DOWN
Construction
Preliminary Data
Geneva Fire Station

Aquifer System Monitor Wells:
Surficial S-1288
Floridan S-1253
Floridan S-1328
Floridan S-1224

Abandoned
Floridan S-1295

SJRWMD Program No. 31-58200

Division of Ground Water Programs,
Department of Resource Management
St. Johns River Water Management District
Palatka, Florida

October 17, 2000

All data, figures, tables and information are provisional and generated for the Division of Ground Water Program's use.

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General Information

Site: Geneva Fire Station

Service Request: Brian McGurk Division of Ground Water Programs

Purpose: Ground water model data for Division of Needs And Sources

Work:

Monitor Well Construction
SJRWMD
Huss Drilling Inc.

Geophysical Logging:
SJRWMD

Video Survey:
Deep Venture
Florida Department of Transportation (FDOT)

Report: Robert Brooks

Notes:

S-1288 (Surficial)
- 5/01/96, Well completed; constructed using $8^{1/4}$ inch inner dia. hollow stem augers.

S-1253 (Floridan)
- 2/06/96, Well completed; constructed using both mud rotary and reverse air drilling methods.

S-1295 (Floridan)
- 4/16/96, Set 340 ft of 6-inch dia. SCH 80 PVC well casing. Grouted through tremie pipe (leaking swivel prevented pressure grouting) with 1-yard grout.
- 4/17/96, Grouting continued with 3 yards grout. Water returns from inside the casing during grouting indicating possible casing breech or bottom of casing not properly sealed.
- 4/23/96, Grout tagged at 275 ft bls inside 6-inch dia. well casing. Drill out. Cuttings collected contain abundant PVC.
- 4/25/96, Well completed; constructed using both mud rotary and reverse air drilling methods.
- 5/14/96, Caliper log indicates casing depth at ~300 ft, not 340 ft.
- 5/17/95, Video survey, at ~300 ft casing damage; bit drilled out of casing.
- 5/28/96, Memo attached following page.
- 7/18/96, Well abandoned. Back plug with grout from bottom to top.

S-1328 (Floridan)

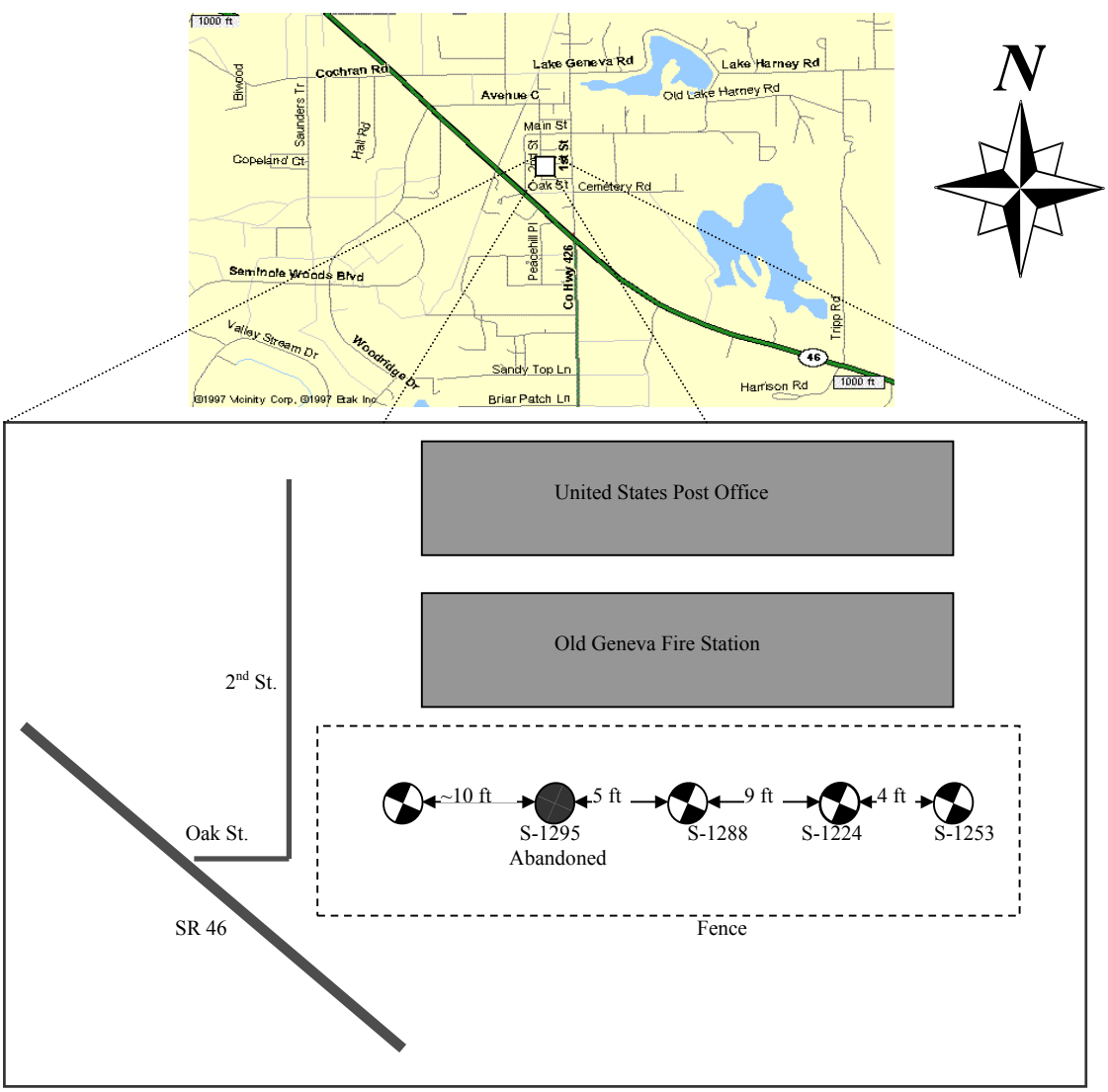
5/19/96, Well completed; constructed using both mud rotary and reverse air drilling methods. Replaces monitor well S-1295.

6/15/99, Caliper log shows borehole obstruction at 350 ft.

7/13/99, Huss Drilling Inc. drills out obstruction and extends well from 370 to 380 ft.

S-1224 (Floridan)

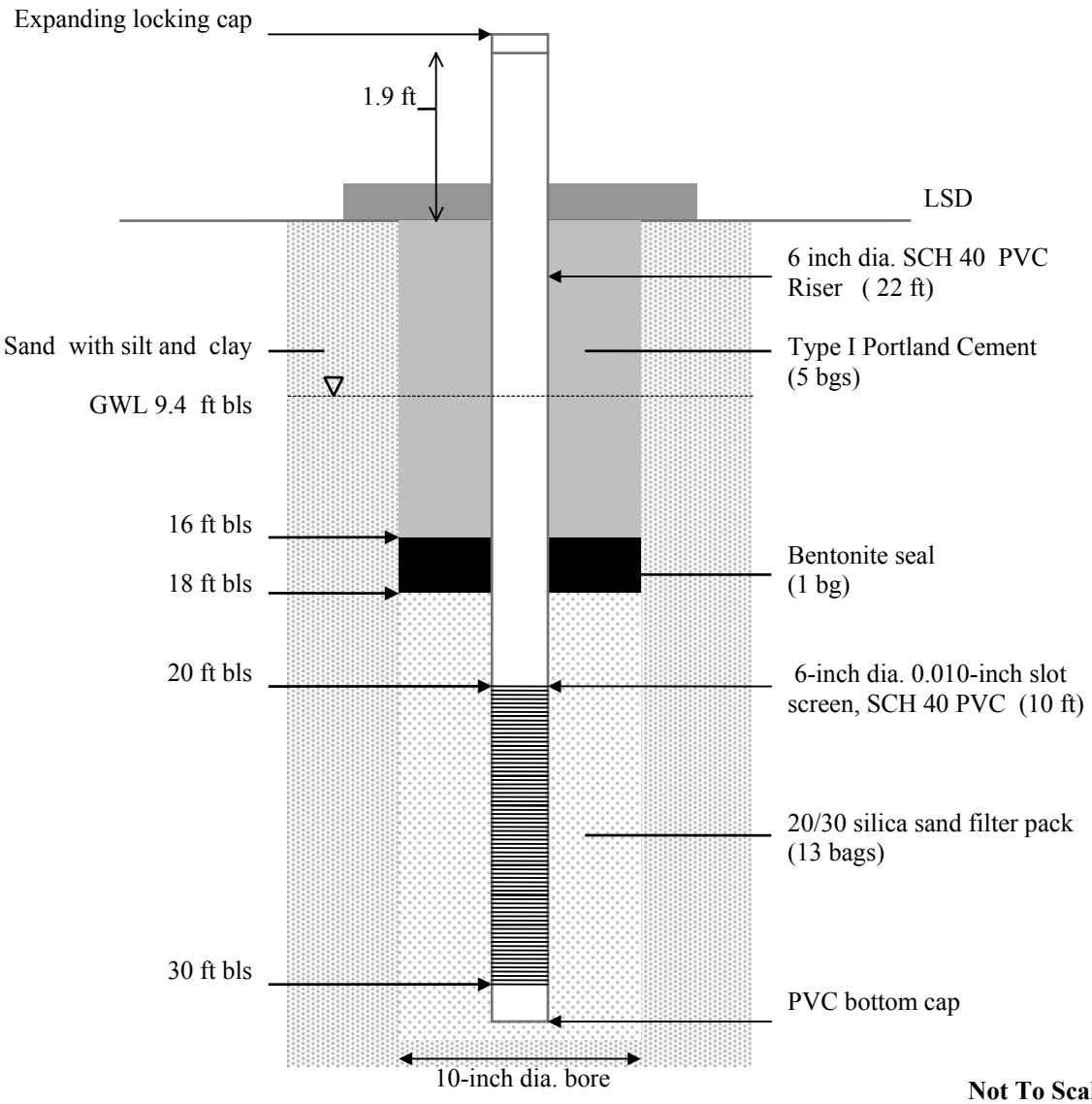
Well completed; constructed using both mud rotary and reverse air drilling methods.



Site:	Geneva Fire Station
GPS Lat/Long:	284411/810701
TRS:	203221
Topo:	Geneva
Site Elevation:	~75 ft NGVD
Project No:	31-58200

SJRWMD

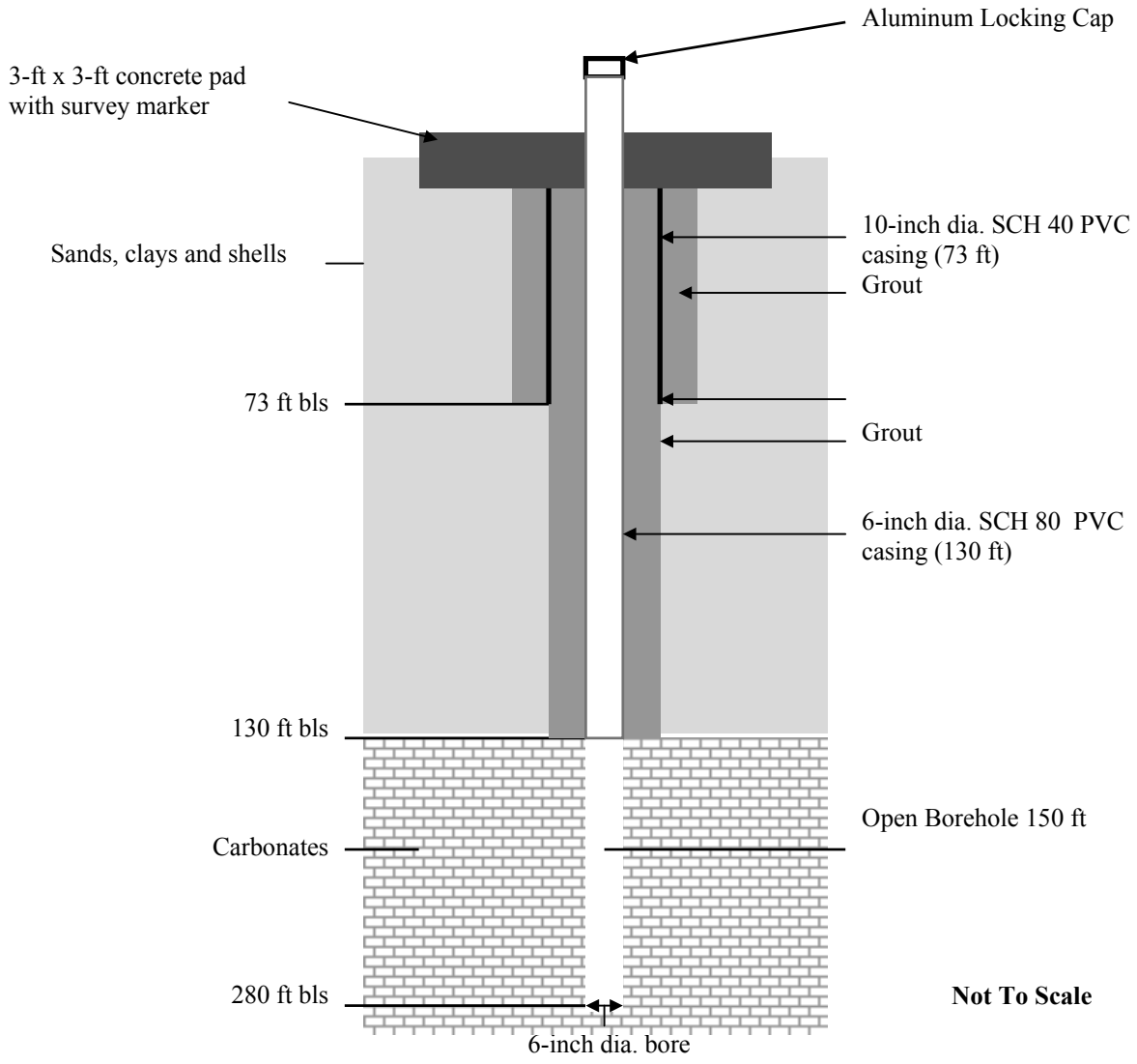
Figure 1. Site Map



Site:	Geneva Fire Station
Driller:	Huss Drilling Inc.
Well Completed:	May 1, 1996

SJRWMD

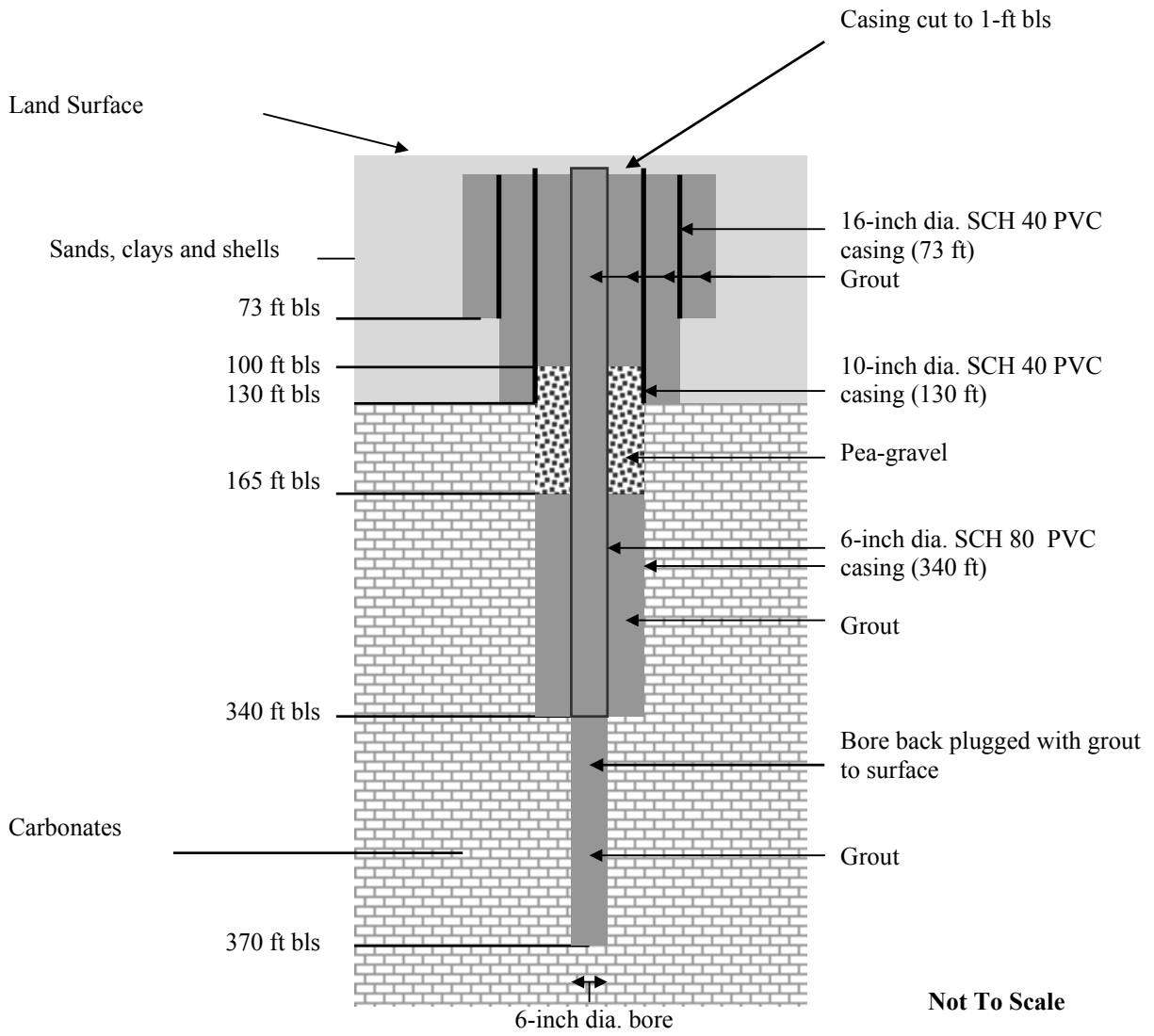
Figure 2. Surficial Monitor Well S-1288



Site:	Geneva Fire Station
Driller:	SJRWMD
Well Completed:	February 6, 1996

SJRWMD

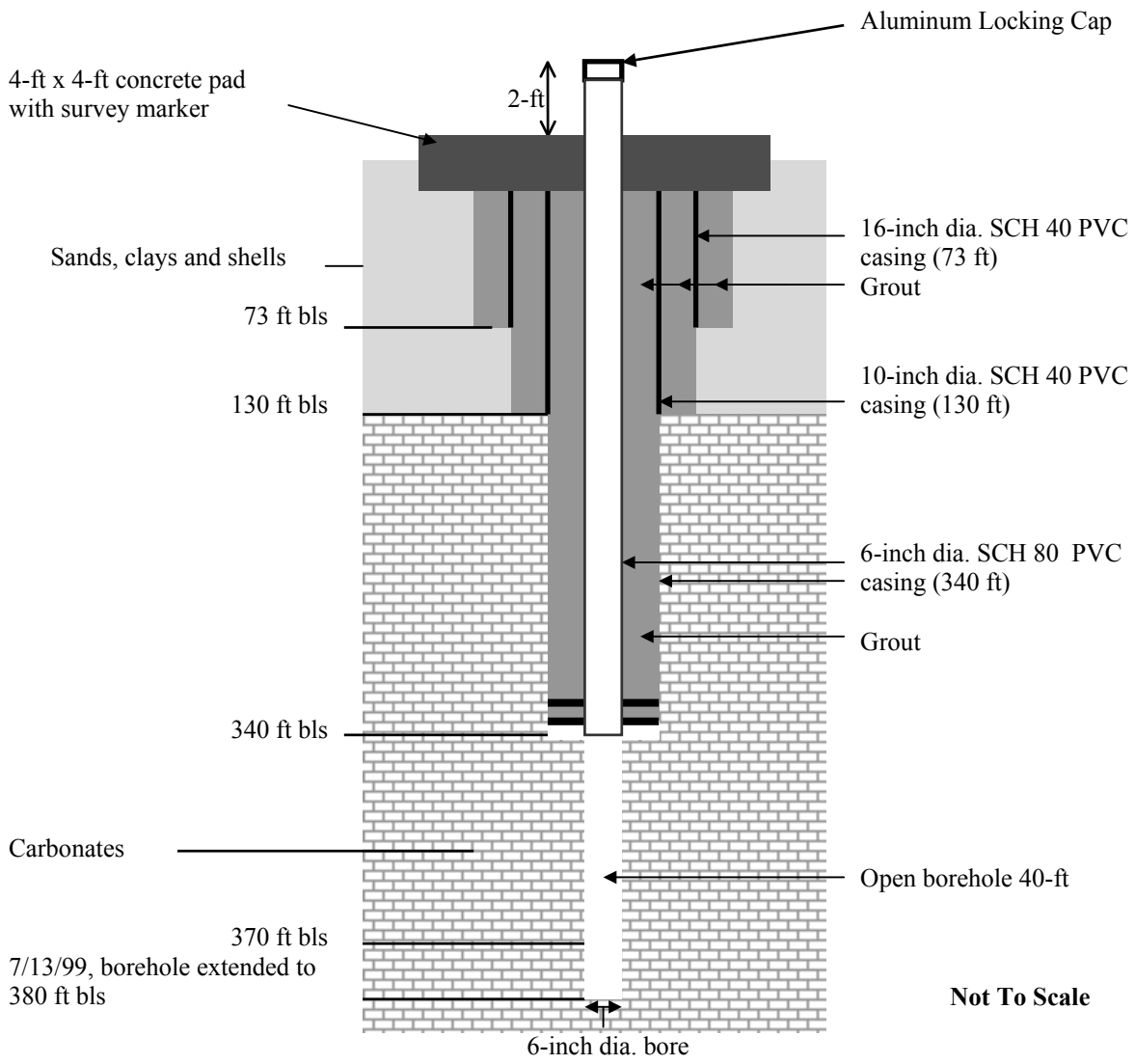
Figure 3. Floridan Monitor Well S-1253



Site:	Geneva Fire Station
Driller:	SJRWMD
Well Completed:	April 25, 1996
Well Abandoned:	July 18, 1996

SJRWMD

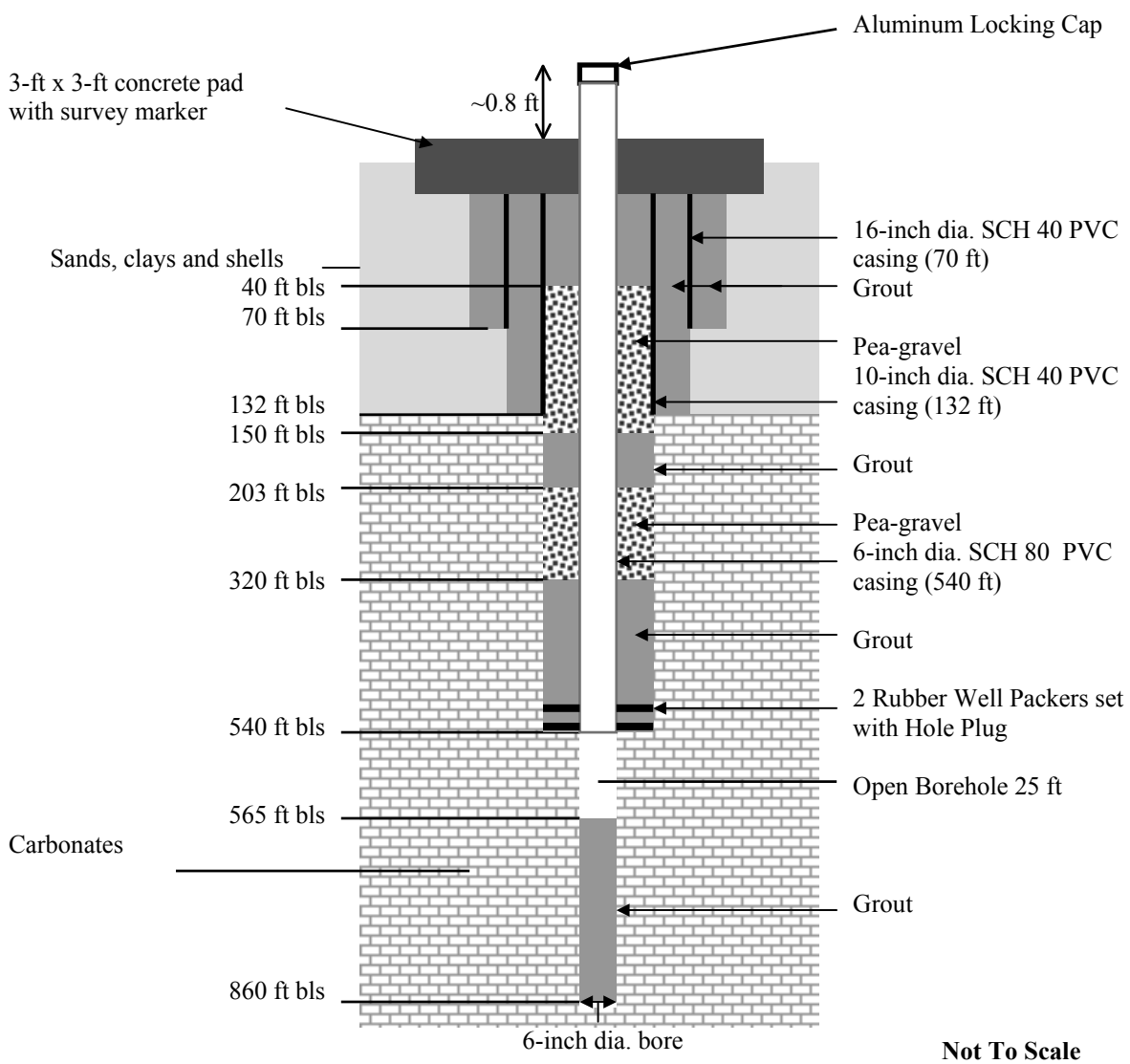
Figure 4. Abandoned Floridan S-1295



Site:	Geneva Fire Station
Driller:	SJRWMD Huss Drilling Inc.
Well Completed:	August 19, 1996
Borehole Extended:	July 13, 1999

SJRWMD

Figure 5. Floridan Monitor Well S-1328



Site:	Geneva Fire Station
Driller:	SJRWMD
Well Completed:	March 27, 1996

SJRWMD

Figure 6. Floridan Monitor Well S-1224

Table 1. Ground Water Levels

Site: Geneva Fire Station **Well Number**: S-1224

Hydrologist: A. Story

Water Levels			Well Borehole Characteristics	
Date/Time (yy:mm:dd/hh:mm)	**Casing (ft bls)**	**Rod (ft bls)**	**Total Depth (ft bls)**	**Open Hole (ft)**
951018/1245	49.7	46.5	140	8
951019/0715	46.4	46.2	152	20
951019/0825	46.35	46.65	160	28
951023/1100	45.3	46.2	180	48
951023/1255	45.46	46.4	200	68
951023/1400	45.8	46.25	220	88
951024/0700	45.45	46.35	240	108
951024/0840	45.35	46.65	260	128
951024/1020	45.5	46.4	280	148
951024/1132	46.4	45.8	300	168
951024/1420	45.6	46.55	320	208
951025/0710	45.6	46.9	340	228
951025/0950	45.9	46.9	360	248
951025/1300	45.95	46.9	380	268
951025/1450	46	46.9	400	288
951026/0715	45.5	46.9	420	318
951030/1115	46	NR	450	328
951030/1310	47	48.2	460	348
951030/1457	47.4	48.1	480	368
951031/0633	46.1	48.7	500	388
951031/0812	46.4	47.1	520	408
951031/1003	46.3	48.3	540	420
951101/0730	46.1	48.1	552	420
960117/0845	46.5	47.55	552	420
960117/1110	46.6	47.65	560	428
960117/1450	46.9	47.9	580	448
960118/0645	46.65	47.9	600	468
960118/0943	46.85	47.95	620	488
960118/1158	46.95	48	640	508
960122/1115	46.7	47.7	660	528
960122/1338	46.9	47.95	680	548
960123/0700	46.85	47.75	690	558
960123/0823	46.85	47.95	700	568

Table 1. Ground Water Levels

Site: Geneva Fire Station **Well Number**: S-1224

Hydrologist: A. Story

Water Levels			Well Borehole Characteristics	
Date/Time (yy:mm:dd/hh:mm)	**Casing (ft bls)**	**Rod (ft bls)**	**Total Depth (ft bls)**	**Open Hole (ft)**
960123/1146	47	48	720	588
960123/1408	47	48.1	740	608
960124/0655	46.65	49.05	753	621
960124/1040	48.85	48.15	760	628
960124/0815	46.9	48.2	780	648
960227/1025	47.7	48.9	795	663
960227/1525	47.8	48.85	800	668
960228/0710	47.85	48.15	805	673
960228/0914	47.9	49.2	820	688
960228/1239	47.7	49.5	840	708

Table 2. Drilling Rate

Site: Geneva **Well Number:** S-1224

Hydrologist: A. Story

Drilling Time Data			
Bit Size (inch)	From (ft bls)	To (ft bls)	Time (ft/hr)
10	552	560	12
10	560	570	10
10	570	580	27
10	580	590	20
10	590	600	24
10	600	610	50
10	610	620	50
10	620	630	27
10	630	640	60
10	640	650	40
10	650	660	60
10	660	670	22
10	670	680	21
10	680	690	10
10	690	700	40
10	700	710	8
10	710	720	30
10	720	730	24
10	730	740	16
10	740	750	12
10	750	753	5
10	753	760	14
10	760	770	25
10	770	780	13
10	780	790	12
10	790	795	8
10	795	800	7
10	800	805	8
10	805	810	5
10	810	820	21
10	820	830	10
10	830	840	11
10	840	850	23
10	850	860	26

Table 3. **Groundwater Quality**

Site: Geneva Fire Station **Well Number**: S-1288

Hydrologist: A. Story

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Screen Interval (ft bls)	Temp (Deg C)	pH	Chlorides (mg/L)	Specific Conductivity (us/cm)
	960502/0815	20-30	23.0	5.3	-	199

Table 4. **Groundwater Quality**

Site: Geneva Fire Station **Well Number**: S-1328

Hydrologist: A. Story

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Specific Conductivity (us/cm)
	960815/1130	370	30	25	12.3	234

Table 5. **Groundwater Quality**

Site: Geneva Fire Station **Well Number**: S-1224

Hydrologist: A. Story

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Specific Conductivity (us/cm)
	951018/1037	140	8	24	7.6	310
	951019/0810	160	28	24	12.3	310
	951019/1100	180	48	17	11.5	358
	951023/1232	200	68	26	12.1	277
	951023/1338	220	88	26	12.8	297
	951023/1612	240	108	25	NR	303
	951024/0817	260	128	23	6.2	281
	951024/0927	280	148	24	76	286
	951024/1120	300	168	26	86	275
	951024/1405	320	188	26	138	276
	951024/1612	340	208	26	52.8	274
	951025/0905	360	228	23	62.8	296
	951025/1227	380	248	25	53.6	282
	951025/1430	400	268	26	26	279
	951025/1600	420	288	26	24	289
	951026/0845	440	308	23	58	302
	951030/1300	460	328	24	36	300
	951030/1457	480	348	24	19.2	287
	951030/1630	500	368	24	1.8	283
	951031/0800	520	388	24	18.8	281
	951031/0945	540	408	25	26.4	283
	951101/0750	552	420	24	24.6	289
	960117/1022	560	428	24.5	11.1	301
	960117/1303	570	438	23.5	12	310
	960117/1427	580	448	24	12.8	308
	960117/1543	590	458	23	8.5	311
	960118/0730	600	468	22	13.7	308
	960118/0827	610	478	22.5	11.9	311
	960118/0910	620	488	23.5	11.2	310
	960118/1027	630	498	24	13.4	314
	960118/1113	640	508	24	11.6	308
	960118/1235	650	518	25	9.8	306
	960118/1307	660	528	25	11.8	303
	960122/1217	670	538	24	12.4	317
	960122/1315	680	548	24	13	311

Table 5. **Groundwater Quality**

Site: Geneva Fire Station **Well Number**: S-1224

Hydrologist: A. Story

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Specific Conductivity (us/cm)
	960122/1500	690	558	23	11.9	315
	960123/0747	700	568	21.5	8.4	310
	960123/1000	710	578	23	3.4	353
	960123/1100	720	588	24	6.3	346
	960123/1235	730	598	25.5	5.6	341
	960123/1345	740	608	24	4.9	337
	960123/1519	750	618	24	7.1	347
	960124/0740	760	628	22.5	3.5	320
	960124/0900	770	638	22.5	4.6	328
	960124/1023	780	648	24	4.2	329
	960124/1157	790	658	24.5	3.8	322
	960227/1450	800	668	25	207	1111
	960228/0833	810	678	22.5	197	1400
	960227/0934	820	688	23	259	1481
	960227/1125	830	698	25	146	1111
	960227/1259	840	708	25	126	1161
	960227/1403	850	718	25.5	157	1349
	960227/1458	860	728	25	311	1798

Table 6. **Down Hole Sample Groundwater Quality**

Site: Geneva Fire Station **Well Number**: S-1224

Hydrologist: R. Brooks, A. Story

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Specific Conductivity (us/cm)
	951101/1000	535	403	26	14	294
	*960126/1201	785	653	25	6960	20200
	960126/1215	730	598	25	22.6	306
	960126/1253	680	548	25	18.4	301
	960126/1317	750	618	24	53.6	428
	960126/1340	785	653	24	1045	3791
	960229/1000	860	728	22.5	10800	30542
	960229/1025	830	698	22.5	1340	4876
	960229/1045	800	668	22.5	1005	3309
	960229/1130	775	643	22.5	490	1866
	960229/1145	750	618	22	417	1766
	960229/1220	725	593	22	81	642
	960304/1710	300	168	22	23.9	348
	960304/1655	450	318	22	28	351
	960304/1645	860	728	22.5	1260	4486
	960304/1730	860	728	22	1185	4475
	960311/1545	750	618	20	37	695

Comments:
1/25/96, Pulled drill rods out of bore.
2/28/96, Pulled 360 ft of drill rods out of bore.
1/25/96, Pulled 500 ft of drill rods out of bore.
*Possible cross contamination from sampling tool, resample.

Table 7. Groundwater Quality After Well Completion

Site: Geneva Fire Station

Hydrologist: R. Brooks

LAB ✓	Well ID	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Temp (Deg C)	pH	Chlorides (mg/L)	Specific Conductivity (us/cm)
	S-1224	960515/1235	560	25	8.2	23.5	342
	S-1224	960515/1255	541	25	7.8	21.8	339
	S-1253	960515/1320	279	25.5	8.0	12.2	257
	S-1253	960515/1410	132	25	8.0	13.2	278
	S-1295	960515/1045	371	25	11.6	16.0	1751
	S-1295	960515/1430	302	25	11.3	8.2	1751

Comments: Samples collected with down hole tool.

Table 8. Grout Data

Site: Geneva Fire Station **Well Number**: S-1253

DATE	TAG DEPTH (ft bls)	ANNULUS/ BORE (inch dia.)	VOLUME (yds/bags)	GROUT/ MATERIAL	COMMENTS
1/30/96	73	15-A	32 bags	Grout	Set 73 ft of 10 inch dia. PVC casing; grout through tremie pipe
1/31/96	8	15-A	~2 bags	Grout	Grout through tremie pipe to surface
1/31/96	132	10-A	~25 bags	Grout	Set 130 ft of 6 inch dia. SCH 80 PVC casing; grout through tremie pipe
2/13/96	12	10-A	2 bags	Grout	Grout through tremie pipe to surface

Table 9. **Grout Data**

Site: Geneva Fire Station **Well Number**: S-1295

DATE	TAG DEPTH (ft bls)	ANNULUS/ BORE (inch dia.)	VOLUME (yds/bags)	GROUT/ MATERIAL	COMMENTS
4/2/96	73	22-A	31 bags	Grout	Set 73 ft of 16 inch dia. PVC casing; grout through tremie pipe
4/3/96	15	22-A	-	-	Tag only
4/4/96	130	15-A	20 bags	Grout	Set 130 ft of 10 inch dia. PVC casing; grout through tremie pipe
4/8/96	78	15-A	33 bags	Grout	Grout through tremie pipe
4/9/96	0	15-A	-	-	Tag only
4/16/96	340	10-A	21 bags	Grout	Set 340 ft of 6 inch dia. SCH 80 PVC well casing; grout through tremie pipe (leaking swivel prevented pressure grouting)
4/17/96	322	10-A	3 yards	Grout	Grout through tremie pipe, water return out of 6 inch casing; possible casing breech or bottom of casing not properly sealed
4/18/96	200	10-A	17 bags	Grout	Grout through tremie pipe
4/22/96	165	10-A	1.5 yards	Gravel	Gravel used to fill voids
4/22/96	100	10-A	21 bags	Grout	Grout through tremie pipe
4/30/96	3	10-A	.05 bags	Grout	6 inch dia. casing grouted to surface
4/30/96	11	22-A	8 bags	Grout	16 inch dia. casing grouted to surface
7/17/96	370	6-B	3 yards	Grout	Well abandoned, back plug well to surface
7/18/96	0	6-B	-	-	Tag only

Table 10. **Grout Data**

Site: Geneva Fire Station **Well Number**: S-1328

DATE	TAG DEPTH (ft bls)	ANNULUS/ BORE (inch dia.)	VOLUME (yds/bags)	GROUT/ MATERIAL	COMMENTS
7/23/96	73	22-A	33 bags	Grout	Set 73 ft of 16 inch dia. PVC casing; grout through tremie pipe
7/24/96	31	22-A	17 bags	Grout	Grout through tremie pipe
7/24/96	4	22-A	-	-	Tag only
7/25/96	130	15-B	13 bags	Grout	Back plug bore to seal lost circulation zone
7/30/96	130	15-A	6-5 gal buckets 31 bags	Gravel Grout	Set 130 ft of 10 inch dia. PVC casing; add gravel and grout through tremie pipe
7/31/96	80	15-A	33 bags	Grout	Grout through tremie pipe
8/1/96	3	15-A	-	-	Tag only
8/7/96	340	10-A	2-5 gal buckets 10 bags	Bentonite Grout	Set 540 ft of 6 inch dia. SCH 80 PVC well casing with 2 rubber well packers attached at ~ 539 ft and 538 ft
8/8/96	325	10-A	3 yards	Grout	Grout through tremie pipe
8/12/96	160	10-A	-	-	Tag only, inclement weather delayed grouting
8/13/96	160	10-A	3 yards	Grout	Grout through tremie pipe
8/14/96	90	10-A	21 bags	Grout	Grout through tremie pipe
8/15/96	2	10-A	-	-	Tag only
8/19/96	2	10-A	1 bag	Grout	6 inch dia. casing grouted to land surface
8/19/96	2	15-A	1 bag	Grout	10 inch dia. casing grouted to land surface
8/19/96	1	22-A	1 bag	Grout	16 inch dia. casing grouted to land surface

Table 11. **Grout Data**

Site: Geneva Fire Station **Well Number**: S-1224

DATE	TAG DEPTH (ft bls)	ANNULUS/ BORE (inch dia.)	VOLUME (yds/bags)	GROUT/ MATERIAL	COMMENTS
10/11/95	70	A-22	33 bags	Grout	Set 70 ft of 16 inch dia. PVC casing; grout through tremie pipe
10/12/95	4	A-22	-	-	Tag only
10/17/95	132	A-16	48 bags	Grout	Set 132 ft of 10 inch dia. PVC casing; grout through tremie pipe
10/26/95	40	A-16	15 bags	Grout	Grout through tremie pipe
3/7/96	860	B-10	47 bags	Grout	Back plug bore
3/13/96	779	B-10	4 yards	Grout	Back plug bore
3/14/96	660	B-10	2 yards	Grout	Back plug bore
3/15/96	600	B-10	18 bags	Grout	Back plug bore
3/18/96	565	B-10	-	-	Final tag on bore
3/18/96	540	B-10	2-50 lb. buckets	Bentonite	Set 540 ft of 6 inch dia. SCH 80 PVC well casing with 2 rubber well packers attached at ~ 539 ft and 538 ft
3/19/96	525	A-10	11 bags	Grout	Grout through tremie pipe
3/20/96	505	A-10	3 yards	Grout	Grout through tremie pipe
3/21/96	407	A-10	3 yards	Grout	Grout through tremie pipe
3/25/96	342	A-10	36 bags	Grout	Grout through tremie pipe
3/26/96	320	A-10	5 yards	Gravel	Gravel used to fill voids
3/26/96	203	A-10	2 yards	Grout	Grout through tremie pipe
3/27/96	150	A-10	0.5 yards	Gravel	Gravel used to fill voids
3/27/96	40	A-10	12 bags	Grout	Grout through tremie pipe
3/28/96	4	A-10	1 bag	Grout	Grout through tremie pipe to surface

Lithologic Description

Site: Geneva Fire Station **Well ID:** S-1288

Samples Described By: Alan Story

From (ft)	To (ft)	Lithology
0	5	Sand, light orange
9	11	Sand, light tan
14	16	Sand, light orange and tan
19	21	Sand, silty, white
24	26	Sand, silty, creme
29	31	Sand, silty, light orange
34	36	Sand, silty, orange; minor clay
39	41	Sandstone, coarse
44	46	Clay, greenish blue, solid; minor shell 5%
49	51	Clay, dark greenish blue, solid
54	56	Clay, dark green, solid
59	61	Clay, dark green, stiff
64	66	Clay, dark green, solid; minor shell 3%
69	71	Clay, dark green, solid; minor shell 3%

Lithologic Description

Site: Geneva Fire Station **Well ID:** S-1253

Samples Described By: Alan Story, Ron Wilkinson

From (ft)	To (ft)	Lithology
0	15	Sand, fine to medium, yellowish brown
15	35	Clay and fine sand, pale orange
35	45	Sandstone and shell
45	130	Shell, clay and sandstone
130	280	Limestone, orange to pale orange

Lithologic Description

Site: Geneva Fire Station **Well ID:** S-1295

Samples Described By: Alan Story, Ron Wilkinson

From (ft)	To (ft)	Lithology
0	15	Sand, yellowish brown
15	35	Clay and fine sand
35	45	Sandstone and shell
45	105	Shell and clay, blue-gray
105	130	Shell, clay and sanstone
130	300	Limestone, orange to pale orange, soft and silty
300	315	Limestone, orange to pale orange, hard
315	327	Limestone, orange to pale orange, soft and silty
327	370	Not recorded

Lithologic Description

Site: Geneva Fire Station **Well ID:** S-1328

Samples Described By: Alan Story, Ron Wilkinson

From (ft)	To (ft)	Lithology
0	15	Sand, yellowish brown
15	35	Clay, white with fine sand
35	45	Sandstone and shell
45	73	Shell and clay, blue-gray
73	105	Shell, clay and sandstone
128	130	Not recorded
130	340	Limestone, orange to pale orange
340	370	Limestone, pale orange to medium brown

Lithologic Description

Site: Geneva Fire Station **Well ID:** S-1224

Samples Described By: Alan Story, Ron Wilkinson

From (ft)	To (ft)	Lithology
0	15	Sand, yellowish brown, fine to medium
15	35	Clay, pale orange, sandy
35	40	Sandstone, gray to orange, fine to very coarse
40	45	Sandstone, gray to orange, fine to very coarse with shell fragments
45	55	Shell, with clay and sandstone
55	105	Clay, gray, with shell inclusions
105	130	Shell, with clay and sandstone
130	140	Limestone
140	290	Limestone, orange to pale orange
290	490	Limestone, orange to pale orange, mudstone
490	590	Dolomite, dark yellowish brown
590	690	Limestone, orange to pale orange
690	700	Limestone, medium brown, minor dolomite
700	860	Dolomite, medium to dark brown

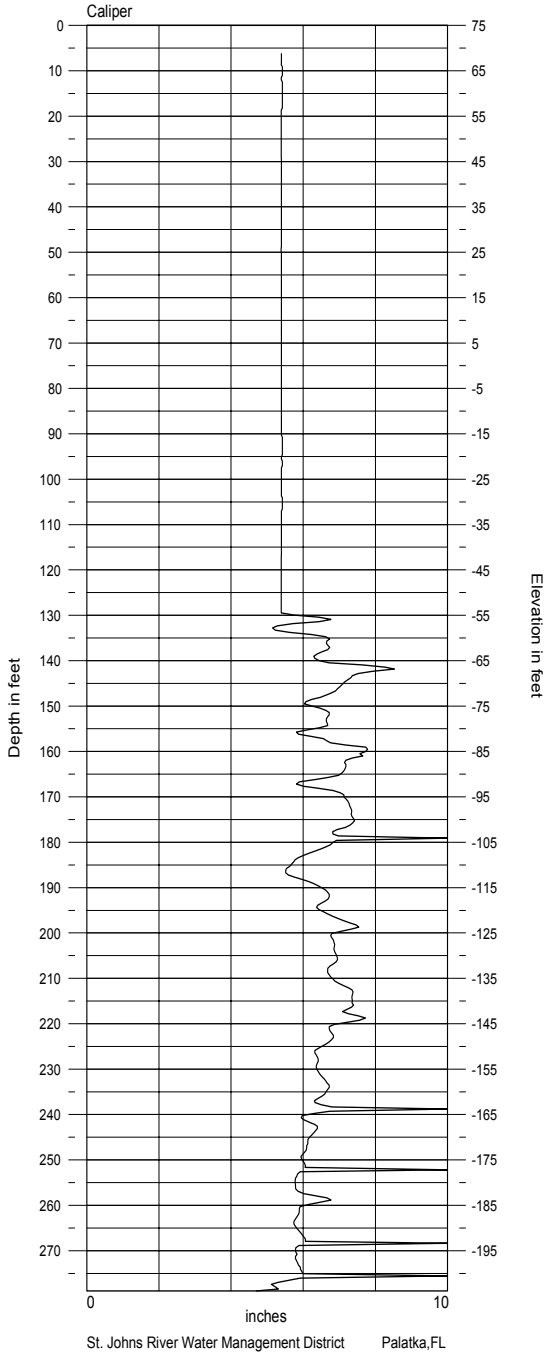
Table 11. Video Surveys

Date	Logger	Well ID	Casing/ Bore dia. (inch)	Survey Depth (ft bls)	Depth (ft bls)	Comments
3/05/96	Deep Venture	S-1225	10/10	857	860	10-inch dia. casing depth 132 ft
5/17/96	FDOT	S-1295	6/6	350	370	Drilled out of casing at 300 ft, hole out of plum causes camera to stop at 350 ft

Geophysical Logs

Site: Geneva **Well ID:** S-1253

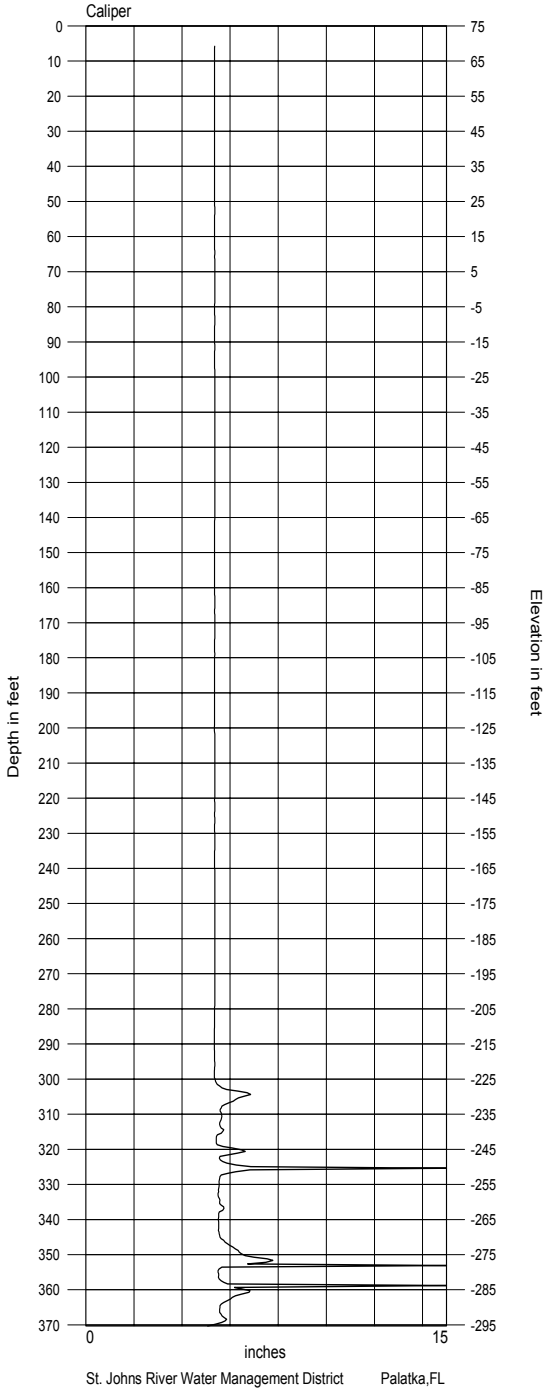
Logger: SJRWMD **Date:** 5/14/96



Geophysical Logs

Site: Geneva **Well ID:** S-1295

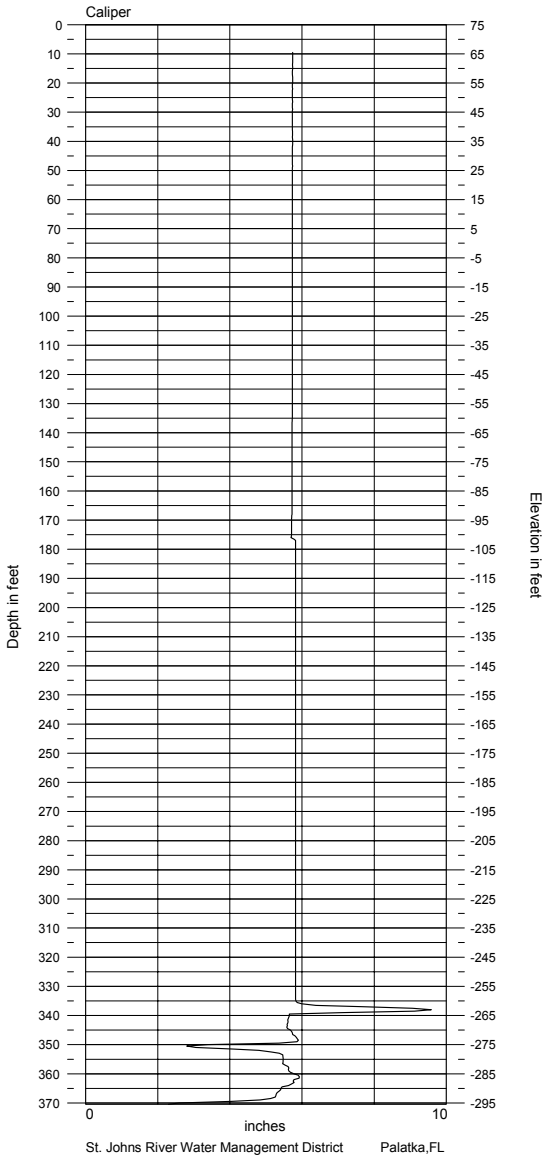
Logger: SJRWMD **Date:** 5/14/96



Geophysical Logs

Site: Geneva **Well ID:** S-1328

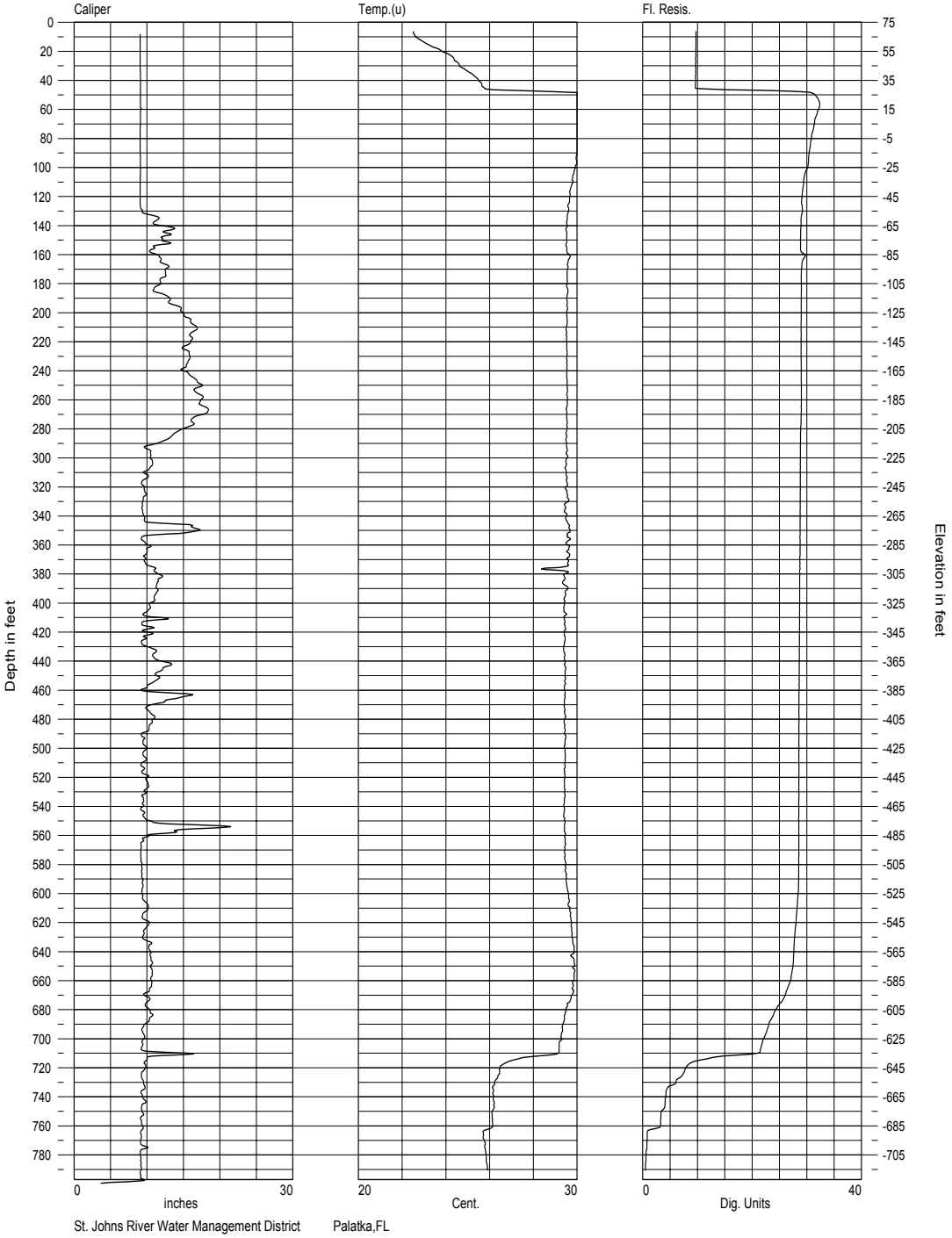
Logger: SJRWMD **Date:** 6/15/99



Geophysical Logs

Site: Geneva **Well ID:** S-1224

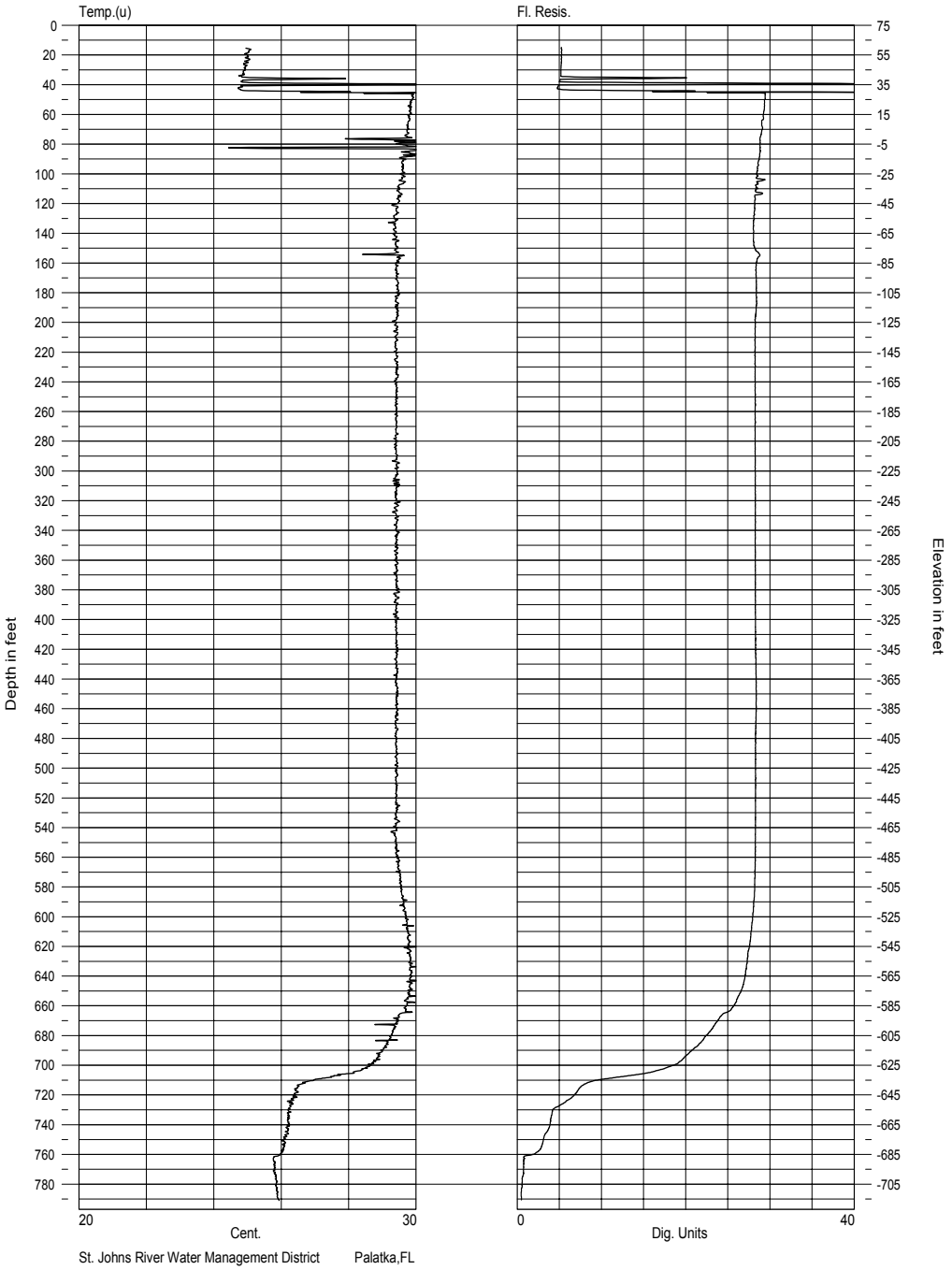
Logger: SJRWMD **Date:** 1/26/96



Geophysical Logs

Site: Geneva **Well ID:** S-1224

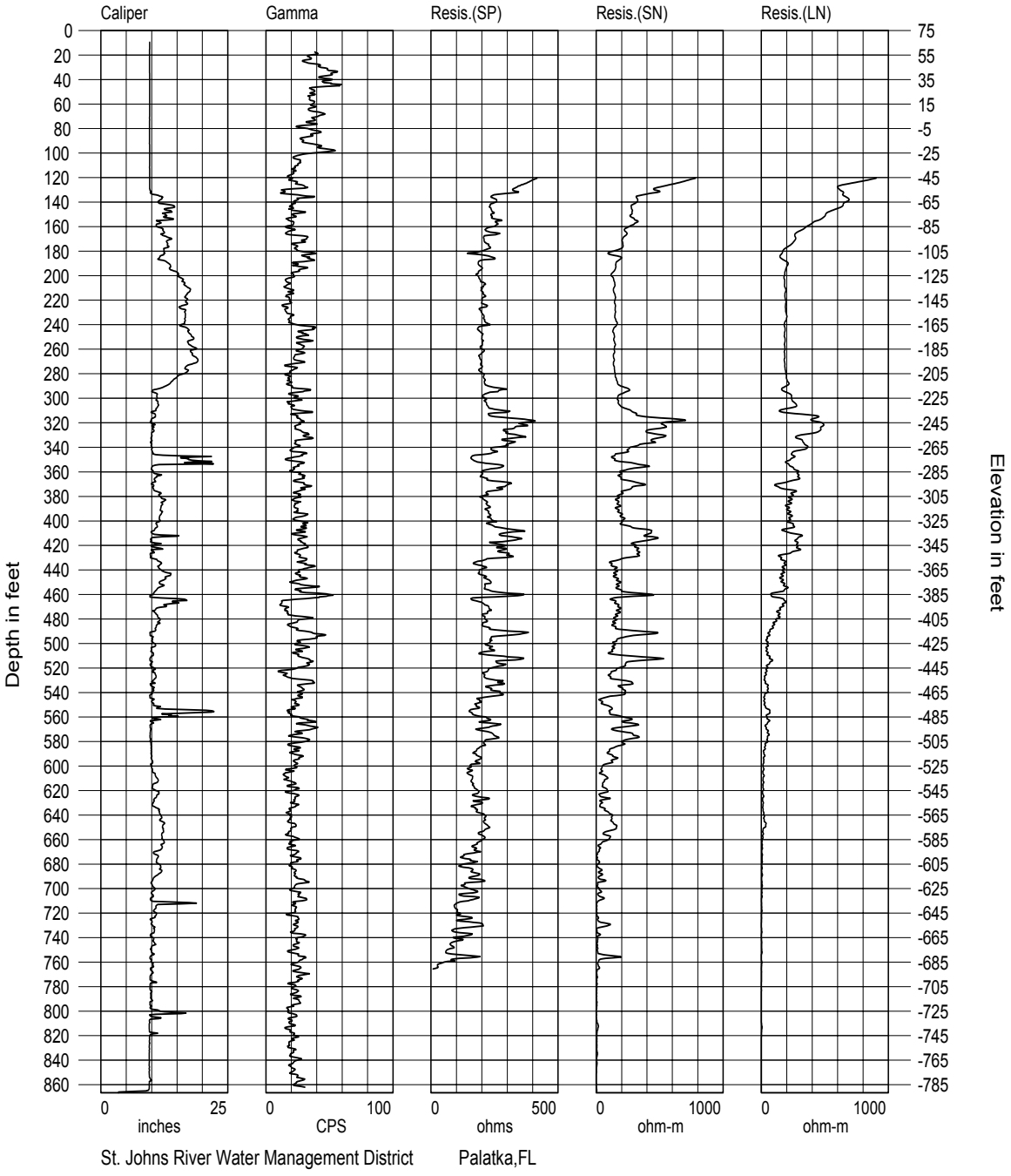
Logger: SJRWMD **Date:** 1/26/96



Geophysical Logs

Site: Geneva **Well ID:** S-1224

Logger: SJRWMD **Date:** 3/08/96



Geophysical Logs

Site: Geneva **Well ID:** S-1224

Logger: SJRWMD **Date:** 5/14/96