

Special Publication ; SJ 87-SP1

Annual report on uncontrolled free-  
flowing artesian wells : 1986

Free-flowing well plugging program

By

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Palatka, Florida

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Project Number 20 018 02

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## INTRODUCTION

Uncontrolled or improperly constructed artesian wells have a major effect on the quality and quantity of Florida's ground water resources. Thousands of wells have been drilled in the past that would not meet current well construction standards, many have been abandoned because of problems associated with these poor construction techniques. In addition to the poor construction, many of these wells were drilled some time ago and the poor water quality has caused corrosion of the casing and subsequent leaking. The excessive discharge rates have in some cases reduced the potentiometric surface which has increased the potential for mineralized water to contaminate the potable water supplies.

In the St. Johns River Water Management District (SJRWMD) the Floridan Aquifer is the source of artesian flow for these wells. This aquifer is comprised of Eocene limestone units overlain by the confining clays of the Hawthorn formation. The upper Floridan aquifer consists of a soft pure limestone of the Ocala group whereas the lower Floridan is comprised of the Avon Park, Lake City and Oldsmar limestones.

The District has an inventory of 341 abandoned artesian wells. Flows measured or estimated from 149 of these wells, accounts for approximately 18.3 million gallons per day (MGD) of water that is wasted. An additional 23.5 MGD is estimated to flow from the remaining wells included in the inventory. To date, the well plugging program has provided for the plugging or reconstruction of 105 wells, thereby reducing flow by 24.8 MGD.

## PURPOSE AND SCOPE

This document was prepared in order to comply with the requirements of Part IV of the "Water Quality Act of 1983". This document is the fourth annual report to the Department of Environmental Regulation of the District's free-flowing well inventory and work plan for controlling or plugging inventoried wells. Appendix A shows the format provided by the Department of Environmental Regulation to be used for this report. This report was also prepared for public distribution to show the District's progress in pursuing the problems resulting from uncontrolled free-flowing wells and to provide effective planning for future work in this field.

## HISTORICAL REVIEW-LEGISLATION AND POLICIES

In the early 1950's severe drought conditions prompted regulations to be passed to prevent the waste of water from flowing wells. Sections 3703.051- .055 Florida Statutes (1953) required that working valves or caps be installed on all free flowing wells. In 1957, the Legislature adopted Sections 373.021-.061 F.S. which provided for the plugging of all artesian wells which were in violation of the law. Until 1972, the regulation and control of abandoned artesian wells was minimal. In 1972, the Florida Legislature established five water management districts. The rules were to be enforced through the Department of Environmental Regulation (DER) and the Districts.

In June of 1983, the "Water Quality Assurance Act of 1983" was enacted. This Act calls for all known abandoned artesian wells to be plugged by the water management district by January 1, 1992. In addition, it requires that an initial inventory and work plan outlining the methods and costs for well plugging be submitted by the District to DER by January 1, 1983. It further requires that in each succeeding year an annual report shall be sent until all the wells are plugged or until 1992.

The SJRWMD began well plugging activities in 1976. This began as a cooperative program with the Agricultural Stabilization and Conservation Service (ASCS) to improve water quality in irrigation wells. This program consisted of partially backfilling wells that had been originally drilled too deep. The District provided technical assistance while well owners shared plugging costs with the ASCS.

In 1981, the SJRWMD and Brevard County Board of County Commissioners developed an agreement which provided matching

funds for plugging wells in Brevard County. This program has been renewed each year since and has resulted in 72 wells being plugged or reconstructed.

The SJRWMD has until recently been operating with two different approaches for solving the problems of abandoned artesian wells. One effort was directed toward having the wells plugged or capped by the owner as part of the District's regulatory program while the other approach was to have the wells permanently plugged through the District's well plugging program. These two approaches resulted in some well owners being subjected to enforcement action while others had their wells plugged by the District at no cost.

The staff recognized the problems resulting from these two different approaches operating simultaneously and recommended formal guidelines and procedures designed to eliminate these inequities. At the November 1986 Board meeting, these set of guidelines and procedures was adopted (Appendix D). These guidelines and procedures provide well owners with options for well plugging. The options include participation in the District cost share program or repair of the well at the owner's expense pursuant to District permitting requirements.

In certain cases, a well owner may still be able to have the work done at no cost. In the cases where a cooperator such as Brevard County or ASCS is participating with the District in the Well Plugging Program, the minimum required financial responsibility of an owner may be waived. The Well Plugging Program is also actively seeking ways to increase funding to minimize the costs to a well owner.



## WELL PLUGGING PROGRAM

### INVENTORY

Estimates (Healy, 1978) indicate there are over 5,000 uncontrolled free-flowing wells within the District boundaries (Figure 1). 3000 of these are within Brevard County. The inventory in 1956 and 1957 done by the Florida Geological Survey (Hendry and Lavender 1959) reported 715 wells within the District. The District made an initial inventory in 1980-1982 that listed 293 wells. The current District inventory (Appendix B) is a result of citizen reports, cooperation with local governmental agencies and routine field work. The majority of the wells inventoried are located in the southern half of the District (Figure 2).

The inventory of free-flowing wells is entered into the District's computer data base. There are currently 341 wells listed in this file. By using this system, information concerning location, construction details, water quality, owners name and general comments can be accessed and put in report form. A paper file is also kept that includes a photograph of the wells and a detailed map to the site.

### PRIORITY

A priority system has been established in the District's well plugging program. This system provides for the ranking of groups of wells according to the impact of the wells on the water resources of the area. The criteria considered when grouping

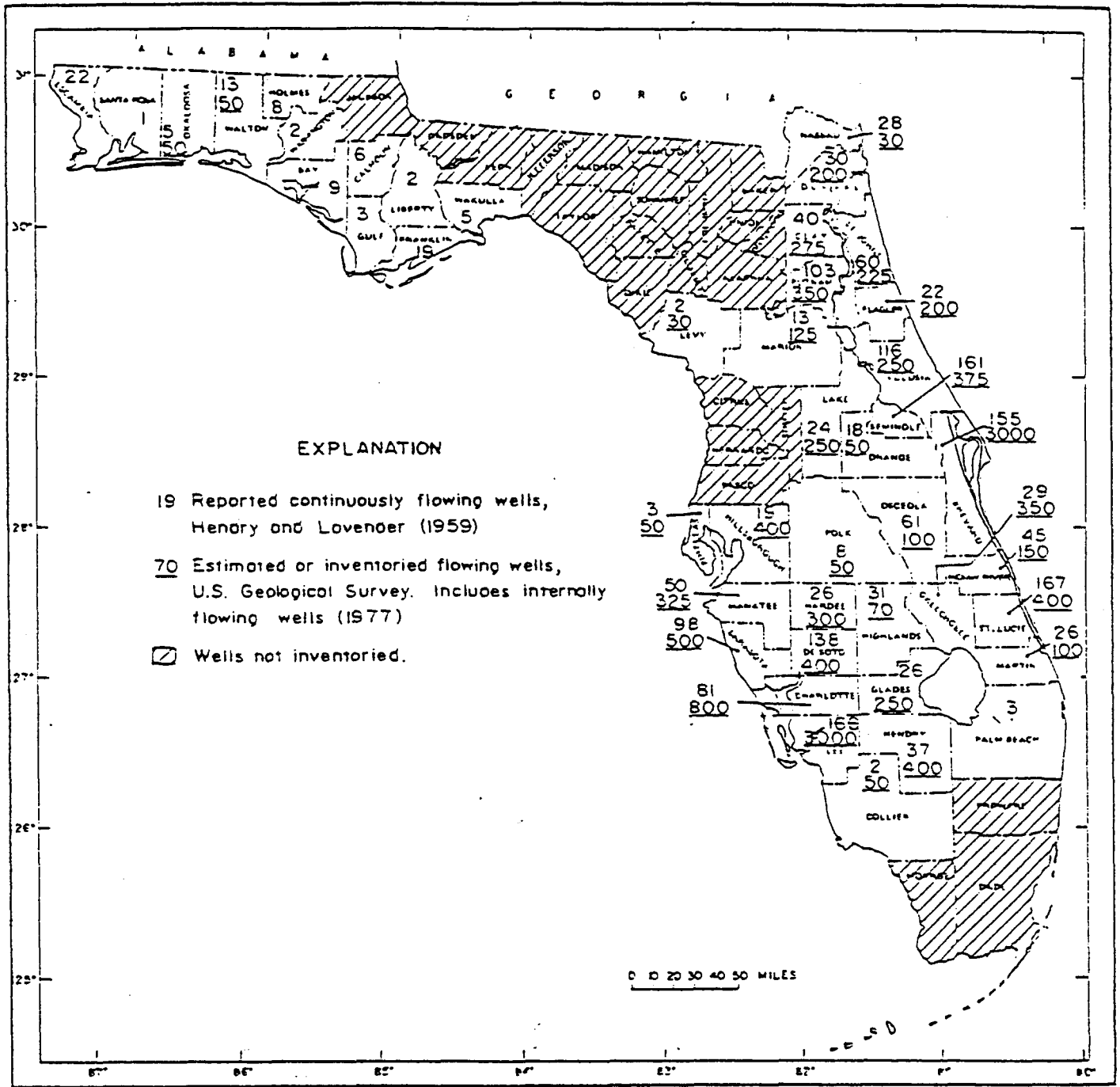


Figure 1 Number of Free Flowing Wells in Each County. (Healy 1978)

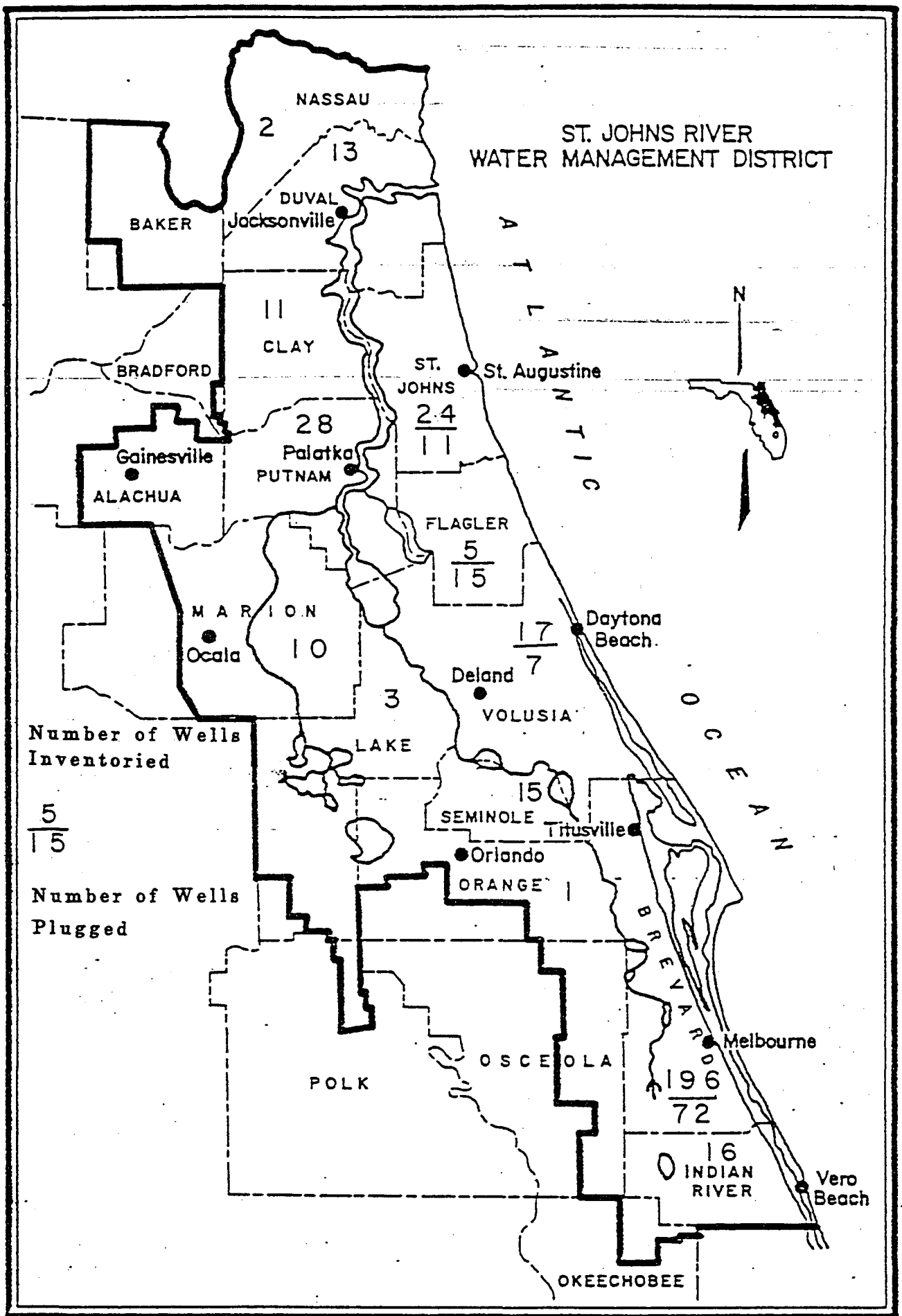


Figure 2. Map Showing Distribution of Wells in Each County

wells include quality and quantity of water being discharged or involved in interaquifer flow, well construction, characteristics and physical condition of the well. The District has identified and ranked eight groups based on these criteria. When specific hydrogeologic information is evaluated for a particular well or group of wells, the wells are prioritized accordingly. The priority groups are established as follows with no. 1 having the highest priority and No. 8 having the lowest priority.

1. Good quality water in limited supply with no recharge (an isolated lense of fresh water).
2. Good quality water in large supply with no recharge.
3. Good quality water in limited supply with recharge.
4. Poor quality water contaminating fresh, shallow aquifers (areas dependent on shallow aquifers for potable water supply will have higher priority).
5. Poor quality water directly contaminating fresh surface water bodies (areas that exhibit rapidly increasing chloride levels will have higher priority).
6. Good quality water in large supply with recharge.
7. Poor quality water contaminating shallow aquifers exhibiting high chloride levels.
8. Poor quality water directly contaminating brackish or salt water surface water bodies.

#### PLUGGING METHODOLOGY

After a well has been inventoried and prioritized, plans can be made for plugging it. The owner of the property is contacted to obtain permission for the project and to discuss legal responsibilities. Other groups that may be affected (government agencies, special interest groups) are also contacted to get

their input. The various legal, technical and financial aspects of the particular project are discussed with these people to determine the best course of action. Options are considered based on available financing, the goals of the program and opposition to the project. Contract documents, cooperative agreements and permitting requirements are taken care of as needed (Appendix C).

Specifications for plugging the wells are then developed based on current rules (SJRWMD Rules, Chapter 40C-3, Revised Edition) and the hydrogeologic setting of the well. This information is used to determine what type of plug will be necessary. The criteria that are considered include the following:

1. The location of aquifers and confining units.
2. Construction details of the well including cased depth and total depth.
3. Present condition of the well as determined from geophysical logs or by running drill rod or tremie pipe to the bottom of the well.

From the analysis of the geophysical logs one or a combination of the following plugging methods are generally used:

1. Valves or Caps - When the well does not present any water quality problems or transfer of water from one aquifer to another (interaquifer flow), the most efficient way to preserve the water resource is to install a workable valve or cap.
2. Backfilling - This is generally the best method to insure a well is properly plugged. The method involves setting drill rod or tremie pipe to about 20 feet from the bottom of the well and pumping a cement slurry

through it to fill the well from the bottom to land surface. This can be done in one large batch or in stages. Generally by pumping several smaller batches and allowing time for the cement to set, problems can be avoided in wasting cement. If a well is taking much more cement than calculated, it may be necessary to install a plug or use gravel to bridge certain zones. Once the plug is installed, the well can be backfilled to the surface.

3. Plugs - There are many commercial plugs available to seal a well or hold cement in place until it sets. The SWFWMD has devised a form of cement plug (termed QWIP - from Quality of Water Improvement Program) to bridge thirsty formations or set casings (see Figure 3). This plug is generally fabricated on site and attaches to 1 1/4 inch diameter PVC tremie pipe. A coarse left hand threaded coupling and nipple is used to provide a positive disconnect system so the tremie pipe can be removed from the plug. A check valve is placed on the tremie to prevent the slurry from being forced out of the burlap "sock" by natural water pressure. A calculated volume of slurry is pumped into the sock and allowed to set before backfilling can be resumed. This plug can bridge the large cavities normally associated with the soft limestones and prevent interaquifer flow.

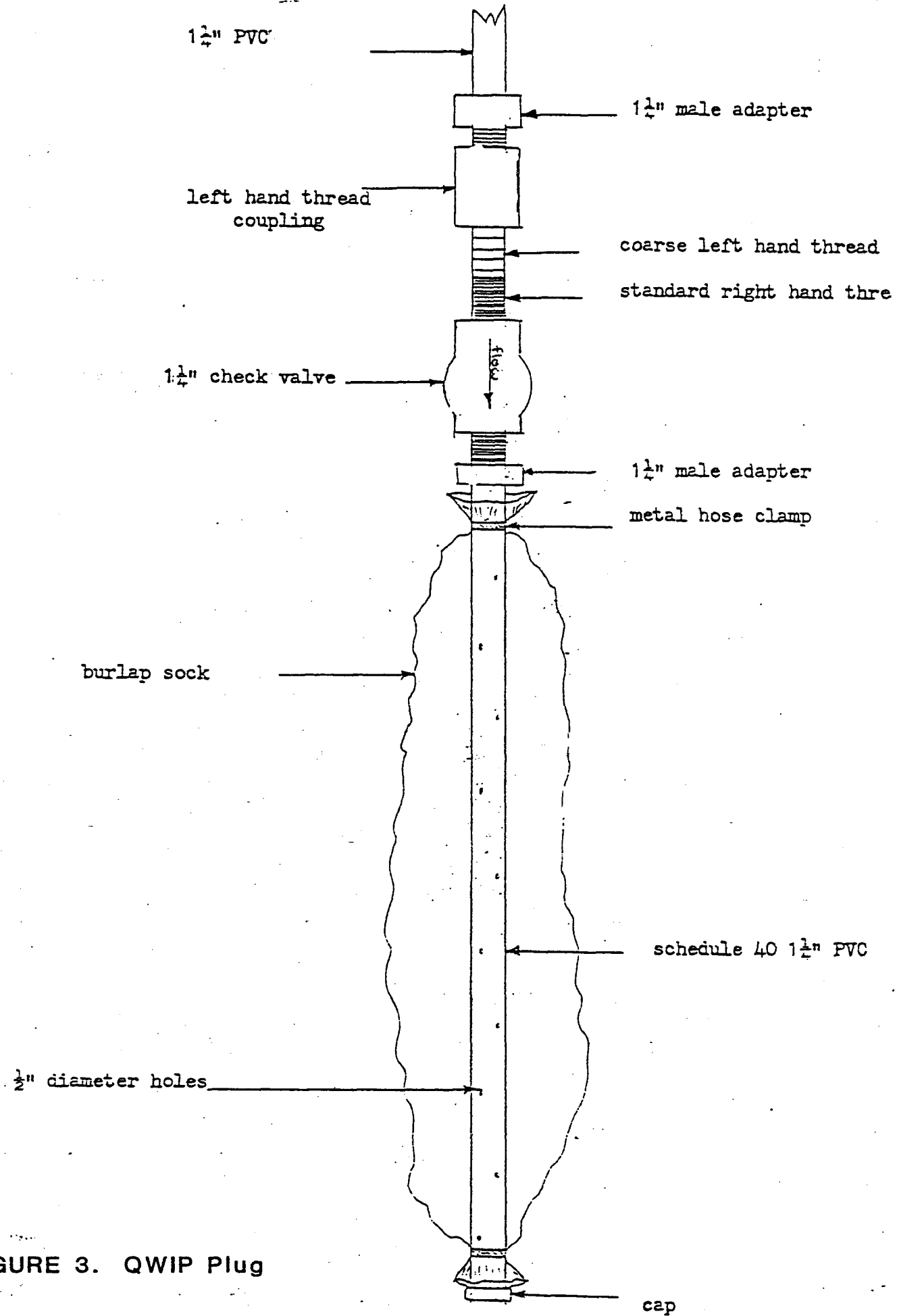


FIGURE 3. QWIP Plug

## GEOPHYSICAL LOGGING

Borehole geophysics is an integral part of the well plugging program. The data generated from this is used for developing well plugging specifications and also provides geologic and ground water information that can be used in other District projects. Information obtained from individual well logs can be correlated to a regional hydrostratigraphic setting.

A suite of geophysical log surveys are run depending on the information desired and borehole conditions. A brief description of each survey and its applications to well plugging is presented below:

Gamma Ray - a recording of the intensity of gamma radiation versus depth in the borehole. The count rate of gamma rays is dependent on the amount of Uranium, Thorium and Potassium that is in a particular lithologic unit. Since the confining clays of the Hawthorn formation contain significantly higher amounts of these elements than the relatively pure limestones of the Ocala formation, this tool can be used to determine formation contacts or lithologic changes within a particular formation.

Caliper- provides a continuous recording of borehole diameter versus depth. The District uses a three arm caliper. This is one of the most important surveys for well plugging applications. The diameter of the borehole is used to calculate cement volumes, determine depth and conditions of casing, locate areas to set plugs, detect potential flow zones and areas that could take large volumes of cement, and calculate corrections for other logs that are run.



Calculations for flow and various electric logs are also directly related to borehole diameter.

Temperature - records fluid temperature versus depth. For well plugging applications this can be used to locate water levels, detect fluid entry and thief zones and quantitative interpretation of resistivity and SP curves. It also can be used during the logging operation to target areas in the borehole where more sampling or logging should be done.

Electric Surveys - the 16 - and 64-inch Normal Resistivity surveys are run to further define lithology and aid in correlation between boreholes. This tool measures the apparent resistivity of a volume of rock and fluids between two electrodes of a given spacing. From this data bed thickness can be determined for rocks that may show similar readings on a gamma log such as limestones and dolostones. The depth of casing and water level can also be determined with this.

Fluid Resistivity - the resistivity of fluids entering the borehole at a particular point can be measured with this probe. Since saline zones have much less resistance than freshwater zones, areas of saltwater entering the borehole can be identified.

Fluid Sampler - water samples are taken at various depths with this tool. This consists of a barrel with a motorized valve which can be opened to allow fluids to fill it at a specified depth and then closed to avoid contamination from other zones as the tool is retrieved. Generally, zones of

interest are chosen from other logs and then sampled above and below to help further define these zones.

Flowmeter - this tool uses an impeller that rotates according to fluid velocity. A section of the borehole that is relatively in gage is required before a quantitative evaluation of flow can be made. This tool is especially useful in well reconstruction practices to help predict the quantity of water that should be available after reconstruction.

## CURRENT STATUS

### 1985 - 1986 PROJECTS

The 1985-1986 plugging projects were located in the eastern part of Brevard County and in the Hastings area of St. Johns County. These areas were chosen because of the high demand for ground water and because a significant portion of that demand is attributed to free flowing wells. In Brevard County, 12% of the 200.7 million gallons per day (MGD) of ground water withdrawal is from free flowing wells (Marella, 1985).

Specific projects in Brevard County included 1) plugging four wells in the Palm Bay area where rapid development is taking place 2) plugging one 10" diameter, 743' well in Micco that was eroding the roadway under US1 3) several abandoned irrigation wells 4) plugging nine wells at Patrick Airforce Base that had been used for lawn irrigation.

Eleven wells were plugged in St. Johns County. The majority of these had been used for agricultural purposes. They were located in the Hastings area where large amounts of ground water is used primarily for potatoes and cabbage. Six of these were originally drilled for citrus production but due to severe winters the groves were destroyed. These six inch diameter wells had been drilled excessively deep (500') to take advantage of the high artesian flow that was originally available. Because of the multiaquifer penetration heavy withdrawals allowed the water from the deeper saltier zones to migrate into the fresher shallower zones. When adjacent wells were not pumping these wells had flows between 100 gpm and 310 gpm. The plugging procedures were expedited by taking advantage of the pumping season and doing the work when there was no flow at the surface.

One well was plugged in the City of St. Augustine. The well flowed onto a major thoroughfare and was causing traffic problems and erosion. This normally would have been classified as a relatively low priority well but since it presented an eminent danger to the public health, safety and welfare immediate action was taken to plug the well.

The concentrations of chloride in wells plugged ranged from a low of 147 (mg/l) to a high of 5860 mg/l. The average was 1322 milligrams per liter. The measured flows for these wells ranged from 1 to 1400 gpm and averaged 216 gpm.

Work has started on the reconstruction of a 1,000' abandoned zeolite well which belongs to the city of New Smyrna Beach. A formal cost share agreement has been signed (Appendix C) and an easement has been granted to the District for access so this well can be used as a monitoring well. Specifications have been developed to run three strings of casing to monitor different zones in the borehole.

## SCHEDULING

The scheduling of wells to be plugged is directed towards having all of the inventoried wells plugged by 1992. Since funding is limited, the highest priority wells are selected first. This includes wells with chloride concentrations greater than 500 mg/l and flows greater than 100,000 gallons per day.

Lands owned by the District are targeted for increased inventory activities. Since 1977, the District has acquired 163,362 acres of land in Fee Simple Title. This land was previously used for agriculture and therefore, has wells that were once used for irrigation or livestock watering.

Other parts of the District that will have concentrated inventory efforts include the agriculture areas of Putnam and St. Johns counties and Seminole County. Twelve wells were added to the inventory for Seminole County and it is expected that more will be found.

The 1986 - 1987 plugging projects will begin with a systematic approach for plugging groups of wells. The main emphasis will be directed toward (1) wells that are within CUP guidelines either be plugged or permitted (2) reconstruction or plugging of agricultural wells that may qualify for ASCS cost shares (3) individual wells that have been identified as causing contamination or have shown trends of degradation from periodic sampling (4) finish projects that were initiated in 1985-1986 fiscal year.

This approach should improve the chances of meeting the 1992 deadline for several reasons. The number of wells that will have to be plugged should be reduced since a number of wells will be repaired to current well construction standards and permitted.

The potential of ASCS funding will allow for more wells to be plugged or reconstructed. Several projects initiated in 1985-1986 involved cost shares or assistance which will also increase the number of wells that are plugged.

## COSTS

The following tables are provided to show actual costs for plugging and program support. In these tables, Actual Costs are the costs associated with contractual services and cement and related products. The Program Support Costs include salaries, insurance, travel, supplies, purchased equipment, rental equipment and other commodities. An administrative cost is added to show the estimated costs associated with bidding, invoicing, legal services and other necessary administrative processes.

To date, the District has spent \$386,822 for this program. To date, the average actual plugging cost has been \$1,621 per well.

TABLE 1. ACTUAL PLUGGING COSTS 1985-1986

A. Plugging Costs for Fiscal Year 1985/1986	
a. <u>Contractual Services</u>	
Brevard County	\$15,514
St. Johns County	<u>15,390</u>
	\$30,904
b. <u>Cement and Related Products</u>	
Brevard County	\$12,092
St. Johns County	<u>5,634</u>
	\$17,726
Total Costs (a + b)	\$48,630
Average Cost Per well (30 wells)	1,621
12% Administrative Cost	<u>194</u>
Average Cost plus Administrative Costs	\$ 1,815
B. Plugging Costs to Date	
Costs from Fiscal Year 1980/1981 through Fiscal Year 1984/1985	\$112,868
Costs for Fiscal Year 1985/1986	<u>\$ 48,630</u>
Total	\$161,498
Average Cost Per Well (105 wells)	\$ 1,538
12% Administrative Cost	<u>184</u>
Average Cost plus Administrative Cost	\$ 1,723



TABLE 2. ACTUAL COSTS TO SJRWMD FOR PROGRAM SUPPORT

A. Program Support Costs for Fiscal year 1985/1986	
Support Costs for 1985/1986	\$33,362
Average Cost Per Well (30 wells)	<u>1,112</u>
12% Administrative Costs	133
Average Cost Per well plus Administrative Cost	1,244
B. Program Support Costs to Date	
a. Total Costs	
Support Costs for 1985/1986	\$ 33,362
Support Costs from Fiscal Year 1980/1981 through Fiscal Year 1984/1985	<u>\$150,517</u>
Total	\$183,879
b. Per Well Costs	
Average Cost Per Well (105 wells)	\$ 1,751
12% Administrative Costs	<u>210</u>
Average Cost plus Administrative Costs	\$ 1,931
c. Per Year Costs	
Total Costs to Date	\$183,879
Average Cost Per Year (6 years)	\$ 30,646
12% Administrative Costs	<u>3,676</u>
Average Cost plus Administrative Cost	\$ 34,323

TABLE 3. PROJECTED ACTUAL PLUGGING COSTS TO PLUG ALL WELLS BY 1992

A. Costs Per Year

Estimated Number of Wells to Plug	770
Number of Wells to Plug Per Year	128
Average Cost Per Well (FY 85-86)	\$ 1,723
Average Cost Per year	\$232,320

B. \*Projected Costs for Actual Plugging

Fiscal Year 1986/1987	\$ 246,259
Fiscal Year 1987/1988	261,035
Fiscal Year 1988/1989	276,697
Fiscal Year 1989/1990	293,298
Fiscal Year 1990/1991	310,895
Fiscal Year 1991/1992	<u>329,548</u>
Total	\$1,717,732

\*Based on a 6% increase per year.

TABLE 4. PROJECTED COSTS FOR PROGRAM SUPPORT UNTIL 1992

A. Costs Per Year

Estimated Number of Wells to Plug	\$	770
Number of Wells to Plug Per Year		128
Average Cost Per Well		1,931
Average Cost Per Year		\$247,168

B. \*Projected Costs for Program Support

Fiscal Year 1986/1987	\$	261,998
Fiscal Year 1987/1988		277,718
Fiscal Year 1988/1989		294,380
Fiscal Year 1989/1990		312,044
Fiscal Year 1990/1991		330,766
Fiscal Year 1991/1992		<u>350,612</u>
TOTAL		\$1,827,518

\*Based on 6% increase per year.

TABLE 5. TOTAL PROJECTED COSTS FOR ACTUAL PLUGGING AND PROGRAM SUPPORT UNTIL 1992

Projected Actual Plugging Costs	\$1,717,732
Projected Costs for Program Support	<u>1,827,518</u>
TOTAL	\$3,545,250

## DEFINITIONS

Aquifer - A formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield economic quantities of water to wells and springs.

Artesian Well - A well deriving its water from a confined aquifer in which the water level stands above the aquifer.

Capping - Refers to stopping the water of an artesian wells from flowing at the surface by some mechanical device. This includes valves, threaded caps, plumbers test plugs, or even cementing a section at the top of the well.

Free Flowing Well - An artesian well with or without a mechanism for controlling discharge that allows water to flow continuously at the land surface or into other aquifers through internal flow because of improper well construction or condition. Common names include "wild flowing well", "free flower", "uncontrolled artesian well", and "abandoned artesian well".

Head - Energy contained in a water mass, produced by elevation, pressure or velocity. The potentiometric surface is dependent on the head pressure of an aquifer.

Plugging - Includes any technique used to restore a well to the original hydrogeologic setting before it was drilled. This includes filling it with a cement slurry from bottom to land surface or setting plugs so that individual aquifers are totally isolated.

Potentiometric Surface - The surface defined by the height that water from an aquifer will rise to in a tightly cased well.

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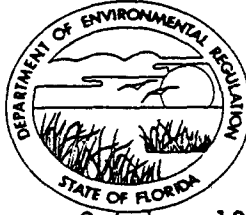
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Timmons, W.R. Jr., 1982, Appraisal of uncontrolled artesian wells in Brevard County, Florida: Brevard County Office of Natural Resources Management, 63 p.

APPENDIX A  
OUTLINE PROVIDED BY  
DEPARTMENT OF ENVIRONMENTAL REGULATION

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL REGULATION

TWIN TOWERS OFFICE BUILDING  
2600 BLAIR STONE ROAD  
TALLAHASSEE, FLORIDA 32301-8241



BOB GRAHAM  
GOVERNOR  
VICTORIA J. TSCHINKEL  
SECRETARY

October 12, 1983

Mr. Doug Munch  
St. Johns River Water  
Management District  
Post Office Box 1429  
Palatka, Florida 32077

RE: Artesian Well Plugging Workplan

Dear Mr. Munch:

Part IV of the Water Quality Assurance Act directs the five water management districts to prepare inventories and workplans outlining methods and costs of plugging all abandoned artesian wells in their district by January 1, 1992. The water management districts shall submit an initial workplan to the Secretary of DER by January 1, 1984.

Enclosed is a draft format for the workplan. Please review and let me know if you have any serious problems with the contents. The level of detail and length of each water management district workplan will be proportional to the number of wells and the existence of an active well plugging program. In those districts without a district-wide inventory, cost estimates may have to be given for both known and estimated number of wells.

Another topic we need to discuss is the use of the original inventory. I have the original well schedules (in pencil) complete with photographs, wellhead diagrams and hand drawn maps from which Information Circular No. 21 was prepared. These statewide records have remained intact since 1958, so I am reluctant to start mailing originals all over the state.

A meeting in Tallahassee with all water management districts can be arranged, if you feel there is a need. Suggested dates are November 8, 9, 15, or 16. Please let me know if you would prefer to meet or discuss any problems by telephone.

Sincerely,

Leslie Bell  
Environmental Supervisor  
Groundwater Section

LB/cs  
Enclosures  
cc: Rodney DeHan  
Greg Parker  
Howard Rhodes  
John Wehle  
Ed Mossier/SFWMD



Format for Artesian Well Plugging Workplan

	DOCUMENT SUBHEADINGS	Page
I. Introduction		
A. Brief assessment of existing problem	'INTRODUCTION'.....	1
B. Brief summary of any existing program	'CONCLUSION AND SUMMARY'....	
II. Inventory		
A. Results of 1983 Inventory presented in table form. The format in Table 1 and Table 3 from the Florida Geological Survey Information Circular No. 21 (examples attached) can be used as models.....		5
B. Description of methodology used in obtaining initial inventory, including types of sources contacted, publicity, and field verification methods	'Inventory'.....	5
C. Location and Owner of each abandoned well	.....	
1. Present by county, alphabetically by owner and latitude/longitude		
2. If inventory is already on data base, existing format may be submitted		
D. Proposed Methodology for Updating Inventory	'Inventory, CONCLUSION AND SUMMARY'.....	
1. Location techniques		
2. Field verification		
3. Public notification techniques		
III. Well Plugging Priority Schedule		
A. Criteria to be used to develop schedule:	'Priority'.....	5
1. Condition of casing		
2. Presence of operable valve		
3. Water quality in well and receiving aquifer		
4. Surface or subsurface flow from well		
5. Diameter of well and flow volume		
6. Surficial aquifer use in proximity to artesian well		
B. Proposed Schedule	'PROPOSED SCHEDULING'.....	17
1. Individual wells may be listed for the water management districts with smaller inventories. Types of wells with highest priority may be listed for water management districts with larger inventories.		

IV. Plugging Methodology	DOCUMENT SUBHEADINGS	P
A. Description of existing procedure, including all legal paperwork and contract processing	'Plugging Methodology'.....	
B. Types of plugs commonly used	'Types of Plugs'.....	
C. Description of any inspection or verification	'COSTS'.....	
D. Timetable for plugging completion, which incorporates priority schedule developed in III	'PROPOSED SCHEDULING'.....	
V. Costs		
A. Costs should be presented in two categories - water management district costs and actual plugging costs	'COSTS'.....	1
B. Estimates for water management district costs should be given in 'per well' units, and should include:	'TABLE'.....	2
1. Staff time for locating wells		
2. Staff time for well assessment and placement in priority schedule		
3. Staff time for resolving any legal difficulties		
4. Staff time for preparing and awarding plugging contract		
5. Staff time for inspection, updating of inventory		
6. Total estimated cost		
1. 'Per well' cost times number of known or estimated wells in district		
C. Actual Plugging Costs	'TABLE'.....	2
1. Estimated average plugging cost per well. Wells may be classified into two or three depth groups		
2. Total estimated plugging cost		
1. 'Per well' cost times number of known or estimated wells in district		
VI. Recommendations		
A. Need for changes or expansion of existing programs		
B. Other		

APPENDIX B  
INVENTORY OF FREE-FLOWING AND  
PLUGGED WELLS

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
THE FREE FLOWING WELL INVENTORY  
BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
BREVARD CO. MC	BR0241	FLOWING	150.00	726.00	28 26 2	80 41 45	172	-	4.00
RAY VAN ORSDALE	BR0639	FLOWING	-	-	28 9 49	80 38 32	-	-	12.00
BREVARD COUNTY	BR0640	FLOWING	-	-	28 18 31	80 44 48	-	-	6.00
BAKER HARVERY L. JR.	BR0641	FLOWING	-	-	28 22 5	80 41 55	600	-	4.00
COTNEY	BR0642	FLOWING	-	2280.00	28 24 32	80 42 38	888	888	4.00
UNDETERMINED	BR0643	FLOWING	-	-	28 22 5	80 41 53	600	-	4.00
GDC	BR0647	FLOWING	-	580.00	27 56 24	80 42 19	-	-	6.00
GDC	BR0649	FLOWING	-	653.00	27 57 15	80 42 4	-	-	6.00
GDC	BR0650	FLOWING	-	648.00	27 56 48	80 41 50	-	-	6.00
GDC	BR0651	FLOWING	-	622.00	27 56 3	80 41 57	-	-	6.00
GDC	BR0653	FLOWING	-	538.00	27 56 15	80 42 32	-	-	6.00
GDC	BR0654	FLOWING	-	1050.00	27 56 36	80 42 34	-	-	6.00
UNDETERMINED	BR0659	FLOWING	75.00	486.00	28 8 0	80 41 59	-	-	4.00
PATRICK AFB	BR0670	UNUSED	210.00	1240.00	28 11 21	80 35 58	297	94	3.00
PATRICK AFB	BR0671	UNUSED	388.00	1590.00	28 11 17	80 35 58	483	94	4.00
PATRICK AFB	BR0672	UNUSED	191.00	1350.00	28 11 19	80 36 9	330	105	3.00
PATRICK AFB	BR0673	UNUSED	358.00	1080.00	28 11 16	80 36 2	444	94	4.00
PATRICK AFB	BR0674	UNUSED	358.00	1130.00	28 11 12	80 36 0	501	94	4.00
PATRICK AFB	BR0675	UNUSED	316.00	900.00	28 11 15	80 35 51	444	95	4.00
PATRICK AFB	BR0676	UNUSED	191.00	620.00	28 11 17	80 35 49	355	105	3.00
MELBOURNE COUNTRY CL	BR0682	UNUSED	-	-	28 4 40	80 37 42	120	-	0.00
MELBOURNE COUNTRY CL	BR0683	UNUSED	-	-	28 4 40	80 37 42	10	-	0.00
MELBOURNE COUNTRY CL	BR0684	UNUSED	-	-	28 4 40	80 37 42	888	888	2.00
CITY OF MELBOURNE	BR0685	UNUSED	-	-	28 5 2	80 36 53	35	-	2.00
CITY OF MELBOURNE	BR0686	UNUSED	-	-	28 4 59	80 36 53	400	90	6.00
CITY OF MELBOURNE	BR0687	UNUSED	-	-	28 7 52	80 37 33	888	888	2.00
CITY OF EAU GALLIE	BR0688	UNUSED	-	-	28 7 12	80 37 52	511	110	6.00
CITY OF MELBOURNE	BR0690	UNUSED	-	-	28 7 50	80 38 48	65	46	6.00
CITY OF MELBOURNE	BR0691	UNUSED	-	-	28 7 44	80 38 48	45	3	6.00
CITY OF MELBOURNE	BR0692	UNUSED	-	-	28 8 10	80 35 46	888	888	2.00
CITY OF EAU GALLIE	BR0693	UNUSED	-	-	28 10 18	80 39 47	888	888	3.00
NASA	BR0695	FLOWING	-	1362.00	28 27 47	80 39 47	57	888	3.00
CANAVERAL AFB	BR0697	FLOWING	-	-	28 26 54	80 35 51	888	888	6.00
KLUGH PETER	BR0700	FLOWING	-	-	28 19 3	80 41 9	888	888	6.00
ARMSTRONG BILL	BR0703	FLOWING	-	-	28 8 20	80 35 37	888	888	2.00
E. L. WEGERIF	BR0711	FLOWING	-	-	28 18 20	80 40 43	-	-	4.00
E. L. WEGERIF	BR0712	FLOWING	-	-	28 18 20	80 40 58	-	-	6.00
TUCKER	BR0713	FLOWING	-	-	28 20 13	80 47 7	888	888	4.00
TUCKER	BR0714	FLOWING	-	-	28 20 13	80 47 20	888	888	4.00
TUCKER	BR0715	FLOWING	-	-	28 20 24	80 47 21	888	888	4.00
TUCKER	BR0716	FLOWING	-	-	28 20 32	80 47 28	888	888	4.00
TUCKER	BR0717	FLOWING	-	-	28 20 39	80 47 25	888	888	4.00

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
THE FREE FLOWING WELL INVENTORY  
BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G DE MI SE	W E L L D E P T H	C A S E D E P T H	W E L L C O M M E N T S D I A M
BOY SCOUTS-ORLANDO	BR100	FLOWING	-	-	27 57 19	80 35 13	-	-	4.00
BREVARD CO. DIST 3	BR101	FLOWING	150.00	750.00	27 57 10	80 35 43	316	-	4.00
UNDETERMINED	BR102	FLOWING	30.00	475.00	27 57 49	80 32 37	-	-	2.50
DAVENPORT	BR103	FLOWING	-	-	27 58 10	80 35 3	-	-	6.00
UNDETERMINED	BR120	FLOWING	-	728.00	28 23 29	80 36 23	-	-	2.00
BREVARD COUNTY	BR151	FLOWING	15.00	1653.00	28 24 20	80 41 35	-	-	4.00
UNDETERMINED	BR182	FLOWING	80.00	691.00	27 58 23	80 35 2	-	-	6.00
BREVARD COUNTY	BR199	FLOWING	100.00	1463.00	28 22 13	80 40 47	-	-	4.00
UNDETERMINED	BR200	FLOWING	15.00	1516.00	28 22 13	80 40 55	-	-	4.00
LONE CABBAGE CAMP	BR204	FLOWING	100.00	2071.00	28 22 7	80 52 18	-	-	2.00
BREVARD CO. M. C.	BR209	FLOWING	15.00	1319.00	28 24 17	80 41 35	-	-	2.00
BREVARD CO. MC	BR210	FLOWING	100.00	1486.00	28 22 47	80 41 5	-	-	4.00
BREVARD CO. MC	BR213	FLOWING	125.00	1250.00	28 25 43	80 41 22	-	-	4.00
BREVARD CO. MC	BR219	FLOWING	-	2876.00	28 26 43	80 43 15	-	-	4.00
GEN. DEVELOP. CORP.	BR225	FLOWING	50.00	747.00	27 58 25	80 42 10	-	-	4.00
GEN. DEVELOP. CORP.	BR226	FLOWING	20.00	714.00	27 58 35	80 42 19	266	-	4.00
KEMPER	BR228	FLOWING	20.00	223.00	28 4 43	80 50 32	295	-	4.00
KEMPER	BR229	FLOWING	83.00	387.00	28 4 57	80 50 18	-	-	4.00
KEMPER	BR230	FLOWING	25.00	360.00	28 5 30	80 46 44	-	-	4.00
DESERET RANCH	BR231	FLOWING	1.00	361.00	28 5 36	80 46 43	-	-	4.00
JAMESTOWN CONDOS	BR232	FLOWING	-	-	28 8 43	80 35 4	-	-	4.00
BREVARD CO. M.C.	BR233	FLOWING	150.00	935.00	28 17 32	80 41 55	-	-	4.00
HAPPED	BR234	FLOWING	15.00	1015.00	28 20 40	80 39 51	-	-	0.00
ROCKLEDGE GOLF COUR	BR235	FLOWING	-	-	28 20 13	80 44 49	-	-	4.00
ROCKLEDGE GOLF COUR	BR236	FLOWING	-	-	28 20 8	80 44 42	-	-	4.00
UNDETERMINED	BR237	FLOWING	20.00	2117.00	28 21 50	80 51 15	-	-	2.00
BREVARD CO. MC	BR238	FLOWING	150.00	1403.00	28 24 16	80 40 46	261	195	4.00
BREVARD CO. MC	BR239	FLOWING	8.00	2922.00	28 26 52	80 43 23	-	-	3.00
BREVARD CO. MC	BR240	FLOWING	100.00	4309.00	28 27 54	80 43 10	-	-	3.00
C. CRISAFULL	BR242	FLOWING	25.00	1897.00	28 26 24	80 42 48	-	-	4.00
CHARLES CRISAFULLI	BR243	FLOWING	-	2455.00	28 26 23	80 42 57	-	-	4.00
UNDETERMINED	BR244	FLOWING	1.25	1122.00	28 19 57	80 39 52	-	-	2.00
ROCKLEDGE GOLF COUR	BR245	FLOWING	-	1470.00	28 20 2	80 45 6	-	-	4.00
CORRIGAN	BR246	FLOWING	-	538.00	27 49 33	80 35 18	-	-	2.00
DEER RUN	BR247	FLOWING	10.00	725.00	27 52 26	80 38 23	-	-	2.00
DEER RUN	BR248	FLOWING	-	705.00	27 52 53	80 38 32	399	-	6.00
DEER RUN	BR249	FLOWING	-	735.00	27 52 55	80 38 50	305	-	6.00
UNDETERMINED	BR250	FLOWING	-	671.00	27 53 57	80 36 37	409	-	2.00
SEIB GROVE	BR251	FLOWING	-	785.00	27 53 32	80 37 39	-	-	4.00
UNDETERMINED	BR252	FLOWING	-	695.00	27 53 21	80 39 24	-	-	2.00
DEER RUN	BR253	FLOWING	-	768.00	27 52 7	80 39 51	680	-	6.00
UNDETERMINED	BR254	FLOWING	-	732.00	27 53 25	80 39 16	-	-	2.00

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
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BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
UNDETERMINED	BR255	FLOWING	-	734.00	27 53 51	80 40 4	333	-	3.00
UNDETERMINED	BR256	FLOWING	-	715.00	27 53 51	80 40 4	-	-	2.00
UNDETERMINED	BR257	FLOWING	150.00	701.00	27 54 16	80 39 4	315	-	6.00
GEN. DEVELOP. CORP.	BR260	FLOWING	-	701.00	27 55 2	80 40 24	389	-	2.00
GEN. DEVELOP. CORP.	BR264	FLOWING	-	668.00	27 56 56	80 41 21	-	-	2.50
CARLYLE PLATT	BR266	FLOWING	28.00	768.00	27 57 45	80 39 28	-	-	3.00
GEN. DEVELOP. CORP.	BR267	FLOWING	-	758.00	27 57 46	80 41 16	299	-	3.00
GEN. DEVELOP. CORP.	BR268	FLOWING	-	691.00	27 57 25	80 41 4	-	-	4.00
TRIO RIPE GROVE	BR269	FLOWING	-	681.00	27 58 22	80 41 22	-	-	6.00
TRICO GROVE	BR270	FLOWING	3.00	701.00	27 58 24	80 41 34	-	-	4.00
TRIO GROVE	BR271	FLOWING	18.00	708.00	27 58 35	80 41 27	-	-	4.00
TRIO GROVE	BR272	FLOWING	16.00	722.00	27 58 35	80 41 37	-	-	4.00
TRIO GROVE	BR273	FLOWING	2.50	635.00	27 58 35	80 41 44	309	-	6.00
GDC-CARLYLE PLATT	BR274	FLOWING	7.00	581.00	27 58 12	80 42 18	-	-	6.00
GDC-CARLYLE PLATT	BR275	FLOWING	4.50	481.00	27 58 16	80 42 34	-	-	4.00
GEN. DEVELOP. CORP.	BR276	FLOWING	-	725.00	27 59 56	80 38 20	-	-	0.00
GEN. DEVELOP. CORP.	BR277	FLOWING	-	718.00	27 59 55	80 39 40	-	-	4.00
HAROLD PLATT	BR279	FLOWING	-	534.00	27 59 1	80 43 20	364	-	4.00
HAROLD PLATT	BR280	FLOWING	-	414.00	27 59 52	80 45 12	377	-	0.00
GEN. DEVELOP. CORP.	BR281	FLOWING	-	678.00	28 0 41	80 40 25	335	-	4.00
BREVARD COUNTY	BR300	FLOWING	300.00	1069.00	28 16 59	80 40 7	261	104	4.00
GEN. DEVELOP. CORP.	BR301	FLOWING	-	-	27 56 16	80 41 2	-	-	6.00
PERRY ELISON	BR333	FLOWING	-	2037.00	28 22 32	80 42 46	-	-	2.00
CITY OF MELBOURNE	BR351	FLOWING	-	641.00	28 7 58	80 38 14	600	-	12.00
JIM DIDATO	BR359	FLOWING	-	-	28 4 47	80 41 41	450	85	4.00
MARCUS BOOKIE	BR366	FLOWING	-	287.00	27 49 21	80 50 33	693	-	5.00
WINDWARD APTS.	BR368	FLOWING	7.00	695.00	28 2 14	80 37 11	-	-	2.00
GEN. DEV. CORP. LAWN	BR369	FLOWING	-	561.00	28 1 32	80 34 58	-	-	2.00
GEN. DEV. FLOD. CORP	BR370	FLOWING	500.00	650.00	28 2 32	80 43 27	368	-	5.00
DRAWDY	BR371	FLOWING	10.00	650.00	28 2 18	80 41 7	-	-	4.00
CECIL PLATT	BR372	FLOWING	2.00	488.00	28 4 45	80 42 33	-	-	8.00
WATERWAY ESTATES	BR373	FLOWING	-	-	28 12 26	80 36 26	-	-	6.00
UNDETERMINED	BR374	FLOWING	-	-	28 12 30	80 36 26	-	-	6.00
UNDETERMINED	BR375	FLOWING	-	-	28 12 34	80 36 29	-	-	6.00
WATER WAY ESTATES	BR376	FLOWING	-	-	28 12 43	80 36 29	-	-	2.00
UNDETERMINED	BR377	FLOWING	6.50	661.00	28 10 18	80 37 14	-	-	4.00
UNDETERMINED	BR378	FLOWING	-	668.00	28 10 17	80 37 13	-	-	4.00
FLA. STATE MATHERS B	BR379	FLOWING	-	-	28 8 57	80 36 24	-	-	2.00
PULLEN	BR380	FLOWING	-	1042.00	28 13 32	80 38 54	-	-	2.00
SOMERFIELD	BR381	FLOWING	-	668.00	28 13 41	80 39 3	325	-	4.00
WICKHAM PARK	BR382	FLOWING	200.00	548.00	28 9 34	80 39 46	600	105	4.00
WICKMAN PARK	BR383	FLOWING	275.00	625.00	28 9 51	80 39 40	550	105	6.00

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
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THE FREE FLOWING WELL INVENTORY  
BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
UNDETERMINED	BR384	FLOWING	-	1189.00	28 15 38	80 41 5	-	-	4.00
RAY COBBS	BR385	FLOWING	60.00	2004.00	28 22 3	80 42 28	420	80	6.00
BREVARD CO.	BR386	FLOWING	175.00	1060.00	28 21 23	80 40 17	-	-	4.00
MOONEY	BR387	FLOWING	120.00	935.00	28 20 47	80 41 7	400	-	4.00
BREVARD CO. M.C.	BR388	FLOWING	80.00	1456.00	28 20 17	80 41 6	-	-	4.00
BREVARD CO. M.C.	BR389	FLOWING	-	1430.00	28 18 16	80 40 24	-	-	6.00
E. L. WEGERIF	BR390	FLOWING	-	1202.00	28 18 23	80 40 54	-	-	2.00
BREVARD COUNTY M. C.	BR391	FLOWING	50.00	11.76	28 19 21	80 40 53	-	-	4.00
LA TURE	BR392	FLOWING	42.00	1176.00	28 16 5	80 40 13	-	-	2.00
A.L. READDY	BR393	FLOWING	-	1022.00	28 16 48	80 40 22	248	126	4.00
UNDETERMINED	BR395	FLOWING	1.10	1002.00	28 16 5	80 39 55	-	-	2.00
WARREN WOOTEN	BR396	FLOWING	-	1149.00	28 15 52	80 41 10	-	-	6.00
UNDETERMINED	BR397	FLOWING	-	277.00	28 15 48	80 41 16	-	-	0.00
UNDETERMINED	BR400	FLOWING	220.00	1336.00	28 20 45	80 46 34	-	-	6.00
JACK STORY, SR	BR401	FLOWING	500.00	2285.00	28 21 50	80 48 58	-	-	6.00
TENDERFOOT RANCH	BR403	FLOWING	20.00	1570.00	28 22 24	80 47 1	-	-	4.00
BREVARD CO. M.C.	BR406	FLOWING	40.00	1703.00	28 23 27	80 40 34	260	-	4.00
NORRIS CATTLE CO.	BR408	FLOWING	-	1725.00	28 36 55	80 57 50	-	-	1.00
DE VINCI INC.	BR411	FLOWING	-	508.00	27 58 22	80 31 2	-	-	2.00
BREVARD CO. M.C.	BR412	FLOWING	-	524.00	28 0 53	80 32 14	-	-	3.00
W. C. ROPER	BR413	FLOWING	175.00	608.00	28 7 18	80 37 32	-	-	6.00
STEVE FANCZL	BR414	FLOWING	-	808.00	28 17 30	80 40 39	-	-	3.00
HARVEY RAY	BR415	FLOWING	100.00	1002.00	28 17 41	80 41 50	-	-	3.00
UNDETERMINED	BR416	FLOWING	-	788.00	28 20 49	80 39 42	-	-	2.00
UNDETERMINED	BR417	FLOWING	20.00	1136.00	28 23 37	80 36 54	-	-	3.00
UNDETERMINED	BR418	FLOWING	-	1510.00	28 23 59	80 42 34	204	-	3.00
PHYLIS TINSLEY	BR419	UNUSED	150.00	2204.00	28 25 43	80 42 59	-	-	0.00
QUARBURG	BR420	FLOWING	5.20	241.00	27 49 59	80 50 39	-	-	6.00
POTEET	BR421	FLOWING	9.00	180.00	27 50 45	80 49 46	284	-	6.00
UNDETERMINED	BR422	FLOWING	-	-	27 51 31	80 27 4	-	-	0.00
UNDETERMINED	BR424	FLOWING	-	-	27 59 13	80 33 20	-	-	1.50
UNDETERMINED	BR425	FLOWING	-	-	27 59 53	80 44 42	-	-	4.00
UNDETERMINED	BR426	FLOWING	0.20	578.00	28 11 26	80 37 48	-	-	2.00
NEVINS	BR428	FLOWING	10.00	868.00	28 18 10	80 44 50	-	-	4.00
BREVARD CO. M.C.	BR430	FLOWING	15.00	1583.00	28 21 52	80 41 17	152	82	4.00
GDC-LOT FOR SALE	BR431	FLOWING	10.00	721.00	28 0 30	80 39 30	-	-	3.00
BLISS (HELM)	BR433	FLOWING	-	1049.00	28 15 25	80 39 50	-	-	6.00
GOUGH 504 4TH AVE	BR434	FLOWING	-	645.00	28 3 54	80 33 47	505	150	4.00
LULP LEE 2924 MAIN	BR435	FLOWING	4.00	762.00	28 3 44	80 35 59	-	-	2.00
LULP LEE 2924 MAIN	BR435	FLOWING	4.00	762.00	28 3 49	80 35 59	-	-	2.00
COYLE 412 SUNSET BLV	BR436	FLOWING	7.00	520.00	28 4 20	80 33 40	-	-	2.00
CAPE CANAVERAL AFS	BR596	FLOWING	-	-	28 25 28	80 36 11	888	888	4.00

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 BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
CAPE CANAVERAL AFS	BR597	FLOWING	-	-	28 26 21	80 35 59	888	888	4.00
CAPE CANAVERAL AFB	BR599	FLOWING	-	-	28 27 32	80 35 50	888	888	4.00
CAPE CANAVERAL AFB	BR601	FLOWING	-	-	28 29 44	80 32 44	888	888	3.00
NASA	BR604	FLOWING	-	-	28 33 13	80 39 38	-	-	6.00
NASA	BR605	FLOWING	-	1440.00	28 27 37	80 40 13	-	-	4.00
NASA	BR606	FLOWING	-	-	28 29 18	80 39 11	-	-	6.00
NASA	BR607	FLOWING	-	1760.00	28 29 35	80 39 9	-	-	6.00
NASA	BR611	FLOWING	1340.00	2640.00	28 29 15	80 41 1	-	-	12.00
NASA	BR612	FLOWING	-	-	28 30 1	80 41 20	-	-	6.00
NASA	BR613	FLOWING	-	1380.00	28 30 37	80 40 27	-	-	3.00
NASA	BR614	FLOWING	-	-	28 31 4	80 40 29	-	-	2.00
NASA	BR615	FLOWING	-	-	28 31 30	80 40 33	-	-	3.00
NASA	BR616	FLOWING	-	1880.00	28 31 35	80 41 17	-	-	6.00
NASA	BR617	FLOWING	-	3280.00	28 32 19	80 40 43	-	-	6.00
NASA	BR618	FLOWING	-	-	28 32 38	80 40 27	-	-	4.00
NASA	BR619	FLOWING	-	-	28 34 4	80 39 46	-	-	4.00
NASA	BR620	FLOWING	-	-	28 33 46	80 40 7	-	-	4.00
CITY OF COCOA BEACH	BR621	FLOWING	-	772.00	28 21 9	80 36 24	-	-	2.00
BREVARD CO. MC	BR79*	FLOWING	190.00	210.00	27 52 6	80 27 25	466	-	4.00
BREVARD CO. MC	BR84*	FLOWING	-	220.00	27 53 3	80 28 15	-	-	4.00
BREVARD CO. MC	BR88*	FLOWING	20.00	320.00	27 55 30	80 29 40	-	-	4.00
BREVARD CO. MC	BR89*	FLOWING	-	661.00	27 55 23	80 32 8	-	-	4.00
ATLANTIC RIDGE CORP	BR90*	FLOWING	-	678.00	27 55 25	80 33 35	-	-	4.00
BREVARD CO. MC	BR92*	FLOWING	-	476.00	27 56 2	80 30 22	387	-	4.00
BREVARD CO. MC	BR94*	FLOWING	-	515.00	27 57 35	80 30 48	-	-	4.00
BREVARD CO. MC	BR95*	FLOWING	-	935.00	27 58 58	80 31 18	329	-	4.00
BREVARD CO. MC	BR96*	FLOWING	-	508.00	27 58 38	80 31 9	346	-	4.00
BREVARD CO. MC	BR97*	FLOWING	-	551.00	27 58 46	80 31 21	346	-	4.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 CLAY COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
GEORGE THEOBALD	C-0118	FLOWING	-	5.00	30 5 51	81 46 1	-	-	6.00
SKINNER BRYANT	C-0129	FLOWING	-	5.00	30 4 9	81 51 52	388	388	6.00
L. J. IVEY	C1***	FLOWING	-	3.70	30 0 48	81 41 43	365	300	3.00
JENNINGS	C10**	FLOWING	50.00	17.00	30 8 50	81 55 20	330	300	3.00
TEMPLIN	C11**	FLOWING	40.00	5.00	30 0 30	81 41 38	-	-	6.00
TEMPLIN	C12**	FLOWING	5.00	5.00	30 0 31	81 41 41	-	-	3.00
UNDETERMINED	C13**	FLOWING	150.00	20.00	30 6 20	81 46 28	-	-	6.00
DIV OF FORESTRY	C5***	FLOWING	-	5.00	30 3 2	81 42 27	-	-	3.00
DRIGGERS	C6***	FLOWING	-	5.00	29 51 44	81 37 17	600	-	6.00
STOKE	C8***	FLOWING	5.00	15.00	30 4 45	81 48 55	-	-	6.00
STOKE	C9***	FLOWING	-	-	30 4 55	81 49 11	-	-	4.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
THE FREE FLOWING WELL INVENTORY  
DUVAL COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G WELL DE MI SE	CASE DEPTH	WELL COMMENTS DIAM
CITY OF JACKSONVILLE	D-2559	FLOWING	-	-	30 27 44	81 42 17	-	8.00
F.E.C. RAILWAY	D426*	FLOWING	40.00	36.00	30 7 55	81 30 57	-	3.00
WALDON POND SOCIETY	D427*	FLOWING	30.00	-	30 16 58	81 34 4	-	3.00
UNDERTIMINED	D428*	FLOWING	20.00	25.00	30 23 18	81 36 47	-	6.00
UNDERTIMINED	D429*	FLOWING	25.00	25.00	30 23 5	81 36 54	-	0.00
UNDERTIMINED	D430*	FLOWING	-	-	30 23 18	81 30 19	-	3.00
G.A. MHOON	D431*	FLOWING	70.00	33.00	30 21 9	81 28 40	-	3.00
HAROLD P. OMERANTE	D432*	FLOWING	5.00	28.00	30 24 37	81 42 9	-	4.00
CITY OF JACKSONVILLE	D433*	FLOWING	-	-	30 17 23	81 42 51	-	4.00
MERIL CORP	D434*	FLOWING	75.00	32.00	30 24 41	81 25 34	742	4.00
ROMCO	D435*	FLOWING	85.00	13.00	30 17 33	81 43 17	-	10.00
UNDETERMINED	D436*	FLOWING	5.00	30.00	30 11 35	81 34 13	-	3.00
UNDETERMINED	D437*	FLOWING	-	24.00	30 7 37	81 30 4	-	3.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 FLAGLER COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G WELL DE MI SE	CASE DEPTH	WELL COMMENTS DIAM
PUBLIC DOMAIN	F-0239	FLOWING	-	-	29 25 25	81 25 30	-	2.00
UNDETERMINED	F210*	FLOWING	1.00	940.00	29 25 22	81 25 38	-	3.00
UNDETERMINED	F211*	FLOWING	1.00	-	29 25 28	81 25 49	-	3.00
UNDETERMINED	F212*	FLOWING	1.00	1410.00	29 25 28	81 25 53	-	4.00
UNDETERMINED	F214*	FLOWING	-	-	29 25 21	81 25 53	-	0.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 INDIAN RIVER COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
INDIAN RIVER COUNTY	IR0128	FLOWING	-	-	27 36 50	80 24 23	880	880	4.00
INDIAN RIVER COUNTY	IR0303	UNDETERMINED	-	-	27 44 6	80 31 18	888	888	4.00
INDIAN RIVER COUNTY	IR0304	FLOWING	-	-	27 43 37	80 23 42	-	-	4.00
INDIAN RIVER CO	IR0305	FLOWING	-	-	27 34 4	80 23 2	-	-	5.00
JOHN MCCUE	IR0351	FLOWING	-	450.00	27 38 31	80 27 54	-	-	4.00
U.S. GOVT.	IR198	FLOWING	-	180.00	27 37 19	80 22 56	940	-	6.00
STRAZZULLA BROS, INC	IR199	FLOWING	-	600.00	27 37 19	80 22 56	-	-	6.00
KRAFT, KURT H.	IR200	FLOWING	-	560.00	27 37 20	80 22 56	-	-	6.00
VERO BEACH FARMS	IR237	FLOWING	-	510.00	27 45 23	80 30 42	-	-	6.00
J.V.D'ALBORA CO.	IR271	FLOWING	75.00	620.00	27 46 53	80 25 9	-	-	8.00
MARTIN, GREGORY-TRUS	IR272	FLOWING	100.00	400.00	27 40 3	80 23 17	-	-	6.00
KNIGHT, C. REED	IR273	FLOWING	-	500.00	27 39 49	80 23 21	-	-	6.00
GRAVES BROS. CO.	IR288	UNDETERMINED	-	-	27 44 48	80 26 18	888	888	888.00
I. R. COUNTY MC.	IR41*	FLOWING	150.00	294.00	27 51 6	80 26 42	-	-	4.00
UNDETERMINED	IR42*	FLOWING	14.00	321.00	27 51 11	80 26 44	-	-	4.00
GDC	IR99*	FLOWING	-	320.00	27 47 19	80 27 25	-	-	3.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 LAKE COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G W E L L DE MI SE	C A S E DE PT H	W E L L C O M M E N T S DIAM
U.S. FOREST SERVICE	L-0060	FLOWING	-	210.00	29 0 31	81 23 28	- -	6.00
A.M. COLLINS, JR	L1**	FLOWING	300.00	1360.00	29 10 27	81 32 11	- -	10.00
UNDETERMINED	L2**	FLOWING	40.00	410.00	29 10 2	81 31 27	- -	4.00
	3			340				

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
THE FREE FLOWING WELL INVENTORY  
MARION COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G W E L L DE MI SE	C A S E DEPTH	W E L L DEPTH	W E L L COMMENTS DIAM
HASTINGS & GREEN	M-0043	FLOWING	-	-	29 23 49	82 5 26	888	888	6.00
VANCE, BILL	M1***	FLOWING	60.00	15.00	29 27 28	81 55 7	-	-	4.00
COUNTY RIGHT OF WAY	M2***	FLOWING	2.00	10.00	29 11 2	81 59 33	-	-	4.00
UNDETERMINED	M3***	FLOWING	200.00	150.00	29 17 49	81 35 34	-	-	6.00
G.C. HEINEMANN	M4***	FLOWING	150.00	-	29 17 43	81 35 15	-	-	6.00
HEINEMANN, G.C.	M5***	FLOWING	75.00	-	29 17 43	81 35 15	-	-	4.00
UNDETERMINED	M6***	FLOWING	50.00	-	29 17 40	81 35 12	-	-	4.00
LARRY MOODY	M7***	FLOWING	250.00	-	29 17 38	81 35 20	-	-	6.00
PONDEROSA SHORES, I	M8***	FLOWING	200.00	-	29 17 27	81 35 4	-	-	6.00
PONDEROSA SHORES, IN	M9***	FLOWING	200.00	-	29 17 17	81 35 3	-	-	6.00
			10	1,187					

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 NASSAU COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G WELL DE MI SE	CASE DEPTH	WELL DEPTH	COMMENTS DIAM
UNDETERMINED	N20**	FLOWING	10.00	30.00	30 34 5	81 31 18	-	-	4.00
JOHNSON LAKE	N21**	FLOWING	-	-	30 35 49	81 38 54	-	-	2.00
		2		10					

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 GRANGE COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G WELL DE MI SE	CASE DEPTH	WELL COMMENTS DIAM
CITY RIGHT OF WAY	OR1**	FLOWING	15.00	390.00	28 32 14	80 58 34	- -	2.00



ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 PUTNAM COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS	DIAM
UNDETERMINED	P-0017	UNUSED	50.00	6.00	29 34 39	81 52 42	-	-		3.00
CORPS OF ENGINEERS	P-0306	FLOWING	5.00	6.00	29 33 0	81 52 39	189	105		8.00
RAVINES STATE GARDEN	P-0418	FLOWING	10.00	210.00	29 37 59	81 38 34	401	86		3.00
TILTON	P-0452	FLOWING	-	671.00	29 40 10	81 34 29	-	-		4.00
ROBERT REVEL	P-0453	FLOWING	-	540.00	29 39 57	81 34 6	-	-		4.00
RAVINES STATE GARDEN	P-0454	FLOWING	-	150.00	29 37 50	81 38 53	888	888		4.00
RAVINES STATE GARDEN	P-0455	FLOWING	-	160.00	29 37 50	81 38 51	888	888		4.00
RAVINES STATE GARDEN	P-0456	FLOWING	-	140.00	29 37 50	81 38 50	888	888		4.00
RAVINES STATE GARDEN	P-0457	FLOWING	-	22.00	29 37 54	81 38 46	888	888		2.00
RAVINES STATE GARDEN	P-0458	FLOWING	-	20.00	29 38 5	81 38 52	888	888		2.00
RAVINES STATE GARDEN	P-0459	FLOWING	-	20.00	29 38 6	81 38 53	888	888		2.00
WHITEHEAD	P-0463	FLOWING	4.00	180.00	29 37 7	81 37 47	246	142		4.00
UNDETERMINED	P-0568	FLOWING	-	-	29 38 56	81 35 43	-	-		3.00
FLOYD U. D.	P-0569	FLOWING	-	-	29 41 16	81 35 15	-	-		6.00
UNDETERMINED	P414*	FLOWING	15.00	195.00	29 35 31	81 37 41	-	-		3.00
UNDETERMINED	P415*	FLOWING	-	-	29 26 34	81 35 33	-	-		0.00
UNDETERMINED	P419*	FLOWING	15.00	95.00	29 41 45	81 37 23	-	-		2.00
UNDETERMINED	P424*	FLOWING	20.00	285.00	29 40 12	81 36 51	-	-		4.00
S.C.L. RAILROAD	P425*	FLOWING	-	-	29 35 45	81 40 59	-	-		2.00
RAFAEL PUIG	P428*	FLOWING	60.00	155.00	29 45 16	81 34 56	-	-		6.00
UNDETERMINED	P429*	FLOWING	25.00	180.00	29 39 42	81 36 12	-	-		4.00
UNDETERMINED	P430*	FLOWING	0.00	355.00	29 41 10	81 35 33	-	-		4.00
UNDETERMINED	P431*	FLOWING	125.00	-	29 26 7	81 31 55	-	-		6.00
UNDETERMINED	P432*	FLOWING	10.00	110.00	29 40 32	81 37 29	-	-		4.00
MEELEY REED	P433*	FLOWING	40.00	1755.00	29 21 38	81 37 51	-	-		4.00
GEORGIA PACIFIC	P434*	FLOWING	5.00	175.00	29 40 28	81 39 37	-	-		2.00
UNDETERMINED	P448*	FLOWING	-	-	29 37 59	81 38 35	-	-		4.00
UNDETERMINED	P449*	FLOWING	-	-	29 33 58	81 43 39	-	-		4.00

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
THE FREE FLOWING WELL INVENTORY  
ST. JOHNS COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L O N G DE MI SE	WELL DEPTH	CASE DEPTH	WELL DIAM	COMMENTS
TUGGEL	SJ0006	UNUSED	-	-	29 56 36	81 32 22	888	888	888.00	REPAIRED
ARNOLD JACK	SJ0008	UNUSED	-	-	28 55 52	81 33 17	888	888	4.00	
HALLS NURSERY	SJ0015	UNUSED	-	23.00	29 56 29	81 33 41	888	888	4.00	
FRAZIER	SJ0018	UNUSED	-	-	30 0 53	81 35 8	888	888	4.00	
WELATKA FRUIT CO	SJ0528	FLOWING	-	-	29 40 50	81 29 44	-	-	6.00	
UNDETERMINED	SJ0529	FLOWING	-	-	29 41 1	81 29 4	-	-	6.00	
UNDETERMINED	SJ0530	FLOWING	-	-	29 40 52	81 29 6	-	-	6.00	
BEN ROBINSON	SJ0531	FLOWING	-	39.00	29 51 14	81 29 49	-	-	4.00	
DOT	SJ0560	FLOWING	-	168.00	29 54 10	81 18 45	888	888	6.00	
UNDETERMINED	SJ0563	FLOWING	-	-	29 41 54	81 30 48	888	888	2.00	REPAIRED
GUANO WILDLIFE MGT.	SJ502	FLOWING	188.00	36.00	30 5 33	81 21 5	-	-	4.00	
UNDETERMINED	SJ505	FLOWING	60.00	3500.00	29 57 51	81 26 53	-	-	4.00	
UNDETERMINED	SJ506	FLOWING	30.00	54.00	29 56 46	81 26 38	-	-	4.00	
ST. REGIS	SJ507	FLOWING	150.00	180.00	30 3 54	81 22 22	-	-	4.00	
GULF STREAM LAND & D	SJ508	FLOWING	50.00	8.00	30 3 38	81 38 39	-	-	12.00	
UNDETERMINED	SJ509	FLOWING	66.00	100.00	30 3 55	81 23 9	-	-	4.00	
UNDETERMINED	SJ510	FLOWING	10.00	160.00	29 55 6	81 19 9	-	-	6.00	
STEVE GREEN	SJ511	FLOWING	-	110.00	29 55 14	81 19 59	1500	-	6.00	
UNDETERMINED	SJ512	FLOWING	-	-	29 49 23	81 16 23	-	-	6.00	
ST JOHNS CTY R OF WA	SJ513	FLOWING	50.00	50.00	29 54 57	81 26 43	-	-	4.00	
UNDETERMINED	SJ514	FLOWING	-	20.00	30 7 38	81 23 4	-	-	6.00	
PUBLIC DOMAIN	SJ518	FLOWING	-	-	29 51 44	81 15 56	888	888	6.00	
UNDETERMINED	SJ519	FLOWING	-	73.00	29 55 39	81 17 44	888	888	6.00	
UNDETERMINED	SJ520	FLOWING	-	-	29 55 36	81 17 43	888	888	4.00	

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 SEMINOLE COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
FLORIDA GAME & FISH	S-0050	FLOWING	55.00	1850.00	28 43 6	81 10 19	102	62	4.00
FLORIDA GAME & FISH	S-0051	FLOWING	-	-	28 43 6	81 10 17	888	888	4.00
FLORIDA GAME & FISH	S-0052	FLOWING	-	-	28 43 6	81 10 15	888	888	4.00
FLORIDA GAME & FISH	S-0053	FLOWING	-	1700.00	28 43 10	81 10 19	888	888	4.00
FLORIDA GAME & FISH	S-0054	FLOWING	-	-	28 43 10	81 10 17	888	888	4.00
FLORIDA GAME & FISH	S-0055	FLOWING	-	-	28 43 10	81 10 15	888	888	4.00
UNDETERMINED	S-0056	UNUSED	-	580.00	28 48 53	81 17 37	888	888	3.00
MILTON QUATTLEBAUM	S-0059	FLOWING	-	-	28 41 53	81 10 14	-	-	6.50
SEMINOLE COUNTY	S-0060	FLOWING	-	-	28 43 33	81 16 33	-	-	0.00
MERLE PARKER	S-0061	FLOWING	-	-	28 44 0	81 16 24	-	-	0.00
KENNETH E. SNYDER	S-0062	FLOWING	-	-	28 44 0	81 16 20	-	-	4.50
LINDA SUTAY	S-0064	FLOWING	-	-	28 41 53	81 10 18	-	-	0.00
COUNTY RIGHT OF WAY	S1***	FLOWING	20.00	480.00	29 44 4	81 16 26	-	-	2.00
STATE RIGHT OF WAY	S2***	FLOWING	5.00	12.50	29 43 5	81 19 20	-	-	3.00
UNDETERMINED	S3***	FLOWING	-	-	29 40 10	81 26 28	-	-	2.00

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 THE FREE FLOWING WELL INVENTORY  
 VOLUSIA COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDES PPM	L A S DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL COMMENTS DIAM
UNDETERMINED	V-0073	FLOWING	20.00	25.00	28 52 13	81 16 55	-	-	0.00
W.L. TOMPKINS-LEASEE	V-0074	FLOWING	15.00	-	29 10 15	81 21 57	-	-	4.00
UNDETERMINED	V-0094	FLOWING	70.00	1070.00	29 51 44	81 52 21	-	-	8.00
UNDETERMINED	V-0158	FLOWING	-	987.00	29 0 30	81 22 53	-	-	4.00
CITY OF NEW SMYRNA B VOLUSIA COUNTY	V-0180	FLOWING	-	-	29 1 3	80 55 19	998	130	12.00
UNDETERMINED	V-0182	FLOWING	5.00	-	29 1 34	80 57 27	-	-	2.00
UNDETERMINED	V-0201	FLOWING	-	228.00	29 1 48	80 57 28	-	-	6.00
GRAY	V-0375	FLOWING	-	-	28 51 46	81 18 43	340	22	6.00
MURRY SAMS	V49**	FLOWING	300.00	520.00	29 8 5	81 21 53	-	-	12.00
MURRY SAMS	V50**	FLOWING	50.00	510.00	29 8 5	81 21 56	-	-	8.00
J.E. PEARSON	V55**	FLOWING	1.00	30.00	29 56 21	81 5 38	-	-	1.00
J.E. PEARSON	V56**	FLOWING	1.00	30.00	29 56 21	81 5 38	-	-	2.00
STONE IS. HOMEOWNERS	V57**	FLOWING	40.00	650.00	29 50 42	81 14 8	-	-	8.00
STONE IS. HOMEOWNERS	V58**	FLOWING	10.00	620.00	29 50 44	81 14 1	-	-	3.00
UNDETERMINED	V59**	FLOWING	5.00	1690.00	28 52 45	81 21 43	-	-	3.00
UNDETERMINED	V60**	FLOWING	50.00	70.00	29 15 3	81 7 18	-	-	4.00
UNDETERMINED	V61**	FLOWING	10.00	50.00	29 5 13	81 2 47	-	-	3.00

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
WELLS PLUGGED AND RECONSTRUCTED BY THE FREE FLOWING WELL PROGRAM  
BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDE PPM	L O T DE MI SE	L GN G DE MI SE	WELL DEPTH	CASE DEPTH	WELL DIAM	COMMENTS
C.E. CARRIE	BR0261	PLUGGED	15.00	750.00	27 55 48	80 41 35	316	93	4.00	PLUGGED 4/24/86
GEN. DEVELOP. CORP.	BR0265	PLUGGED	350.00	660.00	27 56 48	80 42 21	322	74	4.00	
NASA	BR0367	PLUGGED	200.00	1820.00	28 34 14	80 39 12	225	131	4.00	
ENTERPRISE INTERNATI	BR0432	PLUGGED	75.00	865.00	28 18 30	80 44 20	132	84	4.00	
JACK SIMPSON	BR0602	PLUGGED	50.00	1541.00	28 22 18	80 46 43	371	112	4.00	
NASA	BR0608	OBSERVATION	-	1080.00	28 29 21	80 40 48	220	140	4.00	RECONSTRUCTED
NASA	BR0609	PLUGGED	135.00	3550.00	28 29 7	80 41 1	-	-	8.00	
CRISAFULLI, B.	BR0644	PLUGGED	75.00	1300.00	28 28 8	80 42 21	135	89	4.00	
GDC	BR0646	PLUGGED	150.00	721.00	27 55 52	80 42 22	242	116	6.00	PLUGGED 4/23/86
GDC	BR0648	PLUGGED	-	653.00	27 56 57	80 42 2	-	-	6.00	
GDC	BR0652	PLUGGED	220.00	470.00	27 56 7	80 42 47	288	104	4.00	
GDC	BR0656	PLUGGED	150.00	100.00	27 56 52	80 42 50	300	-	4.00	PLUGGED 4/24/86
DAVIS	BR0660	PLUGGED	75.00	-	28 15 57	80 40 17	261	888	4.00	
FOOSANER	BR0661	PLUGGED	100.00	-	28 27 59	80 41 8	220	-	4.00	
CITY OF COCOA BEACH	BR0662	PLUGGED	150.00	-	28 21 15	80 36 20	330	888	4.00	
PATRICK AFB	BR0663	PLUGGED	311.00	-	28 13 6	80 36 24	262	100	6.00	
BREWER, GRAY	BR0664	PLUGGED	50.00	4220.00	28 26 22	80 45 34	-	-	2.00	
PATRICK AFB	BR0665	PLUGGED	400.00	860.00	28 11 30	80 36 17	262	94	4.00	PLUGGED 4/29/86
PATRICK AFB	BR0666	PLUGGED	215.00	1240.00	28 11 22	80 36 14	298	95	3.00	PLUGGED 4/30/86
PATRICK AFB	BR0667	PLUGGED	222.00	924.00	28 11 27	80 36 12	357	94	3.00	PLUGGED 7/14/86
PATRICK AFB	BR0668	PLUGGED	294.00	756.00	28 11 27	80 36 4	492	95	4.00	PLUGGED 7/14/86
PATRICK AFB	BR0669	PLUGGED	346.00	924.00	28 11 24	80 36 5	383	94	4.00	PLUGGED 7/15/86
PATRICK AFB	BR0677	PLUGGED	328.00	1390.00	28 11 45	80 36 6	476	95	4.00	PLUGGED 7/16/86
PATRICK AFB	BR0678	PLUGGED	222.00	828.00	28 11 42	80 36 12	366	94	3.00	PLUGGED 7/16/86
PATRICK AFB	BR0679	PLUGGED	215.00	790.00	28 11 39	80 36 13	386	94	3.00	PLUGGED 7/17/86
PATRICK AFB	BR0680	PLUGGED	412.00	944.00	28 11 36	80 35 14	497	95	4.00	PLUGGED 7/17/86
PATRICK AFB	BR0681	PLUGGED	385.00	690.00	28 11 33	80 36 11	385	95	4.00	PLUGGED 7/18/86
BREVARD CO MC	BR0694	PLUGGED	75.00	-	28 24 20	80 40 47	220	78	4.00	
BREVARD COUNTY	BR0696	PLUGGED	1400.00	202.00	27 52 29	80 29 54	743	194	10.00	PLUGGED 4/16/86
STEEL DAVE	BR0699	PLUGGED	280.00	-	28 23 50	80 43 10	308	888	6.00	PLUGGED 7/9/86
SPEARS	BR0701	PLUGGED	2.00	-	27 52 29	80 29 58	200	888	2.00	PLUGGED 4/18/86
CITY OF COCOA BEACH	BR0702	PLUGGED	250.00	900.00	28 18 46	80 38 9	268	233	6.00	PLUGGED 7/11/86
SUNSHINE NURSERY	BR0707	PLUGGED	130.00	496.00	27 56 34	80 31 7	300	-	2.00	PLUGGED 4/18/86
WEIGERIF E. L.	BR0709	PLUGGED	50.00	1430.00	28 18 16	80 40 1	219	98	6.00	PLUGGED 7/10/86
BETHESDA RET HOME	BR17*	PLUGGED	1400.00	580.00	28 1 35	80 35 16	1360	330	4.00	
BEACHWOODS	BR227	PLUGGED	20.00	601.00	28 1 53	80 32 31	-	-	1.50	
GEN. DEVELOP. CORP.	BR258	PLUGGED	250.00	800.00	27 54 59	80 40 11	336	107	6.00	
GEN. DEVELOP. CORP.	BR259	PLUGGED	360.00	445.00	27 55 30	80 40 50	335	124	6.00	
GEN. DEVELOP. CORP.	BR262	PLUGGED	360.00	820.00	27 55 46	80 41 45	299	123	6.00	
GEN. DEVELOP. CORP.	BR263	PLUGGED	250.00	728.00	27 56 30	80 41 21	378	82	2.00	
GEN. DEVELOP. CORP.	BR278	PLUGGED	50.00	665.00	27 59 26	80 41 46	347	127	4.00	
CITY OF PALM BAY	BR282	PLUGGED	360.00	490.00	28 0 7	80 43 37	349	87	6.00	
MTDCD	BR365	PLUGGED	13.00	735.00	27 55 12	80 41 22	-	-	2.00	
BREVARD CO. M. C.	BR394	PLUGGED	200.00	1162.00	28 17 46	80 40 27	290	-	4.00	
UNDETERMINED	BR409	PLUGGED	165.00	207.00	27 52 11	80 27 22	466	-	4.00	

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
REPORT ON  
WELLS PLUGGED AND RECONSTRUCTED BY THE FREE FLOWING WELL PROGRAM  
BREVARD COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDE PPM	L O T DE MI SE	L O N G DE MI SE	WELL DEPTH	CASE DEPTH	WELL DIAM	COMMENTS
DNR-PARKS AND REC.	BR410	PLUGGED	190.00	200.00	27 52 17	80 27 21	392	81	4.00	
COUCH PUMPS	BR423	PLUGGED	450.00	-	27 55 53	80 31 38	798	71	12.00	
CITY OF ROCKLEDGE	BR429	PLUGGED	150.00	1062.00	28 19 2	80 44 7	230	-	4.00	
AQUIRINA	BR437	PLUGGED	5.00	250.00	27 55 20	80 29 37	439	195	4.00	
AQUIRINA	BR438	PLUGGED	0.00	-	27 55 32	80 29 21	-	-	3.00	
NASA	BR587	PLUGGED	25.00	7500.00	28 39 44	80 46 33	200	112	4.00	
NASA	BR588	PLUGGED	50.00	1370.00	28 31 34	80 38 2	-	-	4.00	
NASA	BR589	PLUGGED	100.00	1180.00	28 28 45	80 39 35	-	-	4.00	
FOOSANER	BR590	PLUGGED	100.00	1840.00	28 27 56	80 41 8	202	84	3.00	
FOOSANER	BR591	PLUGGED	100.00	1660.00	28 27 57	80 41 17	183	86	4.00	
GEORGE BALL	BR592	PLUGGED	120.00	1800.00	28 18 45	80 36 36	260	66	4.00	
FOOSANER	BR594	PLUGGED	75.00	1520.00	28 27 55	80 41 6	212	36	4.00	
NASA	BR595	PLUGGED	200.00	-	28 33 43	80 40 14	190	83	4.00	
NASA	BR610	PLUGGED	240.00	2550.00	28 29 18	80 41 0	366	113	6.00	
COUCH PUMPS	BR623	PLUGGED	623.00	590.00	27 55 54	80 31 38	628	159	8.00	
BREVARD CO. MC	BR78*	PLUGGED	170.00	227.00	27 52 8	80 27 17	449	102	4.00	
BREVARD CO. MC	BR80*	PLUGGED	200.00	234.00	27 52 27	80 28 3	406	103	4.00	
BREVARD CO. MC	BR81*	PLUGGED	10.00	229.00	27 52 31	80 28 7	203	103	4.00	
BREVARD CO. MC	BR82*	PLUGGED	220.00	344.00	27 53 1	80 28 4	-	-	4.00	
BREVARD CO. MC	BR83*	PLUGGED	126.00	230.00	27 53 5	80 28 4	465	103	4.00	
BREVARD CO. MC	BR85*	PLUGGED	290.00	267.00	27 53 57	80 28 17	-	-	4.00	
BREVARD CO. MC	BR86*	PLUGGED	200.00	214.00	27 54 25	80 28 38	358	101	4.00	
BREVARD CO. MC	BR87*	PLUGGED	50.00	260.00	27 55 18	80 29 36	496	-	4.00	
BREVARD CO. MC	BR91*	PLUGGED	5.00	320.00	27 56 9	80 30 24	386	-	4.00	
BREVARD CO. MC	BR93*	PLUGGED	100.00	357.00	27 56 28	80 30 32	425	103	4.00	
BREVARD CO. MC	BR98*	PLUGGED	200.00	1075.00	28 18 29	80 40 31	140	-	4.00	
WOLFMAN	BR99*	PLUGGED	200.00	1048.00	28 18 50	80 40 38	141	104	4.00	

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 WELLS PLUGGED AND RECONSTRUCTED BY THE FREE FLOWING WELL PROGRAM  
 FLAGLER COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDE PPM	L O T DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL DIAM	COMMENTS
UNDETERMINED	F-0213	PLUGGED	25.00	-	29 25 19	81 25 53	-	-	0.00	
HAMMOCK BAPTIST CHUR	F-0220	PLUGGED	30.00	-	29 35 47	81 11 47	-	-	4.00	
ARMOND FISHETTE	F-0221	PLUGGED	20.00	-	29 35 1	81 11 49	888	888	6.00	
ARMOND FISHETTE	F-0222	PLUGGED	60.00	-	29 35 4	81 11 50	888	888	6.00	
ITT PALM COAST	F-0223	PLUGGED	10.00	1600.00	29 35 0	81 11 35	888	888	6.00	
SHAEFFER	F-0224	PLUGGED	5.00	-	29 29 11	81 8 3	888	888	2.00	
HODGES	F-0237	PLUGGED	10.00	-	29 25 17	81 25 42	-	-	2.00	
HODGES	F-0238	PLUGGED	10.00	-	29 25 17	81 25 43	-	-	2.00	
IHLENFELDT	F-0253	PLUGGED	40.00	-	29 36 28	81 12 3	158	147	4.00	
SHOW, GEARLDINE	F-0254	PLUGGED	-	-	29 37 9	81 12 19	-	-	4.00	
WESTBROOK, J.H	F-0255	PLUGGED	10.00	-	29 33 52	81 11 1	138	87	2.00	
UNDETERMINED	F134	PLUGGED	-	1380.00	29 33 38	81 10 5	152	134	4.00	
PUBLIC DOMAIN	F207*	PLUGGED	250.00	7560.00	29 34 1	81 11 11	-	-	6.00	
WASHINGTON OAKS S.P.	F208*	OBSERVATION	70.00	-	29 37 58	81 12 32	380	-	4.00	RECONSTRUCTED
UNDETERMINED	F209*	PLUGGED	1.00	1020.00	29 25 23	81 25 38	-	-	6.00	

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 WELLS PLUGGED AND RECONSTRUCTED BY THE FREE FLOWING WELL PROGRAM  
 ST. JOHNS COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDE PPM	L O T DE MI SE	L ON G WELL DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	COMMENTS
MCCOOK MARY	SJ0024	PLUGGED	120.00	147.00	29 53 27	81 19 29	250	888	4.00	PLUGGED 3/25/86
WELATKA FRUIT CO.	SJ0522	PLUGGED	310.00	2068.00	29 41 37	81 29 36	510	60	6.00	PLUGGED 5/28/86
WELATKA FRUIT CO	SJ0523	PLUGGED	100.00	1740.00	29 41 34	81 29 36	524	51	6.00	PLUGGED 5/22/86
WELATKA FRUIT CO	SJ0524	PLUGGED	135.00	5860.00	29 41 36	81 29 36	516	55	6.00	PLUGGED 5/21/86
WELATKA FRUIT CO	SJ0525	PLUGGED	130.00	1960.00	29 41 29	81 29 36	503	60	6.00	PLUGGED 5/30/86
WELATKA FRUIT CO	SJ0526	PLUGGED	130.00	1250.00	29 41 26	81 29 36	484	81	6.00	PLUGGED 6/9/86
WELATKA FRUIT CO.	SJ0527	PLUGGED	130.00	-	29 41 31	81 29 43	-	-	6.00	PLUGGED 6/9/86
BULLS HIT RANCH/FARM	SJ0561	OBSERVATION	120.00	3260.00	29 41 55	81 33 15	240	888	8.00	BACK PLUGGED
BULLS HIT RANCH/FARM	SJ0562	PLUGGED	1.00	-	29 41 7	81 30 48	120	888	3.00	PLUGGED 6/10/86
SINGLETON, JAMES	SJ0564	PLUGGED	-	418.00	29 39 28	81 29 58	256	76	3.00	PLUGGED 6/4/86
DAVIS, J.E.	SJ521	PLUGGED	-	-	30 4 5	81 23 16	-	-	3.00	

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
 REPORT ON  
 WELLS PLUGGED AND RECONSTRUCTED BY THE FREE FLOWING WELL PROGRAM  
 VOLUSIA COUNTY

WELL OWNER	WELL ID	STATUS	FLOW GPM	CHLORIDE PPM	L O T DE MI SE	L ON G DE MI SE	WELL DEPTH	CASE DEPTH	WELL DIAM	COMMENTS
LAWERENCE FARMS, INC	V-0052	PLUGGED	30.00	1040.00	29 7 48	81 21 9	-	-	8.00	
LAWERENCE FARMS, INC	V-0053	PLUGGED	30.00	1700.00	29 7 46	81 21 9	-	-	8.00	
L. WOODRUFF WILDLIFE	V-0054	PLUGGED	25.00	83.00	29 3 24	81 22 22	-	-	3.00	
UNION BAG	V-0154	PLUGGED	25.00	3460.00	29 15 43	81 32 6	116	90	2.00	
A. RICH	V-0159	PLUGGED	50.00	490.00	28 56 45	80 52 35	125	-	6.00	
SJRWMD	V-0200	OBSERVATION	290.00	18.00	29 10 31	80 59 4	160	98	4.00	RECONSTRUCTED
LAWERENCE FARMS, INC	V51**	PLUGGED	75.00	3780.00	29 7 52	81 21 9	-	-	8.00	
	7		525							
	105		17,201							

APPENDIX C  
CONTRACTUAL AND COOPERATIVE  
AGREEMENTS

APPENDIX C-1  
COOPERATIVE AGREEMENT BETWEEN SJRWMD AND BREVARD COUNTY  
BOARD OF COMMISSIONERS

A G R E E M E N T

BETWEEN THE  
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
AND THE  
BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

THIS AGREEMENT is entered into on the 10<sup>th</sup> day of December, 1986, by and between the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, hereinafter the "DISTRICT", and the BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS, hereinafter "BREVARD COUNTY".

WHEREAS, the waters of the state are among its basic resources and it has been declared to be the policy of the legislature to promote the conservation, development, and proper utilization of surface and ground water, and

WHEREAS, the Legislature has directed the water management districts of the state in Section 373.207 (8)(a), Florida Statutes, to locate all known abandoned artesian wells and insure that each such well is plugged on or before January 1, 1992, and

WHEREAS, proper management of artesian wells is necessary to protect the public health, safety and welfare and to extend the life of the ground water supplies, and

WHEREAS, BREVARD COUNTY, based on information from its "208" program and other water resources investigations, has declared the waste of ground water by uncontrolled free flowing wells to be a serious concern, and

WHEREAS, BREVARD COUNTY has requested the DISTRICT to participate in a cooperative water resource conservation and protection program, and

WHEREAS, the DISTRICT has been established to manage water resources within its geographical area, and

WHEREAS, BREVARD COUNTY and the DISTRICT desire to jointly fund the plugging of uncontrolled free flowing wells located in Brevard County in the amount of Fifty-Thousand Dollars

(\$50,000), by each party hereto committing Twenty-Five Thousand Dollars (\$25,000); and

WHEREAS, BREVARD COUNTY and the DISTRICT intend to have the plugging of uncontrolled free flowing wells performed by qualified independent contractors;

NOW THEREFORE, in consideration of the foregoing premises, which are part of the consideration herein, the parties hereto do mutually agree as

1. The DISTRICT will:

A. Obligate for the purposes of this Agreement monies in the amount of Twenty-Five Thousand Dollars (\$25,000) for plugging uncontrolled free flowing wells in Brevard County. Said funds are budgeted in Fiscal Year 1986/1987 in Project No. 20-018-02.

B. Secure the services of a qualified water well contractor for the DISTRICT as follows:

- 1) develop bid specifications for each well to be plugged in conjunction with BREVARD COUNTY; and,
- 2) publish notice of solicitation of bids in a newspaper of general circulation in Brevard County as minimum written notice; and,
- 3) Solicit bids and select a water well contractor that best qualifies to the specifications.

C. Enter into contracts with the water well contractors and then administer each contract as follows:

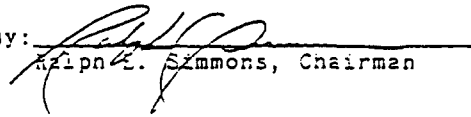
- 1) control sub-contracting of services by any contractor who is a party to a contract with the DISTRICT requiring that no sub-contract can be entered into unless the

- DISTRICT first approves the sub-contractor as being qualified;
- 2) notify BREVARD COUNTY upon execution of a contract that a contract has been entered into and invoice BREVARD COUNTY for payment of one-half (1/2) of the amount of money obligated by the contract;
  - 3) do such other things as are necessary to administer the contracts;
- D. Provide the professional and technical support to water well contractors that enter into contracts with the DISTRICT that is necessary to properly address all aspects of the purposes of this Agreement;
- E. Provide monthly progress reports to BREVARD COUNTY regarding the progress of work contracted.
2. BREVARD COUNTY will:
- A. Obligate for the purposes of this Agreement monies in the amount of Twenty-Five Thousand Dollars (\$25,000) for services relating to the plugging of uncontrolled free flowing wells and share expenses on a 50% basis with the DISTRICT for the services of a water well contractor and materials needed by the contractor;
  - B. Pay the DISTRICT for work invoiced it by the DISTRICT up to a maximum of Twenty-Five Thousand Dollars (\$25,000) for work and services described in Paragraph 2A above;
  - C. Be responsible for obtaining the consent of the owner of a well for the contractor to plug free flowing wells and licenses for performing the above-mentioned work.
3. DISTRICT and BREVARD COUNTY shall prepare a final report.

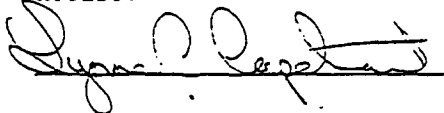
4. This Agreement shall be effective upon the execution thereof and shall continue until September 30, 1987, except that performance under Paragraph 5 shall continue beyond that date. A contract between either of the parties hereto and a third party, that are called for by this Agreement, shall be governed by the terms of the contract entered into with a third party.
5. The DISTRICT agrees to indemnify and hold harmless BREVARD COUNTY for any tort liability that may be imposed on BREVARD COUNTY due to the action or inaction of DISTRICT while executing its responsibilities under this Agreement, and BREVARD COUNTY agrees to indemnify and hold DISTRICT harmless for any tort liability that may be imposed on DISTRICT due to the action or inaction of BREVARD COUNTY while executing its responsibilities under this Agreement.

IN WITNESS WHEREOF, the parties hereto have duly executed this agreement on the date and year ascribed above.

ST. JOHNS RIVER  
WATER MANAGEMENT DISTRICT

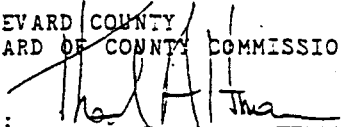
By:   
Ralph E. Simmons, Chairman

ATTEST:



  
Legal Form Content Approved

BREVARD COUNTY  
BOARD OF COUNTY COMMISSIONERS

By:   
Thad Altman, Chairman 10-28-86

ATTEST:

  
R. C. Winstead, Clerk

APPENDIX C-2  
GENERAL CONTRACTUAL AGREEMENT BETWEEN SJRWMD AND THE  
CITY OF NEW SMYRNA BEACH



AGREEMENT

BETWEEN

THE ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

AND

THE CITY OF NEW SMYRNA BEACH

THIS AGREEMENT is entered into on the 10<sup>th</sup> day of December, 1985 by and between the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, hereinafter the "DISTRICT," and the UTILITIES COMMISSION, CITY OF NEW SMYRNA BEACH, hereinafter the "CITY," a part of the Government of New Smyrna Beach.

WHEREAS, the waters of the state are among its basic resources and it has been declared to be the policy of the Legislature to promote the conservation, development, and proper utilization of surface and ground water, and

WHEREAS, the Legislature has directed the water management districts of the state in Section 373.207 (8)(a), Florida Statutes, to locate all known abandoned artesian wells and insure that each such well is plugged on or before January 1, 1992, and

WHEREAS, proper management of artesian wells is necessary to protect the public health, safety and welfare and to extend the life of the ground water supplies, and

WHEREAS, the DISTRICT has been established to manage water resources within its geographical area, and

WHEREAS, the CITY and the DISTRICT desire to jointly fund the plugging of an uncontrolled artesian well located in the City of New Smyrna Beach, and

WHEREAS, it has been determined that the well adversely impacts the local water resource, and

WHEREAS, the CITY and the DISTRICT intend to have the plugging of the uncontrolled artesian well performed by a qualified independent contractor,

NOW THEREFORE, in consideration of the foregoing premises, which are part of the consideration herein, the parties hereto do mutually agree as follows:

1. The DISTRICT will:
  - A. Obligate for the purposes of this Agreement monies (not to exceed \$10,000.00) to provide independent contractual services. Said funds are budgeted in Fiscal Year 1985/86 in Project No. 20-018-02;
  - B. Secure the services of a qualified water well contractor;
  - C. Enter into a contract with the water well contractor and then administer the contract as follows:
    - 1) control sub-contracting of services by the contractor who is a party to a contract with the DISTRICT requiring that no sub-contract can be entered into unless the DISTRICT first approves the sub-contractor as being qualified;
    - 2) do such other things as are necessary to administer the contract;
  - D. Provide the professional and technical support to the water well contractor that enters into a contract with the DISTRICT that is necessary to properly address all aspects of the purposes of the Agreement;
  - E. Provide a completion report to the CITY regarding the progress of the work.
2. The CITY will obligate for the purposes of the Agreement monies (not to exceed \$5,000.00) to provide the necessary materials (i.e. cement and grout materials) needed to complete the plugging or reconstruction of the well.
3. This Agreement shall be effective upon the execution thereof and shall continue until January 1, 1987, except that performance of the contract contemplated herein that is not performed prior to January 1, 1987, shall be performed beyond that date and performance under Paragraph 4 shall continue beyond that date.
4. The DISTRICT agrees to indemnify and hold harmless the CITY for any tort liability that may be imposed on the CITY due to the action or inaction of the DISTRICT while executing its responsibilities under this Agreement, and the CITY agrees to indemnify and hold the DISTRICT harmless for any tort liability that may be imposed on the DISTRICT due to the action or inaction of the CITY while executing its responsibilities under this Agreement.

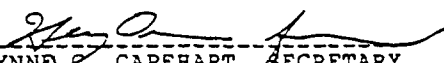
IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement on the date and year ascribed above.

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

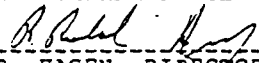
BY:   
RALPH E. SIMMONS, CHAIRMAN

DATED: 7/16/86

ATTEST:

  
LYNNE C. CAPEHART, SECRETARY

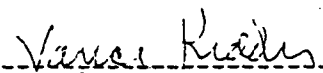
UTILITIES COMMISSION,  
CITY OF NEW SMYRNA BEACH

BY:   
R. R. HAGEN, DIRECTOR

ATTEST:

  
GEORGE E. SHEETER

LEGAL FORM AND CONTENT APPROVED:

  
VANCE KIDDER, STAFF ATTORNEY  
ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

APPENDIX C-3  
GENERAL CONTRACTUAL AGREEMENT BETWEEN SJRWMD  
AND BLACKHAWK DRILLING CORP.

## CONTRACT AGREEMENT

THIS AGREEMENT made and entered into this 29th day of December, in the year 1986 by and between the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, as party of the First part, hereinafter called the Owner, and Blackhawk Drilling and Boring, Inc., party of the Second Part, hereinafter called the Contractor.

WITNESSETH, that the said Contractor, for and in consideration of the payments hereinafter specified and agreed to be made by the Owner, hereby covenants and agrees to furnish and deliver all the materials, to do and perform all the work and labor required to be furnished and delivered, done and performed for the plugging of uncontrolled artesian wells in the St. Johns River Water Management District, Florida in accordance with the proposal herein, and to complete the work and entire conformity with the Drawings, Specifications and other Contract Documents on file at the ST. JOHNS RIVER WATER MANAGEMENT DISTRICT, which are duly approved and which said Drawings and Specifications and other Contract Documents are hereby made part of this Agreement as fully and with the same effect as if the same had been set forth at length in the body of this Agreement.

The Contractor shall complete the Work within one year of the date of the Notice to Proceed. Time is of the essence of this Contract Agreement.

The Contractor agrees to make payment of all proper charges for labor and materials required in the aforementioned work, and to defend, indemnify, and save harmless the owner and all of its officers, agents and servants, and each and every one of them, against and from all damages to which the said Owner or any of their officers, agents, employees or servants may be put, by reason of injury to the persons or property of others resulting from the performance of said Work, or through the negligence of the Contractor, or through any improper or defective machinery, implements or appliances used by the Contractor in the aforesaid Work or through any act or omission on the part of the Contractor, his agents, employees, servants or any other person or entity for whom the Contractor is responsible.

If the Contractor shall fail to comply with any of the terms, conditions, provisions, or stipulations of this Contract, according to the true intent and meaning thereof, then the Owner may avail himself of any or all remedies provided in the Contract and shall have the right and power to proceed in accordance with the provisions thereof.

It is also agreed and understood that the acceptance of final payment by the Contractor shall be considered as a release in full of all claims against the Owner or any of its members, agents and employees arising out of, or by reason of, the work done and materials furnished under this Contract.

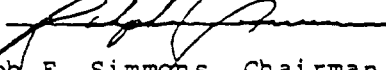
In consideration of the premises, the Owner will pay to the Contractor for the said Work, when fully completed, the Total Bid Price of \$84.00 per hour rig time, subject to such additions and deductions as may be provided for in the Contract Documents. Payments shall be made upon the terms set forth in the Contract Documents, in a total amount not to exceed \$35,000.

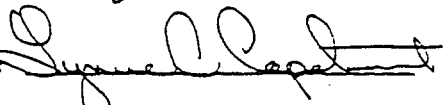
Unless otherwise declared in an addendum hereto, Contractor warrants to Owner that no member, officer or employee of the Owner has any material interest (as defined in Section 112.312(1), Florida Statutes), either directly or indirectly, in the business of the Contractor to be conducted hereunder, and that no such person shall have any such interest at any time during the term hereof.

IN WITNESS WHEREOF, the said ST. JOHNS RIVER WATER MANAGEMENT DISTRICT has caused this Contract to be executed in its name by its Chairman, attested by its Secretary, and has caused its seal to be hereto attached; and the Contractor has caused this Contract to be executed in its name by its duly authorized representatives, and, if appropriate, has caused the seal of the corporation to be hereunto attached, all on the day and year first above written.

Signed, sealed and delivered  
in the presence of:

ST. JOHNS RIVER WATER  
MANAGEMENT DISTRICT


BY:   
Ralph E. Simmons, Chairman


Attest:   
Lynne C. Caphart, Secretary

(SEAL)

(CORPORATE CONTRACTOR)

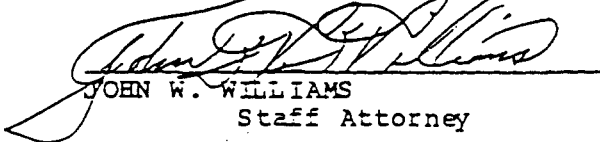
Blackhawk Drilling & Boring Inc.

By:   
Peter Osman, President

Attest:   
Donald R. Palo, Secretary

(CORPORATE SEAL)

APPROVED AS TO FORM AND LEGALITY

  
JOHN W. WILLIAMS  
Staff Attorney

APPENDIX D  
ABANDONED ARTESIAN WELL PLUGGING PROGRAM  
GUIDELINES AND PROCEDURES

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT  
ABANDONED ARTESIAN WELL PLUGGING PROGRAM  
GUIDELINES AND PROCEDURES

1. When an abandoned artesian well is located by District personnel, pertinent information concerning the well (location, size, owner, etc.) is forwarded to the Abandoned Artesian Well Plugging Program project manager in the Water Resources Department.
2. The project manager will send a letter by certified mail, return receipt requested, to the owner advising him of:
  - 1) the apparent existence of an abandoned artesian well on his property.
  - 2) the statutory responsibilities concerning such wells.
  - 3) the District's cost-sharing well plugging program which will provide appropriate well plugging services at a cost to the owner of fifty percent (50% ) of the total cost of plugging each well or \$600 per well, whichever is less. The owner's share of cost may be paid for in cash, materials and/or services or any combination of these. If state funding is received in an amount adequate to perform the annual plugging program as proposed to DER, then the District may elect to increase its share of the cost sharing percentage.
3. The letter referred to in No. 2 will be accompanied by an acknowledgement form to be returned to the District within 45 days. If this form is not returned, a second letter will be sent by the project manager. This letter will provide a 30 day response period. If no response is received, then the Resource Management Department will be notified by the project manager.
4. Upon such notification, the Resource Management Department will investigate the well to determine if it is an abandoned artesian well which should be plugged pursuant to the provisions of Chapter 373.206, .209 .213, and .316 F.S.
5. If it is determined that the well should be plugged pursuant to the provisions of Chapter 373.206, .209, 213 and .316 F.S., appropriate enforcement action will be taken.
6. If the owner notified as per No. 2 above indicates that he is unwilling to participate in the District sponsored project then notification will be forwarded to the Resource Management Department. The Resource Management Department will proceed as per Nos. 4 and 5.
7. If the owner indicates (on the form referred to in No. 3) a willingness to cooperate then his well will be added to the list of wells and no enforcement action will be taken against the owner at least as long as these guidelines and procedures are in effect.



8. Wells which are considered an imminent hazard to public health, safety and welfare will be placed first in the priority order of plugging. Prioritization of all other wells to be plugged will be based on relative harm to the water resources as per Chapter 373.206 F.S. and as outlined in the District's "Annual Report on Uncontrolled Free-Flowing Artesian Wells", 1985 (copy attached). Wells which pose a lesser threat to the water resources, i.e. only waste water, will be grouped in the lowest priority category, but may be moved up in priority during any fiscal year if other contractual well plugging is proceeding in the areas of these wells, making their plugging financially advantageous. The project manager will be responsible for keeping the prioritized list of wells to be plugged.
9. Arrangements for receipt of funds from the cooperative owner will be made pursuant to a written agreement to be entered into before any work is performed by the District on the well. The owner will be notified of the proposed plugging date at least three months prior to that date.
10. Owners of wells currently included on the District's Abandoned Artesian Well Plugging Program inventory and not scheduled for plugging during FY 86-87 will be notified of the change in the program and will be asked to complete and return the form described in No. 3. All provisions of these guidelines and procedures shall be applicable to them.
11. For those wells which are referred to the Resource Management Department as per Nos. 3 and 6, the Resource Management Department will notify the Water Resources Department project manager of information concerning final action. This information will be included in the program records.