DOWN
Construction
Preliminary Data
Lake Mary

Aquifer System Monitor Wells:
Floridan S-1351
Floridan S-1406
Floridan S-1407
Floridan S-1408

Test Borehole S-1357

SJRWMD Program No. 31-58200

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

July 15, 1999

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

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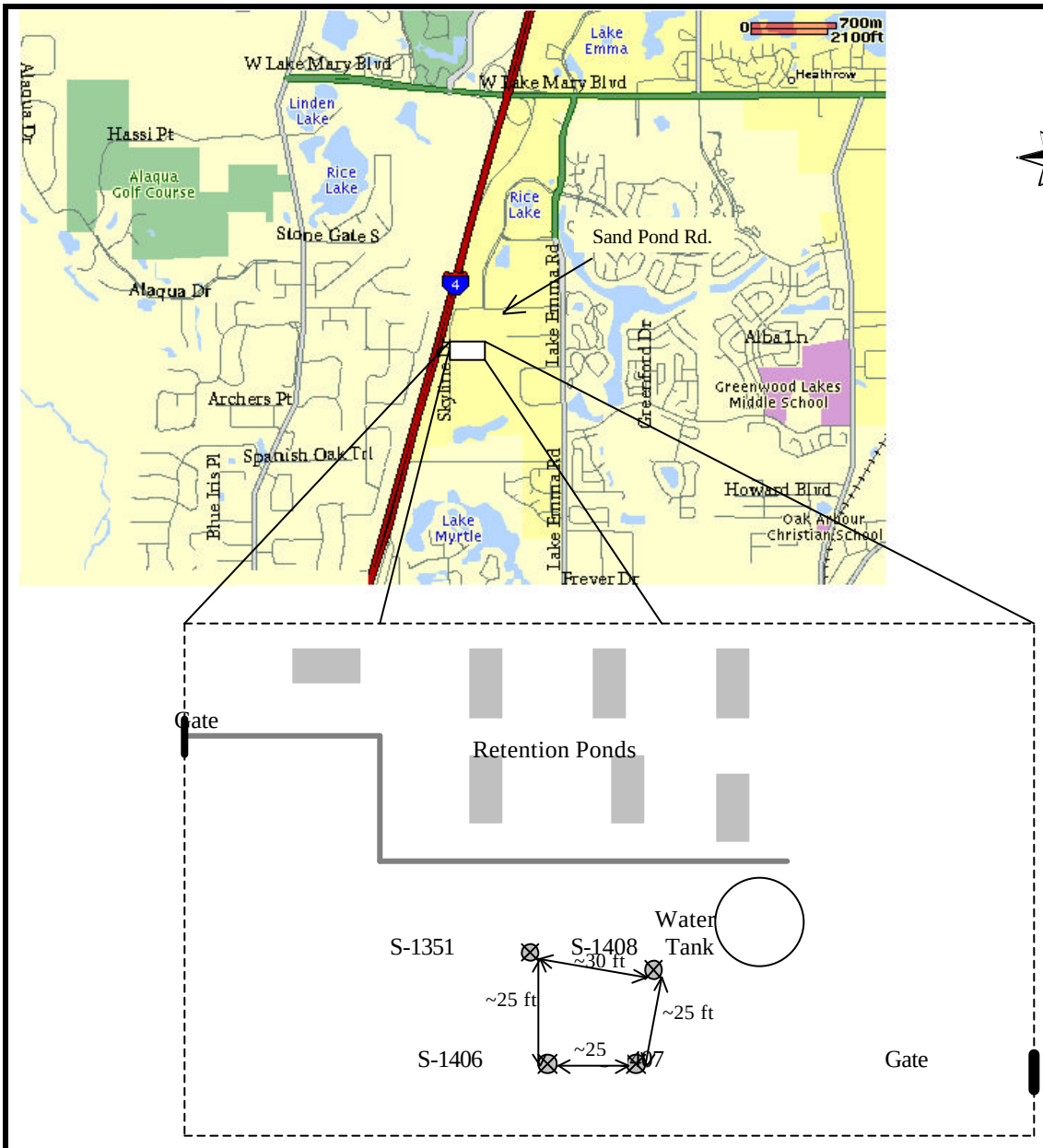
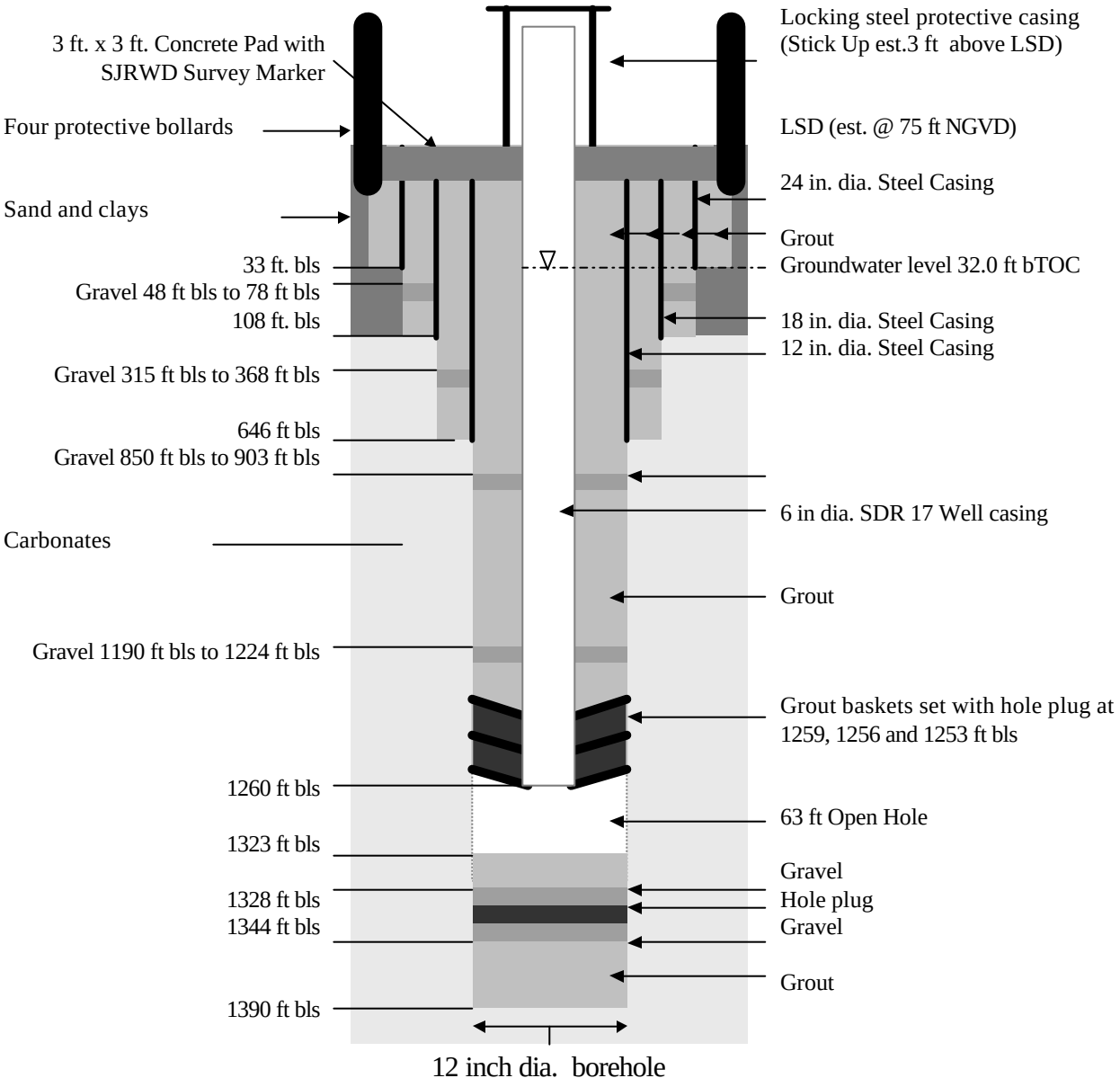


Site:	Lake Mary
GPS Lat/Long:	284407/812155
TRS:	20s 29e 24
Topo:	Casselberry
Site Elevation:	~75 NGVD
Project No:	31-58200

SJRWMD

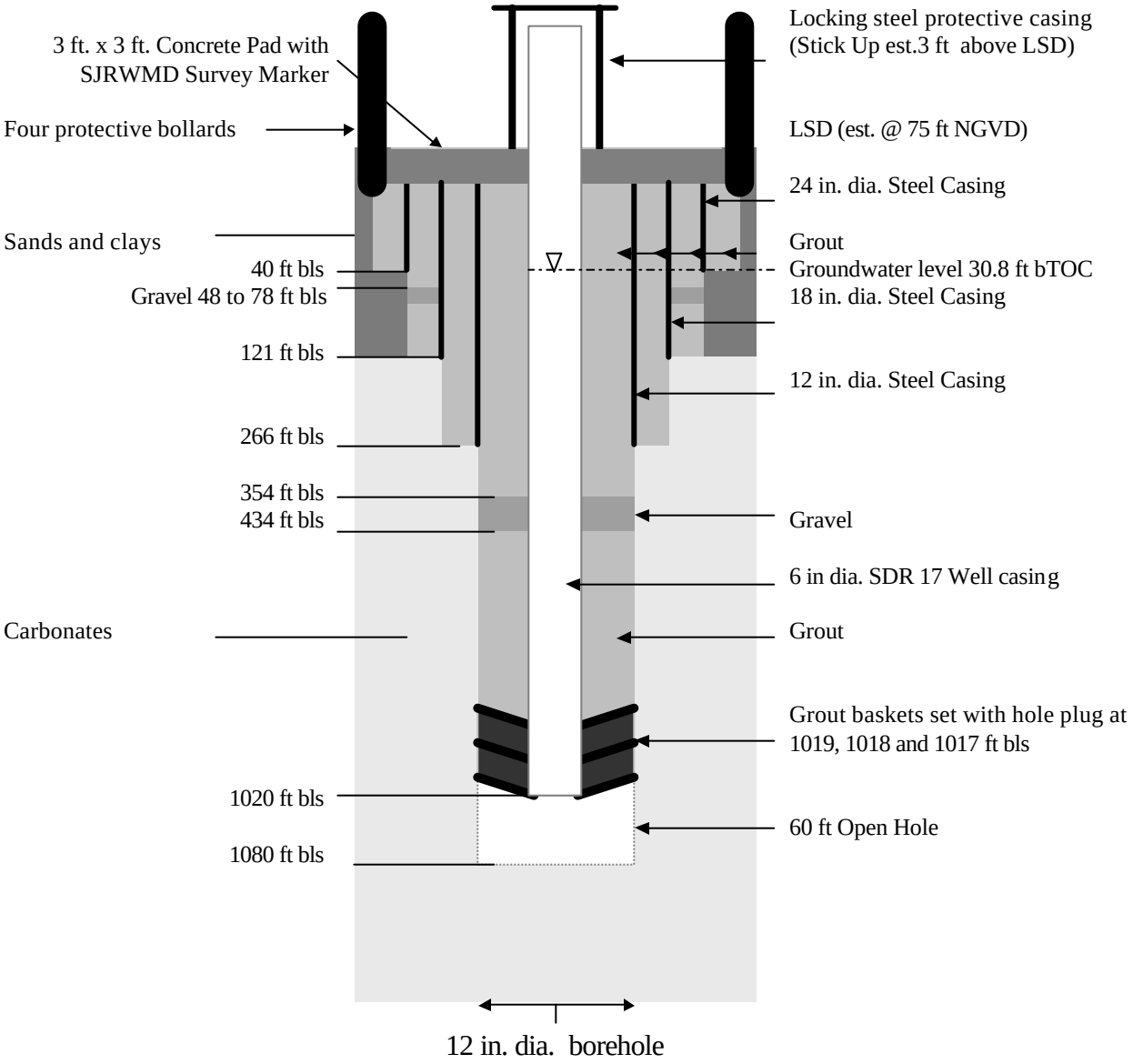
Figure 1. Site Map



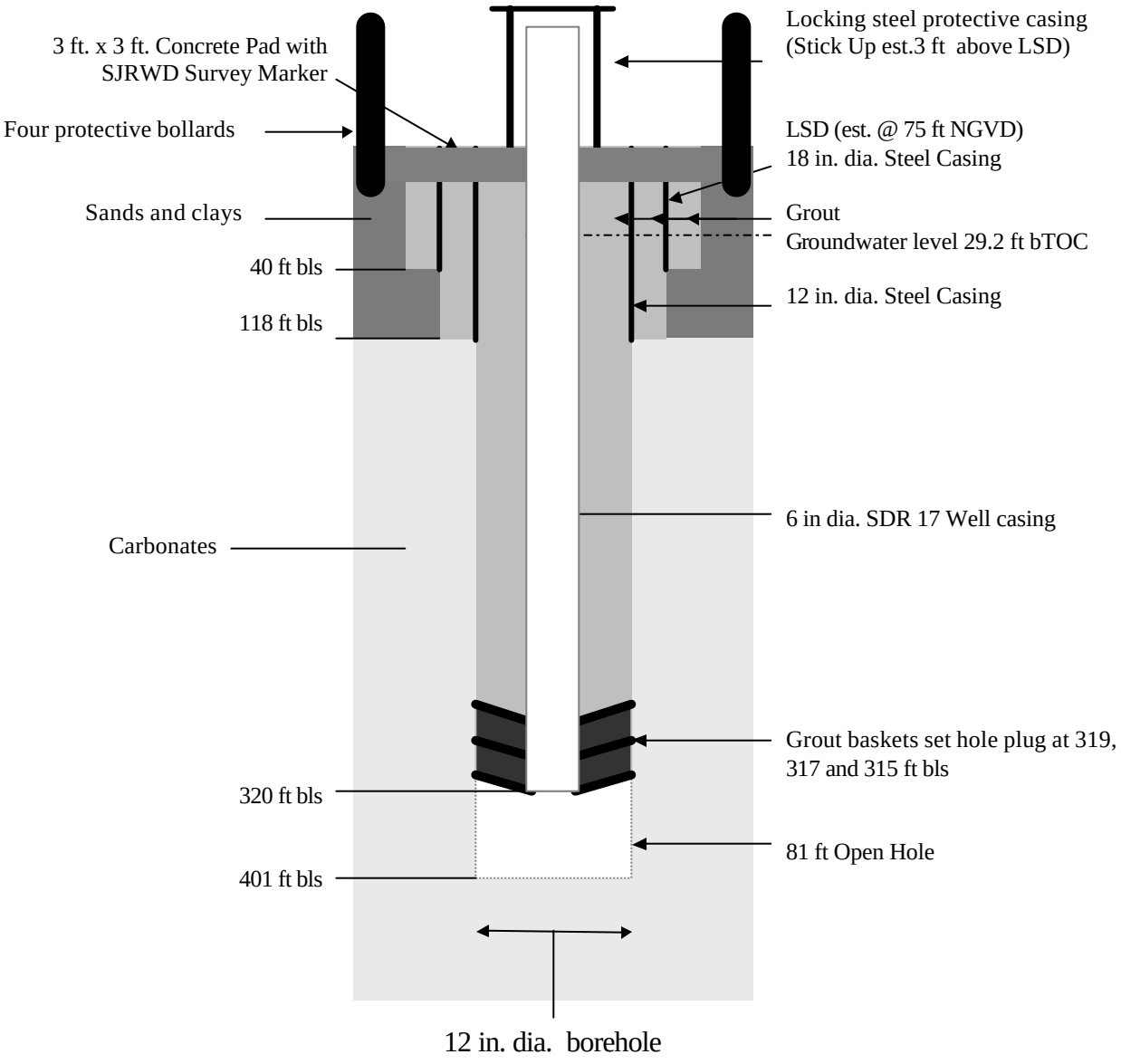
Site:	Lake Mary
Well Completed:	February 3, 1999
Started by:	ADI
Completed by:	SWSI

SJRWMD

Figure 2. Floridan Monitor Well S-1351

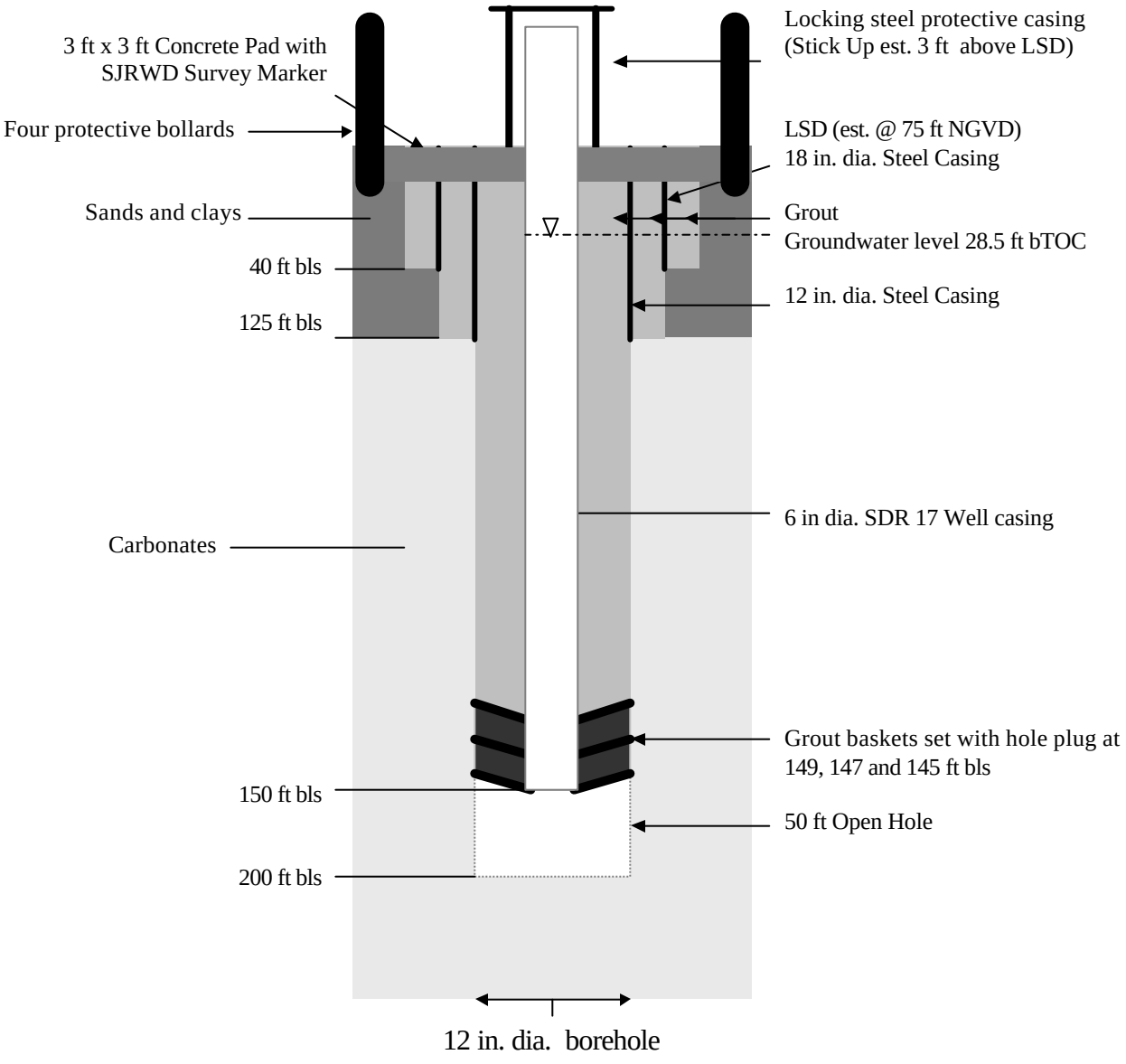


Site: Lake Mary	**SJRWMD**
Driller: SWSI	**Figure 3.** Floridan Monitor Well S-1406
Well Completed: February 10, 1999	



Not To Scale

Site: Lake Mary	**SJRWMD**
Driller: SWSI	**Figure 4.** Floridan Monitor Well S-1407
Well Completed: February 17, 1999	



Not To Scale

Site: Lake Mary	**SJRWMD**
Driller: SWSI	**Figure 5.** Floridan Monitor Well S-1408
Well Completed: April 27, 1999	

Table 1. Groundwater Levels and Drilling Data (page 1 of 2)

Site: Lake Mary **Well Number:** S-1351

Water Levels				Borehole		Drilling Data				
Static ✓	Date/Time (yymmdd/hhmm)	Casing (ft, bls)	Rod (ft, bls)	Total Depth (ft, bls)	Open Hole (ft)	Bit Size (in)	From (ft, bls)	To (ft, bls)	Time (min)	Rate (ft/hr)
✓	970717/0720	22.1	NR	82	49	23	-	-	-	-
	970717/0905	22.0	21.3	103	70	23	-	-	-	-
	970718/0715	22.0	21.9	110	77	23	-	-	-	-
	970801/0730	22.2	22.4	123	15	23	-	-	-	-
	970804/0927	22.2	22.2	123	15	17 7/8	128	152	65	22
	970813/1335	21.7	22.2	152	44	17 7/8	152	170	*210	5
✓	970814/0820	21.3	21.3	170	62	17 7/8	170	183	*100	8
	970814/1118	21.7	21.4	183	75	17 7/8	183	213	140	13
	970814/1440	22.3	21.4	213	105	17 7/8	213	222	105	5
✓	970815/0745	21.2	21.2	222	114	17 7/8	222	225	30	6
	970820/0855	21.5	21.3	225	117	17 7/8	225	243	80	14
	970820/1150	20.2	21.5	243	135	17 7/8	243	275	105	18
	970820/1500	21.7	21.4	275	167	17 7/8	275	306	125	15
	970820/1730	21.5	21.6	306	198	17 7/8	306	338	250	8
✓	970821/0735	21.4	21.4	338	198	17 7/8	338	341	20	9
	970821/1435	21.8	21.3	341	230	17 7/8	341	369	210	8
✓	970822/0750	21.5	21.4	369	233	17 7/8	369	377	105	5
	970822/1210	21.9	21.4	377	261	17 7/8	377	383	**210	2
✓	970826/1145	21.2	21.2	383	269	17 7/8	383	386	**70	2
✓	970827/0800	21.4	21.4	386	275	17 7/8	386	389	**60	3
✓	970828/0750	21.4	21.4	389	278	17 7/8	389	401	25	29
	970828/1410	21.3	21.3	401	293	17 7/8	401	433	145	13
✓	970829/0756	22.0	21.9	433	325	17 7/8	433	465	148	13
	970829/1319	21.8	21.8	465	357	17 7/8	465	496	72	26
✓	970902/0845	21.5	21.5	496	388	17 7/8	496	526	210	8
	970902/1420	21.6	21.5	526	418	17 7/8	526	556	113	16
	970902/1653	21.5	21.5	556	448	17 7/8	556	559	20	9
✓	970903/0800	21.5	21.5	559	451	17 7/8	559	588	150	11
	970903/1635	21.5	21.5	588	480	17 7/8	-	-	-	-
✓	970904/0810	21.5	21.5	588	480	17 7/8	588	619	170	11
	970904/1540	21.4	21.7	619	511	17 7/8	619	650	140	13
✓	970905/1000	21.5	21.5	650	542	17 7/8	-	-	-	-

***** Bit stops up with cuttings slows drilling
**Airline problems

Table 1. Groundwater Levels and Drilling Data (page 2 of 2)

Site: Lake Mary **Well Number:** S-1351

Water Levels				Borehole		Drilling Data				
Static ✓	Date/Time (yymmdd/hhmm)	Casing (ft, bls)	Rod (ft, bls)	Total Depth (ft, bls)	Open Hole (ft)	Bit Size (in)	From (ft, bls)	To (ft, bls)	Time (min)	Rate (ft/hr)
	981202/1300	NR	NR	660	14	11 7/8	651	660	10	54
	981202/NR	NR	NR	690	44	11 7/8	660	690	108	17
✓	981204/0800	22.6	22.6	720	74	11 7/8	690	720	NR	NR
	981204/1040	23.2	23.7	746	100	11 7/8	720	746	115	16
	981204/1240	23.2	23.7	777	131	11 7/8	746	777	120	16
	981207/1310	24.8	24.9	808	162	11 7/8	777	808	70	27
	981207/1425	NR	NR	838	192	11 7/8	808	838	75	24
✓	981208/1106	22.6	23.0	838	192	-	-	-	-	-
✓	981210/NR	22.9	22.7	838	192	-	-	-	-	-
	981210/1630	NR	NR	870	224	11 7/8	838	870	80	24
✓	981214/1800	22.9	23.4	870	224	-	-	-	-	
	981214/2030	24.5	23.5	896	250	11 7/8	870	896	80	20
✓	981215/0700	23.9	23.3	896	250	-	-	-	-	-
	981215/1000	23.6	23.4	926	280	11 7/8	896	926	120	15
	981215/1305	23.5	23.9	956	310	11 7/8	926	956	145	12
	981215/1545	23.6	23.5	986	340	11 7/8	956	987	115	16
	981215/1805	23.6	24.0	1019	373	11 7/8	987	1019	105	18
	981215/2100	23.6	24.5	1050	404	11 7/8	1019	1050	145	13
✓	981216/0700	23.3	23.2	1050	404	-	-	-	-	-
	981216/1045	23.7	23.5	1080	434	11 7/8	1050	1080	145	13
	981216/1250	23.6	23.6	1111	465	11 7/8	1080	1111	90	21
	981216/1400	23.5	23.5	1141	495	11 7/8	1111	1141	40	45
	981216/1510	23.6	23.6	1172	527	11 7/8	1141	1172	40	48
	981216/1930	23.3	NR	1204	559	11 7/8	1172	1204	260	7.4
✓	981217/0740	23.3	NR	1204	559	-	-	-	-	-
	981217/1320	23.5	23.6	1204	559	-	-	-	-	-
	981217/1830	23.6	24.1	1235	590	1 7/8	1204	1235	365	5.1
✓	981218/0700	23.5	24.2	1235	590	-	-	-	-	-
	981218/0850	23.9	24.1	1265	620	11 7/8	1235	1265	60	30
	981218/1010	23.7	24.3	1297	652	11 7/8	1265	1297	45	43
	981218/1350	23.6	24.0	1329	684	11 7/8	1297	1329	125	15
✓	981221/1000	23.5	NR	1345	700	-	-	-	-	-
	981221/1245	23.6	33.2	1358	713	11 7/8	1329	1358	185	9.4
	981221/1540	23.5	31.3	1390	745	11 7/8	1358	1390	150	12.8

***** Bit stops up with cuttings slows drilling

**Airline problems

Table 2. **Groundwater Quality** (page 1 of 2)

Site: Lake Mary **Well Number**: S-1351

Hydrologist: R. Brooks

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
	970717/0905	84	51	26	NR	2372
	970718/0730	110	77	24	NR	504
	970814/0900	170	62	25	22.5	232
	970814/1100	183	75	25	25.1	291
	970814/1405	213	105	25	22.6	307
	970820/1040	243	135	25	18.7	342
	970820/1450	275	167	25	12.5	361
	970820/1725	306	198	24	5.8*	368
	970821/1400	338	230	24.5	15.2	291
	970822/1140	369	261	24.5	18	323
	970828/1545	401	293	25	23.5	366
	970828/1705	433	325	25	24.0	350
	970829/1150	465	357	25	19.0	369
	970829/1442	496	388	25	18.5	352
	970902/1405	526	418	25	23.6	368
	970902/1630	556	448	25	20.5	361
	970903/1630	588	480	25	23.0	371
	970904/1525	619	511	25	21.5	371
	970905/1035	650	542	25	26.5	369

Table 2. **Groundwater Quality** (page 2 of 2)

Site: Lake Mary **Well Number**: S-1351

Hydrologist: A. Story, R. Brooks

LAB ✓	Date/Time (yy:mm:dd/hh:mm)	Sample Depth (ft, bls)	Open Hole (ft)	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
	981202/1700	690	44	24	19.8	258
	981204/0815	720	74	NR	11.8	245
	981204/1035	747	101	24	10.0	240
	981204/1300	777	131	24	10.0	245
	981207/1310	808	162	24	11.1	228
	981207/1425	838	192	24	11.2	229
	981214/1800	870	224	NR	10.1	230
	981215/0725	896	250	24	10.0	235
	981215/0940	926	280	24	10.0	235
	981215/1235	956	310	24	10.0	242
	981215/1520	987	340	24	10.0	242
	981215/1800	1019	373	24	10.0	240
	981216/0740	1050	404	24	10.0	242
	981216/1025	1080	434	24	10.2	240
	981216/1235	1111	465	24	25.0	306
	981216/1352	1141	495	24	25.0	306
	981216/1455	1172	527	24	50.0	408
	981217/0740	1204	559	24	125	579
	981218/0725	1235	590	24	308	1173
	981218/0845	1265	620	24	194	826
	981218/1000	1297	652	24	206	918
	981218/1325	1329	684	24	188	836
	981218/1520	1345	700	24	3,560	13,800
	981221/1155	1358	713	26	4,100	14,600
✓	981221/1530	1390	745	26	4,400	14,700

Table 3. **Grout Data** (page 1 of 3)

Site: Lake Mary **Well ID:** S-1351

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
*6/17/97	40	A-28	84 bgs	grout	Pressure grout 33 ft of 24 inch dia. steel casing; tag grout in casing at 15 ft = 51 bgs (Theoretical 42 bgs)
7/9/97	56	B-28	46 bgs	grout	Back plug lost circulation zone
7/10/97	51	B-28	42 bgs	grout	Back plug lost circulation zone
7/11/97	50	B-28	NA	NA	Final tag, drill out
6/18/97	3	B-28	NA	NA	Final tag
07/23/97	108	A-23	57 bgs	grout	Pressure grout 18 inch dia. steel casing in place from 108 ft bls
07/24/97	78	A-23	10 yds	pea-gravel	Gravel used to fill voids
07/25/97	68	A-23	9 yds	pea-gravel	Gravel used to fill voids
07/25/97	48	A-23	42 bgs	grout	Grout through tremie pipe
07/26/97	35	A-23	21 bgs	grout	Grout through tremie pipe
07/28/97	5	A-23	5 bgs	grout	Grout through tremie pipe
07/29/97	0	A-23	NA	NA	Final tag
07/29/9	95	B-23	NA	NA	Tag grout in 18 in. casing at 95 ft = 21 bags
8/6/97	120	B-23	NA	NA	24 inch and 18 inch settles ~6 inch during drilling; cutting return contains pea-gravel
8/7/97	120	B-23	110 bgs	grout	Pressure grout (back plug)
8/8/97	112	B-23	161 bgs	grout	Pressure grout (back plug)
8/11/97	65	B-23	NA	NA	Final tag 43 ft inside 18 inch casing = 69 bags
9/22/97	646	A-18	70 bgs	grout	Pressure grout 12 inch dia. casing set 646 ft
9/23/97	550	A-18	189 bgs	grout	Grout through tremie pipe
9/24/97	392	A-18	66 bgs	grout	Grout through tremie pipe
9/24/97	368	A-18	8 yds	gravel	Fill voids
9/25/97	330	A-18	4 yds	gravel	Fill voids

*ADI started S-1351and stopped construction after setting/grouting 12 inch dia. steel casing

Table 3. **Grout Data** (page 2 of 3)

Site: Lake Mary **Well ID:** S-1351

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
9/25/97	315	A-18	53 bgs	grout	Grout through tremie pipe
9/26/97	275	A-18	99 bgs	grout	Grout through tremie pipe
9/27/97	233	A-18	99 bgs	grout	Grout through tremie pipe
9/29/97	136	A-18	70 bgs	grout	Grout through tremie pipe
9/30/97	123	A-18	2 yds	gravel	Fill voids
9/30/97	102	A-18	20 bgs	grout	Grout through tremie pipe
10/1/97	80	A-18	62 bgs	grout	Grout through tremie pipe
10/1/97	0	A-18	NA	NA	Final tag
*12/30/98	1260	B-12	2 bgs	hole plug	Trip in SDR 17, 6 in. dia. well casing to 1,260 ft bls; 3 grout baskets filled with hole plug attached 1259, 1256, and 1253 ft bls
12/30/98	1253	A-12	10 bgs 10 bgs	hole plug grout	Pump hole plug and grout to baskets
12/31/98	1249	A-12	10 bgs 10 bgs	hole plug grout	Pump hole plug and grout to baskets
01/04/99	1233	A-12	25 bgs	grout	Grout through tremie pipe
01/05/99	1224	A-12	4 yds	gravel	Gravel used to fill voids
01/06/99 am	1190	A-12	25 bgs	grout	Grout through tremie pipe
01/06/99	1173	A-12	100 bgs	grout	Grout through tremie pipe
01/07/99 am	1062	A-12	100 bgs	grout	Grout through tremie pipe
01/07/99 pm	966	A-12	100 bgs	grout	Grout through tremie pipe
01/08/99	903	A-12	4 yds	gravel	Gravel used to fill voids
01/08/99	850	A-12	25 bgs	grout	Grout through tremie pipe
01/11/99 am	830	A-12	100 bgs	grout	Grout through tremie pipe
01/11/99	713	A-12	100 bgs	grout	Grout through tremie pipe
01/12/99	598	A-12	100 bgs	grout	Grout through tremie pipe
01/13/99	280	A-12	100 bgs	grout	Grout to surface through tremie pipe
01/13/99	1390	B-12	50 bgs	grout	Backplug bore
01/14/99	1390	B-12	50 bgs	grout	Backplug bore
01/15/99	1345	B-12	16 bgs	grout	Backplug bore
01/15/99	1344	B-12	3 yds	gravel	Gravel used to fill voids
01/15/99	1310	B-12	NA	NA	Remove gravel to 1332 ft

*SWSI starts construction; reports casing out of plum.

Table 3. **Grout Data** (page 3 of 3)

Site: Lake Mary **Well ID:** S-1351

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
01/21/99	1332	B-12	12 bgs	hole plug	Hole plug used to avoid grouting open hole zone
01/22/99	No tag	B-12	0.2 yds	gravel	Gravel used to yield a hard tag
01/25/99	1318	B-12	NA	NA	Final tag with tremie pipe
01/27/99	1328	B-12	NA	NA	Caliper log records a 10 ft deeper bore tag
02/02/99	1328	B-12	8 bgs	grout	Grout poured through tremie pipe
02/03/99	1323	B-12	NA	NA	Final tag, grouting complete

Table 4. **Grout Data**

Site: Lake Mary **Well ID:** S-1406

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
01/07/99	40	A-29	85 bgs	grout	Pressure grout 40 ft of 24 inch dia. steel casing to surface
01/11/99	69	A-23	125 bgs	grout	Backplug lost circulation zone
01/12/99	123	A-23	221 bgs	grout	Pressure grout 121 ft of 18 inch dia. steel casing
01/13/99	75	A-23	4 yds	gravel	Gravel used to fill lost circulation zone
01/13/99 am	48	A-23	25 bgs	grout	Grout through tremie pipe
01/13/99 pm	NR	A-23	55 bgs	grout	Grout through tremie pipe
01/14/99	269	A-17	235 bgs	grout	Pressure grout 266 ft of 12 inch dia. steel casing
01/15/99	35	A-17	25 bgs	grout	Grout through tremie pipe
01/29/99	1020	A-12	12 bgs 10 bgs	bentonite grout	Set 6 in. dia. SDR 17 well casing to 1,020 ft; grout baskets attached at 1019, 1018, and 1017 ft
02/01/99	996	A-12	50 bgs	grout	Grout through tremie pipe
02/02/99	945	A-12	115 bgs	grout	Grout through tremie pipe
02/03/99 am	845	A-12	100 bgs	grout	Grout through tremie pipe
02/03/99 pm	792	A-12	100 bgs	grout	Grout through tremie pipe
02/04/99 am	688	A-12	100 bgs	grout	Grout through tremie pipe
02/04/99 pm	570	A-12	100 bgs	grout	Grout through tremie pipe
02/05/99	440	A-12	100 bgs	grout	Grout through tremie pipe
02/08/99	434	A-12	2 yds	gravel	Gravel used to fill voids
02/08/99	354	A-12	25 bgs	grout	Grout through tremie pipe
02/09/99 am	344	A-12	100 bgs	grout	Grout through tremie pipe
02/09/99 pm	296	A-12	100 bgs	grout	Grout through tremie pipe
02/10/99 am	239	A-12	50 bgs	grout	Grout through tremie pipe
02/10/99 pm	150	A-12	75 bgs	grout	Grout to surface through tremie pipe

Table 5. **Grout Data**

Site: Lake Mary **Well ID:** S-1407

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
02/05/99	40	A-23	85 bgs	grout	Pressure grout 40 ft of 18 inch dia. steel casing
02/08/99	120	A-17	118 bgs	grout	Pressure grout 118 ft of 12 inch dia. steel casing
02/09/99	2	A-17	NA	NA	Final tag
02/11/99	320	A-12	7 bgs 10 bgs	hole plug grout	Set 320 ft of 6 inch dia. SDR 17; baskets attached at 319, 317 and 315 ft bls
02/12/99	297	A-12	50 bgs	grout	Grout through tremie pipe
02/15/99	240	A-12	100 bgs	grout	Grout through tremie pipe
02/17/99	130	A-12	75 bgs	grout	Grout through tremie pipe

Table 6. **Grout Data**

Site: Lake Mary **Well ID:** S-1408

DATE	TAG DEPTH (ft)	ANNULUS/ BORE (in.)	QUANITY (yds/bgs)	MATERIAL	COMMENTS
04/16/99	40	B-23	40 bgs	grout	Pressure grout 40 ft of 18 inch dia. steel casing
4/19/99		A-23			
4/21/99	125	B-17	110 bgs	grout	Pressure grout 125 ft of 12 inch dia. steel casing
4/23/99		A-12	5 bgs 10 bgs	hole plug grout	Set 150 ft of 6 inch dia. SDR 17; baskets attached at 149, 147 and 145 ft bls
4/26/99	120	A-12	30 bgs	grout	Grout through tremie pipe
4/27/99	15	A-12	10 bgs	grout	Grout through tremie pipe to surface

Table 7. **Step Drawdown Data**

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Date:	12/9/98		
Casing:	12 inch dia to 644 ft bls		
	Open hole 644 ft to 838 ft bls		
Pump Specs:	8 inch dia. turbine		
	Bowls set 100 ft to 105 ft bls		
	40 ft of 6 inch dia. discharge pipe with 4 3/4 inch orifice		
Static GWL:	22.9 ft bls (Reference point at static GWL = 0)		
Data Logger:	Hermit 2000		
Transducer depths:	100 psi at ~ 90 ft bls		
	30 psi at ~ 85 ft bls		
Pumping Rates:	Step 1 at 150 GPM Start Time = 15:01		
	Step 2 at 275 GPM Start Time = 15:32		
	Step 3 at 400 GPM Start Time = 16:02		
	Step 4 = recovery Start Time = 16:33		
	Start GWL (ft bls)	End GWL (ft bls)	Max. Drawdown (ft)
Step 1	22.9	42.6	19.7
Step 2	42.6	62.9	20.3
Step 3	62.9	82.1	19.2
			Total Drawdown 59.2

Table 8. Step Drawdown: Step #1; Rate 150 gpm (page 1 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
*0	3.928	3.122		0.3	17.313	16.489		0.8666	16.967	16.754
0.0083	1.948	2.553		0.3083	17.439	16.555		0.8833	16.905	17.009
0.0166	2.262	1.594		0.3166	17.69	16.763		0.9	16.842	16.943
0.025	3.08	2.876		0.325	17.658	17.113		0.9166	17.156	16.943
0.0333	3.582	3.654		0.3333	17.658	17.264		0.9333	16.402	17.264
0.0416	4.022	4.507		0.35	17.219	17.359		0.95	16.967	16.952
0.05	4.651	5.038		0.3666	17.281	17.699		0.9666	16.873	17.094
0.0583	5.688	5.807		0.3833	17.407	17.557		0.9833	16.685	17.189
0.0666	6.913	6.83		0.4	17.187	17.879		1	17.124	16.839
0.075	7.479	7.475		0.4166	17.658	18.115		1.2	16.81	16.943
0.0833	7.856	8.195		0.4333	18.161	17.652		1.4	17.124	17.226
0.0916	8.328	8.442		0.45	17.658	17.094		1.6	17.156	17.094
0.1	9.019	9.114		0.4666	17.564	18.011		1.8	17.501	17.236
0.1083	9.522	9.834		0.4833	18.035	18.04		2	17.501	17.491
0.1166	9.679	10.431		0.5	18.287	18.106		2.2	17.281	17.557
0.125	10.684	11.407		0.5166	18.067	17.936		2.4	17.439	17.652
0.1333	11.721	11.293		0.5333	17.91	17.86		2.6	17.721	17.312
0.1416	12.161	12.694		0.55	17.533	17.775		2.8	17.533	17.671
0.15	13.166	12.458		0.5666	17.627	17.794		3	17.658	17.576
0.1583	13.103	13.859		0.5833	17.69	17.425		3.2	17.124	18.002
0.1666	14.077	13.944		0.6	17.533	17.141		3.4	17.439	17.501
0.175	14.14	14.918		0.6166	17.281	17.482		3.6	17.847	17.51
0.1833	14.611	14.909		0.6333	17.344	17.293		3.8	17.533	17.718
0.1916	14.737	14.549		0.65	17.124	17.255		4	17.627	17.624
0.2	15.302	15.742		0.6666	17.596	17.075		4.2	17.878	17.595
0.2083	15.428	16.309		0.6833	17.313	17.501		4.4	17.721	17.661
0.2166	15.648	16.035		0.7	17.407	17.387		4.6	17.91	18.144
0.225	17.062	16.583		0.7166	16.936	17.321		4.8	17.91	17.945
0.2333	17.093	16.848		0.7333	17.124	16.81		5	18.098	17.633
0.2416	16.999	16.829		0.75	17.187	17.406		5.2	18.161	17.879
0.25	16.999	16.555		0.7666	17.124	16.877		5.4	18.035	17.945
0.2583	16.873	16.725		0.7833	17.062	17.255		5.6	17.941	18.134
0.2666	16.999	16.385		0.8	17.344	16.877		5.8	18.35	18.03
0.275	16.967	16.252		0.8166	16.873	17.283		6	18.381	18.04
0.2833	17.124	16.574		0.8333	16.999	17.208		6.2	18.004	17.973
0.2916	17.344	16.489		0.85	17.156	17.312		6.4	18.507	17.586

* Turbine pump started a fraction of second before data logger began recording.

Table 8. Step Drawdown: Step #1; Rate 150 gpm (page 2 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
6.6	18.224	18.456		29	19.543	19.741				
6.8	18.13	18.389		30	19.669	19.722				
7	18.412	18.371								
7.2	18.318	19.042								
7.4	18.067	18.597								
7.6	18.35	19.032								
7.8	18.507	18.72								
8	18.412	18.711								
8.2	18.475	18.607								
8.4	18.695	18.957								
8.6	18.664	18.541								
8.8	18.664	19.08								
9	18.758	18.73								
9.2	18.758	18.323								
9.4	18.758	18.682								
9.6	18.978	18.664								
9.8	18.601	18.947								
10	18.664	19.08								
11	18.664	18.966								
12	18.821	19.202								
13	19.009	19.448								
14	19.103	19.089								
15	18.821	19.108								
16	18.915	19.316								
17	18.978	19.382								
18	19.166	19.373								
19	19.072	19.476								
20	19.135	19.486								
21	19.229	19.278								
22	19.355	19.401								
23	19.449	19.013								
24	19.417	19.562								
25	19.386	19.391								
26	19.575	19.486								
27	19.292	19.769								
28	19.543	19.467								

Table 9. **Step Drawdown: Step #2; Rate 275 gpm** (page 1 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
0	19.7	19.382		0.3083	31.351	30.52		0.9	37.128	38.61
0.0083	19.48	19.221		0.3166	31.853	31.218		0.9166	37.191	39.071
0.0166	19.857	19.788		0.325	32.356	32.245		0.9333	37.285	38.948
0.025	20.988	19.694		0.3333	31.445	32.556		0.95	37.442	38.732
0.0333	19.983	20.062		0.35	33.329	32.518		0.9666	37.159	38.817
0.0416	20.109	20.648		0.3666	33.706	33.083		0.9833	37.253	38.995
0.05	20.517	19.996		0.3833	34.459	33.535		1	37.128	38.713
0.0583	20.485	20.497		0.4	35.087	34.458		1.2	37.693	37.113
0.0666	20.548	20.696		0.4166	35.841	35.259		1.4	37.442	38.619
0.075	21.553	21.565		0.4333	36.217	36.182		1.6	38.697	37.452
0.0833	21.585	21.98		0.45	36.877	36.455		1.8	36.939	37.876
0.0916	21.993	21.725		0.4666	37.316	37.095		2	37.191	38.525
0.1	22.558	21.527		0.4833	38.101	37.452		2.2	39.105	38.252
0.1083	22.778	21.943		0.5	38.289	37.81		2.4	39.074	37.932
0.1166	22.684	22.557		0.5166	38.823	38.214		2.6	38.446	37.339
0.125	23.187	23.265		0.5333	37.818	38.073		2.8	37.661	37.913
0.1333	24.851	23.661		0.55	39.262	38.854		3	37.756	38.901
0.1416	23.312	24.53		0.5666	38.572	39.447		3.2	38.76	39.099
0.15	24.066	25.398		0.5833	39.011	38.591		3.4	38.791	38.995
0.1583	25.793	24.955		0.6	39.576	39.24		3.6	38.886	39.08
0.1666	25.793	25.002		0.6166	39.545	39.767		3.8	39.043	38.553
0.175	24.851	26.05		0.6333	40.047	38.723		4	39.513	38.045
0.1833	25.982	26.474		0.65	38.415	39.39		4.2	38.917	37.8
0.1916	27.52	26.587		0.6666	39.702	39.372		4.4	39.2	37.64
0.2	26.829	26.672		0.6833	38.321	38.892		4.6	39.294	37.913
0.2083	26.484	27.748		0.7	39.796	38.901		4.8	39.67	38.214
0.2166	27.646	28.936		0.7166	39.608	39.569		5	39.545	39.118
0.225	29.279	28.285		0.7333	38.509	39.757		5.2	38.509	39.738
0.2333	28.431	28.05		0.75	37.693	38.995		5.4	38.823	39.56
0.2416	28.023	29.53		0.7666	38.226	38.205		5.6	38.069	39.541
0.25	29.53	29.643		0.7833	38.98	37.866		5.8	38.069	39.259
0.2583	29.844	28.172		0.8	38.76	37.81		6	38.572	38.657
0.2666	28.714	30.03		0.8166	37.975	38.026		6.2	38.791	38.675
0.275	29.844	30.878		0.8333	37.944	38.318		6.4	39.639	38.261
0.2833	31.351	31.01		0.85	37.504	38.459		6.6	39.482	38.553
0.2916	31.163	31.5		0.8666	37.285	38.506		6.8	39.545	38.346
0.3	30.252	31.557		0.8833	37.285	38.356		7	39.733	38.929

Table 9. **Step Drawdown: Step #2; Rate 275 gpm** (page 2 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
7.2	39.137	39.757								
7.4	38.54	39.889								
7.6	38.383	39.174								
7.8	39.419	38.534								
8	39.702	39.795								
8.2	38.509	39.513								
8.4	39.859	38.854								
8.6	39.608	39.56								
8.8	38.415	39.767								
9	39.921	38.572								
9.2	39.105	39.842								
9.4	38.383	39.136								
9.6	40.173	39.701								
9.8	38.509	39.776								
10	38.603	38.826								
11	39.262	38.798								
12	38.666	38.647								
13	39.859	39.88								
14	39.576	40.124								
15	40.298	40.434								
16	40.392	40.5								
17	39.513	39.268								
18	40.361	40.538								
19	39.827	39.381								
20	39.639	40.19								
21	40.518	40.237								
22	40.173	40.82								
23	39.2	40.039								
24	40.8	40.698								
25	40.989	40.604								
26	40.989	40.782								
27	40.078	40.651								
28	40.235	39.889								
29	40.957	40.613								
30	39.765	40.115								

Table 10. **Step Drawdown: Step #3; Rate 400 gpm** (page 1 of 2)
Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
0	40.612	41.111		0.3083	49.776	49.462		0.9	53.51	53.523
0.0083	40.33	40.143		0.3166	48.489	48.805		0.9166	53.698	53.739
0.0166	39.984	41.074		0.325	47.705	48.186		0.9333	53.667	53.786
0.025	39.953	40.434		0.3333	48.929	48.908		0.95	53.886	54.067
0.0333	41.522	40.98		0.35	48.835	49.19		0.9666	53.949	54.123
0.0416	39.827	40.745		0.3666	50.121	50.297		0.9833	53.98	54.161
0.05	41.428	40.613		0.3833	48.866	49.18		1	54.106	54.048
0.0583	40.204	41.121		0.4	50.843	50.663		1.2	56.302	55.96
0.0666	41.114	41.929		0.4166	49.556	49.781		1.4	56.051	56.316
0.075	41.083	41.469		0.4333	51.125	50.86		1.6	57.62	57.861
0.0833	43.092	43.414		0.45	49.996	50.457		1.8	57.4	57.477
0.0916	42.307	42.268		0.4666	51.094	50.822		2	57.745	58.049
0.1	42.778	42.71		0.4833	50.623	50.691		2.2	58.247	58.404
0.1083	43.405	43.367		0.5	51.094	50.888		2.4	58.31	58.479
0.1166	43.123	43.48		0.5166	51.753	51.629		2.6	58.498	58.629
0.125	44.159	44.824		0.5333	50.592	50.766		2.8	58.435	58.18
0.1333	44.724	44.514		0.55	52.161	52.135		3	58.529	58.882
0.1416	44.881	45.425		0.5666	52.286	52.314		3.2	58.623	58.067
0.15	45.414	45.697		0.5833	50.686	50.907		3.4	58.404	58.479
0.1583	45.383	45.669		0.6	51.721	51.845		3.6	58.843	58.498
0.1666	45.853	45.838		0.6166	53.573	53.364		3.8	58.153	58.208
0.175	47.171	47.275		0.6333	52.443	52.567		4	58.247	58.442
0.1833	46.889	47.2		0.65	52.757	52.829		4.2	58.843	58.779
0.1916	45.414	46.101		0.6666	52.882	53.223		4.4	58.937	58.423
0.2	45.006	45.773		0.6833	53.259	53.608		4.6	58.906	58.873
0.2083	45.351	45.932		0.7	53.133	53.551		4.8	58.78	58.273
0.2166	45.791	46.27		0.7166	53.447	53.608		5	58.968	58.77
0.225	45.979	46.984		0.7333	53.635	53.533		5.2	59.031	58.844
0.2333	46.701	47.491		0.75	53.761	54.057		5.4	58.906	58.311
0.2416	47.266	47.923		0.7666	53.918	54.179		5.6	58.435	58.947
0.25	47.768	48.589		0.7833	53.573	53.945		5.8	59	59.153
0.2583	48.081	48.533		0.8	53.447	53.851		6	59.031	59.2
0.2666	47.171	47.904		0.8166	53.51	53.898		6.2	58.968	59.228
0.275	46.826	47.463		0.8333	53.071	53.533		6.4	59	58.601
0.2833	46.952	47.237		0.85	53.447	53.542		6.6	58.749	58.461
0.2916	47.705	47.651		0.8666	53.29	53.673		6.8	58.968	58.507
0.3	49.211	48.805		0.8833	53.353	53.636		7	59	58.61

Table 10. **Step Drawdown: Step #3; Rate 400 gpm** (page 2 of 2)
Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
7.2	58.937	59.097								
7.4	59.125	59.219								
7.6	58.906	59.172								
7.8	58.341	58.713								
8	58.467	58.432								
8.2	59.063	58.844								
8.4	59.063	59.191								
8.6	59.125	59.303								
8.8	58.843	59.181								
9	59.031	59.219								
9.2	58.968	59.238								
9.4	58.561	58.732								
9.6	58.686	58.629								
9.8	58.623	58.62								
10	58.529	59.135								
11	59.314	58.788								
12	58.686	59.322								
13	59.314	59.313								
14	59	59.181								
15	59.376	59.322								
16	59.502	58.91								
17	58.968	59.416								
18	59.094	59.631								
19	58.812	59.378								
20	58.749	59.528								
21	59.502	58.844								
22	59.314	58.704								
23	59.408	58.77								
24	59.188	59.734								
25	59.784	59.078								
26	59.251	59.35								
27	59.721	59.256								
28	59.847	59.191								
29	59.847	59.069								
30	59.188	59.528								

Table 11. **Step Drawdown: Recovery** (page 1 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
0	59.659	59.078		0.3083	23.438	23.359		0.9	13.417	13.433
0.0083	59.564	59.659		0.3166	22.81	22.774		0.9166	13.323	13.329
0.0166	59.031	59.397		0.325	22.213	22.122		0.9333	13.198	13.224
0.025	59.408	59.078		0.3333	21.585	21.508		0.95	13.103	13.13
0.0333	59.627	59.49		0.35	20.517	20.488		0.9666	13.009	13.026
0.0416	58.718	59.107		0.3666	19.606	19.543		0.9833	12.915	12.931
0.05	58.561	58.751		0.3833	18.758	18.768		1	12.821	12.846
0.0583	57.808	58.095		0.4	18.098	18.096		1.2	11.815	11.823
0.0666	57.18	57.299		0.4166	17.533	17.491		1.4	10.967	10.981
0.075	56.208	56.278		0.4333	17.062	17.037		1.6	10.276	10.308
0.0833	55.078	55.173		0.45	16.747	16.716		1.8	9.71	9.74
0.0916	53.949	53.889		0.4666	16.496	16.508		2	9.239	9.266
0.1	52.443	52.473		0.4833	16.339	16.328		2.2	8.83	8.849
0.1083	50.592	50.682		0.5	16.213	16.214		2.4	8.453	8.48
0.1166	49.65	49.49		0.5166	16.056	16.101		2.6	8.139	8.157
0.125	48.113	47.838		0.5333	15.994	16.025		2.8	7.856	7.873
0.1333	46.701	46.214		0.55	15.931	15.95		3	7.605	7.608
0.1416	45.1	44.984		0.5666	15.805	15.855		3.2	7.353	7.371
0.15	43.594	43.414		0.5833	15.679	15.704		3.4	7.133	7.153
0.1583	42.15	42.052		0.6	15.554	15.562		3.6	6.945	6.954
0.1666	40.706	40.717		0.6166	15.397	15.42		3.8	6.725	6.764
0.175	39.388	39.146		0.6333	15.271	15.278		4	6.568	6.593
0.1833	37.975	37.97		0.65	15.145	15.146		4.2	6.411	6.423
0.1916	36.814	36.662		0.6666	15.02	15.023		4.4	6.254	6.271
0.2	35.37	35.344		0.6833	14.894	14.909		4.6	6.096	6.119
0.2083	34.553	34.43		0.7	14.768	14.795		4.8	5.971	5.987
0.2166	33.329	33.149		0.7166	14.643	14.672		5	5.845	5.854
0.225	32.073	32.028		0.7333	14.548	14.559		5.2	5.719	5.74
0.2333	31.225	31.104		0.75	14.423	14.436		5.4	5.594	5.617
0.2416	30.127	30.03		0.7666	14.297	14.313		5.6	5.468	5.513
0.25	29.153	29.021		0.7833	14.171	14.199		5.8	5.374	5.399
0.2583	28.211	28.153		0.8	14.077	14.076		6	5.279	5.304
0.2666	27.426	27.267		0.8166	13.952	13.963		6.2	5.185	5.209
0.275	26.421	26.314		0.8333	13.826	13.859		6.4	5.091	5.105
0.2833	25.636	25.502		0.85	13.732	13.745		6.6	4.997	5.019
0.2916	24.945	24.823		0.8666	13.606	13.641		6.8	4.902	4.925
0.3	24.191	24.133		0.8833	13.512	13.537		7	4.808	4.839

Table 11. **Step Drawdown: Recovery** (page 2 of 2)

Site: Lake Mary **Well Number**: S-1351 (Floridan)

Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)		Time (min)	ΔGWL 100 psi (ft)	ΔGWL 30 psi (ft)
7.2	4.745	4.763		34	1.225	1.224				
7.4	4.651	4.687		35	1.194	1.177				
7.6	4.588	4.602		36	1.162	1.129				
7.8	4.525	4.536		37	1.1	1.091				
8	4.431	4.46		38	1.068	1.053				
8.2	4.368	4.393		39	1.005	1.025				
8.4	4.305	4.327		40	0.974	0.996				
8.6	4.242	4.261		41	0.942	0.949				
8.8	4.18	4.194		42	0.942	0.911				
9	4.117	4.137		43	0.911	0.873				
9.2	4.054	4.08		44	0.88	0.844				
9.4	3.991	4.014		45	0.848	0.816				
9.6	3.928	3.967		46	0.785	0.797				
9.8	3.897	3.91		47	0.785	0.759				
10	3.834	3.853		48	0.754	0.74				
11	3.582	3.606		49	0.722	0.712				
12	3.362	3.378		50	0.691	0.683				
13	3.174	3.17		51	0.691	0.664				
14	2.985	2.989		52	0.628	0.655				
15	2.828	2.819		53	0.628	0.617				
16	2.702	2.667		54	0.628	0.588				
17	2.545	2.553		55	0.597	0.579				
18	2.42	2.411		56	0.565	0.569				
19	2.325	2.297		57	0.534	0.531				
20	2.2	2.183		58	0.534	0.512				
21	2.105	2.088		59	0.502	0.503				
22	2.011	1.993		60	0.502	0.474				
23	1.917	1.908		61	0.471	0.465				
24	1.854	1.832								
25	1.76	1.756								
26	1.697	1.68								
27	1.602	1.604								
28	1.54	1.537								
29	1.508	1.48								
30	1.445	1.424								

Table 12. Well Development Groundwater Quality

Site: Lake Mary *__Well Number__: S-1351 (Floridan)

Hydrologist: R Brooks, A Story

Date/Time (yy:mm:dd/hh:mm) Lab ✓	GWL (ft bls)	GPM	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
990126/0849	23.7	0	-	-	-
990126/0850	-	95	-	-	-
990126/0925	-	95	25	1980	6000
990126/1010	35.3	95	-	-	-
990126/1030	-	95	25	2310	9000
990126/1130	-	95	25	2550	9800
990126/1200	35.2	95	-	-	-
990126/1230	-	95	25	2600	10100
990126/1330	-	95	25	3200	10300
990126/1430	-	95	25	3000	11000
990126/1730	35.6	95	-	-	-
990126/1800	-	95	25	3330	12000
990126/1910	35.6	0	26	3830	11900
Total Discharge 60,000 gal					
990127/0659	31.1	0	-	-	-
990127/0700	-	95	-	-	-
990127/0800	-	95	25	3430	11800
990127/0900	-	95	25.5	3490	12200
990127/0910	35.8	95	-	-	-
990127/1000	-	95	25.5	3570	12500
990127/1100	35.8	0	25.5	3300	12800
Total Discharge 17,000 gal					
990210/1343	NR	90	-	-	-
990210/1345	NR	90	23.5	3570	10600
990210/1413	NR	90	25	2420	8600
990210/143	NR	90	25.5	2740	8600
990210/1513	NR	90	25	2730	8900
✓990210/1540	NR	0	25	2730	8900
Total Discharge 10,800 gal					

*Six inch diameter casing set to 1260 ft bls.
Open hole 1260 to 1328 ft bls January 26-27, 1999.
Bore hole back plugged to 1323 ft bls on February 2, 1999.
Specific capacity on 990127 = 20 gpm/ft
A.Story field representative February 10, 1999.

Table 13. Well Development Groundwater Quality

Site: Lake Mary *__Well Number__: S-1406 (Floridan)

Hydrologist: RBrooks

Date/Time (yy:mm:dd/hh:mm) Lab ✓	GWL (ft bls)	GPM	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
990211/1135	24.1	0	-	-	-
990211/1450	-	90	-	-	-
990211/1455	25.7	90	28.1	-	258
990211/1515	-	90	25	-	267
✓990211/1551	25.7	0	25	8	267

* Six inch diameter casing set to 1020 ft bls.
Open hole 1020 to 1080 ft bls.
Specific capacity on February 11, 1999 = 56 gpm/ft

Table 14. Well Development Groundwater Quality

Site: Lake Mary *__Well Number__: S-1407 (Floridan)

Hydrologist: RBrooks

Date/Time (yy:mm:dd/hh:mm) Lab ✓	GWL (ft bls)	GPM	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
990218/1042	22.1	0	-	-	-
990218/1043	-	90	-	-	-
990218/1110	-	90	23.3	-	257
✓990218/1143	23.0	0	23.2	8	257

* Six inch diameter casing set to 200 ft bls.
Open hole 200 to 401 ft bls.
Specific capacity on February 18, 1999 = 82 gpm/ft

Table 15. Well Development Groundwater Quality

Site: Lake Mary *__Well Number__: S-1408 (Floridan)

Hydrologist: RBrooks

Date/Time (yy:mm:dd/hh:mm) Lab ✓	GWL (ft bls)	GPM	Temp (Deg C)	Chlorides (mg/L)	Conductivity (us/cm)
990427/1013	24.8	0	-	-	-
990427/1015	58.2	90	-	-	-
990427/1020	60.0	90	-	-	-
990427/1022	-	90	24.9	-	233
990427/1029	60.6	90		-	
990427/1035	-	90	24.5	-	333
990427/1050	-	90	24.5	-	338
990427/1100	-	90	24.5	-	340
990427/1101	61.0	90	-	-	
990427/1115	-	90	24.5	-	345
990427/1130	61.0	90	24.3	-	347
✓990427/1143	61.0	90	24.7	7.5	347

* Six inch diameter casing set to 150 ft bls.
Open hole 150 to 200 ft bls.
Specific capacity on April 27, 1999 = 2.5 gpm/ft

Lithologic Description

Site: Lake Mary ***Test Borehole:** S-1357

Samples Described By: John Sego

From (ft)	To (ft)	Hammer Blow Counts	Lithology
0	5	NA	No samples collected, surface material consists of organic sand and fill material brought in from off site.
5	10	NA	Sand, medium, and clay, light orange on drill bit and core barrel. No samples collected.
10	19	NA	No samples collected.
19	21	10/17/16/12	Sand, med-fine, light gray-pink; with silt and trace clay.
24	26	6/7/9/12	Sand, med-fine, light gray-white; with silt.
29	31	4/7/7/9	Sand, med-fine, light tan-pink, calcareous; with clay and silt, and trace phosphate and brown calcareous sand (30.75 ft bls. to 31 ft bls.).
34	36	1/1/1/3	Sand, med-fine, calcareous, phosphatic; with sand and clay, light green with trace yellow-brown sandy clay.
39	40	12/50-6 in./x/x	Clay, light green; with yellow-brown sandy clay.
40	45	Core Barrel	Clay, light green, phosphatic; with yellow-brown sandy clay to 42.5 ft bls; then silt white-gray, calcareous, phosphatic to 44 ft bls.; then limestone, sandy and phosphatic, white-tan-yellow, moldic, with tan-yellow clay.
45	47	30/50-5 in./x/x	Clay, gray; with med-fine sand and lenses of light green-white indurated sand, and phosphate.
53	63	Core Barrel	Clay/silt, gray, indurated, phosphatic to 53.5 ft bls.; then limestone, gray-white, indurated, phosphatic, fossiliferous (*Lepidocyclina*); with clay, gray to 57 ft bls; then limestone, creme white, well indurated, moldic, no phosphate below 58 ft bls., fossiliferous (*mollusk, brachipod*).

* Drilled/abandoned HDI.

Lithologic Description (page 1 of 3)

Site: Lake Mary **Well ID:** S-1351

Samples Described By: R. Brooks and Alan Story

From (ft)	To (ft)	Lithology
0	1	Sand, gray, medium to fine
1	15	Clay, orange, sandy
15	30	Clay, grayish white, with very fine sand, saturated with water, poorly indurated
30	45	Clay, white to gray; chert, brown; sandstone, gray; siltstone, brown
45	50	Clay, gray, wet saturated, some areas indurated, cherty
50	85	Lost circulation, no sample
90	175	Limestone, yellowish gray to yellowish brown, echinoids and dictyconus (120-130) very soft (130-175)
175	180	Dolomite, tan, semi-porous
180	190	Limestone, yellowish gray, soft, echinoids, minor layers of grayish white limestone
190	210	Limestone, yellowish gray to yellowish brown, soft, dictyconus abundant and echinoids
210	220	Dolomite, tan, semi-porous, minor peat
220	221	Clay, gray
221	240	Limestone, yellowish gray, soft, echinoids
240	265	Limestone, yellowish gray, soft, echinoids and dictyconus
265	266	Dolomite, tan, semi-porous
266	275	Limestone, yellowish gray, soft, echinoids and dictyconus
275	283	Dolomite, tan, semi-porous, medium hard
283	315	Limestone, yellowish gray, soft, echinoids
315	323	Dolomite, olive to tan, no porosity to semi-porous, medium hard to hard
323	340	Limestone, yellowish gray, soft
340	350	Dolomite, tan to olive, medium hard, semi-porous
350	354	Limestone, yellowish gray, soft, echinoids
354	360	Dolomite, tan, hard, cherty
360	386	Dolomite, tan, medium hard, porous in areas
386	401	Limestone, yellowish gray, soft, echinoids and dictyconus
401	410	Dolomite, tan, olive and gray, hard, no porosity, minor chert, possible fracture zone
410	415	Limestone, gray, soft, dictyconus
415	423	Limestone, (partially dolomitized), soft, dictyconus

Lithologic Description (page 2 of 3)

Site: Lake Mary **Well ID:** S-1351

Samples Described By: R. Brooks and Alan Story

From (ft)	To (ft)	Lithology
423	433	Dolomite, dark brown, very hard, no porosity
433	440	Dolomite, dark brown, very hard, semi-porous
440	444	Dolomite, dark brown, very hard, semi-porous
444	447	Dolomite, dark brown to gray, very hard, no porosity
447	450	Dolomite, tan, very hard, no porosity
450	464	Dolomite, tan to gray, soft to medium, porous to semi-porous, shell casts
464	510	Dolomite, tan, medium, semi-porous, good secondary porosity in areas
510	530	Dolomite, tan, medium, semi-porous
530	535	Dolomite, tan to brown, soft, silty and peaty
535	540	Dolomite, tan, hard, semi-porous
540	545	Dolomite, tan to light tan, very hard, some secondary porosity, shell casts
545	559	Dolomite, brown, medium, good intergranular porosity, (flow zone ?)
559	567	Dolomite, tan, hard, minor porosity
567	600	Dolomite, brown, medium, semi- porous, some secondary porosity, minor peat
600	650	Dolomite, tan to brown, medium, semi-porous (600-620 greater porosity)
650	651	Limestone, dolomitic, light tan, semi-porous, poorly indurated
651	690	Limestone, dolomitic, light tan to dark tan, semi-porous to very porous, moderately indurated to very indurated
690	695	Core: Limestone, dolomitic, tan, porous, with gray clay infilling
695	777	Limestone, dolomitic, tan, medium, porous to semi-porous
777	800	Limestone, dolomitic, tan, semi-porous to porous, moderately indurated
800	812	Limestone, dolomitic, off-white, semi-porous, poorly indurated
812	817	Limestone, dolomitic, light tan, poorly indurated
817	850	Limestone, dolomitic, yellowish gray, medium, semi-porous
850	860	Dolomite and limestone, dolomitic, brown, medium to hard, some secondary porosity
860	890	Limestone, dolomitic, yellowish gray, medium, semi-porous
890	900	Limestone, dolomitic, yellowish brown, medium, semi-porous

Lithologic Description (page 3 of 3)

Site: Lake Mary **Well ID:** S-1351

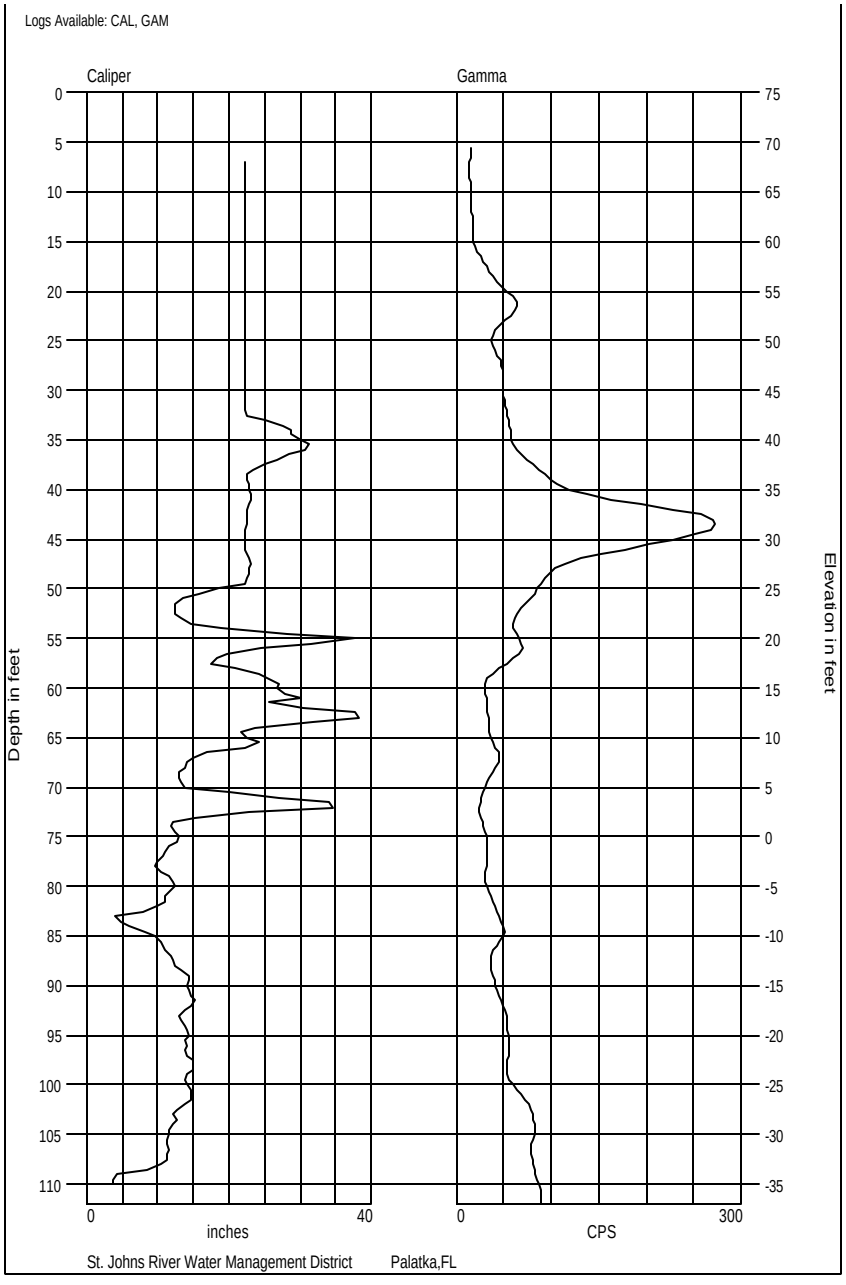
Samples Described By: R. Brooks and Alan Story

From (ft)	To (ft)	Lithology
900	910	Dolomite, yellowish gray, hard, pin-point porosity,
910	960	Dolomite, tan to brown, hard, pin-point porosity, minor peat, small vugs in some areas
960	970	Limestone, light yellowish brown, soft to medium, with small layers of tan dolomite, minor peat
970	980	Dolomite, brown, hard pin-point porosity
980	983	Dolomite, tan, hard, pin-point porosity
983	984	Limestone, yellowish gray, soft
984	990	Limestone, dolomitic, brown, medium, semi-porous
990	1000	Dolomite, brown, hard, semi-porous, peat
1000	1010	Dolomite, brown and gray, hard, some secondary porosity and minor peat
1010	1040	Dolomite, brown to dark brown, hard, some secondary porosity and peat
1040	1050	Dolomite, brown to dark olive brown, hard, good secondary porosity
1050	1070	Dolomite, brown , hard, some secondary porosity and peat
1070	1080	Dolomite, dark brown , medium, good primary porosity and very peat
1080	1090	Dolomite, brown , medium, primary porosity
1090	1105	Dolomite, brown , hard, with limestone, yellowish gray, soft
1105	1170	Limestone, yellowish gray, soft, dictyconus and echinoids
1170	1180	Dolomite, brown , hard, pin-point porosity
1180	1210	Dolomite, dark olive brown, very hard, crystalline, some secondary porosity, minor geode quartz
1210	1230	Dolomite, light gray, hard, cherty, lenses of gypsum
1230	1250	Dolomite, brown, hard, cherty, interbedded with limestone, grayish white, soft
1250	1290	Limestone, grayish white, soft
1290	1340	Dolomite, light greenish gray, medium, rhombohedral crystal structure
1340	1360	Dolomite, light greenish gray, hard, some secondary porosity, fracture zone ~1350 to 1358
1360	1390	Dolomite, brown, hard, semi-porous, some geode quartz

Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1351

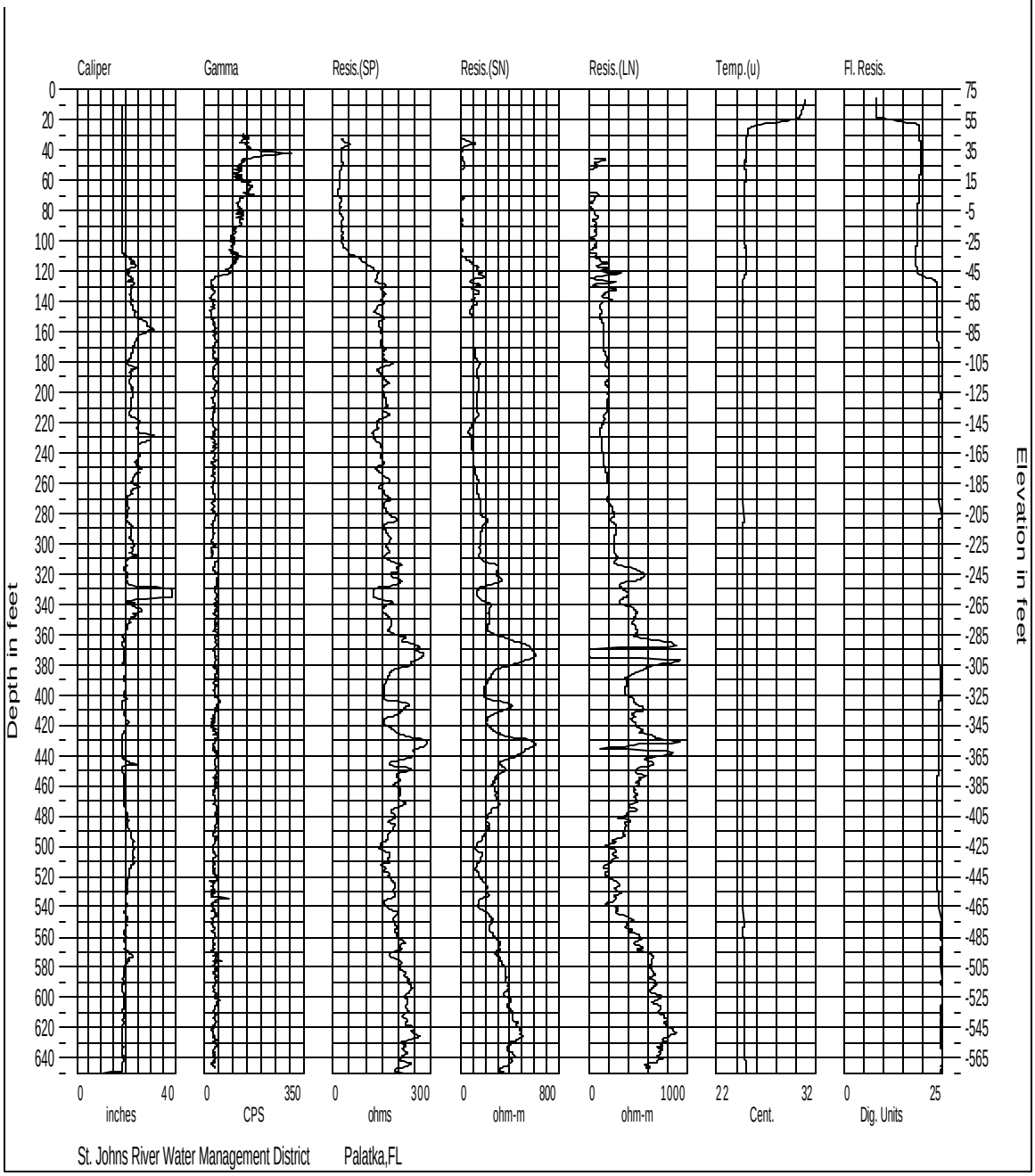
Logger: Warren Zwanka **Date Logged:** 7/15/97



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1351

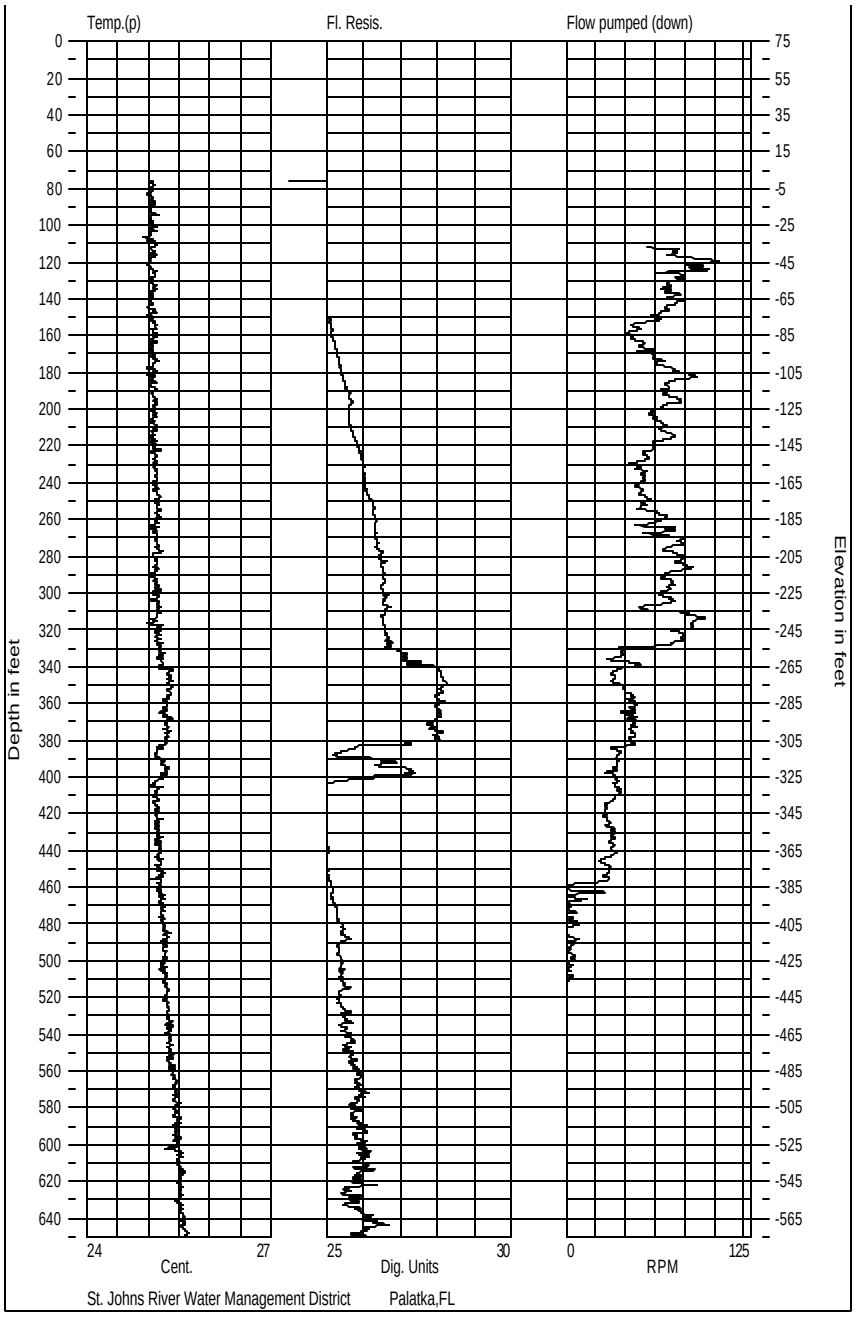
Logger: Shane Dossat **Date Logged:** 9/9-11/97



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1351

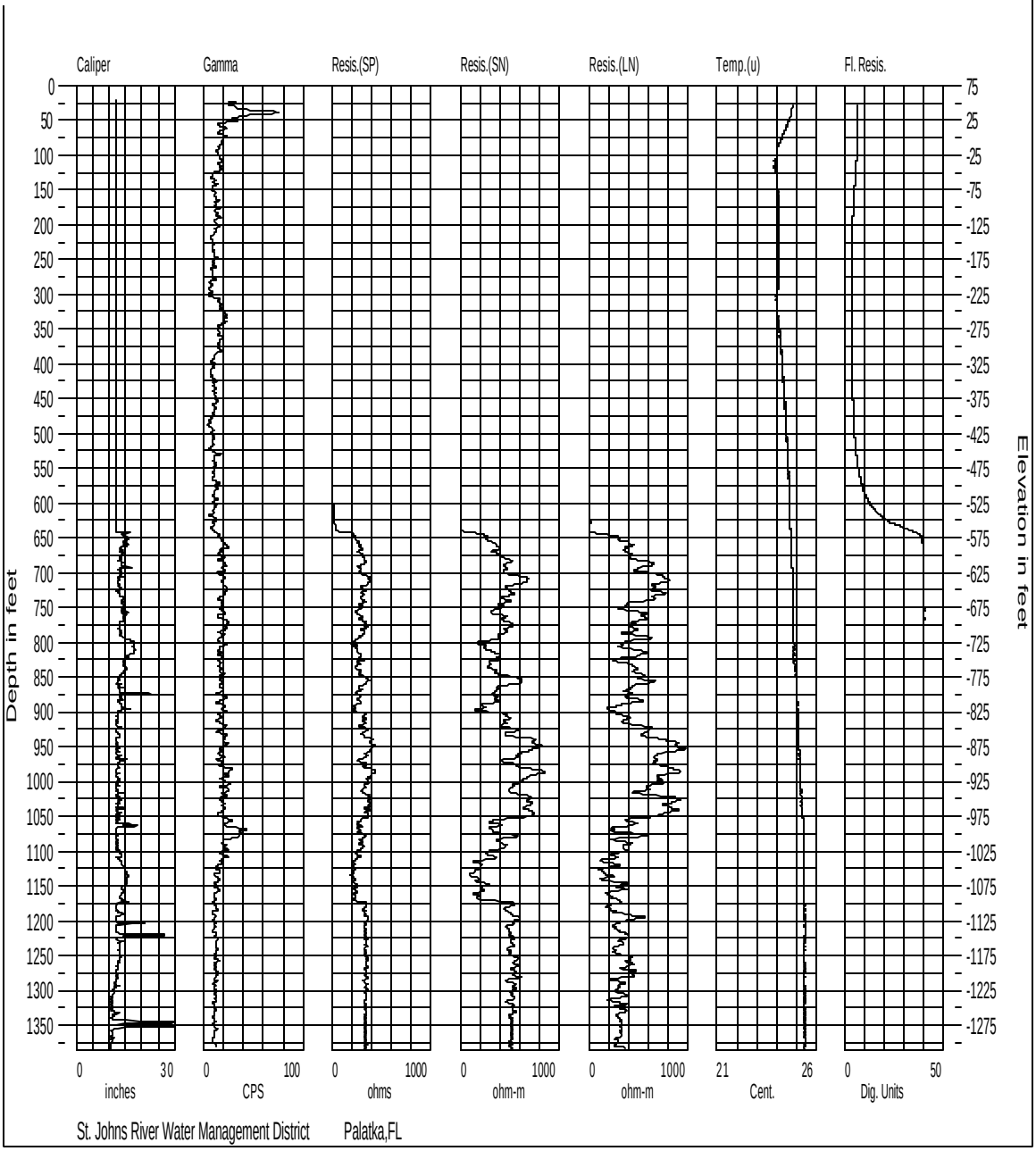
Logger: Shane Dossat **Date Logged:** 9/9-11/97



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1351

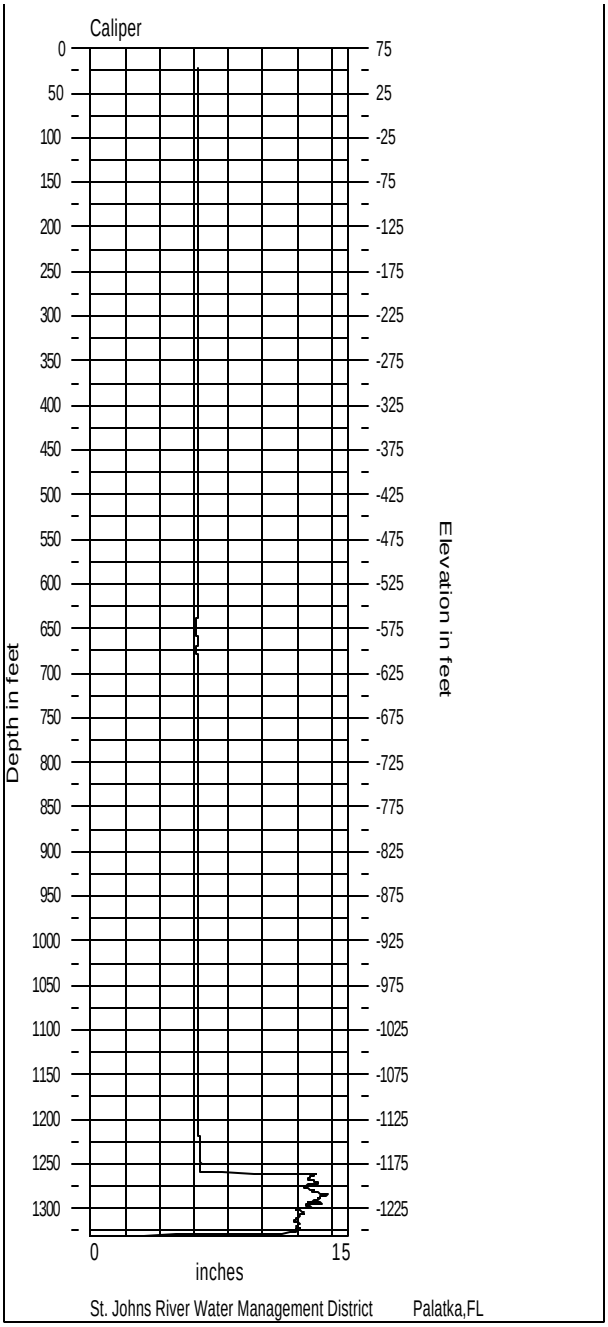
Logger: Jeff Davis **Date Logged:** 12/22,28/98



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1351

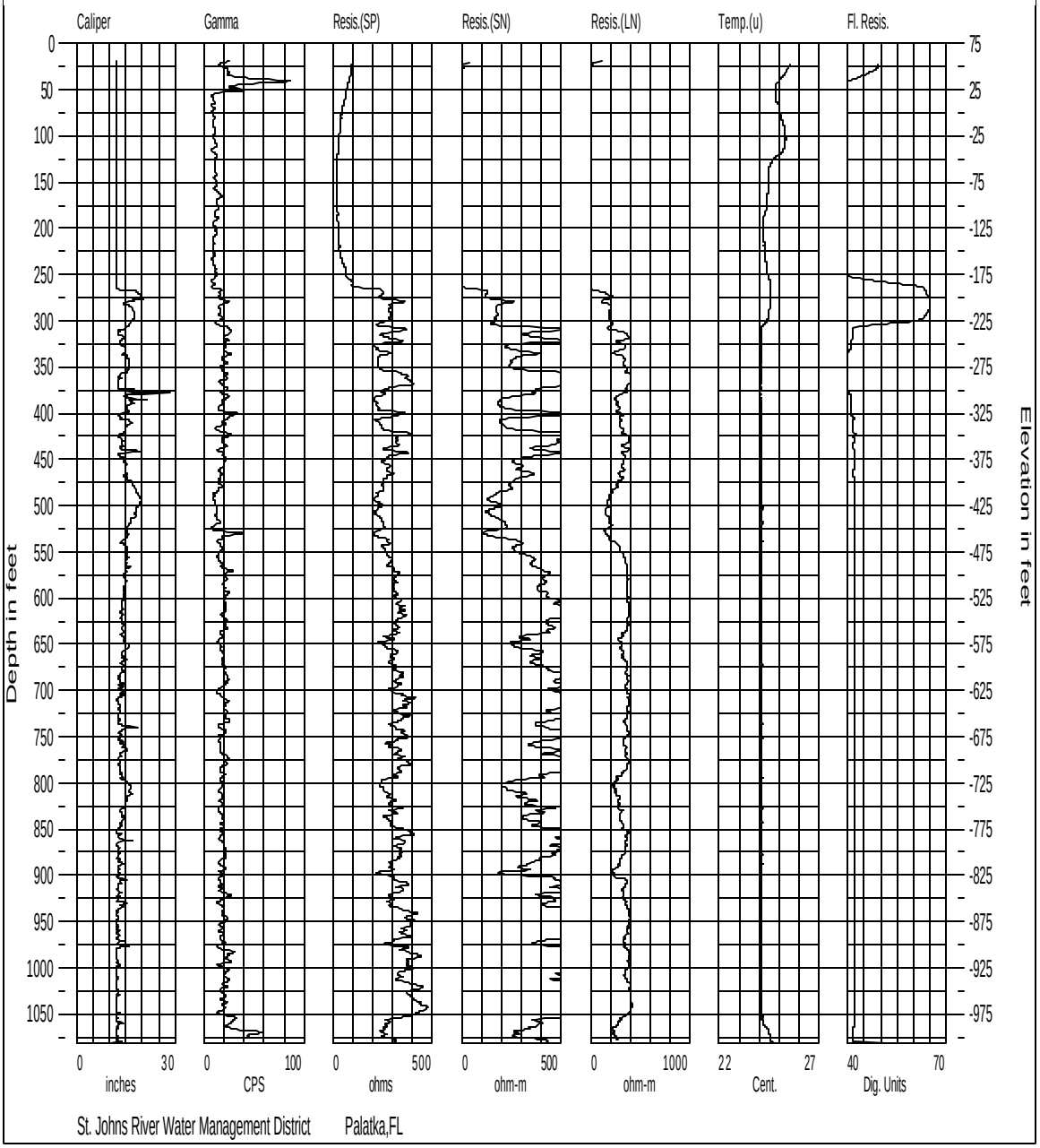
Logger: Shane Dossat **Date Logged:** 4/19/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1406

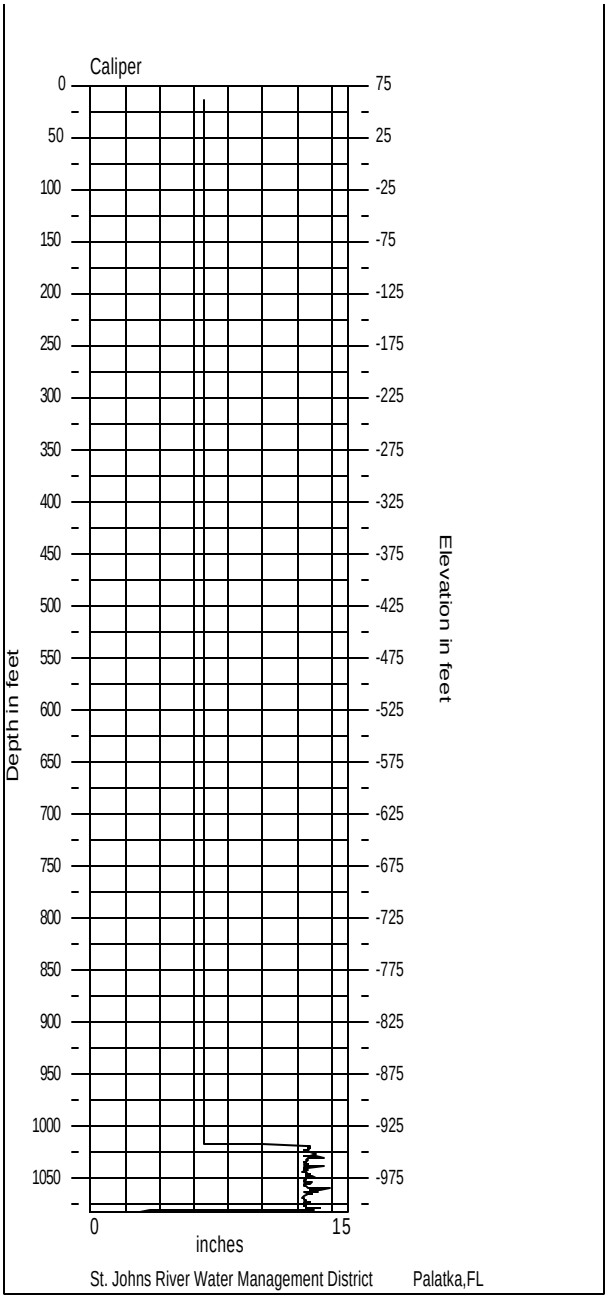
Logger: Shane Dossat **Date Logged:** 1/27/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1406

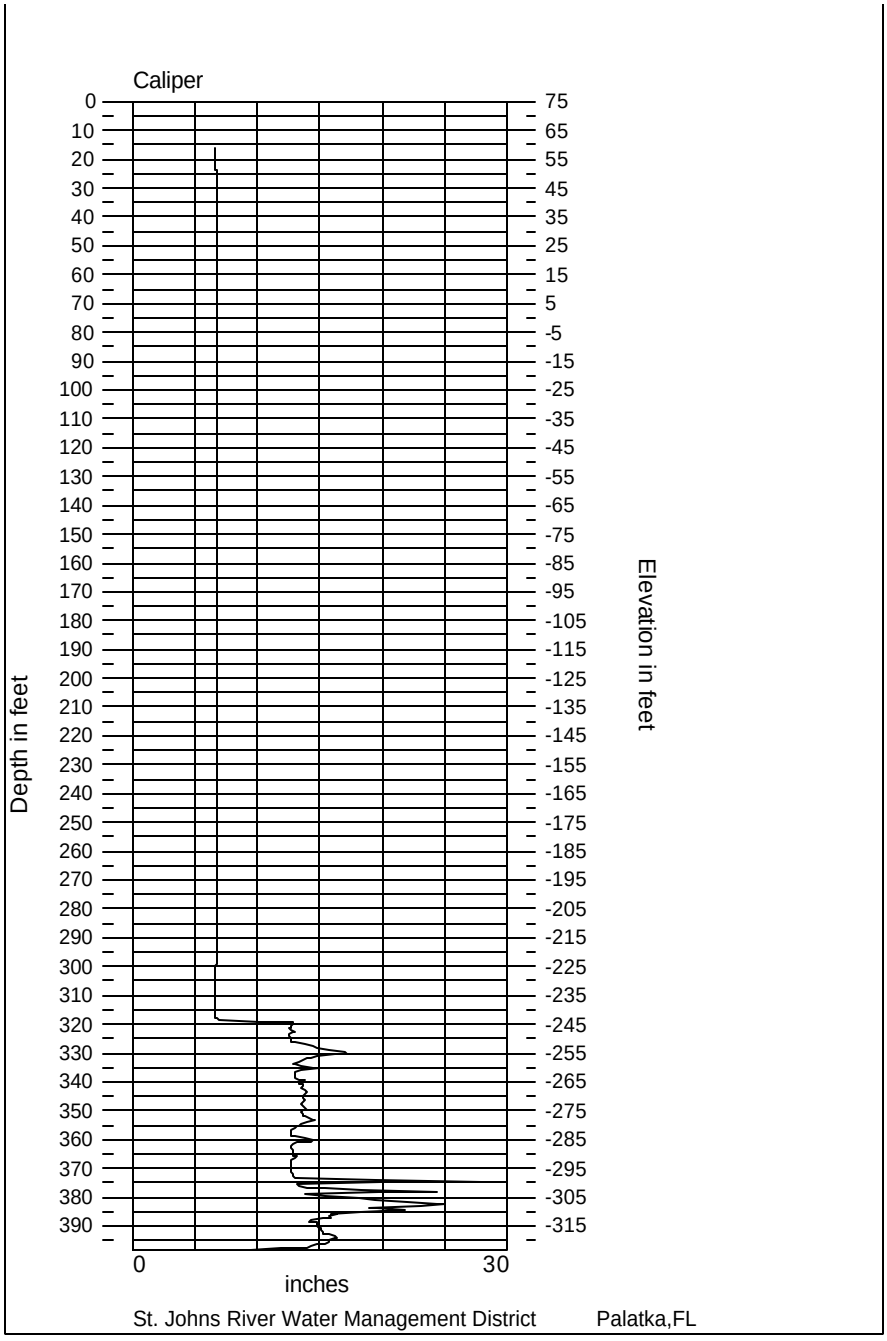
Logger: Shane Dossat **Date Logged:** 4/19/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1407

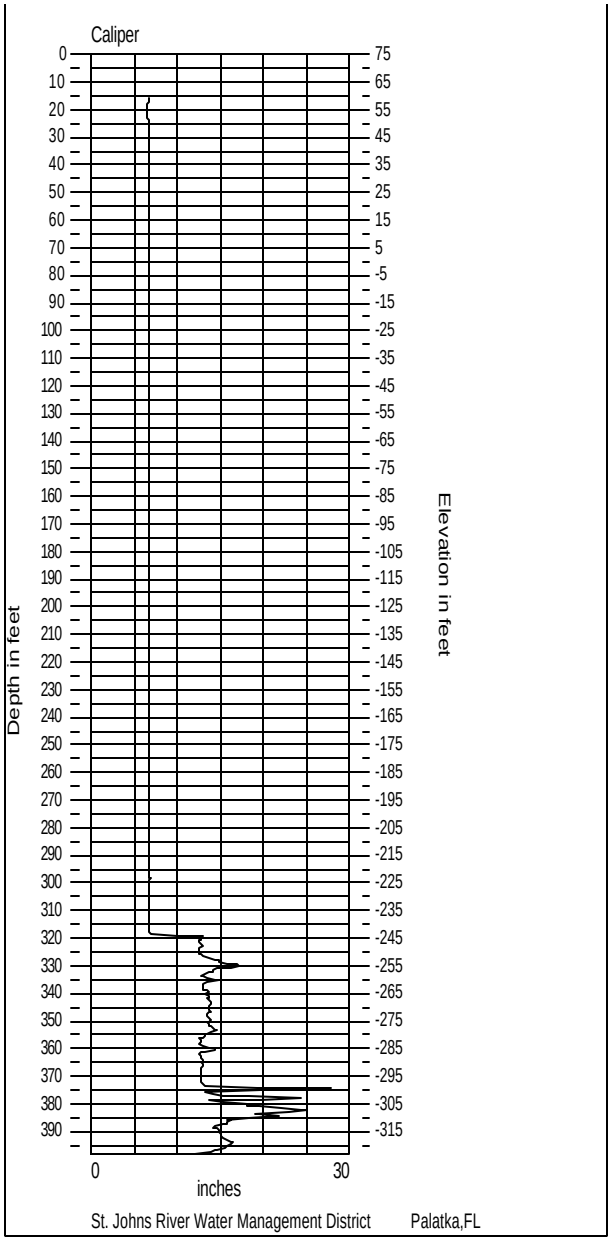
Logger: Shane Dossat **Date Logged:** 2/11/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1407

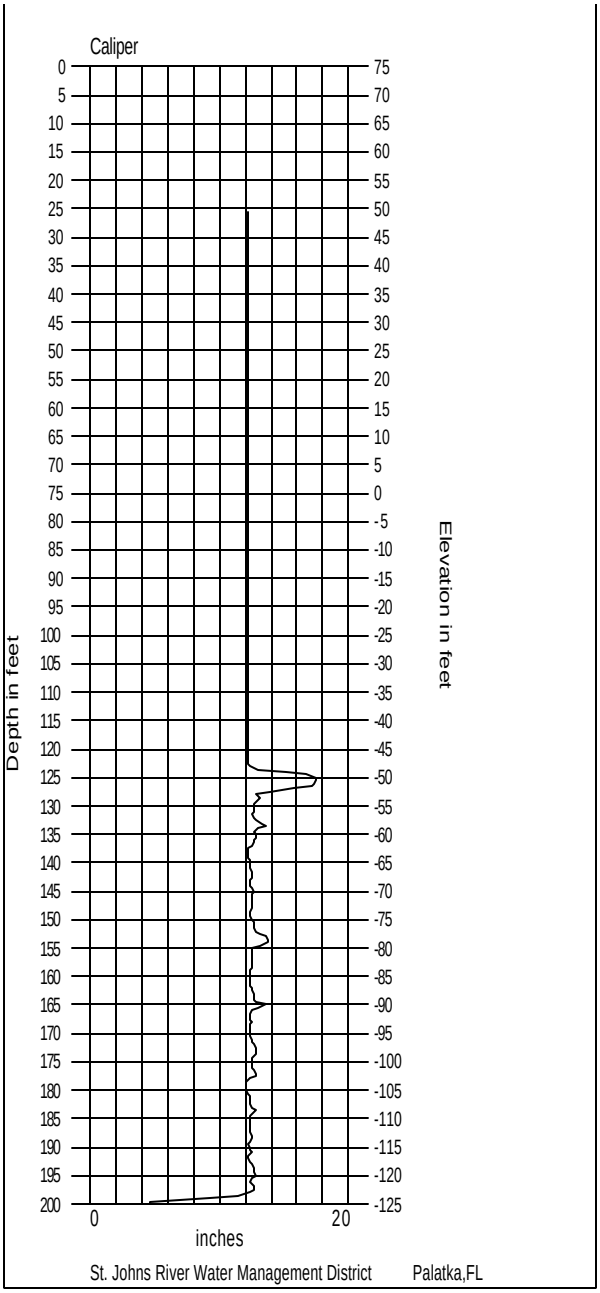
Logger: Shane Dossat **Date Logged:** 4/19/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1408

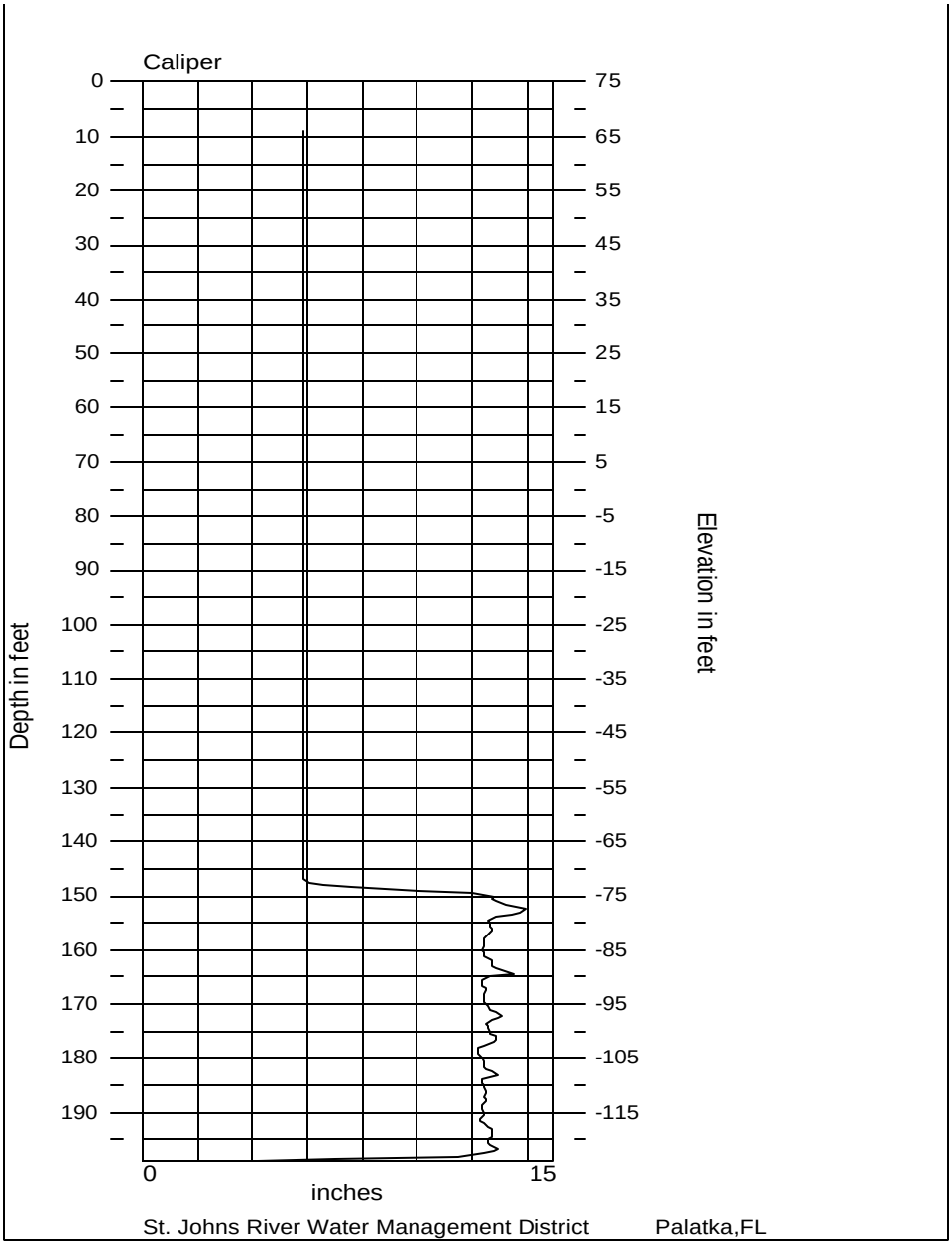
Logger: Shane Dossat **Date Logged:** 4/23/99



Geophysical Logs

Site: Lake Mary **Monitor Well:** S-1408

Logger: Shane Dossat **Date Logged:** 4/28/99



Video Logs Available

Date	Logger	Well Number	Depth (ft, bls)
9/8/97	Deep Venture	S-1351	646
12/22/98	Deep Venture	S-1351	1345

Geophysical

Site: Lake Mary

Date Logged	Logger	Well ID	Cal ft	Casing dia.-ft	Gam	TFR UP/P	Elet	Flow UP/P	Samp ft bls	Other
7/15/97	Warren	S-1351	109	24-33	√					
9/8/97	Shane	S-1351	√			UP	√		130, 640	
9/8/97	DV	S-1351								Video
9/9/97	Shane	S-1351	√							
9/10/97	Shane	S-1351						P		
9/11/97	Shane	S-1351				P				
12/22/98	DV	S-1351								Video
12/22/98	Jeff	S-1351	1345		√	UP	√	UP		
12/28/98	Jeff	S-1351	1389					UP	1380	
1/27/99	Shane	S-1351		√					TD	
1/27/99	Shane	S-1406		√					TD	
2/11/99	Shane	S-1407		√						