0.0 |
| 4 | 7/14/75 | 1.41 | 7.70 | 15.05 | 15.43 | 5.13 | 1.57 | 8.12 | 0.23 | 2.54 | 0.48 | 5.94 | 6.44 | 2.12 |
| 4 | 7/28/75 | 1.30 | 8.18 | 15.46 | 15.11 | 5.14 | 1.56 | 8.56 | 0.20 | 2.39 | 0.0 | 6.92 | 5.80 | 0.0 |
| 4 | 8/11/75 | 1.35 | 7.74 | 14.67 | 15.41 | 4.88 | 1.48 | 8.12 | 0.19 | 2.43 | 0.0 | 7.18 | 5.80 | 0.0 |
| 4 | 8/25/75 | 1.35 | 7.78 | 14.71 | 13.83 | 4.67 | 1.44 | 8.40 | 0.20 | 2.46 | 0.0 | 7.00 | 4.37 | 0.0 |
| 4 | 9/8/75 | 1.20 | 8.18 | 12.98 | 12.80 | 6.48 | 1.43 | 4.86 | 0.21 | 2.41 | 0.0 | 5.50 | 4.89 | 0.0 |
| 4 | 9/23/75 | 1.33 | 8.24 | 15.44 | 14.78 | 4.88 | 1.44 | 8.91 | 0.21 | 2.94 | 0.0 | 7.10 | 4.74 | 0.0 |
| 4 | 10/7/75 | 1.27 | 7.46 | 15.47 | 14.05 | 5.84 | 1.76 | 7.66 | 0.21 | 2.29 | 0.0 | 7.02 | 4.74 | 0.0 |
| 4 | 11/4/75 | 0.97 | 8.24 | 12.07 | 12.28 | 3.82 | 1.72 | 6.32 | 0.21 | 2.52 | 0.0 | 4.84 | 4.92 | 0.0 |
| 4 | 11/18/75 | 1.09 | 8.35 | 13.73 | 14.93 | 5.59 | 1.68 | 6.25 | 0.21 | 2.57 | 0.0 | 7.24 | 5.11 | 0.67 |
| 4 | 12/2/75 | 1.35 | 8.22 | 14.41 | 14.75 | 6.15 | 1.78 | 6.22 | 0.26 | 2.54 | 0.0 | 7.10 | 5.11 | 0.19 |
| 4 | 12/16/75 | 1.14 | 7.56 | 13.35 | 14.08 | 5.34 | 1.70 | 6.09 | 0.22 | 2.60 | 0.0 | 6.15 | 5.33 | 0.0 |
| 4 | 12/30/75 | 1.18 | 7.82 | 13.88 | 13.42 | 5.99 | 1.58 | 6.08 | 0.23 | 2.74 | 0.0 | 5.35 | 5.33 | 0.17 |
| Mean | | 1.30 | 8.07 | 14.95 | 14.52 | 5.05 | 1.68 | 8.01 | 0.21 | 2.73 | 0.05 | 6.04 | 5.70 | 0.22 |
| Std. Dev. | | 0.14 | 0.29 | 1.59 | 1.51 | 1.32 | 0.15 | 1.25 | 0.01 | 0.29 | 0.15 | 1.42 | 0.67 | 0.44 |

Appendix Table 84. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1976.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| 4 | 1/13/76 | 1.27 | 7.88 | 16.09 | 15.34 | 7.48 | 2.05 | 6.33 | 0.23 | 2.75 | 0.0 | 7.14 | 5.44 | 0.61 |
| 4 | 1/26/76 | 1.19 | 8.04 | 14.40 | 14.89 | 6.51 | 1.86 | 5.83 | 0.20 | 2.62 | 0.0 | 7.05 | 5.22 | 0.0 |
| 4 | 2/ 7/76 | 1.39 | 8.13 | 16.21 | 14.19 | 5.54 | 1.98 | 8.48 | 0.21 | 2.87 | 0.0 | 6.15 | 5.15 | 1.17 |
| 4 | 2/21/76 | 1.28 | 7.94 | 14.09 | 14.96 | 3.49 | 2.19 | 8.21 | 0.20 | 2.84 | 0.0 | 6.88 | 5.20 | 2.30 |
| 4 | 3/ 6/76 | 1.32 | 8.07 | 15.46 | 15.88 | 5.95 | 2.04 | 7.26 | 0.21 | 2.82 | 0.0 | 7.78 | 5.28 | 0.06 |
| 4 | 3/20/76 | 1.19 | 8.31 | 14.03 | 13.60 | 5.13 | 2.12 | 6.57 | 0.21 | 2.77 | 0.0 | 5.40 | 5.40 | 2.00 |
| 4 | 4/ 3/76 | 1.32 | 8.21 | 14.85 | 14.47 | 5.09 | 2.04 | 7.52 | 0.20 | 2.76 | 0.0 | 5.62 | 6.08 | 0.90 |
| 4 | 4/10/76 | 1.33 | 7.28 | 14.06 | 13.92 | 5.13 | 1.95 | 6.76 | 0.22 | 2.77 | 0.0 | 4.99 | 6.12 | 2.21 |
| 4 | 5/ 1/76 | 1.30 | 8.10 | 14.67 | 14.12 | 5.25 | 1.99 | 7.23 | 0.20 | 2.79 | 0.0 | 6.26 | 5.07 | 0.08 |
| 4 | 5/15/76 | 1.32 | 8.34 | 14.64 | 13.97 | 5.18 | 2.05 | 7.21 | 0.20 | 2.87 | 0.0 | 5.22 | 5.88 | 0.14 |
| 4 | 6/11/76 | 1.12 | 8.24 | 10.90 | 11.36 | 3.92 | 1.64 | 5.15 | 0.19 | 2.89 | 0.0 | 3.19 | 5.28 | 0.10 |
| 4 | 6/28/76 | 1.31 | 8.32 | 11.07 | 10.49 | 2.56 | 1.93 | 6.36 | 0.22 | 2.85 | 0.0 | 2.52 | 5.12 | 0.28 |
| 4 | 7/13/76 | 1.27 | 8.20 | 13.92 | 13.58 | 5.26 | 1.99 | 6.46 | 0.21 | 2.86 | 0.0 | 5.36 | 5.36 | 0.05 |
| 4 | 7/26/76 | 1.18 | 8.10 | 13.43 | 13.29 | 4.76 | 1.97 | 6.53 | 0.17 | 2.74 | 0.0 | 5.48 | 5.04 | 1.92 |
| 4 | 8/11/76 | 1.22 | 8.11 | 11.78 | 11.27 | 3.41 | 1.93 | 6.25 | 0.19 | 2.81 | 0.0 | 4.26 | 4.20 | 0.0 |
| 4 | 8/25/76 | 1.03 | 8.32 | 12.46 | 12.00 | 3.97 | 2.02 | 6.28 | 0.19 | 2.92 | 0.0 | 2.82 | 6.24 | 1.31 |
| 4 | 9/ 7/76 | 1.03 | 8.27 | 12.09 | 12.67 | 3.97 | 1.97 | 5.96 | 0.19 | 2.83 | 0.0 | 3.60 | 6.24 | 0.0 |
| 4 | 9/23/76 | 1.25 | 8.35 | 12.57 | 12.84 | 4.23 | 1.93 | 6.23 | 0.18 | 2.79 | 0.20 | 3.70 | 6.12 | 1.92 |
| 4 | 10/ 5/76 | 1.25 | 8.16 | 14.14 | 14.47 | 5.73 | 2.04 | 6.19 | 0.18 | 2.81 | 0.80 | 5.10 | 5.76 | 0.01 |
| 4 | 10/21/76 | 1.18 | 8.23 | 12.45 | 14.30 | 3.87 | 2.21 | 6.19 | 0.18 | 2.72 | 0.36 | 4.18 | 7.04 | 0.20 |
| 4 | 11/ 2/76 | 1.24 | 8.34 | 15.18 | 15.14 | 6.79 | 2.23 | 5.98 | 0.18 | 2.78 | 0.84 | 5.44 | 6.08 | 0.11 |
| 4 | 12/14/76 | 1.24 | 7.82 | 15.56 | 15.92 | 7.10 | 2.08 | 6.18 | 0.20 | 2.54 | 0.0 | 7.26 | 6.12 | 0.10 |
| 4 | 12/28/76 | 1.22 | 7.70 | 15.08 | 15.73 | 6.70 | 2.03 | 6.17 | 0.18 | 2.61 | 0.0 | 7.20 | 5.92 | 0.0 |
| Mean | | 1.24 | 8.11 | 13.88 | 13.84 | 5.09 | 2.01 | 6.58 | 0.20 | 2.78 | 0.10 | 5.33 | 5.62 | 0.67 |
| Std. Dev. | | 0.09 | 0.25 | 1.53 | 1.50 | 1.29 | 0.12 | 0.77 | 0.02 | 0.09 | 0.24 | 1.52 | 0.60 | 0.84 |

Appendix Table 85. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 4 in 1977.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | (ppm) | | |
| 4 | 1/11/77 | 1.28 | 7.77 | 15.73 | 16.40 | 6.62 | 1.95 | 6.95 | 0.21 | 2.72 | 0.0 | 7.28 | 6.40 | 0.15 |
| 4 | 1/26/77 | 1.36 | 8.10 | 14.70 | 14.28 | 6.07 | 2.03 | 6.42 | 0.18 | 2.58 | 0.0 | 6.00 | 5.70 | 0.05 |
| 4 | 2/ 9/77 | 1.39 | 8.18 | 14.56 | 14.86 | 6.21 | 1.99 | 6.18 | 0.18 | 2.66 | 0.0 | 6.16 | 6.04 | 0.05 |
| 4 | 3/ 9/77 | 1.43 | 7.99 | 15.45 | 16.19 | 6.97 | 2.17 | 6.11 | 0.20 | 2.72 | 0.0 | 7.58 | 5.89 | 0.05 |
| 4 | 3/23/77 | 1.39 | 8.09 | 14.77 | 15.42 | 6.41 | 2.12 | 6.02 | 0.22 | 2.67 | 0.0 | 7.02 | 5.73 | 0.0 |
| 4 | 4/ 6/77 | 1.30 | 8.06 | 15.22 | 16.02 | 7.07 | 2.18 | 5.80 | 0.17 | 2.69 | 0.0 | 7.56 | 5.77 | 0.02 |
| 4 | 4/20/77 | 1.25 | 8.10 | 14.45 | 13.93 | 6.36 | 1.98 | 5.92 | 0.19 | 2.57 | 0.0 | 4.68 | 6.68 | 0.10 |
| 4 | 7/14/77 | 1.48 | 7.55 | 14.03 | 14.56 | 5.70 | 2.20 | 5.94 | 0.19 | 2.74 | 0.0 | 5.74 | 6.08 | -- |
| 4 | 8/ 5/77 | 1.42 | 7.71 | 15.16 | 15.75 | 6.87 | 2.10 | 6.00 | 0.19 | 2.67 | 0.72 | 6.80 | 5.56 | 0.0 |
| 4 | 9/15/77 | 1.62 | 7.71 | 16.58 | 16.83 | 7.22 | 2.22 | 6.95 | 0.19 | 2.77 | 0.0 | 7.38 | 6.68 | 0.0 |
| 4 | 10/ 6/77 | 1.45 | 7.72 | 15.05 | 15.75 | 6.99 | 2.14 | 5.72 | 0.20 | 2.79 | 0.0 | 7.28 | 5.68 | 0.0 |
| Mean | | 1.40 | 7.91 | 15.06 | 15.45 | 6.59 | 2.10 | 6.18 | 0.19 | 2.69 | 0.07 | 6.68 | 6.02 | 0.04 |
| Std. Dev. | | 0.10 | 0.22 | 0.70 | 0.93 | 0.48 | 0.10 | 0.42 | 0.01 | 0.07 | 0.22 | 0.92 | 0.40 | 0.05 |

Appendix Table 86. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 5 | 4/20/72 | 1.67 | 7.48 | 18.70 | 18.52 | 8.71 | 3.46 | 6.25 | 0.28 | 3.61 | 0.0 | 6.54 | 8.37 | 0.0 |
| 5 | 6/17/72 | 1.58 | 7.69 | 18.35 | 18.14 | 8.78 | 3.26 | 5.98 | 0.33 | 3.64 | 0.72 | 6.58 | 7.20 | -- |
| 5 | 6/26/72 | 1.60 | 7.49 | 18.45 | 18.39 | 8.93 | 3.21 | 5.98 | 0.33 | 3.58 | 0.0 | 7.33 | 7.48 | -- |
| 5 | 7/ 7/72 | 1.60 | 7.45 | 16.53 | 18.11 | 7.31 | 3.16 | 5.75 | 0.31 | 3.49 | 0.0 | 7.14 | 7.48 | -- |
| 5 | 8/ 3/72 | 1.52 | 7.60 | 13.86 | 16.75 | 4.80 | 2.81 | 5.93 | 0.32 | 3.31 | 0.0 | 6.77 | 6.67 | -- |
| 5 | 9/ 1/72 | 1.44 | 7.49 | 14.51 | 15.05 | 5.65 | 2.73 | 5.83 | 0.30 | 3.16 | 0.06 | 4.87 | 6.96 | -- |
| 5 | 10/ 7/72 | 1.38 | 6.57 | 15.37 | 15.47 | 7.06 | 2.60 | 5.40 | 0.31 | 3.08 | 0.0 | 6.28 | 6.11 | -- |
| 5 | 11/10/72 | 1.36 | 7.31 | 10.85 | 10.94 | 2.95 | 2.57 | 5.05 | 0.28 | 2.97 | 0.84 | 3.02 | 4.11 | -- |
| 5 | 12/ 8/72 | 1.35 | 6.35 | 14.10 | 14.17 | 6.19 | 2.63 | 5.00 | 0.28 | 2.95 | 0.0 | 5.30 | 5.92 | -- |
| Mean | | 1.50 | 7.27 | 15.64 | 16.17 | 6.71 | 2.94 | 5.69 | 0.30 | 3.31 | 0.18 | 5.98 | 6.70 | -- |
| Std. Dev. | | 0.12 | 0.47 | 2.63 | 2.54 | 2.03 | 0.34 | 0.44 | 0.02 | 0.28 | 0.34 | 1.37 | 1.22 | -- |

Appendix Table 87. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- (ppm) | | | | | | | | | | | | | | |
| 5 | 1/ 5/73 | 1.32 | 7.31 | 14.90 | 14.75 | 6.91 | 2.57 | 5.14 | 0.28 | 2.94 | 0.0 | 6.97 | 4.84 | -- |
| 5 | 2/ 2/73 | 1.32 | 7.05 | 14.59 | 12.73 | 6.83 | 2.44 | 5.05 | 0.27 | 2.97 | 0.0 | 6.41 | 3.35 | -- |
| 5 | 3/ 9/73 | 1.31 | 7.13 | 11.71 | 13.01 | 3.61 | 2.27 | 5.55 | 0.28 | 2.90 | 1.08 | 5.22 | 3.80 | 0.62 |
| 5 | 4/ 6/73 | 1.33 | 7.20 | 12.73 | 13.63 | 4.81 | 2.27 | 5.36 | 0.29 | 2.87 | 0.0 | 6.94 | 3.81 | 0.62 |
| 5 | 5/ 4/73 | 1.30 | 7.26 | 14.04 | 12.40 | 5.98 | 2.32 | 5.44 | 0.30 | 2.82 | 0.40 | 4.00 | 5.17 | 0.87 |
| 5 | 6/ 8/73 | 1.32 | 7.20 | 14.84 | 14.88 | 6.97 | 2.37 | 5.21 | 0.29 | 2.85 | 0.0 | 7.40 | 4.61 | 1.15 |
| 5 | 6/15/73 | 1.26 | 7.10 | 14.32 | 14.59 | 6.26 | 2.36 | 5.39 | 0.31 | 2.81 | 0.0 | 6.70 | 5.06 | 1.47 |
| 5 | 7/ 6/73 | 1.36 | 6.80 | 15.11 | 14.51 | 6.84 | 2.37 | 5.54 | 0.36 | 2.98 | 0.0 | 6.30 | 5.22 | 0.70 |
| 5 | 8/17/73 | 1.39 | 7.58 | 16.80 | 13.10 | 7.34 | 2.74 | 6.42 | 0.30 | 2.88 | 1.20 | 3.80 | 5.22 | 0.25 |
| 5 | 9/14/73 | 1.52 | --- | 18.36 | 17.17 | 9.11 | 2.84 | 6.08 | 0.33 | 3.40 | 0.75 | 5.97 | 7.00 | 2.96 |
| 5 | 10/12/73 | 1.66 | 7.83 | 19.17 | 17.82 | 9.05 | 3.10 | 6.71 | 0.31 | 4.11 | 0.35 | 6.45 | 6.87 | 2.42 |
| 5 | 11/ 9/73 | 1.47 | 8.24 | 18.72 | 17.90 | 8.02 | 3.26 | 7.10 | 0.34 | 4.16 | 0.0 | 6.32 | 7.40 | 1.33 |
| 5 | 12/21/73 | 1.60 | 7.97 | 16.71 | 16.71 | 6.71 | 3.33 | 6.39 | 0.28 | 4.46 | 0.0 | 4.00 | 8.24 | 0.91 |
| Mean | | 1.40 | 7.39 | 15.54 | 14.86 | 6.80 | 2.63 | 5.80 | 0.30 | 3.24 | 0.29 | 5.88 | 5.43 | 1.21 |
| Std. Dev. | | 0.13 | 0.43 | 2.28 | 1.95 | 1.51 | 0.38 | 0.66 | 0.03 | 0.59 | 0.44 | 1.23 | 1.51 | 0.82 |

Appendix Table 88. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ | |
|-----------|----------|--------------------|------|---------|--------|-------|------|-------|------|------|-----------------|------------------|-----------------|-----------------|--|
| | | | | (meq/l) | | | | (ppm) | | | | | | | |
| 5 | 2/19/74 | 1.50 | 8.22 | 17.38 | 17.39 | 8.41 | 2.66 | 5.98 | 0.33 | 4.29 | 0.18 | 4.70 | 8.20 | 1.11 | |
| 5 | 4/16/74 | 1.42 | 7.74 | 17.06 | 17.65 | 6.81 | 2.95 | 7.01 | 0.29 | 4.22 | 0.0 | 5.75 | 7.68 | 0.17 | |
| 5 | 5/14/74 | 1.97 | 7.71 | 19.77 | 20.13 | 10.04 | 3.25 | 6.06 | 0.42 | 4.96 | 0.0 | 5.76 | 9.41 | 0.0 | |
| 5 | 5/28/74 | 1.56 | 7.83 | 16.62 | 16.14 | 8.37 | 2.12 | 5.93 | 0.20 | 2.87 | 0.0 | 6.68 | 6.59 | 0.01 | |
| 5 | 6/11/74 | 1.93 | 7.66 | 22.17 | 20.94 | 11.20 | 3.40 | 7.24 | 0.33 | 5.34 | 0.0 | 5.90 | 9.70 | 0.02 | |
| 5 | 6/25/74 | 2.02 | 8.25 | 22.15 | 22.13 | 10.16 | 3.43 | 8.13 | 0.43 | 5.33 | 0.24 | 6.18 | 10.38 | 0.0 | |
| 5 | 7/9/74 | 2.09 | 7.25 | 22.25 | 21.76 | 11.92 | 2.73 | 7.26 | 0.34 | 5.50 | 0.0 | 5.60 | 10.66 | 0.15 | |
| 5 | 7/23/74 | 2.18 | 8.14 | 22.53 | 23.11 | 9.68 | 4.24 | 8.26 | 0.35 | 5.46 | 0.0 | 6.10 | 11.55 | 0.02 | |
| 5 | 8/6/74 | 2.09 | 7.85 | 24.61 | 23.53 | 12.66 | 3.94 | 7.65 | 0.36 | 5.10 | 0.0 | 6.92 | 11.51 | 0.18 | |
| 5 | 8/20/74 | 1.95 | 8.24 | 23.74 | 23.31 | 11.06 | 4.19 | 8.15 | 0.34 | 5.48 | 0.0 | 6.64 | 11.19 | 0.26 | |
| 5 | 9/3/74 | 2.23 | 7.95 | 24.92 | 26.00 | 10.94 | 5.28 | 8.41 | 0.29 | 6.83 | 0.0 | 6.70 | 12.32 | 9.21 | |
| 5 | 9/17/74 | 2.54 | 7.97 | 28.09 | 26.96 | 13.52 | 5.47 | 8.71 | 0.39 | 7.57 | 0.0 | 5.86 | 13.53 | 0.14 | |
| 5 | 10/1/74 | 2.60 | 7.91 | 29.75 | 28.65 | 14.80 | 5.63 | 8.93 | 0.39 | 7.16 | 0.0 | 6.34 | 15.15 | 0.14 | |
| 5 | 10/15/74 | 2.50 | 7.95 | 27.28 | 27.25 | 12.34 | 5.18 | 9.38 | 0.38 | 6.95 | 0.0 | 6.28 | 14.02 | 0.0 | |
| 5 | 11/12/74 | 2.07 | 8.00 | 24.70 | 24.98 | 11.27 | 4.13 | 8.96 | 0.34 | 5.24 | 0.0 | 7.16 | 12.56 | 1.23 | |
| 5 | 11/26/74 | 1.64 | 8.14 | 20.32 | 22.61 | 10.13 | 3.87 | 6.03 | 0.29 | 4.53 | 0.0 | 7.60 | 10.48 | 0.21 | |
| 5 | 12/10/74 | 1.69 | 8.18 | 16.40 | 16.58 | 5.27 | 2.98 | 7.83 | 0.32 | 4.10 | 0.0 | 2.98 | 9.49 | 0.50 | |
| Mean | | 2.00 | 7.94 | 22.34 | 22.30 | 10.50 | 3.85 | 7.64 | 0.34 | 5.35 | 0.02 | 6.07 | 10.85 | 0.79 | |
| Std. Dev. | | 0.36 | 0.26 | 4.05 | 3.82 | 2.38 | 1.06 | 1.13 | 0.06 | 1.23 | 0.07 | 1.04 | 2.27 | 2.20 | |

Appendix Table 89. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1975.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|---------|---------|---------|---------|---------|---------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (ppm) |
| 5 | 1/14/75 | 1.73 | 7.92 | 19.78 | 19.80 | 9.20 | 2.87 | 7.42 | 0.29 | 4.08 | 0.0 | 7.28 | 8.44 | 0.07 |
| 5 | 1/28/75 | 1.74 | 7.91 | 21.74 | 20.56 | 9.74 | 3.19 | 8.50 | 0.31 | 4.18 | 0.0 | 7.50 | 8.88 | 0.10 |
| 5 | 2/10/75 | 1.84 | 8.09 | 21.83 | 21.55 | 10.00 | 3.21 | 8.31 | 0.31 | 4.10 | 0.0 | 7.36 | 10.08 | 0.33 |
| 5 | 2/24/75 | 1.80 | 8.11 | 22.93 | 21.89 | 10.30 | 3.34 | 9.00 | 0.29 | 4.16 | 0.0 | 7.40 | 10.32 | 0.35 |
| 5 | 3/10/75 | 1.90 | 8.24 | 20.31 | 20.75 | 7.33 | 3.55 | 9.12 | 0.31 | 4.39 | 0.44 | 6.04 | 9.88 | 0.14 |
| 5 | 3/24/75 | 1.90 | 7.80 | 20.33 | 20.28 | 7.02 | 3.59 | 9.42 | 0.30 | 4.41 | 0.0 | 6.02 | 9.84 | 0.33 |
| 5 | 4/ 7/75 | 1.55 | 8.26 | 17.65 | 17.51 | 5.55 | 3.09 | 8.71 | 0.30 | 4.03 | 0.0 | 4.08 | 9.40 | 0.0 |
| 5 | 4/21/75 | 1.48 | 8.26 | 16.49 | 16.17 | 4.56 | 3.03 | 8.61 | 0.29 | 3.83 | 0.0 | 3.62 | 8.72 | 0.0 |
| 5 | 5/ 5/75 | 1.40 | 8.26 | 15.27 | 14.06 | 4.17 | 2.45 | 8.40 | 0.25 | 3.45 | 0.0 | 2.44 | 8.16 | 0.62 |
| 5 | 5/19/75 | 1.41 | 8.11 | 16.03 | 14.95 | 4.44 | 2.53 | 8.78 | 0.28 | 3.20 | 0.0 | 4.42 | 7.32 | 0.47 |
| 5 | 6/ 2/75 | 1.40 | 7.71 | 18.11 | 16.94 | 7.26 | 2.40 | 8.18 | 0.27 | 2.98 | 0.0 | 7.36 | 6.60 | 0.25 |
| 5 | 6/16/75 | 1.54 | 7.70 | 15.86 | 16.69 | 7.09 | 2.47 | 6.00 | 0.30 | 2.83 | 0.0 | 7.50 | 6.36 | 0.0 |
| 5 | 6/30/75 | 1.20 | 8.35 | 12.73 | 11.77 | 1.96 | 1.86 | 8.62 | 0.29 | 2.69 | 0.0 | 3.12 | 5.96 | 0.0 |
| 5 | 7/14/75 | 1.43 | 7.72 | 15.81 | 15.92 | 5.73 | 1.97 | 7.82 | 0.29 | 2.65 | 0.52 | 6.42 | 6.32 | 0.47 |
| 5 | 7/28/75 | 1.25 | 8.21 | 15.77 | 15.31 | 6.05 | 1.88 | 7.59 | 0.25 | 2.43 | 0.0 | 6.88 | 6.00 | 0.0 |
| 5 | 8/11/75 | 1.49 | 7.73 | 16.38 | 16.56 | 7.44 | 1.78 | 6.90 | 0.26 | 2.54 | 0.0 | 7.34 | 6.68 | 0.0 |
| 5 | 8/25/75 | 1.43 | 7.70 | 15.06 | 14.78 | 5.20 | 1.76 | 7.83 | 0.27 | 2.64 | 0.0 | 7.22 | 4.92 | 0.0 |
| 5 | 9/ 8/75 | 1.25 | 8.16 | 14.26 | 13.37 | 4.67 | 1.10 | 8.22 | 0.27 | 2.53 | 0.0 | 5.30 | 5.54 | 0.0 |
| 5 | 9/23/75 | 1.34 | 8.23 | 14.29 | 14.70 | 5.07 | 0.94 | 8.01 | 0.27 | 2.52 | 0.0 | 7.32 | 4.86 | 0.0 |
| 5 | 10/ 7/75 | 1.30 | 7.50 | 9.94 | 11.06 | 3.98 | 1.83 | 3.85 | 0.28 | 2.34 | 0.0 | 4.28 | 4.43 | 0.46 |
| 5 | 11/ 4/75 | 1.00 | 8.24 | 12.19 | 12.72 | 3.61 | 1.69 | 6.63 | 0.26 | 2.53 | 0.0 | 5.22 | 4.95 | 1.48 |
| 5 | 11/18/75 | 1.07 | 8.39 | 13.22 | 14.55 | 4.84 | 1.56 | 6.56 | 0.26 | 2.41 | 0.0 | 7.32 | 4.80 | 1.11 |
| 5 | 12/ 2/75 | 1.29 | 8.16 | 13.48 | 14.07 | 5.00 | 1.58 | 6.60 | 0.30 | 2.37 | 0.0 | 7.22 | 4.48 | 0.05 |
| 5 | 12/16/75 | 1.09 | 7.63 | 13.69 | 14.24 | 5.27 | 1.50 | 6.65 | 0.27 | 2.45 | 0.0 | 7.16 | 4.63 | 0.0 |
| 5 | 12/30/75 | 1.12 | 8.06 | 13.17 | 13.22 | 4.57 | 1.76 | 6.57 | 0.27 | 2.55 | 0.0 | 5.85 | 4.82 | 0.0 |
| Mean | | 1.44 | 8.02 | 16.25 | 16.14 | 6.00 | 2.28 | 7.69 | 0.28 | 3.13 | 0.04 | 6.07 | 6.90 | 0.25 |
| Std. Dev. | | 0.26 | 0.26 | 3.35 | 3.10 | 2.13 | 0.78 | 1.24 | 0.02 | 0.76 | 0.13 | 1.57 | 2.03 | 0.37 |

Appendix Table 90. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1976.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 5 | 1/13/76 | 1.20 | 7.89 | 14.71 | 14.99 | 5.84 | 1.76 | 6.83 | 0.28 | 2.56 | 0.0 | 7.43 | 5.00 | 0.0 |
| 5 | 1/26/76 | 1.12 | 8.28 | 13.20 | 13.71 | 4.99 | 1.60 | 6.36 | 0.25 | 2.35 | 0.0 | 6.91 | 4.45 | 0.0 |
| 5 | 2/ 7/76 | 1.33 | 8.15 | 15.14 | 14.80 | 4.93 | 1.73 | 8.23 | 0.25 | 2.51 | 0.0 | 7.23 | 5.04 | 1.03 |
| 5 | 2/21/76 | 1.24 | 8.00 | 13.72 | 14.46 | 3.34 | 1.76 | 8.36 | 0.26 | 2.54 | 0.0 | 7.40 | 4.47 | 3.19 |
| 5 | 3/ 6/76 | 1.24 | 8.21 | 14.34 | 14.36 | 4.01 | 1.71 | 8.36 | 0.26 | 2.51 | 0.0 | 7.05 | 4.80 | 0.12 |
| 5 | 3/20/76 | 1.13 | 8.44 | 12.95 | 12.39 | 4.16 | 1.77 | 6.77 | 0.25 | 2.53 | 0.32 | 4.68 | 4.85 | 0.75 |
| 5 | 4/ 3/76 | 1.28 | 8.39 | 15.79 | 15.12 | 5.13 | 1.78 | 8.64 | 0.24 | 2.44 | 0.0 | 6.04 | 6.64 | 0.20 |
| 5 | 4/10/76 | 1.29 | 7.24 | 14.96 | 14.38 | 5.05 | 1.73 | 7.90 | 0.28 | 2.44 | 1.16 | 6.17 | 4.60 | 0.39 |
| 5 | 5/ 1/76 | 1.33 | 8.12 | 15.01 | 14.66 | 4.47 | 1.81 | 8.47 | 0.26 | 2.45 | 0.0 | 7.39 | 4.82 | 0.27 |
| 5 | 5/15/76 | 1.33 | 8.42 | 15.10 | 14.36 | 4.51 | 1.89 | 8.45 | 0.25 | 2.62 | 0.16 | 6.10 | 5.48 | 0.20 |
| 5 | 6/11/76 | 1.15 | 7.93 | 11.78 | 12.08 | 2.91 | 2.00 | 6.62 | 0.25 | 2.77 | 0.0 | 3.59 | 5.72 | 0.06 |
| 5 | 6/28/76 | 1.39 | 8.43 | 11.92 | 11.42 | 1.74 | 2.03 | 7.85 | 0.30 | 2.94 | 0.0 | 2.92 | 5.56 | 0.24 |
| 5 | 7/13/76 | 1.34 | 8.16 | 15.14 | 14.84 | 5.15 | 2.02 | 7.67 | 0.30 | 2.74 | 0.0 | 5.78 | 6.32 | 0.05 |
| 5 | 7/26/76 | 1.28 | 8.15 | 14.07 | 13.51 | 4.07 | 2.03 | 7.74 | 0.23 | 2.73 | 0.0 | 5.62 | 5.16 | 0.29 |
| 5 | 8/11/76 | 1.29 | 8.02 | 12.16 | 12.02 | 2.56 | 1.97 | 7.38 | 0.25 | 2.74 | 0.0 | 4.96 | 4.32 | 0.27 |
| 5 | 8/25/76 | 1.09 | 8.24 | 12.51 | 12.54 | 2.95 | 1.86 | 7.44 | 0.26 | 2.71 | 0.0 | 3.64 | 6.16 | 2.05 |
| 5 | 9/ 7/76 | 1.08 | 8.40 | 12.66 | 13.96 | 3.48 | 1.97 | 6.96 | 0.25 | 2.76 | 1.48 | 3.52 | 6.20 | 0.0 |
| 5 | 9/23/76 | 1.33 | 8.42 | 13.49 | 13.98 | 3.97 | 1.87 | 7.40 | 0.25 | 2.67 | 0.40 | 5.12 | 5.76 | 1.75 |
| 5 | 10/ 5/76 | 1.33 | 8.06 | 13.70 | 14.30 | 5.18 | 2.05 | 6.24 | 0.23 | 2.60 | 0.16 | 6.10 | 5.44 | 0.01 |
| 5 | 10/21/76 | 1.29 | 8.17 | 12.15 | 13.99 | 2.82 | 2.22 | 6.85 | 0.26 | 2.55 | 0.24 | 4.60 | 6.60 | 0.25 |
| 5 | 11/ 2/76 | 1.27 | 8.35 | 15.40 | 15.45 | 6.33 | 2.26 | 6.57 | 0.24 | 2.57 | 0.88 | 6.12 | 5.88 | 0.02 |
| 5 | 12/14/76 | 1.59 | 7.65 | 20.04 | 20.32 | 8.99 | 2.97 | 7.70 | 0.38 | 3.36 | 0.0 | 8.44 | 8.52 | 0.10 |
| 5 | 12/28/76 | 1.62 | 7.63 | 21.19 | 21.28 | 9.15 | 3.11 | 8.63 | 0.30 | 3.78 | 0.0 | 8.46 | 9.04 | 0.05 |
| Mean | | 1.28 | 8.12 | 14.40 | 14.48 | 4.60 | 2.00 | 7.54 | 0.26 | 2.69 | 0.21 | 5.88 | 5.69 | 0.49 |
| Std. Dev. | | 0.13 | 0.30 | 2.32 | 2.27 | 1.80 | 0.37 | 0.77 | 0.03 | 0.32 | 0.41 | 1.57 | 1.20 | 0.80 |

Appendix Table 91. Chemical composition (meq/l, except NO₃ in ppm) of water from test well no. 5 in 1977.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|-------------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) - - - - - (ppm) | | | | | | | | | | |
| 5 | 1/11/77 | 1.42 | 7.63 | 17.96 | 17.81 | 6.66 | 2.86 | 8.14 | 0.30 | 2.83 | 0.0 | 8.06 | 6.92 | 0.10 |
| 5 | 1/26/77 | 1.64 | 7.73 | 17.01 | 17.05 | 5.98 | 2.56 | 8.18 | 0.29 | 3.17 | 0.0 | 6.02 | 7.86 | 0.05 |
| 5 | 2/ 9/77 | 1.38 | 8.26 | 14.16 | 13.99 | 5.34 | 1.88 | 6.71 | 0.23 | 2.33 | 0.0 | 6.04 | 5.62 | 0.10 |
| 5 | 2/23/77 | 1.30 | 8.29 | 14.50 | 13.94 | 5.67 | 1.93 | 6.68 | 0.22 | 2.17 | 0.64 | 6.42 | 4.71 | 0.05 |
| 5 | 3/ 9/77 | 1.29 | 7.88 | 13.75 | 14.26 | 5.36 | 1.88 | 6.27 | 0.24 | 2.14 | 0.0 | 7.40 | 4.72 | 0.05 |
| 5 | 3/23/77 | 1.25 | 7.81 | 13.35 | 13.51 | 5.15 | 1.78 | 6.16 | 0.26 | 2.07 | 0.0 | 6.84 | 4.60 | 0.01 |
| 5 | 4/ 6/77 | 1.18 | 8.23 | 13.50 | 12.96 | 5.61 | 1.92 | 5.77 | 0.20 | 2.14 | 0.0 | 6.06 | 4.76 | 0.05 |
| 5 | 4/20/77 | 1.13 | 8.18 | 13.10 | 13.27 | 5.25 | 1.78 | 5.84 | 0.23 | 2.03 | 0.0 | 5.44 | 5.80 | 0.10 |
| 5 | 7/14/77 | 1.32 | 7.71 | 12.29 | 12.73 | 4.42 | 1.90 | 5.73 | 0.24 | 2.35 | 0.0 | 5.62 | 4.76 | -- |
| 5 | 8/ 5/77 | 1.24 | 7.76 | 12.40 | 13.00 | 5.19 | 1.66 | 5.33 | 0.22 | 2.26 | 0.72 | 5.98 | 4.04 | 0.0 |
| 5 | 9/15/77 | 1.73 | 7.53 | 17.28 | 17.46 | 7.69 | 2.43 | 6.91 | 0.25 | 2.94 | 0.0 | 7.96 | 6.56 | 0.0 |
| 5 | 10/ 6/77 | 1.45 | 7.89 | 14.85 | 15.34 | 6.38 | 2.06 | 6.16 | 0.25 | 2.68 | 0.0 | 7.10 | 5.56 | 0.0 |
| Mean | | 1.36 | 7.91 | 14.51 | 14.61 | 5.72 | 2.05 | 6.49 | 0.24 | 2.43 | 0.11 | 6.58 | 5.49 | 0.05 |
| Std. Dev. | | 0.18 | 0.26 | 1.92 | 1.85 | 0.86 | 0.37 | 0.90 | 0.03 | 0.38 | 0.27 | 0.88 | 1.13 | 0.04 |

Appendix Table 92. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1972.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| (meq/l) | | | | | | | | | | | | | | |
| (ppm) | | | | | | | | | | | | | | |
| I | 3/ 3/72 | 1.45 | 8.07 | 10.68 | 12.02 | 3.62 | 1.80 | 5.10 | 0.16 | 2.76 | 0.46 | 2.96 | 5.84 | -- |
| I | 10/13/72 | 1.34 | 7.36 | 14.93 | 15.74 | 7.44 | 1.88 | 5.40 | 0.21 | 2.84 | 0.60 | 5.60 | 6.70 | -- |
| I | 11/10/72 | 1.36 | 7.88 | 10.84 | 10.27 | 3.50 | 1.87 | 5.27 | 0.20 | 2.81 | 0.42 | 2.53 | 4.51 | -- |
| I | 12/ 8/72 | 1.34 | 7.92 | 12.91 | 12.26 | 5.35 | 2.10 | 5.27 | 0.19 | 2.83 | 0.16 | 3.93 | 5.34 | -- |
| Mean | | 1.37 | 7.81 | 12.34 | 12.57 | 4.98 | 1.91 | 5.26 | 0.19 | 2.81 | 0.41 | 3.75 | 5.60 | -- |
| Std. Dev. | | 0.05 | 0.31 | 2.00 | 2.29 | 1.85 | 0.13 | 0.12 | 0.02 | 0.03 | 0.18 | 1.36 | 0.92 | -- |

Appendix Table 93. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1973.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| I | 5/18/73 | 1.38 | 6.80 | 12.21 | 14.18 | 4.56 | 1.85 | 5.57 | 0.23 | 2.82 | 0.0 | 4.00 | 7.33 | 1.95 |
| I | 5/25/73 | 1.28 | 6.80 | 11.31 | 13.61 | 3.53 | 1.88 | 5.68 | 0.22 | 2.73 | 0.0 | 4.80 | 6.05 | 1.72 |
| I | 6/ 1/73 | 1.18 | 7.00 | 12.46 | 14.52 | 4.91 | 1.89 | 5.44 | 0.22 | 2.76 | 0.0 | 5.90 | 5.83 | 1.85 |
| I | 6/ 8/73 | 1.14 | 6.80 | 11.74 | 13.77 | 4.30 | 1.82 | 5.40 | 0.22 | 2.73 | 0.0 | 4.90 | 6.11 | 1.65 |
| I | 6/15/73 | 1.32 | 6.80 | 14.72 | 15.60 | 7.13 | 1.87 | 5.44 | 0.28 | 2.69 | 0.20 | 6.90 | 5.78 | 1.75 |
| I | 6/22/73 | 1.35 | 6.80 | 15.38 | 15.79 | 7.71 | 1.90 | 5.55 | 0.22 | 2.73 | 0.20 | 6.90 | 5.94 | 1.45 |
| I | 6/29/73 | 1.37 | 7.00 | 15.51 | 16.73 | 7.76 | 1.90 | 5.63 | 0.22 | 2.71 | 0.0 | 8.00 | 6.00 | 1.12 |
| I | 7/ 6/73 | 1.34 | 7.00 | 14.82 | 16.05 | 7.21 | 1.83 | 5.56 | 0.22 | 2.72 | 0.0 | 7.20 | 6.11 | 1.45 |
| I | 7/20/73 | 1.30 | 6.80 | 14.75 | 15.74 | 7.22 | 1.78 | 5.56 | 0.19 | 2.56 | 0.0 | 7.80 | 5.37 | 0.85 |
| I | 8/17/73 | 1.38 | 6.57 | 15.56 | 13.78 | 7.51 | 1.89 | 5.92 | 0.24 | 2.58 | 0.50 | 2.40 | 8.30 | 0.0 |
| I | 9/14/73 | 1.28 | — | 14.81 | 14.05 | 7.60 | 1.75 | 5.28 | 0.18 | 2.61 | 0.65 | 4.62 | 6.12 | 2.82 |
| I | 10/19/73 | 1.32 | 8.21 | 14.78 | 14.37 | 7.02 | 1.81 | 5.67 | 0.28 | 2.77 | 0.65 | 4.28 | 6.63 | 2.59 |
| I | 10/26/73 | 1.28 | 8.04 | 14.76 | 14.38 | 6.85 | 1.76 | 5.95 | 0.20 | 2.62 | 0.70 | 5.18 | 5.83 | 2.91 |
| I | 11/ 9/73 | 1.24 | 8.29 | 11.04 | 11.44 | 3.16 | 1.82 | 5.84 | 0.22 | 2.50 | 0.0 | 3.26 | 5.66 | 1.40 |
| I | 11/26/73 | 1.18 | 8.42 | 9.80 | 10.02 | 3.64 | 1.72 | 4.25 | 0.19 | 2.52 | 0.10 | 2.70 | 4.68 | 1.48 |
| I | 12/10/73 | 1.21 | 8.13 | 10.92 | 11.52 | 3.36 | 1.72 | 5.67 | 0.17 | 2.47 | 0.20 | 3.05 | 5.78 | 1.24 |
| I | 12/21/73 | 1.16 | 8.11 | 11.04 | 11.80 | 4.34 | 1.67 | 4.84 | 0.19 | 2.57 | 0.25 | 3.62 | 5.33 | 2.10 |
| Mean | | 1.28 | 7.35 | 13.27 | 13.96 | 5.75 | 1.82 | 5.49 | 0.22 | 2.65 | 0.20 | 5.03 | 6.05 | 1.67 |
| Std. Dev. | | 0.08 | 0.69 | 2.00 | 1.85 | 1.79 | 0.07 | 0.41 | 0.03 | 0.11 | 0.26 | 1.81 | 0.80 | 0.71 |

Appendix Table 94. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1974.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|---------|---------|---------|---------|---------|---------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (meq/l) | (ppm) |
| I | 1/ 4/74 | 1.28 | 8.01 | 12.98 | 13.53 | 5.80 | 1.68 | 5.31 | 0.19 | 2.43 | 0.10 | 5.45 | 5.53 | 1.05 |
| I | 1/18/74 | 1.22 | 7.55 | 13.92 | 13.12 | 6.48 | 1.72 | 5.51 | 0.21 | 2.58 | 0.0 | 5.04 | 5.49 | 0.38 |
| I | 2/ 5/74 | 1.08 | 7.96 | 12.08 | 12.95 | 5.07 | 1.53 | 5.29 | 0.19 | 2.55 | 0.21 | 4.65 | 5.53 | 0.67 |
| I | 2/19/74 | 1.14 | 7.93 | 12.71 | 12.93 | 5.51 | 1.60 | 5.41 | 0.19 | 2.52 | 0.09 | 4.95 | 5.37 | 0.22 |
| I | 3/ 5/74 | 1.32 | 7.95 | 13.35 | 12.77 | 6.08 | 1.57 | 5.52 | 0.18 | 2.43 | 0.40 | 4.60 | 5.33 | 0.70 |
| I | 3/19/74 | 1.26 | 7.66 | 15.47 | --- | 7.35 | 1.85 | 6.08 | 0.19 | --- | 0.0 | 5.14 | 5.09 | 0.92 |
| I | 4/ 2/74 | 1.27 | 7.60 | 14.03 | 13.48 | 6.56 | 1.68 | 5.60 | 0.19 | 2.49 | 0.0 | 5.58 | 5.41 | 0.12 |
| I | 4/16/74 | 1.04 | 7.55 | 12.94 | 13.17 | 5.88 | 1.55 | 5.34 | 0.17 | 2.49 | 0.0 | 5.35 | 5.33 | 0.03 |
| I | 4/30/74 | 1.08 | 7.59 | 13.60 | 13.00 | 6.42 | 1.59 | 5.42 | 0.17 | 2.46 | 0.0 | 5.45 | 5.09 | 0.06 |
| I | 5/14/74 | 1.07 | 7.74 | 13.34 | 13.13 | 5.95 | 1.52 | 5.63 | 0.24 | 2.38 | 0.0 | 5.74 | 5.01 | 0.10 |
| I | 5/28/74 | 1.27 | 7.80 | 13.84 | 13.23 | 6.46 | 1.64 | 5.55 | 0.19 | 2.28 | 0.0 | 5.70 | 5.25 | 0.0 |
| I | 6/11/74 | 1.23 | 7.58 | 13.98 | 13.64 | 6.50 | 1.58 | 5.71 | 0.19 | 2.33 | 0.0 | 5.82 | 5.49 | 0.0 |
| I | 6/25/74 | 1.17 | 8.27 | 13.50 | 13.08 | 6.03 | 1.51 | 5.70 | 0.26 | 2.41 | 0.24 | 5.46 | 4.97 | 0.0 |
| I | 7/ 9/74 | 1.15 | 7.76 | 12.69 | 12.57 | 5.91 | 1.12 | 5.48 | 0.18 | 2.38 | 0.0 | 5.46 | 4.73 | 0.15 |
| I | 7/23/74 | 1.18 | 8.30 | 13.12 | 12.54 | 5.98 | 1.49 | 5.46 | 0.19 | 2.41 | 0.04 | 5.20 | 4.89 | 0.0 |
| I | 8/ 6/74 | 1.13 | 7.91 | 13.22 | 12.98 | 6.04 | 1.52 | 5.47 | 0.19 | 2.43 | 0.0 | 5.34 | 5.21 | 0.18 |
| I | 8/20/74 | 1.11 | 8.08 | 13.60 | 13.13 | 6.24 | 1.50 | 5.68 | 0.18 | 2.40 | 0.0 | 5.48 | 5.25 | 0.10 |
| I | 9/ 3/74 | 1.19 | 7.92 | 13.12 | 13.38 | 5.98 | 1.57 | 5.38 | 0.19 | 2.36 | 0.0 | 5.72 | 5.29 | 0.80 |
| I | 9/17/74 | 1.16 | 7.95 | 13.26 | 13.35 | 5.97 | 1.57 | 5.54 | 0.18 | 2.28 | 0.0 | 5.66 | 5.41 | 0.26 |
| I | 10/ 1/74 | 1.22 | 8.16 | 14.05 | 13.88 | 6.65 | 1.64 | 5.58 | 0.18 | 2.26 | 0.60 | 5.08 | 5.94 | 0.14 |
| I | 10/15/74 | 1.15 | 7.87 | 12.80 | 12.94 | 5.77 | 1.52 | 5.35 | 0.16 | 2.31 | 0.0 | 5.54 | 5.09 | 0.23 |
| I | 10/29/74 | 1.03 | 7.93 | 11.12 | 11.46 | 4.11 | 1.34 | 5.49 | 0.18 | 2.28 | 0.0 | 4.20 | 4.96 | 1.05 |
| I | 11/12/74 | 1.07 | 8.26 | 12.51 | 12.32 | 5.55 | 1.43 | 5.36 | 0.17 | 2.27 | 0.0 | 5.42 | 4.61 | 0.99 |
| I | 11/26/74 | 0.98 | 8.30 | 12.63 | 12.56 | 5.48 | 1.53 | 5.45 | 0.17 | 2.30 | 0.0 | 5.58 | 4.68 | 0.28 |
| I | 12/10/74 | 1.10 | 8.04 | 10.85 | 11.53 | 4.06 | 1.52 | 5.08 | 0.19 | 2.26 | 0.0 | 4.14 | 5.13 | 0.23 |
| Mean | | 1.16 | 7.91 | 13.15 | 12.94 | 5.91 | 1.55 | 5.50 | 0.19 | 2.39 | 0.07 | 5.27 | 5.20 | 0.35 |
| Std. Dev. | | 0.09 | 0.24 | 0.94 | 0.58 | 0.72 | 0.13 | 0.19 | 0.02 | 0.10 | 0.15 | 0.46 | 0.30 | 0.36 |

Appendix Table 95. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1975.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------------------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | ----- (meq/l) ----- | | | | | | | | | | (ppm) |
| I | 1/ 1/75 | 1.03 | 8.01 | 12.24 | 13.13 | 5.49 | 1.41 | 5.16 | 0.18 | 2.38 | 0.0 | 4.90 | 5.85 | 0.23 |
| I | 1/14/75 | 1.14 | 8.00 | 12.91 | 13.34 | 6.10 | 1.45 | 5.20 | 0.16 | 2.39 | 0.0 | 5.62 | 5.33 | 0.13 |
| I | 1/28/75 | 1.08 | 8.10 | 13.14 | 12.58 | 6.06 | 1.59 | 5.33 | 0.16 | 2.40 | 0.0 | 5.50 | 4.68 | 0.0 |
| I | 2/10/75 | 1.35 | 8.30 | 13.04 | 12.51 | 6.01 | 1.53 | 5.33 | 0.17 | 2.38 | 0.0 | 5.24 | 4.88 | 0.33 |
| I | 2/24/75 | 1.12 | 8.09 | 13.70 | 12.78 | 6.48 | 1.62 | 5.44 | 0.16 | 2.40 | 0.0 | 5.50 | 4.88 | 0.10 |
| I | 3/10/75 | 1.14 | 8.16 | 13.29 | 13.00 | 6.05 | 1.59 | 5.48 | 0.17 | 2.43 | 0.28 | 5.40 | 4.88 | 0.51 |
| I | 3/24/75 | 1.14 | 7.90 | 12.21 | 11.73 | 5.06 | 1.62 | 5.37 | 0.16 | 2.46 | 0.0 | 4.30 | 4.96 | 0.33 |
| I | 4/ 7/75 | 0.95 | 8.11 | 11.39 | 11.15 | 4.14 | 1.55 | 5.53 | 0.17 | 2.47 | 0.0 | 3.40 | 5.28 | 0.0 |
| I | 5/ 5/75 | 1.01 | 8.22 | 10.80 | 10.27 | 3.35 | 1.55 | 5.73 | 0.17 | 2.46 | 0.0 | 2.56 | 5.24 | 0.56 |
| I | 5/19/75 | 1.17 | 8.01 | 12.74 | 12.79 | 5.19 | 1.70 | 5.68 | 0.17 | 2.46 | 0.0 | 4.68 | 5.64 | 0.50 |
| I | 6/ 2/75 | 1.22 | 7.99 | 12.92 | 13.15 | 5.37 | 1.68 | 5.70 | 0.17 | 2.42 | 0.0 | 5.52 | 5.20 | 0.33 |
| I | 6/16/75 | 1.25 | 7.20 | 12.22 | 11.65 | 4.87 | 1.60 | 5.55 | 0.20 | 2.67 | 0.0 | 3.54 | 5.44 | 0.25 |
| I | 6/30/75 | 1.06 | 8.40 | 11.30 | 11.05 | 3.55 | 1.54 | 6.01 | 0.20 | 2.69 | 0.0 | 2.16 | 6.20 | 0.0 |
| I | 7/14/75 | 1.11 | 8.36 | 11.69 | 11.25 | 4.50 | 1.73 | 5.26 | 0.20 | 2.65 | 0.28 | 2.94 | 5.36 | 1.15 |
| I | 7/28/75 | 1.21 | 8.22 | 13.27 | 12.04 | 5.68 | 1.66 | 5.75 | 0.18 | 2.64 | 0.0 | 3.64 | 5.76 | 0.22 |
| I | 8/11/75 | 1.29 | 7.82 | 14.25 | 14.30 | 6.64 | 1.68 | 5.76 | 0.17 | 2.56 | 0.0 | 5.86 | 5.88 | 0.0 |
| I | 8/25/75 | 1.28 | 8.14 | 13.51 | 13.26 | 6.18 | 1.64 | 5.51 | 0.18 | 2.71 | 0.0 | 5.78 | 4.77 | 0.14 |
| I | 9/ 8/75 | 1.19 | 7.99 | 12.94 | 12.74 | 5.22 | 1.49 | 6.04 | 0.19 | 2.72 | 0.0 | 4.66 | 5.36 | 0.0 |
| I | 9/23/75 | 1.26 | 7.98 | 13.24 | 13.73 | 6.22 | 1.54 | 5.29 | 0.19 | 2.82 | 0.0 | 5.62 | 5.29 | 0.0 |
| I | 10/ 7/75 | 1.24 | 7.63 | 17.21 | 13.63 | 9.11 | 1.89 | 6.03 | 0.18 | 3.01 | 0.0 | 5.60 | 5.02 | 0.05 |
| I | 10/21/75 | 1.27 | 8.16 | 13.51 | 13.47 | 5.48 | 1.80 | 6.02 | 0.21 | 2.81 | 0.0 | 5.10 | 5.54 | 1.24 |
| I | 11/ 4/75 | 1.12 | 8.05 | 14.61 | 14.06 | 7.14 | 1.82 | 5.45 | 0.20 | 2.90 | 0.0 | 5.42 | 5.73 | 0.40 |
| I | 11/18/75 | 1.23 | 8.50 | 13.98 | 13.96 | 6.61 | 1.74 | 5.43 | 0.20 | 2.85 | 0.0 | 4.94 | 6.16 | 0.40 |
| I | 12/ 2/75 | 1.27 | 8.00 | 14.19 | 13.67 | 6.97 | 1.75 | 5.25 | 0.22 | 2.77 | 0.0 | 5.42 | 5.48 | 0.27 |
| I | 12/16/75 | 1.07 | 7.67 | 12.46 | 13.16 | 5.40 | 1.66 | 5.21 | 0.19 | 2.79 | 0.0 | 5.11 | 5.26 | 0.0 |
| I | 12/30/75 | 1.01 | 7.89 | 12.03 | 11.62 | 5.05 | 1.68 | 5.11 | 0.19 | 2.83 | 0.0 | 3.50 | 5.29 | 0.0 |
| Mean | | 1.16 | 8.03 | 13.03 | 12.69 | 5.69 | 1.63 | 5.52 | 0.18 | 2.62 | 0.02 | 4.69 | 5.36 | 0.27 |
| Std. Dev. | | 0.10 | 0.26 | 1.28 | 1.05 | 1.18 | 0.11 | 0.29 | 0.02 | 0.19 | 0.08 | 1.08 | 0.41 | 0.33 |

Appendix Table 96. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1976.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| (meq/l) | | | | | | | | | | | | | | |
| (ppm) | | | | | | | | | | | | | | |
| I | 1/13/76 | 1.17 | 7.95 | 12.73 | 13.72 | 5.31 | 1.77 | 5.46 | 0.19 | 2.78 | 0.0 | 5.57 | 5.37 | 0.17 |
| I | 1/26/76 | 1.08 | 8.00 | 12.91 | 13.10 | 6.10 | 1.57 | 5.07 | 0.17 | 2.64 | 0.0 | 5.61 | 4.85 | 0.0 |
| I | 2/ 7/76 | 1.20 | 7.99 | 12.69 | 13.20 | 5.28 | 1.73 | 5.51 | 0.17 | 2.76 | 0.0 | 5.55 | 4.89 | 0.66 |
| I | 2/21/76 | 1.06 | 8.16 | 12.33 | 12.68 | 4.23 | 1.81 | 6.11 | 0.18 | 2.95 | 0.0 | 4.61 | 5.09 | 2.14 |
| I | 3/ 6/76 | 1.20 | 8.17 | 12.60 | 12.96 | 4.30 | 1.82 | 6.30 | 0.18 | 2.83 | 0.0 | 5.04 | 5.09 | 0.18 |
| I | 4/ 3/76 | 1.15 | 8.10 | 12.65 | 12.43 | 5.35 | 1.82 | 5.30 | 0.18 | 2.90 | 0.0 | 4.24 | 5.29 | 0.21 |
| I | 4/10/76 | 1.17 | 8.23 | 12.96 | 12.70 | 5.43 | 1.71 | 5.63 | 0.19 | 2.80 | 0.0 | 4.82 | 5.07 | 0.50 |
| I | 5/ 1/76 | 1.24 | 8.11 | 13.45 | 13.23 | 5.25 | 1.79 | 6.23 | 0.18 | 2.81 | 0.0 | 5.35 | 5.07 | 0.21 |
| I | 5/15/76 | 1.32 | 8.44 | 13.26 | 13.64 | 5.51 | 1.99 | 5.58 | 0.18 | 3.06 | 0.16 | 4.14 | 6.28 | 0.14 |
| I | 5/28/76 | 1.32 | 8.24 | 13.47 | 13.10 | 5.95 | 1.81 | 5.52 | 0.19 | 3.04 | 0.0 | 3.56 | 6.50 | 0.20 |
| I | 6/11/76 | 1.29 | 7.89 | 12.50 | 12.28 | 5.82 | 1.96 | 4.54 | 0.18 | 3.35 | 0.0 | 3.17 | 5.76 | 0.10 |
| I | 7/13/76 | 1.30 | 8.27 | 13.27 | 13.29 | 5.18 | 2.02 | 5.87 | 0.20 | 3.07 | 0.0 | 4.38 | 5.84 | 0.31 |
| I | 7/26/76 | 1.14 | 8.51 | 13.52 | 12.91 | 5.26 | 2.04 | 6.06 | 0.16 | 3.00 | 0.56 | 3.44 | 5.88 | 1.65 |
| I | 8/11/76 | 1.19 | 8.16 | 11.95 | 12.37 | 3.82 | 1.97 | 5.98 | 0.18 | 3.11 | 0.0 | 3.72 | 5.52 | 1.10 |
| I | 8/25/76 | 1.07 | 8.46 | 12.12 | 12.60 | 3.91 | 1.94 | 6.09 | 0.18 | 3.08 | 0.28 | 2.28 | 6.96 | 0.0 |
| I | 9/ 7/76 | 1.05 | 8.25 | 11.77 | 11.91 | 3.76 | 1.74 | 6.10 | 0.17 | 2.91 | 0.0 | 2.88 | 6.12 | 0.0 |
| I | 9/23/76 | 1.19 | 8.49 | 13.12 | 13.14 | 6.08 | 1.74 | 5.13 | 0.17 | 2.86 | 0.72 | 3.64 | 5.88 | 2.31 |
| I | 10/ 5/76 | 1.25 | 8.19 | 14.18 | 14.54 | 6.73 | 1.75 | 5.54 | 0.16 | 2.90 | 0.96 | 4.76 | 5.92 | 0.02 |
| I | 10/21/76 | 1.12 | 8.02 | 12.89 | 14.26 | 5.38 | 1.83 | 5.51 | 0.17 | 2.79 | 0.56 | 4.26 | 6.64 | 0.35 |
| I | 11/ 2/76 | 1.15 | 8.41 | 14.27 | 14.63 | 7.02 | 1.81 | 5.28 | 0.16 | 2.69 | 0.80 | 4.82 | 6.32 | 0.17 |
| I | 12/14/76 | 1.17 | 7.81 | 14.45 | 14.47 | 6.89 | 1.79 | 5.60 | 0.17 | 2.70 | 0.0 | 5.60 | 6.16 | 0.35 |
| I | 12/28/76 | 1.18 | 7.72 | 14.32 | 14.88 | 6.57 | 1.77 | 5.82 | 0.16 | 2.80 | 0.0 | 5.78 | 6.28 | 0.95 |
| Mean | | 1.18 | 8.16 | 13.06 | 13.27 | 5.41 | 1.83 | 5.65 | 0.18 | 2.90 | 0.18 | 4.42 | 5.76 | 0.51 |
| Std. Dev. | | 0.08 | 0.22 | 0.76 | 0.83 | 0.96 | 0.12 | 0.43 | 0.01 | 0.17 | 0.31 | 0.99 | 0.61 | 0.69 |

Appendix Table 97. Chemical composition (meq/l, except NO₃ in ppm) of water from irrigation well in 1977.

| Well | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|---------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | (meq/l) | | | (ppm) | | | |
| I | 1/11/77 | 1.19 | 7.74 | 14.40 | 15.11 | 6.38 | 1.70 | 6.14 | 0.18 | 2.73 | 0.0 | 5.74 | 6.64 | 0.05 |
| I | 2/ 9/77 | 1.26 | 8.45 | 13.29 | 13.28 | 6.14 | 1.51 | 5.48 | 0.16 | 2.79 | 0.0 | 5.06 | 5.43 | 0.15 |
| I | 2/23/77 | 1.24 | 8.25 | 12.83 | 12.93 | 5.90 | 1.56 | 5.22 | 0.15 | 2.85 | 0.40 | 4.44 | 5.24 | 0.10 |
| I | 3/ 9/77 | 1.08 | 8.15 | 11.67 | 11.31 | 5.09 | 1.47 | 4.95 | 0.16 | 2.75 | 0.0 | 3.92 | 4.64 | 0.15 |
| I | 3/23/77 | 1.25 | 7.72 | 13.08 | 13.46 | 6.26 | 1.63 | 5.00 | 0.19 | 2.67 | 0.0 | 5.40 | 5.38 | 0.85 |
| I | 4/ 6/77 | 1.24 | 7.99 | 14.60 | 14.75 | 6.99 | 1.86 | 5.58 | 0.17 | 2.74 | 0.0 | 6.00 | 6.01 | 0.05 |
| I | 4/20/77 | 1.18 | 8.16 | 13.27 | 12.83 | 6.32 | 1.70 | 5.09 | 0.16 | 2.55 | 0.0 | 4.70 | 5.58 | 0.08 |
| I | 7/13/77 | 1.49 | 7.42 | 14.96 | 15.25 | 7.01 | 1.92 | 5.85 | 0.18 | 2.83 | 0.0 | 5.50 | 6.92 | -- |
| I | 8/ 3/77 | 1.43 | 7.59 | 14.93 | 14.94 | 7.18 | 1.87 | 5.70 | 0.18 | 2.76 | 0.0 | 5.86 | 6.32 | 0.0 |
| I | 10/ 5/77 | 1.40 | 8.08 | 14.55 | 15.07 | 6.73 | 1.93 | 5.71 | 0.18 | 2.98 | 0.0 | 5.76 | 6.28 | 3.35 |
| Mean | | 1.28 | 7.95 | 13.76 | 13.89 | 6.40 | 1.71 | 5.47 | 0.17 | 2.76 | 0.04 | 5.24 | 5.84 | 0.53 |
| Std. Dev. | | 0.13 | 0.32 | 1.09 | 1.33 | 0.62 | 0.17 | 0.40 | 0.01 | 0.11 | 0.13 | 0.69 | 0.71 | 1.09 |

Appendix Table 98. Chemical composition of water samples from Del Rio Drain Site A in 1972.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ | |
|-----------|----------|--------------------|------|---------|--------|------|------|------|-------|------|-----------------|------------------|-----------------|-----------------|--|
| | | | | (meq/l) | | | | | (ppm) | | | | | | |
| A | 1/ 3/72 | 1.41 | 7.08 | 15.20 | 14.43 | 6.36 | 1.74 | 6.91 | 0.19 | 3.51 | 0.0 | 4.00 | 6.90 | 1.24 | |
| A | 1/10/72 | 1.48 | 7.42 | 15.34 | 14.82 | 6.65 | 1.82 | 6.69 | 0.18 | 3.64 | 0.60 | 4.02 | 6.52 | 2.48 | |
| A | 1/17/72 | 1.44 | 6.40 | 12.42 | 14.70 | 4.16 | 1.88 | 6.20 | 0.18 | 3.64 | 0.0 | 4.23 | 6.81 | 1.24 | |
| A | 1/21/72 | 1.43 | 7.75 | 12.03 | 14.69 | 3.86 | 1.88 | 6.11 | 0.18 | 3.61 | 0.88 | 3.53 | 6.64 | 1.86 | |
| A | 1/29/72 | 1.37 | 7.95 | 12.00 | 14.34 | 3.78 | 1.81 | 6.23 | 0.18 | 3.57 | 0.77 | 3.55 | 6.43 | 1.24 | |
| A | 2/ 5/72 | 1.43 | 7.80 | 12.02 | 14.70 | 3.81 | 1.85 | 6.17 | 0.19 | 3.63 | 0.48 | 3.80 | 6.78 | 0.62 | |
| A | 2/26/72 | 1.48 | 7.88 | 14.76 | 14.39 | 6.42 | 1.82 | 6.30 | 0.22 | 3.90 | 0.82 | 3.43 | 6.24 | -- | |
| A | 3/11/72 | 1.28 | 8.06 | 11.95 | 12.90 | 4.79 | 1.68 | 5.29 | 0.19 | 3.28 | 0.30 | 3.93 | 5.38 | 0.62 | |
| A | 3/25/72 | 1.25 | 7.93 | 12.15 | 12.77 | 4.92 | 1.65 | 5.40 | 0.18 | 3.44 | 0.30 | 3.94 | 5.09 | -- | |
| A | 4/ 8/72 | 1.29 | 6.75 | 13.33 | 12.25 | 6.05 | 1.70 | 5.40 | 0.18 | 3.39 | 0.0 | 1.93 | 6.91 | 1.24 | |
| A | 4/21/72 | 1.38 | 7.67 | 14.20 | 13.80 | 6.19 | 1.80 | 6.03 | 0.18 | 3.44 | 0.70 | 3.63 | 6.03 | -- | |
| A | 5/19/72 | 1.32 | 7.32 | 12.16 | 13.09 | 4.30 | 1.74 | 5.89 | 0.23 | 3.40 | 1.00 | 2.70 | 5.99 | -- | |
| A | 6/ 2/72 | 1.27 | 7.35 | 12.86 | 13.81 | 4.75 | 1.76 | 6.06 | 0.29 | 3.53 | 0.0 | 4.25 | 6.03 | -- | |
| A | 6/24/72 | 1.26 | 7.70 | 13.50 | 13.45 | 5.73 | 1.69 | 5.84 | 0.24 | 3.42 | 0.58 | 3.68 | 5.77 | -- | |
| A | 7/ 7/72 | 1.26 | 7.44 | 13.26 | 13.47 | 5.67 | 1.65 | 5.72 | 0.22 | 3.35 | 0.0 | 4.35 | 5.77 | -- | |
| A | 7/21/72 | 1.26 | 7.81 | 11.73 | 12.49 | 3.80 | 1.68 | 6.02 | 0.23 | 3.25 | 0.60 | 3.42 | 5.22 | -- | |
| A | 8/ 3/72 | 1.20 | 7.74 | 11.97 | 11.31 | 4.35 | 1.66 | 5.74 | 0.22 | 3.15 | 0.0 | 2.94 | 5.22 | -- | |
| A | 8/18/72 | 1.20 | 7.33 | 13.00 | 12.26 | 5.30 | 1.61 | 5.87 | 0.22 | 3.26 | 0.0 | 3.84 | 5.16 | -- | |
| A | 9/ 1/72 | 1.24 | 7.90 | 13.42 | 12.86 | 5.50 | 1.70 | 5.99 | 0.23 | 3.33 | 0.80 | 3.17 | 5.56 | -- | |
| A | 9/15/72 | 1.22 | 7.92 | 13.52 | 12.69 | 5.50 | 1.67 | 6.12 | 0.23 | 3.33 | 0.08 | 3.78 | 5.50 | -- | |
| A | 9/29/72 | 1.32 | 7.68 | 13.67 | 14.42 | 5.57 | 1.70 | 6.16 | 0.24 | 3.67 | 0.0 | 4.02 | 6.73 | -- | |
| A | 10/13/72 | 1.40 | 7.36 | 15.04 | 16.13 | 6.48 | 1.78 | 6.54 | 0.24 | 3.85 | 0.24 | 4.64 | 7.40 | -- | |
| A | 10/27/72 | 1.30 | 7.73 | 11.63 | 11.88 | 3.55 | 1.93 | 5.93 | 0.22 | 3.60 | 0.46 | 1.52 | 6.30 | -- | |
| A | 11/10/72 | 1.38 | 7.62 | 12.07 | 12.46 | 3.80 | 1.80 | 6.24 | 0.23 | 3.78 | 0.40 | 1.79 | 6.49 | -- | |
| A | 11/24/72 | 1.39 | 7.61 | 14.09 | 13.65 | 5.83 | 1.87 | 6.17 | 0.22 | 3.75 | 0.22 | 3.03 | 6.65 | -- | |
| A | 12/ 8/72 | 1.40 | 7.68 | 14.48 | 14.25 | 6.20 | 1.88 | 6.17 | 0.23 | 3.73 | 0.10 | 3.66 | 6.76 | -- | |
| A | 12/22/72 | 1.40 | 7.31 | 14.36 | 14.53 | 6.01 | 1.95 | 6.19 | 0.21 | 3.78 | 0.48 | 3.62 | 6.65 | -- | |
| Mean | | 1.34 | 7.56 | 13.19 | 13.58 | 5.16 | 1.77 | 6.05 | 0.21 | 3.53 | 0.36 | 3.50 | 6.18 | 1.32 | |
| Std. Dev. | | 0.09 | 0.38 | 1.17 | 1.12 | 1.01 | 0.09 | 0.36 | 0.03 | 0.20 | 0.33 | 0.77 | 0.65 | 0.61 | |

Appendix Table 99. Chemical composition of water samples from Del Rio Drain Site A in 1973.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (mcg/l) ----- | | | | | | | | | | | | | | |
| A | 1/ 5/73 | 1.34 | 7.15 | 14.48 | 14.74 | 6.39 | 1.89 | 5.98 | 0.22 | 3.69 | 0.30 | 4.37 | 6.38 | -- |
| A | 1/19/73 | 1.35 | 6.35 | 13.11 | 13.16 | 4.90 | 1.82 | 6.17 | 0.22 | 3.71 | 0.56 | 3.17 | 5.72 | -- |
| A | 2/ 2/73 | 1.36 | 7.00 | 14.02 | 13.83 | 5.85 | 1.83 | 6.14 | 0.20 | 3.69 | 0.0 | 4.15 | 5.99 | -- |
| A | 2/16/73 | 1.36 | 7.15 | 12.79 | 13.69 | 4.21 | 1.76 | 6.57 | 0.25 | 3.72 | 0.0 | 4.32 | 5.65 | 0.25 |
| A | 3/ 9/73 | 1.37 | 7.04 | 14.86 | 13.82 | 6.15 | 1.76 | 6.70 | 0.25 | 3.80 | 0.0 | 4.25 | 5.65 | 7.50 |
| A | 3/16/73 | 1.29 | 7.61 | 14.01 | 13.70 | 5.65 | 1.69 | 6.39 | 0.28 | 3.80 | 1.32 | 3.32 | 5.21 | 3.25 |
| A | 3/23/73 | 1.18 | 7.59 | 12.63 | 11.61 | 5.08 | 1.52 | 5.78 | 0.25 | 3.34 | 0.84 | 3.08 | 4.32 | 1.80 |
| A | 3/30/73 | 1.18 | 7.46 | 12.37 | 9.72 | 5.00 | 1.52 | 5.61 | 0.24 | 3.32 | 0.0 | 3.00 | 3.38 | 1.00 |
| A | 4/ 6/73 | 1.23 | 7.19 | 12.84 | 11.87 | 5.23 | 1.57 | 5.78 | 0.26 | 3.37 | 0.0 | 4.28 | 4.22 | 0.0 |
| A | 4/13/73 | 1.21 | 7.35 | 12.73 | 10.47 | 5.19 | 1.53 | 5.76 | 0.25 | 3.45 | 0.80 | 2.52 | 3.69 | 0.45 |
| A | 4/21/73 | 1.35 | 4.27 | 13.64 | 16.88 | 5.38 | 1.58 | 6.39 | 0.29 | 3.78 | 0.0 | 2.00 | 10.78 | 19.90 |
| A | 4/23/73 | 1.21 | 7.02 | 13.22 | 12.78 | 5.44 | 1.58 | 5.96 | 0.24 | 3.44 | 0.72 | 3.44 | 5.17 | 0.92 |
| A | 4/27/73 | 1.16 | 7.57 | 11.16 | 12.64 | 3.67 | 1.62 | 5.62 | 0.25 | 3.39 | 0.0 | 3.96 | 5.28 | 0.75 |
| A | 5/ 4/73 | 1.22 | 7.07 | 13.00 | 13.00 | 5.44 | 1.58 | 5.73 | 0.25 | 3.41 | 0.72 | 3.58 | 5.28 | 0.45 |
| A | 5/12/73 | 1.24 | 6.80 | 12.98 | 14.48 | 5.52 | 1.57 | 5.64 | 0.25 | 3.39 | 1.00 | 4.30 | 5.66 | 8.20 |
| A | 5/18/73 | 1.20 | 6.80 | 11.89 | 13.87 | 4.27 | 1.65 | 5.73 | 0.24 | 3.50 | 0.0 | 4.70 | 5.66 | 0.65 |
| A | 5/25/73 | 1.19 | 7.00 | 11.57 | 11.90 | 3.97 | 1.54 | 5.73 | 0.33 | 3.33 | 0.0 | 3.10 | 5.45 | 0.97 |
| A | 6/ 1/73 | 1.18 | 6.80 | 12.72 | 12.86 | 5.39 | 1.54 | 5.56 | 0.23 | 3.25 | 0.0 | 4.50 | 5.11 | 0.25 |
| A | 6/ 8/73 | 1.14 | 6.80 | 12.11 | 12.99 | 4.70 | 1.57 | 5.52 | 0.32 | 3.27 | 0.0 | 4.60 | 5.11 | 0.35 |
| A | 6/15/73 | 1.19 | 7.00 | 12.82 | 13.26 | 5.43 | 1.57 | 5.58 | 0.24 | 3.22 | 0.20 | 4.60 | 5.22 | 1.45 |
| A | 6/22/73 | 1.15 | 6.80 | 12.39 | 13.06 | 5.35 | 1.52 | 5.29 | 0.23 | 3.05 | 0.0 | 5.10 | 4.89 | 1.17 |
| A | 6/29/73 | 1.20 | 6.80 | 12.60 | 14.81 | 5.43 | 1.53 | 5.41 | 0.23 | 3.19 | 0.0 | 5.90 | 5.72 | 0.17 |
| A | 7/ 6/73 | 1.19 | 7.20 | 12.37 | 13.19 | 5.09 | 1.51 | 5.54 | 0.23 | 3.25 | 0.80 | 3.80 | 5.33 | 0.42 |
| A | 7/20/73 | 1.26 | 7.00 | 13.52 | 12.01 | 5.74 | 1.63 | 5.90 | 0.25 | 3.26 | 0.42 | 2.76 | 5.54 | 1.60 |
| A | 8/ 3/73 | 1.22 | 7.50 | 13.71 | 12.01 | 5.64 | 1.61 | 6.24 | 0.22 | 3.14 | 0.38 | 3.32 | 5.16 | 0.33 |
| A | 8/17/73 | 1.18 | 7.44 | 13.10 | 11.61 | 5.24 | 1.54 | 6.10 | 0.22 | 2.92 | 0.36 | 3.17 | 5.10 | 3.82 |
| A | 8/31/73 | 1.18 | 8.08 | 12.78 | 12.71 | 5.40 | 1.54 | 5.61 | 0.23 | 3.10 | 0.80 | 3.90 | 4.90 | 0.65 |
| A | 9/14/73 | 1.18 | -- | 13.51 | 12.14 | 5.74 | 1.56 | 5.99 | 0.22 | 2.91 | 0.45 | 3.32 | 5.42 | 2.68 |
| A | 9/28/73 | 1.21 | 8.27 | 11.93 | 12.72 | 3.84 | 1.58 | 6.29 | 0.22 | 3.16 | 0.40 | 3.75 | 5.38 | 2.17 |
| A | 10/12/73 | 1.28 | 7.82 | 14.38 | 14.94 | 6.25 | 1.63 | 6.27 | 0.23 | 3.33 | 0.30 | 3.75 | 7.51 | 2.98 |
| A | 10/26/73 | 1.31 | 8.29 | 14.91 | 14.23 | 6.32 | 1.70 | 6.65 | 0.24 | 3.61 | 0.80 | 3.50 | 6.25 | 4.13 |
| A | 11/ 9/73 | 1.26 | 8.56 | 13.30 | 13.85 | 4.64 | 1.74 | 6.66 | 0.26 | 3.36 | 0.0 | 3.68 | 6.79 | 1.03 |
| A | 11/26/73 | 1.33 | 8.53 | 11.89 | 12.14 | 4.75 | 1.75 | 5.17 | 0.22 | 3.42 | 0.35 | 2.30 | 6.04 | 2.05 |
| A | 12/10/73 | 1.24 | 8.42 | 12.50 | 12.46 | 5.52 | 1.75 | 5.01 | 0.22 | 3.42 | 0.75 | 2.48 | 5.80 | 0.50 |
| A | 12/21/73 | 1.29 | 8.13 | 12.37 | 13.52 | 5.09 | 1.75 | 5.32 | 0.21 | 3.49 | 0.30 | 3.55 | 6.14 | 2.75 |
| Mean | | 1.24 | 7.29 | 12.98 | 13.05 | 5.23 | 1.63 | 5.88 | 0.24 | 3.39 | 0.36 | 3.70 | 5.57 | 2.33 |
| Std. Dev. | | 0.07 | 0.79 | 0.89 | 1.34 | 0.67 | 0.10 | 0.44 | 0.03 | 0.24 | 0.37 | 0.83 | 1.19 | 3.75 |

Appendix Table 100. Chemical composition of water samples from Del Rio Drain Site A in 1974.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- | | | | | | | | | | | | | | |
| A | 1/ 4/74 | 1.26 | 7.42 | 12.46 | 12.25 | 5.85 | 1.72 | 4.68 | 0.21 | 3.39 | 0.0 | 3.20 | 5.66 | 0.20 |
| A | 1/18/74 | 1.28 | 7.48 | 13.73 | 13.40 | 5.03 | 1.81 | 6.62 | 0.27 | 3.53 | 0.0 | 4.12 | 5.74 | 0.65 |
| A | 2/ 5/74 | 1.27 | 8.16 | 14.04 | 13.88 | 5.37 | 1.72 | 6.72 | 0.23 | 3.78 | 0.15 | 3.78 | 6.14 | 1.88 |
| A | 2/19/74 | 1.33 | 7.98 | 16.43 | 15.82 | 6.27 | 1.80 | 8.03 | 0.33 | 4.74 | 0.50 | 4.10 | 6.46 | 1.42 |
| A | 3/ 5/74 | 1.25 | 8.06 | 14.73 | 14.41 | 6.03 | 1.68 | 6.77 | 0.25 | 3.94 | 0.26 | 4.10 | 6.10 | 0.83 |
| A | 3/19/74 | 1.29 | 7.93 | 13.73 | --- | 5.76 | 1.65 | 6.05 | 0.27 | --- | 0.36 | 3.78 | 5.25 | 1.11 |
| A | 4/ 2/74 | 1.21 | --- | 13.38 | 12.57 | 5.43 | 1.65 | 6.08 | 0.22 | 3.36 | 0.60 | 3.16 | 5.45 | 0.12 |
| A | 4/16/74 | 1.09 | 7.64 | 13.43 | 12.62 | 5.46 | 1.64 | 6.12 | 0.21 | 3.50 | 0.0 | 3.54 | 5.58 | 0.06 |
| A | 4/30/74 | 1.12 | 8.06 | 13.73 | 13.08 | 5.62 | 1.64 | 6.26 | 0.21 | 3.52 | 0.25 | 3.75 | 5.56 | 0.12 |
| A | 5/14/74 | 1.08 | 7.76 | 12.56 | 11.97 | 5.32 | 1.58 | 5.37 | 0.29 | 3.29 | 0.36 | 3.22 | 5.09 | 0.60 |
| A | 5/28/74 | 1.23 | 7.94 | 12.69 | 12.04 | 5.62 | 1.65 | 5.20 | 0.22 | 3.09 | 0.04 | 3.58 | 5.33 | 0.02 |
| A | 6/11/74 | 1.17 | 7.88 | 12.82 | 12.07 | 5.38 | 1.50 | 5.73 | 0.21 | 2.90 | 0.0 | 3.96 | 5.21 | 0.0 |
| A | 6/25/74 | 1.12 | 8.32 | 11.72 | 12.38 | 4.70 | 1.34 | 5.38 | 0.30 | 3.20 | 0.20 | 4.00 | 4.97 | 0.55 |
| A | 7/ 9/74 | 1.22 | 7.78 | 12.68 | 12.25 | 5.49 | 1.19 | 5.76 | 0.24 | 3.18 | 0.0 | 3.98 | 5.09 | 0.08 |
| A | 7/23/74 | 1.18 | 8.18 | 13.27 | 12.41 | 5.02 | 1.65 | 6.37 | 0.23 | 3.13 | 0.04 | 4.14 | 5.09 | 0.77 |
| A | 8/ 6/74 | 1.21 | 8.12 | 13.50 | 12.81 | 5.49 | 1.64 | 6.11 | 0.26 | 3.30 | 0.20 | 4.04 | 5.25 | 1.40 |
| A | 8/20/74 | 1.14 | 8.16 | 13.44 | 12.93 | 5.57 | 1.55 | 6.10 | 0.22 | 3.45 | 0.20 | 4.02 | 5.25 | 0.80 |
| A | 9/ 3/74 | 1.24 | 8.30 | 13.54 | 13.13 | 5.45 | 1.64 | 6.22 | 0.23 | 3.20 | 0.28 | 4.02 | 5.61 | 1.00 |
| A | 9/17/74 | 1.25 | 8.00 | 14.77 | 14.44 | 6.18 | 1.77 | 6.58 | 0.24 | 3.23 | 0.0 | 4.18 | 7.03 | 0.21 |
| A | 10/ 1/74 | 1.34 | 8.25 | 15.08 | 14.70 | 6.55 | 1.88 | 6.44 | 0.21 | 3.24 | 0.16 | 4.38 | 6.91 | 0.43 |
| A | 10/15/74 | 1.20 | 7.95 | 12.94 | 13.02 | 5.32 | 1.50 | 5.92 | 0.20 | 3.08 | 0.0 | 4.34 | 5.58 | 1.34 |
| A | 10/29/74 | 1.10 | --- | 11.93 | 11.88 | 3.90 | 1.57 | 6.24 | 0.22 | 3.33 | 0.0 | 2.70 | 5.82 | 1.57 |
| A | 11/12/74 | 1.21 | 8.22 | 13.20 | 13.61 | 5.47 | 1.42 | 6.10 | 0.21 | 3.38 | 0.0 | 4.48 | 5.72 | 1.66 |
| A | 11/26/74 | 1.29 | 8.15 | 14.15 | 13.94 | 6.02 | 1.60 | 6.31 | 0.22 | 3.51 | 0.0 | 4.30 | 6.12 | 0.76 |
| A | 12/10/74 | 1.23 | 8.10 | 13.72 | 13.55 | 5.32 | 1.72 | 6.46 | 0.22 | 3.48 | 0.0 | 4.00 | 6.06 | 0.50 |
| Mean | | 1.21 | 7.99 | 13.51 | 13.13 | 5.50 | 1.62 | 6.14 | 0.24 | 3.41 | 0.14 | 3.87 | 5.68 | 0.72 |
| Std. Dev. | | 0.07 | 0.24 | 1.02 | 1.01 | 0.53 | 0.15 | 0.63 | 0.03 | 0.36 | 0.17 | 0.43 | 0.55 | 0.57 |

Appendix Table 101. Chemical composition of water samples from Del Rio Drain Site A in 1975.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|---------|------|---------|------|---------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | (meq/l) | | (meq/l) | | (meq/l) | | (meq/l) | | (ppm) |
| A | 1/ 1/75 | 1.19 | 8.28 | 14.10 | 13.62 | 5.85 | 1.67 | 6.36 | 0.22 | 3.48 | 0.0 | 3.94 | 6.18 | 1.09 |
| A | 1/14/75 | 1.28 | 7.92 | 13.99 | 14.18 | 6.02 | 1.66 | 6.11 | 0.20 | 3.50 | 0.0 | 4.72 | 5.94 | 1.00 |
| A | 1/28/75 | 1.21 | 8.11 | 14.50 | 13.62 | 6.06 | 1.80 | 6.43 | 0.21 | 3.56 | 0.0 | 4.34 | 5.72 | 0.10 |
| A | 2/10/75 | 1.35 | 8.28 | 14.61 | 13.76 | 6.13 | 1.82 | 6.45 | 0.21 | 3.60 | 0.0 | 4.22 | 5.92 | 1.51 |
| A | 2/24/75 | 1.30 | 8.49 | 15.46 | 14.22 | 6.63 | 1.86 | 6.77 | 0.20 | 3.62 | 0.36 | 4.10 | 6.12 | 1.00 |
| A | 3/10/75 | 1.24 | 8.07 | 14.30 | 13.62 | 6.09 | 1.65 | 6.34 | 0.22 | 3.64 | 0.0 | 4.24 | 5.72 | 1.34 |
| A | 3/24/75 | 1.22 | 8.36 | 13.07 | 13.11 | 5.01 | 1.72 | 6.13 | 0.21 | 3.42 | 0.0 | 4.04 | 5.64 | 0.39 |
| A | 4/ 7/75 | 1.22 | 8.04 | 13.40 | 13.20 | 5.82 | 1.61 | 5.77 | 0.20 | 3.52 | 0.0 | 3.72 | 5.96 | 0.0 |
| A | 4/21/75 | 1.25 | 8.19 | 13.57 | 13.35 | 5.70 | 1.61 | 6.06 | 0.20 | 3.55 | 0.0 | 3.96 | 5.84 | 0.30 |
| A | 5/ 5/75 | 1.22 | 8.18 | 13.43 | 12.46 | 5.08 | 1.60 | 6.54 | 0.21 | 3.36 | 0.0 | 3.52 | 5.56 | 1.45 |
| A | 5/19/75 | 1.21 | 8.26 | 13.59 | 12.99 | 5.60 | 1.66 | 6.14 | 0.19 | 3.28 | 0.0 | 4.18 | 5.52 | 0.74 |
| A | 6/ 2/75 | 1.19 | 8.11 | 13.12 | 12.42 | 5.47 | 1.62 | 5.84 | 0.19 | 3.15 | 0.0 | 4.02 | 5.24 | 0.51 |
| A | 6/16/75 | 1.17 | 7.50 | 11.61 | 12.19 | 5.00 | 1.48 | 4.90 | 0.23 | 3.10 | 0.0 | 4.08 | 5.00 | 0.61 |
| A | 6/30/75 | 1.20 | 8.53 | 13.28 | 12.30 | 5.39 | 1.58 | 6.08 | 0.23 | 3.04 | 0.44 | 3.58 | 5.24 | 0.0 |
| A | 7/14/75 | 1.17 | 8.69 | 12.12 | 12.44 | 4.99 | 1.49 | 5.41 | 0.23 | 3.04 | 0.0 | 4.14 | 5.24 | 1.32 |
| A | 7/28/75 | 1.14 | 7.97 | 12.70 | 12.68 | 5.00 | 1.49 | 5.96 | 0.25 | 2.85 | 0.0 | 4.22 | 5.60 | 0.39 |
| A | 8/11/75 | 1.22 | 7.88 | 13.39 | 13.24 | 5.30 | 1.61 | 6.27 | 0.21 | 3.15 | 0.0 | 4.08 | 6.00 | 0.70 |
| A | 8/25/75 | 1.22 | 8.11 | 12.11 | 12.84 | 5.20 | 1.56 | 5.13 | 0.22 | 2.99 | 0.0 | 3.64 | 6.19 | 1.26 |
| A | 9/ 8/75 | 1.14 | 8.09 | 11.33 | 11.44 | 4.31 | 1.23 | 5.56 | 0.23 | 2.85 | 0.0 | 4.10 | 4.49 | 0.0 |
| A | 9/23/75 | 1.26 | 7.85 | 12.95 | 13.54 | 4.48 | 1.52 | 5.71 | 0.24 | 3.33 | 0.0 | 4.40 | 5.79 | 1.00 |
| A | 10/ 7/75 | 1.23 | 7.59 | 13.08 | 13.11 | 5.13 | 1.82 | 5.89 | 0.24 | 3.07 | 0.0 | 4.48 | 5.54 | 1.08 |
| A | 10/21/75 | 1.32 | 7.52 | 14.74 | 13.45 | 5.76 | 1.60 | 7.11 | 0.27 | 3.41 | 0.0 | 4.10 | 5.94 | 0.0 |
| A | 11/ 4/75 | 1.09 | 7.53 | 13.56 | 13.80 | 6.15 | 1.74 | 5.45 | 0.22 | 3.39 | 0.0 | 4.40 | 6.01 | 0.12 |
| A | 11/18/75 | 1.14 | 8.38 | 13.23 | 13.85 | 5.70 | 1.67 | 5.64 | 0.22 | 3.35 | 0.0 | 4.50 | 5.98 | 1.39 |
| A | 12/ 2/75 | 1.36 | 7.94 | 13.85 | 13.96 | 5.99 | 1.73 | 5.87 | 0.26 | 3.58 | 0.0 | 4.42 | 5.92 | 2.24 |
| A | 12/16/75 | 1.06 | 8.06 | 13.13 | 13.44 | 5.56 | 1.71 | 5.63 | 0.23 | 3.55 | 0.0 | 4.50 | 5.37 | 1.00 |
| A | 12/30/75 | 1.23 | 7.53 | 13.91 | 13.36 | 6.55 | 1.62 | 5.52 | 0.22 | 3.55 | 0.0 | 4.00 | 5.81 | 0.0 |
| Mean | | 1.22 | 8.05 | 13.41 | 13.19 | 5.59 | 1.63 | 5.97 | 0.22 | 3.33 | 0.03 | 4.13 | 5.68 | 0.76 |
| Std. Dev. | | 0.07 | 0.32 | 0.94 | 0.67 | 0.53 | 0.13 | 0.49 | 0.02 | 0.24 | 0.11 | 0.29 | 0.39 | 0.60 |

Appendix Table 102. Chemical composition of water samples from Del Rio Drain Site A in 1976.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (meq/l) ----- | | | | | | | | | | | | | | |
| A | 1/13/76 | 1.21 | 8.03 | 14.81 | 13.79 | 6.62 | 1.81 | 6.17 | 0.21 | 3.56 | 0.0 | 4.50 | 5.73 | 0.0 |
| A | 1/26/76 | 1.21 | 8.19 | 13.12 | 14.08 | 5.80 | 1.73 | 5.39 | 0.20 | 3.26 | 0.0 | 5.38 | 5.44 | 0.0 |
| A | 2/ 7/76 | 1.25 | 8.16 | 14.08 | 14.09 | 6.29 | 1.74 | 5.82 | 0.23 | 3.48 | 0.0 | 5.10 | 5.51 | 0.18 |
| A | 2/21/76 | 1.16 | 8.12 | 14.45 | 14.59 | 5.75 | 1.88 | 6.60 | 0.22 | 3.69 | 0.74 | 4.39 | 5.75 | 1.11 |
| A | 3/ 6/76 | 1.21 | 8.12 | 14.73 | 14.01 | 6.02 | 1.75 | 6.75 | 0.21 | 3.50 | 0.0 | 5.10 | 5.38 | 1.76 |
| A | 3/20/76 | 1.14 | 8.51 | 14.78 | 14.25 | 6.22 | 1.82 | 6.53 | 0.21 | 3.63 | 0.44 | 5.00 | 5.15 | 1.65 |
| A | 4/ 3/76 | 1.18 | 8.50 | 14.38 | 13.35 | 5.81 | 1.67 | 6.70 | 0.20 | 3.33 | 0.28 | 4.72 | 5.00 | 0.99 |
| A | 4/10/76 | 1.13 | 8.20 | 13.93 | 13.25 | 6.03 | 1.60 | 6.09 | 0.21 | 3.33 | 0.0 | 4.94 | 4.96 | 1.05 |
| A | 5/ 1/76 | 1.18 | 7.91 | 13.34 | 13.16 | 5.07 | 1.61 | 6.45 | 0.21 | 3.16 | 0.0 | 4.11 | 5.88 | 0.89 |
| A | 5/15/76 | 1.18 | 8.17 | 13.63 | 13.51 | 5.36 | 1.70 | 6.37 | 0.20 | 3.94 | 0.65 | 3.48 | 5.44 | 0.20 |
| A | 5/28/76 | 1.09 | 8.03 | 12.12 | 12.27 | 5.01 | 1.53 | 5.35 | 0.23 | 3.02 | 0.65 | 3.56 | 5.02 | 1.00 |
| A | 6/11/76 | 1.20 | 8.01 | 12.75 | 13.08 | 5.57 | 1.60 | 5.39 | 0.19 | 3.14 | 0.92 | 3.61 | 5.40 | 0.60 |
| A | 6/28/76 | 1.10 | 8.30 | 12.84 | 12.61 | 5.37 | 1.54 | 5.65 | 0.28 | 3.08 | 0.76 | 3.60 | 5.16 | 0.68 |
| A | 7/13/76 | 1.13 | 8.14 | 13.08 | 12.57 | 5.52 | 1.64 | 5.70 | 0.22 | 3.09 | 0.68 | 3.64 | 5.08 | 5.09 |
| A | 7/26/76 | 1.15 | 8.50 | 13.47 | 12.78 | 5.49 | 1.66 | 6.14 | 0.18 | 3.03 | 0.92 | 3.44 | 5.36 | 2.11 |
| A | 8/11/76 | 1.09 | 8.43 | 12.01 | 12.69 | 4.85 | 1.61 | 5.36 | 0.19 | 2.95 | 0.84 | 3.52 | 5.36 | 1.35 |
| A | 8/25/76 | 1.10 | 8.69 | 13.32 | 13.37 | 5.56 | 1.61 | 5.94 | 0.21 | 3.25 | 0.92 | 3.40 | 5.76 | 2.64 |
| A | 9/ 7/76 | 1.10 | 8.61 | 13.03 | 13.41 | 5.28 | 1.61 | 5.81 | 0.33 | 3.07 | 0.0 | 4.44 | 5.88 | 1.31 |
| A | 9/23/76 | 1.10 | 8.49 | 12.70 | 13.32 | 5.98 | 1.18 | 5.35 | 0.19 | 2.79 | 1.00 | 3.22 | 6.28 | 1.75 |
| A | 10/ 5/76 | 1.21 | 8.15 | 13.04 | 13.81 | 5.26 | 1.53 | 6.07 | 0.18 | 3.05 | 0.48 | 4.14 | 6.12 | 1.38 |
| A | 10/19/76 | 1.17 | 8.42 | 14.60 | 14.80 | 6.44 | 1.85 | 6.12 | 0.19 | 3.06 | 1.00 | 3.56 | 7.16 | 1.20 |
| A | 11/ 2/76 | 1.17 | 8.44 | 13.88 | 14.23 | 6.03 | 1.76 | 5.90 | 0.19 | 3.13 | 0.68 | 3.92 | 6.48 | 1.10 |
| A | 11/16/76 | 1.34 | 7.84 | 15.71 | 15.52 | 5.55 | 1.68 | 8.28 | 0.20 | 3.40 | 0.0 | 5.80 | 6.32 | 0.0 |
| A | 12/14/76 | 1.21 | 7.89 | 14.55 | 14.43 | 6.31 | 1.76 | 6.29 | 0.19 | 3.34 | 0.0 | 4.72 | 6.36 | 0.90 |
| A | 12/28/76 | 1.17 | 7.76 | 14.48 | 14.63 | 6.18 | 1.83 | 6.28 | 0.19 | 3.48 | 0.0 | 4.42 | 6.72 | 0.85 |
| Mean | | 1.17 | 8.22 | 13.71 | 13.66 | 5.73 | 1.67 | 6.10 | 0.21 | 3.27 | 0.44 | 4.23 | 5.71 | 1.19 |
| Std. Dev. | | 0.06 | 0.25 | 0.93 | 0.80 | 0.47 | 0.14 | 0.63 | 0.03 | 0.27 | 0.40 | 0.72 | 0.59 | 1.05 |

Appendix Table 103. Chemical composition of water samples from Del Rio Drain Site A in 1977.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (mcg/l) ----- | | | | | | | | | | | | | | |
| ----- (ppm) ----- | | | | | | | | | | | | | | |
| A | 1/11/77 | 1.30 | 8.06 | 13.46 | 14.20 | 5.80 | 1.67 | 5.80 | 0.19 | 3.47 | 0.0 | 4.38 | 6.34 | 0.80 |
| A | 1/26/77 | 1.38 | 7.85 | 14.75 | 14.73 | 6.33 | 1.84 | 6.39 | 0.19 | 3.54 | 0.0 | 4.32 | 6.86 | 0.80 |
| A | 2/ 9/77 | 1.37 | 8.28 | 13.62 | 14.19 | 5.68 | 1.75 | 5.96 | 0.23 | 3.53 | 0.0 | 4.22 | 6.42 | 0.95 |
| A | 2/23/77 | 1.39 | 8.05 | 14.92 | 14.41 | 6.16 | 1.89 | 6.61 | 0.26 | 3.69 | 0.0 | 4.54 | 6.16 | 1.50 |
| A | 3/ 9/77 | 1.34 | 7.98 | 13.69 | 14.13 | 5.85 | 1.74 | 5.89 | 0.21 | 3.66 | 0.0 | 4.30 | 6.16 | 0.80 |
| A | 3/23/77 | 1.27 | 8.06 | 12.75 | 13.56 | 5.40 | 1.57 | 5.56 | 0.22 | 3.38 | 0.28 | 3.96 | 5.93 | 0.45 |
| A | 4/ 6/77 | 1.25 | 8.66 | 12.90 | 13.53 | 5.57 | 1.68 | 5.45 | 0.20 | 3.36 | 1.00 | 3.20 | 5.97 | 0.30 |
| A | 4/20/77 | 1.18 | 8.30 | 12.89 | 13.12 | 5.33 | 1.60 | 5.75 | 0.21 | 3.36 | 0.80 | 3.22 | 5.73 | 0.65 |
| A | 5/ 4/77 | 1.24 | 8.56 | 12.93 | 12.66 | 5.35 | 1.64 | 5.74 | 0.20 | 3.27 | 0.44 | 2.72 | 6.23 | --- |
| A | 6/ 1/77 | 1.26 | 8.11 | 12.82 | 13.37 | 5.46 | 1.58 | 5.56 | 0.22 | 3.42 | 0.0 | 4.22 | 5.72 | 0.75 |
| A | 7/13/77 | 1.22 | 8.14 | 13.04 | 13.16 | 5.48 | 1.55 | 5.82 | 0.19 | 3.14 | 0.52 | 3.66 | 5.84 | --- |
| A | 8/ 3/77 | 1.20 | 7.55 | 12.51 | 12.81 | 5.44 | 1.50 | 5.38 | 0.19 | 2.98 | 0.0 | 4.18 | 5.64 | 0.72 |
| A | 9/15/77 | 1.17 | 7.95 | 12.00 | 11.99 | 5.08 | 1.52 | 5.22 | 0.18 | 3.02 | 0.0 | 3.36 | 5.60 | 0.55 |
| A | 10/ 6/77 | 1.33 | 8.06 | 13.64 | 13.12 | 5.52 | 1.38 | 6.52 | 0.22 | 3.03 | 0.0 | 4.12 | 5.96 | 0.70 |
| A | 12/ 8/77 | 1.32 | 8.19 | 13.23 | 13.16 | 5.40 | 1.58 | 6.02 | 0.23 | 3.40 | 0.0 | 4.20 | 5.55 | 0.40 |
| Mean | | 1.28 | 8.12 | 13.28 | 13.48 | 5.59 | 1.63 | 5.84 | 0.21 | 3.35 | 0.20 | 3.91 | 6.01 | 0.72 |
| Std. Dev. | | 0.07 | 0.27 | 0.78 | 0.74 | 0.33 | 0.13 | 0.41 | 0.02 | 0.22 | 0.33 | 0.54 | 0.36 | 0.30 |

Appendix Table 104. Chemical composition of water samples from Del Rio Drain Site B in 1972.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ | |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|-------|
| | | | | (meq/l) | | | | | | | | | | | (ppm) |
| B | 1/ 3/72 | 1.47 | 7.00 | 15.99 | 15.36 | 7.03 | 1.82 | 6.94 | 0.20 | 3.55 | 0.0 | 4.05 | 7.75 | 0.62 | |
| B | 1/10/72 | 1.50 | 7.88 | 16.15 | 15.16 | 7.13 | 1.86 | 6.97 | 0.19 | 3.66 | 0.70 | 4.07 | 6.68 | 3.10 | |
| B | 1/17/72 | 1.50 | 6.82 | 12.45 | 15.56 | 3.98 | 1.89 | 6.40 | 0.18 | 3.65 | 0.0 | 4.70 | 7.14 | 4.34 | |
| B | 1/21/72 | 1.49 | 7.94 | 12.48 | 15.28 | 3.93 | 1.87 | 6.50 | 0.18 | 3.63 | 0.93 | 3.55 | 7.10 | 4.34 | |
| B | 1/29/72 | 1.42 | 7.82 | 12.25 | 15.27 | 3.93 | 1.87 | 6.27 | 0.18 | 3.60 | 0.82 | 3.86 | 6.92 | 4.34 | |
| B | 2/ 5/72 | 1.48 | 7.86 | 12.37 | 15.56 | 3.96 | 1.90 | 6.33 | 0.18 | 3.65 | 0.28 | 4.34 | 7.26 | 1.86 | |
| B | 2/26/72 | 1.54 | 7.76 | 15.37 | 15.65 | 6.64 | 1.87 | 6.56 | 0.30 | 4.05 | 0.0 | 4.25 | 7.35 | -- | |
| B | 3/11/72 | 1.31 | 8.08 | 12.46 | 13.27 | 5.05 | 1.71 | 5.51 | 0.19 | 3.31 | 0.62 | 3.73 | 5.61 | 0.0 | |
| B | 3/25/72 | 1.28 | 7.87 | 11.92 | 13.14 | 4.74 | 1.63 | 5.37 | 0.18 | 3.47 | 0.0 | 4.29 | 5.38 | -- | |
| B | 4/ 8/72 | 1.33 | 6.66 | 13.71 | 13.56 | 6.30 | 1.75 | 5.48 | 0.18 | 3.40 | 0.0 | 4.41 | 5.73 | 1.24 | |
| B | 4/21/72 | 1.38 | 7.43 | 14.48 | 14.78 | 6.32 | 1.81 | 6.17 | 0.18 | 3.52 | 0.0 | 4.24 | 7.02 | -- | |
| B | 5/19/72 | 1.37 | 7.38 | 12.45 | 14.38 | 4.23 | 1.84 | 6.14 | 0.24 | 3.49 | 1.04 | 3.47 | 6.38 | -- | |
| B | 6/ 2/72 | 1.30 | 7.11 | 13.56 | 14.18 | 4.95 | 1.84 | 6.54 | 0.23 | 3.55 | 0.0 | 4.36 | 6.27 | -- | |
| B | 6/24/72 | 1.30 | 7.77 | 13.95 | 13.80 | 5.95 | 1.73 | 6.03 | 0.24 | 3.43 | 0.48 | 3.64 | 6.25 | -- | |
| B | 7/ 7/72 | 1.28 | 7.55 | 13.25 | 13.11 | 5.79 | 1.65 | 5.58 | 0.23 | 3.38 | 0.70 | 3.42 | 5.61 | -- | |
| B | 7/21/72 | 1.26 | 7.89 | 11.77 | 13.16 | 3.80 | 1.69 | 6.05 | 0.23 | 3.34 | 1.20 | 2.95 | 5.67 | -- | |
| B | 8/ 3/72 | 1.24 | 7.71 | 11.51 | 11.23 | 3.55 | 1.68 | 6.05 | 0.23 | 3.29 | 0.20 | 1.85 | 5.89 | -- | |
| B | 8/18/72 | 1.24 | 7.65 | 11.87 | 11.81 | 3.90 | 1.65 | 6.09 | 0.23 | 3.34 | 0.44 | 2.31 | 5.72 | -- | |
| B | 9/ 1/72 | 1.26 | 8.06 | 13.05 | 12.67 | 5.10 | 1.68 | 6.05 | 0.22 | 3.38 | 0.70 | 2.81 | 5.78 | -- | |
| B | 9/15/72 | 1.27 | 7.75 | 13.94 | 13.12 | 5.85 | 1.71 | 6.15 | 0.23 | 3.40 | 0.0 | 3.83 | 5.89 | -- | |
| B | 9/29/72 | 1.36 | 7.75 | 14.64 | 15.35 | 6.24 | 1.74 | 6.42 | 0.24 | 3.69 | 0.64 | 3.75 | 7.27 | -- | |
| B | 10/13/72 | 1.44 | 7.48 | 15.61 | 15.92 | 6.77 | 1.85 | 6.74 | 0.25 | 3.84 | 0.40 | 4.06 | 7.62 | -- | |
| B | 10/27/72 | 1.37 | 7.98 | 14.27 | 14.16 | 5.56 | 1.91 | 6.56 | 0.24 | 3.66 | 0.86 | 2.69 | 6.95 | -- | |
| B | 11/10/72 | 1.46 | 7.72 | 13.09 | 12.98 | 4.30 | 1.96 | 6.60 | 0.23 | 3.84 | 0.44 | 1.82 | 6.88 | -- | |
| B | 11/24/72 | 1.46 | 7.56 | 14.93 | 14.16 | 6.24 | 2.01 | 6.45 | 0.23 | 3.85 | 0.30 | 2.87 | 7.14 | -- | |
| B | 12/ 8/72 | 1.46 | 7.80 | 14.00 | 14.33 | 5.25 | 2.14 | 6.38 | 0.23 | 3.83 | 0.96 | 3.17 | 6.37 | -- | |
| B | 12/22/72 | 1.46 | 7.35 | 15.20 | 15.46 | 6.40 | 2.09 | 6.49 | 0.22 | 3.80 | 0.46 | 3.72 | 7.48 | -- | |
| Mean | | 1.38 | 7.62 | 13.58 | 14.16 | 5.29 | 1.82 | 6.25 | 0.22 | 3.58 | 0.45 | 3.56 | 6.56 | 2.48 | |
| Std. Dev. | | 0.10 | 0.37 | 1.38 | 1.26 | 1.14 | 0.13 | 0.41 | 0.03 | 0.20 | 0.38 | 0.77 | 0.73 | 1.78 | |

Appendix Table 105. Chemical composition of water samples from Del Rio Drain Site B in 1973.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|---------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | (meq/l) | | | | | | (ppm) |
| B | 1/ 5/73 | 1.42 | 7.06 | 15.49 | 15.46 | 7.00 | 2.01 | 6.27 | 0.21 | 3.72 | 0.20 | 4.41 | 7.13 | -- |
| B | 1/19/73 | 1.41 | 6.78 | 13.65 | 13.64 | 5.05 | 1.89 | 6.50 | 0.21 | 3.79 | 0.14 | 3.77 | 5.94 | -- |
| B | 2/ 2/73 | 1.42 | 7.11 | 13.51 | 14.19 | 5.00 | 1.88 | 6.43 | 0.20 | 3.77 | 0.80 | 3.68 | 5.94 | -- |
| B | 2/16/73 | 1.41 | 7.28 | 12.58 | 14.66 | 3.72 | 1.82 | 6.81 | 0.23 | 3.70 | 1.48 | 3.50 | 5.94 | 2.60 |
| B | 3/ 9/73 | 1.43 | 7.10 | 15.86 | 14.77 | 6.73 | 1.88 | 7.00 | 0.25 | 3.82 | 0.0 | 4.47 | 6.38 | 5.95 |
| B | 3/16/73 | 1.32 | 7.71 | 14.06 | 13.96 | 5.65 | 1.64 | 6.49 | 0.28 | 3.86 | 1.28 | 3.48 | 5.30 | 2.20 |
| B | 3/23/73 | 1.21 | 7.40 | 12.63 | 12.25 | 5.11 | 1.52 | 5.74 | 0.26 | 3.32 | 0.40 | 4.02 | 4.48 | 2.10 |
| B | 3/30/73 | 1.20 | 7.34 | 12.63 | 9.66 | 5.15 | 1.56 | 5.66 | 0.26 | 3.35 | 0.0 | 2.70 | 3.59 | 1.00 |
| B | 4/ 6/73 | 1.26 | 7.35 | 12.95 | 10.59 | 5.23 | 1.54 | 5.93 | 0.25 | 3.40 | 0.0 | 3.96 | 3.22 | 0.45 |
| B | 4/13/73 | 1.24 | 7.48 | 13.08 | 10.80 | 5.38 | 1.59 | 5.88 | 0.23 | 3.48 | 0.0 | 4.20 | 3.11 | 0.45 |
| B | 4/21/73 | 1.24 | 6.61 | 13.09 | -- | 5.38 | 1.59 | 5.88 | 0.24 | 3.47 | 1.12 | 3.10 | -- | -- |
| B | 4/23/73 | 1.24 | 7.51 | 13.48 | 13.51 | 5.57 | 1.60 | 6.06 | 0.25 | 3.46 | 1.08 | 3.30 | 5.66 | 0.92 |
| B | 4/27/73 | 1.17 | 7.30 | 11.46 | 12.38 | 3.55 | 1.69 | 5.97 | 0.25 | 3.50 | 0.0 | 3.20 | 5.66 | 1.20 |
| B | 5/18/73 | 1.26 | 6.80 | 13.04 | 14.29 | 5.13 | 1.64 | 6.03 | 0.24 | 3.45 | 0.0 | 5.00 | 5.83 | 0.65 |
| B | 5/25/73 | 1.26 | 6.80 | 12.01 | 13.74 | 4.27 | 1.66 | 5.81 | 0.27 | 3.39 | 0.0 | 4.40 | 5.93 | 1.18 |
| B | 6/ 1/73 | 1.22 | 6.80 | 12.85 | 13.59 | 5.30 | 1.64 | 5.67 | 0.24 | 3.33 | 0.20 | 4.60 | 5.44 | 1.45 |
| B | 6/ 8/73 | 1.26 | 6.80 | 13.60 | 14.23 | 5.87 | 1.65 | 5.81 | 0.27 | 3.36 | 0.0 | 5.30 | 5.55 | 1.55 |
| B | 6/15/73 | 1.26 | 7.00 | 13.68 | 13.94 | 5.83 | 1.67 | 5.94 | 0.24 | 3.39 | 0.40 | 4.40 | 5.72 | 2.00 |
| B | 6/22/73 | 1.22 | 7.00 | 13.25 | 14.54 | 5.70 | 1.62 | 5.69 | 0.24 | 3.19 | 0.40 | 5.20 | 5.72 | 2.17 |
| B | 6/29/73 | 1.26 | 7.10 | 13.40 | 15.49 | 5.78 | 1.63 | 5.75 | 0.24 | 3.28 | 0.0 | 6.20 | 5.99 | 1.45 |
| B | 7/ 6/73 | 1.24 | 6.80 | 13.95 | 15.09 | 5.62 | 1.61 | 6.45 | 0.27 | 3.24 | 0.0 | 6.00 | 5.83 | 1.45 |
| B | 7/20/73 | 1.34 | 7.00 | 14.61 | 11.77 | 6.26 | 1.75 | 6.35 | 0.25 | 3.44 | 0.22 | 2.28 | 5.80 | 1.82 |
| B | 8/ 3/73 | 1.24 | 7.17 | 13.78 | 12.11 | 5.20 | 1.71 | 6.65 | 0.22 | 3.27 | 0.16 | 2.82 | 5.83 | 2.00 |
| B | 8/17/73 | 1.25 | 7.57 | 14.06 | 12.37 | 5.76 | 1.64 | 6.44 | 0.22 | 3.04 | 0.40 | 3.39 | 5.50 | 2.30 |
| B | 8/31/73 | 1.28 | 8.47 | 14.16 | 12.96 | 6.13 | 1.67 | 6.14 | 0.22 | 3.29 | 0.70 | 3.20 | 5.75 | 1.50 |
| B | 9/14/73 | 1.27 | -- | 14.56 | 12.92 | 6.47 | 1.70 | 6.14 | 0.25 | 3.25 | 0.55 | 3.32 | 5.75 | 2.82 |
| B | 9/28/73 | 1.29 | 8.40 | 12.52 | 14.04 | 4.06 | 1.67 | 6.55 | 0.24 | 3.25 | 0.65 | 3.65 | 6.44 | 2.96 |
| B | 10/12/73 | 1.35 | 8.28 | 15.49 | 15.67 | 6.76 | 1.74 | 6.77 | 0.22 | 3.48 | 0.55 | 3.70 | 7.89 | 3.15 |
| B | 10/26/73 | 1.39 | 8.19 | 16.21 | 15.72 | 6.98 | 1.80 | 7.20 | 0.23 | 4.28 | 0.35 | 4.12 | 6.91 | 3.51 |
| B | 11/ 9/73 | 1.35 | 8.38 | 13.91 | 14.42 | 4.15 | 1.95 | 7.51 | 0.30 | 3.61 | 0.0 | 4.34 | 6.42 | 2.98 |
| B | 11/26/73 | 1.32 | 8.49 | 12.48 | 12.96 | 4.95 | 1.85 | 5.46 | 0.22 | 3.61 | 0.55 | 2.45 | 6.30 | 3.02 |
| B | 12/10/73 | 1.38 | 8.47 | 12.98 | 13.11 | 5.85 | 1.79 | 5.12 | 0.22 | 3.53 | 0.30 | 2.62 | 6.63 | 2.05 |
| B | 12/21/73 | 1.31 | 8.19 | 12.44 | 13.17 | 4.95 | 1.84 | 5.42 | 0.23 | 3.08 | 0.20 | 3.02 | 6.83 | 2.62 |
| Mean | | 1.29 | 7.43 | 13.56 | 13.50 | 5.44 | 1.71 | 6.17 | 0.24 | 3.47 | 0.37 | 3.87 | 5.76 | 2.05 |
| Std. Dev. | | 0.07 | 0.60 | 1.09 | 1.48 | 0.87 | 0.12 | 0.53 | 0.02 | 0.25 | 0.41 | 0.96 | 1.01 | 1.12 |

Appendix Table 106. Chemical composition of water samples from Del Rio Drain Site B in 1974.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|---------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | | | | | (meq/l) | | | | | | (ppm) |
| B | 1/ 4/74 | 1.38 | 8.08 | 13.45 | 14.21 | 6.42 | 1.82 | 4.99 | 0.22 | 3.48 | 0.20 | 4.08 | 6.42 | 1.85 |
| B | 1/18/74 | 1.35 | 7.75 | 14.01 | 14.70 | 5.15 | 1.89 | 6.70 | 0.27 | 3.64 | 0.0 | 4.55 | 6.50 | 0.89 |
| B | 2/ 5/74 | 1.23 | 8.06 | 13.89 | 14.46 | 5.05 | 1.73 | 6.88 | 0.23 | 3.81 | 0.18 | 3.98 | 6.46 | 1.78 |
| B | 2/19/74 | 1.37 | 7.98 | 16.92 | 16.22 | 6.60 | 1.87 | 8.12 | 0.33 | 4.72 | 0.75 | 4.18 | 6.54 | 1.84 |
| B | 3/ 5/74 | 1.33 | 8.01 | 15.58 | 15.08 | 6.65 | 1.79 | 6.86 | 0.28 | 3.96 | 0.46 | 4.13 | 6.50 | 1.93 |
| B | 3/19/74 | 1.30 | 7.89 | 14.25 | -- | 6.05 | 1.72 | 6.23 | 0.25 | -- | 0.44 | 3.78 | 5.45 | 1.18 |
| B | 4/ 2/74 | 1.25 | -- | 13.94 | 13.27 | 5.72 | 1.68 | 6.31 | 0.23 | 3.43 | 0.16 | 3.94 | 5.74 | 0.0 |
| B | 4/16/74 | 1.15 | 7.82 | 14.41 | 13.85 | 6.12 | 1.77 | 6.30 | 0.22 | 3.58 | 0.0 | 4.37 | 5.90 | 0.09 |
| B | 4/30/74 | 1.15 | 7.86 | 13.96 | 13.56 | 5.62 | 1.73 | 6.40 | 0.21 | 3.52 | 0.0 | 4.18 | 5.86 | 0.01 |
| B | 5/14/74 | 1.14 | 7.96 | 13.44 | 13.36 | 5.86 | 1.70 | 5.59 | 0.29 | 3.37 | 0.22 | 3.98 | 5.78 | 0.54 |
| B | 5/28/74 | 1.28 | 7.98 | 13.69 | 12.76 | 5.66 | 1.68 | 6.13 | 0.22 | 3.11 | 0.24 | 3.96 | 5.45 | 0.08 |
| B | 6/11/74 | 1.25 | 7.93 | 13.70 | 12.82 | 5.78 | 1.59 | 6.12 | 0.21 | 3.01 | 0.0 | 4.28 | 5.53 | 0.0 |
| B | 6/25/74 | 1.17 | 8.20 | 13.79 | 13.44 | 5.38 | 1.52 | 6.59 | 0.30 | 3.54 | 0.08 | 4.20 | 5.61 | 0.86 |
| B | 7/ 9/74 | 1.29 | 7.76 | 13.90 | 13.31 | 5.88 | 1.23 | 6.55 | 0.24 | 3.31 | 0.0 | 4.22 | 5.78 | 0.08 |
| B | 7/23/74 | 1.22 | 8.15 | 13.83 | 13.11 | 5.53 | 1.60 | 6.47 | 0.23 | 3.22 | 0.06 | 4.20 | 5.61 | 1.20 |
| B | 8/ 6/74 | 1.24 | 8.22 | 14.30 | 13.48 | 6.00 | 1.67 | 6.37 | 0.26 | 3.43 | 0.28 | 4.04 | 5.70 | 1.62 |
| B | 8/20/74 | 1.19 | 8.07 | 14.10 | 13.86 | 5.80 | 1.58 | 6.50 | 0.22 | 3.52 | 0.0 | 4.42 | 5.90 | 1.36 |
| B | 9/ 3/74 | 1.29 | 8.14 | 14.37 | 14.10 | 5.74 | 1.74 | 6.66 | 0.23 | 3.30 | 0.20 | 4.32 | 6.26 | 1.12 |
| B | 9/17/74 | 1.25 | 8.24 | 15.14 | 15.16 | 6.65 | 1.77 | 6.50 | 0.22 | 3.31 | 0.12 | 4.40 | 7.31 | 1.14 |
| B | 10/ 1/74 | 1.40 | 8.30 | 14.95 | 15.32 | 6.49 | 1.84 | 6.40 | 0.22 | 3.43 | 0.40 | 4.38 | 7.11 | 0.0 |
| B | 10/15/74 | 1.28 | 7.97 | 14.08 | 13.52 | 5.88 | 1.59 | 6.40 | 0.21 | 3.21 | 0.0 | 4.46 | 5.82 | 2.10 |
| B | 10/29/74 | 1.28 | 8.01 | 13.91 | 14.71 | 5.84 | 1.53 | 6.33 | 0.21 | 3.41 | 0.0 | 4.56 | 6.71 | 1.72 |
| B | 11/12/74 | 1.28 | 8.30 | 14.59 | 14.50 | 6.22 | 1.64 | 6.52 | 0.21 | 3.50 | 0.0 | 4.60 | 6.36 | 2.77 |
| B | 11/26/74 | 1.27 | 8.12 | 13.89 | 14.73 | 5.48 | 1.44 | 6.76 | 0.21 | 3.58 | 0.0 | 4.64 | 6.48 | 1.68 |
| B | 12/10/74 | 1.28 | 8.08 | 14.03 | 14.35 | 5.81 | 1.71 | 6.29 | 0.22 | 3.53 | 0.0 | 4.18 | 6.63 | 0.78 |
| Mean | | 1.26 | 8.04 | 14.24 | 14.08 | 5.90 | 1.67 | 6.44 | 0.24 | 3.50 | 0.15 | 4.24 | 6.14 | 1.06 |
| Std. Dev. | | 0.07 | 0.16 | 0.75 | 0.87 | 0.43 | 0.15 | 0.52 | 0.03 | 0.33 | 0.19 | 0.23 | 0.52 | 0.80 |

Appendix Table 107. Chemical composition of water samples from Del Rio Drain Site B in 1975.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|---------------------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| ----- (mcq/l) ----- | | | | | | | | | | | | | | |
| ----- (ppm) ----- | | | | | | | | | | | | | | |
| B | 1/ 1/75 | 1.41 | 4.03 | 14.87 | -- | 6.08 | 1.65 | 5.92 | 0.22 | 3.48 | 0.0 | -- | 6.75 | 0.07 |
| B | 1/14/75 | 1.33 | 8.00 | 15.18 | 15.65 | 6.54 | 1.71 | 6.72 | 0.21 | 3.67 | 0.0 | 5.28 | 6.67 | 1.85 |
| B | 1/28/75 | 1.26 | 8.09 | 14.98 | 14.38 | 6.34 | 1.82 | 6.61 | 0.21 | 3.62 | 0.0 | 4.56 | 6.20 | 0.0 |
| B | 2/10/75 | 1.34 | 8.36 | 15.52 | 14.78 | 6.58 | 1.84 | 6.88 | 0.22 | 3.59 | 0.0 | 4.60 | 6.56 | 1.80 |
| B | 2/24/75 | 1.36 | 8.29 | 16.25 | 15.17 | 7.08 | 1.91 | 7.05 | 0.21 | 3.77 | 0.0 | 4.58 | 6.80 | 1.51 |
| B | 3/10/75 | 1.27 | 8.17 | 14.81 | 14.10 | 6.42 | 1.69 | 6.49 | 0.21 | 3.56 | 0.32 | 4.16 | 6.04 | 1.47 |
| B | 3/24/75 | 1.24 | 8.39 | 13.36 | 13.38 | 5.19 | 1.75 | 6.22 | 0.20 | 3.45 | 0.0 | 4.36 | 5.56 | 0.75 |
| B | 4/ 7/75 | 1.17 | 8.04 | 13.94 | 12.44 | 5.98 | 1.65 | 6.11 | 0.20 | 3.58 | 0.0 | 2.86 | 6.00 | 0.0 |
| B | 4/21/75 | 1.28 | 7.84 | 14.23 | 13.68 | 6.02 | 1.65 | 6.37 | 0.19 | 3.63 | 0.0 | 4.22 | 5.80 | 1.71 |
| B | 5/ 5/75 | 1.27 | 8.28 | 13.84 | 14.47 | 5.69 | 1.67 | 6.27 | 0.21 | 3.40 | 0.0 | 4.22 | 6.84 | 0.56 |
| B | 5/19/75 | 1.27 | 8.24 | 14.39 | 13.44 | 5.81 | 1.73 | 6.65 | 0.20 | 3.31 | 0.0 | 4.28 | 5.84 | 0.40 |
| B | 6/ 2/75 | 1.22 | 8.10 | 13.98 | 12.83 | 5.81 | 1.69 | 6.28 | 0.20 | 3.16 | 0.0 | 4.22 | 5.44 | 0.75 |
| B | 6/16/75 | 1.23 | 7.70 | 11.64 | 12.80 | 5.06 | 1.48 | 4.85 | 0.25 | 3.15 | 0.0 | 4.24 | 5.40 | 0.87 |
| B | 6/30/75 | 1.25 | 8.65 | 14.07 | 13.48 | 5.81 | 1.68 | 6.36 | 0.22 | 3.10 | 0.48 | 3.70 | 6.20 | 0.0 |
| B | 7/14/75 | 1.24 | 8.57 | 13.64 | 12.50 | 5.49 | 1.61 | 6.32 | 0.22 | 3.15 | 0.16 | 3.74 | 5.44 | 0.63 |
| B | 7/28/75 | 1.22 | 7.65 | 13.09 | 13.23 | 5.17 | 1.51 | 6.21 | 0.20 | 2.90 | 0.0 | 4.24 | 6.08 | 0.55 |
| B | 8/11/75 | 1.27 | 7.90 | 13.77 | 13.36 | 5.68 | 1.62 | 6.27 | 0.20 | 3.18 | 0.0 | 4.08 | 6.08 | 1.17 |
| B | 8/25/75 | 1.30 | 7.40 | 13.19 | 13.95 | 5.52 | 1.61 | 5.77 | 0.29 | 3.14 | 0.0 | 3.72 | 7.09 | 0.28 |
| B | 9/ 8/75 | 1.18 | 8.17 | 13.60 | 12.49 | 5.11 | 1.45 | 6.82 | 0.22 | 2.94 | 0.0 | 4.22 | 5.33 | 0.0 |
| B | 9/23/75 | 1.30 | 7.98 | 14.21 | 13.74 | 6.00 | 1.61 | 6.37 | 0.23 | 3.16 | 0.0 | 4.54 | 6.01 | 1.58 |
| B | 10/ 7/75 | 1.30 | 7.60 | 13.87 | 13.56 | 5.90 | 1.83 | 5.91 | 0.23 | 3.15 | 0.0 | 4.62 | 5.76 | 1.86 |
| B | 10/21/75 | 1.33 | 7.94 | 14.61 | 13.69 | 6.70 | 1.77 | 5.89 | 0.25 | 3.39 | 0.0 | 4.14 | 6.16 | 0.0 |
| B | 11/ 4/75 | 1.14 | 8.15 | 14.50 | 14.18 | 6.66 | 1.80 | 5.83 | 0.21 | 3.42 | 0.0 | 4.60 | 6.16 | 0.12 |
| B | 11/18/75 | 1.25 | 8.30 | 14.15 | 14.64 | 6.23 | 1.74 | 5.97 | 0.21 | 3.46 | 0.0 | 4.60 | 6.53 | 2.95 |
| B | 12/ 2/75 | 1.31 | 8.03 | 14.02 | 13.65 | 6.22 | 1.76 | 5.79 | 0.25 | 3.36 | 0.0 | 4.52 | 5.73 | 2.42 |
| B | 12/16/75 | 1.13 | 8.11 | 12.96 | 14.01 | 5.24 | 1.66 | 5.84 | 0.22 | 3.46 | 0.0 | 4.56 | 5.96 | 1.91 |
| B | 12/30/75 | 1.27 | 7.85 | 14.23 | 14.08 | 6.36 | 1.65 | 5.99 | 0.23 | 3.60 | 0.0 | 4.64 | 5.84 | 0.0 |
| Mean | | 1.26 | 7.92 | 14.11 | 13.76 | 5.95 | 1.69 | 6.25 | 0.22 | 3.36 | 0.04 | 4.29 | 6.08 | 0.93 |
| Std. Dev. | | 0.06 | 0.83 | 0.89 | 0.81 | 0.54 | 0.11 | 0.46 | 0.02 | 0.23 | 0.11 | 0.45 | 0.48 | 0.86 |

Appendix Table 108. Chemical composition of water samples from Del Rio Drain Site B in 1976.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | (ppm) | | |
| B | 1/13/76 | 1.30 | 8.02 | 15.00 | 14.41 | 6.77 | 1.86 | 6.15 | 0.22 | 3.57 | 0.0 | 4.78 | 6.06 | 0.0 |
| B | 1/26/76 | 1.29 | 8.21 | 13.56 | 13.92 | 6.06 | 1.76 | 5.54 | 0.20 | 3.35 | 0.0 | 4.93 | 5.62 | 1.09 |
| B | 2/ 7/76 | 1.28 | 7.69 | 14.26 | 14.16 | 6.34 | 1.82 | 5.88 | 0.22 | 3.48 | 0.0 | 5.13 | 5.55 | 0.12 |
| B | 2/21/76 | 1.22 | 8.28 | 14.99 | 15.11 | 5.91 | 1.91 | 6.95 | 0.22 | 3.67 | 0.79 | 4.76 | 5.86 | 2.06 |
| R | 3/ 6/76 | 1.22 | 8.25 | 14.98 | 14.42 | 6.18 | 1.78 | 6.81 | 0.21 | 3.46 | 0.0 | 5.45 | 5.49 | 1.25 |
| B | 3/20/76 | 1.13 | 8.38 | 13.95 | 13.55 | 5.62 | 1.70 | 6.43 | 0.20 | 3.28 | 0.24 | 4.64 | 5.37 | 1.45 |
| B | 4/ 3/76 | 1.19 | 8.31 | 14.93 | 14.44 | 6.11 | 1.72 | 6.88 | 0.22 | 3.38 | 0.0 | 5.44 | 5.59 | 1.60 |
| E | 4/10/76 | 1.16 | 8.38 | 13.94 | 13.54 | 6.03 | 1.61 | 6.09 | 0.21 | 3.26 | 0.16 | 4.80 | 5.28 | 2.30 |
| B | 5/ 1/76 | 1.17 | 7.98 | 13.57 | 13.38 | 5.03 | 1.69 | 6.64 | 0.21 | 3.18 | 0.0 | 4.20 | 5.98 | 1.04 |
| B | 5/15/76 | 1.22 | 8.40 | 14.22 | 13.98 | 5.55 | 1.70 | 6.76 | 0.21 | 3.34 | 0.77 | 3.81 | 6.04 | 1.19 |
| B | 5/28/76 | 1.16 | 7.80 | 12.03 | 12.78 | 5.15 | 1.54 | 5.14 | 0.20 | 3.08 | 0.73 | 3.75 | 5.20 | 1.00 |
| B | 6/11/76 | 1.25 | 8.30 | 12.90 | 12.60 | 5.43 | 1.64 | 5.64 | 0.19 | 3.22 | 0.0 | 3.52 | 5.84 | 1.11 |
| B | 6/28/76 | 1.22 | 8.54 | 12.75 | 12.01 | 4.81 | 1.64 | 6.09 | 0.21 | 3.19 | 0.64 | 2.72 | 5.44 | 1.09 |
| B | 7/13/76 | 1.14 | 8.17 | 13.32 | 12.87 | 5.68 | 1.64 | 5.79 | 0.21 | 3.07 | 0.64 | 3.86 | 5.28 | 1.30 |
| B | 7/26/76 | 1.19 | 8.58 | 13.73 | 13.30 | 5.51 | 1.73 | 6.31 | 0.18 | 3.11 | 0.76 | 3.90 | 5.48 | 3.19 |
| B | 8/11/76 | 1.04 | 8.48 | 11.62 | 12.12 | 4.88 | 1.48 | 5.06 | 0.20 | 2.91 | 0.76 | 3.02 | 5.40 | 1.78 |
| B | 8/25/76 | 1.04 | 8.59 | 12.20 | 12.44 | 4.42 | 1.67 | 5.91 | 0.20 | 2.97 | 0.60 | 2.58 | 6.28 | 0.66 |
| B | 9/ 7/76 | 1.14 | 8.64 | 13.49 | 13.75 | 5.71 | 1.65 | 5.94 | 0.19 | 2.98 | 1.12 | 3.46 | 6.16 | 1.78 |
| B | 9/23/76 | 1.18 | 8.53 | 12.95 | 13.45 | 5.36 | 1.54 | 5.85 | 0.20 | 2.94 | 0.88 | 3.54 | 6.04 | 3.38 |
| B | 10/ 5/76 | 1.25 | 8.25 | 13.42 | 14.04 | 5.57 | 1.58 | 6.08 | 0.19 | 3.06 | 0.72 | 3.98 | 6.24 | 2.20 |
| B | 10/19/76 | 1.19 | 8.32 | 12.97 | 14.85 | 4.81 | 1.82 | 6.15 | 0.19 | 3.11 | 0.84 | 3.68 | 7.20 | 1.30 |
| B | 11/ 2/76 | 1.21 | 8.51 | 14.68 | 14.81 | 6.56 | 1.85 | 6.08 | 0.19 | 3.18 | 0.84 | 4.00 | 6.76 | 1.79 |
| F | 11/16/76 | 1.28 | 7.94 | 14.78 | 14.84 | 6.49 | 1.78 | 6.32 | 0.19 | 3.38 | 0.0 | 5.00 | 6.44 | 1.50 |
| B | 11/30/76 | 1.22 | 8.04 | 14.52 | 14.96 | 6.25 | 1.78 | 6.31 | 0.18 | 3.38 | 0.60 | 4.20 | 6.76 | 1.40 |
| B | 12/14/76 | 1.25 | 7.94 | 15.31 | 15.34 | 6.73 | 1.75 | 6.64 | 0.19 | 3.34 | 0.0 | 4.98 | 7.00 | 1.35 |
| B | 12/28/76 | 1.24 | 7.60 | 15.19 | 15.41 | 6.39 | 1.84 | 6.76 | 0.20 | 3.61 | 0.0 | 4.66 | 7.12 | 1.40 |
| Mean | | 1.20 | 8.24 | 13.82 | 13.86 | 5.74 | 1.71 | 6.16 | 0.20 | 3.25 | 0.43 | 4.18 | 5.98 | 1.47 |
| Std. Dev. | | 0.07 | 0.29 | 1.03 | 0.99 | 0.64 | 0.11 | 0.50 | 0.01 | 0.21 | 0.39 | 0.79 | 0.60 | 0.75 |

Appendix Table 109. Chemical composition of water samples from Del Rio Drain Site B in 1977.

| Site | Date | ECx10 ³ | pH | Cations | Anions | Ca | Mg | Na | K | Cl | CO ₃ | HCO ₃ | SO ₄ | NO ₃ |
|-----------|----------|--------------------|------|---------|--------|------|------|------|------|------|-----------------|------------------|-----------------|-----------------|
| | | | | (meq/l) | | | | | | | | | | (ppm) |
| B | 1/11/77 | 1.34 | 7.99 | 14.50 | 14.69 | 6.58 | 1.84 | 5.88 | 0.20 | 3.45 | 0.0 | 4.62 | 6.60 | 1.30 |
| E | 1/26/77 | 1.39 | 8.08 | 15.28 | 15.31 | 6.64 | 1.93 | 6.52 | 0.19 | 3.58 | 0.0 | 4.34 | 7.36 | 1.65 |
| B | 2/ 9/77 | 1.42 | 8.36 | 13.95 | 13.73 | 5.99 | 1.70 | 6.06 | 0.20 | 3.63 | 0.0 | 3.28 | 6.80 | 1.35 |
| B | 2/23/77 | 1.43 | 8.11 | 15.34 | 14.98 | 6.47 | 1.92 | 6.73 | 0.22 | 3.61 | 0.0 | 4.76 | 6.54 | 4.35 |
| B | 3/ 9/77 | 1.34 | 8.09 | 13.54 | 14.07 | 5.74 | 1.68 | 5.91 | 0.21 | 3.47 | 0.0 | 4.48 | 6.11 | 0.80 |
| B | 3/23/77 | 1.23 | 8.18 | 12.52 | 12.97 | 5.54 | 1.56 | 5.20 | 0.22 | 3.15 | 0.44 | 3.68 | 5.69 | 0.45 |
| B | 4/ 6/77 | 1.27 | 8.67 | 13.45 | 13.51 | 5.72 | 1.72 | 5.82 | 0.19 | 3.36 | 0.92 | 3.30 | 5.93 | 0.17 |
| B | 4/20/77 | 1.12 | 8.48 | 12.12 | 12.48 | 5.14 | 1.55 | 5.24 | 0.19 | 3.11 | 0.64 | 3.30 | 5.42 | 0.50 |
| B | 5/ 4/77 | 1.25 | 8.74 | 12.97 | 13.63 | 5.39 | 1.61 | 5.78 | 0.19 | 3.30 | 1.08 | 2.98 | 6.27 | -- |
| B | 6/ 1/77 | 1.24 | 8.07 | 12.74 | 13.09 | 5.38 | 1.60 | 5.56 | 0.20 | 3.22 | 0.0 | 4.14 | 5.72 | 0.80 |
| B | 7/13/77 | 1.24 | 7.95 | 12.87 | 13.41 | 5.31 | 1.50 | 5.87 | 0.19 | 3.19 | 0.64 | 3.66 | 5.92 | -- |
| B | 8/ 3/77 | 1.24 | 7.27 | 12.64 | 13.04 | 5.44 | 1.43 | 5.58 | 0.19 | 2.99 | 0.0 | 4.32 | 5.72 | 0.87 |
| B | 9/15/77 | 1.24 | 8.09 | 12.56 | 13.08 | 5.32 | 1.55 | 5.50 | 0.19 | 3.05 | 0.0 | 4.30 | 5.72 | 0.90 |
| B | 10/ 6/77 | 1.27 | 8.19 | 12.88 | 13.34 | 5.60 | 1.52 | 5.56 | 0.20 | 3.05 | 0.0 | 4.12 | 6.16 | 0.90 |
| B | 12/ 8/77 | 1.42 | 8.13 | 14.27 | 14.19 | 5.51 | 1.62 | 6.89 | 0.25 | 3.59 | 0.0 | 4.56 | 6.03 | 0.85 |
| Mean | | 1.30 | 8.16 | 13.44 | 13.70 | 5.72 | 1.65 | 5.87 | 0.20 | 3.32 | 0.25 | 3.99 | 6.13 | 1.15 |
| Std. Dev. | | 0.09 | 0.34 | 1.02 | 0.80 | 0.48 | 0.15 | 0.50 | 0.02 | 0.23 | 0.39 | 0.57 | 0.51 | 1.04 |

Appendix Table 110. EC (mmhos/cm) and Flow (m³/sec) at Del Rio drain sites A and B during 1972.

| Site A | | | Site B | | |
|---------------|----------------------------------|-------------------------------|---------------|----------------------------------|-------------------------------|
| Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) | Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) |
| 1-03-72 | 1.41 | .340 | 1-03-72 | 1.47 | .429 |
| 1-10-72 | 1.48 | .350 | 1-10-72 | 1.50 | .436 |
| 1-17-72 | 1.44 | .344 | 1-17-72 | 1.50 | .446 |
| 1-21-72 | 1.43 | .313 | 1-21-72 | 1.49 | .419 |
| 1-29-72 | 1.37 | .305 | 1-29-72 | 1.42 | .441 |
| 2-05-72 | 1.43 | .321 | 2-05-72 | 1.48 | .408 |
| 2-12-72 | 1.40 | .318 | 2-12-72 | 1.45 | .414 |
| 2-26-72 | 1.48 | .269 | 2-26-72 | 1.54 | .400 |
| 3-04-72 | 1.44 | .285 | 3-04-72 | 1.50 | .367 |
| 3-11-72 | 1.28 | .644 | 3-11-72 | 1.31 | .688 |
| 3-18-72 | 1.27 | .698 | 3-18-72 | 1.31 | .731 |
| 3-25-72 | 1.25 | .810 | 3-25-72 | 1.28 | .887 |
| 4-01-72 | 1.22 | .740 | 4-01-72 | 1.24 | .864 |
| 4-08-72 | 1.29 | .653 | 4-08-72 | 1.33 | .728 |
| 4-15-72 | 1.27 | .660 | 4-15-72 | 1.35 | .764 |
| 4-21-72 | 1.38 | .544 | 4-21-72 | 1.38 | .669 |
| 5-06-72 | 1.29 | .550 | 4-29-72 | 1.33 | .659 |
| 5-13-72 | 1.28 | .569 | 5-06-72 | 1.33 | .668 |
| 5-19-72 | 1.32 | .502 | 5-13-72 | 1.34 | .637 |
| 5-26-72 | 1.41 | .448 | 5-19-72 | 1.37 | .612 |
| 6-02-72 | 1.27 | .413 | 5-26-72 | 1.51 | .514 |
| 6-17-72 | 1.34 | .298 | 6-02-72 | 1.30 | .498 |
| 6-24-72 | 1.26 | .431 | 6-17-72 | 1.38 | .358 |
| 6-30-72 | 1.22 | .527 | 6-24-72 | 1.30 | .492 |
| 7-07-72 | 1.26 | .575 | 6-30-72 | 1.24 | .537 |
| 7-14-72 | 1.26 | .517 | 7-07-72 | 1.28 | .650 |
| 7-21-72 | 1.26 | .614 | 7-14-72 | 1.26 | .592 |
| 7-28-72 | 1.24 | .633 | 7-21-72 | 1.26 | .681 |
| 8-03-72 | 1.20 | .724 | 7-28-72 | 1.24 | .691 |
| 8-12-72 | 1.28 | .643 | 8-03-72 | 1.24 | .814 |
| 8-18-72 | 1.20 | .633 | 8-12-72 | 1.26 | .771 |
| 8-24-72 | 1.18 | .682 | 8-18-72 | 1.24 | .782 |
| 9-01-72 | 1.24 | .662 | 8-24-72 | 1.26 | .782 |
| 9-07-72 | 1.24 | .585 | 9-01-72 | 1.26 | .825 |
| 9-15-72 | 1.22 | .613 | 9-07-72 | 1.28 | .691 |
| 9-22-72 | 1.26 | .390 | 9-15-72 | 1.27 | .708 |
| 9-29-72 | 1.32 | .282 | 9-22-72 | 1.32 | .604 |
| 10-06-72 | 1.37 | .170 | 9-29-72 | 1.36 | .468 |
| 10-13-72 | 1.40 | .084 | 10-06-72 | 1.42 | .394 |
| 10-19-72 | 1.39 | .181 | 10-13-76 | 1.44 | .308 |
| 10-27-72 | 1.30 | .217 | 10-19-72 | 1.42 | .405 |
| 11-03-72 | 1.30 | .181 | 10-27-72 | 1.37 | .426 |
| 11-10-72 | 1.38 | .136 | 11-03-72 | 1.36 | .421 |
| 11-16-72 | 1.36 | .084 | 11-10-72 | 1.46 | .369 |
| 11-24-72 | 1.39 | .104 | 11-16-72 | 1.45 | .337 |
| 12-01-72 | 1.36 | .131 | 11-24-72 | 1.46 | .346 |
| 12-08-72 | 1.40 | .187 | 12-01-72 | 1.44 | .333 |
| 12-15-72 | 1.38 | .211 | 12-08-72 | 1.46 | .384 |
| 12-22-72 | 1.40 | .164 | 12-15-72 | 1.46 | .360 |
| 12-29-72 | 1.39 | .153 | 12-22-72 | 1.46 | .234 |
| | | | 12-29-72 | 1.42 | .246 |
| Mean | 1.32 | .418 | Mean | 1.37 | .543 |
| SD | .08 | .209 | SD | .09 | .177 |
| Weighted mean | 1.29 | | Weighted mean | 1.34 | |

Appendix Table-111. EC(mmhos/cm) and flow (m³/sec) at Del Rio drain sites A and B during 1973.

| Site A | | | Site B | | |
|---------------|----------------------------------|-------------------------------|---------------|----------------------------------|-------------------------------|
| Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) | Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) |
| 1-05-73 | 1.34 | .125 | 1-05-73 | 1.42 | .261 |
| 1-12-73 | 1.37 | .089 | 1-12-73 | 1.43 | .243 |
| 1-19-73 | 1.35 | .074 | 1-19-73 | 1.41 | .237 |
| 1-26-73 | 1.34 | .099 | 1-26-73 | 1.40 | .240 |
| 2-02-73 | 1.36 | .120 | 2-02-73 | 1.42 | .234 |
| 2-09-73 | 1.35 | .125 | 2-09-73 | 1.38 | .237 |
| 2-16-73 | 1.36 | .153 | 2-16-73 | 1.41 | .246 |
| 2-23-73 | 1.39 | .703 | 2-23-73 | 1.39 | .691 |
| 3-02-73 | 1.50 | .462 | 3-02-73 | 1.52 | .500 |
| 3-09-73 | 1.37 | .125 | 3-09-73 | 1.43 | .293 |
| 3-16-73 | 1.29 | .375 | 3-16-73 | 1.32 | .415 |
| 3-23-73 | 1.18 | .643 | 3-23-73 | 1.21 | .596 |
| 3-30-73 | 1.18 | .714 | 3-30-73 | 1.20 | .691 |
| 4-06-73 | 1.23 | .881 | 4-06-73 | 1.26 | .837 |
| 4-13-73 | 1.21 | .881 | 4-13-73 | 1.24 | 1.029 |
| 4-21-73 | 1.35 | 1.006 | 4-21-73 | 1.24 | 1.215 |
| 4-23-73 | 1.21 | -- | 4-23-73 | 1.24 | -- |
| 4-27-73 | 1.16 | 1.006 | 4-27-73 | 1.17 | 1.321 |
| 5-04-73 | 1.22 | 1.032 | 5-18-73 | 1.26 | .721 |
| 5-12-73 | 1.24 | .678 | 5-25-73 | 1.26 | .709 |
| 5-18-73 | 1.20 | .670 | 6-01-73 | 1.22 | .778 |
| 5-25-73 | 1.19 | .658 | 6-08-73 | 1.26 | .876 |
| 6-01-73 | 1.18 | .707 | 6-15-73 | 1.26 | .908 |
| 6-08-73 | 1.14 | .736 | 6-22-73 | 1.22 | .957 |
| 6-15-73 | 1.19 | .826 | 6-29-73 | 1.26 | 1.029 |
| 6-22-73 | 1.15 | .894 | 7-06-73 | 1.24 | 1.146 |
| 6-29-73 | 1.20 | .984 | 7-13-73 | 1.24 | 1.208 |
| 7-06-73 | 1.19 | 1.033 | 7-20-73 | 1.34 | 1.112 |
| 7-13-73 | 1.14 | 1.100 | 7-27-73 | 1.30 | 1.121 |
| 7-20-73 | 1.26 | .973 | 8-03-73 | 1.24 | 1.093 |
| 7-27-73 | 1.21 | .941 | 8-10-73 | 1.19 | 1.312 |
| 8-03-73 | 1.22 | .891 | 8-17-73 | 1.25 | 1.444 |
| 8-10-73 | 1.14 | 1.122 | 8-24-73 | 1.27 | 1.283 |
| 8-17-73 | 1.18 | 1.083 | 8-31-73 | 1.28 | 1.411 |
| 8-24-73 | 1.18 | 1.097 | 9-07-73 | 1.30 | -- |
| 8-31-73 | 1.18 | 1.179 | 9-14-73 | 1.27 | -- |
| 9-07-73 | 1.22 | -- | 9-21-73 | 1.28 | .923 |
| 9-14-73 | 1.18 | -- | 9-28-73 | 1.29 | 1.178 |
| 9-21-73 | 1.20 | .893 | 10-05-73 | 1.34 | .996 |
| 9-28-73 | 1.21 | .940 | 10-12-73 | 1.35 | .738 |
| 10-05-73 | 1.25 | -- | 10-19-73 | 1.38 | 1.122 |
| 10-12-73 | 1.28 | .574 | 10-26-73 | 1.39 | -- |
| 10-19-73 | 1.29 | .633 | 11-03-73 | 1.32 | .692 |
| 10-26-73 | 1.31 | -- | 11-09-73 | 1.35 | .607 |
| 11-03-73 | 1.22 | .556 | 11-16-73 | 1.40 | .575 |
| 11-09-73 | 1.26 | .496 | 11-26-73 | 1.32 | .531 |
| 11-16-73 | 1.29 | .387 | 11-30-73 | 1.34 | -- |
| 11-26-73 | 1.33 | .473 | 12-10-73 | 1.38 | -- |
| 11-30-73 | 1.20 | -- | 12-21-73 | 1.31 | .501 |
| 12-10-73 | 1.24 | -- | 12-28-73 | 1.40 | -- |
| 12-14-73 | 1.30 | -- | | | |
| 12-21-73 | 1.29 | .338 | | | |
| 12-28-73 | 1.41 | -- | | | |
| Mean | 1.25 | .670 | Mean | 1.31 | .797 |
| SD | .08 | .341 | SD | .08 | .371 |
| Weighted mean | 1.22 | | Weighted mean | 1.28 | |

Appendix Table 112. EC(mmhos/cm) and flow (m³/sec) at Del Rio drain sites A & B during 1974.

| Site A | | | Site B | | |
|---------------|---------------------------------|-------------------------------|---------------|---------------------------------|-------------------------------|
| Date | ECx10 ³ (mmho/cm) | Flow (m ³ /sec) | Date | ECx10 ³ (mmho/cm) | Flow (m ³ /sec) |
| 1-04-74 | 1.26 | .425 | 1-04-74 | 1.38 | .528 |
| 1-11-74 | 2.12 | .385 | 1-11-74 | 1.37 | .494 |
| 1-18-74 | 1.28 | .356 | 1-18-74 | 1.35 | .479 |
| 1-29-74 | 1.25 | .355 | 1-29-74 | 1.23 | .499 |
| 2-05-74 | 1.27 | .593 | 2-05-74 | 1.23 | .759 |
| 2-12-74 | 1.30 | .567 | 2-12-74 | 1.24 | .692 |
| 2-19-74 | 1.33 | .461 | 2-19-74 | 1.37 | .597 |
| 2-26-74 | 1.35 | .399 | 2-26-74 | 1.48 | .507 |
| 3-05-74 | 1.25 | .310 | 3-05-74 | 1.33 | .405 |
| 3-12-74 | 1.25 | .509 | 3-12-74 | 1.31 | .722 |
| 3-19-74 | 1.29 | .574 | 3-19-74 | 1.30 | .851 |
| 3-26-74 | 1.23 | .852 | 3-26-74 | 1.32 | .937 |
| 4-02-74 | 1.21 | .846 | 4-02-74 | 1.25 | 1.023 |
| 4-09-74 | 1.13 | .861 | 4-09-74 | 1.20 | 1.123 |
| 4-16-74 | 1.09 | .848 | 4-16-74 | 1.15 | .992 |
| 4-23-74 | 1.16 | .836 | 4-23-74 | 1.19 | .997 |
| 4-30-74 | 1.12 | .897 | 4-30-74 | 1.15 | 1.059 |
| 5-07-74 | 1.16 | .845 | 5-07-74 | 1.24 | 1.014 |
| 5-14-74 | 1.08 | .804 | 5-14-74 | 1.14 | 1.084 |
| 5-21-74 | 1.11 | .893 | 5-21-74 | 1.22 | 1.061 |
| 5-28-74 | 1.23 | .822 | 5-28-74 | 1.28 | 1.053 |
| 6-04-74 | 1.22 | .896 | 6-04-74 | 1.29 | 1.015 |
| 6-11-74 | 1.17 | 1.023 | 6-11-74 | 1.25 | 1.134 |
| 6-18-74 | 1.20 | .975 | 6-18-74 | 1.28 | 1.205 |
| 6-25-74 | 1.12 | 1.025 | 6-25-74 | 1.17 | 1.271 |
| 7-02-74 | 1.17 | .722 | 7-02-74 | 1.26 | 1.361 |
| 7-09-74 | 1.22 | 1.250 | 7-09-74 | 1.29 | 1.375 |
| 7-16-74 | 1.35 | 1.106 | 7-16-74 | 1.44 | 1.272 |
| 7-23-74 | 1.18 | .990 | 7-23-74 | 1.22 | 1.280 |
| 7-30-74 | 1.09 | 1.409 | 7-30-74 | 1.27 | 1.647 |
| 8-06-74 | 1.21 | 1.295 | 8-06-74 | 1.24 | 1.570 |
| 8-13-74 | 1.23 | 1.168 | 8-13-74 | 1.28 | 1.389 |
| 8-20-74 | 1.14 | -- | 8-20-74 | 1.19 | -- |
| 8-27-74 | 1.20 | 1.302 | 8-27-74 | 1.27 | 1.605 |
| 9-03-74 | 1.24 | 1.068 | 9-03-74 | 1.29 | 1.275 |
| 9-10-74 | 1.17 | 1.194 | 9-10-74 | 1.15 | 1.629 |
| 9-17-74 | 1.25 | 1.249 | 9-17-74 | 1.25 | 1.444 |
| 9-24-74 | 1.26 | 1.094 | 9-24-74 | 1.33 | 1.358 |
| 10-01-74 | 1.34 | .943 | 10-01-74 | 1.40 | 1.157 |
| 10-08-74 | 1.41 | .839 | 10-08-74 | 1.49 | 1.003 |
| 10-15-74 | 1.20 | .792 | 10-15-74 | 1.28 | 1.068 |
| 10-22-74 | 1.27 | -- | 10-22-74 | 1.35 | -- |
| 10-29-74 | 1.10 | .731 | 10-29-74 | 1.28 | .892 |
| 11-05-74 | 1.18 | .648 | 11-05-74 | 1.29 | .855 |
| 11-12-74 | 1.21 | .632 | 11-12-74 | 1.28 | .881 |
| 11-19-74 | 1.19 | .605 | 11-19-74 | 1.27 | .772 |
| 11-26-74 | 1.29 | -- | 11-26-74 | 1.27 | -- |
| 12-03-74 | 1.14 | .580 | 12-03-74 | 1.18 | .721 |
| 12-10-74 | 1.23 | .527 | 12-10-74 | 1.28 | .654 |
| 12-17-74 | 1.12 | .502 | 12-17-74 | 1.16 | .634 |
| Mean | 1.23 | .809 | Mean | 1.27 | 1.007 |
| SD | .15 | .288 | SD | .08 | .334 |
| Weighted mean | 1.21 | | Weighted mean | 1.27 | |

Appendix Table 113. EC(mmhos/cm) and flow (m³/sec) at Del Rio drain sites A and B during 1975.

| Site A | | | Site B | | |
|---------------|----------------------------------|-------------------------------|---------------|----------------------------------|-------------------------------|
| Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) | Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) |
| 1-01-75 | 1.19 | -- | 1-01-75 | 1.41 | -- |
| 1-07-75 | 1.17 | .392 | 1-07-75 | 1.25 | .501 |
| 1-14-75 | 1.28 | .480 | 1-14-75 | 1.33 | .647 |
| 1-21-75 | 1.23 | .501 | 1-21-75 | 1.21 | .693 |
| 1-28-75 | 1.21 | .585 | 1-28-75 | 1.26 | .707 |
| 2-04-75 | 1.17 | .591 | 2-04-75 | 1.22 | .686 |
| 2-10-75 | 1.35 | .492 | 2-10-75 | 1.34 | .650 |
| 2-17-75 | 1.25 | .465 | 2-17-75 | 1.31 | .578 |
| 2-24-75 | 1.30 | .458 | 2-24-75 | 1.36 | .599 |
| 3-03-75 | 1.33 | .488 | 3-03-75 | 1.41 | .636 |
| 3-10-75 | 1.24 | .619 | 3-10-75 | 1.27 | .775 |
| 3-17-75 | 1.25 | .680 | 3-17-75 | 1.30 | .876 |
| 3-24-75 | 1.22 | .914 | 3-24-75 | 1.24 | 1.047 |
| 3-31-75 | 1.26 | .897 | 3-31-75 | 1.30 | 1.079 |
| 4-07-75 | 1.22 | .816 | 4-07-75 | 1.17 | .955 |
| 4-14-75 | 1.22 | .864 | 4-14-75 | 1.27 | .975 |
| 4-21-75 | 1.25 | .793 | 4-21-75 | 1.28 | .992 |
| 4-28-75 | 1.19 | .842 | 4-28-75 | 1.24 | .953 |
| 5-05-75 | 1.22 | .814 | 5-05-75 | 1.27 | .974 |
| 5-12-75 | 1.23 | .831 | 5-12-75 | 1.30 | 1.024 |
| 5-19-75 | 1.21 | .776 | 5-19-75 | 1.27 | 1.014 |
| 5-26-75 | 1.17 | .813 | 5-26-75 | 1.23 | .744 |
| 6-02-75 | 1.19 | .845 | 6-02-75 | 1.22 | 1.221 |
| 6-09-75 | 1.23 | .927 | 6-09-75 | 1.28 | 1.157 |
| 6-16-75 | 1.17 | .985 | 6-16-75 | 1.23 | 1.218 |
| 6-23-75 | 1.13 | 1.051 | 6-23-75 | 1.24 | 1.162 |
| 6-30-75 | 1.20 | .947 | 6-30-75 | 1.25 | 1.152 |
| 7-07-75 | 1.13 | 1.064 | 7-07-75 | 1.21 | 1.211 |
| 7-14-75 | 1.17 | 1.122 | 7-14-75 | 1.24 | 1.227 |
| 7-21-75 | 1.14 | 1.046 | 7-21-75 | 1.22 | 1.129 |
| 7-28-75 | 1.14 | 1.235 | 7-28-75 | 1.22 | 1.322 |
| 8-04-75 | 1.13 | 1.905 | 8-04-75 | 1.15 | 1.590 |
| 8-11-75 | 1.22 | 1.320 | 8-11-75 | 1.27 | 1.404 |
| 8-18-75 | 1.18 | 1.441 | 8-18-75 | 1.23 | 1.476 |
| 8-25-75 | 1.22 | 1.461 | 8-25-75 | 1.30 | 1.559 |
| 9-01-75 | 1.18 | 1.190 | 9-01-75 | 1.24 | 1.456 |
| 9-08-75 | 1.14 | 1.583 | 9-08-75 | 1.18 | 1.688 |
| 9-15-75 | 1.25 | 1.186 | 9-15-75 | 1.30 | 1.366 |
| 9-23-75 | 1.26 | 1.094 | 9-23-75 | 1.30 | 1.282 |
| 9-30-75 | 1.20 | 1.215 | 9-30-75 | 1.26 | 1.403 |
| 10-07-75 | 1.23 | .875 | 10-07-75 | 1.30 | 1.080 |
| 10-14-75 | 1.26 | .678 | 10-14-75 | 1.31 | .917 |
| 10-21-75 | 1.32 | .751 | 10-21-75 | 1.33 | .913 |
| 10-28-75 | 1.20 | .675 | 10-28-75 | 1.29 | .883 |
| 11-04-75 | 1.09 | .594 | 11-04-75 | 1.14 | .812 |
| 11-11-75 | 1.10 | .545 | 11-11-75 | 1.18 | .746 |
| 11-18-75 | 1.14 | .550 | 11-18-75 | 1.25 | .718 |
| 11-26-75 | 1.19 | .501 | 11-26-75 | 1.25 | .703 |
| 12-02-75 | 1.36 | .682 | 12-02-75 | 1.31 | .644 |
| 12-09-75 | 1.25 | .462 | 12-09-75 | 1.30 | .688 |
| 12-16-75 | 1.06 | .453 | 12-16-75 | 1.13 | .628 |
| 12-23-75 | 1.06 | -- | 12-23-75 | 1.11 | -- |
| 12-30-75 | 1.23 | .415 | 12-30-75 | 1.27 | .607 |
| Mean | 1.21 | .841 | Mean | 1.26 | .990 |
| SD | .07 | .335 | SD | .06 | .307 |
| Weighted mean | 1.20 | | Weighted mean | 1.25 | |

Appendix Table 114. EC(mmhos/cm) and flow (m³/sec) at Del Rio drain sites A and B during 1976.

| Site A | | | Site B | | |
|---------------|----------------------------------|-------------------------------|---------------|----------------------------------|-------------------------------|
| Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) | Date | ECx10 ³ (mmhos/cm) | Flow (m ³ /sec) |
| 1-06-76 | 1.11 | .366 | 1-06-76 | 1.15 | .581 |
| 1-13-76 | 1.21 | .379 | 1-13-76 | 1.30 | .523 |
| 1-21-76 | 1.25 | .461 | 1-21-76 | 1.30 | .648 |
| 1-26-76 | 1.21 | .558 | 1-26-76 | 1.29 | .716 |
| 2-02-76 | 1.20 | - | 2-02-76 | 1.28 | - |
| 2-07-76 | 1.25 | .582 | 2-07-76 | 1.28 | .723 |
| 2-14-76 | 1.24 | .535 | 2-14-76 | 1.29 | .681 |
| 2-21-76 | 1.16 | .489 | 2-21-76 | 1.22 | .706 |
| 2-28-76 | 1.28 | .513 | 2-28-76 | 1.23 | .764 |
| 3-06-76 | 1.21 | .528 | 3-06-76 | 1.22 | .658 |
| 3-13-76 | 1.16 | .616 | 3-13-76 | 1.20 | .806 |
| 3-20-76 | 1.14 | .746 | 3-20-76 | 1.13 | .883 |
| 3-27-76 | 1.19 | .769 | 3-27-76 | 1.23 | .926 |
| 4-03-76 | 1.18 | .733 | 4-03-76 | 1.19 | .946 |
| 4-10-76 | 1.13 | .778 | 4-10-76 | 1.16 | .927 |
| 4-17-76 | 1.18 | .778 | 4-17-76 | 1.19 | 1.055 |
| 4-24-76 | 1.16 | .778 | 4-24-76 | 1.19 | .989 |
| 5-01-76 | 1.18 | .776 | 5-01-76 | 1.17 | .982 |
| 5-08-76 | 1.17 | .960 | 5-08-76 | 1.21 | 1.038 |
| 5-15-76 | 1.18 | .977 | 5-15-76 | 1.22 | 1.055 |
| 5-20-76 | 1.12 | 1.151 | 5-20-76 | 1.11 | .997 |
| 5-28-76 | 1.09 | 1.140 | 5-28-76 | 1.16 | 1.073 |
| 6-07-76 | 1.16 | 1.109 | 6-07-76 | 1.17 | 1.195 |
| 6-11-76 | 1.20 | 1.102 | 6-11-76 | 1.25 | 1.166 |
| 6-21-76 | 1.21 | .610 | 6-21-76 | 1.23 | .982 |
| 6-28-76 | 1.10 | 1.121 | 6-28-76 | 1.22 | 1.195 |
| 7-08-76 | 1.10 | 1.352 | 7-08-76 | 1.15 | 1.085 |
| 7-13-76 | 1.13 | 1.206 | 7-13-76 | 1.14 | 1.427 |
| 7-19-76 | 1.19 | 1.282 | 7-19-76 | 1.18 | 1.117 |
| 7-26-76 | 1.15 | 1.065 | 7-26-76 | 1.19 | .841 |
| 8-03-76 | 1.20 | 1.030 | 8-03-76 | 1.22 | 1.234 |
| 8-11-76 | 1.09 | 1.263 | 8-11-76 | 1.04 | 1.337 |
| 8-18-76 | 1.10 | 1.611 | 8-18-76 | 1.19 | 1.541 |
| 8-25-76 | 1.10 | 1.263 | 8-25-76 | 1.04 | 1.337 |
| 8-31-76 | 1.13 | 1.408 | 8-31-76 | 1.13 | 1.446 |
| 9-07-76 | 1.10 | 1.306 | 9-07-76 | 1.14 | 1.434 |
| 9-14-76 | 1.22 | .938 | 9-14-76 | 1.28 | 1.370 |
| 9-23-76 | 1.10 | 1.000 | 9-23-76 | 1.18 | 1.242 |
| 9-28-76 | 1.13 | .942 | 9-28-76 | 1.18 | 1.299 |
| 10-05-76 | 1.21 | .855 | 10-05-76 | 1.25 | .985 |
| 10-12-76 | 1.23 | .764 | 10-12-76 | 1.29 | 1.036 |
| 10-19-76 | 1.17 | .772 | 10-19-76 | 1.19 | 1.030 |
| 10-26-76 | 1.20 | .505 | 10-26-76 | 1.24 | .946 |
| 11-02-76 | 1.17 | .479 | 11-02-76 | 1.21 | .922 |
| 11-09-76 | 1.20 | .462 | 11-09-76 | 1.35 | .823 |
| 11-16-76 | 1.34 | .436 | 11-16-76 | 1.28 | .810 |
| 11-23-76 | 1.22 | .436 | 11-23-76 | 1.25 | .740 |
| 11-30-76 | - | .437 | 11-30-76 | 1.22 | .572 |
| 12-07-76 | 1.22 | .440 | 12-07-76 | 1.25 | .495 |
| 12-14-76 | 1.21 | .563 | 12-14-76 | 1.25 | .579 |
| 12-21-76 | 1.28 | .388 | 12-21-76 | 1.30 | .659 |
| 12-28-76 | 1.17 | .387 | 12-28-76 | 1.24 | .578 |
| Mean | 1.18 | .807 | Mean | 1.21 | .963 |
| SD | .06 | .329 | SD | .06 | .272 |
| Weighted mean | 1.16 | | Weighted mean | 1.20 | |

Appendix Table 115. EC(mmhos/cm) and flow (m³/sec) at Del Rio drain sites A and B during 1977.

| Site A | | | Site B | | |
|---------------|--------------------|-----------------------|---------------|--------------------|-----------------------|
| Date | ECx10 ³ | Flow | Date | ECx10 ³ | Flow |
| | (mmho/cm) | (m ³ /sec) | | (mmho/cm) | (m ³ /sec) |
| 1-04-77 | 1.24 | .404 | 1-04-77 | 1.30 | .620 |
| 1-11-77 | 1.30 | .434 | 1-11-77 | 1.34 | .529 |
| 1-18-77 | 1.36 | .457 | 1-18-77 | 1.41 | .545 |
| 1-26-77 | 1.38 | .325 | 1-26-77 | 1.39 | .496 |
| 2-02-77 | 1.38 | .372 | 2-02-77 | 1.40 | .500 |
| 2-09-77 | 1.37 | .441 | 2-09-77 | 1.42 | .507 |
| 2-16-77 | 1.38 | -- | 2-16-77 | 1.41 | -- |
| 2-23-77 | 1.39 | .404 | 2-23-77 | 1.43 | .513 |
| 3-02-77 | 1.33 | .295 | 3-02-77 | 1.36 | .369 |
| 3-09-77 | 1.34 | .301 | 3-09-77 | 1.34 | .395 |
| 3-16-77 | 1.32 | .500 | 3-16-77 | 1.36 | .518 |
| 3-23-77 | 1.27 | .517 | 3-23-77 | 1.23 | .608 |
| 3-30-77 | 1.31 | .505 | 3-30-77 | 1.32 | .589 |
| 4-06-77 | 1.25 | .570 | 4-06-77 | 1.27 | .551 |
| 4-13-77 | 1.27 | .631 | 4-13-77 | 1.29 | .678 |
| 4-20-77 | 1.18 | .604 | 4-20-77 | 1.12 | .714 |
| 4-28-77 | 1.32 | -- | 4-28-77 | 1.32 | -- |
| 5-04-77 | 1.24 | -- | 5-04-77 | 1.25 | -- |
| 5-11-77 | 1.29 | .628 | 5-11-77 | 1.29 | .608 |
| 5-18-77 | 1.30 | .534 | 5-18-77 | 1.32 | .538 |
| 5-25-77 | 1.24 | .626 | 5-25-77 | 1.24 | .581 |
| 6-01-77 | 1.26 | .678 | 6-01-77 | 1.24 | .708 |
| 6-08-77 | 1.25 | .546 | 6-08-77 | 1.27 | .597 |
| 6-15-77 | 1.21 | .568 | 6-15-77 | 1.23 | .584 |
| 6-22-77 | 1.26 | .667 | 6-22-77 | 1.30 | .657 |
| 6-29-77 | 1.10 | .936 | 6-29-77 | 1.13 | .878 |
| 7-06-77 | 1.20 | .776 | 7-06-77 | 1.18 | .832 |
| 7-13-77 | 1.22 | .749 | 7-13-77 | 1.24 | .750 |
| 7-20-77 | 1.20 | .702 | 7-20-77 | 1.24 | .793 |
| 7-27-77 | 1.19 | .690 | 7-27-77 | 1.17 | .859 |
| 8-03-77 | 1.20 | .672 | 8-03-77 | 1.24 | .645 |
| 8-10-77 | 1.17 | .739 | 8-10-77 | 1.21 | .847 |
| 8-17-77 | 1.18 | .733 | 8-17-77 | 1.21 | .700 |
| 8-24-77 | 1.16 | .730 | 8-24-77 | 1.21 | .716 |
| 8-31-77 | -- | .724 | 8-31-77 | -- | .700 |
| 9-08-77 | 1.17 | .650 | 9-08-77 | 1.20 | .723 |
| 9-15-77 | 1.17 | .646 | 9-15-77 | 1.24 | .725 |
| 9-22-77 | 1.28 | .464 | 9-22-77 | 1.31 | .554 |
| 9-29-77 | 1.38 | .414 | 9-29-77 | 1.43 | .479 |
| 10-06-77 | 1.33 | .414 | 10-06-77 | 1.27 | .479 |
| 10-13-77 | -- | .433 | 10-13-77 | -- | .525 |
| 10-20-77 | 1.29 | .371 | 10-20-77 | 1.36 | .503 |
| 10-27-77 | -- | .451 | 10-27-77 | -- | .509 |
| 11-03-77 | 1.28 | .276 | 11-03-77 | 1.33 | .400 |
| 11-10-77 | 1.28 | .179 | 11-10-77 | 1.34 | .227 |
| 11-17-77 | -- | .257 | 11-17-77 | -- | .315 |
| 12-01-77 | -- | .242 | 12-01-77 | -- | .306 |
| 12-08-77 | 1.32 | .321 | 12-08-77 | 1.42 | .319 |
| 12-15-77 | 1.32 | .324 | 12-15-77 | 1.38 | .329 |
| 12-22-77 | 1.32 | .326 | 12-22-77 | 1.37 | .351 |
| 12-29-77 | -- | .330 | 12-29-77 | -- | .358 |
| Mean | 1.27 | .512 | Mean | 1.30 | .567 |
| SD | .07 | .174 | SD | .08 | .160 |
| Weighted mean | 1.25 | | Weighted mean | 1.28 | |

Appendix Table 116. Calculated electrical conductivity of return flow entering the Del Rio drain between sites A and B in 1972, 1973 and 1974.

| Date | Flow at Site A | Flow at Site B | Increase In Flow | EC at Site A | EC at Site B | Increase In EC | EC of Return Flow |
|-------------|---------------------|----------------|------------------|--------------|--------------|----------------|-------------------|
| | m ³ /sec | | | mmhos/cm | | | |
| 1/72 | 0.330 | 0.434 | 0.104 | 1.43 | 1.48 | 0.05 | 1.64 |
| 2/72 | 0.303 | 0.407 | 0.104 | 1.44 | 1.49 | 0.05 | 1.63 |
| 3/72 | 0.609 | 0.668 | 0.059 | 1.31 | 1.35 | 0.04 | 1.76 |
| 4/72 | 0.649 | 0.737 | 0.087 | 1.29 | 1.33 | 0.04 | 1.63 |
| 5/72 | 0.517 | 0.608 | 0.090 | 1.32 | 1.39 | 0.07 | 1.79 |
| 6/72 | 0.417 | 0.471 | 0.054 | 1.27 | 1.30 | 0.03 | 1.53 |
| 7/72 | 0.585 | 0.653 | 0.069 | 1.26 | 1.26 | 0.0 | 1.26 |
| 8/72 | 0.671 | 0.787 | 0.117 | 1.22 | 1.25 | 0.03 | 1.42 |
| 9/72 | 0.507 | 0.660 | 0.153 | 1.26 | 1.30 | 0.04 | 1.43 |
| 10/72 | 0.163 | 0.383 | 0.220 | 1.36 | 1.41 | 0.05 | 1.45 |
| 11/72 | 0.126 | 0.368 | 0.242 | 1.36 | 1.43 | 0.07 | 1.47 |
| 12/72 | 0.169 | 0.311 | 0.142 | 1.39 | 1.45 | 0.06 | 1.52 |
| MEAN = 1.54 | | | | | | | |
| 1/73 | 0.097 | 0.245 | 0.149 | 1.35 | 1.41 | 0.06 | 1.45 |
| 2/73 | 0.275 | 0.352 | 0.076 | 1.37 | 1.40 | 0.03 | 1.51 |
| 3/73 | 0.464 | 0.499 | 0.035 | 1.30 | 1.34 | 0.04 | 1.86 |
| 4/73 | 0.943 | 1.100 | 0.157 | 1.23 | 1.23 | 0.0 | 1.23 |
| 5/73 | 0.759 | 0.715 | -0.044 | 1.21 | 1.26 | 0.05 | 0.40 |
| 6/73 | 0.829 | 0.910 | 0.081 | 1.17 | 1.24 | 0.07 | 1.96 |
| 7/73 | 1.012 | 1.147 | 0.135 | 1.20 | 1.28 | 0.08 | 1.88 |
| 8/73 | 1.074 | 1.309 | 0.234 | 1.18 | 1.25 | 0.07 | 1.57 |
| 9/73 | 0.916 | 1.051 | 0.134 | 1.20 | 1.28 | 0.08 | 1.83 |
| 10/73 | 0.604 | 0.952 | 0.348 | 1.28 | 1.36 | 0.08 | 1.50 |
| 11/73 | 0.478 | 0.601 | 0.123 | 1.26 | 1.35 | 0.09 | 1.70 |
| 12/73 | 0.338 | 0.501 | 0.162 | 1.31 | 1.36 | 0.05 | 1.46 |
| MEAN = 1.53 | | | | | | | |
| 1/74 | 0.380 | 0.500 | 0.119 | 1.26 | 1.33 | 0.07 | 1.55 |
| 2/74 | 0.505 | 0.639 | 0.133 | 1.31 | 1.33 | 0.02 | 1.41 |
| 3/74 | 0.561 | 0.729 | 0.168 | 1.26 | 1.32 | 0.06 | 1.52 |
| 4/74 | 0.857 | 1.039 | 0.181 | 1.14 | 1.19 | 0.05 | 1.43 |
| 5/74 | 0.841 | 1.053 | 0.212 | 1.14 | 1.22 | 0.08 | 1.54 |
| 6/74 | 0.979 | 1.156 | 0.176 | 1.18 | 1.25 | 0.07 | 1.64 |
| 7/74 | 1.095 | 1.387 | 0.292 | 1.20 | 1.30 | 0.10 | 1.68 |
| 8/74 | 1.255 | 1.522 | 0.267 | 1.20 | 1.24 | 0.04 | 1.43 |
| 9/74 | 1.151 | 1.427 | 0.276 | 1.23 | 1.26 | 0.03 | 1.39 |
| 10/74 | 0.826 | 1.030 | 0.204 | 1.26 | 1.36 | 0.10 | 1.77 |
| 11/74 | 0.628 | 0.836 | 0.208 | 1.22 | 1.28 | 0.06 | 1.46 |
| 12/74 | 0.536 | 0.670 | 0.133 | 1.16 | 1.21 | 0.05 | 1.41 |
| MEAN = 1.52 | | | | | | | |

Appendix Table 117. Calculated electrical conductivity of return flow entering the Del Rio drain between sites A and B in 1975, 1976 and 1977.

| Date | Flow at Site A | Flow at Site B | Increase In Flow | EC at Site A | EC at Site B | Increase In EC | EC of Return Flow |
|-------|---------------------|----------------|------------------|--------------|--------------|----------------|-------------------|
| | m ³ /sec | | | mmhos/cm | | | |
| 1/75 | 0.490 | 0.637 | 0.148 | 1.22 | 1.29 | 0.07 | 1.52 |
| 2/75 | 0.501 | 0.628 | 0.127 | 1.27 | 1.31 | 0.04 | 1.47 |
| 3/75 | 0.720 | 0.883 | 0.163 | 1.26 | 1.30 | 0.04 | 1.48 |
| 4/75 | 0.829 | 0.969 | 0.140 | 1.22 | 1.24 | 0.02 | 1.36 |
| 5/75 | 0.809 | 0.939 | 0.130 | 1.21 | 1.27 | 0.06 | 1.64 |
| 6/75 | 0.951 | 1.182 | 0.231 | 1.18 | 1.24 | 0.06 | 1.49 |
| 7/75 | 1.117 | 1.222 | 0.106 | 1.14 | 1.22 | 0.08 | 2.07 |
| 8/75 | 1.532 | 1.507 | -0.025 | 1.19 | 1.24 | 0.05 | -1.87 |
| 9/75 | 1.254 | 1.439 | 0.185 | 1.21 | 1.26 | 0.05 | 1.60 |
| 10/75 | 0.744 | 0.948 | 0.204 | 1.25 | 1.31 | 0.06 | 1.53 |
| 11/75 | 0.547 | 0.744 | 0.197 | 1.13 | 1.20 | 0.07 | 1.39 |
| 12/75 | 0.503 | 0.642 | 0.139 | 1.19 | 1.22 | 0.03 | 1.33 |
| | | | | | | | MEAN = 1.25 |
| 1/76 | 0.441 | 0.617 | 0.176 | 1.19 | 1.26 | 0.07 | 1.44 |
| 2/76 | 0.530 | 0.718 | 0.189 | 1.23 | 1.26 | 0.03 | 1.34 |
| 3/76 | 0.665 | 0.818 | 0.153 | 1.17 | 1.19 | 0.02 | 1.28 |
| 4/76 | 0.767 | 0.979 | 0.213 | 1.16 | 1.18 | 0.02 | 1.25 |
| 5/76 | 1.001 | 1.029 | 0.028 | 1.15 | 1.17 | 0.02 | 1.88 |
| 6/76 | 0.985 | 1.135 | 0.150 | 1.17 | 1.22 | 0.05 | 1.55 |
| 7/76 | 1.226 | 1.117 | -0.109 | 1.14 | 1.16 | 0.02 | 0.94 |
| 8/76 | 1.315 | 1.379 | 0.064 | 1.12 | 1.12 | 0.0 | 1.12 |
| 9/76 | 1.047 | 1.336 | 0.290 | 1.14 | 1.19 | 0.05 | 1.37 |
| 10/76 | 0.724 | 0.999 | 0.275 | 1.20 | 1.24 | 0.04 | 1.35 |
| 11/76 | 0.450 | 0.773 | 0.323 | 1.23 | 1.26 | 0.03 | 1.30 |
| 12/76 | 0.444 | 0.578 | 0.133 | 1.22 | 1.26 | 0.04 | 1.39 |
| | | | | | | | MEAN = 1.35 |
| 1/77 | 0.405 | 0.547 | 0.142 | 1.32 | 1.36 | 0.04 | 1.47 |
| 2/77 | 0.391 | 0.506 | 0.116 | 1.38 | 1.41 | 0.03 | 1.51 |
| 3/77 | 0.424 | 0.496 | 0.072 | 1.31 | 1.32 | 0.01 | 1.38 |
| 4/77 | 0.601 | 0.648 | 0.046 | 1.26 | 1.25 | -0.01 | 1.12 |
| 5/77 | 0.596 | 0.575 | -0.021 | 1.27 | 1.27 | 0.0 | 1.27 |
| 6/77 | 0.679 | 0.685 | 0.006 | 1.22 | 1.23 | 0.01 | 2.37 |
| 7/77 | 0.729 | 0.808 | 0.079 | 1.20 | 1.21 | 0.01 | 1.30 |
| 8/77 | 0.720 | 0.722 | 0.002 | 1.18 | 1.22 | 0.04 | -- |
| 9/77 | 0.544 | 0.620 | 0.076 | 1.25 | 1.29 | 0.04 | 1.58 |
| 10/77 | 0.417 | 0.504 | 0.087 | 1.31 | 1.31 | 0.0 | 1.31 |
| 11/77 | 0.238 | 0.314 | 0.076 | 1.28 | 1.34 | 0.06 | 1.53 |
| 12/77 | 0.309 | 0.333 | 0.024 | 1.32 | 1.39 | 0.07 | 2.29 |
| | | | | | | | MEAN = 1.46 |

Appendix Table 118. Calculated chloride concentration of return flow entering the Del Rio drain between sites A and B during 1972, 1973 and 1974.

| Date | Flow at Site A | Flow at Site B | Increase In Flow | Cl ⁻ at Site A | Cl ⁻ at Site B | Increase in Cl ⁻ | Cl ⁻ conc. of Return Flow |
|-------|---------------------------------|----------------|------------------|---------------------------|---------------------------|-----------------------------|--------------------------------------|
| | ----- m ³ /sec ----- | | | ----- | | meq/l | ----- |
| 1/72 | 0.330 | 0.434 | 0.104 | 3.59 | 3.62 | 0.03 | 3.72 |
| 2/72 | 0.303 | 0.407 | 0.104 | 3.76 | 3.85 | 0.09 | 4.11 |
| 3/72 | 0.609 | 0.668 | 0.059 | 3.36 | 3.39 | 0.03 | 3.70 |
| 4/72 | 0.649 | 0.737 | 0.087 | 3.41 | 3.46 | 0.05 | 3.83 |
| 5/72 | 0.517 | 0.608 | 0.090 | 3.40 | 3.49 | 0.09 | 4.01 |
| 6/72 | 0.417 | 0.471 | 0.054 | 3.47 | 3.49 | 0.02 | 3.64 |
| 7/72 | 0.585 | 0.653 | 0.069 | 3.30 | 3.36 | 0.06 | 3.87 |
| 8/72 | 0.671 | 0.787 | 0.117 | 3.20 | 3.31 | 0.11 | 3.94 |
| 9/72 | 0.507 | 0.660 | 0.153 | 3.44 | 3.49 | 0.05 | 3.66 |
| 10/72 | 0.163 | 0.383 | 0.220 | 3.72 | 3.75 | 0.03 | 3.77 |
| 11/72 | 0.126 | 0.368 | 0.242 | 3.76 | 3.84 | 0.08 | 3.88 |
| 12/72 | 0.169 | 0.311 | 0.142 | 3.75 | 3.81 | 0.06 | 3.88 |
| | | | | | | | MEAN = 3.83 |
| 1/73 | 0.097 | 0.245 | 0.149 | 3.70 | 3.75 | 0.05 | 3.78 |
| 2/73 | 0.275 | 0.352 | 0.076 | 3.70 | 3.73 | 0.03 | 3.84 |
| 3/73 | 0.464 | 0.499 | 0.035 | 3.56 | 3.59 | 0.03 | 3.98 |
| 4/73 | 0.943 | 1.100 | 0.157 | 3.49 | 3.46 | -0.03 | 3.28 |
| 5/73 | 0.759 | 0.715 | -0.044 | 3.41 | 3.42 | 0.01 | 3.25 |
| 6/73 | 0.829 | 0.910 | 0.081 | 3.20 | 3.31 | 0.11 | 4.44 |
| 7/73 | 1.012 | 1.147 | 0.135 | 3.25 | 3.34 | 0.09 | 4.02 |
| 8/73 | 1.074 | 1.309 | 0.234 | 3.05 | 3.20 | 0.15 | 3.89 |
| 9/73 | 0.916 | 1.051 | 0.134 | 3.03 | 3.25 | 0.22 | 4.75 |
| 10/73 | 0.604 | 0.952 | 0.348 | 3.47 | 3.88 | 0.41 | 4.59 |
| 11/73 | 0.478 | 0.601 | 0.123 | 3.39 | 3.61 | 0.22 | 4.46 |
| 12/73 | 0.338 | 0.501 | 0.162 | 3.45 | 3.30 | -0.15 | 2.99 |
| | | | | | | | MEAN = 3.94 |
| 1/74 | 0.380 | 0.500 | 0.119 | 3.46 | 3.56 | 0.10 | 3.88 |
| 2/74 | 0.505 | 0.639 | 0.133 | 4.26 | 4.26 | 0.0 | 4.26 |
| 3/74 | 0.561 | 0.729 | 0.168 | 3.79 | 3.83 | 0.04 | 3.96 |
| 4/74 | 0.857 | 1.039 | 0.181 | 3.46 | 3.51 | 0.05 | 3.75 |
| 5/74 | 0.841 | 1.053 | 0.212 | 3.19 | 3.24 | 0.05 | 3.44 |
| 6/74 | 0.979 | 1.156 | 0.176 | 3.05 | 3.27 | 0.22 | 4.49 |
| 7/74 | 1.095 | 1.387 | 0.292 | 3.15 | 3.26 | 0.11 | 3.67 |
| 8/74 | 1.255 | 1.522 | 0.267 | 3.37 | 3.47 | 0.10 | 3.94 |
| 9/74 | 1.151 | 1.427 | 0.276 | 3.21 | 3.30 | 0.09 | 3.68 |
| 10/74 | 0.826 | 1.030 | 0.204 | 3.22 | 3.35 | 0.13 | 3.88 |
| 11/74 | 0.628 | 0.836 | 0.208 | 3.44 | 3.54 | 0.10 | 3.84 |
| 12/74 | 0.536 | 0.670 | 0.133 | 3.48 | 3.53 | 0.05 | 3.73 |
| | | | | | | | MEAN = 3.88 |

Appendix Table 119. Calculated chloride concentration of return flow entering the Del Rio drain between sites A and B during 1975, 1976 and 1977.

| Date | Flow at Site A | Flow at Site B | Increase In Flow | Cl ⁻ at Site A | Cl ⁻ at Site B | Increase in Cl ⁻ | Cl ⁻ conc. of Return Flow |
|-------|---------------------|----------------|------------------|---------------------------|---------------------------|-----------------------------|--------------------------------------|
| | m ³ /sec | | | | | meq/l | |
| 1/75 | 0.490 | 0.637 | 0.148 | 3.51 | 3.59 | 0.08 | 3.86 |
| 2/75 | 0.501 | 0.628 | 0.127 | 3.61 | 3.68 | 0.07 | 3.96 |
| 3/75 | 0.720 | 0.883 | 0.163 | 3.53 | 3.50 | -0.03 | 3.37 |
| 4/75 | 0.829 | 0.969 | 0.140 | 3.53 | 3.60 | 0.07 | 4.01 |
| 5/75 | 0.809 | 0.939 | 0.130 | 3.32 | 3.35 | 0.03 | 3.54 |
| 6/75 | 0.951 | 1.182 | 0.231 | 3.10 | 3.14 | 0.04 | 3.30 |
| 7/75 | 1.117 | 1.222 | 0.106 | 2.94 | 3.02 | 0.08 | 3.87 |
| 8/75 | 1.532 | 1.507 | -0.025 | 3.07 | 3.16 | 0.09 | -- |
| 9/75 | 1.254 | 1.439 | 0.185 | 3.09 | 3.05 | -0.04 | 2.78 |
| 10/75 | 0.744 | 0.948 | 0.204 | 3.24 | 3.27 | 0.03 | 3.38 |
| 11/75 | 0.547 | 0.744 | 0.197 | 3.37 | 3.44 | 0.07 | 3.63 |
| 12/75 | 0.503 | 0.642 | 0.139 | 3.56 | 3.47 | -0.09 | 3.14 |
| | | | | | | | MEAN = 3.54 |
| 1/76 | 0.441 | 0.617 | 0.176 | 3.41 | 3.46 | 0.05 | 3.59 |
| 2/76 | 0.530 | 0.718 | 0.189 | 3.58 | 3.57 | -0.01 | 3.54 |
| 3/76 | 0.665 | 0.818 | 0.153 | 3.56 | 3.37 | -0.19 | 2.54 |
| 4/76 | 0.767 | 0.979 | 0.213 | 3.33 | 3.32 | -0.01 | 3.28 |
| 5/76 | 1.001 | 1.029 | 0.028 | 3.37 | 3.20 | -0.17 | -- |
| 6/76 | 0.985 | 1.135 | 0.150 | 3.11 | 3.20 | 0.09 | 3.79 |
| 7/76 | 1.226 | 1.117 | -0.109 | 3.06 | 3.09 | 0.03 | 2.75 |
| 8/76 | 1.315 | 1.379 | 0.064 | 3.10 | 2.94 | -0.16 | -- |
| 9/76 | 1.047 | 1.336 | 0.290 | 2.93 | 2.96 | 0.03 | 3.07 |
| 10/76 | 0.724 | 0.999 | 0.275 | 3.05 | 3.08 | 0.03 | 3.16 |
| 11/76 | 0.450 | 0.773 | 0.323 | 3.26 | 3.31 | 0.05 | 3.38 |
| 12/76 | 0.444 | 0.578 | 0.133 | 3.41 | 3.47 | 0.06 | 3.67 |
| | | | | | | | MEAN = 3.28 |
| 1/77 | 0.405 | 0.547 | 0.142 | 3.50 | 3.51 | 0.01 | 3.54 |
| 2/77 | 0.391 | 0.506 | 0.116 | 3.61 | 3.62 | 0.01 | 3.65 |
| 3/77 | 0.424 | 0.496 | 0.072 | 3.52 | 3.31 | -0.21 | 2.08 |
| 4/77 | 0.601 | 0.648 | 0.046 | 3.36 | 3.23 | -0.13 | 1.54 |
| 5/77 | 0.596 | 0.575 | -0.021 | 3.33 | 3.32 | -0.01 | 3.61 |
| 6/77 | 0.679 | 0.685 | 0.006 | 3.20 | 3.14 | -0.06 | -3.71 |
| 7/77 | 0.729 | 0.808 | 0.079 | 3.09 | 3.11 | 0.02 | 3.29 |
| 8/77 | 0.720 | 0.722 | 0.002 | 2.94 | 2.98 | 0.04 | 17.50 |
| 9/77 | 0.544 | 0.620 | 0.076 | 3.00 | 3.06 | 0.06 | 3.49 |
| 10/77 | 0.417 | 0.504 | 0.087 | 3.07 | 3.12 | 0.05 | 3.36 |
| 11/77 | 0.238 | 0.314 | 0.076 | 3.12 | 3.22 | 0.10 | 3.53 |
| 12/77 | 0.309 | 0.333 | 0.024 | 3.48 | 3.53 | 0.05 | 4.17 |
| | | | | | | | MEAN = 3.23 |