TECHNICAL PUBLICATION SJ 87-2

# DEEP MONITORING WELL NETWORK FOR THE METROPOLITAN AREA OF ORLANDO, ORANGE COUNTY, FLORIDA, AND VICINITY

By

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March, 1987

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# INTRODUCTION

The rapid development of the metropolitan Orlando area in the last 15 years has caused an increasing demand for water. This demand is expected to continue in the future. Almost all of the water used for public, industrial, and irrigation supplies is derived from the lower permeable zone of the Floridan aquifer. Potential ground water quality problems lie in the future for this urbanizing area if this resource is not properly managed. The water quality effects resulting from the disposal of stormwater directly into the upper permeable zone of the Floridan aquifer through drainage wells and the possibility of saltwater upconing under deep wells which pump large quantities of water from the lower permeable zone of the Floridan aquifer are excellent examples.

Presently, there is no monitor well network from which data can be collected to evaluate the impacts of withdrawals from the lower permeable zone of the Floridan aquifer. This report proposes a network of deep monitoring wells in the Orlando and Winter Park area. Such a network will provide the means to monitor water quality and potentiometric surface fluctuations of the lower permeable zone of the Floridan aquifer and the freshwater/saltwater interface in this area.

## PURPOSE AND SCOPE

The purpose and scope of this project is to design an observation well network to monitor fluctuations in the potentiometric surface of the lower permeable zone of the Floridan aquifer and to monitor the location of the freshwater/saltwater interface under this lower permeable zone in the study area. The network design includes monitoring well site locations, drilling prioritization, and well design.

## OBJECTIVES

The principle objective of the evaluation presented in this report is the design of a deep monitor well network which will address the following water management concerns:

1. Monitoring the potentiometric surface fluctuations in the upper and lower permeable zones of the Floridan aquifer, and the position of the freshwater/saltwater interface, in a monitoring cluster well network, will lead to a better understanding of the hydrogeologic sytem in the Orlando-Winter Park area.
2. A more complete ground water monitoring network of the hydrogeologic system will help to prevent the occurence of adverse effects such as overpumping the aquifer which may result in local upconing of the freshwater/saltwater interface.
3. Monitoring the head-difference between the potentiometric surfaces of the upper and lower permeable zones of the Floridan aquifer will aid in estimating the recharge rate from the upper permeable zone to the lower permeable zone.
4. Water quality monitoring at selected sites may be used to evaluate potential movement of pollutants originating from street runoff removed by drainage wells from land surface to the upper permeable zone of the Floridan aquifer.
5. Data originating from the deep monitor well network will be beneficial in assessing proposed future withdrawal

sites and the need for additional deep monitor well locations associated with these sites.

In order to accomplish the principle objective, water use data and available hydrogeologic data were evaluated. Based on the review and evaluation of this data, a deep monitor well network will be designed. This network will consist of a series of deep test wells to be drilled at strategic locations. Each well, upon completion, will be converted to a monitor well.

METHODOLOGY

A nine township area (324 square miles) around Orlando and Winter Park, including a portion of southern Seminole County was delineated as the study area (Figure 1). The hydrogeology of the study area was evaluated based on available well construction, pumpage and water quality data collected from the files of the U. S. Geological Survey (USGS), Bureau of Geology, Department of Environmental Regulation, Orlando Utilities Commission, Orange County Department of Public Utilities (OCDPU), Winter Park Utilities and the St. Johns River Water Management District. Construction and location data for 412 drainage wells was also collected.

A base map of the study area was divided into nine 6 x 6 grid squares resembling townships. This grid was then overlaid with the locations of abandoned OCDPU water plant sites, existing upper and lower permeable zone USGS observation well sites, drainage well sites discharging only into the upper zone and drainage wells discharging into upper and lower permeable zones of the Floridan aquifer, number of drainage wells per grid square in the direction of ground water flow in the upper zone, grids showing the number of lower zone production wells, the locations of significant ground water withdrawals, and equal depth to base (250 mg/liter Cl content) of potable water. For each map, the

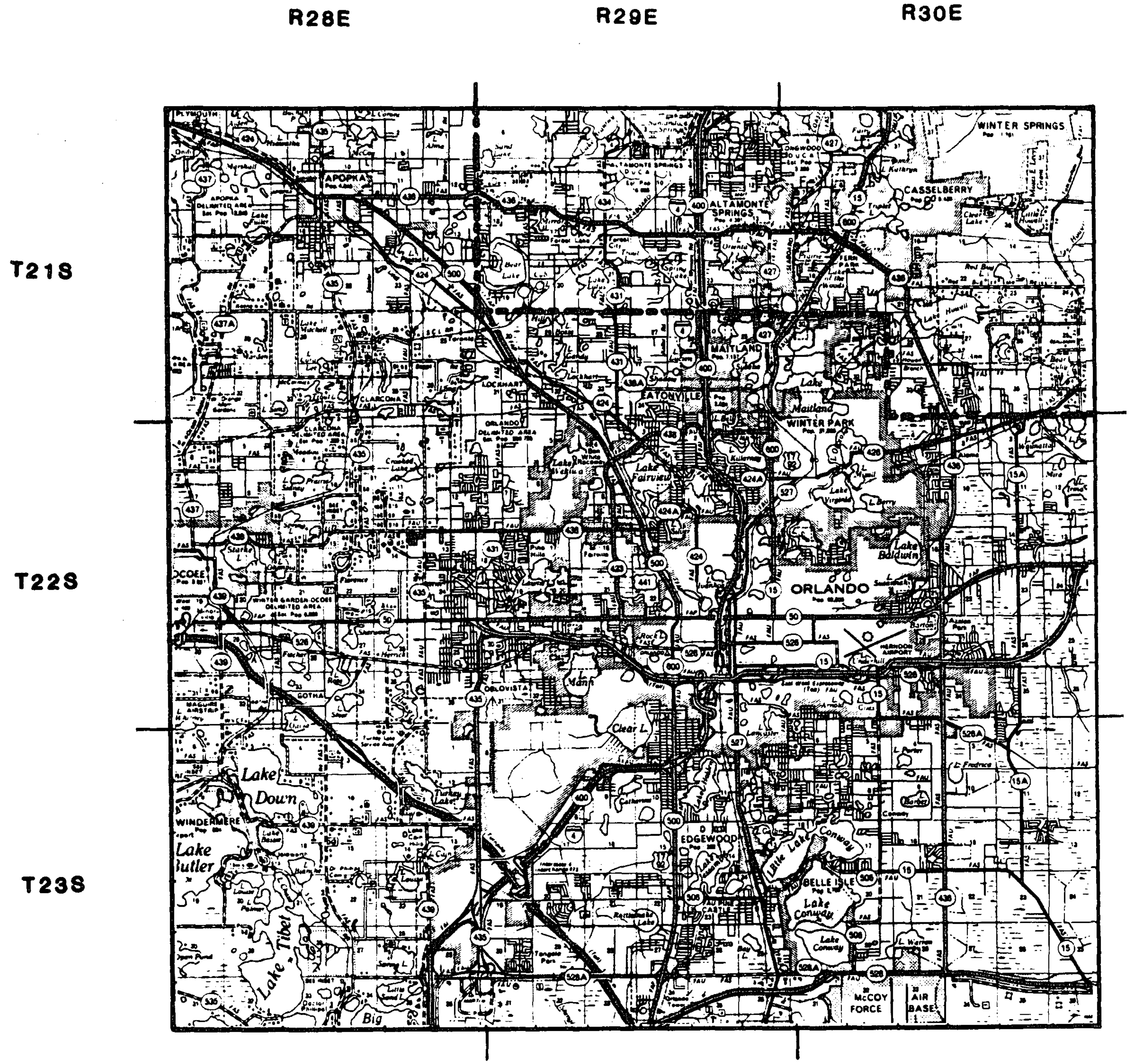


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Figure 1 -- Copy of DOT maps showing nine township area around Orlando and Winter Park in Orange and Seminole Counties

areas defined by the grid system were assigned a numerical value based upon the significance of the specific data mapped. Values for the same individual grid area from each one of the maps were then totaled to determine the priority and the location for prospective observation well sites.

# DATA EVALUATION

## CURRENT MONITORING

Within the St. Johns River Water Management District, the most widely utilized source of ground water is the Floridan aquifer. A District-wide Floridan aquifer monitoring well network of approximately 1,050 wells is maintained by the U.S. Geological Survey in cooperation with St. Johns River Water Management District. A listing of USGS observation well data (Appendix A, Table 3) and well sites in the nine township area are shown in Figure 2.

During recent years, monitoring of the lower permeable zone of the Floridan aquifer has been performed by the U.S. Geological Survey at five locations shown in Figure 3. However, monitoring only the lower permeable zone does not provide enough information concerning the position of the freshwater/saltwater interface which is located below zones monitored by the USGS.

The approximate depth of the freshwater/saltwater interface in the vicinity of Orlando is known at one location. At this location, in 1977, a 6,193 ft. deep-injection test well (Sand Lake Road deep-injection test well, Figure 3) was drilled for Orange County (Geraghty & Miller, Inc., 1977) on the site of the sewage treatment plant. The well was cased to 2,420 feet below land surface with the remaining portion left as open hole. The chloride content in the well at 2,350 feet was 49.0 mg/liter and at 2,395 feet, 65,000 mg/liter. After detailed testing, the

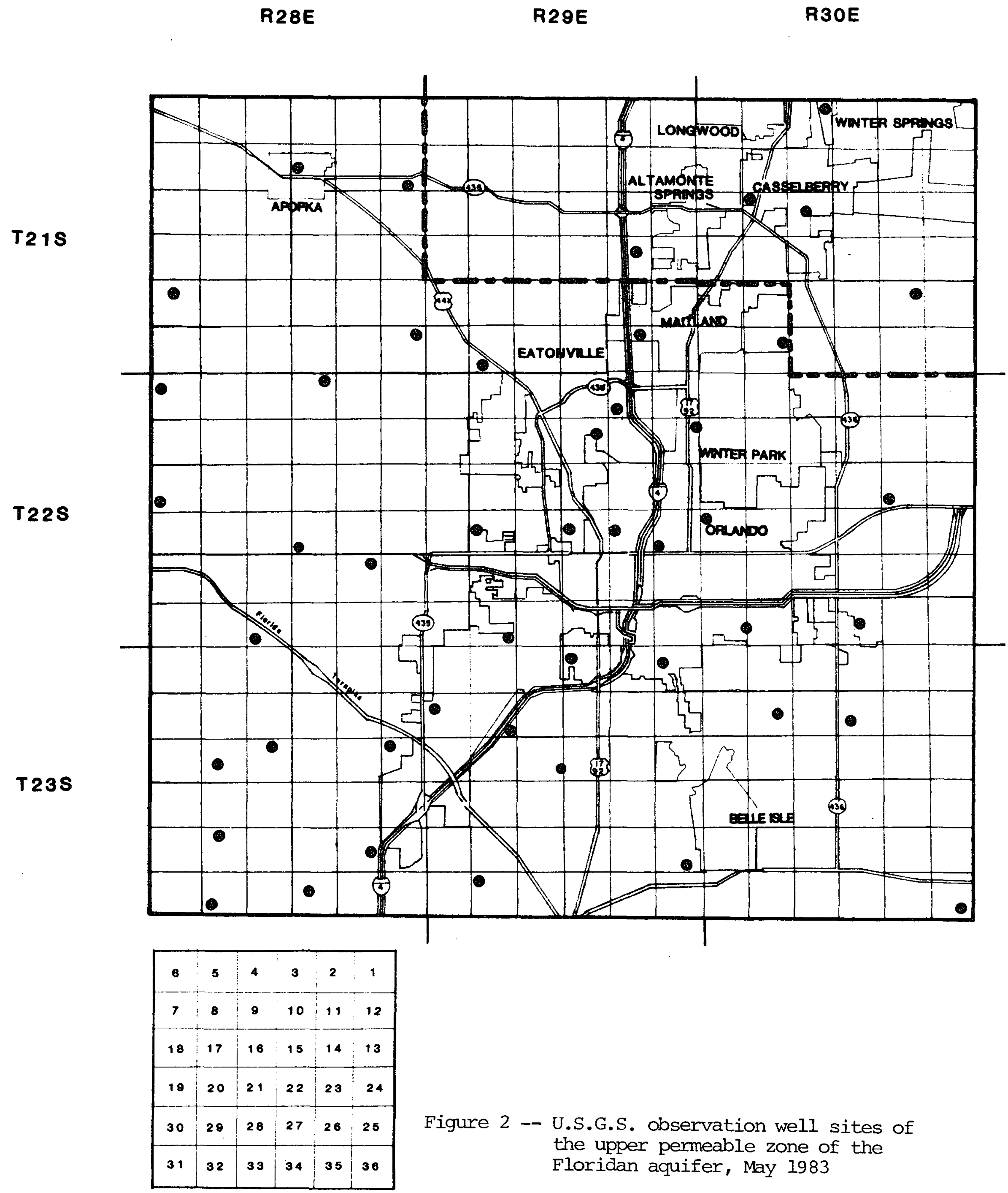
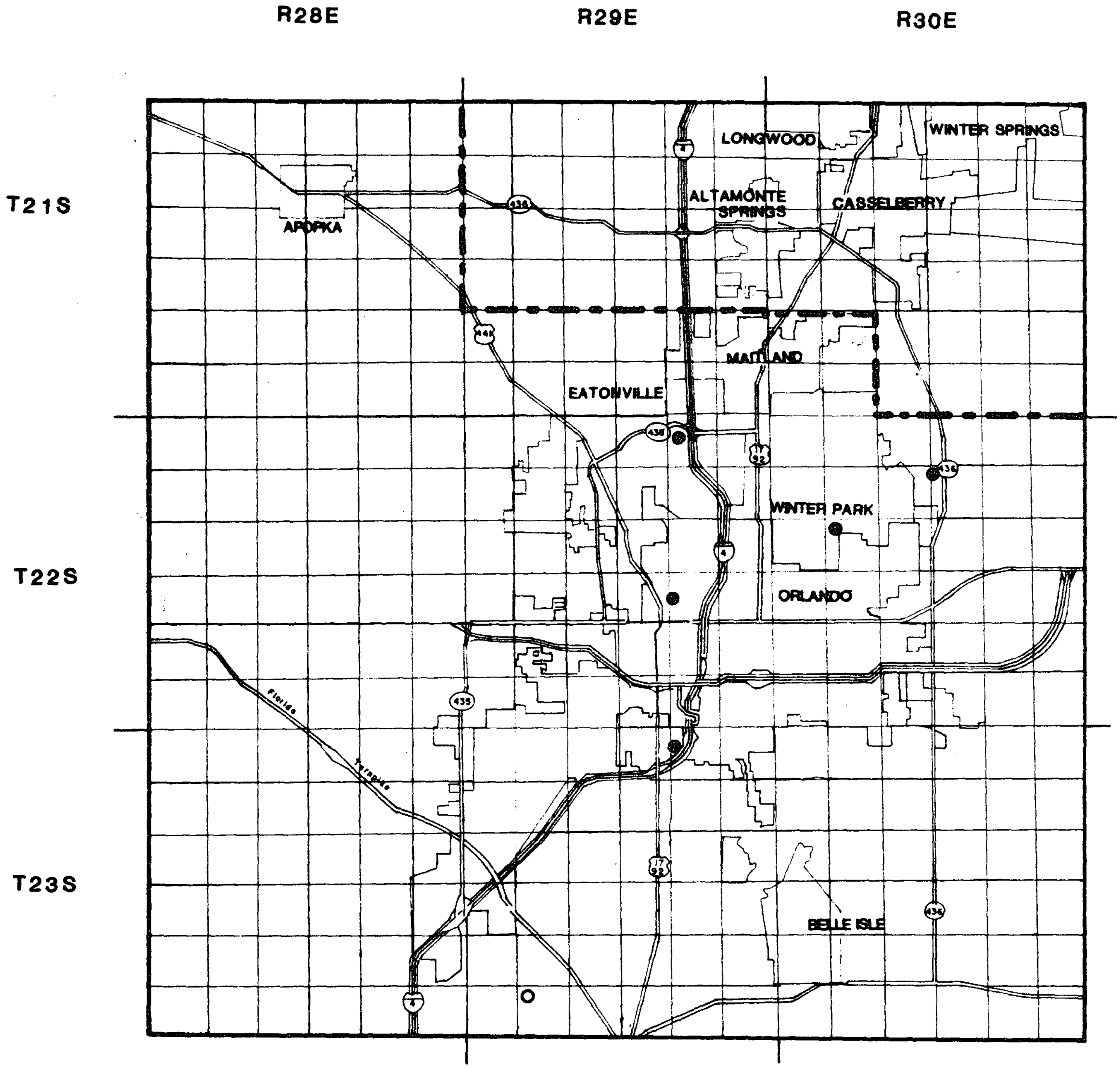
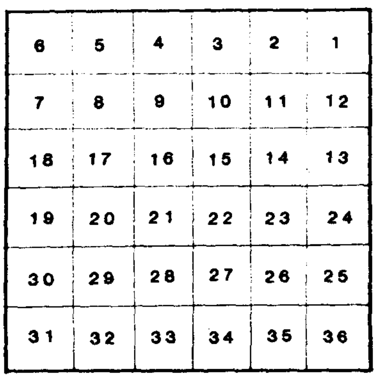



Figure 2 -- U.S.G.S. observation well sites of the upper permeable zone of the Floridan aquifer, May 1983




O Location of abandoned Orange County deep injection test well (6,193')

Figure 3 -- Sites of U.S.G.S. observation wells monitoring the lower permeable zone of the Floridan aquifer, May 1983

well was determined to be unsuitable for injecting large quantities of treated sewage effluent due to low permeability and was completed as an observation well monitoring the lower permeable zone of the Floridan aquifer from 2,005 to 2,030 feet in the annulus between the 32" and 12" casings.

HYDROGEOLOGY

The Floridan aquifer in the Orlando and Winter Park area is comprised of two distinct producing zones. The upper permeable zone consists of cavernous Ocala and Avon Park limestones of late and middle Eocene age, which extend from approximately 200 to 500 feet below land surface. Supply wells in this zone can yield 2,000 gpm or more (Unclesbay, 1946, p. 21; Lichtler, 1972, p. 31; 1968, p. 135). Withdrawals are generally limited to small public supply and domestic wells because of high bacterial levels (Schiner and German, 1983 p. 60). The lower permeable zone consists of cavernous limestone and dolomite of the Lake City limestone extending from about 1,000 to 1,300 feet. This zone provides the majority of the municipal and public water supply in the Orlando-Winter Park area. Between the two permeable zones, limestone and dolomite of significantly lower permeability extends between 500 to 1,000 feet and is considered to be a confining unit, although some recharge may occur from the upper zone to the lower zone. Below the lower permeable zone, water becomes brackish. The exact depth and hydrologic characteristics of the freshwater/saltwater interface are unknown in the vicinity of large withdrawals. The approximate depth to the base of potable water in the Floridan aquifer is shown in Figure 4.

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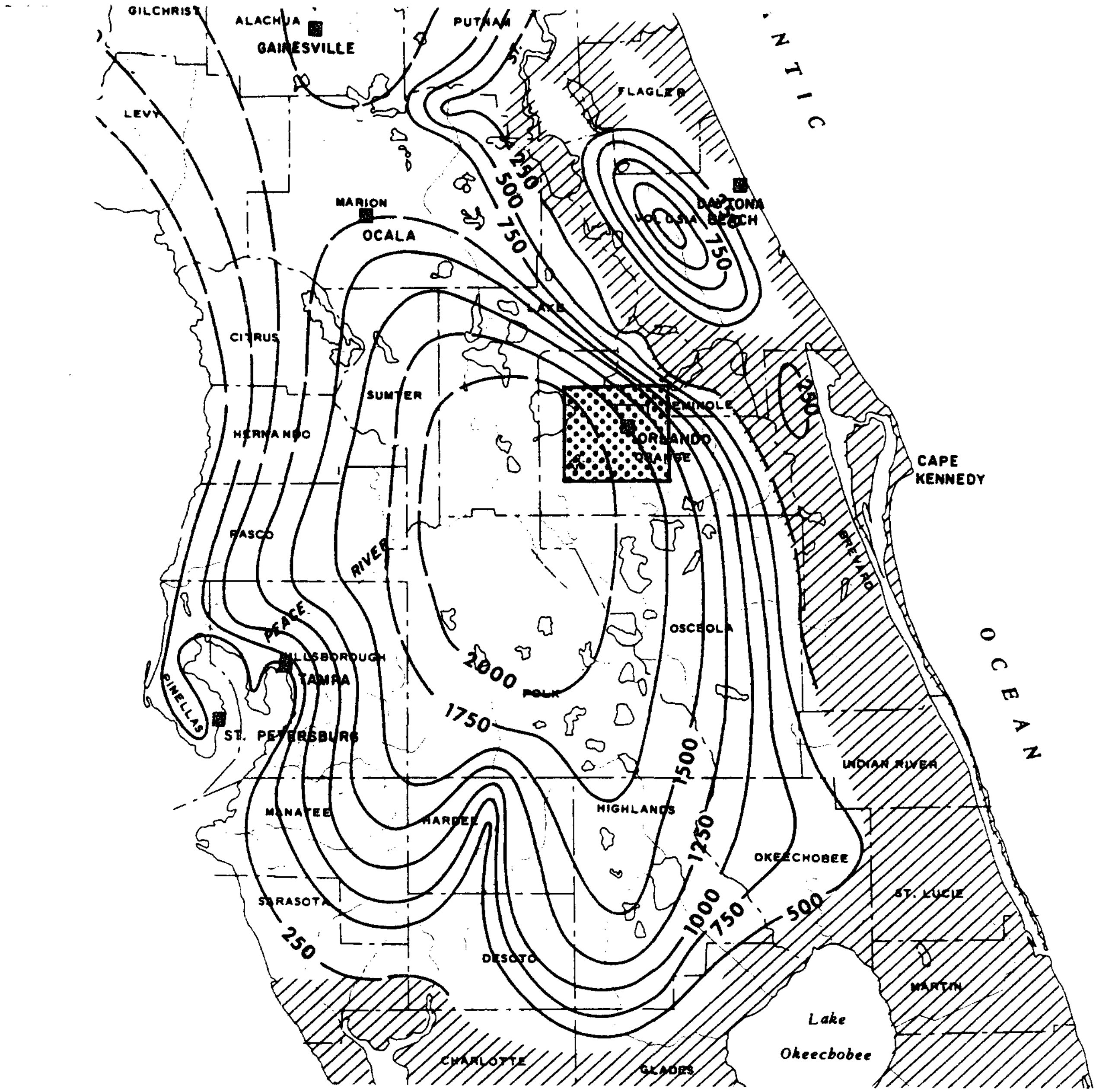


**EXPLANATION**

**No potable water** **Study Area**

*(In this report, water is considered potable if its chloride content does not exceed 250 milligrams per liter and its dissolved solids content does not exceed 500 milligrams per liter)*

**——— ——— 500 ————**

**Line showing approximate depth to base of potable water in the Floridan Aquifer, dashed where inferred, interval 250 feet. Datum is land surface**

Figure 4 -- Map showing approximate depth to base of potable water in the Floridan aquifer. Copied from BOG Map Series No. 42 (H. Klein), 1975

In cooperation with the Orange County Division of Public Utilities (OCDPU), an inventory of wells at abandoned water plants was made. Available wells were geophysically logged in order to collect well construction, geologic, and hydrologic information. This information is included as Appendix A and B. Figure 5 shows the sites of abandoned water plants.

Table 1 contains a summary of the hydrogeologic characteristics of the formations penetrated by water wells in Orange County, and Figure 6 illustrates a generalized geological cross section in the Orlando and Winter Park area.

## DRAINAGE WELLS

The topography of the Orlando and Winter Park area can be characterized by numerous small drainage basins and closed depressions which provide little or no drainage. Therefore, a major portion of the study area was historically subject to periodic flooding after heavy rainstorms. As land development increased and the area became more urbanized, it became imperative to augment surface drainage. It was realized that water wells tapping the Floridan aquifer exhibited water levels which were much lower than the surface water elevations of the lakes in the area. This condition allowed for the gravity drainage of excess surface water by wells drilled into the Floridan aquifer. These wells are known as drainage wells. By the early 1960s hundreds of

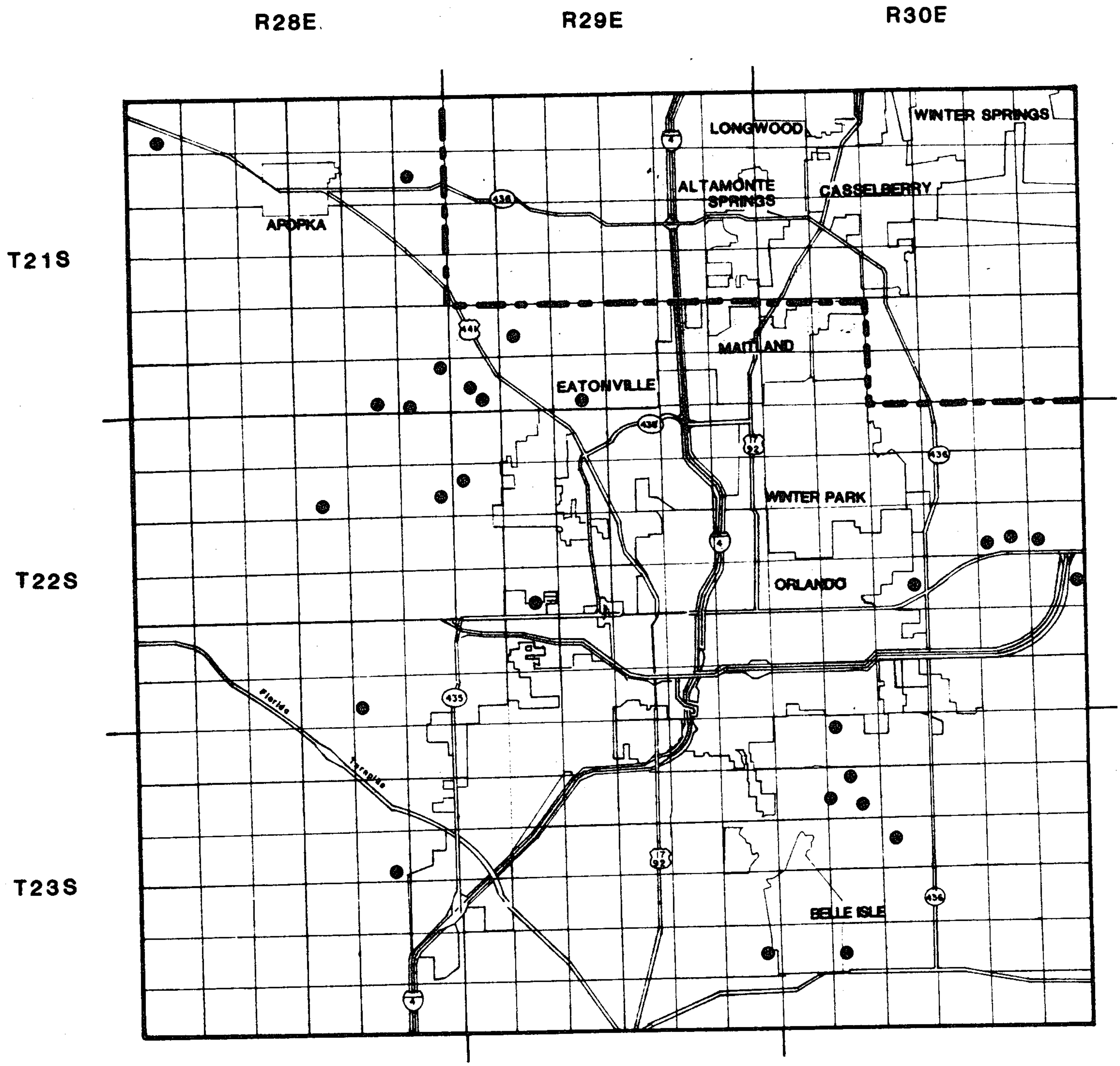


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Figure 5 -- Abandoned water plant sites of Orange County Department of Public Utilities (1983-84)

Table 1. Summary of the properties of the geologic formation penetrated by water wells in Orange County, Florida (Adapted from Lichtler and others, 1968, p. 16).

| Series | Formation Name | Thickness in feet | Decription of Materal | Water-bearing Properties | Aquifer |
|---|---|---|---|---|---|
| Holocene and Pleistocene | Undifferentiated, may include Caloosahatchee | 0-200 | Mostly quartz sand with varying amounts of clay and shell. | Varies widely in quantity and quality of water produced. | Nonartesian |
| Miocene | Hawhtorn Formation | 0-200 | Gray-green, clayey, quartz sand and silt; phosphatic sand; and buff, impure, phosphatic limestone, mostly in lower part. | Generally impermeable except for limestone, shell, or gravel beds. | Shallow artesian, lower limestone beds may be part of Floridan Aquifer. |
| | Ocala Limestone | 0-125 | Cream to tan, fine, soft to medium hard, granular, porous, sometimes dolomite limestone. | Moderately high transmissivity, most wells also penetrate underlying formations. | Floridan |
| Eocene | Avon Park Limestone | 400-600 | Upper section mostly cream to tan, granular porous limestone. Lower section mostly dense, hard, brown, crystalline dolomite. | Overall transmissivity very high, contains many interconnected solution cavities. Many large capacity wells draw water from this formation. | Floridan |
| | Lake City Limestone | More than than 700 total | Dark brown crystalline layers of dolomite alternating with chalky fossiliferous layers of limestone | Similar to Avon Park Limestone. Municipal supply of cities of Orlando and Winter Park obtained from this formation. | Floridan |

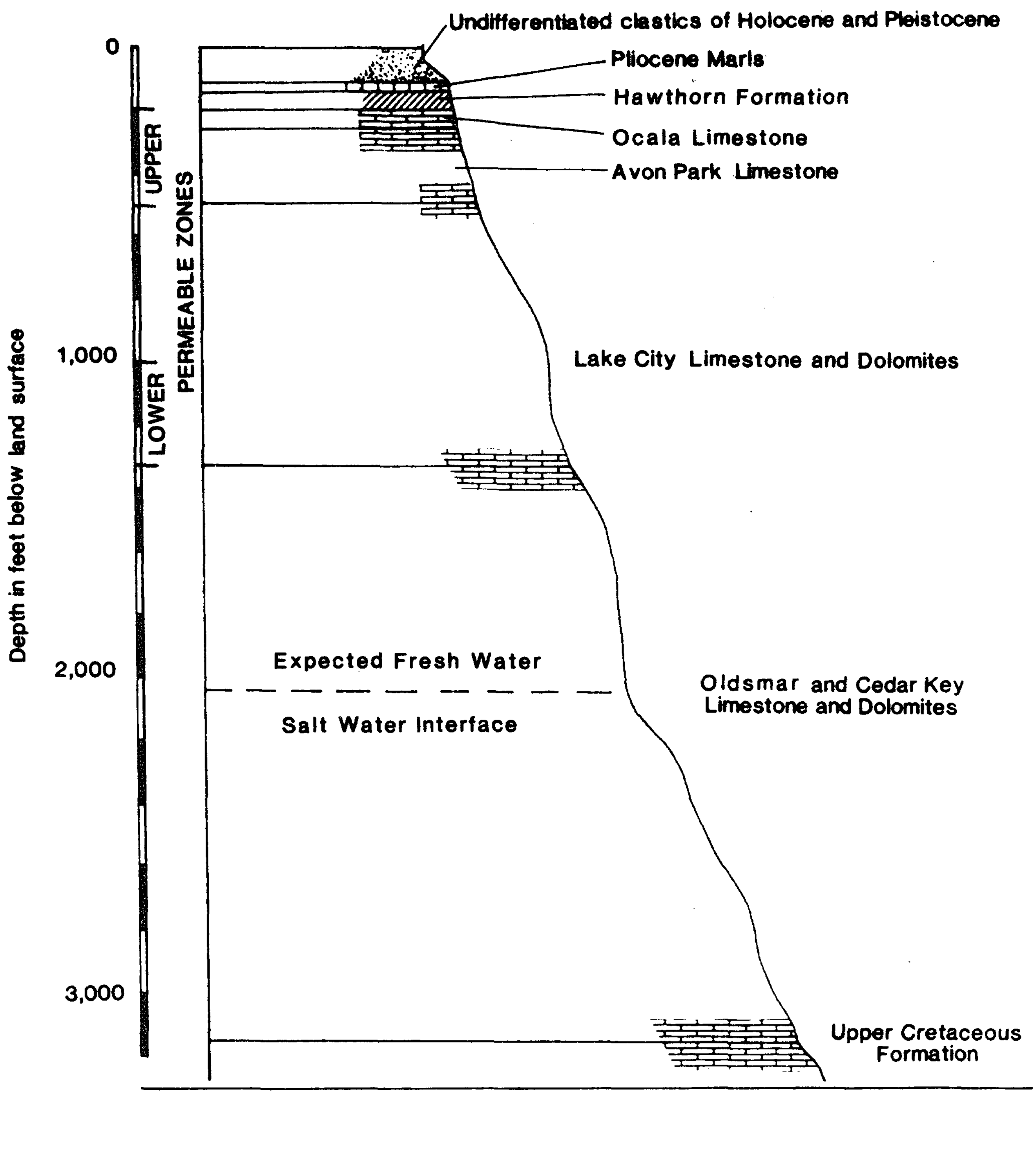


Figure 6 -- Generalized geological cross section in the Orlando and Winter Park area

drainage wells were being used for disposing various types of surface runoff.

Orange County has 412 known drainage wells. Figure 7 shows the construction of two typical drainage wells. Data pertaining to these drainage wells is on file with the U.S. Geological Survey (Kimrey, 1978, 1979, 1984). Of these wells, 22 are not in use and six are outside the study area. Drainage wells not in use are either clogged, filled, plugged, capped, destroyed, or abandoned. Therefore, at present, 374 active drainage wells are within the project boundaries. Drainage wells can be categorized into groups based on the type of water received:

1. industrial waste from citrus processing plants, brewery, and laundry - 11 drainage wells
2. air conditioning cooling water - 8 drainage wells
3. sewage effluent - 7 drainage wells
4. storm water runoff from streets and highways - 129 drainage wells
5. storm water runoff from lakes and creeks - 88 drainage wells
6. water sources lacking documentation:

   Orange County - 48 drainage wells

   City of Orlando - 57 drainage wells

   Private - 26 drainage wells

   The water received by these wells is probably storm water runoff from streets, lakes, and green areas.

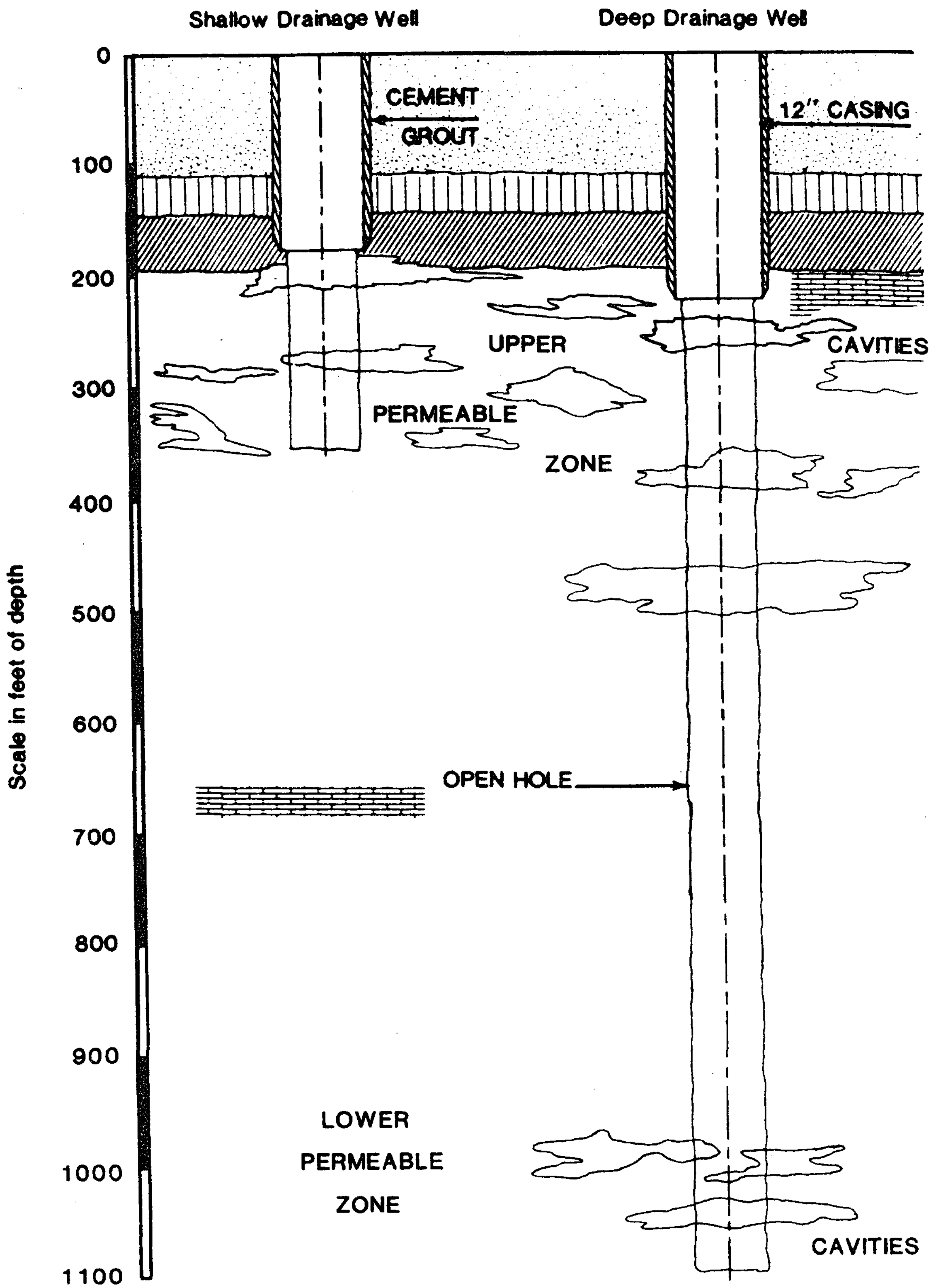


Figure 7 -- Cross sections showing the construction of typical shallow and deep drainage wells in the Orlando and Winter Park area

Drainage wells within the study area can also be categorized by the permeable zone which receives excess quantities of water from land surface. One group of drainage wells discharge only to the upper permeable zone. Another group of drainage wells discharge into both the upper and lower permeable zones of the Floridan aquifer. The number of drainage wells in the first group is 341, while the number of drainage wells in the second group is 33. Appendix C lists these 33 wells of which the average depth is 749 feet. There are only ten drainage wells in this second group which penetrate the lower permeable zone of the Floridan aquifer.

Figures 8, 9, and 10 show the number and relative locations of drainage wells which discharge only into the upper permeable zone, the number of drainage wells which discharge into the upper and lower permeable zones, and the total number of drainage wells within the project boundaries.

## WATER QUALITY IMPACT OF DRAINAGE WELLS ON THE FLORIDAN AQUIFER

In the study area, drainage wells recharge, by gravity, large quantities of untreated stormwater runoff, some treated wastewater, and lake overflow to the upper permeable zone of the Floridan aquifer. The impact of drainage wells on the quality of the water in the Floridan aquifer can be assessed by comparing the quality of water obtained from different types of wells. This interpretation has been performed by the U. S. Geological

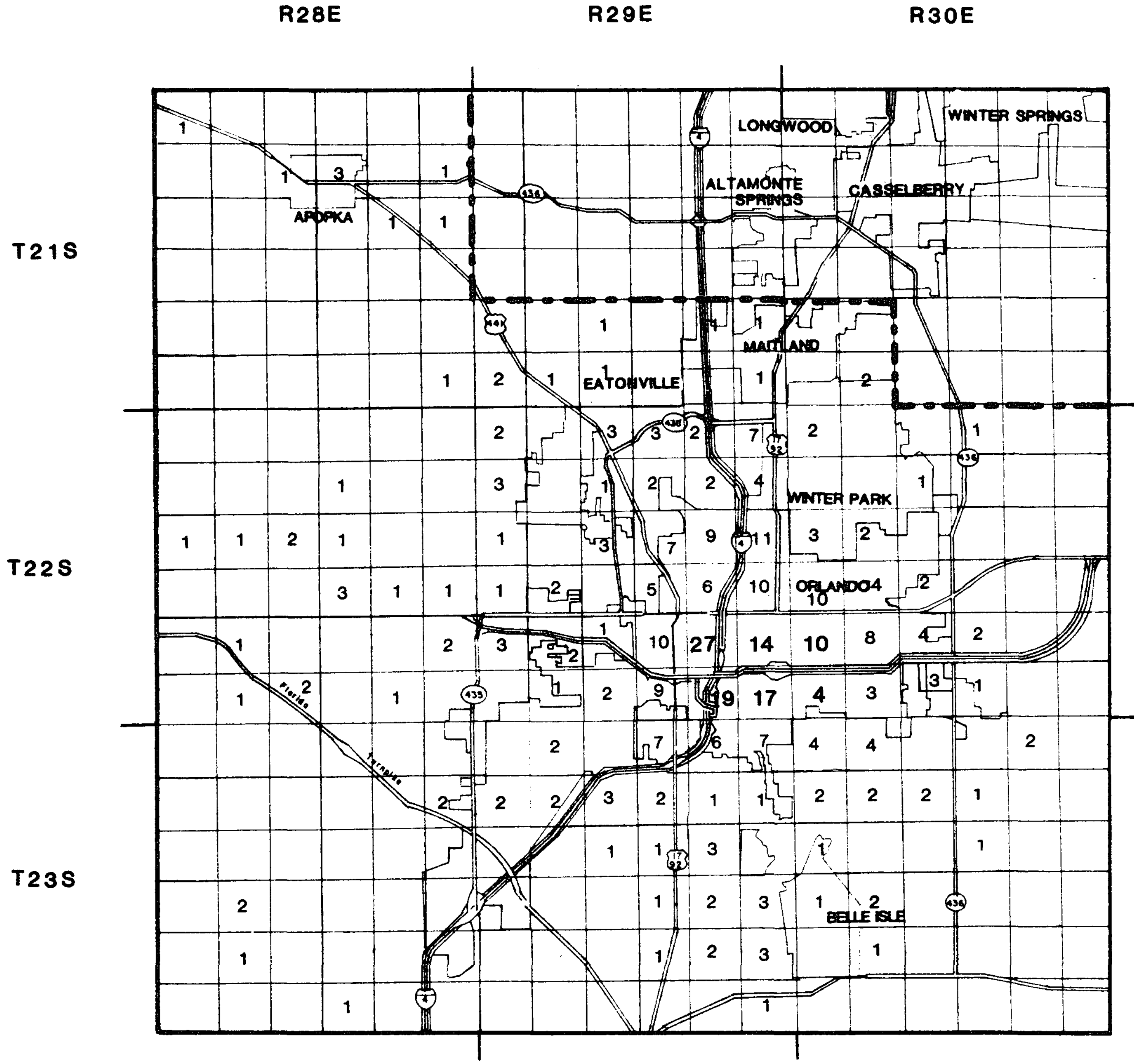


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Figure 8 -- Number of drainage wells per section which discharge only into the upper permeable zone of the Floridan aquifer

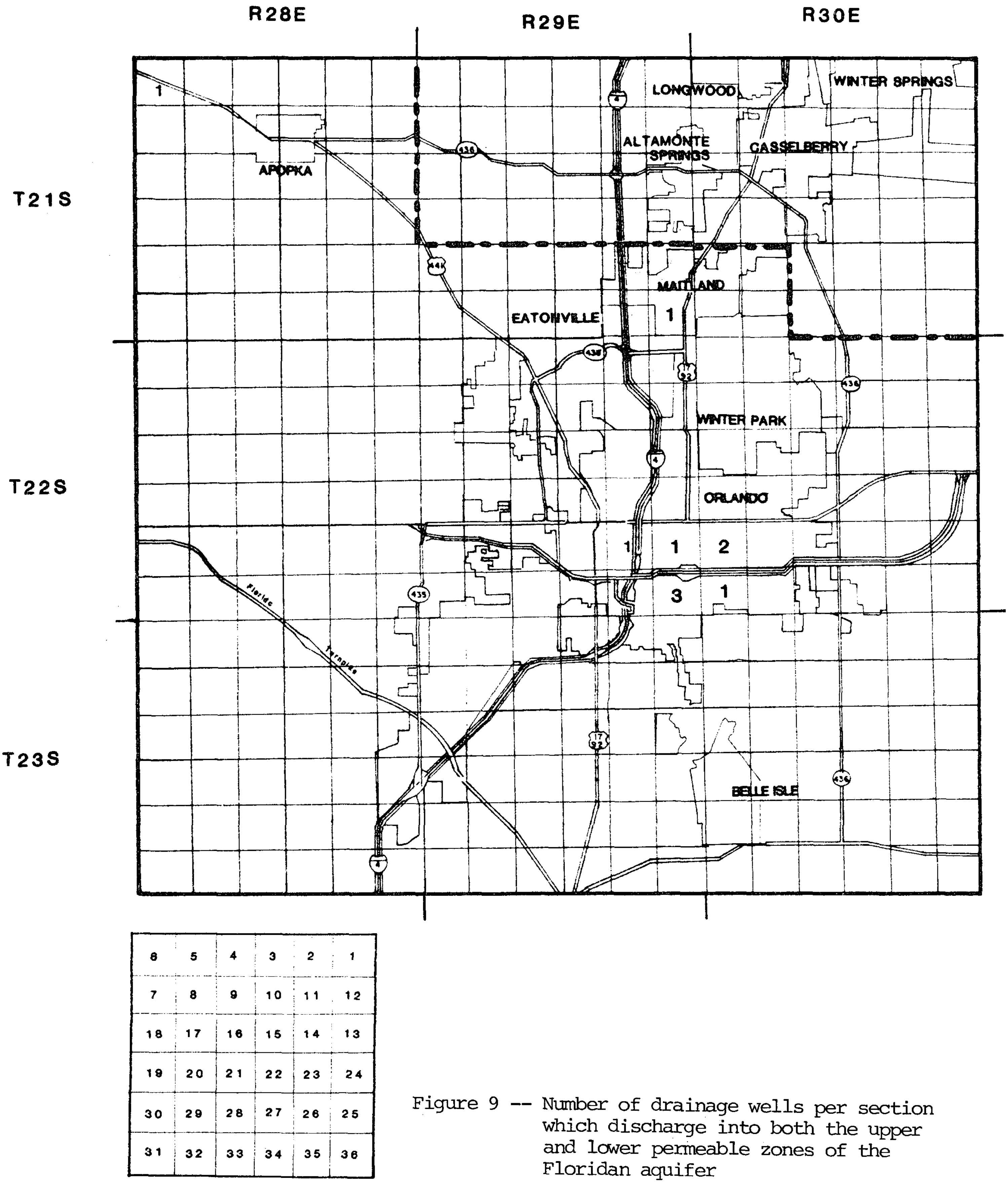
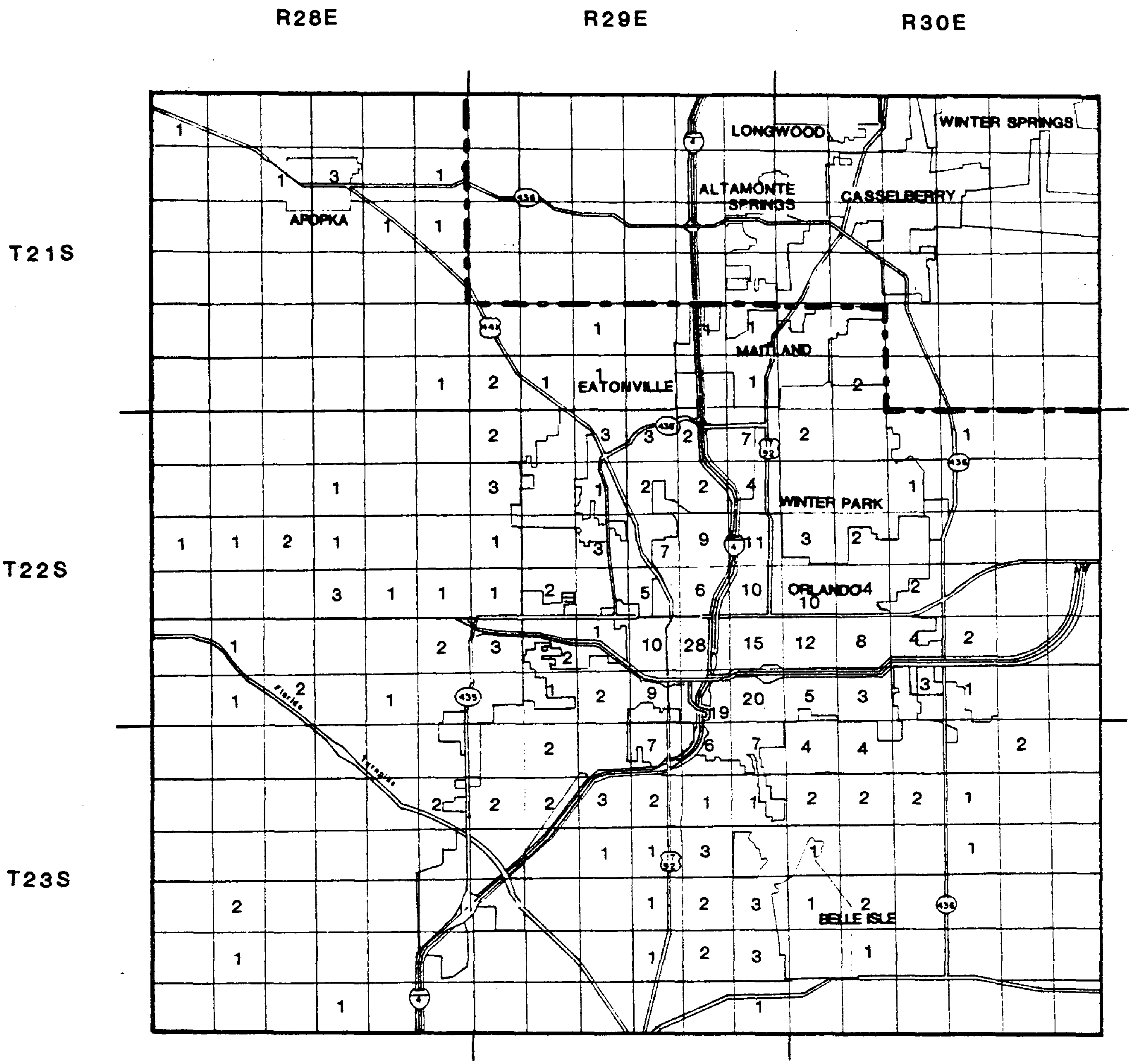



Figure 9 -- Number of drainage wells per section which discharge into both the upper and lower permeable zones of the Floridan aquifer



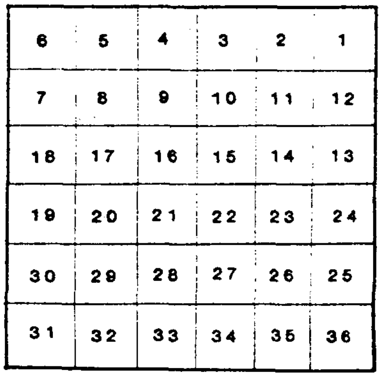



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Figure 10 -- Total number of drainage wells per section

Survey (Schiner and German, 1983, p. 21) based on a categorization of the wells into five groups:

1. drainage wells that receive lake overflow
2. drainage wells that receive street runoff
3. supply wells that tap the upper producing zone near a drainage well
4. supply wells that tap the lower producing zone near a drainage well
5. supply wells that tap the upper producing zone and are not affected by drainage wells

Interpretation of water analyses provide several conclusions. The water quality of supply wells in the study area differs little from the quality of water in wells outside the area. The quality of water is much the same for supply wells finished in the upper and lower producing zones, except for bacteria levels and total nitrogen concentration. Little difference is found in the quality of water from drainage wells regardless of the source of inflow. Areal patterns of selected constituents do not appear to relate to drainage well density.

Although no serious health hazards associated with drainage wells have been documented, the threat of pollution by drainage wells is a possibility which perhaps could be detected by a basic water quality monitoring program. To determine the most advantageous locations for monitoring wells to be used as part of such a program, the possible cumulative contamination effects of drainage wells were assessed.

This assessment was accomplished by totaling the number of drainage wells in each grid section in the direction of the ground water flow within the upper permeable zone. The general direction of ground water flow in the study area is southwest to northeast as determined by the potentiometric surface of the Floridan aquifer for May 1977 (Figure 11). The larger number in a grid section indicates a greater potential for an accumulated concentration of pollutants to contaminate the upper permeable zone. This cumulative number represents the number of drainage wells in the observed grid section plus the total number in all grid sections to the southwest of the observed grid section (Figure 12).

## PRODUCTION WELLS

The main source of potable water in Orange and southwest Seminole counties is the lower permeable zone of the Floridan aquifer. However, some production wells are constructed in a manner which allows water to be withdrawn from the upper permeable zone and the confining zone between the two production zones. The number of these wells was determined from the data base of U.S. Geological Survey, Florida Bureau of Geology, Florida Department of Environmental Regulations, Orange County Utilities Commission, Orange County Department of Public Utilities, Winter Park Utilities, and the St. Johns River Water Management District.

Appendix B gives a list of well data originating from the above-mentioned organizations and includes 118 wells. These wells can be divided into three groups: wells completed only

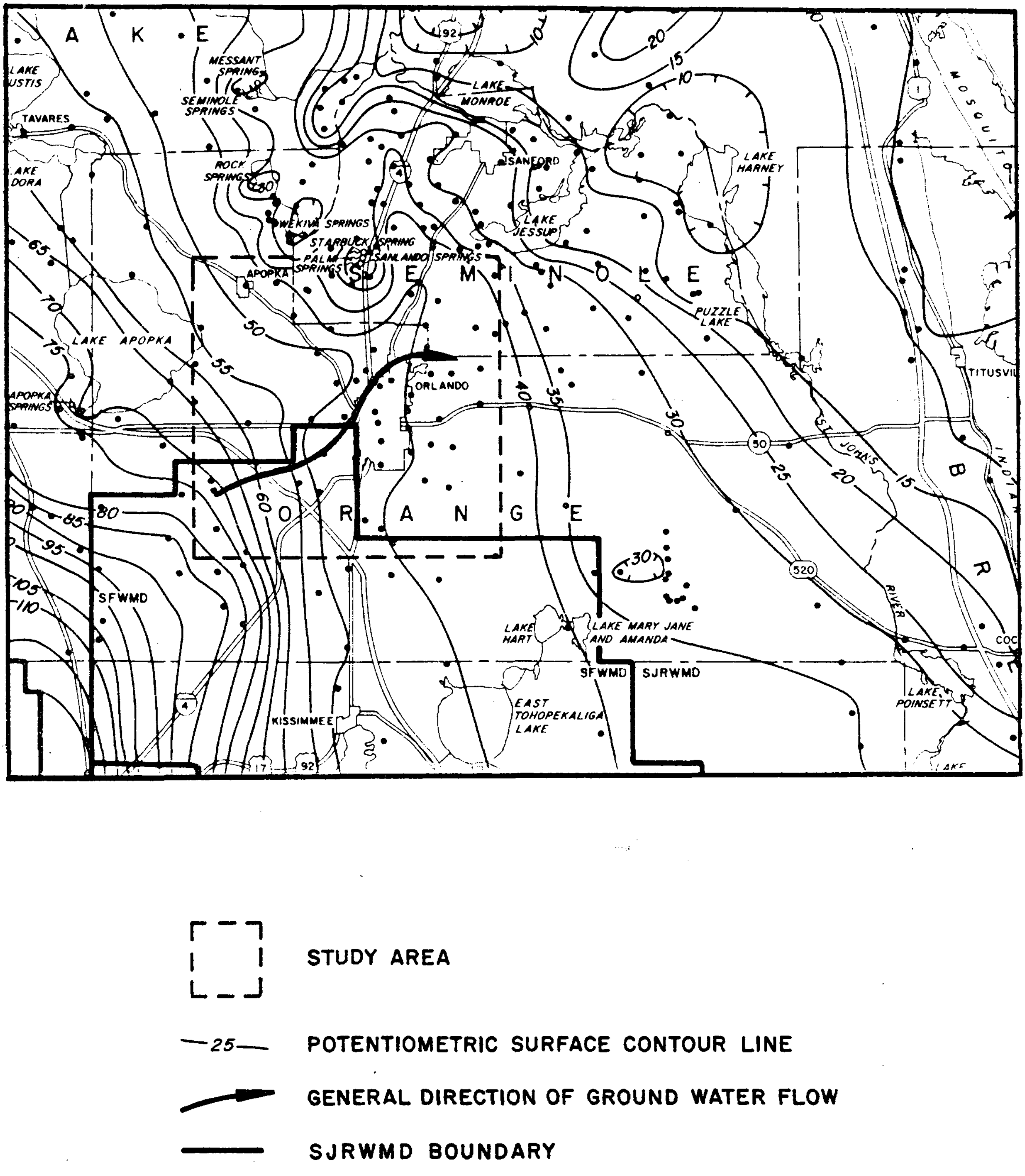


Figure 11 -- Potentiometric surface map of the Floridan aquifer May 1977, showing directions of flow in study area.

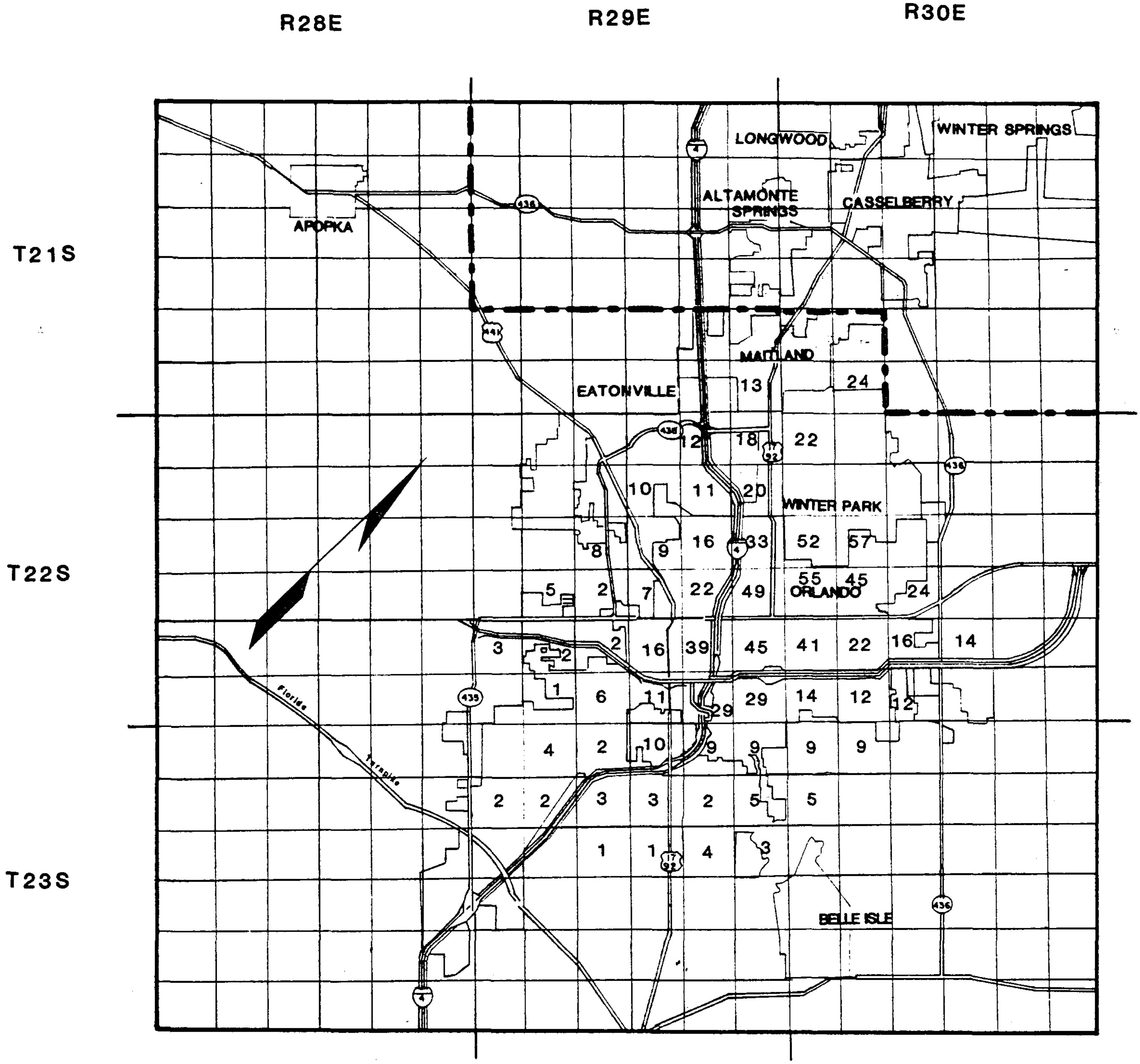


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Figure 12 -- Cumulative number of drainage wells per section in the direction of ground water flow in the upper permeable zone of the Floridan aquifer.

into the upper permeable zone; wells open to the upper permeable zone but with open bore holes extending into the low permeability zone lying between the upper and lower permeability zones; and wells open only to the lower permeable zone. The number of wells in these three groups are 23, 35, and 56, respectively. The 56 wells open to the lower permeable zone are classified in the following manner: nine industrial wells, four private wells, 40 public supply wells, and 5 observation wells of the USGS, two of which are production wells of Winter Park Utilities.

Production wells in the lower permeable zone can be found in groups usually associated with water plant units, or wells for industrial use, pumping heavily from a small area. Figure 13 shows the location of wells withdrawing from the lower permeable zone, and Figure 14 shows the annual average daily withdrawals (MGD) for 1984.

## WITHDRAWALS FROM THE FLORIDAN AQUIFER

The annual water use survey of the St. Johns River Water Management District for calendar year 1983 (Marella, 1985) lists four categories of users: Individual Public Utility Water Use; Individual Industrial; Institutional; and Thermoelectric Water Uses. Tables 2 and 3 summarize the estimated water use for the significant facilities in the project area withdrawing water from the upper and lower permeable zones of the Floridan aquifer.

The total estimated ground water use in the area for 1983 was 96.65 MGD, of which 89.5 percent was by public water system

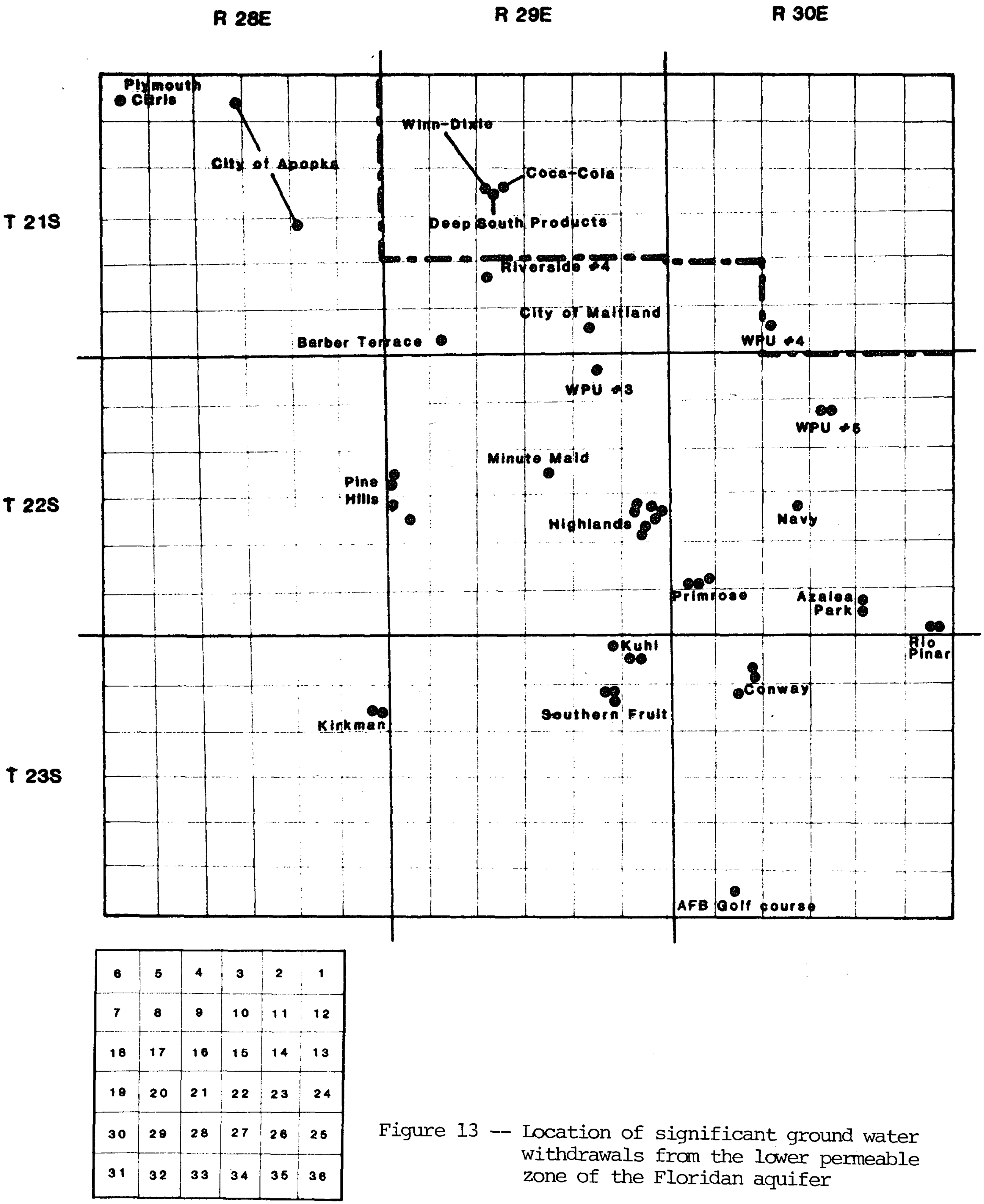


Figure 13 -- Location of significant ground water withdrawals from the lower permeable zone of the Floridan aquifer

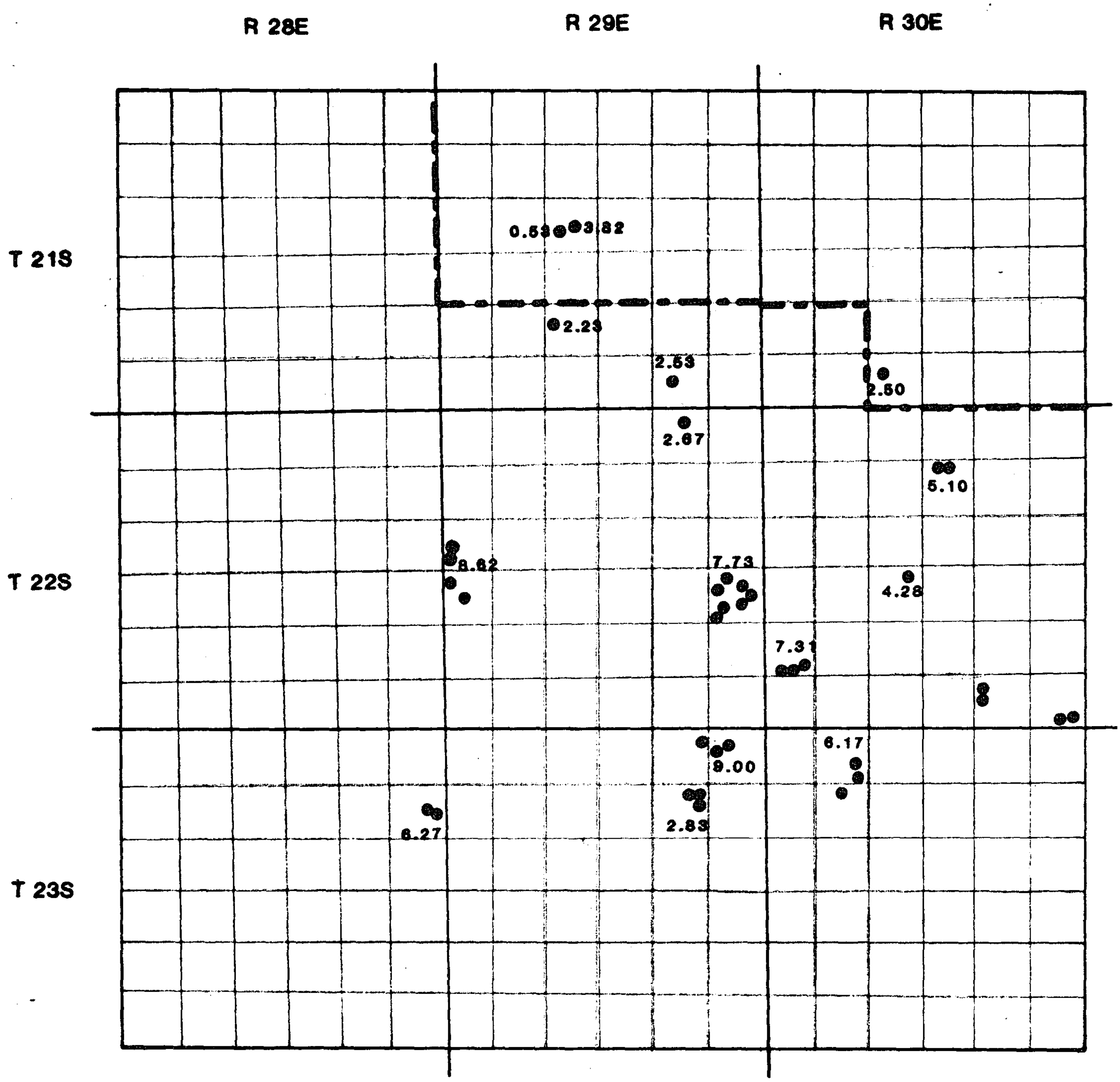


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Figure 14 -- Annual average daily withdrawals (MGD) from the lower permeable zone of the Floridan aquifer, 1984

Table 2.--Summary of withdrawals by Public Water Supply Systems for 1983

| County | ID# | Water Type | Facility Name | MGD |
|---|---|---|---|---|
| Orange | OR0001 | GW FR | City of Apopka | 2.3530 |
| | OR0002 | GW FR | City of Eatonville | 0.3830 |
| | OR0003 | GW FR | City of Maitland | 1.8606 |
| | OR0005 | GW FR | City of Ocoee | 1.4548 |
| | OR0012 | GW FR | City of Winter Garden | 1.4932 |
| | OR0006 | GW FR | Orange Co. Public Utilities | 7.9838 |
| | OR0007 | GW FR | Orlando Utilities Commission | 40.0459 |
| | OR0008 | GW FR | Rock Springs Mobile Home Park | 0.1333 |
| | OR0009 | GW FR | Shadow Hills Mobile Home Park | 0.1998 |
| | OR0010 | GW FR | Southern States Utilities Co. | 0.3856 |
| | OR0011 | GW FR | Tangerine Water Co. | 0.0904 |
| | OR0004 | GW FR | Town of Oakland | 0.0815 |
| | OR0013 | GW FR | Winter Park Utilities Dept. | 10.5687 |
| Total | | | | 67.0336 |
| Seminole | SE0001 | GW FR | City of Altamonte Springs | 5.7818 |
| | SE0002 | GW FR | City of Casselberry | 4.0436 |
| | SE0005 | GW FR | City of Longwood | 1.3013 |
| | SE0006 | GW FR | North Orlando Water & Sewer | 0.8025 |
| | SE0016 | GW FR | Seminole Utilities | 0.9127 |
| | SE0011 | GW FR | Southern States Utilities, Inc. | 0.8808 |
| | SE0009 | GW FR | Sunlando Utilities | 4.7945 |
| | SE0012 | GW FR | Utilities Inc. of Florida | 0.9739 |
| Total | | | | 19.4911 |

Table 3.--Summary of Industrial and Institutional Water Users for 1983

Orange

| ID# | Water Type | Facility | User Type | MGD |
|---|---|---|---|---|
| OR0017 | GW FR | Southern Fruit Distributors | Industrial | 3.0000 |
| OR0016 | GW FR | Coca Cola Co. (Plymouth Plant) | Industrial | 0.1433 |
| OR0021 | GW FR | University of Central Fla. | Institution | 0.5127 |
| OR0018 | GW FR | Winter Garden Citrus Products | Industrial | 1.9986 |
| OR0019 | GW FR | Zellwood Farms (Ralston Plant) | Industrial | 0.1005 |
| Total | | | | 5.7551 |

Seminole

| ID# | Water Type | Facility | User Type | MGD |
|---|---|---|---|---|
| SE0014 | GW FR | Deep South Products | Industrial | 0.5321 |
| SE0013 | GW FR | Cocoa Cola (Forest City Plant) | Industrial | 3.8234 |
| Total | | | | 4.3555 |

GW = ground water
FR = fresh water

users, 7.8 percent by industry, 2.6 percent by institutions, and 0.1% for thermoelectric power generation. Of the total estimated water use, about 64.0 MGD was withdrawn from the lower permeable zone in 1983. The most prominent users withdrawing ground water from the lower permeable zone in the nine township area in 1983 are as follows:

| | |
|---|---|
| Orlando Utilities Commission | 40.0459 MGD |
| Winter Park Utilities Dept. | 10.5687 MGD |
| The Coca Cola Co. | 3.8234 MGD |
| Orange Co. Dept. of Public Utilities | 3.3786 MGD |
| City of Altamonte Springs | 3.0000 MGD |
| Southern Fruit Distributors | 3.0000 MGD |
| Total | 63.8166 MGD |

Figure 13 shows the locations of known lower permeable zone withdrawals of greater than 0.1 MGD. Figure 14 shows annual average daily withdrawals for 1984 from sites in the greater Orlando and Winter Park area on pages 29 and 30.

## WATER QUALITY

USGS WRI 82-4094 (Schiner and German) describes the water quality of the upper and lower production zones as follows:

### Upper Production Zone

> "The water in the upper producing zone of the Floridan aquifer is primarily a calcium and magnesium bicarbonate type. Bicarbonate generally accounts for more than 75 percent of the ions, and calcium and magnesium account for more than 85 percent of the cations. But in several supply wells, and several drainage wells, more than 25 percent of the anions consisted of sulfate plus chloride and more than 15 percent of the cations consisted of sodium plus potassium."

> "Water from drainage wells generally has slightly higher concentrations of most constituents than water from supply wells. Moreover, for some constituents, water from drainage wells has a marked tendency toward higher concentrations. The larger differences between the quality of water from drainage wells and supply

wells, based on a comparison of median concentrations, were for total nitrogen, total phosphorus, total recoverable iron, and total coliform. The comparisons are as follows:"

| | Drainage Wells | Supply Wells |
|---|---|---|
| Total nitrogen (N) | 1.0 mg/L | 0.29 mg/L |
| Total phosphorus (P) | .23 mg/L | .07 mg/L |
| Total recoverable iron (Fe) | 660 g/L | 60 g/L |
| Total coliform | 39 col/100 mL | 0 col/100 mL |

Lower Production Zone

"Water from the lower producing zone (also a calcium and magnesium-bicarbonate type water) was more consistent within its chemical type. Part of this consistency may be because most samples from the lower producing zone were clustered in a small part of the study area or that the zone is deeper and more isolated from surface influences.

"The quality of water from the group of supply wells in the Orlando area is about the same as the quality of water from wells in adjacent areas where no drainage wells exist. However, for the supply wells in the Orlando area, correlation coefficients based on water quality data and distances between supply and drainage wells upgradient from supply wells indicate a relation between water quality and the number of drainage wells in an area. The highest correlation (0.76) was for total nitrogen in lower-producing zone supply wells as a function of number of drainage wells within 5 miles in the upgradient semicircle. This correlation analysis may not mean a direct cause-and-effect relation between water quality and drainage-well density. For example, high population density could be a source of pollutants independent of drainage wells."

Appendix D shows major dissolved constituents and physical properties, nutrients, bacteria, and trace elements of water withdrawn by the Orlando Utilities Commission for 23 wells. All wells withdraw water from the lower permeable zone.

Data included in Appendix D covers a period from 1968 to 1984 and is summarized on an annual basis.

FRESHWATER/SALTWATER INTERFACE

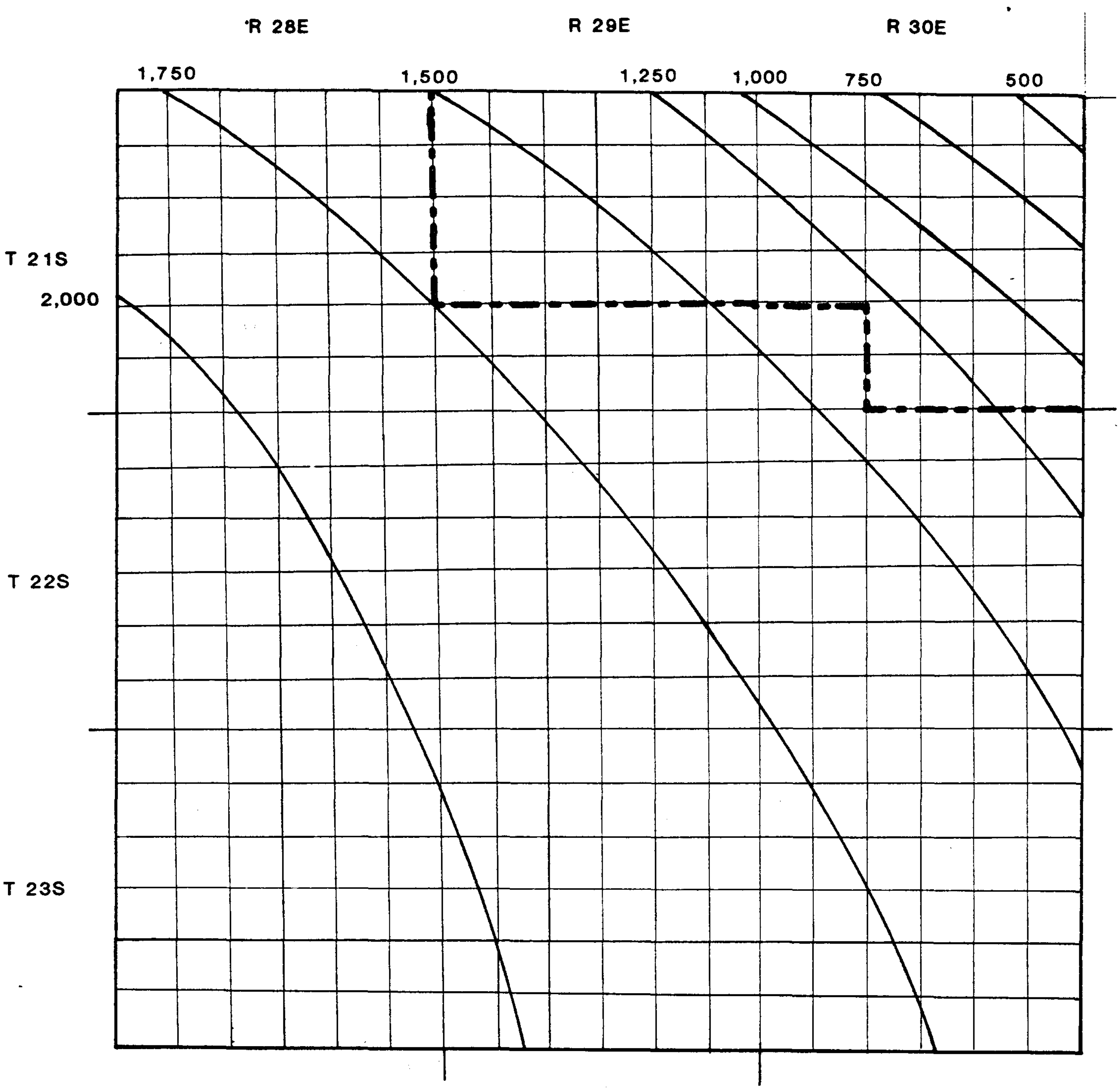
Saline waters associated with inland aquifers of Florida have been entrapped in the formations since deposition (Lichtler 1968). The contact between fresh and salt water is usually a transition zone of mixed water having a salinity gradient. Along this interface, fresh ground water flows toward the discharge areas of the aquifer. This freshwater flow forces movement of more saline entrapped water toward the ocean. Over time, a fresh water lens has formed and floats in equilibrium over the saltwater within the Floridan aquifer.

In areas where pumping is heavily concentrated, the upconing of the freshwater/saltwater interface may result in a continuous migration of saline water into fresher zones. Ultimately, the salt content of the pumped water increases. Therefore, it is very important to monitor the position and fluctuation of the freshwater/saltwater interface.

Extensive monitoring of the interface has not been carried out in central Orange County. Data collected from the Sand Lake Road deep injection-test well indicates that the freshwater/saltwater interface is located between 2,350 and 2,395 feet.

Klein (1975) estimated the approximate depth to the base of potable water in the Floridan aquifer (Figure 4). Water is considered potable if the chloride content does not exceed 250 milligrams per liter and dissolved solids content does not exceed 500 milligrams per liter. The base of potable water in the study area is estimated to be between 1,750 and 2,000 feet depth. This estimate corresponds quite well with the data collected from the Sand Lake Road deep injection test well described earlier in this report.

Figure 15 illustrates in more detail the estimated depth to the base of potable water in the study area. This map suggests that the approximate depth from land surface to the base of potable water (250 mg/l chloride content) decreases in a northeasterly direction within the study area.




| | | | | | |
|---|---|---|---|---|---|
| 6 | 5 | 4 | 3 | 2 | 1 |
| 7 | 8 | 9 | 10 | 11 | 12 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 30 | 29 | 28 | 27 | 26 | 25 |
| 31 | 32 | 33 | 34 | 35 | 36 |

Figure 15-- Approximate depth below land surface to the base of the potable water in the Floridan aquifer.

## SITE SELECTION

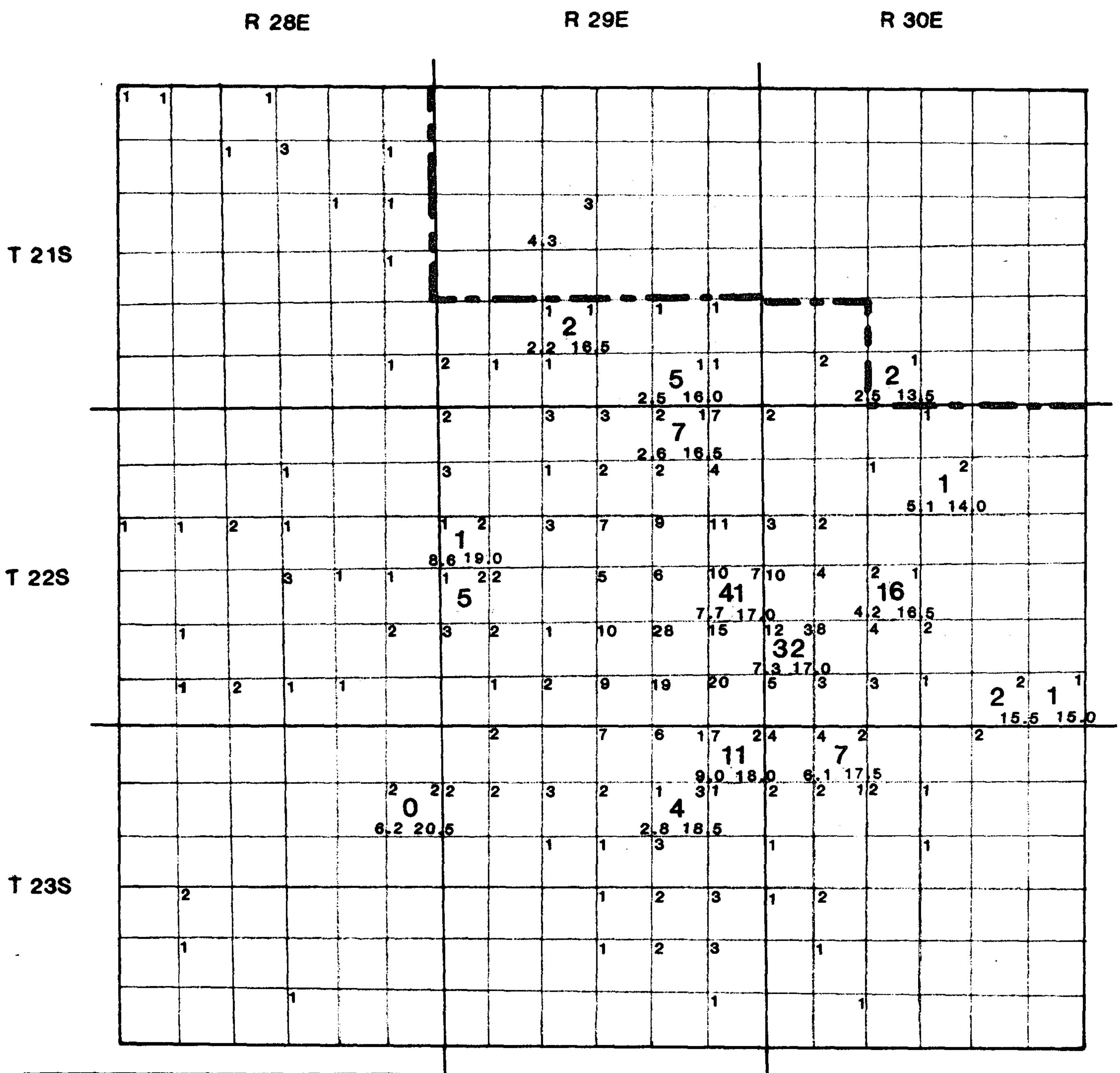
The purpose of the site selection process is to determine the location and drilling sequence of new lower permeable zone/salinity monitor wells which will be integrated into the existing well network within the study area. Utilizing the data presented in the reports, Figures 10, 11, 12, 14 and 15, an evaluation was accomplished. The procedure involved assigning a numerical value to each grid square which represents the data illustrated in the above mentioned figures. The value assigned to a grid square for each data set mapped was determined in the following manner:

1. The number of drainage wells (vertical contamination potential) per grid square.
2. The number of drainage wells upgradient from the grid square evaluated (the cumulative effect of drainage wells in the study area).
3. The number of production wells (overpumping possibility) per grid square.
4. The total amount of withdrawal in each grid square (potential to create deep cones of depression in the potentiometric surface, and induce upconing of the freshwater/saltwater interface);
5. The estimated depth to base of potable water (250 mg/l) i.e. where the estimated freshwater/saltwater interface is high in elevation, a greater potential for saltwater intrusion exists. These estimated values have been

reduced in magnitude in order to be consistent with the range of values used in the analysis. Depth to the base of potable water was assigned a negative number in the process of determining a total score. This was done in order to better evaluate the thickness of available freshwater and position of the saltwater interface in relationship to the other significant data tabulated.

The values for each grid square were combined in a manner (Figure 16) such that the highest value would dictate the highest priority monitor well site. The highest total value would be indicative of a location where the largest cumulative hydrologic impacts could potentially occur. Table 4 shows analysis and results of the site selection process. Based upon the results of the site selection process, six upper and lower permeable zone/salinity observation wells are proposed. Figure 17 shows the priority and location of proposed upper and lower permeable zone/salinity observation wells.

When the proposed deep monitor wells are integrated with the existing observation wells in the metropolitan area of Orlando (Figure 18), a more comprehensive monitoring network results.



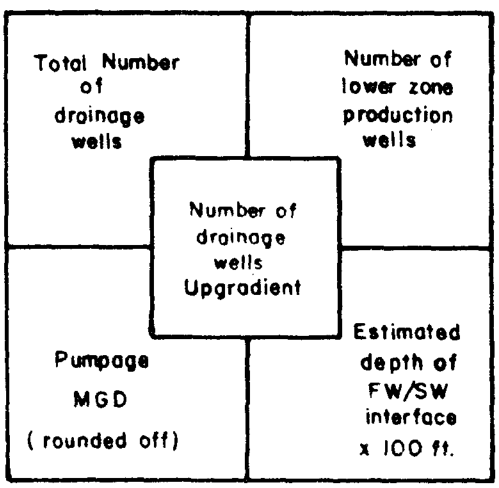
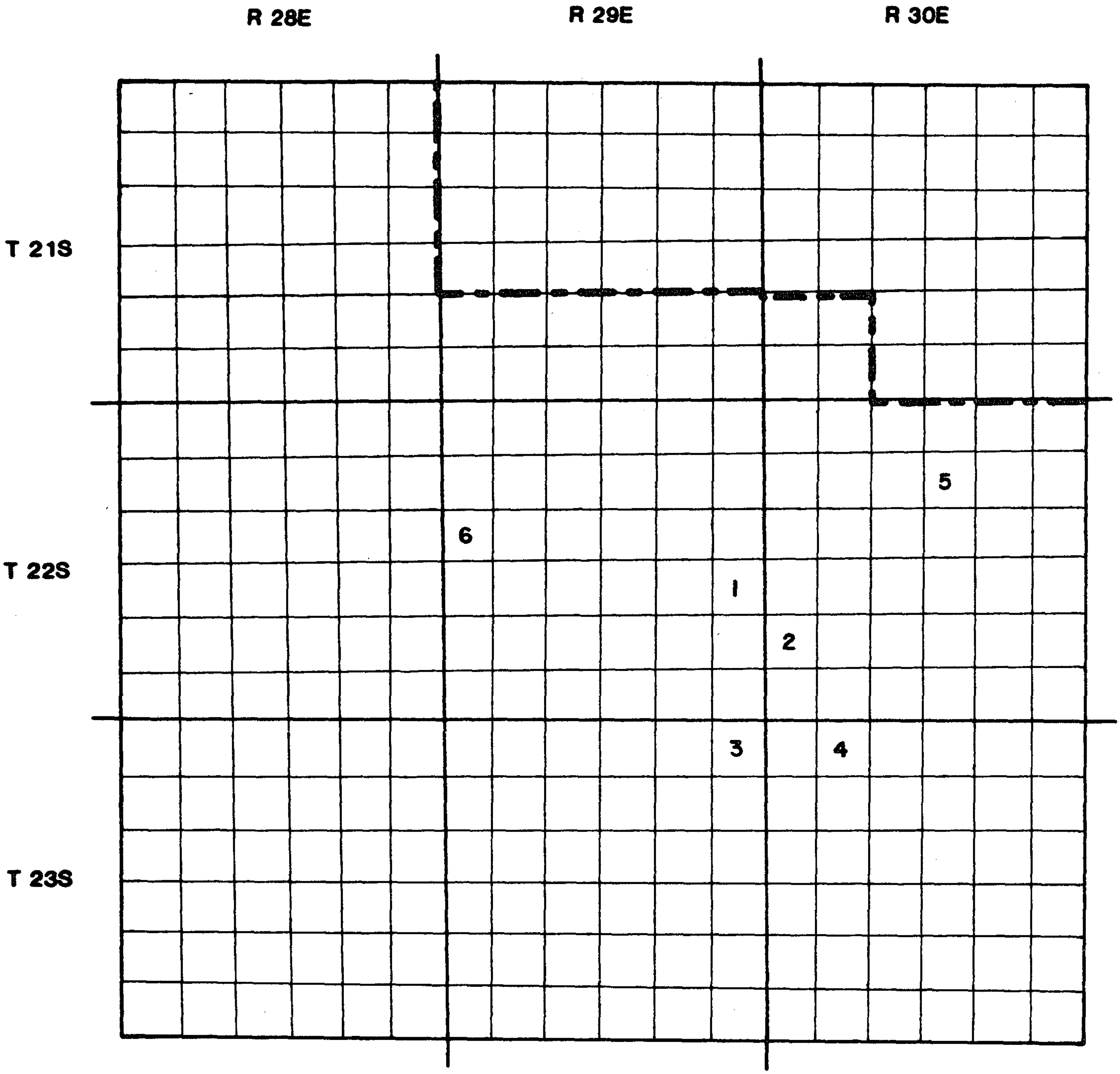




Figure 16 -- Combined data of total number of drainage wells, number of drainage wells upgradient, number of lower permeable zone production wells, pumpage rate and estimated depth to base of potable water per section

Table 4.--Analysis and Results of Site Selection Process.

| LOCATION S T R GRID | NUMBER OF DRAINAGE WELLS | NUMBER OF DRAINAGE WELLS UP GRADIENT | NUMBER OF PRODUCTION WELLS | TOTAL PUMPAGE RATE MGD | DEPTH TO 250 MG/LIT CHLORIDE ($X-10^2$) ft | TOTAL SCORES 1+2+3+4 -5 = 6 | RANK |
|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 04-21-28 | 0 | 1 | 1 | | 17.00 | | |
| 06- | 1 | 0 | 1 | | 18.00 | | |
| 16-21-29 | 0 | 0 | 1 | 3.82 | 15.50 | -10.68 | 14 |
| 16- | 0 | 0 | 1 | 0.53 | 15.50 | -13.97 | 15 |
| 28- | 1 | 2 | 1 | 2.23 | 16.50 | -10.27 | 13 |
| 35- | 0 | 5 | 1 | 2.53 | 16.00 | -07.47 | 9 |
| 33-21-30 | 0 | 2 | 1 | 2.50 | 13.50 | -08.00 | 11 |
| 02-22-29 | 2 | 7 | 1 | 2.67 | 16.50 | -03.83 | 6 |
| 18- | 1 | 1 | 2 | 8.62 | 19.00 | -06.38 | 8 |
| 19- | 1 | 5 | 2 | | | | |
| 24- | 10 | 41 | 7 | 7.73 | 17.00 | 48.73 | 1 |
| 10-22-30 | 0 | 1 | 2 | 5.10 | 14.00 | -05.90 | 7 |
| 21- | 2 | 16 | 1 | 4.28 | 15.50 | 7.78 | 4 |
| 30- | 12 | 32 | 3 | 7.31 | 17.00 | 37.31 | 2 |
| 35- | 0 | 2 | 2 | | 15.50 | | |
| 36- | 0 | 1 | 1 | | 15.00 | | |
| 12-23-28 | 2 | 0 | 2 | 6.27 | 20.50 | -10.23 | 12 |
| 01-23-29 | 7 | 11 | 2 | 9.00 | 18.00 | 11.00 | 3 |
| 02- | 6 | | 1 | | | | |
| 11- | 1 | 4 | 3 | 2.83 | 18.50 | -07.67 | 10 |
| 05-23-30 | 4 | 7 | 2 | 6.17 | 17.50 | 1.67 | 5 |
| 08- | 2 | | 1 | | | | |
| 32- | 0 | 0 | 1 | | 18.00 | | |



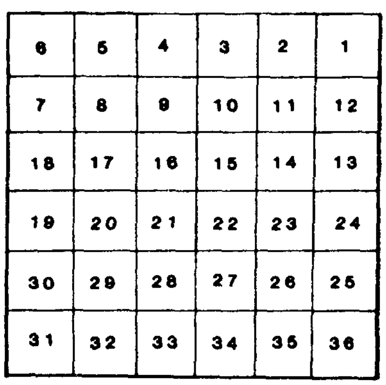




Figure 17 -- Priority and location of proposed lower permeable zone/salinity observation wells

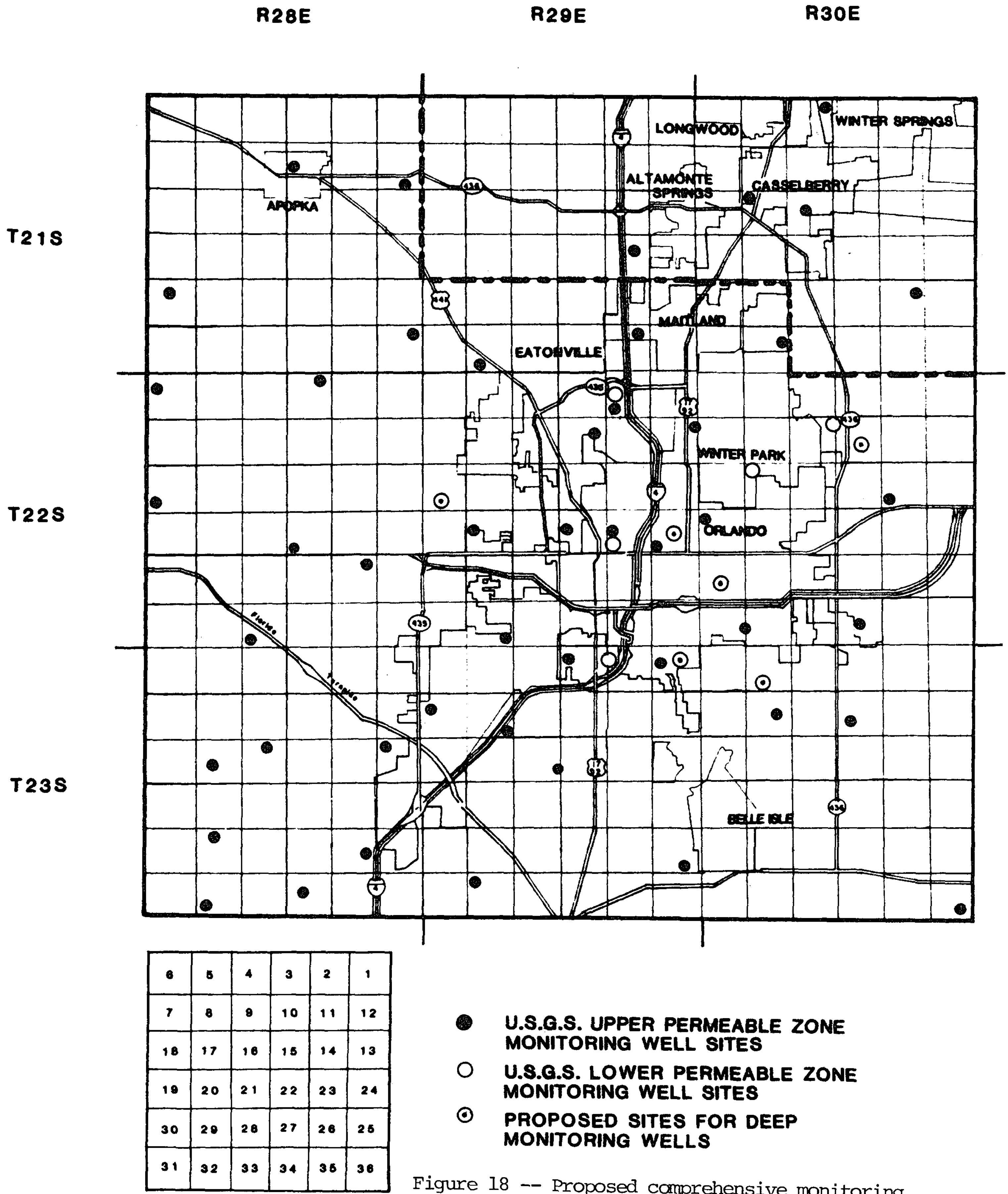



Figure 18 -- Proposed comprehensive monitoring well network

## DEEP MONITOR WELL DESIGN

The deep monitor wells proposed as a result of this project should be designed and constructed to provide for the monitoring of water levels and quality in the upper and lower freshwater producing zones of the Floridan aquifer and for the monitoring of the quality, position and movement of the freshwater/saltwater interface in the lower freshwater producing zone over an extended period of time. In addition, the wells should be constructed with materials which will be reasonably resistant to corrosion.

In general, it is expected the average depth of the deep monitor wells will be 2000 feet. The open borehole should be of sufficient diameter to accommodate one to three strings of piezometer tubing from land surface to the appropriate depth. Within each flow zone observed, well screen of similar material should be installed and gravel packed the entire length of the flow zone. By gravel packing these flow zones, usually zones of lost circulation, losses of large volumes of cement can be minimized during the grouting procedure. Between and above the gravel packs, cement grout should fill the annulus, stabilizing the piezometers and providing a seal between and above the three flow zones. This will prevent hydraulic connection of the zones within the borehole.

To extend longevity and provide corrosion resistance, fiberglass piezometer tubing should be utilized within the various flow zones to be monitored. This nonconductive material will not deteriorate when exposed to high salinity water and currents which normally cause rapid deterioration of metal tubing sometimes used for similar purposes. Figure 19 illustrates the general design of the deep monitoring wells.

The drilling of a deep monitor well should take place in three steps as follows:

1. Drill a borehole to the top of the Floridan aquifer to accommodate a 16 inch casing which will be grouted into place by filling the annulus between the borehole and the casing with cement grout.
2. Drill a 14 3/4 inch borehole to the bottom of the lower permeable zone of the Floridan aquifer to a depth of about 1,400 feet to accommodate the installation of three strings of two inch diameter fiberglass piezometer tubing.
3. Continue drilling a 9 7/8 inch borehole to the freshwater/saltwater interface (expected at a depth of about 2,000 feet) to accommodate the installation of one string of two inch diameter fiberglass piezometer tubing.

The installation of the two inch fiberglass piezometers will take place in three steps as follows:

1. Install a two inch diameter fiberglass piezometer to a depth of about 2,000 feet. The screened portion will be gravel packed, and the annulus between the top of the screen and the bottom of the lower permeable zone of the Floridan aquifer will be cement grouted.

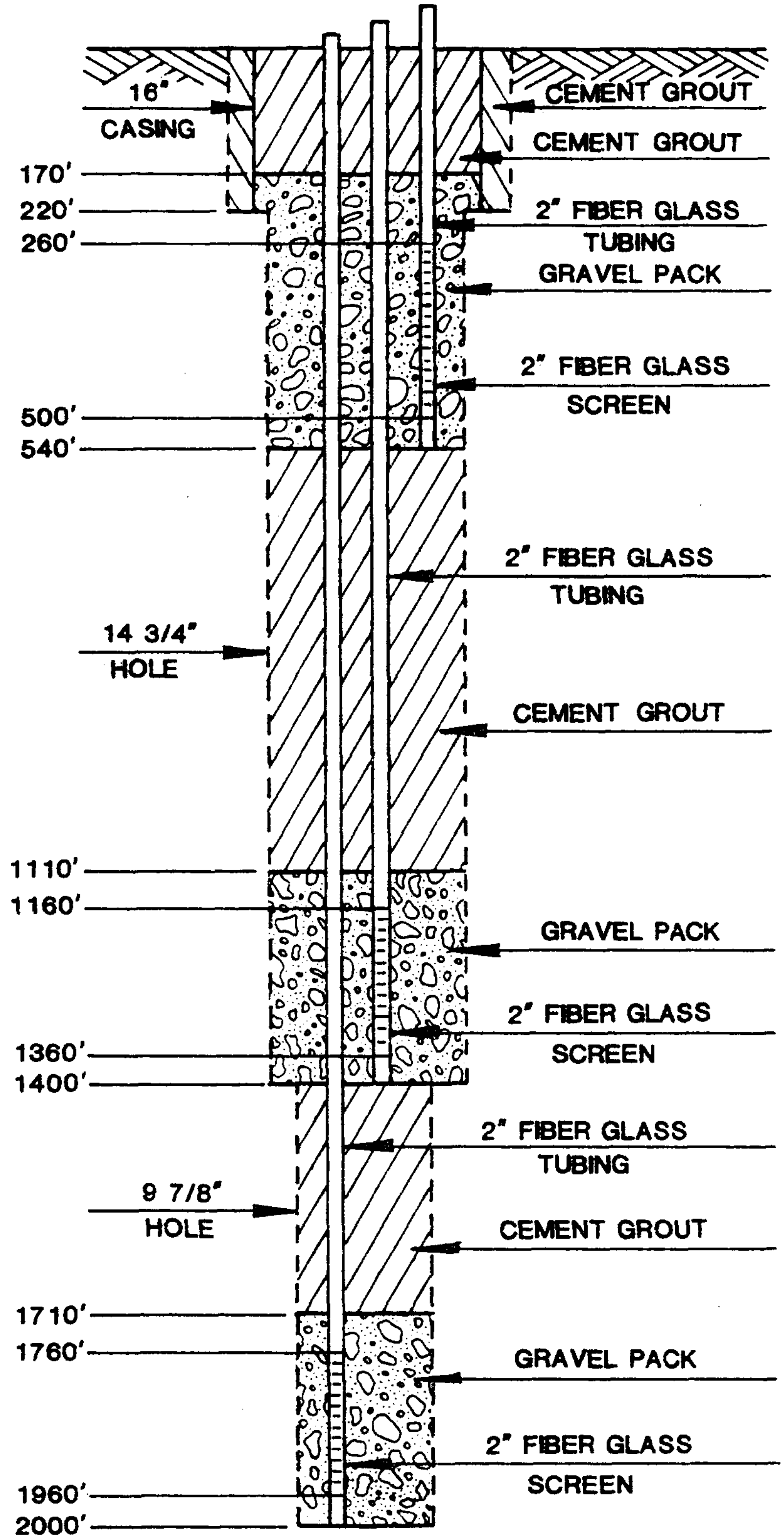



Figure 19 -- Well schedule of the proposed lower permeable zone/salinity observation well

2. Install the second string of two inch diameter fiberglass piezometer tubing to the bottom of the lower permeable zone of the Floridan aquifer. The screened portion will be gravel packed and the annulus between the top of the screen and the bottom of the upper permeable zone of the Floridan aquifer will be cement grouted.
3. Install the third string of two inch diameter fiberglass piezometer tubing to the bottom of the upper permeable zone of the Floridan aquifer. The screened portion will be gravel packed and the annulus between the top of the screen and landsurface (top of the 16 inch casing) will be cement grouted, stabilizing the three individual peizometers in place.

The completed cluster well should be appropriately capped and a small shelter built over the well head to protect the instrumentation.

## SUMMARY AND CONCLUSIONS

The Floridan aquifer in the Orlando and Winter Park area is comprised of two distinct permeable zones. The upper permeable zone consists of cavernous Ocala and Avon Park limestone and extends from approximately 200 to 500 feet below land surface. Withdrawals from the upper zone permeable are generally limited to small public supply and domestic wells because of high bacterial levels.

The lower permeable zone consists of the cavernous Lake City Limestone and extends from about 1,000 to 1,300 feet below land surface. This zone provides the majority of the municipal and public supply of water in the Orlando - Winter Park area. Between the two permeable zones, limestone and dolomite of significantly lower permeability provide a confining unit.

Potential ground water quality problems lie in the future for this urbanizing area if the water resource is not properly managed. The water quality affects resulting from the disposal of stormwater directly into the upper permeable zone of the Floridan aquifer and the possibility of saltwater upconing under deep production wells are excellent examples.

In the study area the upper Floridan aquifer is monitored by a network of approximately 1,050 wells maintained by the U.S. Geological Survey in cooperation with St. Johns River Water Management District. However, the lower permeable zone of the Floridan aquifer is monitored by the U.S. Geological Survey only at five locations. Monitoring only the lower permeable zone provides little information concerning the position and movement of the freshwater/saltwater interface estimated to be between 1750 and 2000 feet below land surface.

In Orange County, there are 412 known drainage wells of which 374 are currently active. Of the active drainage wells, 341 wells discharge water only to the upper permeable zone of the Floridan aquifer, while 33 wells discharge into both the upper and lower permeable zones. Although no serious health hazards associated with drainage wells have been documented, the threat of pollution by drainage wells is a possibility which perhaps could be detected by a basic water quality monitoring program.

Estimated ground water use in the study area for 1983 was 96.65 MGD. Of that total, 89.5 percent was by public water system users. An estimated 64.0 MGD was withdrawn from the lower permeable zone in 1983.

Presently, there is no monitor well network from which data can be collected to evaluate the impacts of withdrawals from the lower permeable zone of the Floridan aquifer. As a result of a data evaluation process, six upper and lower permeable zone/salinity observation well sites have been selected. The location of the monitor well sites were chosen primarily with respect to areal distribution of drainage wells, ground water withdrawals, the estimated position of the freshwater/saltwater interface along with other important hydrogeologic information.

## REFERENCES


Fetter, C. W. Jr., 1980. Applied Hydrogeology, Charles E. Merrill Publishing Co., Columbus, Ohio, 488 pp., ISBN 0-675-08126-2.

Geraghty & Miller, Inc., 1977. Feasibility of Deep-Well Wastewater Disposal at the Sand Lake Road Treatment Facility, Orange County, Florida, 77 pp.

Kimrey, J. D., 1979. Water resources aspects of drainage wells in Central Florida, NWWA National Convention, September 1979.

Kimrey, J. D., 1978. Preliminary appraisal of the geohydrologic aspects of drainage wells, Orlando area, Central Florida, U. S. Geological Survey Water Resources Investigations 78-37, 24 pp.

Kimrey, J. O., and L. D. Fayard, 1984. Geohydrologic Reconnaissance of Drainage Wells in Florida, U. S. Geological Survey Water Resources Investigations Report 84-4021, 67 pp.

Kimrey, J. O., and L. D. Fayard, 1982. Geohydrologic reconnaissance of drainage wells in Florida - An interim report, U. S. geological Survey Open-file Report 82-860, 59 pp.

Klein, H., 1975. Depth to Base of Potable Water in the Floridan aquifer; 1971; (Revised 1975.), Bureau of Geology, Florida Department of Natural Resources, Map Series No. 42. Site: 175 X 22 inches.

Laughlin, C.P., and E.C. Hayes, 1979. Potentiometric Surface Map of the Floridan Aquifer in the St. Johns River Water Management District and Vicinity, Florida, May 1977. Open File No. 77-629. One sheet.

Lichtler, W. F., 1972. Appraisal of Water Resources in the East Central Florida Region, Bureau of Geology, Florida Department of Natural Resources, Report of Investigation No. 61, 52 pp., 11 fig., 7 tables.

Lichtler, W. F., 1968. Water in Orange County, Florida, Florida Division of Geology, State Board of Conservation, Leaflet No. 8, 17 pp.

Lichtler, W. F., W. Anderson, and B. F. Joyner, 1968. Water Resources of Orange County, Florida, Division of Geology, Florida Board of Conservation, Report of Investigation No. 50, 150 pp., 62 fig., 14 tables.

Marella, R., 1985. Annual Water Use Survey: 1984, Technical Publication SJ85-7, St. Johns River Water Management District, Palatka, Florida, 113 pp.

Schiner, G. R., and E. R. German, 1983, Effects of recharge from drainage wells on quality of water in the Floridan aquifer in the Orlando area, Central Florida, U. S. Geological Survey, Water Resources Investigations Reports 82-4094, 124 pp.

Tibbals, C. H., 1978. Effects of Paved Surfaces on Recharge to the Floridan aquifer in East-Central Florida--A Conceptual Model, U. S. Geological Survey Water Resources Investigations 78-76, 42 pp.

Unclesbay, A. G., and H. H. Cooper, Jr., 1946. Artificial Recharge of Artesian Limestone at Orlando, Florida, Florida Geological Survey, State Board of Conservation, Miscellaneous Report No. 28.

Unclesbay, A. G., 1944. Ground Water Conditions in Orlando and Vicinity, Florida, Florida Geological Survey, State Board of Conservation, Report of Investigation No. 5, 75 pp.

Wood, W. D., and L. J. Snell, 1978. Hydrologic maps of the Orlando East Quadrangle, Florida, U.S. Geological Survey Water Resources Investigations 77-134, 1 sheet.

Wood, W. D., and L. J. Snell, 1978. Hydrologic maps of the Orlando West Quadrangle, Florida, U.S. Geological Survey Water Resources Investigations 77-135, 1 sheet.

# APPENDICES A THROUGH D

APPENDIX A

Existing Well Data for the Study Area

Table 1. List of wells at out-of-service plant sites that are suitable for monitoring the upper zone of the Floridan Aquifer - Orange County Division of Public Utilities

Table 2. List of wells at out-of-service plant sites - Orange County Division of Public Utilities

Table 3. Listing of USGS observation wells in townships T 23S - 22S - 21S and R 28E - 29E - 30E, within and around the areal withdrawal from the lower zone of the Floridan aquifer in Orange County. May 1983.

Table 1.—List of wells at out-of-service plant sites that are suitable for monitoring the upper zone of the Floridan Aquifer - Orange County Division of Public Utilities

| | CONSTRUCTION DATA | | | GEOPHYSICAL LOGGING | | | |
|---|---|---|---|---|---|---|---|
| Location | Depth ft. | Casing ft. | I.D. in. | Depth ft. | Casing ft. | I.D. in. | Top of Floridan |
| Clearview Heights | 356 | 118 | 8 | 303 | 119 | 8 | 111 |
| East Dale Acres | 370 | 221 | 6 | 355 | 221 | 6 | 221 |
| Graham Gardens | 675 | | 8 | 670 | 443 | 8 | 161 |
| Lake Lawne | 321 | | 4 | 321 | 155 | 8 | 117 |
| | 503 | | 6 | 503 | 448 | 10 | 114 |
| Meadowbrook Acres | | | 8 | 264 | 0-184 | 8 | |
| | | | | 184-250 | 6 | | 153 |
| Orlando Acres | 350 | 163 | 8 | 334 | 179 | 8 | 157 |
| Rimar | 200 | | 6 | 185 | 121 | 8 | 79 |
| Riverside Park | 350 | | 6 | 321 | 118 | 8 | 110 |
| | 360 | | 8 | 371 | 127 | 8 | 107 |
| Silver Beach (W) | 245 | 162 | 4 | 222 | 162 | 4 | 162 |

Table 2.--List of wells at out-of-service plant sites - Orange County Division of Public Utilities

| Location | CONSTRUCTION DATA Depth ft. | Casing ft. | I.D. in. | GEOPHYSICAL LOGGING Depth ft. | Casing ft. | I.D. in. | Top of Floridan | Cement Needed (Sacks) |
|---|---|---|---|---|---|---|---|---|
| Arcadia Acres | 210 | 60 | 6 | 175 | 112 | 6 | 143 | 70 |
| Barbara Terrace | | | ? | Inaccessible to logging van | | | | |
| Clearview Heights | 215 | 97 | 4 | 175 | 70 | 4 | 113 | 82 |
| | 250 | 120 | 6 | 131 | OBSTRUCTED | | | |
| | 356 | 118 | 8 | 303 | 119 | 8 | 111 | 147 |
| Conway Hills (in yard) | | | ? | 311 | 187 | 6 | 232 | 105 |
| (in building) | | | ? | 413 | 138 | 6 | 231 | 194 |
| Crescent Hills | 450 | 119 | 8 | 381 | 119 | 8 | 152 | 219 |
| East Dale Acres | 370 | 221 | 6 | 355 | 221 | 6 | 221 | 129 |
| Graham Gardens | 380 | | 6 | Well not present, covered? | | | | |
| | 675 | | 8 | 670 | 443 | 8 | 161 | 383 |
| Hilltop (E) | 180 | 126 | ? | 168 | 125 | 4 | UNKNOWN | |
| (W) | | | ? | 163 | 115 | 8 | UNKNOWN | |
| HiPines (in yard) | | | 4 | 205 | 127 | 4 | 183 | 25 |
| (in building) | | | 4 | 139 | OBSTRUCTED | | | |
| Lake Lawne | 321 | | 4 | 321 | 155 | 8 | 117 | 105 |
| | 503 | | 6 | 503 | 448 | 10 | 114 | 240 |
| | 520 | | 8 | Filled with concrete | | | | |
| Lake Cane | 400 | | ? | Pump stuck in well | | | | |
| Lake Margaret Terrace (W) | 345 | | 6 | 329 | 140 | 6 | 176 | 79 |
| (E) | 345 | | 8 | 326 | 148 | 8 | 176 | 142 |
| Lejune Heights | | | 6 | 46 | OBSTRUCTED | | | |
| Long Lake | 200 | | 4 | 138 | OBSTRUCTED | | | |
| | 400 | | 8 | 393 | 125 | 8 | 133 | 235 |
| Meadowbrook Acres | | | 8 | 264 | 0-184 | 8 | | |
| | | | | | 184-250 | 6 | 153 | 93 |
| Orlando Acres | 240 | 146 | 4 | Well not present, covered? | | | | |
| | 275 | | 4 | Well not present, covered? | | | | |
| | 350 | 163 | 8 | 334 | 179 | 8 | 157 | 212 |
| Partlow (E) | 190 | | 4 | 191 | 96 | 4 | 180 | 27 |
| (W) | 275 | | 4 | 93 | OBSTRUCTED | | | |
| Plymouth Heights | 223 | | 4 | 139 | 85 | 4 | UNKNOWN | 24 |

Table 2.—Continued

| Location | CONSTRUCTION DATA Depth ft. | Casing ft. | I.D. in. | GEOPHYSICAL LOGGING Depth ft. | Casing ft. | I.D. in. | Top of Floridan | Cement Needed (Sacks) |
|---|---|---|---|---|---|---|---|---|
| Ranchette | 400 | | 6 | Pump stuck in well | | | | |
| Ridge Manor | | | 6 | 80 | OBSTRUCTED | 6 | | |
| | | | 6 | 80 | OBSTRUCTED | 6 | | |
| Rimar | 200 | | 6 | 185 | 121 | 8 | 79 | 88 |
| Riverside Park | 350 | | 6 | 321 | 118 | 8 | 110 | 167 |
| | 360 | | 8 | 371 | 127 | 8 | 107 | 274 |
| Robinsdale | 310 | 133 | 6 | 285 | 132 | 6 | 183 | 61 |
| | 360 | 142 | 8 | 149 | OBSTRUCTED | 8 | | |
| Robinsdale Oaks (E) | | | 4 | 188 | 177 | 4 | 186 | 17 |
| (W) | | | 4 | 128 | OBSTRUCTED | 4 | | |
| Shady Acres | 265 | 140 | 6 | 242 | 140 | 6 | 179 | 63 |
| | | | 6 | 126 | OBSTRUCTED | 6 | | |
| Siesta Hills | | | 6 | 304 | 95 | 6 | 103 | 107 |
| Silver Beach (E) | | | 4 | 178 | OBSTRUCTED | 4 | | |
| (W) | 245 | 162 | 4 | 222 | 162 | 4 | 162 | 25 |
| | 275 | 153 | 6 | 168 | OBSTRUCTED | 6 | | |
| Tiffany Terrace | 300 | 98 | 6 | 286 | 98 | 6 | 209 | 103 |
| | 420 | 151 | 10 | 395 | 103 | 12 | 207 | 621 |
| Tuckaway Terrace (in yard) | | | 6 | 479 | 81 | 6 | 182 | 174 |
| (in building) | | | 8 | 84 | OBSTRUCTED | 6 | | |
| Vanguard Heights | 225 | | 4 | 211 | 104 | 4 | 164 | 54 |
| Wekiva Manor | 391 | 92 | 8 | 117 | OBSTRUCTED | | | |

Table 3. -- Listing of USGS observation wells in townships T 23S - 22S - 21S and R 28E - 29E - 30E, within and around the areal withdrawal from the lower zone of the Floridan aquifer in Orange County. May 1983.

| Site number (Lat., Long.) | Site name and location | Casing (in.) | Well depth | Level year |
|---|---|---|---|---|
| 282611081320501 | USGS Well on Sunset Dr. | 4.00 | 180.00 | 2 |
| 282623081153801 | Cocoa P SR15 So. of Beeline | 4.00 | 439.00 | 2 |
| 282636081300801 | Minute Maid Drain Well | 12.00 | 356.00 | 2 |
| 282649081262301 | Sand Lake Road Sewage Well | 18.00 | 450.00 | 12 |
| 282709081283001 | USGS Well Nr. I-4 + 528A | 4.00 | 205.00 | 2 |
| 282749081315801 | Lk. Butler Groves Dom Supply | 6.00 | 347.00 | 2 |
| 282835081305201 | USGS Well Palm Lake Dr. | 4.00 | 235.00 | 2 |
| 282923081282801 | Ivey's Nursery Turkey Lk. Rd. | 4.00 | 337.00 | 2 |
| 282936081340201 | Ross Home Well | 99.99 | 280.00 | 2 |
| 282945081255001 | Orange 39 on I-4 | 12.00 | 417.00 | 2 |
| 283014081271301 | McLeod Rd. Sewage Plant Well | 6.00 | 127.00 | 2 |
| 283144081254201 | Lk. Mann Drain Well | 16.00 | 398.00 | 2 |
| 282704081214301 | Bearhead Lake | 8.00 | 455.00 | 2 |
| 282911081243601 | Americana Apts. Texas Av. Amerblvd. | 8.00 | 99999.99 | 2 |
| 282940081320301 | WP Fed. at Windermere | 99.99 | 99999.99 | 2 |
| 282955081181801 | Pershing Incinerator | 12.00 | 422.00 | 2 |
| 283017081195201 | Lk. Margaret & Conway Rd. Drain Well | 8.00 | 427.00 | 2 |
| 283105081222201 | Delaney + Harding Str. | 12.00 | 483.00 | 2 |
| 283121081311601 | 0 - 197 Lk. Olivia Drainage Well | 12.00 | 495.00 | 2 |
| 283135081234301 | Layne-Atlantic Deep | 10.00 | 1232.00 | 2 |
| 283147081203601 | Lk. Arnold Drain Well | 20.00 | 464.00 | CON |
| 283157081180401 | Englewood Drain Well | 20.00 | 465.00 | 2 |
| 283253081283401 | USGS Ob. Well OR47 at Orlovsta | 6.00 | 350.00 | 2 |
| 283307081300801 | Lk. Sherwood Drainwell | 24.00 | 450.00 | CON |
| 283317081223301 | Irma + Marks St. | 12.00 | 154.00 | 2 |
| 283326081262101 | Lk. Lawne Drain Well | 18.00 | 329.00 | 2 |
| 283333081233501 | Lk. Adair 9 DP at Orlando, FL | 20.00 | 1281.00 | 2 |
| 283333081233502 | Lk. Adair 10 at Orlando, FL | 4.00 | 400.00 | 2 |
| 283334081243501 | Texas Ave. Drain Well | 14.00 | 685.00 | 2 |
| 283353081204801 | Lake Caydee Drainwell | 18.00 | 478.00 | CON |
| 283412081163401 | Lee Estates Supply | 6.00 | 292.00 | 2 |
| 283417081331401 | Drain Well Ocoee SR 438 | 8.00 | 500.00 | CON |
| 283441081203301 | Glenridge Deep | 20.00 | 1300.00 | 2 |
| 283528081235201 | Lk. Fairview Drainwell | 12.00 | 745.00 | 2 |
| 283530081214301 | Lk. Midget Drain Well | 12.00 | 425.00 | 2 |
| 283548081181401 | FTU Blvd. Deep | 24.00 | 1354.00 | 2 |
| 283557081231301 | Lk. Fair Well at I-4 | 12.00 | 435.00 | 2 |
| 283619081331801 | Apopka Citrus Well | 8.00 | 580.00 | 12 |
| 283623081230501 | Wymore + Lee Rd. Deep | 16.00 | 1275.00 | 12 |
| 283649081283601 | SW Long Lake End Hiawassee Rd. | 4.00 | 365.00 | 12 |
| 283654081260801 | Lk. Davis Drain Well | 18.00 | 450.00 | 12 |
| 283703081225001 | City of Eatonville | 8.00 | 371.00 | 12 |
| 283729081273701 | Long Lake Old Supply | 6.00 | 400.00 | 12 |
| 283813081325701 | State Foliage Research Center | 99.99 | 200.00 | 2 |
| 283816081225501 | Lk. Charity Well Nr. Maitland | 3.00 | 374.00 | |
| 284020081280601 | Wekiva Springs Rd. at 436 Well | 12.00 | 400.00 | 2 |
| 284025081301701 | City of Apopka Drain Well | 99.99 | 99999.99 | 12 |

# APPENDIX B

Well construction data for wells equal to or greater than 600 feet deep in Orange and south Seminole counties.

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**********************************************************************
*                                                                    *
*WELL DATA FROM USGS, BOG, DER, OUC, OCDPU, WPU, AND SJRWMD FOR WELLS*
*600 FEET DEEP OR GREATER IN ORANGE, AND SW SEMINOLE COUNTIES.       *
*                                                                    *
**********************************************************************
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NOTE: WHERE THE VALUES OF LATITUDE AND LONGITUDE ARE PRINTED SEPARATELY THE SOURCE IS NOT THE USGS.

| SITE-ID | ALTITUDE | DEPTH | DATE7WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 284117061331801 | 120.00 | 699.00 | 01011948 | 1948 | .00 | 06 | 21 | 28 | 1600.00 | 66.00 | 60.00 | MINUTE MAID | W001769 |
| | | | 60.00 | | 191.00 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |
| 284126 812811 | | 790.00 | 11141980 | 1980 | .00 | 01 | 21 | 28 | 2800.00 | 70.2 | 53.50 | OCDPU | BENT OAKS #1 |
| | | | 53.50 | | 220.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 284128 812809 | | 850.00 | 09261980 | 1980 | .00 | 01 | 21 | 28 | 3000.00 | 55.4 | 40.10 | OCDPU | BENT OAKS #2 |
| | | | 40.10 | | 240.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 284130081331201 | 125.00 | 1130.00 | 01011950 | 1950 | .00 | 06 | 21 | 29 | | | | COCA-COLA | PLYMOUTH |
| | | | 71.00 | | 202.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 284132081303601 | 128.00 | 1268.00 | 03161977 | 1977 | .00 | 04 | 21 | 28 | 3800.00 | 100.00 | 89.00 | CITY OF APOPKA | TERRACE 2 |
| | | | 89.00 | | 588.00 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |
| 284134081303801 | 132.00 | 705.00 | 11011965 | 1965 | .00 | 04 | 21 | 28 | 1200.00 | | | CITY OF APOPKA | TERRACE 1 |
| | | | 60.50 | | 178.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 284147081224201 | | 830.00 | | | .00 | 02 | 21 | 29 | | | | OVERSTREET INV. | |
| | | | | | 604.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 284227081223501 | | 625.00 | | | .00 | 36 | 20 | 29 | | | | SANLANDO UTILITY | |
| | | | | | 100.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 284632081363601 | 80.00 | 645.00 | 05151962 | 1955 | .00 | 04 | 20 | 27 | | | | DUTCHESS SUPPLY | W003643 |
| | | | 35.90 | | 490.00 | | | | | | | | |
| | | | | | 10.00 | | | | | | | | |
| 283944081251701 | | 1205.00 | | | .00 | 16 | 21 | 29 | | | | WINN-DIXIE | FOREST CITY |
| | | | | | 577.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283943081250201 | | 1122.00 | | | .00 | 16 | 21 | 29 | | | | COCA-COLA | FOREST CITY |
| | | | | | 508.00 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |
| 283942081251001 | | 1115.00 | | | .00 | 16 | 21 | 29 | | | | DEEP SOUTH PRODUCTS | FOREST CITY |
| | | | | | 480.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283914 812935 | | 1200.00 | 01181984 | 1984 | .00 | 23 | 21 | 28 | | | 59.66 | CITY OF APOPKA | SHEELER OAKS # |
| | | | 59.66 | | 600.00 | | | | | | | | |
| | | | | | 18.00 | | | | | | | | |
| 283844081200102 | | 612.00 | | | .00 | 20 | 21 | 30 | | | | INDIAN HILLS UTILITY | WELL #2 |
| | | | | | 141.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 283800 812520 | | 1231.00 | 09241979 | 1979 | .00 | 28 | 21 | 29 | 1500.00 | 47.75 | 35.75 | OCDPU | RIVERSIDE #4 |
| | | | 35.75 | | 125.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 602.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283723 812304 | 87.00 | 1133.00 | 01071983 | 1983 | .00 | 35 | 21 | 29 | 2000.00 | 43.60 | 38.20 | CITY OF MAITLAND | |
| | | | 38.20 | | 150.50 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 750.00 | | | | | | | | |
| | | | | | 14.00 | | | | | | | | |
| 283717 811931 | | 1315.00 | | | .00 | 33 | 21 | 30 | 4000.00 | 87.00 | 45.00 | WINTER PARK UTILITIES | PLANT #4 |
| | | | 45.00 | | 1148.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283715081192601 | | 834.50 | | | .00 | 33 | 21 | 30 | | | | DR.PHILLIPS | |
| | | | | | 101.00 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |
| 283623081230501 | 97.71 | 1275.00 | 06211962 | 1954 | .00 | 02 | 22 | 29 | 5500.00 | 72.00 | 47.00 | WINTER PARK UTILITIES | PLANT #3 |
| | | | 46.63 | | 1163.00 | | | | | | | | USGS MON WELL |
| | | | | | 16.00 | | | | | | | | |
| 283655081262601 | 100.00 | 1001.00 | | 1960 | .00 | 32 | 21 | 29 | | | | SOUTHERN STATES UTILITIES | BARBER TERR. |
| | | | | | 4.00 | | | | | | | | |
| 283547081181401 | 90.00 | 1325.00 | 06011963 | 1963 | .00 | 10 | 22 | 30 | 5000.00 | 66.00 | 42.00 | WINTER PARK UTILITIES | PLANT #5. |
| | | | 42.00 | | 1037.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283548081181401 | 91.00 | 1354.00 | 04011971 | 1971 | .00 | 10 | 22 | 30 | 5096.00 | | 41.00 | WINTER PARK UTILITIES | PLANT #5. |
| | | | 41.00 | | 700.00 | | | | | | | | USGS MON WELL |
| | | | | | 20.00 | | | | | | | | |
| 283407081272201 | 110.00 | 1404.00 | 01011967 | 1967 | .00 | 18 | 22 | 29 | 4200.00 | 71.00 | 47.00 | ORLANDO UTILITIES | PINE HILLS #2 |
| | | | 47.00 | | 1038.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283410081242301 | 98.00 | 680.00 | 03041950 | 1950 | .00 | 15 | 22 | 29 | 2500.00 | | | DR.PHILLIPS | W002177 |
| | | | 45.00 | | 156.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283413 812718 | | 1340.00 | 07191982 | 1982 | .00 | 18 | 22 | 29 | 5000.00 | 84.00 | 59.00 | ORLANDO UTILITIES | PINE HILLS #4 |
| | | | 59.00 | | 115.00 | | | | | | | | |
| | | | | | 30.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 720.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | 200.00 | | | | | | | | |
| | | | | | 999.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283423081241701 | 101.57 | 1230.00 | 07011966 | 1966 | .00 | 15 | 22 | 29 | 670.00 | 60.00 | 52.00 | MINUTE MAID | W007823 |
| | | | 52.00 | | 650.00 | | | | | | | | |
| | | | | | 8.00 | | | | | | | | |
| 283423081344601 | 125.00 | 1029.00 | 10011947 | 1947 | | 14 | 22 | 27 | 700.00 | 48.00 | 41.00 | M.C. BRITT | |
| | | | 41.00 | | | | | | | | | | |
| 283441081203301 | 116.67 | 1300.00 | 11011948 | 1948 | .00 | 17 | 22 | 30 | 740.00 | 60.00 | 57.00 | USGS MON WELL | GLENRIDGE DP |
| | | | 57.00 | | 1206.00 | | | | | | | | |
| | | | | | 10.00 | | | | | | | | |
| 283450081161401 | 58.00 | 602.00 | | 1973 | .00 | 13 | 22 | 30 | | | | UNIV. SHORES UTILITIES | W012341 |
| | | | | | 126.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 283357081272201 | 105.63 | 1414.00 | 06011962 | 1957 | .00 | 19 | 22 | 29 | 4250.00 | 78.00 | 53.00 | ORLANDO UTILITIES | PINE HILLS #1 |
| | | | 53.00 | | 1000.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283342 812700 | 119.50 | 1400.00 | | | 218.00 | 19 | 22 | 29 | | | | ORLANDO UTILITIES | PINE HILLS #3 |
| | | | | | 1035.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283343081215801 | 104.00 | 1349.00 | 06281962 | 1958 | 7.50 | 24 | 22 | 29 | 4200.00 | | | ORLANDO UTILITIES | L HIGHLAND #4 |
| | | | 52.23 | | 1178.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283346081222501 | 79.27 | 1159.00 | 06281962 | 1958 | .00 | 24 | 22 | 29 | 5000.00 | 39.00 | 29.00 | ORLANDO UTILITIES | L HIGHLAND #1 |
| | | | 29.44 | | 954.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283338081204602 | 112.26 | 1003.00 | 09041943 | 1943 | .00 | 19 | 22 | 30 | | | | CITY OF ORLANDO | W000806 |
| | | | 54.64 | | 496.00 | | | | | | | | |
| | | | | | 6.00 | | | | | | | | |
| 283348081351201 | 125.00 | 770.00 | | | .00 | 23 | 22 | 27 | 1590.00 | | | CITY OF WINTER GARDEN | |
| | | | | | 225.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283351081220701 | 94.36 | 1406.00 | 06281962 | 1958 | .00 | 24 | 22 | 29 | 3600.00 | 56.00 | 43.00 | ORLANDO UTILITIES | L HIGHLAND #3 |
| | | | 43.20 | | 1045.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283353081185801 | 95.00 | 1371.00 | 07301975 | 1975 | .00 | 21 | 22 | 30 | 1000.00 | 42.81 | 41.32 | ORLANDO UTILITIES | NAVY #1 |
| | | | 41.31 | | 205.00 | | | | | | | | |
| | | | | | 30.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 801.75 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | 197.00 | | | | | | | | |
| | | | | | 1080.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283353081222401 | 81.31 | 1445.00 | 06281962 | 1959 | .00 | 24 | 22 | 29 | 3900.00 | 54.00 | 31.00 | ORLANDO UTILITIES | L HIGHLAND #2 |
| | | | 30.69 | | 945.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283335081204501 | 113.36 | 655.00 | 05131943 | 1943 | .00 | 19 | 22 | 30 | | | | CITY OF ORLANDO | W000738 |
| | | | 56.21 | | 525.00 | | | | | | | | |
| | | | | | 4.00 | | | | | | | | |
| 283337081240801 | 95.00 | 649.00 | | | .00 | 22 | 22 | 29 | | | | ORLANDO CO CLUB | O-211 |
| | | | 50.00 | | 409.00 | | | | | | | | |
| | | | | | 6.00 | | | | | | | | |
| 283338081204401 | 110.30 | 828.00 | 05131943 | 1943 | .00 | 19 | 22 | 30 | | | | USAF | W000726 |
| | | | 54.89 | | 360.00 | | | | | | | | |
| | | | | | 6.00 | | | | | | | | |
| 283338081220701 | 86.15 | 1220.00 | 06011962 | 1957 | 6.50 | 24 | 22 | 29 | 4200.00 | | | ORLANDO UTILITIES | L HIGHLAND #5 |
| | | | 35.00 | | 1021.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283316081222601 | 96.00 | 1500.00 | 06281962 | 1958 | 6.00 | 24 | 22 | 29 | 4225.00 | | | ORLANDO UTILITIES | L HIGHLAND #6 |
| | | | 42.84 | | 1097.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283327081223201 | 100.00 | 1415.00 | 06281962 | 1957 | .00 | 24 | 22 | 29 | 5000.00 | 70.00 | 44.00 | ORLANDO UTILITIES | L HIGHLAND #7 |
| | | | 43.88 | | 943.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283329081222601 | 94.34 | 695.00 | 01041956 | 1956 | .00 | 24 | 22 | 29 | 5000.00 | 59.00 | 38.00 | ORLANDO UTILITIES | ELECTRIC PLANT |
| | | | 38.00 | | 451.00 | | | | | | | | |
| | | | | | 26.00 | | | | | | | | |
| 283333081233501 | 80.40 | 1281.00 | 01011961 | 1950 | .00 | 23 | 22 | 29 | 4000.00 | | | USGS MON WELL | LK ADAIR DP |
| | | | 20.00 | | 601.00 | | | | | | | | |
| | | | | | 20.00 | | | | | | | | |

54

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 283237 812904 | | 610.00 | | 1974 | .00 | 26 | 22 | 28 | | | | OCDPU | OAK MEADOWS #1 |
| | | | | | 100.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | 370.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283239 812905 | | 715.00 | 12031979 | 1979 | .00 | 26 | 22 | 28 | 1500.00 | | 40.00 | OCDPU | OAK MEADOWS #2 |
| | | | 40.00 | | 100.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 325.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| | | | | | 291.00 | | | | | | | | |
| | | | | | 400.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283230081225601 | 107.94 | 926.00 | | | .00 | 26 | 22 | 29 | | | | OCDPU | UNIV. PARK |
| | | | | | 177.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283243081230501 | 106.00 | 1050.00 | 10011940 | 1940 | .00 | 26 | 22 | 29 | | | | FLA PUBLIC SER | W000527 |
| | | | 52.00 | | 486.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283224081210201 | 108.02 | 1146.00 | 06281962 | 1958 | 6.80 | 30 | 22 | 30 | 4225.00 | 63.00 | 58.00 | ORLANDO UTILITIES | PRIMROSE #2 |
| | | | 58.23 | | 993.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 283225081205101 | 107.65 | 1246.00 | 08071956 | 1956 | .00 | 30 | 22 | 30 | 5000.00 | 85.00 | 59.00 | ORLANDO UTILITIES | PRIMROSE #1 |
| | | | 59.00 | | 1063.00 | | | | | | | | |
| | | | | | 26.00 | | | | | | | | |
| 283228 811502 | | 640.00 | 03071984 | 1984 | .00 | 30 | 22 | 31 | 3000.00 | 23.85 | 23.35 | OCDPU | ECON #2 |
| | | | 21.50 | | 256.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 283231 811456 | | 669.00 | 05161984 | 1984 | .00 | 30 | 22 | 31 | 3000.00 | 23.81 | 22.21 | OCDPU | ECON #4 |
| | | | 20.00 | | 300.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 283229 811459 | | 700.00 | 05181984 | 1984 | .00 | 30 | 22 | 31 | 3000.00 | 22.19 | 20.58 | OCDPU | ECON #3 |
| | | | 24.00 | | 274.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 283231 811502 | | 669.00 | 06121984 | 1984 | .00 | 30 | 22 | 31 | 2500.00 | 24.00 | 21.44 | OCDPU | ECON #1 |
| | | | 21.44 | | 256.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| 283228081204201 | 108.00 | 1240.00 | 03111964 | 1964 | 4.60 | 30 | 22 | 30 | 3600.00 | | | ORLANDO UTILITIES | PRIMROSE #3 |
| | | | 50.29 | | 1053.00 | | | | | | | | |
| | | | | | 30.00 | | | | | | | | |
| 283213081205301 | 107.00 | 885.00 | | 1963 | .00 | 31 | 22 | 30 | | | | ORLANDO UTILITIES | ABANDONED 1973 |
| | | | | | 776.00 | | | | | | | | |
| | | | | | 36.00 | | | | | | | | |
| 283202081172501 | 90.00 | 1250.00 | 06271962 | 1955 | .00 | 35 | 22 | 30 | 540.00 | 48.00 | 42.00 | OCDPU | AZALEA PK #1 |
| | | | 42.28 | | 1100.00 | | | | | | | | |
| | | | | | 10.00 | | | | | | | | |
| 283204 811723 | | 1136.00 | | 1955 | .00 | 35 | 22 | 30 | | | | OCDPU | AZALEA PARK #2 |
| | | | | | 600.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283209081203201 | 87.00 | 908.00 | 12211937 | 1937 | .00 | 32 | 22 | 30 | 800.00 | | | CITY OF ORLANDO | W000367 |
| | | | 40.00 | | 450.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| 283102081223401 | 104.89 | 1283.00 | 06281962 | 1956 | .00 | 01 | 23 | 29 | 4850.00 | 64.00 | 54.00 | ORLANDO UTILITIES | KUHL #1 |
| | | | 53.62 | | 1140.00 | | | | | | | | |
| | | | | | 28.00 | | | | | | | | |
| 283103081221101 | 97.00 | 1215.00 | 01011963 | 1963 | .00 | 01 | 23 | 29 | 5700.00 | 97.00 | 53.00 | ORLANDO UTILITIES | KUHL #2 |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | HYD-UNIT | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 283111081224201 | 104.00 | 1330.00 | 10101969 | 1969 | .00 | 02 23 29 | 4625.00 | 81.00 | 47.00 | ORLANDO UTILITIES | KUHL #3 |
| | | | 47.00 | | 1135.00 | | | | | | |
| | | | | | 30.00 | | | | | | |
| 283135081155201 | 80.00 | 1300.00 | 07291957 | 1957 | .00 | 36 22 30 | 508.00 | 35.00 | 30.00 | OCDPU | RIO PINAR #1 |
| | | | 30.00 | | 1500.00 | | | | | | |
| | | | | | 20.00 | | | | | | |
| 283135 811554 | | 1120.00 | | 1958 | .00 | 36 22 30 | | | | OCDPU | RIO PINAR #2 |
| | | | | | 600.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283135081234301 | 107.00 | 1232.00 | 09011947 | 1947 | .00 | 03 23 29 | 500.00 | 54.00 | 44.00 | LAYNE-ATLANTIC | USGS MON WELL |
| | | | 44.00 | | 1170.00 | | | | | | |
| | | | | | 10.00 | | | | | | |
| 283006081273701 | 93.00 | 1346.00 | 05011970 | 1970 | .00 | 12 23 28 | | | | ORLANDO UTILITIES | KIRKMAN #1 |
| | | | 37.00 | | 185.00 | | | | | | |
| | | | | | 30.00 | | | | | | |
| | | | | | 185.00 | | | | | | |
| | | | | | 244.00 | | | | | | |
| | | | | | 24.00 | | | | | | |
| | | | | | 244.00 | | | | | | |
| | | | | | 20.00 | | | | | | |
| | | | | | 650.00 | | | | | | |
| | | | | | 1045.00 | | | | | | |
| | | | | | 16.00 | | | | | | |
| 283007081274401 | 93.82 | 1410.00 | 06231976 | 1976 | .00 | 12 23 28 | | | | ORLANDO UTILITIES | KIRKMAN #2 |
| | | | 53.20 | | 982.00 | | | | | | |
| | | | | | 16.00 | | | | | | |
| 283026081224101 | 108.00 | 1100.00 | 08181942 | 1940 | .00 | 11 23 29 | | | | SOUTHERN FRUIT DISTRIB | WELL #1 |
| | | | 44.50 | | 611.00 | | | | | | |
| | | | | | 8.00 | | | | | | |
| 283031081224001 | 106.00 | 1200.00 | | 1948 | .00 | 11 23 29 | | | | SOUTHERN FRUIT DISTRIB | WELL #3 |
| | | | | | 1140.00 | | | | | | |
| | | | | | 36.00 | | | | | | |
| 283031081224401 | | 1030.00 | 01291946 | 1946 | .00 | 11 23 29 | 500.00 | 44.00 | 44.00 | SOUTHERN FRUIT DISTRIB | WELL #2 |
| | | | 44.00 | | 420.00 | | | | | | |
| | | | | | 20.00 | | | | | | |
| 283046081200201 | 109.00 | 1450.00 | 04281971 | 1971 | .00 | 05 23 30 | 4500.00 | | | ORLANDO UTILITIES | CONWAY #2 |
| | | | 64.00 | | 1253.00 | | | | | | |
| | | | | | 24.00 | | | | | | |
| 283049 811946 | | 1350.00 | 11171981 | 1981 | .00 | 05 23 30 | 4000.00 | 92.00 | 64.00 | ORLANDO UTILITIES | CONWAY #3 |
| | | | 64.00 | | 126.00 | | | | | | |
| | | | | | 30.00 | | | | | | |
| | | | | | .00 | | | | | | |
| | | | | | 663.00 | | | | | | |
| | | | | | 24.00 | | | | | | |
| | | | | | 215.00 | | | | | | |
| | | | | | 1063.00 | | | | | | |
| | | | | | 16.00 | | | | | | |
| 283051081195101 | 110.00 | 1338.00 | 09011967 | 1967 | .00 | 05 23 30 | 4500.00 | 76.00 | 57.00 | ORLANDO UTILITIES | CONWAY #1 |
| | | | 57.00 | | 1060.00 | | | | | | |
| | | | | | 16.00 | | | | | | |
| 282216081141301 | 77.00 | 600.00 | | | .00 | 29 24 31 | | | | C.E. BRADSHAW | |
| | | | | | 360.00 | | | | | | |
| 282316081152101 | 82.00 | 600.00 | | | .00 | 19 24 31 | | | | C.E. BRADSHAW | |
| | | | | | 360.00 | | | | | | |
| | | | 42.01 | | 120.00 | | | | | | |

43

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 282348081313102 | 112.10 | 910.00 | 04211969<br>17.73 | 1969 | -.50<br>170.00 | 17 | 24 | 28 | 3650.00 | 27.00 | 18.00 | ALLEN CONST | |
| 282405081053001 | 73.00 | 794.00 | 04011956<br>35.00 | 1956 | 24.00<br>.00<br>52.00 | 11 | 24 | 32 | 700.00 | | | CITY OF COCOA | W003855 |
| 282409081121001 | 67.00 | 1200.00 | | | 10.00<br>.00 | 15 | 24 | 31 | | | | C.E. BRADSHAW | |
| 282415081091901 | 72.00 | 635.00 | | | 12.00<br>.00<br>228.00 | 18 | 24 | 32 | | | | MAGNOLIA RANCH | |
| 282454081043501 | 75.89 | 620.00 | 11011962<br>37.00 | 1950 | 12.00<br>.00 | 12 | 24 | 32 | | | | USGS MON WELL | MAG RCH #5 |
| 282510081054501 | 70.33 | 710.00 | 12191956<br>32.00 | 1956 | 12.00<br>-2.00<br>316.00 | 10 | 24 | 32 | 1000.00 | 36.00 | 32.00 | CITY OF COCOA | W004163 |
| 282529081073201 | 66.00 | 710.00 | 04011962<br>30.00 | 1962 | 20.00<br>.00<br>237.00 | 04 | 24 | 32 | 1400.00 | 43.00 | 30.00 | CITY OF COCOA | W006040 |
| 282529081343001 | 96.72 | 700.00 | 07011969<br>6.13 | 1969 | 12.00<br>.00<br>181.00 | 02 | 24 | 27 | 4200.00 | 10.00 | 6.00 | REEDY CR IMP DT | RCID NO.8 |
| 282530081085401 | 66.00 | 702.00 | 02011964<br>31.00 | 1964 | 24.00<br>.00<br>262.00 | 06 | 24 | 32 | 1800.00 | 39.00 | 31.00 | CITY OF COCOA | COCOA 15 |
| 282531081082201 | 65.00 | 761.00 | 01031963<br>24.29 | 1962 | 12.00<br>-1.50<br>252.00 | 05 | 24 | 32 | 1120.00 | 41.00 | 24.00 | CITY OF COCOA | W006075 |
| 282533081063101 | | 900.00 | | 1950 | 12.00<br>.00<br>261.00 | 03 | 24 | 32 | | | | MAGNOLIA RANCH | MAG RCH #4 |
| 282533081082201 | | 1391.00 | 02141966<br>22.93 | 1965 | 12.00<br>.00<br>248.00 | 05 | 24 | 32 | | | | USGS MON WELL | COCOA C |
| 282533081082202 | 63.71 | 1357.00 | 02081966<br>22.58 | 1965 | 8.00<br>.00<br>1351.00 | 05 | 24 | 32 | 2.00 | 123.00 | 23.00 | | COCOA C ZONE1 |
| 282533081082203 | | 1240.00 | | 1965 | 1.25<br>.00<br>1306.00 | 05 | 24 | 32 | | | | | COCOA C ZONE2 |
| 282533081082204 | 63.71 | 1224.00 | 02071966<br>21.57 | 1965 | 1.25<br>.00<br>1218.00 | 05 | 24 | 32 | 2.00 | | | | COCOA C ZONE3 |
| 282533081082205 | 63.74 | 1050.00 | 02071966<br>21.88 | 1965 | 1.25<br>.00<br>.00<br>1044.00 | 05 | 24 | 32 | 2.00 | | | | COCOA C ZONE4 |
| 282533081082206 | 63.72 | 1004.00 | 02071966<br>24.47 | 1965 | 1.25<br>.00<br>248.00<br>8.00 | 05 | 24 | 32 | | | | | COCOA C ZONE5 |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 282556081051501 | 71.00 | 635.00 | | | .00<br>10.00 | 02 | 24 | 32 | | | | MAGNOLIA RANCH | |
| 282558 812151 | | 600.00 | | | | 01 | 24 | 29 | | | | TAFT WATER WORKS | |
| 282612081054201 | 68.00 | 617.00 | 01021957<br>32.00 | 1957 | .00<br>271.00<br>20.00 | 35 | 23 | 32 | 1705.00 | 39.00 | 32.00 | CITY OF COCOA | COCOA 2 |
| 282615081072801 | 71.00 | 635.00 | | 1950 | .00<br>90.00<br>12.00 | 33 | 23 | 32 | | | | MAGNOLIA RANCH | |
| 282617081302401 | 126.00 | 1009.00 | | 1975 | .00<br>162.00<br>20.00 | 34 | 23 | 28 | | | | DR. PHILLIPS | BAYHILL PLANT |
| 282630081051501 | 71.00 | 635.00 | | 1950 | .00<br>12.00 | 35 | 23 | 32 | | | | MAGNOLIA RANCH | |
| 282632081054501 | 67.00 | 640.00 | 06031957<br>33.00 | 1957 | .00<br>255.00<br>12.00 | 34 | 23 | 32 | 500.00 | 43.00 | 33.00 | CITY OF COCOA | W004290 |
| 282633081063101 | 72.00 | 635.00 | | | .00<br>90.00<br>12.00 | 34 | 23 | 32 | | | | MAGNOLIA RANCH | |
| 282635081041901 | 73.00 | 800.00 | | 1957 | .00<br>300.00<br>18.00 | 36 | 23 | 32 | | | | MAGNOLIA RANCH | |
| 282637081301101 | 110.00 | 695.00 | 10011959<br>24.00 | 1959 | .00<br>502.00<br>10.00 | 34 | 23 | 28 | | | | MINUTE MAID | |
| 282645 812010 | 101.40 | 1049.00 | 01151942 | 1942 | .00<br>192.00<br>12.00 | 32 | 23 | 30 | | | | AIR FORCE BASE | GOLF COURSE |
| 282648081265701 | | 700.00 | | | | 31 | 23 | 29 | | | | ORLANDO UTILITIES | MARTIN #3 |
| 282650081262501 | 90.26 | 6193.00 | 05021978<br>83.33 | 1977 | .00<br>2420.00<br>12.00<br>.00<br>120.00<br>32.00<br>.00<br>66.00<br>42.00<br>4.00<br>120.00<br>2005.00<br>1.50<br>2005.00<br>2030.00<br>1.50 | 32 | 23 | 29 | -700.00 | | | ORANGE COUNTY | DEEP TEST |
| 282650081262502 | 90.26 | 2030.00 | 04171979 | 1977 | .00 | 32 | 23 | 29 | | | | ORANGE COUNTY | USGS OBS |
| 282743081392001 | 113.00 | 1050.00 | 01291963<br>34.87 | 1963 | -1.80<br>775.00<br>12.00 | 30 | 23 | 27 | | | | FRANK THOMPSON | |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | GAL/MIN | PROLEVEL | STATIC | OWNER | OTHER-ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 282805081130101 | 82.00 | 1050.00 | | | | 21 | 23 | 31 | | | | GEO TERRY NO.1 | TEST HOLE 6586 |
| | | 600.00 | 02131980 | 1980 | .00 | 14 | 23 | 28 | 1250.00 | | 91.00 | OCDPU | HIDDEN SPRINGS |
| | | | 91.00 | | 172.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| | | | | | 115.00 | | | | | | | | |
| | | | | | 443.00 | | | | | | | | |
| | | | | | 12.00 | | | | | | | | |
| | | 600.00 | | 1980 | .00 | | | | | | | OCDPU | ORANGEWOOD |
| | | | | | 195.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 282506 810939 | | 600.00 | 04051982 | 1982 | .00 | 07 | 24 | 32 | 2600.00 | 45.00 | 37.00 | CITY OF COCOA | COCOA #18 |
| | | | 37.00 | | 50.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 250.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| 282441 810939 | | 600.00 | 11131981 | 1981 | .00 | 07 | 24 | 32 | 2610.00 | 57.00 | 36.00 | CITY OF COCOA | COCOA #19 |
| | | | | | 47.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 283.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| | | 600.00 | 08081979 | 1979 | .00 | 07 | 24 | 29 | 2060.00 | 42.00 | 33.10 | INT. COMMUNITY CORP. | ORANGEWOOD |
| | | | 33.10 | | 190.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| | | 652.00 | 09251981 | 1981 | .00 | 19 | 22 | 28 | 3000.00 | 68.00 | 58.00 | CITY OF OCOEE | WELL #1 |
| | | | | | 167.00 | | | | | | | | |
| | | | | | 16.00 | | | | | | | | |
| | | 720.00 | 10131981 | 1981 | .00 | 02 | 23 | 27 | 60.00 | | | STORY GRAY | DOMESTIC |
| | | | 69.00 | | 340.00 | | | | | | | | |
| | | | | | 8.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 680.00 | | | | | | | | |
| | | | | | 6.00 | | | | | | | | |
| | | 900.00 | | | .00 | | | | | | | TOWN OF EATONVILLE | WELL #1 |
| | | | | | 371.00 | | | | | | | | |
| | | | | | 6.00 | | | | | | | | |
| | | 700.00 | 04111984 | 1984 | .00 | | | | 3000.00 | 58.25 | 48.08 | OCDPU | CONWAY #1 |
| | | | 48.08 | | 148.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |
| | | 700.00 | | | .00 | | | | 5096.00 | | | WINTER PARK UTILITIES | PLANT #5 |
| | | | | | 102.00 | | | | | | | | |
| | | | | | 30.00 | | | | | | | | |
| | | | | | .00 | | | | | | | | |
| | | | | | 202.00 | | | | | | | | |
| | | | | | 24.00 | | | | | | | | |

# APPENDIX C

Well construction data for drainage wells equal to or greater than 600 feet deep in Orange County.

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*DRAINAGE WELL DATA FROM USGS FOR DRAINAGE WELLS 600 FT.,*
*OR GREATER IN ORANGE COUNTY.*

*************************************************************

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | OWNER | OTHER-ID | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 283016081245001 | 95.00 | 777.00 | 11011953 | 1953 | .00 | 09 | 23 | 29 | ORANGE COUNTY | W003124 | |
| | | | 40.00 | | 263.00 | | | | | | |
| | | | | | 14.00 | | | | | | |
| 283113081225601 | 75.00 | 623.00 | 05011957 | 1946 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | | RECEIVES LAKE OVERFLOW |
| | | | 15.00 | | 87.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283112081213801 | 87.51 | 706.00 | 06121956 | 1956 | .00 | 01 | 23 | 29 | CITY OF ORLANDO | | RECEIVES STREET RUNOFF |
| | | | 31.00 | | 245.00 | | | | | | |
| | | | | | 16.00 | | | | | | |
| 283144081224901 | 82.00 | 600.00 | 01121982 | 1956 | .00 | 35 | 22 | 29 | CITY OF ORLAND | | RECEIVES LAKE OVERFLOW |
| | | | | | 20.00 | | | | | | |
| 283145081220301 | 73.54 | 811.00 | 02191960 | 1930 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | W000139 | RECEIVES LAKE OVERFLOW |
| | | | 13.40 | | 67.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283146081223001 | 79.24 | 730.00 | 02101954 | 1954 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | W003131 | |
| | | | 16.78 | | 12.00 | | | | | | |
| | | | | | 18.00 | | | | | | |
| 283147081224301 | 82.89 | 607.00 | 09191960 | 1960 | .00 | 35 | 22 | 29 | CITY OF ORLANDO | | |
| | | | 8.52 | | 138.00 | | | | | | |
| | | | | | 20.00 | | | | | | |
| 283154081220701 | 74.31 | 668.00 | 05171943 | 1929 | 3.00 | 36 | 22 | 29 | CITY OF ORLANDO | 0-12 | RECEIVES LAKE OVERFLOW |
| | | | 15.15 | | 77.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283201081213401 | 65.00 | 863.00 | 05101980 | | .00 | 31 | 22 | 30 | CITY OF ORLANDO | 0-145A | RECEIVES LAKE OVERFLOW |
| | | | | | 50.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283201081213803 | 82.39 | 605.00 | 03081960 | 1924 | .00 | 31 | 22 | 30 | CITY OF ORLANDO | 0-121C | RECEIVES STREET RUNOFF |
| | | | 15.90 | | 82.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283209081231401 | 104.73 | 757.00 | 02011934 | 1934 | .00 | 35 | 22 | 29 | CITY OF ORLANDO | W000272 | RECEIVES STREET RUNOFF |
| | | | 44.70 | | 138.00 | | | | | | |
| | | | | | 12.00 | | | | | | |
| 283218081214201 | 75.19 | 865.00 | 10011957 | 1926 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | 0-019 | RECEIVES STREET RUNOFF |
| | | | 15.40 | | 408.00 | | | | | | |
| | | | | | 8.00 | | | | | | |
| 283218081214401 | 77.00 | 700.00 | 05101980 | 1925 | | 36 | 22 | 29 | CITY OF ORLANDO | 0-146A | RECEIVES STREET RUNOFF |
| 283218081214402 | 77.00 | 863.00 | 05101980 | 1930 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | 0-146B | RECEIVED SEWAGE EFFLUENT TILL 1950 |
| | | | | | 8.00 | | | | | | |
| 283218081214403 | 77.00 | 645.00 | 05101980 | 1943 | .00 | 36 | 22 | 29 | CITY OF ORLANDO | USGS | RECEIVED SEWAGE EFFLUENT TILL 1950 |
| | | | | | 8.00 | | | | | | |

| SITE-ID | ALTITUDE | DEPTH | DATE/WL | YEAR | CASING | S | TS | RE | OWNER | OTHER-ID | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 283219081215001 | 75.00 | 884.00 | 05261943<br>14.94 | 1925 | .00<br>316.00<br>12.00 | 25 | 22 | 29 | CITY OF ORLANDO | 0-139 | RECEIVES STREET RUNOFF |
| 283236081225601 | 107.94 | 926.00 | 05101980 | 1943 | .00<br><br>12.00 | 26 | 22 | 29 | CITY OF ORLANDO | 0-142 | RECEIVES STREET RUNOFF |
| 283244081204301 | 101.00 | 1049.00 | 05131943<br>29.90 | 1943 | .00<br>192.00<br>12.00 | 30 | 22 | 30 | CITY OF ORLANDO | W000135 | RECEIVES STREET RUNOFF |
| 283247081202201 | 105.00 | 688.00 | 03041982<br>42.00 | 1958 | .00<br><br>20.00 | 29 | 22 | 30 | CITY OF ORLANDO | | RECEIVES STREET RUNOFF ? |
| 283253081222501 | 97.93 | 750.00 | 11041936<br>37.00 | 1936 | .00<br>215.00<br>12.00 | 25 | 22 | 29 | CITY OF ORLANDO | W000313 | RECEIVES SRTEET RUNOFF |
| 283255081205501 | 100.87 | 800.00 | 05131943<br>42.70 | | .00<br>180.00<br>3.00 | 30 | 22 | 30 | CITY OF ORLANDO | 0-091 | RECEIVES STREET RUNOFF |
| 283257081210701 | 100.00 | 696.00 | 05011958<br>43.00 | 1958 | .00<br>405.00<br>20.00 | 30 | 22 | 30 | STATE ROAD DEPT. | W004668 | RECEIVES STREET RUNOFF |
| 283258081240901 | 101.58 | 669.00 | 01011954<br>43.00 | 1954 | .00<br>147.00<br>20.00 | 27 | 22 | 29 | CITY OF ORLANDO | | RECEIVES STREET RUNOFF |
| 283310081203801 | 105.00 | 620.00 | 05101980 | 1944 | .00<br>354.00<br>12.00 | 29 | 22 | 30 | STATE ROAD DEPT. | 0-247 | RECEIVES RUNOFF FROM MEDIAN |
| 283334081243501 | 97.00 | 685.00 | 05011974<br>51.00 | 1957 | .00<br><br>14.00 | 22 | 22 | 28 | ORANGE COUNTY | | RECEIVES STREET RUNOFF |
| 283338081222701 | 90.00 | 603.00 | 05101980 | 1943 | .00<br>75.00<br>6.00 | 24 | 22 | 29 | ATLANTIC CO. | 0-218 | RECEIVED BREWHOUSE EFFLUENT |
| 283354081235401 | 97.42 | 606.00 | 06101980<br>38.00 | 1958 | .00<br>202.00<br>20.00 | 22 | 22 | 29 | CITY OF ORLANDO | | RECIEVES STREET RUNOFF |
| 283402081211001 | 104.92 | 728.00 | 06101980 | 1949 | .00<br>249.00<br>12.00 | 19 | 22 | 30 | CITY OF ORLANDO | | RECEIVES STREET RUNOFF ? |
| 283528081235201 | 88.00 | 745.00 | 08051947<br>27.00 | 1947 | .00<br>176.00<br>12.00 | 10 | 22 | 29 | ORANGE COUNTY | W001507 | RECEIVES LAKE OVERFLOW |
| 283545081244901 | 97.03 | 721.00 | 09011947<br>27.00 | 1947 | .00<br>130.00<br>12.00 | 04 | 22 | 29 | CITY OF ORLANDO | W001503 | RECEIVES STREET RUNOFF ? |
| 283643081215701 | 82.00 | 977.00 | 05101980 | 1937 | .00<br>112.00<br>12.00 | 36 | 21 | 29 | STATE ROAD DEPT. | W000342 | RECEIVES RUNOFF FROM MEDIAN |
| 283702081264601 | 75.00 | 682.00 | 09171959<br>-1.00 | 1959 | .00<br>216.00<br>12.00 | 31 | 21 | 29 | ORANGE COUNTY | | RECEIVES LAKE OVERFLOW |
| 284102081332301 | 105.00 | 1070.00 | 07181980 | 1956 | .00<br>218.00<br>20.00 | 06 | 21 | 28 | PLYMOUTH CITRUS CORP. | W004053 | RECEIVES PLANT WASTE |

# APPENDIX D

Water quality data for Orlando Utilities Commission wells obtaining water from the lower permeable zone of the Floridan aquifer.

****NOTE: THERE WAS NO SAMPLE FOR THE FOLLOWING WELLS... PINE HILLS PLANT # 2/4
MARTIN PLANT # 4/3
CONWAY PLANT # 7/3

| A | B | C |
|---|---|---|
| MAJOR DISSOLVED CONSTITUENTS AND PHYSICAL PROPERTIES | NUTRIENTS AND BACTERIA | TRACE ELEMENTS |

DISSOLVED CONCENTRATIONS IN MILLIGRAMS PER LITER, EXCEPT AS INDICATED.

| A | B | C |
|---|---|---|
| 1 DISSOLVED SOLIDS (RESIDUE) | 1 ORGANIC NITROGEN (N) | 1 ARSENIC (AS) |
| 2 TEMPERATURE (C) | 2 AMMONIA (NH3) (N) | 2 BARIUM (BA) |
| 3 SILICON (SI) | 3 NITRITE (NO2) (N) | 3 CADMIUM (CD) |
| 4 CALCIUM (CA) | 4 NITRATE (NO3) (N) | 4 CHROMIUM (CR) |
| 5 MAGNESIUM (MG) | 5 NITROGEN, TOTAL (N) | 5 COPPER (CU) |
| 6 SODIUM (NA) | 6 PHOSPHORUS (P) | 6 IRON (FE) |
| 7 POTASSIUM (K) | 7 CYANIDE (CN) | 7 LEAD (PB) |
| 8 BICARBONATE (HCO3) | 8 TOTAL COLIFORM (COLONIES) | 8 MANGANESE (MN) |
| 9 CARBONATE (CO3) | | 9 MERCURY (HG) |
| 10 SULFATE (SO4) | | 10 SELENIUM (SE) |
| 11 CHLORIDE (CL) | | 11 SILVER (AG) |
| 12 FLUORIDE (F) | | 12 ZINC (ZN) |
| 13 PH (PH UNITS) | | |
| 14 COLOR (PL-CO UNITS) | | |
| 15 TURBIDITY (NM UNITS) | | |

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                             X
X LAKE HIGHLAND PLANT, # 172  X
X                             X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 02 | 03 | 03 | 04 | 05 | 05 | 05 | 05 | 11 | 05 | 05 | 10 | 11 | 05 | 02 |
| | 23 | 04 | 23 | 31 | 19 | 21 | 06 | 12 | 24 | 28 | 15 | 21 | 13 | 09 | 24 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | 159.000 | 156.000 | 150.000 | 153.000 | 156.000 | 153.000 | 135.000 | 142.000 | 151.000 | 154.000 | 161.000 | 150.000 | 161.000 | 160.000 | 158.000 | 137.000 |
| 2 | | | | | | | 25.000 | 25.500 | 25.000 | 25.000 | 25.000 | 25.500 | 24.500 | 24.500 | 25.500 | 25.000 |
| 3 | 6.100 | 5.600 | 5.100 | 6.300 | 6.100 | 5.100 | 3.400 | 5.100 | 3.700 | 5.200 | 4.900 | 5.100 | 4.900 | 4.800 | 4.900 | 7.500 |
| 4 | 32.000 | 32.300 | 32.000 | 33.200 | 33.200 | 33.600 | 33.300 | 36.000 | 35.200 | 39.700 | 34.500 | 37.700 | 34.500 | 37.600 | 34.000 | 36.200 |
| 5 | 9.000 | 8.000 | 8.000 | 8.500 | 8.700 | 7.800 | 8.500 | 7.100 | 7.200 | 9.800 | 9.190 | 10.600 | 8.300 | 8.300 | 8.500 | 10.600 |
| 6 | 10.000 | 12.700 | 10.700 | 7.800 | 7.800 | 8.300 | 9.300 | 2.300 | | 5.800 | 6.000 | 6.200 | 5.900 | 8.400 | 8.300 | 7.600 |
| 7 | | | | | | | | | | 0.321 | 0.318 | 0.321 | 0.321 | 0.289 | 0.289 | 0.225 |
| 8 | 142.000 | 140.000 | 137.000 | 135.000 | 139.000 | 136.600 | 140.300 | 112.000 | 112.000 | 112.000 | 105.000 | 117.000 | 113.000 | 113.000 | 116.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 1.000 | 5.200 | 7.200 | 5.700 | 5.500 | 6.500 | 6.400 | 5.800 | 2.200 | 1.700 | 0.800 | 5.000 | 5.300 | 7.300 | 6.000 | 5.200 |
| 11 | 15.000 | 16.000 | 11.500 | 12.500 | 12.000 | 11.000 | 12.000 | 4.500 | 1.000 | 10.400 | 12.200 | 11.200 | 12.100 | 11.800 | 9.400 | 11.700 |
| 12 | 0.190 | 0.180 | 0.180 | 0.180 | 0.150 | 0.200 | 0.080 | 0.150 | 0.170 | 0.210 | 0.220 | 0.200 | 0.120 | 0.400 | 0.240 | 0.140 |
| 13 | 8.000 | 7.800 | 7.740 | 7.900 | 7.900 | 7.700 | 7.350 | 7.820 | 7.780 | 7.600 | 7.400 | 7.810 | 7.710 | 7.800 | 7.920 | 7.810 |
| 14 | 5.000 | 5.000 | <10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | <1.000 | 1.000 | 5.000 | 2.000 | 3.000 | 2.000 |
| 15 | 0.300 | 0.300 | 0.100 | 0.300 | 0.300 | 0.300 | 0.300 | 0.500 | 0.300 | <0.10 | <0.100 | 0.230 | 0.200 | 0.160 | 0.150 | 0.230 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.050 | 0.300 | 0.370 | 0.630 | 0.220 | <0.050 | <0.050 | 0.500 | 0.900 | 1.690 |
| 2 | | | | | | | | <0.020 | 0.560 | 0.050 | 0.040 | 0.860 | 0.650 | 0.400 | 0.300 | <0.100 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | 0.370 | 0.000 | 0.000 | 0.140 | 0.150 | 0.140 | <0.020 | <0.010 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.045 | 0.051 | 0.058 | 0.061 | 0.064 | 0.067 | 0.040 | 0.043 | 0.060 | 0.045 | 0.055 | <0.190 | 0.050 | 0.060 | 0.080 | <0.010 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.003 | 0.002 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | 0.120 | 0.140 | 0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | 0.001 | <0.001 | <0.001 | 0.002 |
| 6 | 0.000 | 0.000 | 0.020 | <0.100 | 0.000 | 0.000 | 0.020 | <0.010 | <0.020 | 0.100 | 0.110 | 0.076 | 0.026 | 0.015 | 0.034 | 0.041 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.002 | 0.001 | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | 0.030 | | | 0.030 | <0.040 | <0.040 | <0.010 | <0.010 | <0.100 | 0.020 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                             X
X LAKE HIGHLAND PLANT, # 173  X
X                             X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 01 25 | 69 02 05 | 70 03 25 | 71 03 17 | 72 02 23 | 73 04 18 | 74 05 06 | 75 05 12 | 76 05 24 | 77 11 28 | 78 05 15 | 79 05 21 | 80 10 13 | 81 11 09 | 82 05 24 | 83 02 28 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | | | | | | | | | | | | | | | | |
| 1 | 168.000 | 165.000 | 162.000 | 162.000 | 165.000 | 162.000 | 155.000 | 160.000 | 166.000 | 166.000 | 172.000 | 159.000 | 176.000 | 166.000 | 162.000 | 136.000 |
| 2 | | | | | | | 26.000 | 25.000 | 25.500 | 25.500 | 25.500 | 25.000 | 24.500 | 25.000 | 25.500 | 25.500 |
| 3 | 5.600 | 4.700 | 5.100 | 5.700 | 6.400 | 5.600 | 3.300 | 4.900 | 3.800 | 5.100 | 4.900 | 4.900 | 4.900 | 4.300 | 4.600 | 7.000 |
| 4 | 34.000 | 33.600 | 35.200 | 34.000 | 34.000 | 36.800 | 36.100 | 37.200 | 36.800 | 44.900 | 36.900 | 33.800 | 35.000 | 38.500 | 35.600 | 37.500 |
| 5 | 9.000 | 8.700 | 8.500 | 8.800 | 9.000 | 7.300 | 9.500 | 8.300 | 7.800 | 1.030 | 9.610 | 11.100 | 8.800 | 9.000 | 9.100 | 10.800 |
| 6 | 12.800 | 11.100 | 12.800 | 5.900 | 8.300 | 9.400 | 10.100 | 1.400 | | 7.100 | 6.900 | 7.100 | 6.800 | 10.000 | 9.700 | 8.900 |
| 7 | | | | | | | | | | 1.000 | 1.070 | 1.000 | 1.000 | 0.900 | 0.900 | 0.800 |
| 8 | 149.000 | 143.000 | 145.000 | 145.000 | 145.000 | 144.000 | 143.900 | 115.000 | 118.000 | 116.000 | 108.000 | 123.000 | 117.000 | 118.000 | 119.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 4.000 | 3.600 | 7.200 | 8.200 | 8.000 | 9.000 | 10.200 | 9.800 | 3.400 | 3.700 | 1.500 | 7.700 | 10.300 | 9.100 | 9.200 | 8.100 |
| 11 | 17.000 | 16.000 | 14.000 | 17.000 | 12.500 | 11.000 | 14.000 | 3.000 | 1.300 | 12.200 | 13.200 | 12.600 | 13.500 | 13.500 | 12.000 | 13.100 |
| 12 | 0.190 | 0.160 | 0.190 | 0.190 | 0.160 | 0.180 | 0.120 | 0.160 | 0.170 | 0.210 | 0.230 | 0.200 | 0.150 | 0.260 | 0.240 | 0.120 |
| 13 | 8.000 | 7.800 | 7.800 | 7.800 | 7.800 | 8.000 | 7.790 | 7.780 | 7.800 | 7.680 | 7.400 | 7.890 | 7.720 | 7.880 | 7.910 | 7.990 |
| 14 | 5.000 | 5.000 | <10.000 | <10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 8.000 | 2.000 | 5.000 | 2.000 |
| 15 | 0.300 | 0.200 | 0.100 | 0.200 | 0.300 | 0.300 | 0.300 | 0.270 | 0.200 | <0.100 | <0.100 | 0.980 | 0.200 | 0.210 | 0.230 | 0.250 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.050 | 0.550 | 0.190 | 0.500 | 0.280 | <0.050 | 0.360 | 0.200 | 0.900 | 1.470 |
| 2 | | | | | | | | | 0.070 | 0.170 | 0.050 | 1.180 | 0.400 | 0.400 | 0.500 | 0.250 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.003 | 0.001 | 0.002 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | <0.020 | <0.010 |
| 4 | | 0.170 | 0.090 | | 0.000 | 0.170 | 0.080 | <0.020 | 0.070 | 0.170 | <0.002 | <0.020 | <0.020 | 0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.048 | 0.055 | 0.045 | 0.077 | 0.055 | 0.061 | 0.040 | 0.045 | 0.070 | 0.045 | 0.065 | <0.100 | 0.050 | 0.050 | 0.100 | <0.010 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | 0.002 | 0.003 | 0.002 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | 0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.010 | 0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.000 | 0.020 | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | <0.010 | <0.020 | 0.050 | <0.030 | 0.023 | 0.025 | 0.012 | 0.045 | 0.016 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.002 | 0.001 | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 10 | | | | | | | | | | | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | 0.000 | | | 0.010 | <0.040 | <0.040 | <0.010 | <0.010 | <0.100 | <0.030 | <0.030 | <0.020 | <0.020 |

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XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                              X
X LAKE HIGHLAND PLANT, # 1/4  X
X                              X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
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| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 03 | 02 | 03 | 04 | 05 | 07 | 05 | 05 | 05 | 11 | 05 | 05 | 10 | 11 | 05 | 02 |
| | 06 | 13 | 23 | 13 | 23 | 12 | 06 | 12 | 24 | 28 | 15 | 21 | 13 | 09 | 24 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | 186.000 | 180.000 | 174.000 | 180.000 | 174.000 | 186.000 | 175.000 | 166.000 | 194.000 | 181.000 | 183.000 | 163.000 | 175.000 | | 172.000 | 162.000 |
| 2 | | | | | | | 25.500 | 25.500 | 25.500 | 24.000 | 25.750 | 26.000 | 25.500 | | 25.000 | 25.000 |
| 3 | 5.600 | 5.100 | 5.100 | 6.100 | 6.100 | 5.600 | 3.700 | 5.100 | 3.500 | 5.400 | 4.900 | 5.300 | 4.700 | | 4.800 | 7.500 |
| 4 | 30.000 | 35.000 | 34.400 | 37.200 | 36.400 | 38.000 | 36.100 | 37.200 | 41.200 | 46.900 | 35.700 | 35.400 | 35.400 | | 38.100 | 38.900 |
| 5 | 13.100 | 9.900 | 9.200 | 9.000 | 9.200 | 9.200 | 10.200 | 8.500 | 10.500 | 10.800 | 9.840 | 11.000 | 8.500 | | 10.400 | 11.200 |
| 6 | 11.000 | 16.800 | 14.400 | 13.100 | 9.400 | 11.700 | 10.100 | 0.000 | 6.000 | 7.500 | 6.800 | 6.900 | 6.600 | | 13.200 | 12.200 |
| 7 | | | | | | | | | | 1.100 | 1.100 | 1.000 | 1.100 | | 0.900 | 1.300 |
| 8 | 139.000 | 150.000 | 149.000 | 150.000 | 145.000 | 156.000 | 146.400 | 112.000 | 138.000 | 113.000 | 105.000 | 123.000 | 112.000 | | 133.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 |
| 10 | 12.000 | 14.800 | 7.200 | 12.500 | 9.800 | 8.000 | 8.100 | 8.500 | 4.400 | 7.400 | 2.600 | 6.800 | 7.000 | | 10.500 | 6.900 |
| 11 | 19.000 | 19.000 | 18.500 | 16.000 | 15.000 | 15.500 | 18.500 | 3.500 | 12.000 | 20.700 | 13.700 | 18.400 | 14.900 | | 13.500 | 15.500 |
| 12 | 0.190 | 0.190 | 0.260 | 0.130 | | | | 0.150 | 0.590 | 0.200 | 0.530 | 0.420 | 0.160 | | 0.250 | 0.140 |
| 13 | 8.100 | 7.700 | 7.660 | 7.880 | 7.650 | 7.600 | 7.570 | 7.700 | 7.790 | 7.290 | 7.650 | 7.390 | 7.600 | | 7.920 | 7.820 |
| 14 | 10.000 | 5.000 | <10.000 | 10.000 | 5.000 | 10.000 | 5.000 | 5.000 | 5.000 | >12.000 | <1.000 | 1.000 | 7.000 | | 9.000 | 8.000 |
| 15 | 0.300 | 0.200 | 0.100 | 0.700 | 0.300 | 2.000 | 1.500 | 0.600 | 0.300 | 1.720 | <0.100 | 1.230 | 0.400 | | 0.360 | 0.450 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.050 | 0.390 | 0.470 | 0.410 | <0.050 | 0.070 | <0.050 | | <0.020 | 2.020 |
| 2 | | | | | | | | | 1.360 | 0.220 | 0.220 | 0.310 | 0.450 | | 1.100 | 0.500 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.006 | 0.024 | 0.060 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | | <0.020 | <0.010 |
| 4 | | 0.260 | 0.000 | | 0.000 | 0.150 | 0.070 | <0.020 | 0.200 | <0.010 | <0.002 | <0.020 | <0.020 | | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.058 | 0.058 | 0.058 | 0.083 | 0.080 | 0.109 | 0.010 | 0.043 | 0.100 | 0.100 | 0.055 | <0.100 | 0.080 | | 0.120 | 0.020 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | 0.002 | 0.004 | | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | 0.300 | | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | 0.001 | | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.014 | 0.011 | | <0.001 | <0.001 |
| 6 | 0.030 | 0.030 | 0.000 | 0.320 | 0.007 | 0.990 | 0.020 | <0.010 | <0.020 | 0.200 | <0.040 | 0.042 | 0.037 | | 0.084 | 0.150 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.003 | | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | | <0.0005 | <0.0005 |
| 10 | | | | | | | | | | | | 0.002 | <0.002 | | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | | <0.001 | <0.001 |
| 12 | | | | | | 0.000 | | 0.070 | <0.040 | <0.040 | 0.030 | 0.010 | <0.100 | 0.020 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X LAKE HIGHLAND PLANT, # 1/5 X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 03 | 04 | 03 | 04 | 05 | 07 | 05 | 05 | 05 | 11 | 05 | 05 | 10 | 11 | 05 | 02 |
| | 20 | 04 | 24 | 13 | 05 | 12 | 06 | 12 | 24 | 28 | 15 | 21 | 13 | 09 | 24 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | 168.000 | 171.000 | 165.000 | 168.000 | 168.000 | 168.000 | 155.000 | 163.000 | 169.000 | 166.000 | 164.000 | 159.000 | 176.000 | 167.000 | 162.000 | 147.000 |
| 2 | | | | | | | 26.000 | 25.500 | 26.900 | 25.500 | 25.000 | 25.750 | 25.200 | 25.500 | 25.750 | 25.800 |
| 3 | 5.200 | 4.700 | 5.400 | 5.700 | 5.400 | 4.700 | 3.300 | 4.600 | 2.900 | 5.100 | 4.900 | 4.500 | 4.100 | 4.400 | 4.500 | 7.000 |
| 4 | 27.000 | 34.000 | 33.600 | 34.000 | 34.800 | 36.400 | 34.870 | 35.600 | 36.400 | 42.900 | 36.100 | 35.400 | 35.200 | 38.900 | 34.800 | 37.500 |
| 5 | 13.000 | 9.200 | 8.500 | 9.000 | 9.500 | 9.000 | 8.900 | 9.000 | 7.800 | 10.700 | 9.390 | 12.300 | 9.100 | 9.300 | 9.300 | 10.900 |
| 6 | | 11.000 | 8.600 | 8.500 | 11.000 | 10.160 | | 1.500 | 0.550 | 7.300 | 6.400 | 7.500 | 7.500 | 10.900 | 10.400 | 9.600 |
| 7 | 10.000 | | | | | | 13.600 | | | 1.100 | 1.030 | 1.000 | 1.100 | 0.900 | 1.000 | 0.800 |
| 8 | 140.000 | 139.000 | 135.000 | 137.000 | 146.000 | 142.700 | 142.700 | 112.000 | 117.000 | 113.000 | 105.000 | 118.000 | 116.000 | 116.000 | 118.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | .000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 6.300 | 10.000 | 5.200 | 12.100 | 11.300 | 11.500 | 14.200 | 12.800 | 5.400 | 5.200 | 0.900 | 12.800 | 12.700 | 10.900 | 11.900 | 10.600 |
| 11 | 15.000 | 18.000 | 15.500 | 11.500 | 14.000 | 15.000 | 15.500 | 3.000 | 1.300 | 13.100 | 12.200 | 13.900 | 14.600 | 14.400 | 12.000 | 14.100 |
| 12 | 0.200 | 0.310 | 0.530 | 0.180 | 0.220 | 0.200 | 0.150 | 0.160 | 0..180 | 0.210 | 0.220 | 0.220 | 0.140 | 0.270 | 0.230 | 0.140 |
| 13 | 7.900 | 7.600 | 7.650 | 7.860 | 7.800 | 7.900 | 7.830 | 7.790 | 7.910 | 7.750 | 7.200 | 7.900 | 7.730 | 7.900 | 7.980 | 7.920 |
| 14 | 10.000 | 5.000 | <10.000 | 15.000 | 5.000 | 10.000 | 5.900 | 5.000 | 5.000 | 1.000 | <1.000 | 2.000 | 8.000 | 2.000 | 7.000 | 7.000 |
| 15 | 0.300 | 0.300 | 0.100 | 0.300 | 0.300 | 0.500 | 0.300 | 0.600 | 0.300 | <0.100 | <0.100 | 0.160 | 0.200 | 0.200 | 0.180 | 0.240 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.000 | <0.050 | 0.250 | 0.420 | 0.380 | 0.220 | <0.050 | <0.050 | 0.200 | 0.600 | 1.81 |
| 2 | | | | | | | | | 0.680 | 0.280 | 0.120 | 1.040 | 1.380 | 0.400 | 0.900 | <0.010 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.012 | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | 0.060 | 0.010 | | 0.000 | 0.050 | 0.050 | <0.020 | 0.100 | <0.010 | <0.002 | <0.020 | <0.020 | 0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.042 | 0.071 | 0.087 | 0.067 | 0.074 | 0.055 | 0.030 | 0.045 | 0.060 | 0.065 | 0.060 | <0.100 | 0.060 | 0.070 | 0.100 | <0.010 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.003 | <0.002 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | 0.130 | 0.120 | 0.200 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.030 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | 0.005 |
| 6 | 0.290 | 0.060 | 0.120 | <0.100 | 0.000 | 0.000 | 0.020 | <0.010 | <0.020 | 0.110 | <0.040 | 0.035 | 0.029 | 0.036 | 0.075 | 0.046 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.003 | 0.006 | 0.002 | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | 0.000 | | | 0.020 | <0.040 | <0.040 | <0.010 | <0.010 | <0.100 | 0.030 | <0.050 | <0.020 | <0.020 |

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XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
X                            X
X LAKE HIGHLAND PLANT, # 176 X
X                            X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
```

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 20 | 13 | 24 | 13 | 23 | 12 | 06 | 12 | 24 | 28 | 15 | 21 | 13 | 09 | 24 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | 165.000 | 162.000 | 162.000 | 156.000 | 156.000 | 159.000 | 150.000 | 160.000 | 154.000 | 160.000 | 176.000 | 150.000 | 162.000 | 158.000 | 158.000 | 140.000 |
| 2 | | | | | | | 25.500 | 25.000 | 25.000 | 25.000 | 25.000 | 26.000 | 25.000 | 25.500 | 25.500 | 25.000 |
| 3 | 5.700 | 5.400 | 5.200 | 6.400 | 6.100 | 5.000 | 3.700 | 5.100 | 3.500 | 5.200 | 5.000 | 4.900 | 4.700 | 4.800 | 4.700 | 7.700 |
| 4 | 27.000 | 34.000 | 32.400 | 34.000 | 34.800 | 36.000 | 34.460 | 36.400 | 36.000 | 43.700 | 35.300 | 35.400 | 35.600 | 37.100 | 36.400 | 37.200 |
| 5 | 13.000 | 9.200 | 8.500 | 9.000 | 9.500 | 9.000 | 8.900 | 9.000 | 7.800 | 10.700 | 9.230 | 11.900 | 8.700 | 8.400 | 8.600 | 10.500 |
| 6 | | 13.500 | 8.100 | 5.500 | 7.400 | 7.450 | | 1.700 | | 6.300 | 5.600 | 6.500 | 6.400 | 8.800 | 8.600 | 7.800 |
| 7 | 7.600 | | | | | | 9.800 | | | 1.000 | 1.060 | 1.000 | 1.000 | 0.900 | 0.900 | 0.700 |
| 8 | 139.000 | 146.000 | 141.000 | 137.000 | 145.000 | 142.700 | 145.100 | 115.000 | 118.000 | 116.000 | 114.000 | 121.000 | 117.000 | 117.000 | 119.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 10 | 2.600 | 6.600 | 2.000 | 7.000 | 6.500 | 7.500 | 7.500 | 6.800 | 2.300 | 2.400 | 1.000 | 4.900 | 7.600 | 7.300 | 6.000 | 5.300 |
| 11 | 15.000 | 17.000 | 11.500 | 9.500 | 10.500 | 10.000 | 12.500 | 3.000 | 0.700 | 11.300 | 10.800 | 12.100 | 12.500 | 12.100 | 9.800 | 11.700 |
| 12 | 0.180 | 0.180 | 0.140 | 0.170 | 0.190 | 0.190 | 0.110 | 0.160 | 0.180 | 0.210 | 0.220 | 0.220 | 0.170 | 0.270 | 0.230 | 0.150 |
| 13 | 7.900 | 7.700 | 7.900 | 7.830 | 7.800 | 7.900 | 7.850 | 7.820 | 7.890 | 7.610 | 7.420 | 7.800 | 7.720 | 7.910 | 7.950 | 7.910 |
| 14 | 10.000 | 5.000 | <10.000 | 10.000 | 5.000 | 10.000 | 5.000 | 5.000 | 5.000 | 1.000 | <1.000 | 1.000 | 6.000 | 2.000 | 8.000 | 2.000 |
| 15 | 0.300 | 0.300 | 0.100 | 0.300 | 0.300 | 0.500 | 0.600 | 0.900 | 0.400 | <0.100 | <0.100 | 0.140 | 0.200 | 0.230 | 0.180 | 0.280 |
| 1 | | | | | | 0.000 | <0.050 | 0.250 | 0.450 | 0.180 | 0.450 | <0.050 | <0.050 | 0.230 | 1.300 | 1.610 |
| 2 | | | | | | | | | 0.640 | 0.320 | 0.030 | 0.940 | 1.200 | 0.600 | 0.400 | <0.010 |
| 3 | 0.000 | | 0.030 | 0.000 | 0.000 | 0.015 | 0.927 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | 0.020 | <0.020 | <0.010 |
| 4 | | 0.270 | 0.180 | 0.000 | 0.000 | 0.030 | 0.020 | <0.020 | <0.010 | <0.010 | <0.002 | <0.020 | <0.020 | 0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.039 | 0.042 | 0.045 | 0.064 | 0.058 | 0.064 | 0.040 | 0.040 | 0.050 | 0.045 | 0.065 | <0.100 | 0.040 | 0.060 | 0.100 | 0.020 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.002 | <0.002 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | 0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.030 | 0.020 | 0.060 | <0.100 | 0.000 | 0.003 | 0.020 | <0.010 | <0.020 | 0.050 | <0.040 | 0.032 | 0.028 | 0.042 | 0.092 | 0.029 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.003 | 0.003 | 0.001 | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 10 | | | | | | | | | | | | 0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | 0.000 | | | 0.050 | <0.040 | <0.040 | <0.010 | <0.010 | <0.100 | <0.020 | <0.050 | <0.020 | <0.020 |

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X                           X
X LAKE HIGHLAND PLANT, # 177 X
X                           X
XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 01 | 04 | 04 | 04 | 02 | 05 | 05 | 05 | 05 | 11 | 05 | 05 | 10 | 11 | 05 | 02 |
| | 17 | 11 | 25 | 13 | 23 | 21 | 06 | 12 | 24 | 28 | 15 | 21 | 13 | 09 | 24 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | 162.000 | 156.000 | 156.000 | 159.000 | 156.000 | 153.000 | 140.000 | 151.000 | 154.000 | 154.000 | 192.000 | 147.000 | 165.000 | 156.000 | 148.000 | 132.000 |
| 2 | | | | | | | 25.500 | 25.000 | 25.000 | 25.000 | 25.000 | 26.000 | 25.000 | 25.000 | 25.000 | 25.000 |
| 3 | 6.100 | 5.100 | 5.400 | 6.500 | 6.400 | 5.600 | 3.900 | 5.100 | 3.600 | 5.100 | 5.000 | 5.100 | 4.600 | 4.800 | 4.900 | 7.500 |
| 4 | 32.000 | 33.200 | 32.000 | 32.400 | 33.000 | 35.200 | 34.060 | 35.200 | 36.000 | 37.700 | 35.300 | 34.600 | 35.100 | 37.600 | 34.800 | 36.500 |
| 5 | 9.000 | 8.700 | 8.000 | 8.700 | 8.700 | 7.000 | 8.300 | 7.800 | 6.900 | 9.700 | 9.230 | 11.500 | 8.500 | 8.600 | 8.600 | 10.400 |
| 6 | | 11.000 | 9.900 | 4.800 | 5.200 | 8.500 | | 0.500 | | 6.000 | 5.600 | 6.300 | 6.100 | 8.500 | 8.400 | 8.200 |
| 7 | 12.700 | | | | | | 0.800 | | | 1.000 | 1.030 | 1.000 | 0.900 | 0.900 | 0.900 | 0.800 |
| 8 | 144.000 | 140.000 | 138.000 | 133.000 | 137.000 | 137.900 | 140.300 | 112.000 | 113.000 | 112.000 | 114.000 | 119.000 | 114.000 | 115.000 | 115.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 6.500 | 6.000 | 6.400 | 6.000 | 6.500 | 7.200 | 6.500 | 6.800 | 2.200 | 2.500 | 1.000 | 6.000 | 5.300 | 7.500 | 6.100 | 5.200 |
| 11 | 15.000 | 15.000 | 10.500 | 9.000 | 10.000 | 10.500 | 12.000 | 1.500 | 1.300 | 10.800 | 10.800 | 11.700 | 12.200 | 12.500 | 10.200 | 11.200 |
| 12 | 0.140 | 0.140 | 0.170 | 0.170 | 0.170 | 0.230 | 0.100 | 0.000 | 0.160 | 0.200 | 0.220 | 0.210 | 0.180 | 0.260 | 0.230 | 0.140 |
| 13 | 7.900 | 7.800 | 7.750 | 7.850 | 7.700 | 7.700 | 7.890 | 7.900 | 7.900 | 7.650 | 7.700 | 7.890 | 7.780 | 7.850 | 7.950 | 8.000 |
| 14 | 5.000 | 5.000 | <10.000 | 10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | <1.000 | 1.000 | 8.000 | 2.000 | 6.000 | 4.000 |
| 15 | 0.300 | 0.200 | 0.100 | 0.600 | 0.300 | 0.300 | 0.700 | 0.700 | 0.200 | <0.100 | <0.100 | 0.170 | 0.200 | 0.220 | 0.150 | 0.170 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.000 | 0.080 | 0.140 | 0.380 | 0.070 | 0.450 | <0.050 | 0.070 | 0.600 | 1.500 | 1.530 |
| 2 | | | | | | | | | 0.680 | 0.290 | 0.030 | 0.880 | 1.000 | 0.800 | 0.400 | <0.010 |
| 3 | 0.006 | | 0.000 | 0.000 | 0.033 | 0.000 | 0.120 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | 0.260 | 0.180 | 0.000 | 0.000 | 0.000 | <0.010 | <0.020 | 0.140 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.003 | 0.051 | 0.045 | 0.067 | 0.042 | 0.077 | 0.050 | 0.040 | 0.040 | 0.045 | 0.060 | <0.100 | 0.060 | 0.060 | 0.100 | 0.010 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.002 | <0.002 | 0.004 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | 0.130 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.000 | 0.020 | 0.000 | <0.100 | 0.000 | 0.000 | 0.020 | <0.010 | <0.020 | 0.040 | <0.040 | 0.022 | 0.026 | 0.029 | 0.024 | 0.029 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.004 | 0.001 | <0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| 10 | | | | | | | | | | | | 0.002 | <0.002 | <0.002 | 0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.050 | <0.040 | <0.040 | <0.010 | <0.010 | <0.100 | 0.030 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXXX
X                       X
X PINE HILLS PLANT # 271 X
X                       X
XXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 05 | 03 | 04 | 02 | 04 | 06 | 04 | 04 | 05 | 11 | 05 | 05 | 11 | 10 | 05 | 03 |
| | 24 | 05 | 29 | 22 | 11 | 05 | 29 | 21 | 03 | 01 | 01 | 14 | 10 | 25 | 10 | 21 |
| A | | | | | | | | | | | | | | | | |
| 1 | 132.000 | 132.000 | 132.000 | 126.000 | 132.000 | 126.000 | 116.000 | 126.000 | 139.000 | 117.000 | 132.000 | 133.000 | 116.000 | | 126.000 | 116.000 |
| 2 | | | | | | | 25.500 | 25.000 | 25.500 | 25.000 | 25.000 | 25.500 | 25.000 | | 24.500 | 24.800 |
| 3 | 4.900 | 5.100 | 4.900 | 4.800 | 5.600 | 5.200 | 3.700 | 3.700 | 4.900 | 4.000 | 2.900 | 4.900 | 4.000 | | 4.200 | 5.500 |
| 4 | 24.800 | 25.600 | 27.600 | 27.200 | 29.200 | 27.200 | 28.400 | 28.800 | 30.500 | 29.200 | 28.400 | 28.300 | 29.300 | | 29.100 | 28.300 |
| 5 | 9.200 | 8.500 | | 8.000 | 7.300 | 8.000 | 9.200 | 7.800 | 6.100 | 7.800 | 9.170 | 11.100 | 8.000 | | 7.100 | 9.800 |
| 6 | 3.700 | 11.700 | | 6.800 | 6.900 | 5.100 | 3.200 | 4.800 | 3.400 | 4.590 | 4.780 | 4.700 | 4.600 | | 5.200 | 5.000 |
| 7 | | | 3.500 | | | | | | | 0.900 | 0.750 | 0.700 | 0.700 | | 0.700 | 0.600 |
| 8 | 111.000 | 107.000 | 119.000 | 120.000 | 123.000 | 119.600 | 119.600 | 117.100 | 97.000 | 99.000 | 97.000 | 100.000 | 98.000 | | 100.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | |
| 10 | 0.000 | 1.000 | 2.100 | 3.000 | 3.800 | 3.800 | 3.800 | 3.200 | 2.000 | 3.600 | 0.600 | 2.700 | 2.700 | | 3.400 | 3.600 |
| 11 | 12.000 | 13.000 | 7.000 | 10.500 | 9.500 | 7.000 | 10.000 | 10.500 | 7.000 | 6.800 | 9.300 | 10.300 | 9.800 | | 6.900 | 9.400 |
| 12 | 0.120 | 0.140 | 0.100 | 0.130 | 0.120 | 0.110 | <0.020 | 0.170 | 0.130 | 0.210 | 0.170 | 0.170 | 0.190 | | 0.220 | 0.110 |
| 13 | 8.000 | 7.700 | 8.020 | 8.050 | 8.000 | 7.750 | 7.900 | 7.910 | 7.890 | 7.980 | 7.710 | 7.910 | 7.870 | | 8.020 | 8.020 |
| 14 | 5.000 | 5.000 | 5.000 | 10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 4.000 | | 1.000 | 1.000 |
| 15 | 0.300 | 0.300 | 0.200 | 0.300 | 0.300 | 0.300 | 0.150 | 0.300 | 0.300 | <0.100 | <0.100 | 0.250 | 0.140 | | 0.360 | 0.260 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.070 | 0.070 | 0.600 | 0.220 | 0.370 | 0.250 | 0.070 | | 0.200 | <0.100 |
| 2 | | | | | | | | 0.300 | 0.400 | 0.440 | 0.130 | 0.120 | 0.400 | | 0.500 | <0.100 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.009 | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | | <0.020 | 0.020 |
| 4 | | 0.050 | | 0.000 | 0.000 | 0.000 | <0.010 | 0.025 | 0.060 | <0.010 | <0.002 | <0.020 | <0.020 | | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.051 | 0.045 | 0.045 | 0.043 | 0.048 | 0.055 | 0.040 | 0.045 | 0.040 | 0.045 | 0.045 | <0.100 | 0.040 | | 0.050 | 0.120 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.002 | | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | <0.100 | | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | 0.008 | | <0.001 | <0.001 |
| 6 | 0.000 | 0.000 | 0.000 | 0.000 | 0.025 | 0.000 | 0.006 | <0.010 | <0.010 | <0.040 | <0.040 | 0.013 | 0.009 | | 0.007 | 0.051 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | <0.001 | | <0.001 | 0.010 |
| 8 | | | | | | | | | | | | <0.020 | <0.020 | | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | | <0.001 | <0.001 |
| 12 | | | | | | | 0.130 | <0.040 | <0.040 | <0.008 | <0.010 | <0.020 | 0.049 | | <0.050 | <0.020 |

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X                        X
X PINE HILLS PLANT, #272 X
X                        X
XXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 02 | 03 | 04 | 02 | 04 | 06 | 04 | 04 | 05 | 11 | 05 | 05 | 11 | 10 | 05 | 03 |
| | 19 | 05 | 29 | 23 | 11 | 05 | 29 | 21 | 03 | 01 | 01 | 14 | 10 | 25 | 10 | 21 |
| A | | | | | | | | | | | | | | | | |
| 1 | 120.000 | 123.000 | 123.000 | 120.000 | 123.000 | 123.000 | 116.000 | 117.000 | 112.000 | 115.000 | 122.000 | 120.000 | 108.000 | 152.000 | 119.000 | 116.000 |
| 2 | | | | | | | 25.000 | 25.000 | 25.500 | 25.000 | 25.000 | 25.000 | 25.000 | 25.500 | 24.500 | 24.200 |
| 3 | 5.500 | 4.700 | 4.700 | 4.600 | 5.500 | 4.900 | 3.600 | 3.700 | 3.700 | 3.900 | 2.500 | 4.500 | 3.800 | 3.500 | 3.800 | 5.100 |
| 4 | 23.600 | 23.200 | 25.200 | 24.800 | 28.000 | 25.200 | 26.400 | 27.200 | 27.700 | 27.600 | 26.800 | 26.700 | 27.100 | 28.600 | 26.700 | 26.100 |
| 5 | 8.000 | 8.500 | 7.800 | 8.000 | 6.300 | 8.000 | 8.300 | 7.300 | 6.800 | 7.500 | 8.900 | 10.400 | 7.900 | 7.400 | 7.500 | 9.400 |
| 6 | 5.500 | 0.000 | | 6.700 | 7.400 | 6.200 | 4.100 | 3.800 | 2.400 | 4.400 | 4.560 | 4.600 | 4.300 | 4.800 | 5.000 | 5.200 |
| 7 | | | 3.500 | | | | | | | 0.850 | 0.710 | 0.700 | 0.600 | 0.600 | 0.600 | 0.600 |
| 8 | 110.000 | 100.000 | 112.000 | 116.000 | 117.000 | 115.900 | 113.500 | 109.800 | 90.000 | 92.000 | 84.000 | 91.000 | 90.000 | 92.000 | 94.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 0.000 | 1.000 | 0.700 | 2.000 | 3.300 | 3.400 | 3.500 | 3.000 | 3.200 | 4.400 | 0.600 | 2.700 | 2.400 | 7.000 | 3.400 | 3.600 |
| 11 | 10.000 | 7.000 | 7.500 | 11.500 | 9.000 | 7.500 | 9.000 | 9.000 | 6.600 | 8.100 | 8.320 | 9.900 | 9.800 | 9.300 | 6.700 | 8.900 |
| 12 | 0.100 | 0.120 | 0.110 | 0.090 | 0.120 | 0.150 | 0.030 | 0.180 | 0.130 | 0.200 | 0.180 | 0.190 | 0.190 | 0.200 | 0.190 | 0.100 |
| 13 | 8.100 | 7.800 | 8.000 | 8.070 | 8.000 | 7.850 | 7.900 | 7.790 | 7.920 | 8.000 | 7.490 | 7.980 | 7.910 | 7.900 | 8.100 | 7.980 |
| 14 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 3.000 | 1.000 | 1.000 | 1.000 |
| 15 | 0.300 | 0.300 | 0.200 | 0.300 | 0.300 | 0.300 | 0.200 | 0.300 | 0.300 | <0.100 | <0.100 | 0.150 | 0.500 | 0.240 | 0.160 | 0.190 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.100 | 0.160 | 0.450 | 0.120 | 0.340 | 0.210 | 0.280 | <0.020 | <0.100 | 0.370 |
| 2 | | | | | | | | 0.300 | 0.240 | 0.360 | 0.080 | 0.160 | 0.100 | 0.500 | 0.400 | <0.100 |
| 3 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.052 | 0.090 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | 0.110 | | 0.000 | 0.000 | 0.000 | <0.010 | 0.025 | <0.010 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.022 | 0.038 | 0.051 | 0.048 | 0.041 | 0.051 | 0.030 | 0.035 | 0.040 | 0.055 | 0.035 | <0.100 | 0.040 | 0.030 | 0.050 | 0.070 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.003 | 0.003 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.002 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | <0.020 | <0.020 | <0.030 | <0.030 | 0.001 | <0.001 | 0.001 | 0.018 | 0.006 |
| 6 | 0.050 | 0.000 | 0.000 | <0.100 | 0.000 | 0.000 | 0.006 | <0.010 | <0.010 | <0.040 | <0.040 | 0.010 | 0.008 | 0.009 | 0.012 | 0.019 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | <0.001 | <0.001 | 0.002 | 0.003 |
| 8 | | | | | | | | | | | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.111 | <0.040 | <0.040 | <0.008 | <0.010 | <0.020 | 0.029 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXXXX
X                        X
X PINE HILLS PLANT # 2/3 X
X                        X
XXXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 04 | 06 | 04 | 04 | 05 | 11 | 05 | 05 | 11 | 10 | 05 | 03 |
| | | | | | 11 | 05 | 29 | 21 | 03 | 01 | 01 | 14 | 10 | 25 | 10 | 21 |
| A | | | | | | | | | | | | | | | | |
| 1 | | | | | 135.000 | 132.000 | 118.005 | 133.000 | 120.000 | 124.000 | 137.000 | 128.000 | 123.000 | 160.000 | 125.000 | 118.000 |
| 2 | | | | | | | 26.000 | 25.000 | 25.500 | 25.000 | 25.500 | 25.250 | 25.000 | 25.000 | 25.000 | 24.800 |
| 3 | | | | | 5.700 | 5.000 | 3.700 | 3.800 | 3.500 | 3.900 | 2.900 | 5.000 | 4.100 | 4.000 | 4.300 | 5.500 |
| 4 | | | | | 28.800 | 30.000 | 27.600 | 29.600 | 30.500 | 29.000 | 29.200 | 29.100 | 30.300 | 30.200 | 30.800 | 29.200 |
| 5 | | | | | 8.300 | 7.300 | 8.000 | 7.800 | 7.300 | 7.900 | 9.320 | 11.300 | 8.100 | 7.500 | 7.400 | 9.800 |
| 6 | | | | | 6.900 | 6.000 | 7.300 | 5.300 | 2.800 | 4.790 | 4.910 | 4.800 | 4.800 | 5.200 | 5.500 | 5.600 |
| 7 | | | | | | | | | | 0.930 | 0.760 | 0.700 | 0.700 | 0.700 | 0.700 | 0.600 |
| 8 | | | | | 127.000 | 125.900 | 125.700 | 122.000 | 100.000 | 101.000 | 91.000 | 102.000 | 100.000 | 98.000 | 102.000 | |
| 9 | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | | | | 3.300 | 4.200 | 3.800 | 3.500 | 2.700 | 3.400 | 0.800 | 2.900 | 2.600 | 8.000 | 3.100 | 4.100 |
| 11 | | | | | 10.000 | 7.500 | 10.000 | 9.500 | 6.900 | 1.400 | 9.300 | 10.300 | 10.200 | 9.300 | 7.100 | 9.400 |
| 12 | | | | | 0.120 | 0.130 | 0.030 | 0.180 | 0.130 | 0.210 | 0.180 | 0.210 | 0.200 | 0.210 | 0.190 | 0.120 |
| 13 | | | | | 7.850 | 7.900 | 7.900 | 7.600 | 7.810 | 7.950 | 7.390 | 7.950 | 7.920 | 7.880 | 8.080 | 8.000 |
| 14 | | | | | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 3.000 | 1.000 | 1.000 | 1.000 |
| 15 | | | | | 0.300 | 0.400 | 0.350 | 0.300 | 0.300 | <0.100 | <0.100 | 0.240 | 0.550 | 0.170 | 0.210 | 1.200 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.040 | 0.150 | 0.760 | 0.150 | 0.170 | 0.050 | <0.050 | 0.100 | 0.100 | 0.470 |
| 2 | | | | | | | | | 0.360 | 0.440 | 0.050 | 0.470 | 0.440 | 0.400 | 0.300 | <0.100 |
| 3 | | | | | 0.000 | 0.052 | 0.090 | 0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | | | | 0.000 | 0.000 | <0.010 | 0.025 | <0.010 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | 0.042 | 0.074 | 0.030 | 0.045 | 0.050 | 0.050 | 0.050 | <0.100 | 0.050 | 0.040 | 0.050 | 0.080 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.002 | 0.003 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | | | | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | | | | 0.000 | 0.000 | <0.020 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | 0.001 | 0.003 | <0.001 |
| 6 | | | | | 0.000 | 0.000 | 0.006 | <0.010 | <0.010 | 0.160 | 0.040 | 0.017 | 0.012 | 0.010 | 0.016 | 0.026 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.002 | <0.001 | <0.001 | 0.003 |
| 8 | | | | | | | | | | | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.050 | <0.040 | <0.040 | <0.008 | <0.010 | <0.020 | 0.038 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXX
X X
X KIRKMAN PLANT # 3/1 X
X X
XXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 04 | | 05 | 06 | 04 | 04 | 05 | 11 | 05 | 05 | 11 | 11 | 05 | 03 |
| | | | 15 | | 08 | 14 | 29 | 21 | 03 | 01 | 08 | 14 | 10 | 02 | 17 | 21 |
| A | | | | | | | | | | | | | | | | |
| 1 | | | 162.000 | | 156.000 | 156.000 | 140.000 | 153.000 | 142.000 | 145.000 | 184.000 | 154.000 | 153.000 | 147.000 | 140.000 | 149.000 |
| 2 | | | | | | | 26.500 | 26.000 | 26.000 | 26.000 | 26.000 | 26.000 | 25.750 | 25.500 | 25.250 | 25.000 |
| 3 | | | 5.400 | | 6.300 | 6.300 | 4.000 | 4.200 | 4.100 | 4.500 | 4.700 | 5.400 | 4.300 | 2.800 | 4.400 | 5.900 |
| 4 | | | 35.200 | | 34.800 | 33.600 | 34.800 | 35.600 | 36.500 | 32.800 | 36.500 | 33.800 | 34.900 | 34.900 | 34.000 | 34.100 |
| 5 | | | 9.000 | | 9.400 | 8.500 | 8.500 | 8.500 | 7.500 | 8.500 | 9.220 | 12.200 | 8.000 | 8.600 | 9.100 | 11.000 |
| 6 | | | 4.100 | | 7.100 | 17.600 | 8.900 | 4.400 | 2.300 | 5.000 | 5.460 | 5.100 | 5.000 | 6.000 | 7.000 | 4.100 |
| 7 | | | | | | | | | | 1.080 | 0.940 | 0.800 | 0.800 | 0.800 | 0.900 | 0.700 |
| 8 | | | 122.000 | | 124.000 | 145.200 | 124.400 | 124.400 | 104.000 | 107.000 | 102.000 | 102.000 | 101.000 | 101.000 | 104.000 | |
| 9 | | | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | | 21.000 | | 25.000 | 9.000 | 19.300 | 22.000 | 20.500 | 19.600 | 5.300 | 19.700 | 21.800 | 20.200 | 18.800 | 18.600 |
| 11 | | | 9.000 | | 10.000 | 12.500 | 11.900 | 3.000 | 1.300 | 0.900 | 2.940 | 10.800 | 10.900 | 10.700 | 7.400 | 10.400 |
| 12 | | | 0.220 | | 0.200 | 0.210 | 0.150 | 0.210 | 0.170 | 0.260 | 0.220 | 0.300 | 0.240 | 0.260 | 0.280 | 0.100 |
| 13 | | | 7.750 | | 7.650 | 7.600 | 7.700 | 7.780 | 7.820 | 7.890 | 7.600 | 7.820 | 7.890 | 7.900 | 7.850 | 7.890 |
| 14 | | | 10.000 | | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 4.000 | 1.000 | 2.000 | 1.000 |
| 15 | | | 0.300 | | 0.300 | 0.300 | 0.200 | 1.250 | 0.500 | <0.100 | <0.100 | 0.470 | 0.140 | 0.120 | 0.230 | 0.150 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.160 | 0.440 | 0.520 | <0.050 | 0.220 | <0.050 | <0.050 | 0.600 | <0.100 | <0.100 |
| 2 | | | | | | | | 0.150 | 0.400 | 1.040 | 0.290 | 0.740 | 0.400 | <0.100 | 0.700 | 0.300 |
| 3 | | | 0.000 | | 0.000 | 0.000 | 0.001 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.250 | | 0.000 | <0.100 | 0.000 | <0.010 | 0.045 | <0.020 | <0.010 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | 0.035 | | 0.013 | 0.042 | 0.030 | 0.035 | 0.040 | 0.040 | 0.025 | <0.100 | 0.050 | 0.070 | 0.050 | 0.090 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.003 | 0.003 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | | 0.000 | | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | | 0.000 | | 0.000 | 0.000 | 0.020 | <0.020 | <0.020 | <0.030 | <0.030 | 0.003 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | | | 0.000 | | 0.000 | 0.080 | 0.006 | <0.010 | <0.020 | 0.160 | 0.300 | 0.040 | 0.117 | 0.036 | 0.049 | 0.092 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | 0.001 | 0.003 | <0.001 | 0.002 |
| 8 | | | | | | | | | | | | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.000 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.060 | <0.040 | <0.040 | <0.003 | <0.010 | <0.020 | 0.048 | <0.050 | <0.020 | <0.020 |

# KIRKMAN PLANT # 3/2

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 11 | 05 | 05 | 11 | 11 | 05 | 03 |
| | | | | | | | | | | 01 | 08 | 14 | 10 | 02 | 17 | 21 |
| A | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | 151.000 | 176.000 | 164.000 | 156.000 | 154.000 | 144.000 | 149.000 |
| 2 | | | | | | | | | | 26.000 | 26.500 | 25.750 | 25.750 | 25.500 | 25.500 | 25.200 |
| 3 | | | | | | | | | | 4.600 | 4.900 | 5.500 | 4.000 | 2.800 | 4.600 | 6.200 |
| 4 | | | | | | | | | | 35.000 | 36.900 | 34.600 | 35.900 | 35.700 | 34.800 | 33.900 |
| 5 | | | | | | | | | | 8.900 | 9.220 | 13.000 | 7.600 | 8.800 | 9.200 | 11.200 |
| 6 | | | | | | | | | | 5.130 | 5.350 | 4.900 | 4.900 | 6.000 | 7.300 | 4.400 |
| 7 | | | | | | | | | | 1.110 | 0.850 | 0.900 | 0.800 | 0.900 | 1.000 | 0.700 |
| 8 | | | | | | | | | | 112.000 | 102.000 | 110.000 | 106.000 | 107.000 | 107.000 | |
| 9 | | | | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | | | | | | | | | 15.500 | 4.200 | 18.300 | 19.800 | 18.500 | 17.300 | 15.000 |
| 11 | | | | | | | | | | 0.900 | 1.470 | 10.800 | 10.800 | 10.200 | 7.600 | 9.900 |
| 12 | | | | | | | | | | 0.320 | 0.220 | 0.310 | 0.270 | 0.290 | 0.260 | 0.100 |
| 13 | | | | | | | | | | 7.800 | 7.590 | 8.000 | 7.820 | 7.980 | 7.860 | 7.920 |
| 14 | | | | | | | | | | 1.000 | 1.000 | 1.000 | 6.000 | 1.000 | 1.000 | 1.000 |
| 15 | | | | | | | | | | 0.300 | <0.100 | 0.980 | 0.160 | 1.400 | 0.180 | 0.150 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | <0.050 | 0.320 | <0.050 | <0.050 | 0.500 | 0.100 | <0.100 |
| 2 | | | | | | | | | | 0.880 | 0.030 | 0.780 | 0.400 | <0.100 | 0.300 | 0.150 |
| 3 | | | | | | | | | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | | | | | | | | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | 0.040 | 0.020 | <0.100 | 0.050 | 0.060 | 0.040 | 0.080 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.003 | 0.004 | <0.002 | <0.002 |
| 2 | | | | | | | | | | 0.110 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | | | | | | | | | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | | | | | | | | | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | 0.016 |
| 6 | | | | | | | | | | 0.140 | <0.040 | 0.052 | 0.081 | 0.038 | 0.047 | 0.097 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | <0.001 | 0.002 | <0.001 | 0.002 |
| 8 | | | | | | | | | | | | <0.020 | 0.020 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | | | | <0.008 | 0.010 | <0.020 | 0.057 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXX
X                    X
X MARTIN PLANT # 4/1 X
X                    X
XXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 02 | 04 | 04 | 02 | 05 | 06 | 04 | 04 | 05 | 11 | 05 | 04 | 11 | 11 | 05 | 03 |
| | 13 | 02 | 27 | 23 | 08 | 14 | 22 | 28 | 10 | 07 | 08 | 30 | 03 | 02 | 17 | 14 |
| A | | | | | | | | | | | | | | | | |
| 1 | 138.000 | 138.000 | 138.000 | 138.000 | 141.000 | 138.000 | 117.000 | 153.000 | 145.000 | 141.000 | 155.000 | 163.000 | 151.000 | 138.000 | 123.000 | 165.000 |
| 2 | | | | | | | 24.000 | 25.500 | 23.500 | 23.500 | 23.500 | 25.500 | 23.250 | 23.250 | 23.500 | 22.800 |
| 3 | 4.700 | 4.700 | 4.400 | 4.000 | 5.100 | 4.200 | 4.500 | 2.600 | 4.100 | 2.500 | 3.500 | 2.100 | 4.200 | 2.000 | 3.700 | 7.000 |
| 4 | 32.800 | 31.600 | 33.600 | 33.200 | 34.400 | 33.200 | 36.000 | 35.200 | 36.500 | 36.000 | 36.500 | 36.100 | 36.200 | 36.500 | 35.600 | 36.900 |
| 5 | 5.100 | 6.100 | 5.300 | 5.600 | 6.300 | 5.800 | 3.900 | 5.400 | 4.500 | 8.400 | 9.630 | 6.300 | 5.400 | 6.600 | 6.100 | 6.000 |
| 6 | 7.700 | 4.400 | 4.600 | 8.500 | 5.300 | 6.000 | | | 3.900 | 5.250 | 5.600 | 4.900 | 4.900 | 6.200 | 7.000 | 5.100 |
| 7 | | | | | | | 9.900 | 4.400 | | 0.940 | 0.960 | 1.100 | 0.900 | 0.900 | 1.000 | 0.900 |
| 8 | 118.000 | 117.000 | 120.000 | 122.000 | 118.000 | 120.800 | 125.600 | 99.000 | 100.000 | 103.000 | 98.000 | 102.000 | 101.000 | 102.000 | 106.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 7.500 | 6.700 | 6.100 | 8.100 | 9.000 | 9.000 | 8.900 | 8.500 | 7.800 | 8.700 | 1.240 | 8.500 | 9.300 | 7.500 | 8.600 | 9.700 |
| 11 | 11.000 | 8.000 | 8.000 | 10.000 | 10.000 | 8.000 | 10.980 | 8.500 | 7.300 | 10.400 | 10.270 | 11.710 | 12.100 | 10.700 | 8.200 | 12.100 |
| 12 | 0.140 | 0.120 | 0.130 | 0.130 | 0.140 | 0.220 | 0.170 | 0.200 | 0.120 | 0.220 | 0.190 | 0.180 | 0.200 | 0.210 | 0.260 | 0.130 |
| 13 | 8.000 | 7.500 | 7.850 | 7.850 | 7.700 | 7.900 | 7.700 | 7.800 | 7.880 | 7.880 | 7.720 | 8.010 | 7.880 | 7.920 | 7.850 | 7.910 |
| 14 | 5.000 | 5.000 | 10.000 | <10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 5.000 | 1.000 | 2.000 | 1.000 |
| 15 | 0.300 | 0.300 | 0.200 | 0.300 | 0.300 | 0.300 | 0.400 | 0.500 | 0.300 | <0.100 | <0.100 | 1.100 | 1.100 | 0.420 | 0.240 | 0.160 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.160 | 0.210 | 0.460 | <0.050 | 0.360 | <0.020 | 0.170 | 0.500 | <0.100 | 1.070 |
| 2 | | | | | | | | 0.440 | 0.560 | 0.920 | 0.080 | 0.480 | 0.200 | <0.100 | 0.700 | <0.100 |
| 3 | 0.000 | 0.018 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.110 | 0.000 | <0.100 | 0.000 | <0.010 | 0.025 | 0.030 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.103 | 0.093 | 0.096 | 0.122 | 0.039 | 0.106 | 0.080 | 0.090 | 0.080 | 0.105 | 0.033 | 0.130 | 0.100 | 0.130 | 0.100 | 0.150 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | 0.004 | 0.005 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | 0.170 | <0.100 | <0.100 | 0.120 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.021 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.020 | 0.030 | 0.000 | 0.000 | 0.010 | 0.000 | 0.005 | <0.010 | <0.010 | <0.040 | <0.040 | 0.011 | 0.009 | 0.004 | 0.007 | 0.015 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.002 | 0.002 | 0.001 | <0.001 | 0.002 |
| 8 | | | | | | | | | | | | <0.020 | <0.010 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | 0.003 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.020 | <0.040 | <0.040 | <0.010 | <0.010 | 0.030 | 0.018 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXX
X                    X
X MARTIN PLANT # 4/2 X
X                    X
XXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 02 | 04 | 04 | 02 | | | 04 | 04 | 05 | 11 | 05 | 04 | 11 | 11 | 05 | 03 |
| | 13 | 02 | 27 | 23 | | | 22 | 28 | 10 | 07 | 08 | 30 | 03 | 02 | 17 | 14 |
| A | | | | | | | | | | | | | | | | |
| 1 | 138.000 | 141.000 | 138.000 | 138.000 | | | 130.000 | 117.000 | 148.000 | 139.000 | 146.000 | 167.000 | 155.000 | 134.000 | 132.000 | 163.000 |
| 2 | | | | | | | 23.500 | 23.500 | 23.500 | 23.500 | 23.000 | 23.250 | 23.750 | 23.750 | 23.500 | 22.000 |
| 3 | 4.800 | 4.500 | 4.600 | 3.800 | | | 4.500 | 3.800 | 4.100 | 2.500 | 3.900 | 2.200 | 4.400 | 2.000 | 3.700 | 6.900 |
| 4 | 32.000 | 31.600 | 33.600 | 33.200 | | | 38.800 | 35.600 | 37.300 | 36.000 | 36.900 | 36.900 | 36.700 | 36.500 | 37.300 | 37.100 |
| 5 | 5.600 | 5.800 | 5.300 | 5.800 | | | 2.700 | 5.100 | 4.000 | 8.800 | 9.750 | 6.700 | 5.400 | 5.900 | 6.200 | 6.100 |
| 6 | 6.700 | 4.800 | 4.700 | 7.300 | | | | | 3.300 | 5.180 | 5.450 | 4.800 | 4.900 | 6.300 | 6.700 | 4.500 |
| 7 | | | | | | | 9.100 | 4.000 | | 0.960 | 0.950 | 1.100 | 0.800 | 1.000 | 0.900 | 0.800 |
| 8 | 118.000 | 118.000 | 117.000 | 121.000 | | | 123.200 | 96.000 | 97.000 | 102.000 | 96.000 | 103.000 | 104.000 | 100.000 | 107.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 6.800 | 7.300 | 6.600 | 8.600 | | | 9.000 | 10.400 | 8.300 | 8.900 | 1.600 | 8.500 | 8.800 | 7.500 | 7.700 | 8.200 |
| 11 | 10.000 | 8.000 | 8.000 | 10.000 | | | 10.980 | 5.500 | 8.000 | 9.900 | 10.760 | 11.250 | 12.100 | 11.100 | 8.300 | 12.100 |
| 12 | 0.120 | 0.130 | 0.160 | 0.110 | | | 0.140 | 0.090 | 0.350 | 0.210 | 0.200 | 0.230 | 0.200 | 0.210 | 0.200 | 0.130 |
| 13 | 7.900 | 7.500 | 7.800 | 7.820 | | | 7.700 | 7.550 | 7.750 | 7.900 | 7.500 | 7.820 | 7.730 | 7.980 | 7.920 | 7.980 |
| 14 | 5.000 | 5.000 | 10.000 | <10.000 | | | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 8.000 | 7.900 | 2.000 |
| 15 | | 0.300 | 0.200 | 0.300 | | | 0.250 | 0.800 | 0.200 | <0.100 | <0.100 | 0.250 | 1.300 | 0.110 | 0.130 | 0.210 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | 0.120 | 0.110 | 0.540 | <0.050 | 0.770 | <0.020 | 0.070 | 0.400 | 0.500 | 0.040 |
| 2 | | | | | | | | 0.150 | 0.400 | 1.000 | 0.120 | 0.520 | 0.240 | 0.400 | 0.600 | 0.100 |
| 3 | 0.001 | 0.018 | 0.000 | <0.030 | | | 0.001 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.190 | 0.000 | | | <0.010 | 0.020 | 0.100 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.103 | 0.141 | 0.080 | 0.132 | | | 0.080 | 0.070 | 0.090 | 0.100 | 0.052 | 0.104 | 0.110 | 0.130 | 0.110 | 0.160 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | 0.003 | 0.003 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.010 | 0.140 | 0.200 | <0.100 | 0.170 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | | | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | | | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | 0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.460 | 0.030 | 0.000 | 0.000 | | | 0.006 | <0.010 | <0.010 | <0.040 | <0.040 | 0.001 | 0.007 | 0.003 | 0.004 | 0.009 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.001 | 0.002 | 0.003 | <0.001 | 0.002 |
| 8 | | | | | | | | | | | | <0.020 | <0.010 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | 0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.020 | <0.040 | <0.040 | 0.010 | <0.010 | 0.020 | 0.014 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXX
X                  X
X KUHL PLANT # 5/1 X
X                  X
XXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 02 | 03 | 04 | 02 | 03 | 03 | 04 | 04 | 05 | 11 | 05 | 04 | 11 | 10 | 05 | 03 |
| | 06 | 05 | 21 | 17 | 06 | 26 | 22 | 28 | 10 | 14 | 01 | 30 | 03 | 25 | 10 | 14 |
| A | | | | | | | | | | | | | | | | |
| 1 | 168.000 | 165.000 | 168.000 | 162.000 | 162.000 | 168.000 | 155.000 | 179.000 | 172.000 | 173.000 | 157.000 | 192.000 | 170.000 | 202.000 | 171.000 | 174.000 |
| 2 | | | | | | | 26.000 | 25.500 | 25.500 | 25.000 | 25.500 | 25.000 | 25.000 | 25.000 | 25.000 | 24.500 |
| 3 | 5.900 | 4.700 | 5.200 | 5.500 | 6.300 | 5.900 | 5.700 | 3.200 | 5.200 | 3.400 | 3.400 | 3.100 | 5.200 | 4.400 | 4.800 | 8.200 |
| 4 | 36.000 | 31.600 | 36.800 | 34.400 | 41.200 | 39.700 | 44.400 | 38.000 | 39.700 | 34.000 | 38.500 | 39.300 | 36.800 | 39.600 | 39.700 | 39.200 |
| 5 | 9.500 | 9.200 | 8.700 | 9.700 | 6.600 | 6.800 | 5.600 | 9.200 | 7.500 | 13.000 | 11.640 | 9.900 | 8.600 | 6.900 | 8.400 | 11.100 |
| 6 | 6.000 | 8.500 | 9.400 | 8.300 | 8.700 | 11.900 | 11.200 | | 1.200 | 6.020 | 6.320 | 5.400 | 5.600 | 7.600 | 7.100 | 7.500 |
| 7 | | | | | | | | 1.100 | | 0.990 | 1.110 | 1.100 | 0.800 | 0.900 | 0.900 | 0.800 |
| 8 | 150.000 | 140.000 | 152.000 | 148.000 | 158.600 | 156.100 | 157.300 | 126.000 | 126.000 | 128.000 | 109.000 | 126.000 | 121.000 | 122.000 | 131.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 4.000 | 5.000 | 5.800 | 7.500 | 5.100 | 6.000 | 8.200 | 7.700 | 3.900 | 7.900 | 1.800 | 6.300 | 7.500 | 9.000 | 7.800 | 7.700 |
| 11 | 11.000 | 16.000 | 11.000 | 11.000 | 10.000 | 13.500 | 11.470 | 1.000 | 2.000 | 9.900 | 10.270 | 11.700 | 14.200 | 9.300 | 10.000 | 10.700 |
| 12 | 0.000 | 0.150 | 0.200 | 0.180 | 0.190 | 0.130 | 0.140 | 0.200 | 0.160 | 0.280 | 0.250 | 0.190 | 0.210 | 0.250 | 0.240 | 0.200 |
| 13 | 7.900 | 7.700 | 7.580 | 7.900 | 7.800 | 7.850 | 7.600 | 7.820 | 7.790 | 7.870 | 7.180 | 7.780 | 7.580 | 7.800 | 7.680 | 7.890 |
| 14 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 5.000 | 1.000 | 2.000 | 4.000 |
| 15 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.250 | 0.600 | 0.300 | <0.100 | 0.100 | 0.130 | 0.120 | 0.210 | 0.190 | 0.150 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.040 | 0.200 | 0.280 | <0.050 | 0.400 | <0.050 | 0.210 | <0.020 | <0.100 | 1.730 |
| 2 | | | | | | | | 0.550 | 0.800 | 1.400 | 0.500 | 1.000 | 0.240 | 0.900 | 0.700 | <0.100 |
| 3 | 0.000 | 0.088 | 0.003 | <0.030 | 0.067 | 0.000 | 0.100 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.080 | <0.100 | 0.000 | 0.100 | 0.050 | 0.019 | 0.090 | <0.010 | 0.500 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.060 | 0.060 | 0.054 | 0.064 | 0.077 | 0.083 | 0.040 | 0.060 | 0.060 | 0.065 | 0.065 | 0.100 | 0.070 | 0.050 | 0.070 | 0.100 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | 0.004 | 0.004 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.002 | <0.001 | <0.001 |
| 6 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.030 | 0.006 | <0.010 | <0.010 | <0.040 | <0.040 | 0.005 | 0.009 | 0.003 | 0.007 | 0.014 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.001 | 0.002 | 0.001 | 0.001 | 0.006 |
| 8 | | | | | | | | | | | | 0.050 | <0.010 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | 0.001 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.070 | <0.040 | <0.040 | 0.020 | <0.010 | <0.020 | <0.020 | <0.050 | <0.020 | <0.020 |

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X                  X
X KUHL PLANT # 572 X
X                  X
XXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 02 | 03 | 04 | 02 | 03 | 03 | 04 | 04 | 05 | 11 | 05 | 04 | 11 | 10 | 05 | 03 |
| | 06 | 05 | 21 | 17 | 06 | 26 | 22 | 28 | 10 | 14 | 01 | 30 | 03 | 25 | 10 | 14 |
| A | | | | | | | | | | | | | | | | |
| 1 | 174.000 | 174.000 | 174.000 | 171.000 | 174.000 | 177.000 | 155.000 | 185.000 | 185.000 | 154.000 | 169.000 | 194.000 | 185.000 | 205.000 | 197.000 | 195.000 |
| 2 | | | | | | | 26.000 | 25.000 | 25.500 | 25.500 | 25.500 | 25.500 | 24.500 | 25.000 | 24.750 | 24.500 |
| 3 | 5.100 | 5.800 | 5.100 | 5.500 | 6.300 | 6.000 | 5.600 | 3.100 | 5.200 | 3.400 | 3.400 | 3.100 | 5.400 | 3.700 | 2.900 | 8.200 |
| 4 | 37.000 | 37.600 | 38.000 | 36.400 | 40.000 | 39.700 | 46.000 | 30.400 | 42.900 | 39.000 | 42.900 | 43.300 | 43.700 | 46.000 | 46.100 | 46.300 |
| 5 | 9.700 | 9.000 | 9.200 | 10.400 | 8.700 | 8.500 | 5.600 | 15.600 | 7.500 | 13.200 | 11.660 | 11.400 | 10.200 | 10.700 | 10.600 | 11.900 |
| 6 | 9.000 | 6.900 | 10.400 | 7.200 | 17.800 | 10.900 | 11.200 | | 1.000 | 5.970 | 6.280 | 5.900 | 6.200 | 8.500 | 8.100 | 8.000 |
| 7 | | | | | | | | 0.800 | | 1.080 | 1.110 | 1.300 | 1.000 | 1.100 | 1.000 | 1.000 |
| 8 | 154.000 | 149.000 | 162.000 | 155.000 | 168.300 | 163.400 | 167.100 | 133.000 | 135.000 | 142.000 | 117.000 | 141.000 | 141.000 | 147.000 | 158.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | |
| 10 | 7.500 | 1.600 | 6.000 | 7.400 | 4.900 | 9.000 | 9.000 | 7.500 | 2.700 | 7.000 | 1.600 | 4.500 | 5.800 | 9.000 | 6.200 | 6.900 |
| 11 | 13.000 | 15.000 | 11.500 | 10.000 | 10.000 | 10.500 | 11.470 | 1.000 | 1.300 | 10.400 | 10.760 | 7.200 | 12.500 | 10.200 | 8.800 | 12.100 |
| 12 | 0.000 | 0.160 | 0.180 | 0.150 | 0.170 | 0.100 | 0.090 | 0.021 | 0.160 | 0.260 | 0.250 | 0.190 | 0.220 | 0.240 | 0.240 | 0.200 |
| 13 | 7.800 | 7.800 | 7.400 | 7.600 | 7.800 | 7.750 | 7.800 | 7.750 | 7.900 | 7.850 | 7.090 | 7.920 | 7.600 | 7.810 | 7.890 | 7.700 |
| 14 | 5.000 | 5.000 | 10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 2.000 | 7.000 | 1.000 | 1.000 | 5.000 |
| 15 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.510 | 1.300 | 0.400 | 0.500 | 0.100 | 4.200 | 1.700 | 0.240 | 0.340 | 0.230 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.040 | 0.270 | 0.180 | <0.050 | 0.410 | <0.050 | 0.130 | <0.020 | 0.300 | 1.540 |
| 2 | | | | | | | | 0.500 | 0.800 | 1.360 | 0.280 | 0.720 | 0.360 | 0.900 | 0.700 | <0.100 |
| 3 | 0.000 | 0.091 | 0.000 | <0.030 | 0.040 | 0.000 | 0.060 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.100 | <0.100 | 0.000 | 0.070 | 0.030 | 0.025 | 0.080 | <0.010 | <0.002 | <0.002 | <0.002 | <0.002 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.056 | 0.061 | 0.048 | 0.077 | 0.061 | 0.103 | 0.040 | 0.060 | 0.060 | 0.065 | 0.080 | 0.100 | 0.070 | 0.060 | 0.080 | 0.100 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | 0.009 | 0.004 | 0.003 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | 0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | 0.002 | <0.001 | 0.007 | <0.001 |
| 6 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.040 | 0.007 | <0.010 | <0.010 | <0.040 | <0.040 | 0.260 | 0.012 | 0.056 | 0.358 | 0.011 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.003 | 0.003 | 0.001 | 0.001 | 0.002 |
| 8 | | | | | | | | | | | | 0.060 | <0.010 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | 0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.080 | <0.040 | <0.040 | 0.020 | <0.010 | <0.020 | <0.020 | <0.050 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXX
X                  X
X KUHL PLANT # 3/3 X
X                  X
XXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 05 | 02 | 05 | 03 | 04 | 04 | 05 | 11 | 05 | 04 | 11 | | | |
| | | | 27 | 23 | 23 | 26 | 22 | 28 | 10 | 14 | 01 | 30 | 03 | | | |
| A | | | | | | | | | | | | | | | | |
| 1 | | | 162.000 | 156.000 | 156.000 | 159.000 | 130.000 | 166.000 | 163.000 | 172.000 | 151.000 | 190.000 | 165.000 | OUT | OF | SERVICE |
| 2 | | | | | | | 26.000 | 25.000 | 25.500 | 25.500 | 25.500 | 25.500 | 25.000 | | | |
| 3 | | | 5.700 | 5.600 | 6.200 | 6.300 | 5.400 | 3.400 | 5.200 | 3.500 | 3.400 | 3.100 | 5.400 | | | |
| 4 | | | 34.800 | 34.800 | 36.000 | 35.200 | 43.200 | 34.000 | 40.900 | 34.000 | 35.700 | 36.900 | 36.800 | | | |
| 5 | | | 9.200 | 8.500 | 9.200 | 8.500 | 3.400 | 9.700 | 5.300 | 11.800 | 9.540 | 9.000 | 7.800 | | | |
| 6 | | | 5.300 | 6.000 | 4.800 | 12.500 | 10.300 | | 1.000 | 5.050 | 5.360 | 4.900 | 5.000 | | | |
| 7 | | | | | | | | 0.300 | | 0.850 | 0.870 | 1.000 | 0.700 | | | |
| 8 | | | 141.000 | 139.000 | 144.000 | 150.100 | 147.600 | 116.000 | 117.000 | 120.000 | 99.000 | 120.000 | 116.000 | | | |
| 9 | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | | |
| 10 | | | 5.500 | 7.500 | 7.200 | 8.000 | 9.400 | 7.800 | 3.000 | 7.600 | 1.400 | 7.000 | 7.300 | | | |
| 11 | | | 11.000 | 9.500 | 9.500 | 13.500 | 10.480 | 0.500 | 1.000 | 10.400 | 10.270 | 10.300 | 3.300 | | | |
| 12 | | | 0.210 | 0.160 | 0.200 | 0.190 | 0.110 | 0.230 | 0.170 | 0.260 | 0.250 | 0.200 | 0.230 | | | |
| 13 | | | 7.700 | 7.900 | 7.700 | 7.700 | 7.800 | 7.790 | 7.830 | 7.920 | 7.100 | 7.820 | 7.810 | | | |
| 14 | | | 10.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 1.000 | 1.000 | 1.000 | 7.000 | | | |
| 15 | | | 0.800 | 0.300 | 0.300 | 0.300 | 1.520 | 0.600 | 0.200 | 0.100 | 0.100 | 0.180 | 5.500 | | | |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | <0.040 | 0.290 | 0.230 | <0.050 | 0.140 | <0.050 | 0.300 | | | |
| 2 | | | | | | | | 0.400 | 0.560 | 1.360 | 0.440 | 0.920 | 0.080 | | | |
| 3 | | | 0.046 | <0.030 | 0.000 | 0.000 | 0.001 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | | | |
| 4 | | | 0.100 | <0.100 | <0.010 | 0.000 | <0.010 | 0.019 | 0.070 | <0.010 | <0.002 | <0.020 | <0.020 | | | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | 0.035 | 0.071 | 0.074 | 0.061 | <0.040 | 0.060 | 0.040 | 0.055 | 0.060 | 0.090 | 0.080 | | | |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | | | |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | | | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | 0.003 | | | |
| 2 | | | | | | | | | | <0.100 | <0.100 | <0.100 | <0.100 | | | |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | | | |
| 4 | | | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | | | |
| 5 | | | 0.000 | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | | | |
| 6 | | | 0.000 | 0.000 | 0.000 | 0.030 | 0.007 | <0.010 | <0.010 | <0.040 | 0.041 | 0.021 | 0.041 | | | |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.002 | 0.001 | | | |
| 8 | | | | | | | | | | | | 0.020 | <0.010 | | | |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | | | |
| 10 | | | | | | | | | | | | <0.002 | 0.001 | | | |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | | | |
| 12 | | | | | | | 0.030 | <0.040 | <0.040 | 0.020 | 0.017 | 0.020 | <0.020 | | | |

XXXXXXXXXXXXXXXXXXXXXXX
X X
X PRIMROSE PLANT # 6/1 X
X X
XXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 03 | 02 | 04 | 02 | 02 | 04 | 04 | 05 | | 11 | 04 | 05 | 10 | 10 | 05 | 03 |
| | 15 | 26 | 20 | 12 | 07 | 09 | 15 | 05 | | 14 | 24 | 07 | 20 | 19 | 03 | 07 |
| A | | | | | | | | | | | | | | | | |
| 1 | 180.000 | 168.000 | 180.000 | 174.000 | 174.000 | 174.000 | 167.000 | 142.000 | | 170.000 | 155.000 | 160.000 | 169.000 | 180.000 | 178.000 | 153.000 |
| 2 | | | | | | | | 24.500 | | 24.500 | 24.500 | 24.500 | 24.250 | 23.500 | 24.000 | 24.000 |
| 3 | 4.000 | 4.100 | 3.700 | 4.000 | 4.700 | 4.200 | 3.500 | 3.600 | | 3.400 | 3.500 | 2.900 | 1.800 | 1.600 | 1.700 | 5.300 |
| 4 | 28.000 | 32.800 | 34.400 | 34.000 | 34.800 | 37.000 | 38.000 | 38.400 | | 47.300 | 37.600 | 36.900 | 38.500 | 39.300 | 38.100 | 38.100 |
| 5 | 12.000 | 9.500 | 9.000 | 9.000 | 9.200 | 10.400 | 8.000 | 7.800 | | 1.100 | 9.560 | 10.100 | 9.100 | 9.500 | 10.800 | 11.600 |
| 6 | | 12.900 | 12.200 | 13.800 | 14.300 | 9.400 | 11.700 | | | 8.030 | 7.900 | 7.500 | 8.100 | 11.300 | 11.700 | 11.000 |
| 7 | 13.700 | | | | | | | | | 1.530 | 0.880 | 1.600 | 1.500 | 1.700 | 1.600 | 1.600 |
| 8 | 146.000 | 144.000 | 150.000 | 149.000 | 157.000 | 154.000 | 159.000 | 122.000 | | 127.000 | 125.000 | 131.000 | 128.000 | 130.000 | 132.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 5.700 | 2.600 | 5.000 | 8.600 | 6.800 | 6.800 | 7.400 | 7.100 | | 3.100 | 0.700 | 5.300 | 4.900 | 4.500 | 5.900 | 6.200 |
| 11 | 17.000 | 21.000 | 15.500 | 20.900 | 17.000 | 12.500 | 11.000 | 10.000 | | 14.400 | 15.200 | 15.100 | 15.400 | 2.400 | 14.000 | 15.500 |
| 12 | 0.120 | 0.140 | 0.110 | 0.140 | 0.150 | 0.120 | 0.290 | 0.110 | | 0.120 | 0.180 | 0.180 | 0.130 | 0.170 | 0.210 | 0.110 |
| 13 | 7.900 | 7.800 | 7.200 | 7.850 | 7.800 | 7.450 | 7.900 | 7.650 | | 7.720 | 7.850 | 7.790 | 7.780 | 7.700 | 7.980 | 7.790 |
| 14 | 15.000 | 10.000 | 15.000 | 15.000 | 15.000 | 15.000 | 10.000 | 10.000 | | 10.000 | 2.000 | 3.000 | 10.000 | 9.000 | 7.000 | 7.000 |
| 15 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.300 | 0.500 | 0.800 | | <0.100 | <0.100 | 0.450 | 0.240 | 0.150 | 0.160 | 0.220 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.170 | 0.680 | 0.080 | | 0.720 | 0.110 | <0.050 | 0.110 | <0.020 | <0.100 | 1.050 |
| 2 | | | | | | | | 1.180 | | 0.770 | 1.160 | 1.700 | 0.940 | 1.500 | 1.500 | 1.800 |
| 3 | 0.000 | 0.036 | 0.000 | 0.000 | 0.030 | 0.000 | 0.018 | <0.020 | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.030 | 0.110 | 0.110 | 0.000 | 0.100 | 0.032 | | <0.010 | 1.160 | <0.020 | <0.020 | 0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.135 | 0.135 | 0.141 | 0.154 | 0.144 | 0.125 | 0.130 | 0.100 | | 00.110 | 0.125 | 0.130 | 0.200 | 0.120 | 0.140 | 0.170 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | 0.002 | 0.003 | <0.002 | 0.002 |
| 2 | | | | | | | | | | <0.100 | 0.600 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.100 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.030 | 0.000 | <0.100 | 0.000 | 0.000 | <0.005 | <0.020 | | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | 0.000 | 0.050 | 0.020 | 0.000 | 0.000 | 0.000 | 0.005 | <0.010 | | 0.120 | 0.040 | 0.025 | 0.015 | 0.007 | 0.012 | 0.018 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.002 | 0.003 | 0.001 | 0.004 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.050 | <0.040 | | <0.010 | <0.010 | 0.040 | <0.020 | <0.020 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXX
X                      X
X PRIMROSE PLANT # 6/2 X
X                      X
XXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 03 | 03 | 04 | 02 | 02 | 04 | 04 | 05 | | 11 | 04 | 05 | 10 | 10 | 05 | 03 |
| | 15 | [illegible] | 20 | 12 | 07 | 09 | 15 | 05 | | 14 | 24 | 07 | 20 | 19 | 03 | 07 |
| A | | | | | | | | | | | | | | | | |
| 1 | 180.000 | 174.000 | 180.000 | 171.000 | 168.000 | 174.000 | 167.000 | 142.000 | | 173.000 | 167.000 | 157.000 | 169.000 | 180.000 | 180.000 | 142.000 |
| 2 | | | | | | | | 24.500 | | 25.500 | 24.750 | 24.500 | 24.750 | 22.800 | 24.000 | 24.000 |
| 3 | 3.900 | 4.400 | 3.600 | 4.000 | 5.100 | 4.700 | 3.700 | 3.600 | | 3.500 | 3.500 | 3.000 | 2.200 | 1.800 | 1.700 | 5.900 |
| 4 | 29.000 | 34.000 | 36.000 | 34.800 | 35.200 | 41.000 | 37.600 | 38.800 | | 39.700 | 38.800 | 37.700 | 38.300 | 39.300 | 39.700 | 38.300 |
| 5 | 12.000 | 9.400 | 8.700 | 9.200 | 8.700 | 7.800 | 8.300 | 8.000 | | 1.100 | 9.360 | 9.800 | 8.900 | 8.900 | 10.600 | 11.500 |
| 6 | 12.000 | 12.900 | | 12.400 | 11.300 | 8.000 | 11.700 | | | 7.920 | 7.900 | 7.100 | 7.500 | 10.600 | 11.400 | 10.400 |
| 7 | | | 10.800 | | | | | | | 1.540 | 0.890 | 1.500 | 1.300 | 1.500 | 1.500 | 1.400 |
| 8 | 142.000 | 151.000 | 153.000 | 149.000 | 157.000 | 159.000 | 159.000 | 122.000 | | 128.000 | 121.000 | 130.000 | 125.000 | 125.000 | 134.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 0.400 | 0.700 | 3.000 | 7.800 | 6.000 | 8.000 | 8.500 | 7.300 | | 3.300 | 0.920 | 6.000 | 5.800 | 5.000 | 6.500 | 6.200 |
| 11 | 18.000 | 20.000 | 15.500 | 17.000 | 14.500 | 11.500 | 11.000 | 9.500 | | 13.100 | 8.300 | 14.400 | 14.600 | 2.500 | 13.800 | 14.500 |
| 12 | 0.150 | 0.180 | 0.110 | 0.130 | 0.180 | 0.120 | 0.290 | 0.140 | | 0.130 | 0.180 | 0.180 | 0.150 | 0.210 | 0.200 | 0.110 |
| 13 | 7.900 | 7.600 | 7.220 | 7.750 | 7.720 | 7.750 | 7.800 | 7.850 | | 7.790 | 7.750 | 7.720 | 7.750 | 7.720 | 7.950 | 7.800 |
| 14 | 15.000 | 10.000 | 15.000 | 15.000 | 15.000 | 15.000 | 10.000 | 10.000 | | 8.000 | 2.000 | 3.000 | 10.000 | 8.000 | 7.000 | 7.000 |
| 15 | 0.300 | 0.300 | 0.300 | 0.300 | 0.200 | 0.300 | 0.900 | 0.600 | | <0.100 | <0.100 | 0.290 | 0.230 | 0.230 | 0.280 | 0.230 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.280 | 0.600 | 0.040 | | 0.530 | 0.140 | <0.050 | 0.110 | <0.020 | <0.100 | 1.060 |
| 2 | | | | | | | | 1.080 | | 0.770 | 1.000 | 1.400 | 0.880 | 1.400 | 1.400 | 1.400 |
| 3 | 0.000 | 0.070 | 0.000 | 0.000 | 0.000 | 0.000 | 0.020 | <0.020 | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | | 0.000 | 0.000 | 0.000 | 0.140 | 0.030 | | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.138 | 0.135 | 0.132 | 0.151 | 0.144 | 0.144 | 0.130 | 0.085 | | 0.130 | 0.105 | 0.070 | 0.200 | 0.150 | 0.140 | 0.170 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | <0.002 | 0.002 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | 0.600 | <0.010 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.000 | 0.000 | <0.100 | 0.000 | 0.000 | <0.005 | <0.020 | | <0.030 | <0.030 | <0.001 | 0.008 | 0.002 | <0.001 | <0.001 |
| 6 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | <0.010 | | 0.120 | <0.040 | 0.029 | 0.021 | 0.001 | 0.014 | 0.026 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.003 | <0.001 | 0.001 | 0.002 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | | 0.060 | <0.040 | | <0.010 | <0.010 | 0.040 | <0.020 | <0.020 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXXXX
X                       X
X PRIMROSE PLANT # 6/3 X
X                       X
XXXXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 04 | 04 | 04 | 02 | 02 | 05 | 04 | 05 | | 11 | 04 | 05 | 10 | 10 | 05 | 03 |
| | 02 | 26 | 20 | 12 | 07 | 21 | 15 | 05 | | 14 | 24 | 07 | 20 | 19 | 03 | 07 |
| A | | | | | | | | | | | | | | | | |
| 1 | 168.000 | 164.000 | 165.000 | 168.000 | 165.000 | 165.000 | 157.000 | 130.000 | | 165.000 | 150.000 | 153.000 | 167.000 | 178.000 | 168.000 | 138.000 |
| 2 | | | | | | | | 24.500 | | 25.000 | 24.750 | 24.500 | 24.000 | 24.000 | 24.000 | 24.000 |
| 3 | 4.500 | 4.600 | 3.900 | 4.300 | 5.100 | 4.500 | 4.100 | 4.100 | | 3.800 | 3.900 | 2.700 | 2.500 | 1.800 | 1.800 | 6.100 |
| 4 | 27.200 | 32.800 | 34.000 | 33.600 | 34.000 | 35.200 | 35.200 | 36.800 | | 39.300 | 39.200 | 35.300 | 37.100 | 37.700 | 39.700 | 37.900 |
| 5 | 12.200 | 9.000 | 9.000 | 9.000 | 8.700 | 8.700 | 8.800 | 8.000 | | 1.100 | 9.530 | 9.800 | 8.900 | 8.900 | 10.600 | 11.600 |
| 6 | 14.500 | 9.900 | | 13.100 | 12.200 | 9.200 | 12.200 | | | 7.720 | 7.200 | 7.000 | 7.400 | 9.800 | 10.100 | 9.200 |
| 7 | | | 9.700 | | | | | | | 1.210 | 0.620 | 1.100 | 1.100 | 1.200 | 1.100 | 1.000 |
| 8 | 144.000 | 138.000 | 147.000 | 146.000 | 151.000 | 144.000 | 154.000 | 118.000 | | 126.000 | 118.000 | 125.000 | 122.000 | 107.000 | 125.000 | |
| 9 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | 5.200 | 1.700 | 2.200 | 6.400 | 4.000 | 6.800 | 6.200 | 6.300 | | 2.500 | 0.700 | 4.800 | 4.500 | 4.500 | 3.400 | 4.300 |
| 11 | 19.000 | 19.000 | 14.000 | 17.000 | 17.000 | 12.500 | 13.000 | 3.500 | | 12.200 | 5.900 | 13.500 | 14.200 | 2.400 | 11.400 | 13.500 |
| 12 | 0.140 | 0.140 | 0.120 | 0.130 | 0.160 | 0.180 | 0.240 | 0.170 | | 0.130 | 0.180 | 0.170 | 0.150 | 0.200 | 0.190 | 0.110 |
| 13 | 7.900 | 7.900 | 7.900 | 7.800 | 7.800 | 7.730 | 7.700 | 7.150 | | 7.820 | 7.750 | 7.890 | 7.800 | 7.810 | 8.250 | 7.980 |
| 14 | 10.000 | 10.000 | 15.000 | 15.000 | 15.000 | 15.000 | 10.000 | 10.000 | | 9.000 | 2.000 | 3.000 | 12.000 | 9.000 | 9.000 | 7.000 |
| 15 | 0.300 | 0.300 | 0.300 | 0.300 | 0.200 | 0.300 | 1.400 | 0.600 | | <0.100 | <0.100 | 0.280 | 0.260 | 0.210 | 0.380 | 0.360 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.000 | 0.440 | 0.200 | | 0.590 | 0.080 | <0.050 | <0.050 | 0.060 | <0.100 | 0.310 |
| 2 | | | | | | | | 0.720 | | 0.450 | 0.710 | 1.390 | 0.780 | 1.200 | 1.100 | 0.900 |
| 3 | 0.009 | 0.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.018 | <0.020 | | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | | 0.000 | 0.000 | 0.100 | 0.140 | 0.025 | | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | 0.119 | 0.106 | 0.093 | 0.093 | 0.106 | 0.112 | 0.080 | 0.065 | | 0.110 | 0.085 | 0.100 | 0.160 | 0.110 | 0.120 | 0.150 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | <0.002 | 0.002 | 0.003 | 0.003 |
| 2 | | | | | | | | | | <0.100 | 0.500 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | 0.000 | 0.030 | 0.000 | <0.100 | 0.000 | 0.000 | <0.005 | <0.020 | | <0.050 | <0.030 | <0.001 | 0.003 | 0.001 | <0.001 | <0.001 |
| 6 | 0.000 | 0.003 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | <0.010 | | 0.550 | <0.040 | 0.080 | 0.013 | 0.009 | 0.016 | 0.176 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.002 | 0.001 | 0.001 | 0.002 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | 0.120 | <0.040 | | <0.010 | <0.010 | 0.040 | <0.020 | <0.020 | <0.020 | <0.020 |

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XXXXXXXXXXXXXXXXXXXXXX
X                    X
X CONWAY PLANT A 7/1 X
X                    X
XXXXXXXXXXXXXXXXXXXXXX
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| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 03 | 04 | 03 | 04 | 05 | 04 | 05 | 05 | 11 | 04 | 05 | 10 | 10 | 05 | 03 |
| | | 31 | 27 | 03 | 04 | 15 | 15 | 05 | 17 | 14 | 24 | 07 | 20 | 19 | 03 | 07 |
| A | | | | | | | | | | | | | | | | |
| 1 | | 159.000 | 159.000 | 156.000 | 159.000 | 159.000 | 157.000 | 130.000 | 166.000 | 161.000 | 155.000 | 157.000 | 165.000 | 179.000 | 176.000 | 140.000 |
| 2 | | | | | | | | 25.500 | 25.500 | 25.500 | 25.500 | 25.500 | 25.000 | 25.000 | 25.000 | 24.500 |
| 3 | | 5.500 | 5.200 | 5.600 | 5.400 | 5.100 | 4.900 | 5.100 | 5.400 | 4.700 | 4.700 | 3.400 | 2.500 | 2.100 | 2.200 | 7.300 |
| 4 | | 33.600 | 34.800 | 35.200 | 35.600 | 39.200 | 36.400 | 37.600 | 37.600 | 40.100 | 38.800 | 36.900 | 39.800 | 38.500 | 39.700 | 39.300 |
| 5 | | 8.300 | 9.500 | 8.000 | 8.750 | 6.600 | 8.300 | 8.300 | 8.700 | 1.200 | 8.740 | 9.600 | 8.400 | 8.700 | 9.900 | 11.300 |
| 6 | | 3.900 | 3.900 | 7.100 | 7.400 | 5.300 | 11.100 | | 0.500 | 6.260 | 4.800 | 6.300 | 6.500 | 8.000 | 8.900 | 8.900 |
| 7 | | | | | | | | | | 0.960 | 0.490 | 0.900 | 0.900 | 0.900 | 0.900 | 0.800 |
| 8 | | 139.000 | 140.000 | 143.000 | 145.200 | 148.000 | 153.000 | 118.000 | 123.000 | 126.000 | 120.000 | 128.000 | 124.000 | 123.000 | 129.000 | |
| 9 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | 2.500 | 1.900 | 1.500 | 6.000 | 2.000 | 6.900 | 6.400 | 6.000 | 2.600 | 0.920 | 5.700 | 5.700 | 6.000 | 5.900 | 6.200 |
| 11 | | 8.000 | 10.000 | 13.000 | 11.000 | 9.500 | 12.000 | 6.500 | 2.600 | 10.800 | 2.400 | 12.600 | 12.300 | 2.100 | 10.600 | 12.500 |
| 12 | | 0.110 | 0.140 | 0.150 | 0.260 | 0.190 | 0.230 | 0.160 | 0.170 | 0.150 | 0.220 | 0.180 | 0.210 | 0.240 | 0.220 | 0.110 |
| 13 | | 7.600 | 7.600 | 7.900 | 7.750 | 7.800 | 8.000 | 7.700 | 7.890 | 7.890 | 7.890 | 7.810 | 7.820 | 7.580 | 8.090 | 8.010 |
| 14 | | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | <1.000 | 1.000 | 1.000 | 4.000 | 1.000 | 2.000 | 1.000 |
| 15 | | 0.300 | 0.200 | 0.300 | 0.300 | 0.300 | 0.400 | 0.700 | 0.300 | <0.100 | <0.100 | 0.170 | 0.150 | 0.130 | 0.140 | 0.170 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.000 | 1.200 | 0.260 | 0.120 | 0.370 | 0.090 | <0.050 | 0.180 | <0.020 | <0.100 | 0.150 |
| 2 | | | | | | | | 0.150 | 0.880 | 0.280 | 0.340 | 0.780 | 0.640 | 0.900 | 0.800 | 0.850 |
| 3 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.023 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | 0.230 | 0.000 | 0.150 | 0.020 | 0.210 | 0.030 | 0.040 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | 0.048 | 0.038 | 0.067 | 0.083 | 0.061 | 0.050 | 0.033 | 0.060 | 0.060 | 0.045 | 0.060 | 0.130 | 0.060 | 0.080 | 0.100 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | <0.002 | <0.002 | <0.100 | <0.002 |
| 2 | | | | | | | | | | <0.100 | 0.200 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.100 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | 0.001 | <0.001 | <0.001 |
| 6 | | 0.050 | 0.000 | 0.000 | 0.000 | 0.000 | 0.004 | <0.010 | 0.010 | 0.120 | 0.045 | 0.001 | 0.006 | 0.009 | 0.027 | 0.013 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.001 | <0.001 | 0.001 | 0.001 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | <0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | | 0.090 | <0.040 | <0.040 | <0.010 | 0.020 | 0.020 | <0.020 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXXXXX
X                     X
X CONWAY PLANT # 7/2 X
X                     X
XXXXXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 779 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | 04 | 04 | 05 | 04 | 05 | 05 | 11 | 04 | 05 | 10 | 10 | 05 | 03 |
| | | | | 16 | 04 | 15 | 15 | 05 | 17 | 14 | 24 | 07 | 20 | 19 | 03 | 07 |
| A | | | | | | | | | | | | | | | | |
| 1 | | | | 162.000 | 162.000 | 162.000 | 154.000 | 133.000 | 169.000 | 163.000 | 165.000 | 164.000 | 163.000 | 183.000 | 178.000 | 149.000 |
| 2 | | | | | | | | 26.000 | 25.500 | 25.500 | 25.500 | 25.500 | 25.000 | 24.500 | 25.000 | 24.500 |
| 3 | | | | 5.700 | 5.200 | 5.100 | 4.900 | 5.300 | 5.400 | 4.700 | 4.700 | 3.400 | 3.000 | 2.100 | 2.100 | 7.500 |
| 4 | | | | 35.600 | 36.000 | 38.000 | 36.800 | 39.600 | 38.400 | 40.500 | 40.000 | 39.300 | 39.800 | 39.300 | 40.500 | 40.400 |
| 5 | | | | 8.300 | 8.500 | 7.300 | 8.500 | 7.100 | 9.000 | 1.200 | 10.180 | 9.900 | 8.600 | 8.900 | 10.200 | 11.600 |
| 6 | | | | 6.800 | 7.400 | 5.500 | 10.600 | | 0.900 | 6.380 | 4.800 | 6.300 | 6.700 | 8.300 | 9.200 | 9.300 |
| 7 | | | | | | | | | | 0.980 | 0.490 | 0.900 | 0.900 | 1.000 | 0.900 | 0.800 |
| 8 | | | | 142.700 | 145.200 | 146.000 | 154.000 | 122.000 | 126.000 | 128.000 | 127.000 | 131.000 | 130.000 | 129.000 | 137.000 | |
| 9 | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | | | 6.100 | 6.400 | 2.000 | 6.800 | 6.600 | 6.600 | 1.700 | 0.920 | 6.000 | 5.500 | 3.500 | 5.800 | 4.800 |
| 11 | | | | 10.500 | 11.000 | 10.500 | 12.000 | 6.000 | 3.000 | 10.800 | 3.400 | 11.300 | 12.500 | 2.100 | 10.700 | 12.500 |
| 12 | | | | 0.290 | 0.160 | 0.230 | 0.230 | 0.150 | 0.170 | 0.150 | 0.220 | 0.190 | 0.200 | 0.240 | 0.210 | 0.120 |
| 13 | | | | 7.750 | 7.600 | 7.800 | 7.900 | 7.920 | 7.830 | 7.920 | 8.000 | 7.850 | 7.890 | 7.750 | 8.070 | 8.010 |
| 14 | | | | >5.000 | 5.000 | 5.000 | 5.000 | 5.000 | 5.000 | <1.000 | 1.000 | 1.000 | 5.000 | 1.000 | 1.000 | 1.000 |
| 15 | | | | 2.000 | 0.300 | 0.300 | 0.600 | 0.400 | 0.400 | <0.100 | <0.100 | 0.390 | 0.630 | 0.810 | 0.470 | 0.980 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | 0.000 | 0.880 | 0.260 | 0.330 | 0.360 | 0.310 | <0.050 | <0.050 | <0.020 | <0.100 | 0.450 |
| 2 | | | | | | | | 0.200 | 0.720 | 0.220 | 0.060 | 0.720 | 0.960 | 0.900 | 0.700 | 0.550 |
| 3 | | | | 0.000 | 0.000 | 0.000 | 0.025 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 |
| 4 | | | | 0.000 | 0.090 | 0.030 | 0.150 | 0.025 | 0.060 | <0.010 | <0.002 | <0.020 | <0.020 | <0.020 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | 0.006 | 0.067 | 0.058 | 0.050 | 0.043 | 0.050 | 0.060 | 0.055 | 0.050 | 0.120 | 0.060 | 0.090 | 0.130 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.001 | <0.002 | 0.002 | 0.002 | 0.004 |
| 2 | | | | | | | | | | <0.100 | 0.200 | <0.100 | <0.100 | <0.100 | <0.100 | <0.100 |
| 3 | | | | | | | | | | <0.100 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | | | 0.000 | 0.000 | 0.000 | <0.040 | <0.040 | <0.040 | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | | | 0.000 | 0.000 | 0.000 | <0.005 | <0.020 | <0.020 | <0.030 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | | | | 0.000 | 0.000 | 0.000 | 0.004 | <0.010 | 0.010 | 0.080 | <0.040 | 0.001 | 0.015 | 0.003 | 0.004 | 0.012 |
| 7 | | | | | | | | | | <0.100 | <0.040 | <0.001 | <0.001 | 0.001 | 0.002 | <0.001 |
| 8 | | | | | | | | | | | | <0.020 | <0.040 | <0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.001 | 0.002 | <0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | | 0.090 | <0.040 | <0.040 | <0.010 | <0.010 | 0.030 | 0.020 | <0.020 | <0.020 | <0.020 |

XXXXXXXXXXXXXXXXXXXX
X                  X
X NAVY PLANT # 8/1 X
X                  X
XXXXXXXXXXXXXXXXXXXX

| DATE | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 11 | 05 | 06 | 11 | 11 | 05 | 03 |
| | | | | | | | | | | 14 | 08 | 04 | 17 | 02 | 17 | 28 |
| A | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | 148.000 | 156.000 | 158.000 | 150.000 | 136.000 | 132.000 | 131.000 |
| 2 | | | | | | | | | | 25.000 | 25.000 | 24.750 | 25.000 | 25.000 | 24.500 | 24.000 |
| 3 | | | | | | | | | | 4.100 | 4.100 | 2.800 | 4.300 | 2.200 | 4.000 | 6.800 |
| 4 | | | | | | | | | | 34.500 | 34.500 | 34.600 | 34.500 | 34.100 | 35.600 | 35.500 |
| 5 | | | | | | | | | | 1.000 | 10.070 | 10.500 | 8.300 | 8.000 | 8.600 | 10.900 |
| 6 | | | | | | | | | | 6.000 | 6.500 | 5.500 | 6.800 | 7.600 | 9.000 | 7.500 |
| 7 | | | | | | | | | | 0.880 | 0.840 | 0.700 | 0.800 | 0.800 | 0.900 | 0.700 |
| 8 | | | | | | | | | | 111.000 | 108.000 | 116.000 | 110.000 | 109.000 | 115.000 | |
| 9 | | | | | | | | | | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| 10 | | | | | | | | | | 4.900 | 1.240 | 5.800 | 6.700 | 6.200 | 6.900 | 6.300 |
| 11 | | | | | | | | | | 10.400 | 1.960 | 12.200 | 13.700 | 11.600 | 10.100 | 11.700 |
| 12 | | | | | | | | | | 0.150 | 0.210 | 0.200 | 0.180 | 0.250 | 0.230 | 0.210 |
| 13 | | | | | | | | | | 7.890 | 7.640 | 7.880 | 7.880 | 7.500 | 7.900 | 7.910 |
| 14 | | | | | | | | | | >12.000 | 1.000 | 1.000 | 10.000 | 1.000 | 7.000 | 1.000 |
| 15 | | | | | | | | | | >2.000 | <0.100 | 0.380 | 0.160 | 0.150 | 0.230 | 0.250 |
| B | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | 0.350 | 0.520 | <0.050 | 0.220 | 0.200 | 0.900 | <0.100 |
| 2 | | | | | | | | | | 0.140 | 0.060 | 0.700 | 0.180 | 0.600 | 0.200 | 0.100 |
| 3 | | | | | | | | | | <0.020 | <0.020 | <0.020 | <0.020 | <0.010 | <0.020 | <0.020 |
| 4 | | | | | | | | | | <0.010 | <0.002 | <0.020 | <0.020 | <0.010 | <0.020 | |
| 5 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | 0.050 | 0.015 | 0.080 | 0.060 | 0.025 | 0.060 | 0.050 |
| 7 | | | | | | | | | | | | <0.012 | <0.012 | <0.012 | <0.012 | <0.012 |
| 8 | | | | | | | | | | | | -1.000 | -1.000 | -1.000 | -1.000 | |
| C | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | <0.002 | 0.008 | 0.004 | <0.002 | <0.002 |
| 2 | | | | | | | | | | <0.100 | 0.100 | <0.100 | <0.100 | <0.100 | 0.130 | <0.100 |
| 3 | | | | | | | | | | <0.010 | <0.010 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 4 | | | | | | | | | | <0.040 | <0.040 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 5 | | | | | | | | | | 0.040 | <0.030 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 6 | | | | | | | | | | 1.670 | 0.120 | 0.025 | 0.080 | 0.022 | 0.027 | 0.076 |
| 7 | | | | | | | | | | <0.100 | <0.040 | 0.001 | 0.002 | 0.001 | <0.001 | 0.002 |
| 8 | | | | | | | | | | | | <0.020 | <0.020 | 0.020 | <0.020 | <0.020 |
| 9 | | | | | | | | | | | | <0.0005 | <0.0005 | <0.0005 | <0.001 | <0.0005 |
| 10 | | | | | | | | | | | | <0.002 | <0.002 | 0.002 | <0.002 | <0.002 |
| 11 | | | | | | | | | | | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| 12 | | | | | | | | | | 0.020 | <0.010 | <0.020 | <0.020 | <0.050 | <0.020 | <0.020 |