

Special Publication ; SJ 84-SP3

Annual report on uncontrolled free-
flowing artesian wells : 1984

Free-flowing well plugging program

By

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Water Resources Department

St. Johns River Water Management District

Palatka, Florida

December 1984

Project Number 20 018 02

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INTRODUCTION

Abandoned uncontrolled free-flowing wells are wasting Florida's natural fresh water resources. Many of these wells are old wells, drilled as many as 50 years ago for domestic, agricultural and mosquito control purposes. These wells have not been used or maintained and have been allowed to flow uncontrolled for years. Uncontrolled free-flowing wells are a cause for serious concern for three reasons: (1) wasting of the water resource, (2) interaquifer contamination, and (3) danger of salt water intrusion due to lowered artesian pressure.

In 1983 the Legislature of the State of Florida enacted legislation (Water Quality Act of 1983), which addresses the concerns of free-flowing wells. Part IV of the "Water Quality Act of 1983" defines an abandoned artesian well as a well without proper flow control at or below the land surface or that does not meet current well construction standards. Also, a well in which the use has been permanently discontinued or cannot be used without having an adverse impact on an aquifer which is presently a source of drinking water or may be a source in the future.

The "Water Quality Act of 1983" also directs the water management districts to prepare an inventory of these wells known in their respective districts. Each of the water management districts are to submit their inventory and a detailed work plan for plugging these wells to the Department of Environmental Regulation by January 1st of each year until 1992. The water management districts have submitted initial inventories and work

plans in January, 1984 and will continue to submit annual reports until 1992 or until all inventoried wells have been plugged.

PURPOSE AND SCOPE

This document was prepared for presentation of related inventory data and technical information to comply with the requirements of Part IV of the "Water Quality Act of 1983." The content of this document is to serve as the second annual report to the Department of Environmental Regulation of the free-flowing well inventory and the District's work plan for controlling or plugging the inventoried wells. Information contained in this document follows the general guidelines that were provided by the Department of Environmental Regulation (Appendix A). This document was also prepared for public distribution to show the District's progress in pursuing the problems of uncontrolled free-flowing wells and to provide effective planning for future work in this field.

PREVIOUS WORK

An original inventory of uncontrolled free-flowing wells was conducted during the 1950's by the Florida Geological Survey, (Healy 1978). There were approximately 1,000 of these wells within the St. Johns River Water Management District (Figure 1). Since the original inventory, the surface discharge of many free-flowing wells has been controlled but may cause an undesirable condition if allowed to flow uncontrolled beneath the land surface.

In 1981 the St. Johns River Water Management District organized and initiated a free-flowing well plugging program. Since organization, the program has been attentive to three major objectives: (1) public awareness of the problems related to uncontrolled free-flowing wells and the program's objectives, (2) inventorying and data collection of the wells reported, and (3) plugging or controlling the flow of the wells. The program's efforts are concentrated in areas of the District where wells penetrating the Floridan aquifer are known to discharge at the land surface (Figure 2).

The District has established contacts in federal, state, county and local government agencies to obtain well locations. In cooperation with some of the agencies, the District has circulated literature explaining the well plugging program. An original press release (1981) was sent to over 30 newspapers requesting public input of free-flowing well information. Since the original press release several newspapers have printed subsequent articles and local television news broadcasts in

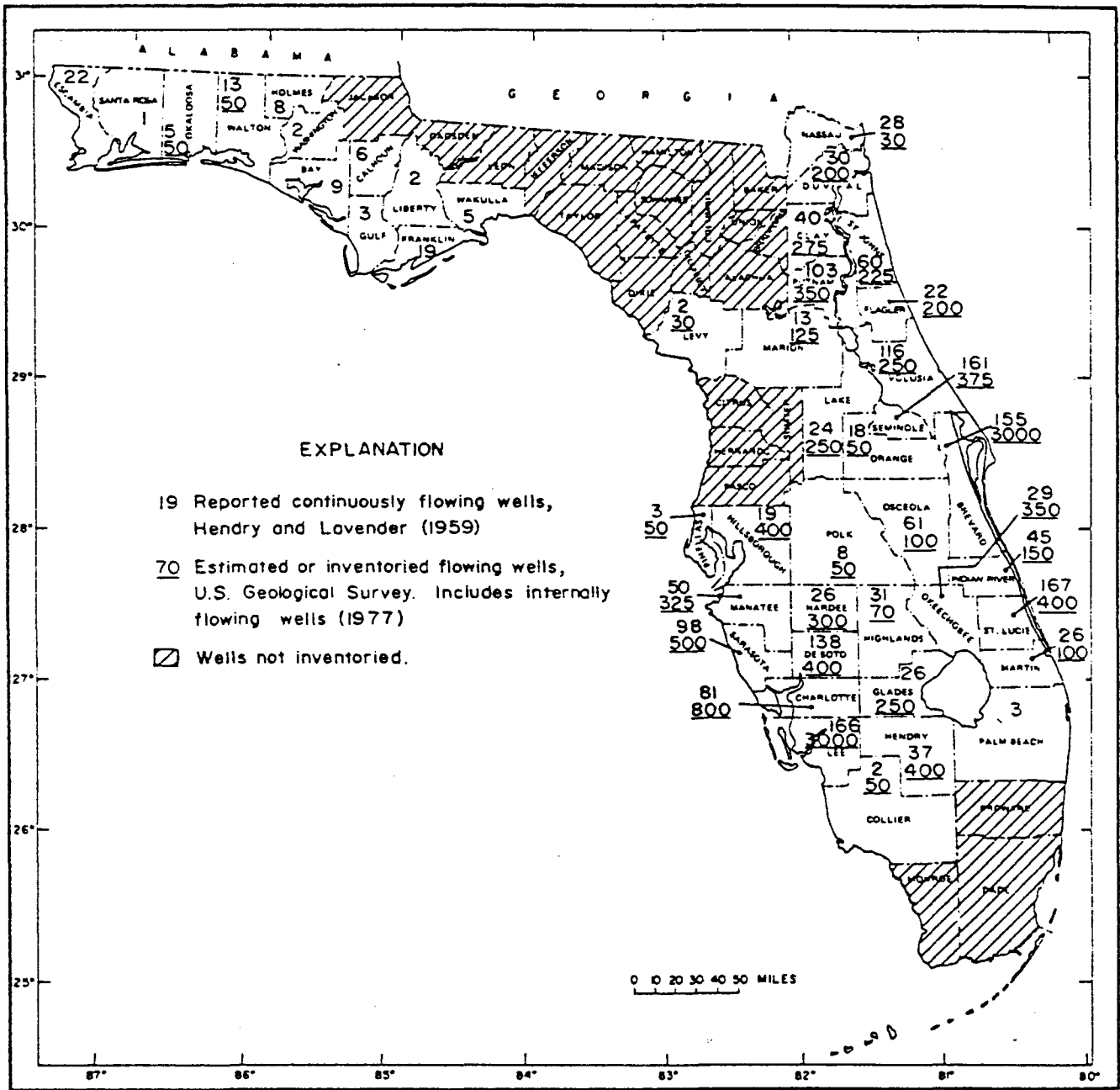


Figure 1. Number of Free Flowing Wells in Each County. (Healy 1978)

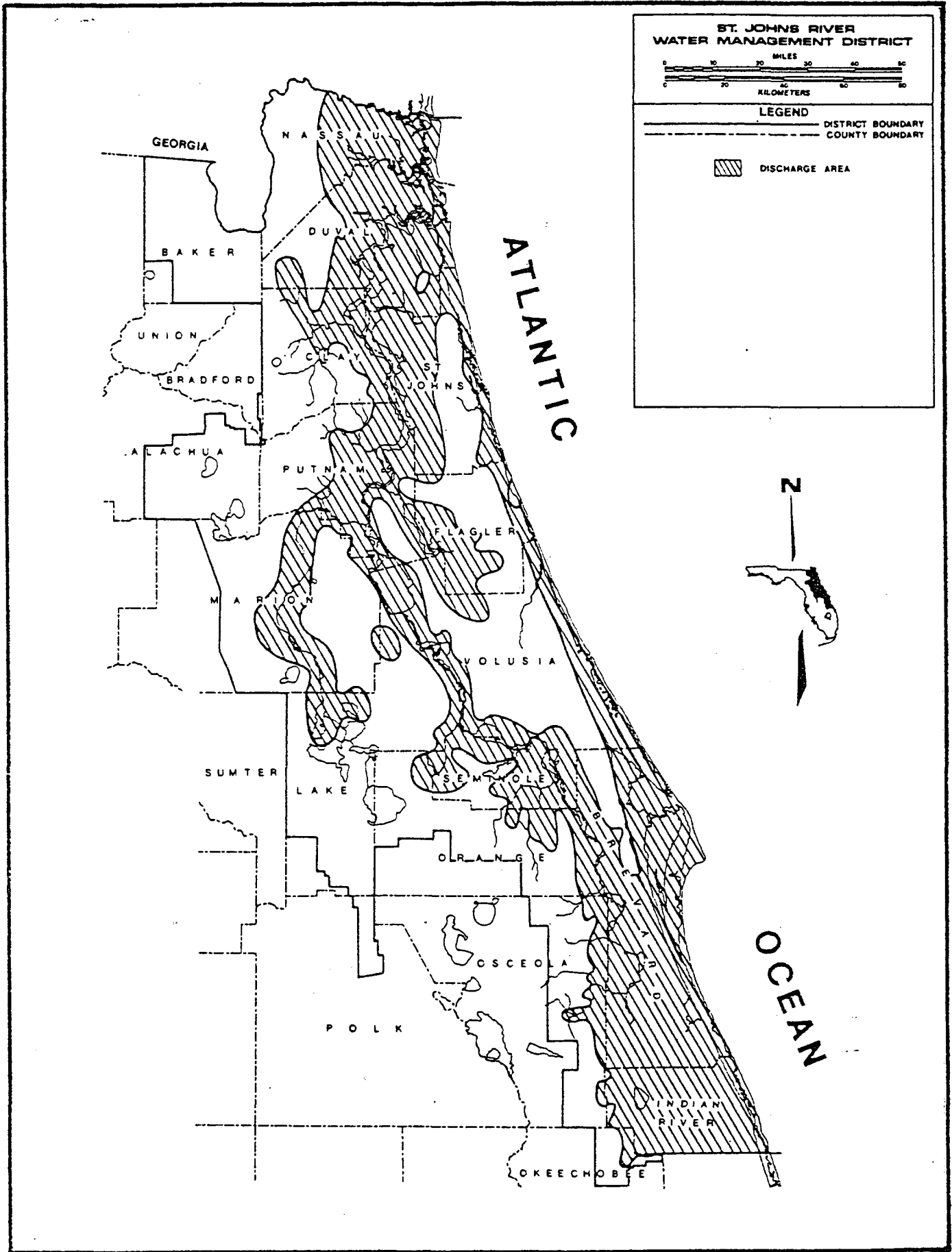


Figure 2. Generalized Area of Artesian Flow

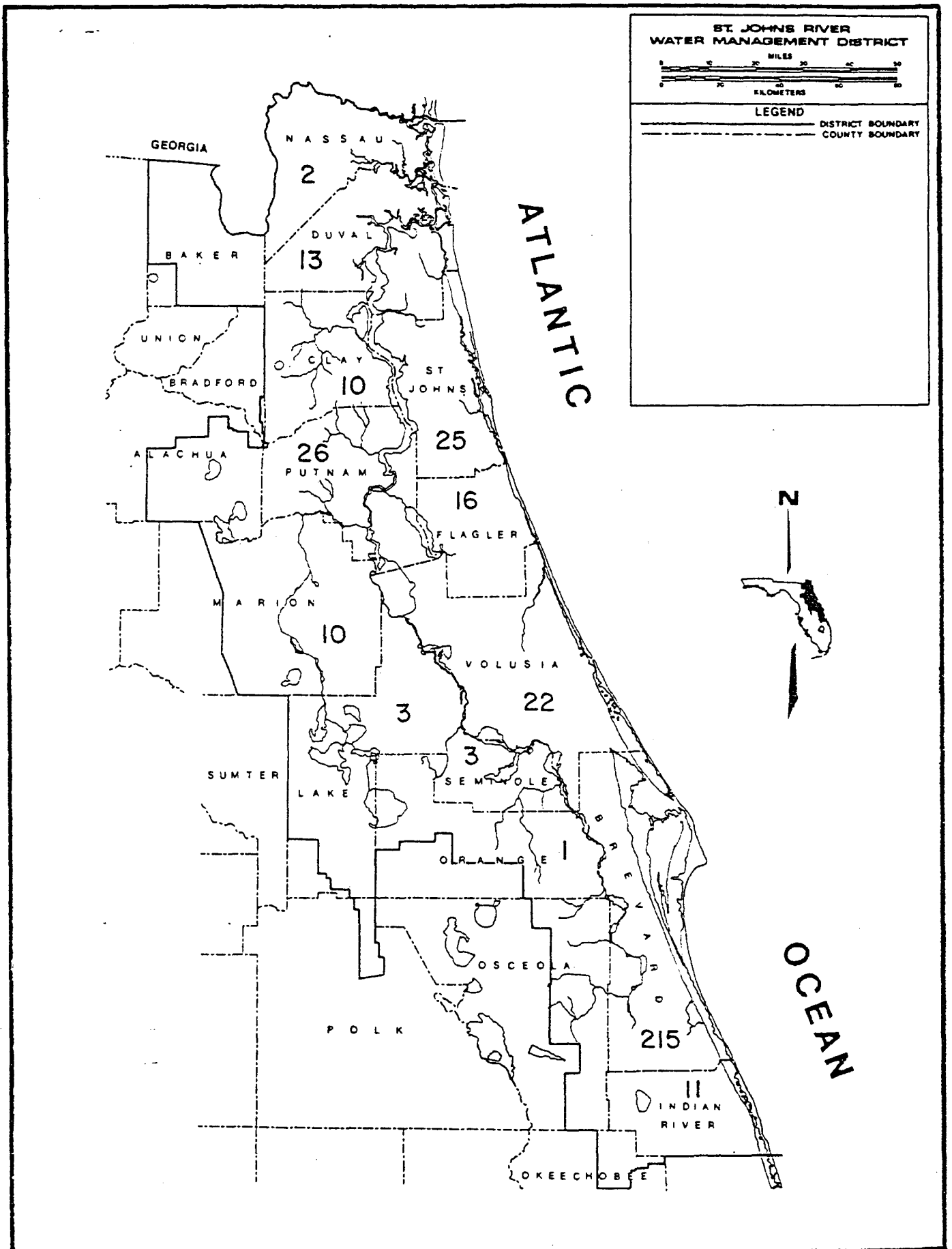


Figure 3. Number of Free Flowing Wells Inventoried in Each County

Jacksonville and Melbourne (areas of largest density of flow wells) have addressed the concerns of free-flowing wells. From these combined efforts 357 wells have been reported and inventoried (Figure 3). The wells were field checked by District personnel and data collected was entered into the District's computer system.

The next step was to prioritize areas that were affected by the wells. Top priority was given to the barrier islands of south Brevard and north Indian River counties. Here a lense of fresh water is density stratified over poorer quality water. Water discharged from free-flowing wells is the largest local stress on the lense. In cooperation with Brevard County, 15 wells have been plugged in this area in 1983 conserving approximately three million gallons per day of the fresh water resources. By plugging the wells the life of the fresh water resource has been prolonged.

Second priority was given to an abandoned oil test well (Bethesda Retirement Home Project) discharging approximately 1.7 million gallons per day. By reconstructing this well, a useful controlled well has been developed.

As wells that are inventoried are plugged or when wells are added to the inventory and as more hydrologic and geologic information becomes available, the priority has been updated accordingly.

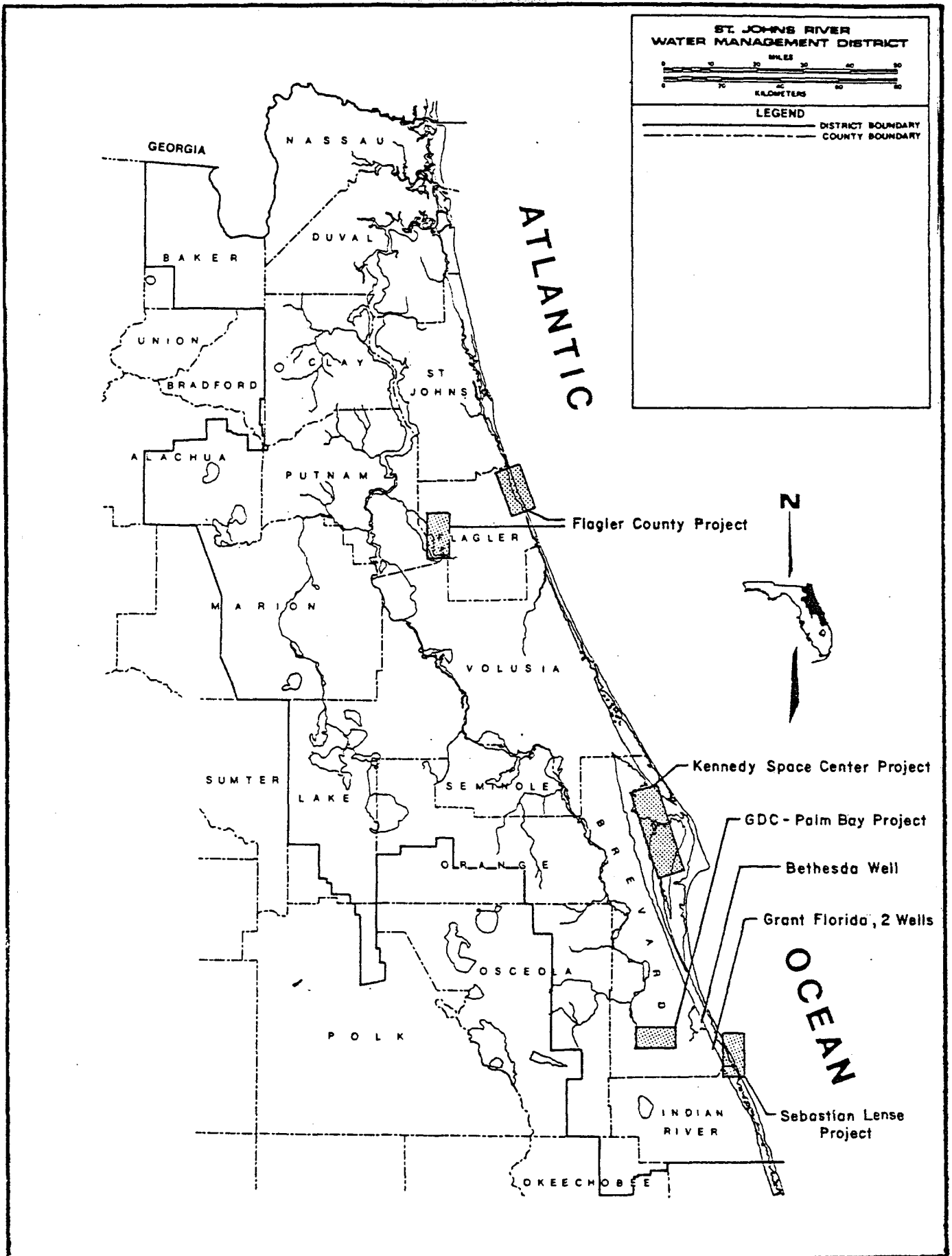


Figure 4. Locations of Free Flowing Well Plugging Projects

CURRENT STATUS

In 1984 our plugging efforts were concentrated in Brevard, Flagler, and Volusia counties. These are areas where salt water intrusion and interaquifer contamination of surficial aquifers possess the most serious threats to limited fresh water resources. Fourteen wells have been plugged in these areas over the year conserving approximately 4.7 million gallons per day that has been wastefully flowing uncontrolled.

Specific projects that were completed in Brevard County include plugging five wells on the Kennedy Space Center, seven wells in Palm Bay (GDC Development) and two large diameter wells in Grant that were discharging approximately 1000 gpm.

Communication channels with various local, Agricultural Stabilization and Conservation Service (ASCS) and Soil Conservation Service (SCS) offices have been re-established. Currently three separate projects with a total of ten wells have been set up to plug the wells with federal funding through an inter-agency cooperative program involving the ASCS, SCS and the water management districts.

WELL PLUGGING PROGRAM

Inventory

As of January 1, 1984, St. Johns River Water Management District has received reports of approximately 400 uncontrolled free-flowing wells. Each well reported is (if accessible) field checked by a District hydrologist or an engineering technician. The wells are photographed, mapped and assigned their respective latitude and longitude coordinates. Water quality samples from each well are collected and analyzed. The rate of flow is determined. This information is then stored on the data base of the District's computer system (Appendix C). When specific geological information or details of well construction and condition are necessary, the well is geophysically logged by the District.

Areas where future extensive inventories are planned include Port Malabar Development in Palm Bay, Indian River County, and further work in Brevard County. Coordination has begun with hydrologists and engineers to initiate an extensive search for an inventory of uncontrolled free-flowing wells at the Canaveral Air Force Base on Cape Canaveral. These are regions wherein hydrologic and geologic conditions are such that wells in these areas rank high in priority.

Priority

A priority system has been established in the District's well plugging program to rank groups of wells according to the impact of the wells on the water resources of the area. The

criteria considered when grouping wells include; the quality of water being discharged or involved in interaquifer flow, the quantity of the water, the well construction, and the physical conditions of the well. The District has identified and ranked eight groups which would be indicative of these criteria. When specific hydrologic information is evaluated for a particular well or group of wells, the wells are prioritized accordingly. The priority groups established are as follows: #1 is the highest priority, #8 is 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

SJRWMD's first step in the well plugging process is to set up communications with other involved organizations or parties (i.e. government agencies, property owners, and special interest groups). Through communications with the respective organizations and parties, explanation of the free-flowing well program and discussion of the legalities, technical information, procedures, objectives and finances of a particular well plugging project can be initiated. By obtaining a mutual understanding of these aspects of the project, an effective and feasible work plan can be devised and agreed on.

An explanation of the importance and priority of a particular plugging project is first presented. This is to encourage interest and cooperation with the respective parties involved and to minimize objections of parties opposed to the proposed project. Legal procedures are discussed so that the District's statutory authority and responsibilities (related to uncontrolled free-flowing wells) can be understood and so that enforcement action can be set forth when appropriate. Cost estimates, actual costs from previous projects, and financial responsibilities of the respective parties are considered. When cost-sharing and other provisions are established, a cooperative agreement for the funding and responsibilities of the project is usually executed (Appendix D).

Detailed specifications for the project are prepared in accordance with SJRWMD Rules Chapter 40C-3 Revised Edition. These detailed specifications include contract procedures and forms,

technical specifications and detailed plugging specifications (Appendix D). Permitting procedures are carried out when applicable.

Types of Plugs

The condition of the well, the hydrologic situation of the area influenced by the well, and the financial considerations dictate one of three types of plugs commonly used. If the well does not present any water quality problems or depletion of one aquifer to another through interaquifer flow, the most efficient way to preserve the quantity of the water resource being wasted is to install a workable valve.

Uncontrolled free-flowing wells that are in high priority areas usually need to be plugged by one of the other two types of plugs. When it is necessary to stop the flow of the well at the source, plugging the well by backfilling or the QWIP (Quality of Water Improvement Program, Southwest Florida Water Management District) plug methods are considered. The backfilling method is a conventional method used to grout the entire borehole. The grout material is placed in the borehole through a tremie pipe. The grouting operations will proceed in stages as the tremie pipe is raised out of the well. The depth at which the tremie pipe is placed and the amount and type of grout mixture pumped will be specified either in the detailed specifications or by the District hydrologist at the job site.

The term QWIP plug refers to the QWIP bridging plug (schematically shown, Figure 5, and cross-section showing the

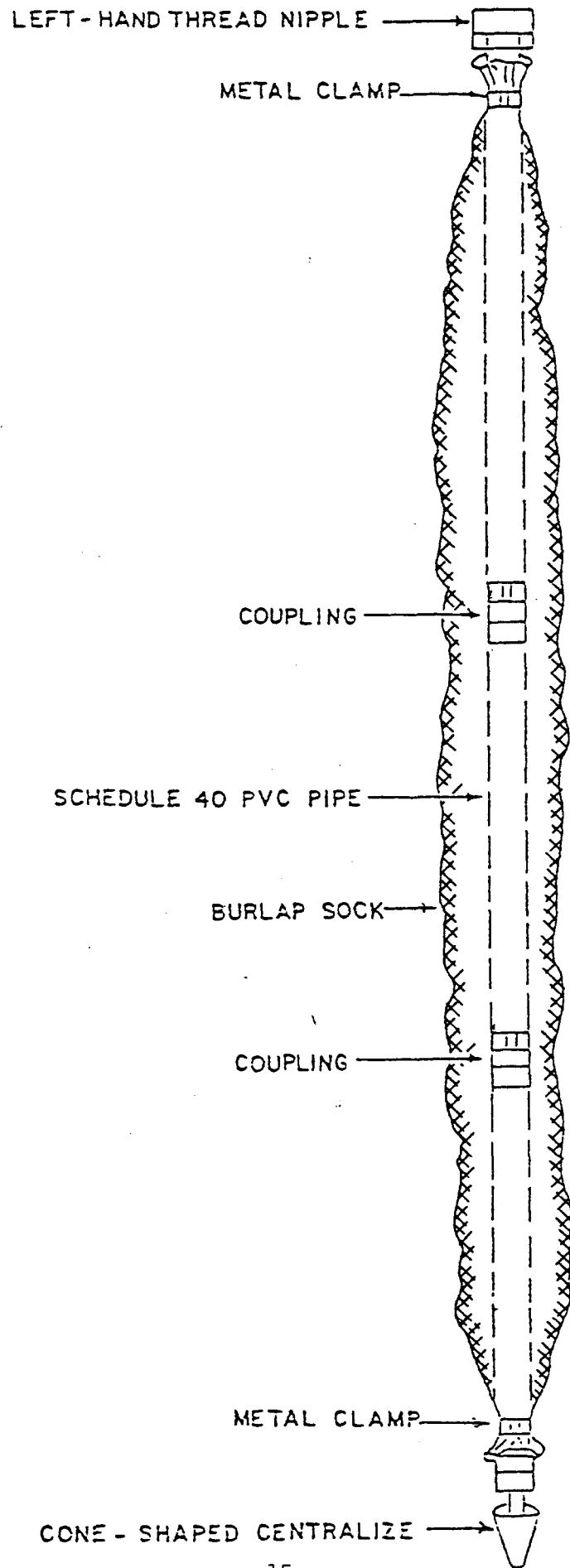


Figure 5. QWIP Plug

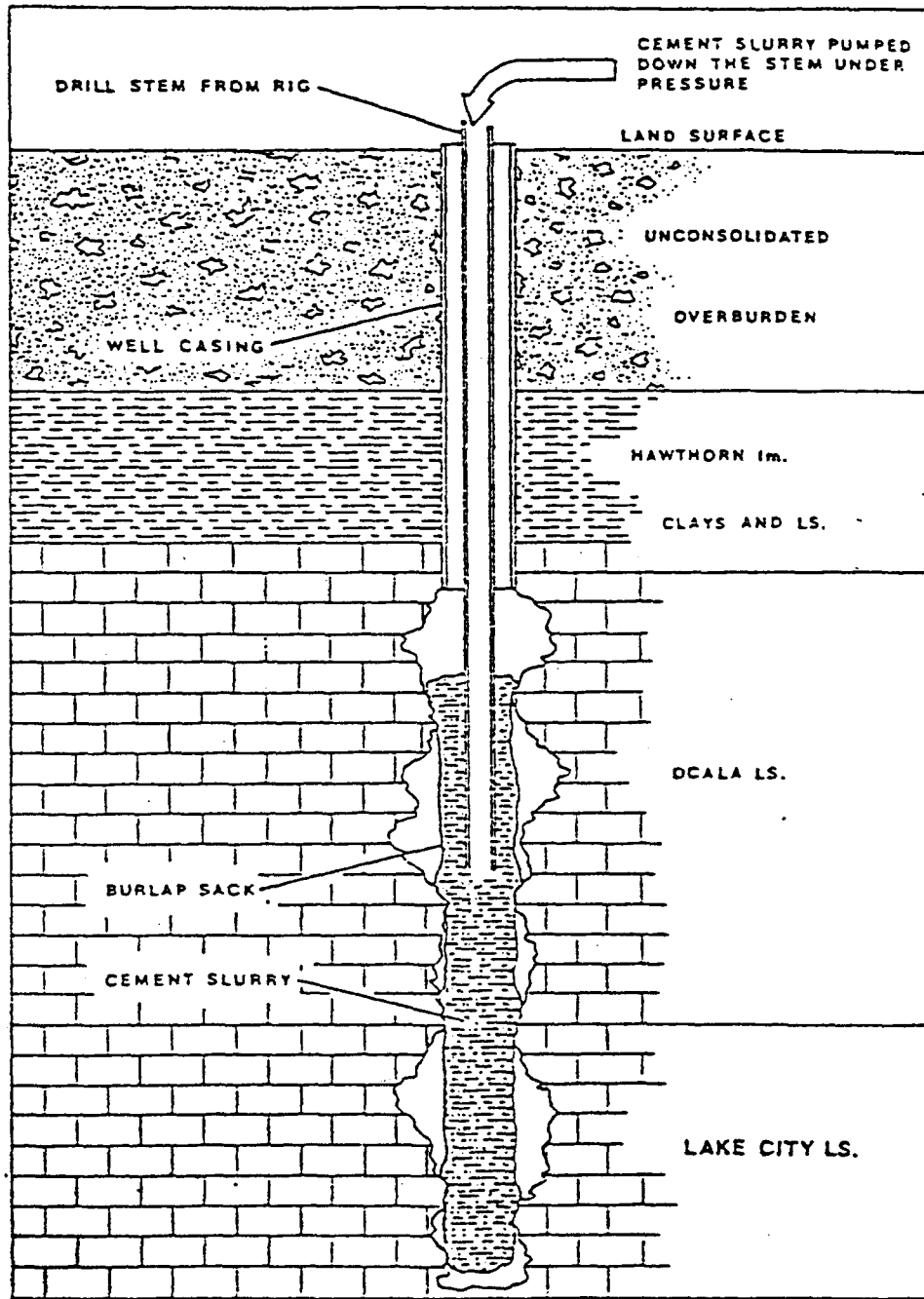


Figure 6. Generalized Cross Section Showing the Placement of the Plug within the Aquifer.

placement of the plug in the borehole, Figure 6.) The plug is assembled as it is lowered into the well. The sock (burlap sack) is clamped at the bottom and top of each joint contained within the sock. The pipe, with threaded adaptor at the top, is perforated by seven (7) holes of 1/2 inch diameter from one (1) to three (3) feet above the bottom to allow cement slurry to flow from the pipe into the sock. A cone shaped centralizer is affixed to the bottom of the pipe. The top of the plug is connected to the contractor's tremie by coupling and a nipple with appropriate diameter right-hand threads on one end and coarse left-hand threads on the other. This left-hand threaded joint allows a positive disconnect of the tremie pipe from the plug. The plug assembly is lowered to the prescribed depth on the contractor's tremie. When set to depth specified, the QWIP plug will be filled with the cement grout mixture called for in the detailed specifications or as ordered by the project manager on the job site.

PROPOSED SCHEDULING

According to the District's estimates there are approximately 600 uncontrolled free-flowing wells. Over the first four (4) years of the program, 30 wells have been plugged and sixty percent of the estimated number of the existing free-flowing wells have been located and inventoried. Throughout the eight (8) remaining years of the program (until 1992) efforts will be continued to locate all of the existing uncontrolled free-flowing wells in the District. All of the methods previously mentioned will be utilized in the District's effort to locate the wells.

Well plugging scheduling will be directed, as funding is available, to plug 72 wells a year. This will equal the total amount of estimated free-flowing wells to be plugged in eight (8) years (by 1992). The District, when feasible, will seek cost sharing in cooperation with concerned land owners, special interests and government agencies. The priorities established by the well plugging program will be considered for the scheduling of the free-flowing wells to be plugged with District funds.

Currently 35 wells are tentatively scheduled to be plugged, in 1985. Twenty-five of these wells are located in high priority areas of the Barrier Islands, cities of Melbourne, Cocoa, Cocoa Beach, and Palm Bay in Brevard County and approximately ten wells are scheduled to be plugged in Flagler and Volusia counties with funds encumbered from last year's budget. Scheduling of wells to be plugged this year will continue as funding is available.

COSTS

Tables 1, 2, 3, 4, and 5 from the initial report on the free flowing well plugging program (SJ 84-3) have been adjusted or updated according to cost incurred in 1984. These tables have been prepared to show actual plugging cost in each of the specific projects and to reevaluate the averages and predicted future cost in the initial report. The Cost Section (including Tables 1, 2, 3, 4, and 5) from the initial report has been included in Appendix E.

TABLE 1. ACTUAL PLUGGING COST

1984 Well Plugging (16 wells)	
Total Cost	\$29,261.94
Average Cost Per Well	1,828.87
Kennedy Space Center Project (5 wells)	
Total Cost	\$ 3,575.95
Couch Pumps - Grant, FL. Project (2 wells)	
Total Cost	\$17,633.57
General Development - Palm Bay Project (7 wells)	
Total Cost	<u>\$ 8,176.20</u>
Combined Cost From All Wells Plugged to Date	\$58,647.66
Average Actual Cost Per Well (30 Wells)	1,954.92

TABLE 2. COST TO SJRWMD FOR PROGRAM SUPPORT

Fiscal Year 1980/1981	\$12,725.68
Fiscal Year 1981/1982	47,337.85
Fiscal Year 1982/1983	36,440.25
Fiscal Year 1983/1984	<u>43,645.42</u>
Subtotal	\$140,149.20
Additional Administrative Cost (12%)	<u>16,817.90</u>
	\$156,967.10
Less Contractual Plugging Cost (Table 1)	<u>58,647.66</u>
Total Amount Spent for Free Flowing Well Plugging Program Support	\$98,319.44
Average Cost Per Year	\$24,579.86

TABLE 3. ESTIMATED AVERAGE COST TO SJRWMD PER YEAR UNTIL 1992 FOR PROGRAM SUPPORT

Total Cost for First 4 Years (From Table 2)	\$98,319.44
Average Cost Per Year (From Table 2)	24,579.86
Projected Average Cost Per Year Until 1992*	
Fiscal Year 1984/1985	\$26,054.65
" " 1985/1986	27,617.93
" " 1986/1987	29,275.01
" " 1987/1988	31,031.51
" " 1988/1989	32,893.40
" " 1989/1990	34,867.00
" " 1990/1991	36,959.02
" " 1991/1992	<u>39,176.56</u>
Total of the Average Yearly Support Costs (8 years)	\$257,875.08
Estimated Cost Per Well (570 wells)	\$452.41

TABLE 4. ESTIMATED COST FOR ACTUAL PLUGGING (BASED ON AVERAGE COST FROM TABLE 1)

Total Number of Wells to Plug	570
Number of Wells to be Plugged Per Year (Years)	72
Average Cost Per Well (Table 1)	\$ 1,954.92
Average Cost Per Year	140,754.24
Projected Average Cost Per Year Until 1992*	
Fiscal Year 1984/1985	\$149,199.49
Fiscal Year 1985/1986	158,151.46
Fiscal Year 1986/1987	167,640.55
Fiscal Year 1987/1988	177,698.99
Fiscal Year 1988/1989	188,360.92
Fiscal Year 1989/1990	199,662.58
Fiscal Year 1990/1991	211,642.33
Fiscal Year 1991/1992	<u>224,340.87</u>
Estimated Total Cost for Plugging 585 Wells in 9 Years	\$1,476,697.19
Estimated Cost Per Well (570 Wells)	\$2,590.70

*Indicated, included 6% inflation rate.

TABLE 5. ESTIMATED TOTAL PROGRAM COST

<u>Fiscal Year</u>	<u>Estimated Program Support Cost (Table 3)</u>	<u>Estimated Cost for Plugging (Table 4)</u>	<u>Estimated Total Program Cost</u>
1984/1985	\$26,054.65	\$149,199.49	\$ 175,254.14
1985/1986	27,617.93	158,151.46	185,769.39
1986/1987	29,275.01	167,640.55	196,915.56
1987/1988	31,031.51	177,698.99	208,730.50
1988/1989	32,893.40	188,360.92	221,254.32
1989/1990	34,867.00	199,662.58	234,529.58
1990/1991	36,959.02	211,642.33	248,601.35
1991/1992	39,176.56	224,340.87	<u>263,517.43</u>
		Total Cost	\$1,734,572.27
		Average Total Cost Per Well	\$ 3,043.11

CONCLUSION AND SUMMARY

According to United States Geological Survey References (Healy, 1978), there are approximately 1,000 artesian flowing wells within the St. Johns River Water Management District. Since the USGS's inventories and estimates, many of the wells have been abandoned or brought under control (as far as surface discharge) for future use by the owners, because of the developed concern over the years. When not abandoned properly, free flowing wells may continue to have a grave effect on the water resources of the area due to interaquifer contamination. Wells that are capped and not reported become increasingly difficult or impossible to locate and properly abandon. The District will continue to work with private well owners on request to evaluate suspect wells for remedial action.

The inventory of 357 free flowing wells in the St. Johns River Water Management District is estimated to be 60 percent of the actual number of wells existing that would meet the program's responsibilities and objectives. The District's Well Plugging Program is continuing an extensive search for these wells through increasing efforts in public awareness and cooperation. To date the District has plugged 30 wells with a total discharge of approximately 9.4 million gallons per day. The District is increasing the scheduling of wells to be plugged to a maximum number, as each year's budget allows. Evaluation of the Program's priority criteria will be considered and followed to insure effective progress in protecting the water resource from problems resulting from uncontrolled free flowing wells.

REFERENCES

Edwards, S. Jr., 1983, Technical Publication SJ 84-3, Report on Uncontrolled Free Flowing Artesian Wells - Free Flowing Well Plugging Program.

Healy, H. G., 1978, Appraisal of uncontrolled flowing artesian wells in Florida, U. S. Geological Survey WRI 78-95, 26 pages.

Munch, D. A., 1978, Improvement of water quality through a cooperative well plugging program, St. Johns River Water Management District.

"Water Quality Act of 1983"

APPENDICIES

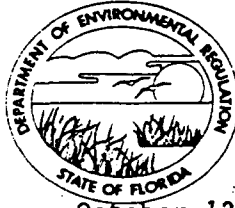
APPENDIX A

OUTLINE PROVIDED BY DEPARTMENT OF ENVIRONMENTAL REGULATION

('Subject Headings' and Page Numbers correspond with
respective information in this document.)

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

A-1

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'....	20
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.....		C-1
B. Description of methodology used in obtaining initial inventory, including types of sources contacted, publicity, and field verification methods	'Inventory'.....	9
C. Location and Owner of each abandoned well		C-1
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'.....	9, 20
1. Location techniques		
2. Field verification		
3. Public notification techniques		
III. Well Plugging Priority Schedule		
A. Criteria to be used to develop schedule:	'Priority'.....	9
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'.....	12
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	Page
A. Description of existing procedure, including all legal paperwork and contract processing	'Plugging Methodology'.....	10
B. Types of plugs commonly used	'Types of Plugs'.....	11
C. Description of any inspection or verification	'COSTS'.....	16
D. Timetable for plugging completion, which incorporates priority schedule developed in III	'PROPOSED SCHEDULING'.....	15
V. Costs		
A. Costs should be presented in two categories - water management district costs and actual plugging costs	'COSTS'.....	16
B. Estimates for water management district costs should be given in 'per well' units, and should include:	'TABLE 2, TABLE 3'.....	17, 18
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 1, TABLE 4'.....	17, 18
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
PUBLIC INFORMATION

...putting a
cap on —

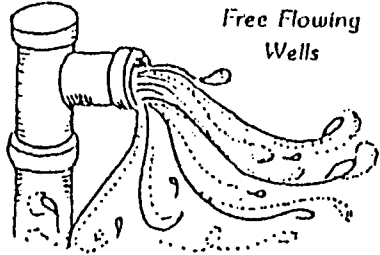
FREE
FLOWING
WELLS

**St. Johns River
Water Management
District**

Brochure produced by St. Johns River Water Management District:
A Brief Explanation of the Problems of Uncontrolled Free Flowing
Wells and the District Well Plugging Program.

WANTED

LOCATION OF UNCONTROLLED



REWARD

Reducing the waste of our groundwater resource

MODUS OPERANDI

Uncontrolled free-flowing wells are often unused or abandoned. They are sometimes used for stock watering, for crop irrigation, or for mosquito control purposes.

OFFENSES

Flowing well water is wasted when allowed to flow uncontrolled year-round.

Since 1953, all artesian wells are required to have a valve or other device to control the flow of water and prevent the water from going to waste (FLA. STATUTES CHAPTER 373.206, .209. CITY ORDINANCE CODE CHAPTER 625.301, .307).

CALL

633-3419

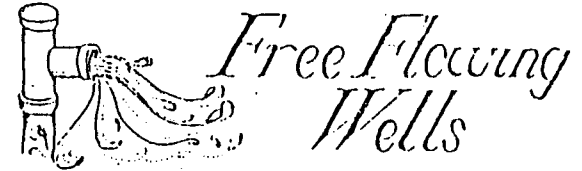
DEPARTMENT OF HEALTH, WELFARE AND
BIO-ENVIRONMENTAL SERVICES
WATER CONSERVATION

315 W. 8th STREET
JACKSONVILLE, FLORIDA 32208



WANTED

LOCATION OF UNCONTROLLED



REWARD

Reducing the waste of our groundwater resource
Reducing the contamination of our fresh surface water
bodies from brackish well water

MODUS OPERANDI

Uncontrolled free-flowing wells are often unused or abandoned. They are sometimes used for stock watering, for crop irrigation, or for mosquito control purposes.

OFFENSES

Flowing well water which is of brackish quality can pollute fresh surface waters, such as the St. Johns River. Flowing well water which is of fresh quality is wasted when allowed to flow uncontrolled year-round.

Since 1953, all artesian wells are required to have a valve or other device to control the flow of water and prevent the water from going to waste (FLA. STATUTES CHAPTER 373.206, .209).

CALL

Brevard County Water Resources Department at 453-9513,
or stop by the Merrill Island Courthouse

The Department of Health, Welfare and Bio-Environmental Services is a part of the State of Florida. It is a part of the Executive Branch of the State Government. It is a part of the State of Florida. It is a part of the Executive Branch of the State Government. It is a part of the State of Florida. It is a part of the Executive Branch of the State Government.

Wanted Poster Produced by Cooperating Government Agencies in the District. (Reduced from 8-1/2" X 14" Originals)

APPENDIX C

INVENTORY OF FREE FLOWING AND PLUGGED WELLS

TALLY SHEET FOR RELATED INVENTORY DATA

C-1

County	Number of Wells	Chloride content (mg/l)				Principal uses of wells					Unused
		0-250	251-500	501-1000	>1000	Domestic	Stock	Irri- gation	In- dustrial	Rec- reation	
Brevard	215	18	23	92	82	5	23	44	4	4	135
Clay	10	10	0	0	0	3	0	0	0	1	6
Duval	13	13	0	0	0	0	0	0	0	0	13
Flagler	16	0	0	3	13	0	4	0	0	0	12
Indian River	11	1	5	5	0	1	0	5	0	1	4
Lake	3	1	1	0	1	1	0	0	0	1	1
Marion	10	10	0	0	0	0	0	0	0	1	9
Nassau	2	2	0	0	0	1	0	0	0	0	1
Orange	1	0	1	0	0	0	0	0	0	0	1
Putnam	26	21	2	2	1	0	1	0	0	1	24
St.Johns	25	15	5	0	5	0	0	0	0	0	25
Seminole	3	1	2	0	0	0	0	0	0	2	1
Volusia	22	6	0	8	8	1	1	0	1	0	19
Totals	357	98	39	110	110	12	29	49	5	11	251

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OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
A.L. READDY	BR393	FLOWING	UNUSED	28 16 48	80 40 22	126	248	4.00	1022.00	04/16/81	YES
ALLIS-CHALMERS CORP.	BR423	PLUGGED	UNUSED	27 55 53	80 31 38	-	898	12.00	-	-	-
AQUIRINA	BR437	PLUGGED	UNUSED	27 55 20	80 29 37	195	439	4.00	250.00	09/14/81	YES
AQUIRINA	BR438	PLUGGED	UNUSED	27 55 32	80 29 21	-	-	3.00	-	-	-
ATLANTIC RIDGE CORP	BR90*	FLOWING	UNUSED	27 55 25	80 33 35	-	-	4.00	678.00	02/24/81	-
BEACHWOODS	BR227	PLUGGED	UNUSED	28 1 53	80 32 31	-	-	1.50	601.00	03/18/81	-
BETHESDA RET HOME	BR17*	PLUGGED	UNUSED	28 1 35	80 35 16	330	1360	4.00	535.00	05/21/47	YES
BLISS (HELM)	BR433	FLOWING	IRRIGATION	28 15 25	80 39 50	-	-	6.00	1049.00	09/08/81	-
BOY SCOUTS-ORLANDO	BR100	FLOWING	RECREATION	27 57 19	80 35 13	-	-	4.00	-	-	-
BREVARD CO.	BR386	FLOWING	UNUSED	28 21 23	80 40 17	-	-	4.00	1060.00	04/09/81	-
BREVARD CO. DIST 3	BR101	FLOWING	UNUSED	27 57 10	80 35 43	-	316	4.00	1400.00	05/05/75	-
BREVARD CO. M. C.	BR209	FLOWING	UNUSED	28 24 17	80 41 35	-	-	2.00	1240.00	07/30/79	-
BREVARD CO. M. C.	BR394	FLOWING	UNUSED	28 17 46	80 40 27	-	290	4.00	1162.00	04/16/81	-
BREVARD CO. M.C.	BR233	FLOWING	IRRIGATION	28 17 32	80 41 55	-	-	4.00	965.00	04/11/80	-
BREVARD CO. M.C.	BR388	FLOWING	IRRIGATION	28 20 17	80 41 6	-	-	4.00	1456.00	04/20/81	-
BREVARD CO. M.C.	BR389	FLOWING	IRRIGATION	28 18 16	80 40 24	-	-	6.00	1300.00	08/24/78	-
BREVARD CO. M.C.	BR406	FLOWING	UNUSED	28 23 27	80 40 34	-	260	4.00	1560.00	07/30/79	-
BREVARD CO. M.C.	BR412	FLOWING	IRRIGATION	28 0 53	80 32 14	-	-	3.00	524.00	06/08/81	-
BREVARD CO. M.C.	BR430	FLOWING	UNUSED	28 21 52	80 41 17	82	152	4.00	1470.00	07/31/79	-
BREVARD CO. MC	BR210	FLOWING	UNUSED	28 22 47	80 41 5	-	-	4.00	1486.00	04/08/81	-
BREVARD CO. MC	BR213	FLOWING	UNUSED	28 25 43	80 41 22	-	-	4.00	1250.00	04/08/81	-
BREVARD CO. MC	BR219	FLOWING	UNUSED	28 26 43	80 43 15	-	-	4.00	2876.00	09/10/80	-
BREVARD CO. MC	BR238	FLOWING	UNUSED	28 24 16	80 40 46	105	261	4.00	1483.00	04/01/81	-
BREVARD CO. MC	BR239	FLOWING	UNUSED	28 26 52	80 43 23	-	-	3.00	2922.00	04/08/81	-
BREVARD CO. MC	BR240	FLOWING	UNUSED	28 27 54	80 43 10	-	-	3.00	4309.00	04/08/81	-
BREVARD CO. MC	BR241	FLOWING	UNUSED	28 26 2	80 41 45	-	172	4.00	1570.00	01/30/81	-
BREVARD CO. MC	BR78*	PLUGGED	UNUSED	27 52 8	80 27 17	102	449	4.00	180.00	07/26/79	YES
BREVARD CO. MC	BR79*	FLOWING	UNUSED	27 52 6	80 27 25	-	466	4.00	214.00	02/09/80	-
BREVARD CO. MC	BR80*	PLUGGED	UNUSED	27 52 27	80 28 3	103	406	4.00	224.00	01/24/75	YES
BREVARD CO. MC	BR81*	PLUGGED	UNUSED	27 52 31	80 28 7	103	203	4.00	200.00	01/27/75	YES
BREVARD CO. MC	BR82*	PLUGGED	UNUSED	27 53 1	80 28 4	-	-	4.00	294.00	01/24/75	-
BREVARD CO. MC	BR83*	PLUGGED	UNUSED	27 53 5	80 28 4	103	465	4.00	215.00	01/24/75	YES
BREVARD CO. MC	BR84*	FLOWING	UNUSED	27 53 3	80 28 15	-	-	4.00	190.00	01/27/75	-
BREVARD CO. MC	BR85*	PLUGGED	UNUSED	27 53 57	80 28 17	-	-	4.00	273.00	01/28/75	-
BREVARD CO. MC	BR86*	PLUGGED	UNUSED	27 54 25	80 28 38	101	358	4.00	210.00	01/28/75	YES
BREVARD CO. MC	BR87*	PLUGGED	UNUSED	27 55 18	80 29 36	-	496	4.00	240.00	07/27/79	-
BREVARD CO. MC	BR88*	FLOWING	UNUSED	27 55 30	80 29 40	-	-	4.00	286.00	05/13/80	-
BREVARD CO. MC	BR89*	FLOWING	UNUSED	27 55 23	80 32 8	-	-	4.00	500.00	05/19/47	-
BREVARD CO. MC	BR91*	PLUGGED	UNUSED	27 56 9	80 30 24	-	386	4.00	340.00	07/26/79	YES
BREVARD CO. MC	BR92*	FLOWING	UNUSED	27 56 2	80 30 22	-	387	4.00	507.00	05/07/80	-
BREVARD CO. MC	BR93*	PLUGGED	UNUSED	27 56 28	80 30 32	103	425	4.00	364.00	05/07/80	YES
BREVARD CO. MC	BR94*	FLOWING	UNUSED	27 57 35	80 30 48	-	-	4.00	515.00	02/10/75	-
BREVARD CO. MC	BR95*	FLOWING	UNUSED	27 58 58	80 31 18	-	329	4.00	858.00	05/07/80	-
BREVARD CO. MC	BR96*	FLOWING	UNUSED	27 58 38	80 31 9	-	346	4.00	546.00	05/14/80	-
BREVARD CO. MC	BR97*	FLOWING	UNUSED	27 58 46	80 31 21	-	346	4.00	572.00	05/14/80	-
BREVARD CO. MC	BR98*	FLOWING	UNUSED	28 18 29	80 40 31	-	-	4.00	1070.00	09/30/80	-
BREVARD COUNTY	BR151	FLOWING	IRRIGATION	28 24 20	80 41 35	-	-	4.00	1771.00	06/11/80	-

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BREVARD COUNTY	BR151	FLOWING	IRRIGATION	28 24 20	80 41 35	-	-	4.00	1771.00 06/11/80	-
BREVARD COUNTY	BR199	FLOWING	IRRIGATION	28 22 13	80 40 47	-	-	4.00	1420.00 07/30/79	-
BREVARD COUNTY	BR300	FLOWING	IRRIGATION	28 16 59	80 40 7	104	261	4.00	865.00 08/22/78	-
BREVARD COUNTY M. C.	BR391	FLOWING	IRRIGATION	28 19 21	80 40 53	-	-	4.00	11.76 04/20/81	-
BREWER, GRAY	BR0645	FLOWING	UNUSED	28 26 22	80 45 34	-	-	2.00	4220.00 11/14/84	-
C. CRISAFULL	BR242	FLOWING	UNUSED	28 26 24	80 42 40	-	-	4.00	1887.00 03/11/81	-
C.E. CARRIE	BR261	FLOWING	UNUSED	27 55 48	80 41 35	93	316	4.00	718.00 03/19/81	YES
CAPE CANAVERAL AFB	BR599	FLOWING	UNUSED	28 27 32	80 35 50	-	-	4.00	-	-
CAPE CANAVERAL AFB	BR601	FLOWING	UNUSED	28 29 44	80 32 44	-	-	3.00	-	-
CAPE CANAVERAL AFS	BR596	FLOWING	UNUSED	28 25 28	80 36 11	-	-	4.00	-	-
CAPE CANAVERAL AFS	BR597	FLOWING	UNUSED	28 26 21	80 35 59	-	-	4.00	-	-
CARLYLE PLATT	BR266	FLOWING	UNUSED	27 57 45	80 39 28	-	-	3.00	756.00 11/28/78	-
CECIL PLATT	BR372	FLOWING	IRRIGATION	28 4 45	80 42 33	-	-	6.00	480.00 09/19/56	-
CHARLES CRISAFULLI	BR243	FLOWING	UNUSED	28 26 23	80 42 57	-	-	4.00	2455.00 03/11/81	-
CITY OF COCOA BEACH	BR621	FLOWING	UNUSED	28 21 9	80 36 24	-	-	2.00	772.00 04/23/84	-
CITY OF PALM BAY	BR282	PLUGGED	UNUSED	28 0 7	80 43 37	87	349	6.00	601.00 03/25/81	YES
CORRIGAN	BR246	FLOWING	IRRIGATION	27 49 33	80 35 18	-	-	2.00	600.00 05/18/79	-
COTNEY	BR0642	FLOWING	UNUSED	28 24 32	80 42 38	-	-	4.00	2280.00 03/13/84	-
COUCH PUMPS	BR423	PLUGGED	UNUSED	27 55 53	80 31 38	71	798	12.00	-	YES
COUCH PUMPS	BR623	PLUGGED	UNUSED	27 55 54	80 31 38	159	628	8.00	590.00 06/02/84	YES
COYLE 412 SUNSET BLV	BR436	FLOWING	IRRIGATION	28 4 20	80 33 40	-	-	2.00	520.00 08/24/81	-
CRISAFULLI, B.	BR0644	FLOWING	UNUSED	28 28 8	80 42 21	-	-	4.00	1300.00 11/14/84	-
DAVENPORT	BR103	FLOWING	UNUSED	27 58 10	80 35 3	-	-	6.00	-	-
DE VINCI INC.	BR411	FLOWING	IRRIGATION	27 58 22	80 31 2	-	-	2.00	508.00 06/08/81	-
DEER RUN	BR247	FLOWING	STOCK	27 52 26	80 38 23	-	-	2.00	745.00 04/08/75	-
DEER RUN	BR248	FLOWING	IRRIGATION	27 52 53	80 38 32	-	399	6.00	745.00 03/15/57	-
DEER RUN	BR249	FLOWING	STOCK	27 52 55	80 38 50	-	305	6.00	735.00 03/11/81	-
DEER RUN	BR253	FLOWING	IRRIGATION	27 52 7	80 39 51	-	680	6.00	768.00 03/11/81	-
DESERET RANCH	BR231	FLOWING	STOCK	28 5 36	80 46 43	-	-	4.00	361.00 04/07/81	-
DNR-PARKS AND REC.	BR410	PLUGGED	UNUSED	27 52 17	80 27 21	81	392	4.00	214.00 02/09/81	YES
DRAWDY	BR371	FLOWING	DOMESTIC	28 2 18	80 41 7	-	-	4.00	650.00 11/22/78	-
E. L. WEGERIF	BR390	FLOWING	UNUSED	28 18 23	80 40 54	-	-	2.00	1100.00 07/21/77	-
ENTERPRISE INTERNATI	BR432	FLOWING	IRRIGATION	28 18 30	80 44 20	84	-	4.00	865.00 08/02/81	YES
FLA. STATE MATHERS B	BR379	FLOWING	UNUSED	28 8 57	80 36 24	-	-	2.00	-	-
FOOSANER	BR590	FLOWING	UNUSED	28 27 56	80 41 8	84	202	3.00	1840.00 03/13/84	YES
FOOSANER	BR591	FLOWING	UNUSED	28 27 57	80 41 17	86	183	4.00	1660.00 03/13/84	YES
FOOSANER	BR594	FLOWING	UNUSED	28 27 55	80 41 6	36	212	4.00	1520.00 03/13/84	YES
GDC	BR0646	FLOWING	UNUSED	27 55 52	80 42 22	-	-	6.00	687.00 11/30/78	-
GDC	BR0647	FLOWING	UNUSED	27 56 24	80 42 19	-	-	6.00	-	-
GDC	BR0648	FLOWING	UNUSED	27 56 57	80 42 2	-	-	6.00	669.00 11/30/78	-
GDC	BR0650	FLOWING	UNUSED	27 56 48	80 41 50	-	-	6.00	-	-
GDC	BR0651	FLOWING	UNUSED	27 56 3	80 41 57	-	-	6.00	-	-
GDC	BR0652	FLOWING	UNUSED	27 56 7	80 42 47	-	-	4.00	-	-
GDC	BR0653	FLOWING	UNUSED	27 56 15	80 42 32	-	-	6.00	-	-
GDC	BR0654	FLOWING	UNUSED	27 56 36	80 42 34	-	-	6.00	-	-
GDC	BR0656	FLOWING	UNUSED	27 56 52	80 42 50	-	-	4.00	-	-
GDC-CARLYLE PLATT	BR274	FLOWING	STOCK	27 58 12	80 42 18	-	-	6.00	581.00 03/31/81	-

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GDC-CARLYLE PLATT	BR275	FLOWING	STOCK	27 58 16	80 42 34	-	-	4.00	481.00	04/01/81	-
GDC-LOT FOR SALE	BR431	FLOWING	UNUSED	28 0 30	80 39 30	-	-	3.00	688.00	11/27/78	-
GEN. DEV. CORP. LAMN	BR369	FLOWING	IRRIGATION	28 1 32	80 34 58	-	-	2.00	850.00	05/05/75	-
GEN. DEV. FLOD. CORP	BR370	FLOWING	UNUSED	28 2 32	80 43 27	-	368	5.00	600.00	03/27/57	-
GEN. DEVELOP. CORP.	BR225	FLOWING	STOCK	27 58 25	80 42 10	-	-	4.00	747.00	04/03/81	-
GEN. DEVELOP. CORP.	BR226	FLOWING	STOCK	27 58 35	80 42 19	-	266	4.00	714.00	04/03/81	-
GEN. DEVELOP. CORP.	BR258	PLUGGED	UNUSED	27 54 59	80 40 11	107	336	6.00	712.00	03/17/81	YES
GEN. DEVELOP. CORP.	BR259	PLUGGED	UNUSED	27 55 30	80 40 50	124	335	6.00	695.00	03/17/81	YES
GEN. DEVELOP. CORP.	BR260	FLOWING	UNUSED	27 55 2	80 40 24	-	389	2.00	700.00	12/06/78	-
GEN. DEVELOP. CORP.	BR262	PLUGGED	UNUSED	27 55 46	80 41 45	123	299	6.00	700.00	07/09/79	YES
GEN. DEVELOP. CORP.	BR263	PLUGGED	UNUSED	27 56 30	80 41 21	82	378	2.00	728.00	03/19/81	YES
GEN. DEVELOP. CORP.	BR264	FLOWING	UNUSED	27 56 56	80 41 21	-	-	2.50	668.00	03/18/81	-
GEN. DEVELOP. CORP.	BR265	FLOWING	IRRIGATION	27 56 48	80 42 21	-	322	4.00	655.00	03/18/81	-
GEN. DEVELOP. CORP.	BR267	FLOWING	UNUSED	27 57 46	80 41 16	-	299	3.00	758.00	03/23/81	-
GEN. DEVELOP. CORP.	BR276	FLOWING	UNUSED	27 59 56	80 38 20	-	-	0.00	725.00	03/30/81	-
GEN. DEVELOP. CORP.	BR277	FLOWING	UNUSED	27 59 55	80 39 40	-	-	4.00	718.00	03/26/81	-
GEN. DEVELOP. CORP.	BR278	PLUGGED	UNUSED	27 59 26	80 41 46	127	347	4.00	665.00	03/30/81	YES
GEN. DEVELOP. CORP.	BR281	FLOWING	UNUSED	28 0 41	80 40 25	-	335	4.00	448.00	04/26/79	-
GEN. DEVELOP. CORP.	BR301	FLOWING	UNUSED	27 56 16	80 41 2	-	-	6.00	-	-	-
GEN. DEVELOP. CORP.	BR268	FLOWING	IRRIGATION	27 57 25	80 41 4	-	-	4.00	691.00	03/24/81	-
GEORGE BALL	BR592	FLOWING	UNUSED	28 18 45	80 36 36	-	-	4.00	1800.00	02/23/84	-
GOUGH 504 4TH AVE	BR434	FLOWING	IRRIGATION	28 3 54	80 33 47	150	505	4.00	645.00	03/10/75	-
HAPPED	BR234	FLOWING	UNUSED	28 20 40	80 39 51	-	-	0.00	1015.00	03/20/81	-
HAROLD PLATT	BR279	FLOWING	STOCK	27 59 1	80 43 20	-	364	4.00	522.00	06/27/79	-
HAROLD PLATT	BR280	FLOWING	STOCK	27 59 52	80 45 12	-	377	0.00	414.00	03/25/81	-
HARVEY RAY	BR415	FLOWING	IRRIGATION	28 17 41	80 41 58	-	-	3.50	1002.00	06/11/81	-
JACK SIMPSON	BR602	FLOWING	UNUSED	28 22 18	80 46 43	112	371	4.00	1536.00	03/16/84	YES
JACK STORY, SR	BR401	FLOWING	STOCK	28 21 50	80 48 58	-	-	6.00	2285.00	05/05/81	-
JAMESTOWN CONDOS	BR232	FLOWING	UNUSED	28 8 43	80 35 4	-	-	4.00	-	-	-
JIM DIDATO	BR359	FLOWING	UNUSED	28 4 47	80 41 41	85	450	4.00	-	-	-
KEMPHER	BR228	FLOWING	STOCK	28 4 43	80 50 32	-	295	4.00	223.00	04/02/81	-
KEMPHER	BR229	FLOWING	STOCK	28 4 57	80 50 18	-	-	4.00	340.00	11/06/78	-
KEMPHER	BR230	FLOWING	STOCK	28 5 30	80 46 44	-	-	4.00	360.00	04/02/81	-
LA TURE	BR392	FLOWING	UNUSED	28 16 5	80 40 13	-	-	2.00	990.00	09/11/56	-
LONE CABBAGE CAMP	BR204	FLOWING	UNUSED	28 22 7	80 52 18	-	-	2.00	2150.00	06/21/54	-
LULP LEE 2924 MAIN	BR435	FLOWING	IRRIGATION	28 3 44	80 35 59	-	-	2.00	762.00	03/24/81	-
LULP LEE 2924 MAIN	BR435	FLOWING	IRRIGATION	28 3 49	80 35 59	-	-	2.00	762.00	03/24/81	-
MARCUS BOOKIE	BR366	FLOWING	IRRIGATION	27 49 21	80 50 33	-	693	5.00	301.00	04/09/81	-
MOONEY	BR387	FLOWING	IRRIGATION	28 20 47	80 41 7	-	400	4.00	925.00	08/27/78	-
MTDCD	BR365	PLUGGED	UNUSED	27 55 12	80 41 22	-	-	2.00	735.00	04/14/81	-
NASA	BR367	PLUGGED	UNUSED	28 34 14	80 39 12	131	225	4.00	1820.00	09/02/83	YES
NASA	BR587	PLUGGED	UNUSED	28 39 44	80 46 33	112	200	4.00	7500.00	01/16/84	YES
NASA	BR588	PLUGGED	UNUSED	28 31 34	80 38 2	-	-	4.00	1370.00	01/19/84	YES
NASA	BR589	PLUGGED	UNUSED	28 28 45	80 39 35	-	-	4.00	1180.00	01/19/84	YES
NASA	BR595	PLUGGED	UNUSED	28 33 43	80 40 14	83	190	4.00	-	-	YES
NASA	BR604	FLOWING	UNUSED	28 33 13	80 39 38	-	-	6.00	-	-	-
NASA	BR605	FLOWING	UNUSED	28 27 37	80 40 13	-	-	4.00	1440.00	04/16/84	-

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NASA	BR606	FLOWING	UNUSED	28 29 18	80 39 11	-	-	6.00	-	-
NASA	BR607	FLOWING	UNUSED	28 29 35	80 39 9	-	-	6.00	1760.00 04/16/84	-
NASA	BR608	FLOWING	UNUSED	28 29 21	80 40 48	-	-	8.00	3000.00 04/16/84	-
NASA	BR609	FLOWING	UNUSED	28 29 7	80 41 1	-	-	8.00	3440.00 04/16/84	-
NASA	BR610	FLOWING	UNUSED	29 29 18	80 41 0	-	-	6.00	-	-
NASA	BR611	FLOWING	UNUSED	28 29 15	80 41 1	-	-	12.00	1640.00 04/16/84	-
NASA	BR612	FLOWING	UNUSED	28 30 1	80 41 20	-	-	6.00	-	-
NASA	BR613	FLOWING	UNUSED	28 30 37	80 40 27	-	-	3.00	1380.00 04/16/84	-
NASA	BR614	FLOWING	UNUSED	28 31 4	80 40 29	-	-	2.00	-	-
NASA	BR615	FLOWING	UNUSED	28 31 30	80 40 33	-	-	3.00	-	-
NASA	BR616	FLOWING	UNUSED	28 31 35	80 41 17	-	-	6.00	1880.00 04/16/84	-
NASA	BR617	FLOWING	UNUSED	28 32 19	80 40 43	-	-	6.00	3280.00 04/16/84	-
NASA	BR618	FLOWING	UNUSED	28 32 38	80 40 27	-	-	4.00	-	-
NASA	BR619	FLOWING	UNUSED	28 34 4	80 39 46	-	-	4.00	-	-
NASA	BR620	FLOWING	UNUSED	28 33 46	80 40 7	-	-	4.00	-	-
NEVINS	BR428	FLOWING	IRRIGATION	28 18 10	80 44 50	-	-	4.00	868.00 03/31/81	-
NORRIS CATTLE CO.	BR408	FLOWING	STOCK	28 36 55	80 57 50	-	-	1.00	1170.00 11/28/46	-
PERRY ELISON	BR333	FLOWING	A/C	28 22 32	80 42 46	-	-	2.00	2037.00 07/29/81	-
PHYLIS TINSLEY	BR419	UNUSED	INDUSTRIAL	28 25 43	80 42 59	-	-	0.00	2204.00 06/04/81	-
POTEET	BR421	FLOWING	STOCK	27 50 45	80 49 46	-	284	6.00	210.00 11/16/78	-
PULLEN	BR380	FLOWING	UNUSED	28 13 32	80 38 54	-	-	2.00	1042.00 04/28/81	-
QUARBURG	BR420	FLOWING	IRRIGATION	27 49 59	80 50 39	-	-	6.00	230.00 11/13/78	-
RAY COBBS	BR385	FLOWING	IRRIGATION	28 22 3	80 42 28	80	420	6.00	700.00 08/10/34	-
RAY VAN ORSDALE	BR0639	FLOWING	UNUSED	28 9 49	80 38 32	-	-	12.00	-	-
ROCKLEDGE GOLF COUR	BR235	FLOWING	IRRIGATION	28 20 13	80 44 49	-	-	4.00	-	-
ROCKLEDGE GOLF COUR	BR236	FLOWING	RECREATION	28 20 8	80 44 42	-	-	4.00	-	-
ROCKLEDGE GOLF COUR	BR245	FLOWING	IRRIGATION	28 20 2	80 45 6	-	-	4.00	1470.00 03/31/81	-
SEIB GROVE	BR251	FLOWING	IRRIGATION	27 53 32	80 37 39	-	-	4.00	785.00 03/16/81	-
SOMERFIELD	BR381	FLOWING	IRRIGATION	28 13 41	80 39 3	-	325	4.00	668.00 04/28/81	-
STEVE FANCZL	BR414	FLOWING	IRRIGATION	28 17 30	80 40 39	-	-	3.00	888.00 06/11/81	-
TENDERFOOT RANCH	BR403	FLOWING	IRRIGATION	28 22 24	80 47 1	-	-	4.00	1570.00 04/14/81	-
TRICO GROVE	BR270	FLOWING	IRRIGATION	27 58 24	80 41 34	-	-	4.00	701.00 03/30/81	-
TRIO GROVE	BR271	FLOWING	IRRIGATION	27 58 35	80 41 27	-	-	4.00	708.00 03/31/81	-
TRIO GROVE	BR272	FLOWING	IRRIGATION	27 58 35	80 41 37	-	-	4.00	722.00 03/31/81	-
TRIO GROVE	BR273	FLOWING	IRRIGATION	27 58 35	80 41 44	-	309	6.00	635.00 03/31/81	-
TRIO RIPE GROVE	BR269	FLOWING	IRRIGATION	27 58 22	80 41 22	-	-	6.00	681.00 03/30/81	-
UNDETERMINED	BR0643	FLOWING	UNUSED	28 22 5	80 41 53	-	600	4.00	-	-
UNDETERMINED	BR102	FLOWING	UNUSED	27 57 49	80 32 37	-	-	2.50	475.00 03/04/81	-
UNDETERMINED	BR120	FLOWING	UNUSED	28 23 29	80 36 23	-	-	2.00	800.00 04/06/77	-
UNDETERMINED	BR182	FLOWING	UNUSED	27 58 23	80 35 2	-	-	6.00	691.00 05/12/81	-
UNDETERMINED	BR200	FLOWING	IRRIGATION	28 22 13	80 40 55	-	-	4.00	1462.00 06/02/80	-
UNDETERMINED	BR237	FLOWING	STOCK	28 21 50	80 51 15	-	-	2.00	2163.00 01/26/79	-
UNDETERMINED	BR244	FLOWING	UNUSED	28 19 57	80 39 52	-	-	2.00	1122.00 03/20/81	-
UNDETERMINED	BR250	FLOWING	STOCK	27 53 57	80 36 37	-	409	2.00	671.00 03/11/81	-
UNDETERMINED	BR252	FLOWING	STOCK	27 53 21	80 39 24	-	-	2.00	750.00 12/14/78	-
UNDETERMINED	BR254	FLOWING	STOCK	27 53 25	80 39 16	-	-	2.00	732.00 03/12/81	-
UNDETERMINED	BR255	FLOWING	STOCK	27 53 51	80 40 4	-	333	3.00	734.00 03/16/81	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL CHLORIDE DIAM MG/L	SAMPLE DATE	GEPH LOGS
UNDETERMINED	BR256	FLOWING	STOCK	27 53 51	80 40 4	-	-	2.00	715.00 03/16/81	-
UNDETERMINED	BR257	FLOWING	STOCK	27 54 16	80 39 4	-	315	6.00	701.00 03/16/81	-
UNDETERMINED	BR374	FLOWING	POWER	28 12 30	80 36 26	-	-	6.00	-	-
UNDETERMINED	BR375	FLOWING	POWER	28 12 34	80 36 29	-	-	6.00	-	-
UNDETERMINED	BR377	FLOWING	UNUSED	28 10 18	80 37 14	-	-	4.00	661.00 04/15/81	-
UNDETERMINED	BR378	FLOWING	UNUSED	28 10 17	80 37 13	-	-	4.00	660.00 04/15/81	-
UNDETERMINED	BR384	FLOWING	UNUSED	28 15 38	80 41 5	-	-	4.00	1189.00 04/27/81	-
UNDETERMINED	BR395	FLOWING	UNUSED	28 16 5	80 39 55	-	-	2.00	1050.00 05/19/77	-
UNDETERMINED	BR397	FLOWING	UNUSED	28 15 48	80 41 16	-	-	0.00	277.00 04/27/81	-
UNDETERMINED	BR400	FLOWING	UNUSED	28 20 45	80 46 34	-	-	6.00	1336.00 04/21/81	-
UNDETERMINED	BR409	PLUGGED	UNUSED	27 52 11	80 27 22	-	466	4.00	214.00 08/14/80	-
UNDETERMINED	BR416	FLOWING	IRRIGATION	28 20 49	80 39 42	-	-	2.00	780.00 06/08/81	-
UNDETERMINED	BR417	FLOWING	IRRIGATION	28 23 37	80 36 54	-	-	3.00	1136.00 06/09/81	-
UNDETERMINED	BR418	FLOWING	IRRIGATION	28 23 59	80 42 34	-	204	3.00	1494.00 05/18/81	-
UNDETERMINED	BR422	FLOWING	UNUSED	27 51 31	80 27 4	-	-	0.00	-	-
UNDETERMINED	BR424	FLOWING	UNUSED	27 59 13	80 33 20	-	-	1.50	-	-
UNDETERMINED	BR425	FLOWING	STOCK	27 59 53	80 44 42	-	-	4.00	-	-
UNDETERMINED	BR426	FLOWING	UNUSED	28 11 26	80 37 48	-	-	2.00	800.00 03/19/76	-
UNDETERMINED	BR429	FLOWING	UNUSED	28 19 2	80 44 7	-	-	4.00	980.00 04/06/77	-
W. C. ROPER	BR413	FLOWING	IRRIGATION	28 7 18	80 37 32	-	-	6.00	600.00 06/09/81	-
WARREN WOOTEN	BR396	FLOWING	UNUSED	28 15 52	80 41 10	-	-	6.00	1149.00 04/27/81	-
WATER WAY ESTATES	BR376	FLOWING	POWER	28 12 43	80 36 29	-	-	2.00	-	-
WATERWAY ESTATES	BR373	FLOWING	OTHER	28 12 26	80 36 26	-	-	6.00	-	-
WICKHAM PARK	BR382	FLOWING	RECREATION	28 9 34	80 39 46	105	600	4.00	553.00 03/06/80	-
WICKMAN PARK	BR383	FLOWING	RECREATION	28 9 51	80 39 40	105	550	6.00	700.00 10/12/75	-
WINDWARD APTS.	BR368	FLOWING	UNUSED	28 2 14	80 37 11	-	-	2.00	695.00 04/30/81	-
WOLFMAN	BR99*	FLOWING	UNUSED	28 18 50	80 40 38	104	141	4.00	1050.00 07/20/77	YES

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
DIV OF FORESTRY	C5***	FLOWING	DOMESTIC	30 3 2	81 42 27	-	-	3.00	6.00	01/27/75	-
DRIGGERS	C6***	FLOWING	DOMESTIC	29 51 44	81 37 17	-	600	6.00	10.00	01/23/75	-
GEORGE THEOBALD	C-0118	FLOWING	UNUSED	30 5 51	81 46 1	-	-	6.00	5.00	07/31/84	-
JENNINGS	C10**	FLOWING	UNUSED	30 8 50	81 55 20	300	330	3.00	7.00	07/18/60	-
L. J. IVEY	C1***	FLOWING	DOMESTIC	30 0 48	81 41 43	300	365	3.00	5.00	05/01/70	-
STOKE	C8***	FLOWING	UNUSED	30 4 45	81 48 55	-	-	6.00	15.00	05/19/81	-
STOKE	C9***	FLOWING	RECREATION	30 4 55	81 49 11	-	-	4.00	-	-	-
TEMPLIN	C11**	FLOWING	UNUSED	30 0 30	81 41 38	-	-	6.00	8.00	09/11/81	-
TEMPLIN	C12**	FLOWING	UNUSED	30 0 31	81 41 41	-	-	3.00	10.00	09/11/81	-
UNDETERMINED	C13**	FLOWING	UNUSED	30 6 20	81 46 28	-	-	6.00	20.00	05/19/81	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL CHLORIDE DIAM MG/L	SAMPLE DATE	GEPH LOGS
CITY OF JACKSONVILLE	D433*	FLOWING	UNUSED	30 17 23	81 42 51	-	-	4.00	-	-
F.E.C. RAILWAY	D426*	FLOWING	UNUSED	30 7 55	81 30 57	-	-	3.00	36.00 03/13/81	-
G.A. MOON	D431*	FLOWING	UNUSED	30 21 9	81 28 40	-	-	3.00	33.00 03/16/81	-
HAROLD P. OMERANTE	D432*	FLOWING	UNUSED	30 24 37	81 42 9	-	-	4.00	28.00 06/20/81	-
MERIL CORP	D434*	FLOWING	UNUSED	30 24 41	81 25 34	-	742	4.00	16.00 01/61/76	-
ROMCO	D435*	FLOWING	UNUSED	30 17 33	81 43 17	-	-	10.00	13.00 09/10/81	-
UNDERTIMINED	D428*	FLOWING	UNUSED	30 23 18	81 36 47	-	-	6.00	25.00 03/13/81	-
UNDERTIMINED	D429*	FLOWING	UNUSED	30 23 5	81 36 54	-	-	0.00	25.00 03/12/81	-
UNDERTIMINED	D430*	FLOWING	UNUSED	30 23 18	81 30 19	-	-	3.00	-	-
UNDETERMINED	D436*	FLOWING	UNUSED	30 11 35	81 34 13	-	-	3.00	30.00 01/28/82	-
UNDETERMINED	D437*	FLOWING	UNUSED	30 7 37	81 30 4	-	-	3.00	24.00 07/05/84	-
WALDON POND SOCIETY	D427*	FLOWING	UNUSED	30 16 58	81 34 4	-	-	3.00	-	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL CHLORIDE DIAM MG/L	SAMPLE DATE	GEPH LOGS
ARMOND FISHETTE	F221*	FLOWING	UNUSED	29 35 1	81 11 49	-	-	6.00	-	-
ARMOND FISHETTE	F222*	FLOWING	UNUSED	29 35 4	81 11 50	-	-	6.00	-	-
HAMMOCK BAPTIST CHUR	F220*	FLOWING	UNUSED	29 35 47	81 11 47	-	-	4.00	-	-
HODGES	F-0237	FLOWING	UNUSED	29 25 17	81 25 42	-	-	2.00	-	-
HODGES	F-0238	FLOWING	UNUSED	29 25 17	81 25 43	-	-	2.00	-	-
ITT PALM COAST	F223*	FLOWING	UNUSED	29 35 0	81 11 35	-	-	6.00	1600.00 03/07/84	-
PUBLIC DOMAIN	F-0239	FLOWING	UNUSED	29 25 25	81 25 30	-	-	2.00	-	-
PUBLIC DOMAIN	F207*	FLOWING	UNUSED	29 34 1	81 11 11	-	-	6.00	7560.00 07/08/81	-
SHAEFFER	F224*	FLOWING	UNUSED	29 29 11	81 8 3	-	-	2.00	-	-
UNDETERMINED	F209*	FLOWING	STOCK	29 25 23	81 25 38	-	-	6.00	1020.00 01/07/82	-
UNDETERMINED	F210*	FLOWING	STOCK	29 25 22	81 25 38	-	-	3.00	940.00 01/07/82	-
UNDETERMINED	F211*	FLOWING	STOCK	29 25 28	81 25 49	-	-	3.00	-	-
UNDETERMINED	F212*	FLOWING	STOCK	29 25 28	81 25 53	-	-	4.00	1410.00 01/07/82	-
UNDETERMINED	F213*	FLOWING	UNUSED	29 25 19	81 25 53	-	-	0.00	-	-
UNDETERMINED	F214*	FLOWING	UNUSED	29 25 21	81 25 53	-	-	0.00	-	-
WASHINGTON OAKS S.P.	F208*	PLUGGED	UNUSED	29 37 58	81 12 32	-	380	4.00	-	YES

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
GDC	IR99*	FLOWING	RECREATION	27 47 19	80 27 25	-	-	3.00	320.00	09/16/81	-
I. R. COUNTY MC.	IR41*	FLOWING	UNUSED	27 51 6	80 26 42	-	-	4.00	294.00	02/02/81	-
J.V.D'ALBORA CO.	IR271	FLOWING	UNUSED	27 46 53	80 25 9	-	-	8.00	620.00	03/04/82	-
JOHN MCCUE	IR0351	FLOWING	UNUSED	27 38 31	80 27 54	-	-	4.00	450.00	01/19/84	-
KNIGHT, C. REED	IR273	FLOWING	IRRIGATION	27 39 49	80 23 21	-	-	6.00	500.00	03/04/82	-
KRAFT, KURT H.	IR200	FLOWING	IRRIGATION	27 37 20	80 22 56	-	-	6.00	560.00	01/13/82	-
MARTIN, GREGORY-TRUS	IR272	FLOWING	UNUSED	27 40 3	80 23 17	-	-	6.00	400.00	03/04/82	-
STRAZZULLA BROS, INC	IR199	FLOWING	IRRIGATION	27 37 19	80 22 56	-	-	6.00	600.00	01/13/82	-
U.S. GOVT.	IR198	FLOWING	IRRIGATION	27 37 19	80 22 56	-	940	6.00	100.00	01/13/82	-
UNDETERMINED	IR42*	FLOWING	IRRIGATION	27 51 11	80 26 44	-	-	4.00	321.00	05/18/81	-
VERO BEACH FARMS	IR237	FLOWING	DOMESTIC	27 45 23	80 30 42	-	-	6.00	510.00	02/23/82	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
A.M. COLLINS, JR	L1***	FLOWING	RECREATION	29 10 27	81 32 11	-	-	10.00	1360.00	02/02/82	-
U.S. FOREST SERVICE	L-0060	FLOWING	UNUSED	29 0 31	81 23 28	-	-	6.00	210.00	12/16/83	-
UNDETERMINED	L2***	FLOWING	OTHER	29 10 2	81 31 27	-	-	4.00	410.00	02/02/82	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
COUNTY RIGHT OF WAY	M2***	FLOWING	UNUSED	29 11 2	81 59 33	-	-	4.00	10.00	01/18/82	-
G.C. HEINEMANN	M4***	FLOWING	OTHER	29 17 43	81 35 15	-	-	6.00	-	-	-
HASTINGS & GREEN	M-0043	FLOWING	UNUSED	29 23 49	82 5 26	-	-	6.00	-	-	-
HEINEMANN, G.C.	M5***	FLOWING	OTHER	29 17 43	81 35 15	-	-	4.00	-	-	-
LARRY MOODY	M7***	FLOWING	RECREATION	29 17 38	81 35 20	-	-	6.00	-	-	-
PONDEROSA SHORES, IN	M9***	FLOWING	OTHER	29 17 17	81 35 3	-	-	6.00	-	-	-
PONDEROSA SHORES, I	M8***	FLOWING	OTHER	29 17 27	81 35 4	-	-	6.00	-	-	-
UNDETERMINED	M3***	FLOWING	OTHER	29 17 49	81 35 34	-	-	6.00	150.00	01/25/82	-
UNDETERMINED	M6***	FLOWING	UNUSED	29 17 40	81 35 12	-	-	4.00	-	-	-
VANCE, BILL	M1***	FLOWING	UNUSED	29 27 28	81 55 7	-	-	4.00	15.00	04/22/81	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
JOHNSON LAKE	N21**	FLOWING	UNUSED	30 35 49	81 38 54	-	-	2.00	-	-	-
UNDETERMINED	N20**	FLOWING	DOMESTIC	30 34 5	81 31 18	-	-	4.00	30.00	03/20/81	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL CHLORIDE DIAM MG/L	SAMPLE DATE	GEPH LOGS
CITY RIGHT OF WAY	OR1**	FLOWING	UNUSED	28 32 14	80 58 34	-	-	2.00 390.00	02/05/82	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
CORPS OF ENGINEERS	P306*	FLOWING	OTHER	29 33 0	81 52 39	105	189	8.00	12.00	03/17/75	-
GEORGIA PACIFIC	P434*	FLOWING	UNUSED	29 40 28	81 39 37	-	-	2.00	175.00	11/16/81	-
MEELEY REED	P433*	FLOWING	RECREATION	29 21 38	81 37 51	-	-	4.00	1755.00	01/28/82	-
RAFAEL PUIG	P428*	FLOWING	UNUSED	29 45 16	81 34 56	-	-	6.00	155.00	11/16/81	-
RAVINE STATE GARDENS	P418*	FLOWING	UNUSED	29 37 59	81 38 34	-	-	3.00	210.00	11/16/81	-
RAVINES STATE GARDEN	P-0454	FLOWING	UNUSED	29 37 50	81 38 53	-	-	4.00	150.00	03/16/84	-
RAVINES STATE GARDEN	P-0455	FLOWING	UNUSED	29 37 50	81 38 51	-	-	4.00	160.00	03/16/84	-
RAVINES STATE GARDEN	P-0456	FLOWING	UNUSED	29 37 50	81 38 50	-	-	4.00	140.00	03/16/84	-
RAVINES STATE GARDEN	P-0458	FLOWING	UNUSED	29 38 5	81 38 52	-	-	2.00	20.00	03/16/84	-
RAVINES STATE GARDEN	P-0459	FLOWING	UNUSED	29 38 6	81 38 53	-	-	2.00	20.00	03/16/84	-
RAVINES STATE GARDEN	P-0457	FLOWING	UNUSED	29 37 54	81 38 46	-	-	2.00	22.00	03/16/84	-
ROBERT REVEL	P-0453	FLOWING	UNUSED	29 39 57	81 34 6	-	-	4.00	540.00	01/05/84	-
S.C.L. RAILROAD	P425*	FLOWING	UNUSED	29 35 45	81 40 59	-	-	2.00	-	-	-
TILTON	P-0452	FLOWING	UNUSED	29 40 10	81 34 29	-	-	4.00	671.00	01/03/84	-
UNDETERMINED	P17**	UNUSED	UNUSED	29 34 39	81 52 42	-	-	3.00	15.00	03/31/81	-
UNDETERMINED	P414*	FLOWING	UNUSED	29 35 31	81 37 41	-	-	3.00	195.00	04/22/81	-
UNDETERMINED	P415*	FLOWING	OTHER	29 26 34	81 35 33	-	-	0.00	-	-	-
UNDETERMINED	P419*	FLOWING	UNUSED	29 41 45	81 37 23	-	-	2.00	95.00	11/18/81	-
UNDETERMINED	P424*	FLOWING	UNUSED	29 40 12	81 36 51	-	-	4.00	285.00	12/09/81	-
UNDETERMINED	P429*	FLOWING	UNUSED	29 39 42	81 36 12	-	-	4.00	180.00	11/18/81	-
UNDETERMINED	P430*	FLOWING	UNUSED	29 41 10	81 35 33	-	-	4.00	355.00	12/01/81	-
UNDETERMINED	P431*	FLOWING	UNUSED	29 26 7	81 31 55	-	-	6.00	-	-	-
UNDETERMINED	P432*	FLOWING	UNUSED	29 40 32	81 37 29	-	-	4.00	110.00	12/09/81	-
UNDETERMINED	P448*	FLOWING	UNUSED	29 37 59	81 38 35	-	-	4.00	-	-	-
UNDETERMINED	F449*	FLOWING	UNUSED	29 33 58	81 43 39	-	-	4.00	-	-	-
WHITEHEAD	P-463	FLOWING	STOCK	29 37 7	81 37 47	-	-	4.00	180.00	01/26/82	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL CHLORIDE DIAM MG/L	SAMPLE DATE	GEPH LOGS
BEN ROBINSON	SJ0531	FLOWING	UNUSED	29 51 14	81 29 49	-	-	4.00	-	-
DAVIS, J.E.	SJ521	PLUGGED	UNUSED	30 4 5	81 23 16	-	-	3.00	-	-
GUANO WILDLIFE MGT.	SJ502	FLOWING	OTHER	30 5 33	81 21 5	-	-	4.00	36.00 10/03/81	-
GULF STREAM LAND & D PUBLIC DOMAIN	SJ508	FLOWING	UNUSED	30 3 38	81 38 39	-	-	12.00	8.00 03/31/81	-
SJ518	FLOWING	UNUSED	29 51 44	81 15 56	-	-	6.00	-	-	
ST JOHNS CTY R OF WA	SJ513	FLOWING	UNUSED	29 54 57	81 26 43	-	-	4.00	50.00 01/28/82	-
ST. REGIS	SJ507	FLOWING	UNUSED	30 3 54	81 22 22	-	-	4.00	100.00 07/03/81	-
STEVE GREEN	SJ511	FLOWING	UNUSED	29 55 14	81 19 59	-	1500	6.00	110.00 10/08/81	-
UNDETERMINED	SJ509	FLOWING	UNDETERMINED	30 3 55	81 23 9	-	-	4.00	100.00 10/07/81	-
UNDETERMINED	SJ0529	FLOWING	UNUSED	29 41 1	81 29 4	-	-	6.00	-	-
UNDETERMINED	SJ0530	FLOWING	UNUSED	29 40 52	81 29 6	-	-	6.00	-	-
UNDETERMINED	SJ505	FLOWING	UNUSED	29 57 51	81 26 53	-	-	4.00	45.00 03/31/81	-
UNDETERMINED	SJ506	FLOWING	UNUSED	29 56 46	81 26 38	-	-	4.00	45.00 03/31/81	-
UNDETERMINED	SJ510	FLOWING	UNUSED	29 55 6	81 19 9	-	-	6.00	160.00 10/07/81	-
UNDETERMINED	SJ512	FLOWING	UNUSED	29 49 23	81 16 23	-	-	6.00	-	-
UNDETERMINED	SJ514	FLOWING	UNUSED	30 7 38	81 23 4	-	-	6.00	20.00 12/02/83	-
UNDETERMINED	SJ519	FLOWING	UNUSED	29 55 39	81 17 44	-	-	6.00	73.00 04/19/84	-
UNDETERMINED	SJ520	FLOWING	UNUSED	29 55 36	81 17 43	-	-	4.00	-	-
WELATKA FRUIT CO	SJ0527	FLOWING	UNUSED	29 41 31	81 29 43	-	-	6.00	-	-
WELATKA	SJ0522	FLOWING	UNUSED	29 41 37	81 29 36	-	-	6.00	-	-
WELATKA FRUIT CO	SJ0523	FLOWING	UNUSED	29 41 34	81 29 36	-	-	6.00	1740.00 10/12/84	-
WELATKA FRUIT CO	SJ0524	FLOWING	UNUSED	29 41 36	81 29 36	-	-	6.00	5860.00 09/27/84	-
WELATKA FRUIT CO	SJ0525	FLOWING	UNUSED	29 41 29	81 29 36	-	-	6.00	1960.00 10/15/84	-
WELATKA FRUIT CO	SJ0526	FLOWING	UNUSED	29 41 26	81 29 36	-	-	6.00	1250.00 10/15/84	-
WELATKA FRUIT CO	SJ0528	FLOWING	UNUSED	29 40 50	81 29 44	-	-	6.00	-	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
COUNTY RIGHT OF WAY	S1***	FLOWING	UNUSED	29 44 4	81 16 26	-	-	2.00	480.00	02/04/82	-
STATE RIGHT OF WAY	S2***	FLOWING	PUBLIC	29 43 5	81 19 20	-	-	3.00	12.50	02/05/82	-
UNDETERMINED	S3***	FLOWING	RECREATION	29 40 10	81 26 28	-	-	2.00	-	-	-

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

OWNER	WELL ID	STATUS	WELL USE	L A T DE MI SE	L O N DE MI SE	CASE DEPTH	WELL DEPTH	WELL DIAM	CHLORIDE MG/L	SAMPLE DATE	GEPH LOGS
A. RICH	V-0159	FLOWING	UNUSED	28 56 45	80 52 35	-	125	6.00	450.00	12/08/55	-
CITY OF DAYTONA B	V-0184	FLOWING	UNUSED	29 10 31	80 59 4	98	879	10.00	14000.00	08/10/81	YES
CITY OF NEW SMYRNA B	V-0180	FLOWING	INDUSTRIAL	29 1 3	80 55 19	130	998	12.00	-	-	YES
J.E. PEARSON	V55**	FLOWING	UNUSED	29 56 21	81 5 38	-	-	1.00	30.00	02/03/82	-
J.E. PEARSON	V56**	FLOWING	DOMESTIC	29 56 21	81 5 38	-	-	2.00	30.00	02/03/82	-
L. WOODRUFF WILDLIFE	V54**	FLOWING	OTHER	29 3 24	81 22 22	-	-	3.00	100.00	02/02/82	-
LAWERENCE FARMS, INC	V51**	FLOWING	UNUSED	29 7 52	81 21 9	-	-	8.00	3780.00	02/02/82	-
LAWERENCE FARMS, INC	V52**	FLOWING	UNUSED	29 7 48	81 21 9	-	-	8.00	1040.00	02/02/82	-
LAWERENCE FARMS, INC	V53**	FLOWING	UNUSED	29 7 46	81 21 9	-	-	8.00	1700.00	02/03/82	-
MURRY SAMS	V49**	FLOWING	UNUSED	29 8 5	81 21 53	-	-	12.00	520.00	02/02/82	-
MURRY SAMS	V50**	FLOWING	UNUSED	29 8 5	81 21 56	-	-	8.00	510.00	02/02/82	-
STONE IS. HOMEOWNERS	V57**	FLOWING	UNUSED	29 50 42	81 14 8	-	-	8.00	650.00	02/03/82	-
STONE IS. HOMEOWNERS	V58**	FLOWING	UNUSED	29 50 44	81 14 1	-	-	3.00	620.00	02/04/82	-
UNDETERMINED	V-0094	FLOWING	UNUSED	29 51 44	81 52 21	-	-	8.00	1070.00	02/04/82	-
UNDETERMINED	V-0096	FLOWING	UNUSED	28 52 13	81 16 55	-	-	0.00	25.00	02/04/82	-
UNDETERMINED	V-0158	FLOWING	UNUSED	29 0 30	81 22 53	-	-	4.00	987.00	08/08/84	-
UNDETERMINED	V-0185	FLOWING	UNUSED	29 1 48	80 57 28	-	-	6.00	-	-	-
UNDETERMINED	V59**	FLOWING	UNUSED	28 52 45	81 21 43	-	-	3.00	1690.00	02/04/82	-
UNDETERMINED	V60**	FLOWING	UNUSED	29 15 3	81 7 18	-	-	4.00	70.00	01/21/82	-
UNDETERMINED	V61**	FLOWING	UNUSED	29 5 13	81 2 47	-	-	3.00	50.00	01/21/82	-
UNION BAG	V-0154	FLOWING	UNUSED	29 15 43	81 32 6	90	116	2.00	5100.00	03/05/56	-
VOLUSIA COUNTY	V-0182	FLOWING	UNUSED	29 1 34	80 57 27	-	-	2.00	-	-	-
W.L. TOMPKINS-LEASEE	V-0095	FLOWING	STOCK	29 10 15	81 21 57	-	-	4.00	-	-	-

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ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
LISTING OF
ALL WELLS PLUGGED BY THE FREE FLOWING WELL PROGRAM

COUNTY	OWNER	WELL ID	STATUS	WELL USE	L A T De Mi Se	L O N De Mi Se	CASE DEPTH	WELL DEPTH	WELL DIAM
BREVARD	ALLIS-CHALMERS CORP.	BR423	PLUGGED	UNUSED	27 55 53	80 31 38	- 898	12.00	
	AQUIRINA	BR437	PLUGGED	UNUSED	27 55 20	80 29 37	195 439	4.00	
	AQUIRINA	BR438	PLUGGED	UNUSED	27 55 32	80 29 21	- -	3.00	
	BEACHWOODS	BR227	PLUGGED	UNUSED	28 1 53	80 32 31	- -	1.50	
	BETHESDA RET HOME	BR17*	PLUGGED	UNUSED	28 1 35	80 35 16	330 1360	4.00	
	BREVARD CO. MC	BR78*	PLUGGED	UNUSED	27 52 8	80 27 17	102 449	4.00	
	BREVARD CO. MC	BR80*	PLUGGED	UNUSED	27 52 27	80 28 3	103 406	4.00	
	BREVARD CO. MC	BR81*	PLUGGED	UNUSED	27 52 31	80 28 7	103 203	4.00	
	BREVARD CO. MC	BR82*	PLUGGED	UNUSED	27 53 1	80 28 4	- -	4.00	
	BREVARD CO. MC	BR83*	PLUGGED	UNUSED	27 53 5	80 28 4	103 465	4.00	
	BREVARD CO. MC	BR85*	PLUGGED	UNUSED	27 53 57	80 28 17	- -	4.00	
	BREVARD CO. MC	BR86*	PLUGGED	UNUSED	27 54 25	80 28 38	101 358	4.00	
	BREVARD CO. MC	BR87*	PLUGGED	UNUSED	27 55 18	80 29 36	- 496	4.00	
	BREVARD CO. MC	BR91*	PLUGGED	UNUSED	27 56 9	80 30 24	- 386	4.00	
	BREVARD CO. MC	BR93*	PLUGGED	UNUSED	27 56 28	80 30 32	103 425	4.00	
	COUCH PUMPS	BR623	PLUGGED	UNUSED	27 55 54	80 31 38	159 628	8.00	
	DNR-PARKS AND REC.	BR410	PLUGGED	UNUSED	27 52 17	80 27 21	81 392	4.00	
	GEN. DEV. CORP.	BR365	PLUGGED	UNUSED	27 55 12	80 41 22	- -	2.00	
	GEN. DEVELOP. CORP.	BR258	PLUGGED	UNUSED	27 54 59	80 40 11	107 336	6.00	
	GEN. DEVELOP. CORP.	BR259	PLUGGED	UNUSED	27 55 30	80 40 50	124 335	6.00	
	GEN. DEVELOP. CORP.	BR262	PLUGGED	UNUSED	27 55 46	80 41 45	123 299	6.00	
	GEN. DEVELOP. CORP.	BR263	PLUGGED	UNUSED	27 56 30	80 41 21	82 378	2.00	
	GEN. DEVELOP. CORP.	BR278	PLUGGED	UNUSED	27 57 26	80 41 46	127 347	4.00	
	GEN. DEVELOP. CORP.	BR282	PLUGGED	UNUSED	28 0 7	80 43 37	87 349	6.00	
	NASA	BR367	PLUGGED	UNUSED	28 34 14	80 39 12	131 225	4.00	
	NASA	BR587	PLUGGED	UNUSED	28 39 44	80 46 33	112 200	4.00	
	NASA	BR588	PLUGGED	UNUSED	28 31 34	80 38 2	- -	4.00	
	NASA	BR589	PLUGGED	UNUSED	28 28 45	80 39 35	- -	4.00	
	NASA	BR595	PLUGGED	UNUSED	28 33 43	80 40 14	83 190	4.00	
	UNDETERMINED	BR409	PLUGGED	UNUSED	27 52 11	80 27 22	- 466	4.00	
BREVARD								30	
FLAGLER	WASHINGTON OAKS S.P.	F208*	PLUGGED	UNUSED	29 37 58	81 12 32	- 300	4.00	
ST. JOHNS	DAVIS, J.E.	SJ521	PLUGGED	UNUSED	30 4 5	81 23 16	- -	3.00	

WELL DATA BASE HEADER FILE

STATION CODE 0.2	LATITUDE _____	LONGITUDE _____	STATION ID _____	HYDROLOGIC UNIT _____	COUNTY CODE _____	
STATION NAME _____	TOPO QUAD _____		SECTION _____	TNSP _____	RNGE _____	QUADRANT _____
PROJECT NO. 2.0.0.1.8.0.2	AQUIFER _____	DEPTH _____	CASING _____	WELL PENETRATION _____	DIAMETER _____	
DATE DRILLED _____	WELL USE CODE _____	LEVELS _____	RECORDER _____	OW Y,E	OWNERS NAME _____	
OWNERS NAME (CONTINUED) _____	PERIOD OF RECORD YEARS _____	OR _____	MOS. _____	STATUS _____	FREQUENCY _____	
EXTREME HIGH DAY MONTH YEAR _____	STAGE _____	EXTREME LOW DAY MONTH YEAR _____	STAGE _____			
MEASURING POINT (LSD) _____	MEASURING POINT (MSL) _____	MP CODE _____	PUMP TEST _____	GP LOG _____	GL LOG _____	
DATA SOURCE _____	COMMENTS (72 SPACES) _____ _____ _____					

WATER QUALITY FILE

PRIMARY KEY

STATION CODE 0.2	LATITUDE _____	LONGITUDE _____	STATION ID _____	MONTH _____	DAY _____	YEAR _____	TIME _____
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SECONDARY KEY

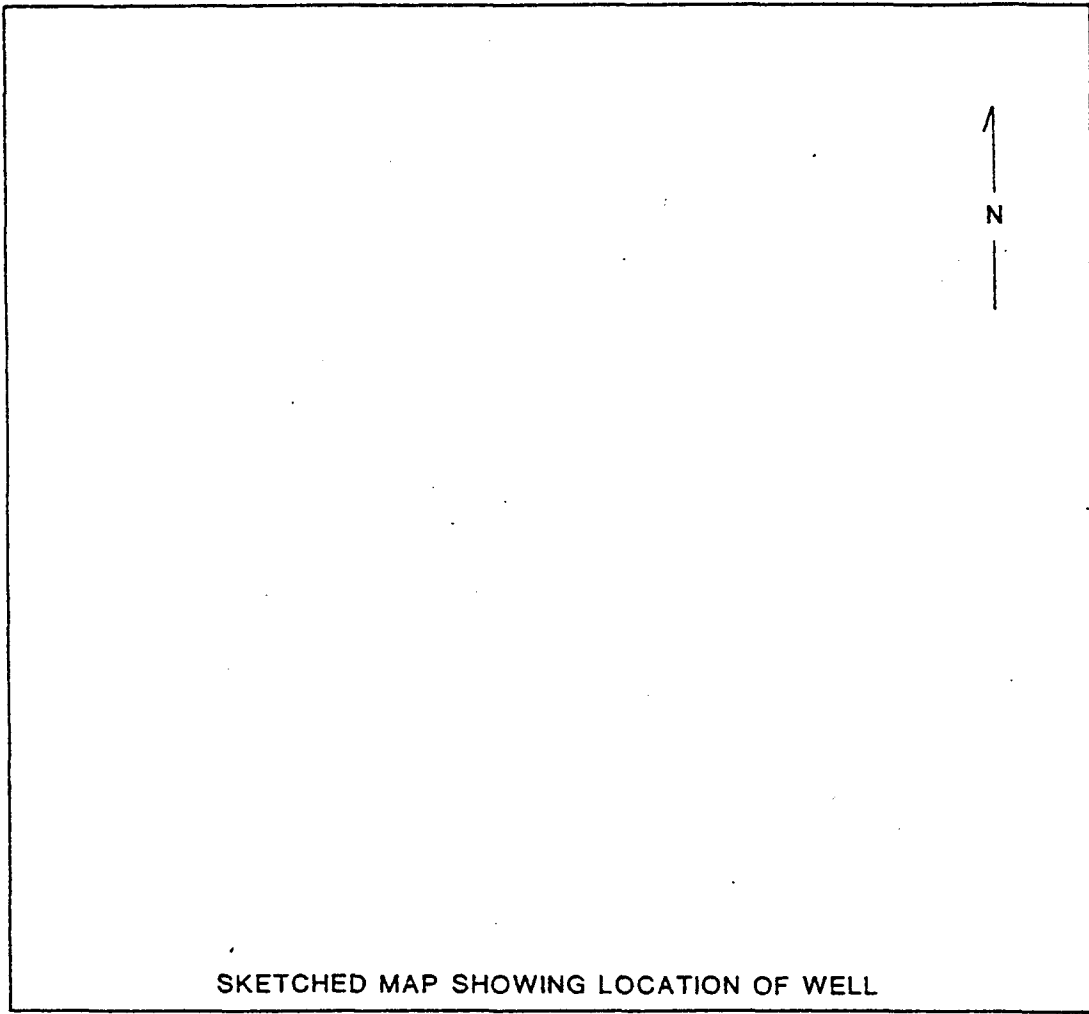
STATION(SAMPLE) NAME _____	COUNTY NO. _____	A _____	Y _____	M _____	D _____
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PARAMETERS

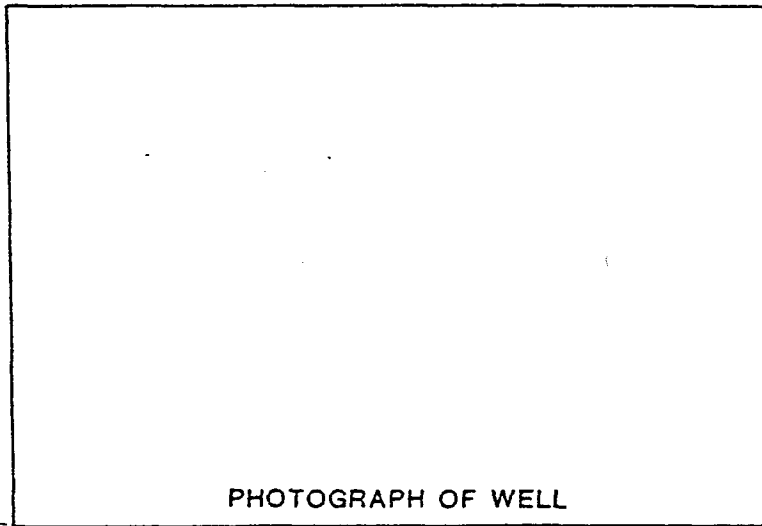
0.0.0.1.0	TEMPERATURE (°C) _____	0.0.4.4.0	BICARBONATE _____	7.2.0.1.9	WATER LEVEL (LSD) _____
0.0.9.1.5	CALCIUM _____	0.0.4.4.5	CARBONATE _____	7.2.0.2.0	WATER LEVEL (MSL) _____
0.0.9.2.5	MAGNESIUM _____	0.1.0.4.6	IRON _____	7.2.0.0.0	ELEVATION LSD _____
0.0.9.3.0	SODIUM _____	0.0.9.5.0	FLUORIDE _____	_____	_____
0.0.9.3.5	POTASSIUM _____	0.1.0.8.0	STRONTIUM _____	_____	_____
0.0.0.9.5	SPECIFIC CONDUCT. _____	0.0.4.8.0	SALINITY _____	_____	_____
0.0.9.4.0	CHLORIDE _____	0.0.0.5.8	WELL YIELD (GPM) _____	_____	_____
0.0.9.4.5	SULFATE _____	0.0.9.0.0	TOTAL HARDNESS _____	_____	_____
0.0.7.4.6	SULFIDE _____	0.0.9.0.2	NON-CARE HARD. _____	_____	_____
0.0.4.0.0	pH (FIELD) _____	7.0.3.0.0	DISSOLVED SOL (RES.) _____	_____	_____
0.0.4.1.0	TOTAL ALKALINITY _____	7.0.3.0.1	DISSOLVED SOL (SUM) _____	_____	_____

SW-5 FORM 11/10/80

(Reduced from 8-1/2" X 14" Originals.)



SKETCHED MAP SHOWING LOCATION OF WELL



PHOTOGRAPH OF WELL

(Reduced from 8-1/2" X 14" Originals.)

APPENDIX D
CONTRACTUAL AND COOPERATIVE AGREEMENTS

AGREEMENT

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

THIS AGREEMENT is entered into on the 11th day of October, 1984, 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

follows:

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 1984/1985 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 not solicit bids unless and until DISTRICT and BREVARD COUNTY each approve the specifications; and,
 - 2) let bids and select a water well contractor that best qualifies to the specifications; and,
 - 3) publish notice of solicitation of bids in a newspaper of general circulation in Brevard County as minimum written notice.
 - 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 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.

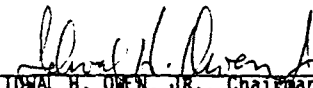
3. DISTRICT and BREVARD COUNTY shall prepare a final report.

4. This Agreement shall be effective upon the execution thereof and shall continue until September 30, 1985, except that performance of a contract executed prior to September 30, 1985, shall continue beyond that date and performance under Paragraph 5 shall continue beyond that date.

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: 
IDWAL H. OWEN, JR., Chairman

ATTEST:


LYNNE C. CAPEHART, Secretary

Vance Kieder
Legal Form Content Approved

BREVARD COUNTY BOARD OF COUNTY COMMISSIONERS

By: Val M. Steele
VAL M. STEELE, Chairman

ATTEST:

R. C. Winstead
R. C. WINSTEAD, Clerk

Mona G. Smith
Legal Form Content Approved

AGREEMENT FOR
CONTRACTUAL SERVICES
BETWEEN THE

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT

AND

Cumby Well Drilling

THIS AGREEMENT, dated 27 day of April, 1982 by
and between the St. Johns River Water Management District, a
Chapter 373, Florida Statutes water management district located
at U.S. Highway 100 West, P.O. Box 1429, Palatka, Florida (here-
inafter DISTRICT) and Cumby Well Drilling a Florida Corporation
authorized to do business in the State of Florida, located at
Sebello Fls. (hereinafter CONTRACTOR).

WITNESSETH:

WHEREAS, the DISTRICT desires to plug uncontrolled flowing
artesian wells in Brevard County and Indian River County; and

WHEREAS, the CONTRACTOR and the DISTRICT have reached an
understanding on the type, extent, quality and time of perform-
ance and service and/or material to be rendered and the amount
and method of compensation to be paid the CONTRACTOR on the pro-
ject and both wish to reduce it to a written agreement.

NOW, THEREFORE, IN CONSIDERATION of these promises and mutual
covenants hereinafter set forth, the DISTRICT and CONTRACTOR
agree as follows:

I. SCOPE OF SERVICES

Unless otherwise specified and in addition to those services set forth in the CONTRACT DOCUMENTS which comprise this entire agreement and are made a part hereof:

The CONTRACTOR will:

1. Provide one (1) complete drilling unit capable of reaming out boreholes and grouting boreholes 1000 feet or greater in depth; a truck capable of safely transporting 100 sacks of cement; all tools and accessories associated with the drilling unit; all tremie pipes and positive pressure pump, piston type or diaphragm type; and all necessary manpower to effectuate the performance of this contract.
2. Be responsible for the required equipment to be on site and in good operating condition and ready to perform the required work.
3. Commence the work within ten (10) calendar days after receipt of written order to proceed by the DISTRICT.
4. Commence and complete work as outlined by work order without interruptions or delays.
5. Follow verbal and written direction of DISTRICT representative assigned to the project.
6. Otherwise abide by all terms and conditions set forth in the CONTRACT DOCUMENTS.

The DISTRICT will:

1. Provide all cement, additives, burlap socks for the QWIP plugs and like materials, excluding those materials to be furnished by the CONTRACTOR as specified in the CONTRACT DOCUMENTS.

2. Furnish a representative to be on site at all times while work is in progress.

II. FEEES FOR SERVICES

1. The DISTRICT shall pay the CONTRACTOR for performance of the work and completion of each work order pursuant to the CONTRACT DOCUMENTS, subject to modification as provided therein.

2. The DISTRICT shall make progress payments pursuant to the contract price as provided in the CONTRACT DOCUMENTS and upon approval by the DISTRICT of each application for payment provided in the bid specifications.

III. INDEMNIFICATION

The CONTRACTOR agrees to defend, indemnify and save harmless the DISTRICT, its officers, agents and servants, and each and everyone of them against and from all suits or costs of every kind and description including suits, costs, claims and judgments of agents, servants or employees of the CONTRACTOR and of any sub-contractors, and from all damages to which the DISTRICT or any of its officers, agents or servants may be subjected by reason of injury to the person or property of others resulting from the performance of the assignment, or through the negligence of the CONTRACTOR, its agents, servants, employees and sub-contractors arising out of the performance of this Agreement; or through any improper or defective machinery, implements of appliances used in the assignment, or through any act or omission on the part of the CONTRACTOR or its agents, servants, employees and sub-contractors.

The CONTRACTOR shall further defend, indemnify and save harm-

less the DISTRICT, its officers, agents and servants from all suits and actions of any kind or character whatsoever, which may be brought or instituted by any sub-contractor, materialman or laborer who has performed work or furnished materials in or about the Project or by, or on account of, any claims or amount recovered for any infringement of patent, trademark or copyright.

So much money due to the CONTRACTOR under and by virtue of the contract as shall be considered necessary by the DISTRICT may be retained by the DISTRICT and held until such suits, actions, claims or amounts have been settled, and suitable evidence to that effect furnished to the DISTRICT.

The obligations of the CONTRACTOR will not extend to any claim, damage, loss or expense arising out of a defect in drawings, opinions, reports, surveys, change orders, designs or specifications prepared or furnished by the DISTRICT, or arising out of the giving by the DISTRICT of erroneous directions or instructions required to be given to the CONTRACTOR, or the failure of the DISTRICT to give directions or instructions required to be given to the CONTRACTOR, provided such instructions or failure to give directions or instructions is the primary cause of the injury or damage.

IV. COMPLIANCE

The CONTRACTOR shall comply with all federal, state and local laws and ordinances applicable to the work or payment for work thereof, and shall not discriminate on the grounds of race, color, religion, sex or national origin in the performance of work under this Agreement.

The CONTRACTOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the CONTRACTOR to solicit or secure this Agreement; and that it has not paid or agreed to pay any person, company, corporation, individual or firm, other than a bona fide employee working solely for the CONTRACTOR any fee, commission, percentage, gift or any other consideration, contingent upon or resulting from the awarding or making of this Agreement. For breach or violation of this warranty, the DISTRICT shall have the right to annul this Agreement with liability, or at its discretion, to deduct price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee from the Agreement.

The DISTRICT reserves the right to require the CONTRACTOR to remove any employee from the job or to shut down the job at no cost to the DISTRICT if, in the DISTRICT'S opinion, the CONTRACTOR or the employee is not doing the work as required by the Agreement and as directed by the DISTRICT Representative.

V. CONTRACT DOCUMENTS

The CONTRACT DOCUMENTS which comprise this agreement herein between the DISTRICT and CONTRACTOR shall be the following:

- (a) This agreement dated April 27, 1983.
- (b) Bid proposal
- (c) Special Conditions
- (d) General Conditions
- (e) Technical Specifications
- (f) Detailed Plugging Specifications

(g) Job Sites and Plans as Delineated in

Attached Appendices

(h) Any Modifications, Including Change Orders

VI. Neither the DISTRICT nor CONTRACTOR shall, without the prior written consent of the other, assign or sublet in whole or part its interest under any of the CONTRACT DOCUMENTS, and specifically, the CONTRACTOR shall not assign any monies due or to become due without the prior written consent of the DISTRICT.

VII. This Agreement may only be altered, amended or repealed by either party by duly executed written instrument. It is also agreed that this Agreement can be terminated and work suspended as specified in the General Conditions of the CONTRACT DOCUMENTS.

VIII. This Agreement is to be binding upon the DISTRICT, its successor or successors and upon the CONTRACTOR, its successor or successors, and shall be terminated in accordance with the provisions of the CONTRACT DOCUMENTS.

IN WITNESS WHEREOF, the parties hereto have accepted, made and executed this Agreement upon the terms and conditions above stated on the 24 day of April 1983.

WITNESSES

ST. JOHNS RIVER WATER
MANAGEMENT DISTRICT

George Hunt

Frances S. Pignone
FRANCES S. PIGNONE
CHAIRMAN

Pauline M. Helge
witness

ATTEST

Lynne C. Capehart
LYNNE C. CAPEHART
SECRETARY

George Crumb

George Crumb
Its PRESIDENT/VICE PRESIDENT

Pauline K. Hodge
Witness

ATTEST

Colleen Daniel
CORPORATE SECRETARY

LEGAL FORM AND CONTENT APPROVED

E. Lee Worseam
E. LEE WORSEAM
STAFF ATTORNEY

STATE OF FLORIDA
COUNTY OF GLADES

Before me personally appeared George Crumb, to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that he executed said instrument for the purposes therein expressed.

WITNESS MY hand and official seal, this 11th day of May A.D., 1983.

(SEAL)

Paula J. Campbell
Notary Public, State of Florida
at large
My commission expires:

Notary Public, State of Florida
My Commission Expires Aug. 2, 1986
Bonded thru Troy Fair Insurance, Inc.

CONTRACTOR'S PERFORMANCE BOND

STATE OF FLORIDA)

No: FS-106330

COUNTY OF BREVARD)

COUNTY OF INDIAN RIVER)

KNOWN ALL MEN BY THESE PRESENTS that George and Arthur Crumb
d/b/a Crumb Well & Drilling as Principal, hereinafter called Con-
tractor, and Allied Fidelity Insurance Co.
as Surety, hereinafter called Surety, are held and firmly bound
unto St. Johns River Water Management District, as Obligee, here-
inafter called DISTRICT, in the amount of TWENTY FOUR THOUSAND 00/100
Dollars (\$ 24,000.00) for payment whereof Contractor and
Surety bind themselves, their heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these
presents.

NOW THE TERMS OF THIS INDENTURE ARE:

WHEREAS, the Principal and Obligee have entered into the attached
written contract dated _____, 19__ for the per-
formance of certain contractual work and services in a WELL PLUG-
GING PROGRAM IN BREVARD COUNTY, FLORIDA.

NOW THEREFORE, if the Principal shall well and truly perform and
fulfill all the undertakings, covenants, terms, conditions, and
agreements of said contract during the original term of said con-
tract and any extensions thereof that may be granted by the
Obligee, with or without notice to the surety, and during the
life of any guaranty required under the contract, and shall also
well and truly perform and fulfill all the undertakings, coven-
ants, terms, conditions, and agreement of any and all duly author-
ized modifications to the surety being hereby waived, then this
obligation to be void; otherwise to remain in full force and
effect.

IN WITNESS WHEREOF, the said Principal and said Surety hereto
have caused these presents to be executed this day of May 19
19 83.

WHEN THE PRINCIPAL IS AN INDIVIDUAL:
Signed, sealed and delivered in the
presence of: _____

Secretary

Correct Name of Corporation

By: _____

President

(CORPORATE SEAL)

Allied Fidelity Insurance Co.
Name of Surety

8945 N. Meridian, Indianapolis, Indiana
Address of Surety

By: _____

Maria A. Rossie

Maria A. Rossie -Attorney-in-Fact-


Allied Fidelity
Insurance Co.

8945 North Meridian Street • Indianapolis, Indiana 46260 • 1 (800) 428-3730

AC № 022100

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That this Power-of-Attorney is not valid unless attached to the bond which it authorizes executed. It specifies the LIMIT OF THE AGENT'S AUTHORITY AND THE LIABILITY OF THE COMPANY, HEREIN.

THE AUTHORITY OF THE ATTORNEY-IN-FACT and THE LIABILITY OF THE COMPANY

SHALL NOT EXCEED *** FIFTY THOUSAND DOLLARS ***

**USE OF MORE THAN ONE POWER VOIDS
THE BOND**

ALLIED FIDELITY INSURANCE CO., an Indiana corporation, having its principal office in the City of Indianapolis, State of Indiana, does hereby make, constitute and appoint: _____

María A. Rossie

in the City of Coral Gables, County of Dade,

State of Florida, its true and lawful attorney-in-fact, at anywhere,

in the State of anywhere, to make, execute, seal and deliver for and on its behalf, and as its act and deed, bonds, and undertakings in behalf of court fiduciaries, who under the jurisdiction of a court, administer property held in trust; public official bonds; license and permit bonds; tax, lien, and miscellaneous bonds; required by Federal, State, County, Municipal Authority, or other obligees, provided that the liability of the company as surety on any such bond executed under this authority shall not in any event exceed the sum shown above.

THIS POWER VOID IF ALTERED OR ERASED

The acknowledgment and execution of any such document by the said Attorney-In-Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of this Company.


This Power of Attorney is granted and is signed and sealed by facsimile under and by the authority of the following By-Law adopted by the Board of Directors of Allied Fidelity Insurance Co. at a meeting duly called and held on the 29th day of April, 1982:

"The President shall have power and authority to appoint Attorneys-in-Fact, and authorize them to execute, on behalf of the Company, bonds and undertakings, recognizances, contracts of indemnity and other surety and writings obligatory in the nature thereof; and he may at any time in his judgment remove any such appointees and revoke the authority given to them; and with respect to any Certified Copy of any Power of Attorney, the signatures of any issuing or attesting officer, and the seal of the Company, may be affixed to such Power of Attorney or to any certificate relating thereto, by facsimile; and such facsimile signatures and facsimile seals shall be valid and binding on the Company, in the future, with respect to any bond, undertaking or instrument of suretyship, to which it is attached."

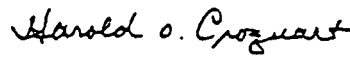
IN WITNESS WHEREOF, Allied Fidelity Insurance Co. has caused its official seal to be hereunto affixed and these presents to be signed by its duly authorized officers this 6th day of July, 1982.



ALLIED FIDELITY INSURANCE CO.


Secretary

BY


President

**THIS POWER DOES NOT AUTHORIZE THE
EXECUTION OF BONDS FOR LOAN GUARANTEES**

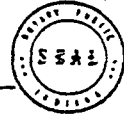
STATE OF INDIANA }
COUNTY OF MARION } SS:

On this 6th day of July, 1982, before me a Notary Public, personally appeared H. O. CROQUART and T. L. EADS, who being by me duly sworn, acknowledged said instrument to be the voluntary act and deed of said Corporation.

Notary Public, Marion County, Indiana
My Commission Expires: 10/2/84

Thomas E. Durbak

Notary Public



1. ONLY ONE POWER OF ATTORNEY MAY BE ATTACHED TO A BOND.
2. POWER OF ATTORNEY MUST NOT BE RETURNED TO ATTORNEY IN FACT, BUT SHOULD REMAIN A PERMANENT PART OF THE OBLIGEE'S RECORDS.
3. THIS POWER DOES NOT AUTHORIZE EXECUTION OF BONDS OF NE EXEAT OR ANY GUARANTEE FOR FAILURE TO PROVIDE PAYMENTS OF ALIMONY SUPPORT OR WAGE LAW CLAIMS, OR BONDS FOR CRIMINAL APPEARANCE.

STATE OF INDIANA }
COUNTY OF MARION } SS:

I, Frances A. Wilkinson, the Assistant Secretary of Allied Fidelity Insurance Co., do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Allied Fidelity Insurance Co., which is still in full force and effect.

This Certificate may be signed and sealed by facsimile under and by the authority of the following resolution of the Board of Directors of Allied Fidelity Insurance Co. at a meeting duly called and held on the 29th day of April, 1982:

"RESOLVED: That the use of a printed facsimile of the corporate seal of the company and of the signature of an Assistant Secretary on any certification of the correctness of a copy of an instrument executed by the President pursuant to the By-Laws appointing and authorizing an Attorney-in-Fact to sign in the name and on behalf of the company surety bonds, underwritings, undertakings or other instruments described in said By-Laws, with like effect as if such seal and such signature had been manually affixed and made, hereby is authorized and approved."

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said corporation, this

19 day of May, 19 83.

Frances A. Wilkinson

Assistant Secretary

APPENDIX E

COST TABLES FROM ORIGINAL INVENTORY

AND WORK PLAN, TECHNICAL PUBLICATION SJ 84-3

COSTS

Tables 1 and 2 have been prepared to show the breakdown and the averages of the actual costs of plugging 16 wells and money expended for District support of the plugging program, during the first three years. Actual costs for plugging includes money spent for contractual services, materials, and equipment rental. Also included in the actual cost of Bethesda Retirement Home project was the cost of District personnel on the job site other than the project manager for the Free Flowing Well Plugging Program. Other projects did not require the services of other District personnel on the job site.

A hydrologist is assigned project manager for the Free Flowing Well Plugging Program. The project manager works full time on the project, which includes organization, inventory, correspondence, and field work related to the project. Other costs incurred would be supportive personnel, administrative personnel, and supportive commodities furnished by the District.

To comply with the guidelines provided by the Department of Environmental Regulations, Tables 3 and 4 were prepared to show estimated future costs. These tables were based upon actual cost incurred over the first three years of the well plugging program. Estimated costs were prepared including a projected 6% inflation rate per year. Table 5 is a summary of Tables 3 & 4 to show the total estimated costs for completing the well plugging project by 1992.

Table 1. Actual Plugging Cost

Sebastian Inlet Project (15 Wells Plugged)	
Total Cost	\$19,293.14
Average Cost Per Well	1,286.21
Bethesda Retirement Home Project (Oil Test Well)	
Costs	<u>9,968.80</u>
Combined Cost from Both Projects	\$29,261.94
Average Actual Cost Per Well	1,828.87

Table 2. Cost to SJRWMD for Program Support
(Includes Salaries and Commodities)

Fiscal Year 1980/1981	\$ 12,725.68
" " 1981/1982	47,337.85
" " 1982/1983	36,440.25
Sub Total	<u>\$ 96,503.78</u>
Additional Administrative Cost (12%)	11,580.45
Total	<u>\$108,084.23</u>
Less Contractual Plugging Cost (Table 1)	<u>\$ 29,261.94</u>
Total Amount Spent for Free Flowing Well Plugging Program Support	\$ 78,822.29
Average Cost Per Year	\$ 26,274.10

Table 3. Estimated Average Cost to SJRWMD Per Year
Until 1992 for Program Support

Total Cost for First 3 Years (From Table 2)	\$ 78,822.29
Average Cost Per Year (From Table 2)	26,274.10
Projected Average Cost Per Year Until 1992*	
Fiscal Year 1983/1984	\$ 27,850.55
" " 1984/1985	29,521.58
" " 1985/1986	31,292.87
" " 1986/1987	33,170.45
" " 1987/1988	35,160.67
" " 1988/1989	37,270.31
" " 1989/1990	39,506.53
" " 1990/1991	41,876.92
" " 1991/1992	<u>44,389.54</u>
Total of the Average Yearly Support Costs (9 Years)	320,039.42
Estimated Cost Per Well (585 wells)	547.08

Table 4. Estimated Cost for Actual Plugging
(Based on Average Cost from Table 1)

Total Number of Wells to Plug	585
Number of Wells to be Plugged Per Year (9 Years)	65
Average Cost Per Well (Table 1)	\$ 1,828.87
Average Cost Per Year	118,876.55
Projected Average Cost Per Year Until 1992*	
Fiscal Year 1983/1984	\$126,009.14
" " 1984/1985	133,569.69
" " 1985/1986	141,583.87
" " 1986/1987	150,078.90
" " 1987/1988	159,083.64
" " 1988/1989	168,628.66
" " 1989/1990	178,746.38
" " 1990/1991	189,471.16
" " 1991/1992	<u>200,839.43</u>
Estimated Total Cost for Plugging 585 Wells in 9 years	\$1,448,010.87
Estimated Cost Per Well	2,475.23

*Indicates, included 6% inflation rate.

Table 5. Estimated Total Program Cost

Fiscal Year	Estimated Program Support Cost (Table 3)	Estimated Cost for Plugging (Table 4)	Estimated Total Program Cost
1983/1984	\$27,850.55	\$126,009.14	\$ 153,859.69
1984/1985	29,521.58	133,569.69	163,091.27
1985/1986	31,292.87	141,583.87	172,876.74
1986/1987	33,170.45	150,078.90	183,249.35
1987/1988	35,160.67	159,083.64	194,244.31
1988/1989	37,270.31	168,628.66	205,898.97
1989/1990	39,506.53	178,746.38	218,252.91
1990/1991	41,876.92	189,471.16	231,348.08
1991/1992	44,389.54	200,839.43	245,228.97
		Total Cost	\$1,768,050.29
		Average Total Cost Per Well	\$ 3,022.31