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GROUNDWATER RESOURCES OF THE BONITA BAY DEVELOPMENT LEE COUNTY, FLORIDA

VOLUME II. DATA APPENDICES

Prepared for

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VOLUME II. DATA APPENDICES

A. GEOLOGIST'S LOGS

TABLE A-1. GEOLOGIST'S LOG OF WELL L-M-1644

Depth (Ft.)	Description
0-8	Sand, light gray to brown, soft, moderately sorted fine to coarse grained, angular-sub-angular quartz sand; minor clay and organics, intergranular porosity, medium permeability
8-9	Sand, black, soft, clayey, grain size similar to above but fewer coarse grains, 15% clay, low to medium permeability.
9-18	Sand, brown, soft, predominately fine to medium with few coarse grains, moderately sorted, 3% clay, medium permeability.
18-23	Sand, brown, soft similar to above but slightly more clay, low to medium permeability.
23-32	Limestone, white, medium, sandy, fossiliferous, high porosity and permeability as evidenced by loss circulation.
32-58	Marl, green, very soft, sandy, lime mud matrix, shells common, low permeability.
58-63	Marl, green, soft, similar to above but 3% phosphate, low permeability.
63-72	Marl, green, soft, same as above without phosphate, occasional bivalve and barnacle shells, low permeability.
72-79	Limestone, olive green, medium soft, marly, friable, lots of bivalves and barnacle shells, 10% quartz sand, intergranular porosity, low to medium permeability.
79-88	Limestone, white to light gray, medium hard, sandy, molluscan mold biomicrudite, some spar cement, abundant bivalves, bryozoans, and echinoids, abundant secondary porosity, very high permeability.

TABLE A-2. GEOLOGIST'S LOG OF WELL L-M-1646

Depth (Feet)	Description
0-10	Sand, light gray to brown, soft, well sorted fine to medium grained, angular to subangular quartz sand; minor organics and clay, intergranular porosity, medium permeability.
10-18	Sand, brown, soft, similar to above in grain size, slightly more clay, low to medium permeability.
18-22	Limestone, white to orange, very hard, sandy biomicrite, wackestone with few bivalve shells, drinking, medium - high permeability.
22-29	Limestone, white, softer than above, sandy, biomicrudite, molluscan rich, moldic porosity common, very high permeability, loss circulation zone.
29-32	Limestone, white, medium hard, similar to above but better induration, high permeability.
32-37	Marl, green soft, very sandy with lime mud matrix and shells common, intergranular porosity, low permeability.
37-40	Marl, green, medium soft, similar to above, but increased shell content, 3% phosphate, low permeability.
40-60	Marl, dark green, soft, very sandy, lime mud matrix, minor clay, trace phosphorite, low permeability.
60-80	Calcareous clay, dark green, soft, less sand than above, minor shell, low permeability.
80-95	Calcareous clay, dark green, soft, dense, sandy, very low permeability.
95-110	Limestone, tan, soft, calcarenitic, very sandy and shelly, micritic cement, 30% quartz sand, 2% phosphorite, medium permeability.

TABLE A-2. GEOLOGIST'S LOG OF WELL L-M-1646 CONT'D

Depth (Feet)	Description
110-120	Limestone, tan, medium soft, similar to above with thin sandstone bed, 1% phosphorite, medium permeability.
120-133	Interbedded sandstone and dolosilt, gray and green, soft, bivalve shells common, intergranular porosity, low to medium permeability.

TABLE A-3. GEOLOGIST'S LOG OF WELL L-M-1675

Depth(ft.)	Description
0-5	Sand, light brown, soft with moderately sorted, fine to medium grained, angular to subrounded quartz sand, minor clay and organics, low to medium permeability.
5-15	Sand, brown, soft, same as above without organics, medium permeability.
15-22	Sand, light brown, soft, clayey, bivalve shells common, similar to above in grain size, low permeability.
22-27	Limestone, white, medium, sandy biomicrudite with abundant molluscs, bryozoans, and corals, medium permeability.
27-35	Marl, light gray, soft, sandy, micritic, foraminifera common as well as barnacle and bivalve shells; 45% fine to medium grained quartz sand; 3% microphosphorite nodules, low permeability.
35-45	Marl, light gray, soft, same as above only with less quartz sand and only trace phosphate, low permeability.
45-60	Clay, dark green, soft, carbonate, similar to above but only 15% quartz sand, low permeability.
60-65	Clay, dark green, calcareous, dense, soft, 5% quartz sand, unfossiliferous, low permeability.
65-73	Limestone, green, soft, sandy biomicrudite with 25% quartz sand, abundant large bivalves, low to medium permeability.
73-85	Limestone, white to light gray, medium hard, slightly sandy, biomicrudite with some spar cement, abundant molluscs and bryozoans, trace microphosphorite, high permeability.
85-90	Limestone, white to light gray, similar to above with more quartz sand and black microphosphorite nodules, abundant moldic porosity, high permeability.

TABLE A-3. GEOLOGIST'S LOG OF WELL L-M-1675 - Continued:

Depth(ft.)	Description
90-100	Limestone, tan, soft, sandy, calcarenite, lots of bivalves, 40% quartz sand, 5% phosphorite, medium permeability.
100-113	Limestone, tan, soft, similar to above with more sand and shells, medium permeability.
113-115	Sand and shell, light gray and cream, medium soft, fine to medium grained quartz sand, large bivalve, pectens especially abundant, medium permeability.
115-125	Sandstone, dark brown, hard, calcareous with minor sand and dolosilt; sandstone consists of fine to medium grained quartz with moldic and vuggy porosity, low to medium permeability.
125-135	Dolosilt, green, soft, very sandy, very fine grained euhedral dolomite crystals, 30% quartz sand, minor clay, and trance of phosphorite, low permeability.
135-155	Dolosilt, dark green, soft, same as above with few shells (possibly from above), low permeability.
155-165	Sand, greenish gray, soft, dolomitic and phosphatic, fine to coarse predominantly medium grained quartz sand, calcareous clay matrix, 5% phosphate pebbles and sand, low permeability.
165-175	Dolosilt, green, soft, sandy, very fine grained euhedral dolomite crystals, 20% quartz sand, minor clay and phosphate, unfossiliferous, low permeability.
175-185	Dolosilt, dark greenish-gray, soft, similar to above but increase in phosphorite up to 10%, low permeability.
185-195	Dolosilt, greenish-gray, soft, sticky, less phosphate than above and more clay, otherwise similar, low permeability.
195-215	Dolosilt, greenish-gray, soft, phosphatic with pebbles near base, faster drilling than above, low permeability.

TABLE A-3. GEOLOGIST'S LOG OF WELL L-M-1675 - Continued

Depth(ft.)	Description
215-225	Limestone, white with black specks, medium hard, slightly sandy, 5% phosphorite, biomicrudite with abundant molluscs and bryozoans, moldic and intragranular porosity, medium to high permeability.
225-238	Limestone, white, medium soft, similar to above in composition, medium-high permeability.
238-240	Calcareous clay, yellowish gray, soft, dolomitic, 20% quartz sand, trace phosphorite, unfossiliferous, low permeability.

TABLE A-4. GEOLOGISTS LOG WELL L-M-1676

Depth (Ft.)	Description
0-5	Sand, light gray, soft, well sorted, very fine to medium grained, subangular quartz sand, minor organics, intergranular porosity, medium permeability.
5-15	Sand, brown, soft, fine to medium grained quartz, minor clay, low to medium permeability.
15-20	Sand, dark brown, soft, similar to above, low to medium permeability.
20-24	Sand, gray and tan, soft, clayey, same grain size as above except 20% clay, low permeability.
24-27	Limestone, white, medium hard, sandy, biomicrudite, abundant bivalves and bryozoans, 15% quartz sand, 3% phosphorite, moldic and intragranular porosity, medium permeability.
27-45	Marl, green, soft, sandy lime mud with skeletal remains common, 30% quartz sand, trace phosphorite, low permeability.
45-50	Calcareous clay, dark green, soft, similar to above but less quartz sand, few shells but foraminifera common, 5% phosphorite, low permeability
50-60	Calcareous clay, green, soft, similar to above but only 2% phosphorite, low permeability.
60-65	Marl, olive green, medium soft, slightly sandy and phosphoritic, abundant large bivalve shells, lime mud matrix, 10% quartz sand, 5% phosphorite, low to medium permeability.
65-80	Limestone, white to light gray, medium to hard, slightly sandy, biomicrudite with some spar cement; abundant molluscs, bryozoans and echinoid fragments, 10% quartz sand, 1% phosphorite, moldic and vuggy porosity common, high permeability.

TABLE A-4. GEOLOGISTS LOG WELL L-M-1676 CONT'D

Depth (Ft.)	Description
80-100	Limestone, tan, soft to medium, calcarenitic, very sandy, abundant large bivalve shells, lime mud matrix, 35% quartz sand, 3% phosphorite, low to medium permeability.
100-115	Limestone, tan, soft with thin hard sandstone beds; limestone calcarenitic as above; sandstone, dolomitic with bivalve and echinoid remains, medium permeability.
115-120	Interbedded brown sandstone and green sandy dolosilt, soft and hard; sandstone, dolomitic as above; dolosilt fine grained, 20% quartz sand, unknown percentage of lime mud, low permeability.

TABLE A-5. GEOLOGIST'S LOG OF WELL L-M-1677

Depth(ft)	Description
0-10	Sand, gray and brown, soft, well sorted, predominantely medium grained, subangular quartz sand, medium permeability.
10-19	Sand, brown, soft, clayey, same grain size as above, 10-20% clay, low to medium permeability.
19-25	Limestone, white, medium to hard, sandy, biomicrudite, lots of shells, 25% quartz sand, 1% phosphorite, moldic porosity, medium - high permeability.
25-50	Marl, bluish green, soft, sandy, lime mud with shells common, 40% quartz sand, trace phosphorite, low permeability.
50-58	Calcareous clay, dark green, sticky, phosphatic, similar to above but without large shells, foraminifera common, low permeability.
58-60	Marl, light gray, medium soft, shells abundant, slightly sandy, low permeability.
60-69	Marl, olive green, medium soft, sandy, bivalve shell abundant, lime mud matrix, 10-30% quartz sand, 1% phosphorite, low to medium permeability.
69-85	Limestone, white to light gray, medium hard to medium soft, slightly sandy, biomicrudite, abundant molluscs, bryozoans and echinoids, 10% quartz sand, 1% phosphorite, moldic and vuggy porosity, spar crystals common, high permeability.
85-95	Limestone, tan, soft, very sandy, calcarenitic, abundant large bivalve shells, 30% quartz sand, 3% phosphorite, low to medium permeability.
95-105	Sandstone, light gray, medium, calcareous, phosphatic, abundant bivalves, with moderately sorted fine to coarse grained, subangular to rounded quartz sand, 5% phosphorites, medium permeability.

TABLE A-5. GEOLOGIST'S LOG OF WELL L-M-1677 - Continued:

Depth(ft)	Description
105-118	Sandstone, light gray, hard, calcareous, dolomitic?, same as above in grain size, molluscs, bryozoans and echinoids common, 3% phosphorite, moldic porosity, medium to high permeability.
118-125	Dolosilt, light green, soft, sandy, calcitic, very fine crystalline, euhedral rhombs, 20% quartz sand, trace phosphorite, unfossiliferous, low permeability.

TABLE A-6. GEOLOGIST'S LOG OF WELL L-M-1679

Depth(ft)	Description
0-15	Sand, gray to dark brown, soft, well sorted, fine to medium grained, angular to subangular quartz sand, organics common, minor clay, medium permeability.
15-24	Sandy, dark brown, soft, clayey, similar to above in sand size, low to medium permeability.
24-30	Limestone, white, medium soft, fossiliferous, micritic, lots of bivalve and barnacle shells, minor clay, medium permeability.
30-45	Calcareous clay, light green, soft, sandy, lime mud, microfossils common, few large shells, 30% quartz sand, low permeability.
45-62	Calcareous clay, green, soft, dense, similar to above but phosphoritic, low permeability.
62-65	Marl, light gray, medium soft, lots of shells, phosphatic, low permeability.
65-75	Limestone, olive green, medium soft, marly, bivalve shells abundant, 30% quartz sand, 1% phosphorite, low-medium permeability.
75-95	Limestone, white and light gray, medium hard, slightly sandy, biomicrudite, molluscan molds, bryozoans and echinoids common; 5-15% quartz sand, 1% phosphorite, moldic and vuggy porosity, high permeability.
95-110	Limestone, tan, medium soft, very sandy, calcarenitic, large bivalve shells common, intergranular porosity, medium permeability.
110-118	Sandstone, gray to brown, medium soft to medium hard, possibly dolomitic, medium grained, subangular quartz, 5% phosphorite, bivalve rich, medium permeability.
118-120	Sand, gray, soft, fossiliferous, lots of bivalves, fine to coarse grained, medium permeability.

TABLE A-7. GEOLOGIST'S LOG OF WELL L-M-1680

Depth(ft)	Description
0-10	Sand, gray and brown, soft, well sorted, fine to medium, angular to subangular quartz sand, organics common, medium permeability.
10-17	Sand, light brown to tan, soft, clayey, grain size similar to above, 10-20% clay, low to medium permeability.
17-23	Limestone, light orange to white, hard to soft, with sand contamination from above, low to medium permeability.
23-33	Limestone, white, hard to soft, loss circulation zone, reefal biomicrudite, high permeability.
33-55	Calcareous clay, green, soft, sandy, few large shells, microfossils common, 30% quartz sand, trace phosphorite, low permeability.
55-67	Calcareous clay, dark green, soft, similar to above but phosphatic with phosphate pebbles common, low permeability.
67-70	Marl, gray, medium soft, fossiliferous, sandy, low permeability.
70-80	Limestone, olive green, medium to soft, sandy, bivalve and barnacle shells abundant, micritic matrix, 30% quartz sand, 1-3% phosphorite, low permeability.
80-100	Limestone, white to light gray, medium hard to medium soft, sandy, biomicrudite, molluscan mold rich, also bryozoans and echinoids; 5-10% quartz sand, 1% phorphorite, abundant secondary porosity, high permeability.
100-120	Limestone, tan, soft, very sandy, calcarenitic with large bivalve shells, 30-40% quartz sand, 2-5% phosphorite, low to medium permeability.
120-127	Interbedded gray sandstone and sand, hard and soft, calcareous, lots of shells, fine to coarse grained, subangular to subrounded quartz sand, 5% phosphorite, medium permeability.

TABLE A-8. GEOLOGIST'S LOG OF WELL L-M-1682A

Depth(ft)	Description
0-10	Sand, brown, soft, with very fine to medium grained, angular to subangular quartz sand, organics common, medium permeability.
10-17	Sand, dark brown, clayey, soft, same as above in grain size, 10% clay, low to medium permeability.
17-20	Limestone, white to light orange, hard, sandy biosparrudite with abundant corals, bryozoans, foraminifera, and echinoids; moldic and vuggy porosity, high permeability.
20-25	Limestone, white to light gray, medium hard, biomicrudite, skeletal allochems similar to above, some sparry calcite, 1% phosphorite, moldic and intragranular porosity, high permeability.
25-32	Limestone, bluish gray, medium hard, sandy biomicrudite, 10% quartz sand, 1% phosphorite, abundant oysters, pectens and skeletal clasts, abundant moldic and intergranular porosity, spar cement common, high permeability.
32-45	Calcareous clay, green to dark green, soft, very sandy, microfossils common, few shells, 30% quartz sand, 1% phosphorite, intergranular porosity small, low permeability.
45-65	Calcareous clay, dark green, soft, similar to above but without phosphorite, low permeability.
65-76	Calcareous clay, dark green, soft, 30% quartz sand, 5% phosphorite with few phosphate pebbles, low permeability.
76-85	Limestone, olive green, medium soft, very sandy biomicrudite, lots of bivalve shells, 40% quartz sand, 3% phosphorite, intergranular porosity, low permeability.
85-97	Limestone, white to light gray, medium hard, slightly sandy biomicrudite with some sparry cement, abundant skeletal molds, bryozoans and echinoids; 5% quartz sand, 1% phosphorite, abundant moldic and vuggy porosity, high permeability.

TABLE A-8. GEOLOGIST'S LOG OF WELL L-M-1682A Continued:

Depth(ft)	Description
97-105	Limestone, white to light gray, medium hard similar to above but up to 15% quartz sand, 2% phosphorite, high permeability.
105-115	Limestone, tan, medium soft, very sandy with 25% quartz grains, calcarenitic with large bivalve shells common, intergranular porosity, medium permeability.
115-124	Limestone, tan, medium soft, sandier than above with 40% quartz grains, calcarenite, low to medium permeability.
124-126	Sandstone, light brown, medium soft, dolomitic, medium grained, subangular quartz sand, 10% phosphorite, bivalve rich, medium permeability.
126-127	Sand, light gray to cream, soft, shelly, fine to coarse grained, lots of pectens, barnacles, and other shells, medium permeability.

TABLE A-9. GEOLOGIST'S LOG OF WELL L-M-1683

Depth (Feet)	Description
0-10	Sand, brown, soft, predominantely fine grained, some organics, medium permeability.
10-17	Sand, dark brown, soft, similar to above but minor clay, low to medium permeability.
17-23	Limestone, white to light orange, hard, wackestone, sandy, medium permeability.
23-30	Limestone, white, medium soft, biomicrudite, packstone, loss circulation zone, very high permeability.

TABLE A-10. GEOLOGIST'S LOG OF WELL L-M-1684

Depth(ft)	Description
0-10	Sand, light to dark brown, soft, moderately sorted, predominantely fine grained, angular to subangular quartz grains, organics common, medium permeability.
10-17	Sand, dark brown, soft, similar to above in grain size but 10% clay, low to medium permeability.
17-20	Limestone, white to light orange, hard, sandy biomicrite, some spar cement, 10% quartz sand, vuggy porosity common, medium permeability.
20-24	Limestone, white, medium hard, biomicrudite or reefal packstone, Stylophora affinis very common along with recrystallized corals and molluscan shells, moldic and intragranular porosity very common, high permeability.
24-26	Limestone, bluish gray, hard, slightly sandy biosparrudite, abundant oysters and other bivalve shells, 5% quartz sand, 3% phosphorite, intergranular and moldic porosity abundant, very high permeability.
26-33	Limestone, bluish gray, medium hard, biomicrudite, shells not as common as above, 15% quartz sand, 5% phosphorite, high permeability.

TABLE A-11. GEOLOGIST'S LOG OF WELL L-M-1685

Depth (Feet)	Description
0-10	Sand, light gray to brown, soft, fine to medium grained, subangular quartz sand, organics common, medium permeability
10-20	Sand, dark brown, soft, clayey, same as above but 10-20% clay, low to medium permeability
20-23	Sand and shell, gray and brown, soft, clayey with abundant bivalves, low permeability.
23-33	Limestone, white to gray, medium, loss circulation zone, high permeability.
33-34	Marl, green, soft, sand, calcareous clay, few shells, low permeability.

TABLE A-12. GEOLOGIST'S LOG OF WELL L-M-1690

Depth (Feet)	Description
0-10	Sand, gray to brown, soft, well sorted, predominantely fine grained, subangular quartz sand, organics common, medium permeability
10-18	Sand, dark brown, soft, clayey, similar to above in grain size with 10% clay, low to medium permeability
18-22	Limestone, light gray, medium soft, sandy, very fossiliferous, lots of bivalve including Chione Cancellata, medium permeability
22-25	Limestone, white-lt. gray, hard, lots of bivalve shell, few corals, medium - high permeability
25-32	Limestone, dark gray, medium to hard, drinking, high permeability
32-33	Marl, green, soft, sandy lime mud with few shells, low permeability

TABLE A-13. GEOLOGIST'S LOG OF WELL L-M-1713

Depth (Feet)	Description
0-10	Sand, light gray-brown, soft, moderately sorted, predominately medium grained, sub-angular quartz sand, minor clay and organics, medium permeability.
10-15	Sand, dark brown, soft, well sorted, fine to medium grained, quartz sand, 3% clay, un-fossiliferous, medium permeability
15-18	Sand, grayish brown, soft, clayey, sand size same as above, 20% clay, low to medium permeability.
18-20	Limestone, light orange, hard, slightly sandy mudstone to wackestone, biomicrite with some spar cement, 10% quartz sand, some vuggy porosity, low to medium permeability.
20-30	Limestone, white to light gray, medium, coral biomicrudite, spar crystals common, abundant corals, bryzoans and molluscs, moldic and intragranular porosity, high permeability.
30-50	Marl, gray to green, soft, sandy lime mud with few shells, 25% quartz sand, trace phosphorite, foraminifera common, few barnacle and bivalve shells, low permeability.
50-70	Calcareous clay, dark green, soft, similar to above, 25% quartz, 1-3% phosphorite, foraminifera are the only shells, low permeability.
70-80	Calcareous clay, dark green, soft, stiff, less quartz sand than above, 1% phosphorite, foraminifera, low permeability.
80-87	Limestone, olive green, medium soft, marly, sandy, very fossiliferous, 2% phosphorite, abundant bivalves and barnacles, low to medium permeability.

TABLE A-13. GEOLOGIST'S LOG OF WELL L-M-1713 CONT'D.

Depth (Feet)	Description
87-102	Limestone, white to light gray, medium hard, biomicrudite, some spar cement, slightly sandy to sandy (10-20%), abundant molluscs, byrozoans, and echinoids; moldic and vuggy porosity, high permeability.
102-120	Limestone; tan, soft, silty and sandy, calcarenite, lots of bivalves, 30-40% quartz sand, 1-2% phosphorite, low to medium permeability.
120-135	Sandstone, tan, medium, calcareous, shelly, moderately sorted, fine to coarse grained, subangular to rounded quartz sand, abundant bivalve and echinoid shells, 2% phosphorite, low - medium permeability.
135-148	Sandstone, tan, medium to hard, with interbedded soft, green dolosilt, and gray sandy dolomite; sandstone as above but dolomitic; dolosilt, sandy with fine euhedral crystals, dolomite calcareous with moldic porosity, occasional phosphorite, low to medium permeability.
148-160	Dolosilt, grayish green, soft, sandy, unfossiliferous, very fine crystalline, euhedral, low permeability.
160-162	Sandstone, grayish brown, hard, calcareous fine to medium grained, 2% phosphorite, medium permeability.
162-170	Dolosilt, dark green, soft, sandy, fine crystalline, 15% quartz sand, trace clay, low permeability
170-178	Limestone, white-gray, soft to medium, micritic, shells common, 5% phosphate, low permeability.

TABLE A-13. GEOLOGIST'S LOG OF WELL L-M-1713 CONT'D.

Depth (Feet)	Description
178-190	Dolosilt, dark green, soft, sandy, fine crystalline, euhedral, 15% quartz sand, minor clay, interbedded with white marly limestone, low permeability.
190-210	Dolosilt, dark green, soft, similar to above, stiff, low permeability.
210-228	Dolosilt, dark greenish gray, soft, similar to above but sandier and up to 5% phosphate, low permeability.
228-255	Limestone, white to light gray, medium hard, slightly sandy, phosphatic, bio-micrudite, abundant bivalves, and byrozoans, moldic and vuggy porosity, high permeability.

TABLE A-14. GEOLOGIST'S LOG OF WELL L-M-1716

Depth (ft)	Description
0-10	Sand, dark brown, soft, well sorted fine to medium grained, angular to subangular quartz grains, 10% clay, organics common, low to medium permeability.
10-15	Sand, dark brown, soft, same as above in grain size, less clay, intergranular porosity, medium permeability.
15-18	Sand, gray, soft, fine to coarse grained quartz sand, 30% clay, low permeability.
18-22	Limestone, white, medium, very sandy biomicrudite with abundant molluscs, 30% quartz sand, 5% phosphorite, medium permeability.
22-30	Marl, light green, soft, sandy calcareous clay with microfossils common, 50% lime mud, 30% quartz sand, 5% phosphorite, low permeability.
30-50	Marl, green soft, similar to above but less quartz sand, low permeability.
50-60	Marl, dark green, soft, similar to above, 1% phosphorite, low permeability.
60-82	Clay, dark green, soft, calcareous, sandy, 3% phosphorite, very low permeability.
82-86	Limestone, white to light gray, medium hard, slightly sandy, biomicrudite with abundant molluscs, bryozoans and ostracods, spar cement common, 1% phosphorite, common moldic and vuggy porosity, high permeability.
86-95	Limestone, tan, medium soft, calcarenitic, very sandy, micritic cement, large bivalves common 30% quartz sand, 2% phosphorite, medium permeability.
95-105	Limestone, tan, soft and medium, similar to above with slightly more phosphorite, minor thin sandstone beds, medium permeability.

TABLE A-14. GEOLOGIST'S LOG OF WELL L-M-1716 - Continued:

Depth (ft)	Description
105-120	Sandstone, gray, medium hard, fine to coarse grained, subangular quartz, calcareous cement, 5% phosphorite, abundant bivalve and echinoid skeletal remains, intergranular porosity, medium permeability.
120-135	Sandstone, gray, hard, calcareous, similar to above, medium permeability.
135-145	Sand, tan, medium soft, dolomitic, same grain size as above, 10% lime mud, low to medium permeability.
145-150	Dolosilt, green, soft, fine grained euhedral dolomite crystals, 20% quartz sand, some lime mud, minor clay, low permeability.
150-155	Clay, white, soft, calcareous, few shells, biomicrite, very low permeability.
155-160	Limestone, white, medium hard, phosphatic, biomicrite, bivalves common, rare shark teeth, 15% phosphate sand and gravel, low permeability.
160-170	Dolosilt, green, soft, calcareous and sandy, unfossiliferous, fine grained euhedral dolomite crystals, 20% quartz sand, 1% phosphorite, low permeability.
170-180	Dolosilt, green, soft, same as above, low permeability.
180-190	Dolosilt, greenish gray, soft, similar to above with slightly more quartz and phosphorite, low permeability.
190-197	Dolosilt, dark gray, soft, sandy, 10% phosphate, unfossiliferous, low permeability.
197-213	Limestone, white to gray, medium hard, slightly sandy biomicrudite with abundant bivalves and bryozoans, 10% quartz sand, 5% phosphorite, moldic and intragranular porosity common, high permeability.

TABLE A-14. GEOLOGIST'S LOG OF WELL L-M-1716 - Continued:

Depth (ft.)	Description
213-214	Calcareous clay, yellow, soft, sandy, dolomitic, unfossiliferous, 20% quartz sand, trace phosphorite, low permeability.

TABLE A-15. GEOLOGIST'S LOG OF WELL L-M-1718

Depth (Feet)	Description
0-5	Sand, light gray, soft, well sorted, fine to medium grained, subangular quartz sand, unfossiliferous, medium permeability.
5-15	Sand, brown, soft, same as above but 10-15% clay, orgains common, low to medium permeability.
15-20	Sand, dark brown, soft, clayey, few bivalve shells, 20% clay, low permeability.
20-25	Limestone, white to light orange, hard, sandy, very fossiliferous, biomicrudite, 20% quartz sand, abundant bivalves, medium permeability.
25-45	Marl, light green, soft, very sandy lime mud with bivalves and foraminifera common, 40% quartz sand, 1% phosphorite, low permeability.
45-50	Calcareous clay, dark green, soft, less sand and shell than above, 2% phosphorite, low permeability.
50-60	Calcareous clay, green, soft, similar to above but only 2% phosphorite, low permeability.
60-65	Marl, olive green, medium soft, slightly sandy and phosphoritic, abundant large bivalve shells, lime mud matrix, 10% quartz sand, 5% phosphorite, low to medium permeability.
65-80	Limestone, white to light gray, medium to hard, slightly sandy- biomicrudite with some spar cement; abundant molluscs, bryozoans and echinoid fragments, 10% quartz sand, 1% phosphorite, moldic and vuggy porosity common, high permeability.

TABLE A-15. GEOLOGIST'S LOG OF WELL L-M-1718 Continued:

Depth (Feet)	Description
80-100	Limestone, tan, soft to medium, calcarenitic, very sandy, abundant large bivalve shells, lime mud matrix, 35% quartz sand, 3% phosphorite, low to medium permeability.
100-115	Limestone, tan, soft with thin hard sandstone beds; limestone calcarenitic as above; sandstone, dolomitic with bivalve and echinoid remains, medium permeability.
115-120	Interbedded brown sandstone and green sandy dolosilt, soft and hard; sandstone, dolomitic as above; dolosilt fine grained, 20% quartz sand, unknown percentage of lime mud, low permeability.
120-126	Sandstone, dark brown, hard, dolomitic, moderately sorted, fine to coarse grained, subangular to rounded, quartz sand, bivalve common, trace phosphorite, medium permeability.
126-130	Dolomite, gray, hard, sandy, very fine crystalline, moldic porosity common, 35% quartz sand, 1% phosphorite, medium permeability.
130-155	Interbedded green dolosilt and gray sandstone, soft and hard; dolosilt consist of very fine euhedral crystals, phosphatic, unfossiliferous; sandstone, dolomitic, low to medium permeability.
155-160	Limestone, white, soft to medium, marly, bivalve shells common, 1% phosphorite, low permeability.
160-185	Dolosilt, dark green, soft, sandy, fine crystalline, unfossiliferous, 20% quartz sand, 1-3% phosphorite, low permeability.

TABLE A-15. GEOLOGIST'S LOG OF WELL L-M-1718 Continued:

Depth (Feet)	Description
185-211	Dolosilt, dark greenish gray, soft, sandy, phosphatic, similar to above but 30% quartz sand, 5% phosphate pebbles, low permeability.
211-238	Limestone, white, medium hard, slightly sandy, phosphatic, biomicrudite, abundant bivalves and bryozoans, moldic and vuggy porosity, high permeability.

TABLE A-16. GEOLOGIST'S LOG OF WELL L-M-1719

Depth(ft)	Description
0-10	Sand, gray to brown, soft, well sorted, fine to medium grained, subangular quartz sand, medium permeability.
10-20	Sand, dark brown, soft, clayey, similar to above in quartz grain size, 10-20% clay, low to medium permeability.
20-24	Sand, dark brown, soft, clayey, finer grained than above, 25%, few bivalve shells, low permeability.
24-27	Limestone, white, medium hard, sandy, biomicrudite, abundant molluscs, 30% quartz sand, 1% phopshorite, moldic porosity, medium-high permeability.
27-35	Marl, light green, soft, very sandy lime mud with bivalves and foraminifera, 40% quartz sand, trace phosphorite, low permeability.
35-45	Marl, light green, soft, similar to above but only 30% quartz sand, low permeability.
45-55	Calcareous clay, dark green, soft, 10% quartz sand, 1% phosphorite, foraminifera common, low permeability.
55-69	Marl, olive green, medium soft, sandy, lots of bivalve shells, lime mud matrix, 10-30% quartz sand, 1% phosphorite, low to medium permeability.
69-85	Limestone, white to light gray, medium hard, slightly sandy biomicrudite, abundant molluscs, bryozoans, and echinoids; 10% quartz sand, 1% phosphorite, moldic and vuggy porosity, spar crystals common, high permeability.
85-95	Limestone, tan, soft, very sandy, calcarenitic, abundant large bivalve shells, 30% quartz sand, 3% phosphorite, low to medium permeability.
95-105	Sandstone, light gray, medium, calcareous, phosphatic, abundant bivalves, with moderately sorted fine to coarse grained, subangular to rounded quartz sand, 5% phosphorites, medium permeability.

TABLE A-16. GEOLOGIST'S LOG OF WELL L-M-1719 - Continued:

Depth(ft)	Description
105-118	Sandstone, light gray, hard, calcareous, dolomitic?, same as above in grain size, molluscs, bryozoans and echinoids common, 3% phosphorite, moldic porosity, medium to high permeability.
118-124	Dolosilt, light green, soft, sandy, calcitic, very fine crystalline, euhedral rhombs, 20% quartz sand, trace phosphorite, unfossiliferous, low permeability.
124-134	Sandstone, brownish gray, hard, dolomitic, fine to coarse grained, bivalves and echinoids common, moldic porosity, medium to high permeability.
134-160	Dolomite, light gray, medium, with interbeds of dolomitic sandstone as above; dolomite is sandy, very fine crystalline, unknown percentage of calcite, moldic porosity, medium permeability.
160-170	Dolosilt, greenish gray, soft, with interbedded sandstone. Dolosilt is sandy, with minor amounts of calcite and clay, low permeability.
170-180	Limestone, white, soft to medium, biomicrite with bivalve shells in certain beds, low permeability.
180-195	Dolosilt, dark greenish gray, soft, sandy, calcitic with minor clay, very fine crystalline, euhedral rhombs, low permeability.
195-210	Dolosilt, dark greenish gray, soft, similar to above with up to 5% phosphate, unfossiliferous, low permeability.
210-225	Dolosilt, dark greenish gray, soft, not as stiff as above, also phosphate pebbles common, low permeability.
225-243	Limestone, white, slightly sandy and phosphatic, biomicrudite, abundant molluscs and bryozoans, 10% quartz sand, 3% phosphorite, moldic and vuggy porosity, high permeability.

TALBE A-16. GEOLOGIST'S LOF OF WELL L-M-1719 - Continued:

Depth(ft)	Description
243-248	Limestone, white to very light gray, medium, as above with sandy yellow clay interbeds, medium permeability.

TABLE A-17. GEOLOGIST'S LOG OF WELL L-M-1720

Depth (Feet)	Description
0-5	Sand, lt. gray-brown, fine, well sorted, subangular-subrounded, trace of organics and silt, medium permeability.
5-10	Sand, dk. brown, fine, similar to above, medium permeability.
10-17	Sand, lt. brown, fine, medium permeability.
17-19	Clay, lt. gray, minor shell, low permeability.
19-22	Limestone, rust-brown, hard, bryozoans, corals, bivalves common, biomicritic, minor quartz sand, high permeability.
22-26	Limestone, white-lt. gray, biomicritic, medium, bryozoans and corals less than above, medium - high permeability.
26-44	Clay, dk. green, phosphoritic, soft, minor quartz sand, low permeability.
44-55	Clay, lt. green, quartz silt present (10%), phosphate, low permeability.
55-58	Clay, lt. green, minor quartz sand and silt, trace of phosphorite nodules, low permeability.
58-65	Clay and limestone, interbedded, white-green, medium, quartz sand minor, low to medium permeability.
65-71	Clay, lt. olive, fossiliferous, minor quartz silt, low permeability.
71-80	Limestone, white-lt. gray, medium hard, biomicritic, minor microspar lining vugs, byrozoans and echinoids common, high permeability.
80-90	Limestone, white, medium hard, biomicritic, minor quartz, trace of microspar, medium-high permeability.

TABLE A-17. GEOLOGIST'S LOG OF WELL L-M-1720 Continued:

Depth (Feet)	Description
90-100	Limestone, calcareous, lt. gray, medium -soft, fine quartz sand abundant (30%), medium permeability.
100-115	Limestone, calcareous, lt. gray, similar to above, medium permeability.
115-120	Sandstone, calcareous, lt. gray, harder than above, fine sand, medium permeability.
120-130	Sandstone and clay, calcareous, interbedded, lt. brown - green, phosphatic, low to medium permeability.
130-140	Sandstone, calcareous, lt. gray, medium, byrozoans common, medium permeability.
140-160	Sand, lt. gray, minor sandstone, soft, minor shell fragments, medium permeability.
160-170	Clay, greenish gray, phosphatic stiff, low permeability.
170-175	Clay, white-lt. gray, minor quartz sand and shell, low permeability
175-182	Dolosilt, green, trace of sand, low permeability.
182-186	Limestone, white-lt. gray, medium, minor quartz, medium permeability.
186-189	Dolosilt, green, calcareous, low permeability.
189-215	Dolosilt, dk. green, stiff, phosphatic, low permeability.
215-235	Dolosilt, dk. green, stiff, highly phosphatic, low permeability.
235-255	Limestone, white-lt. gray, minor microspar present in vugs, sandy, medium-high permeability.

B. GEOPHYSICAL LOGS

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: [illegible]

DATE LOGGED: _____

PROJECT: [illegible]

NUMBER: [illegible]-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	------	☐			
RESISTIVITY	------	☐			
GAMMA RAY	------	☒	1"=40 cps	1"=20'	3"/min
CALIPER	------	☐			
TEMPERATURE	------	☐			
FLOW VELOCITY	------	☐			
				HORIZONTAL	VERTICAL SPEED
INSTRUMENT	_____				

LOCATION: COUNTY: Lee, [illegible] 1/4, SECTION: 28, TOWNSHIP: 47, RANGE: 25

ELEVATION (LSD) _____ FEET (MSL)

FIRST READING	AT 86
LAST READING	AT
FEET LOGGED	35
BOTTOM - DRILLER	96
CASING - LOG	
CASING - DRILLER	75
HOLE DIAMETER	3"-5"
CASING DIAMETER	4"

LOGGED BY: R. Banks

ASSISTED BY: _____

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

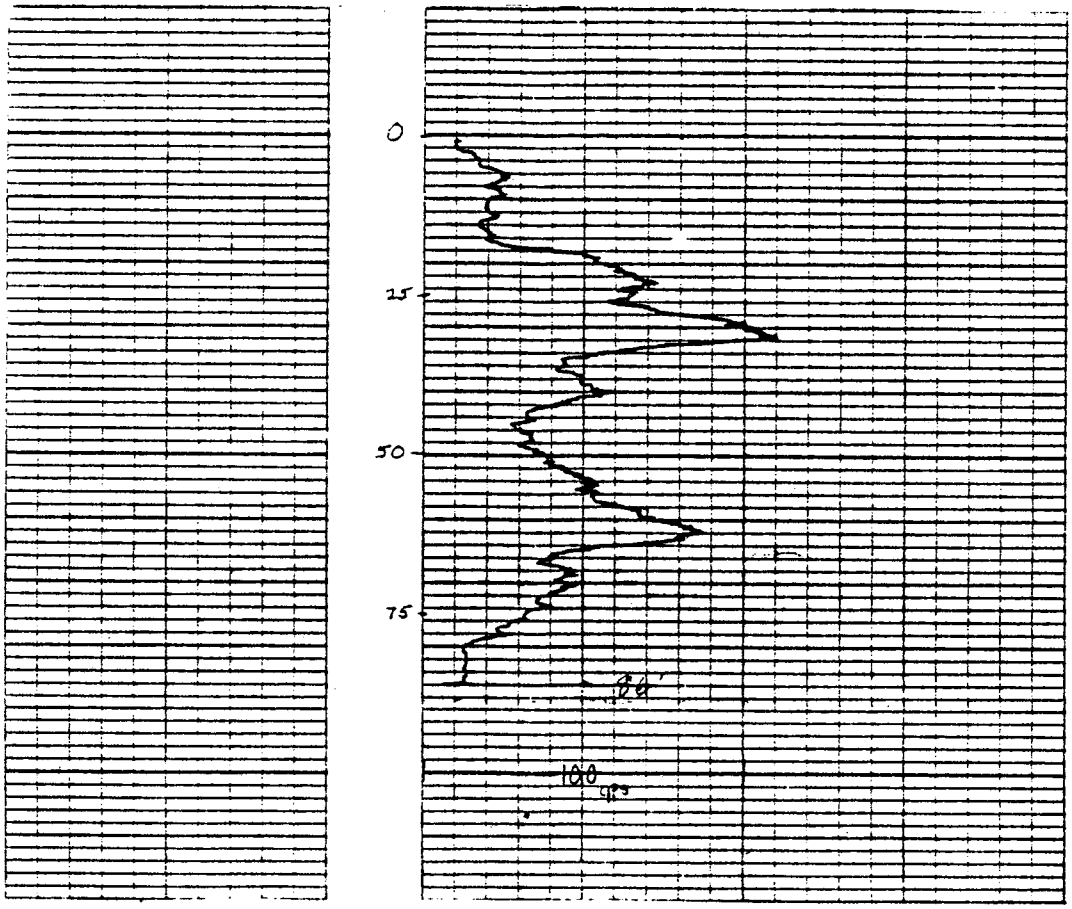


FIGURE A-1 GAMMA RAY LOG OF [illegible] FT-25

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER:

DATE LOGGED:

PROJECT:

NUMBER:

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL				
RESISTIVITY				
GAMMA RAY				
CALIPER				
TEMPERATURE				
FLOW VELOCITY				
INSTRUMENT		HORIZONTAL	VERTICAL	SPEED

LOCATION: COUNTY: , 1/4, 1/4, 1/4, SECTION: , TOWNSHIP: , RANGE:

ELEVATION (LSD): FEET (MSL)

FIRST READING	AT	
LAST READING	AT	
FEET LOGGED		
BOTTOM - DRILLER		
CASING - LOG		
CASING - DRILLER		
HOLE DIAMETER		
CASING DIAMETER		

LOGGED BY:

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

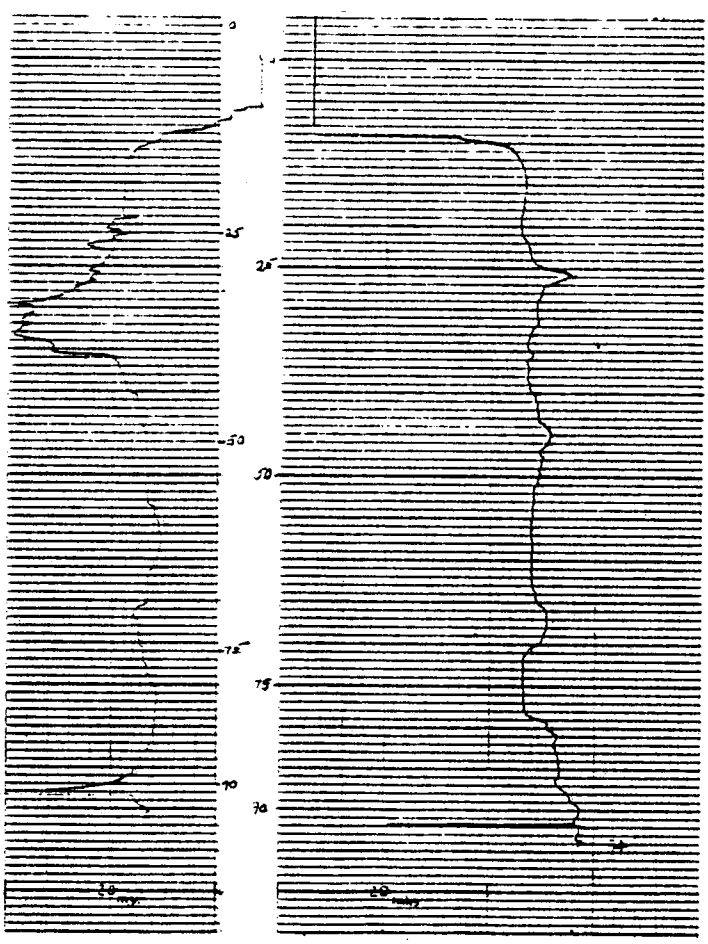


FIGURE A-2. ELECTRIC LOGS OF WELL L-M-1645.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: I M 1645

DATE LOGGED: [illegible]

PROJECT: BONITA BAY

NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☐				
RESISTIVITY	☐				
GAMMA RAY	☒	1" = 40 cps	1" = 20'	18"/min	
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				
			HORIZONTAL	VERTICAL	SPEED
INSTRUMENT					

LOCATION: COUNTY: Lee, SW 1/4 SW 1/4 SE 1/4, SECTION: 29, TOWNSHIP: 47 S, RANGE: 25 E

ELEVATION (LSD) < 5 FEET (MSL)

FIRST READING	AT 3.5'
LAST READING	AT 10'
FEET LOGGED	102.5'
BOTTOM - DRILLER	104'
CASING - LOG	
CASING - DRILLER	14
HOLE DIAMETER	3-5"
CASING DIAMETER	4"

LOGGED BY: R Banks

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

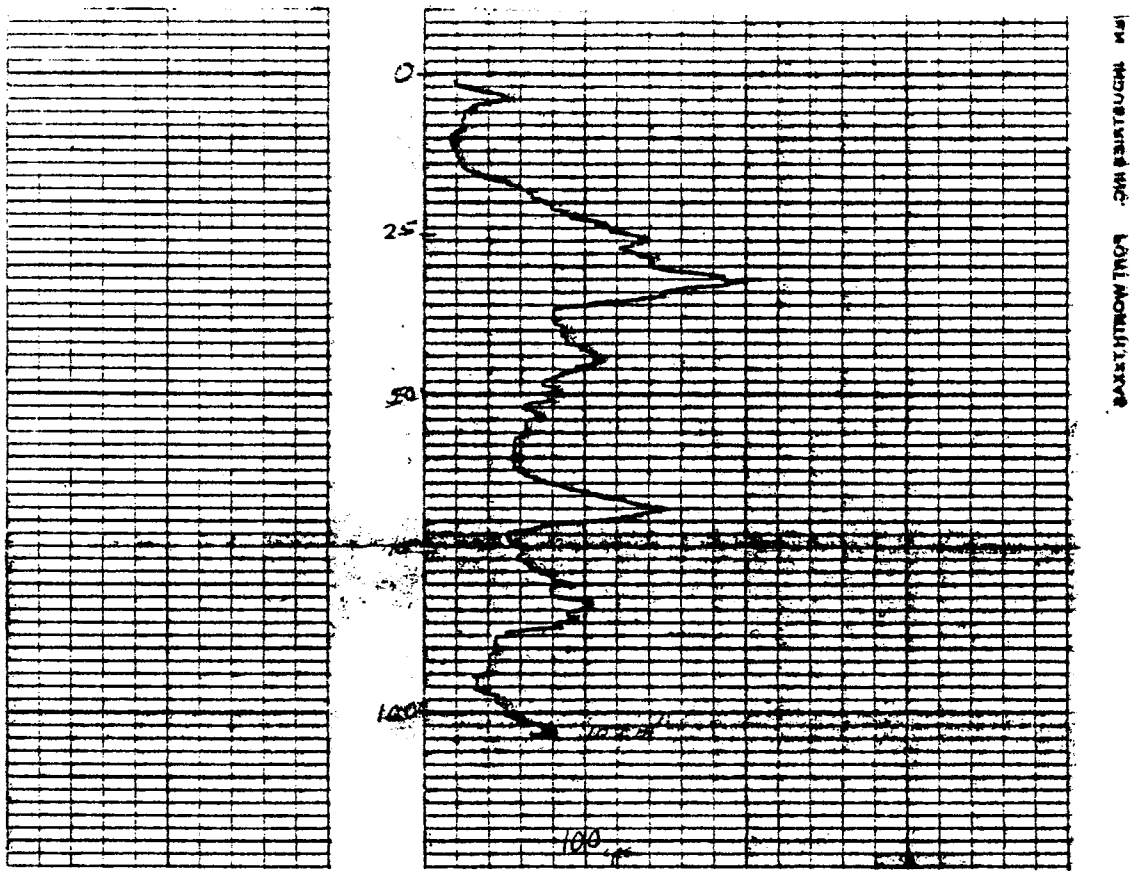


FIGURE A-2 GAMMA RAY LOG OF WELL I M 1645

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-N-60

DATE LOGGED: 3/7/80

PROJECT: Bonita Bay

NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

			HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐				
RESISTIVITY	☐				
GAMMA RAY	☒		1"=40-PS	1"=20'	17'/MIN
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				

INSTRUMENT: ———

LOCATION: COUNTY: Lee, ¼ NE¼ NE¼ 1/4, SECTION: 29, TOWNSHIP: 47S, RANGE: 25E

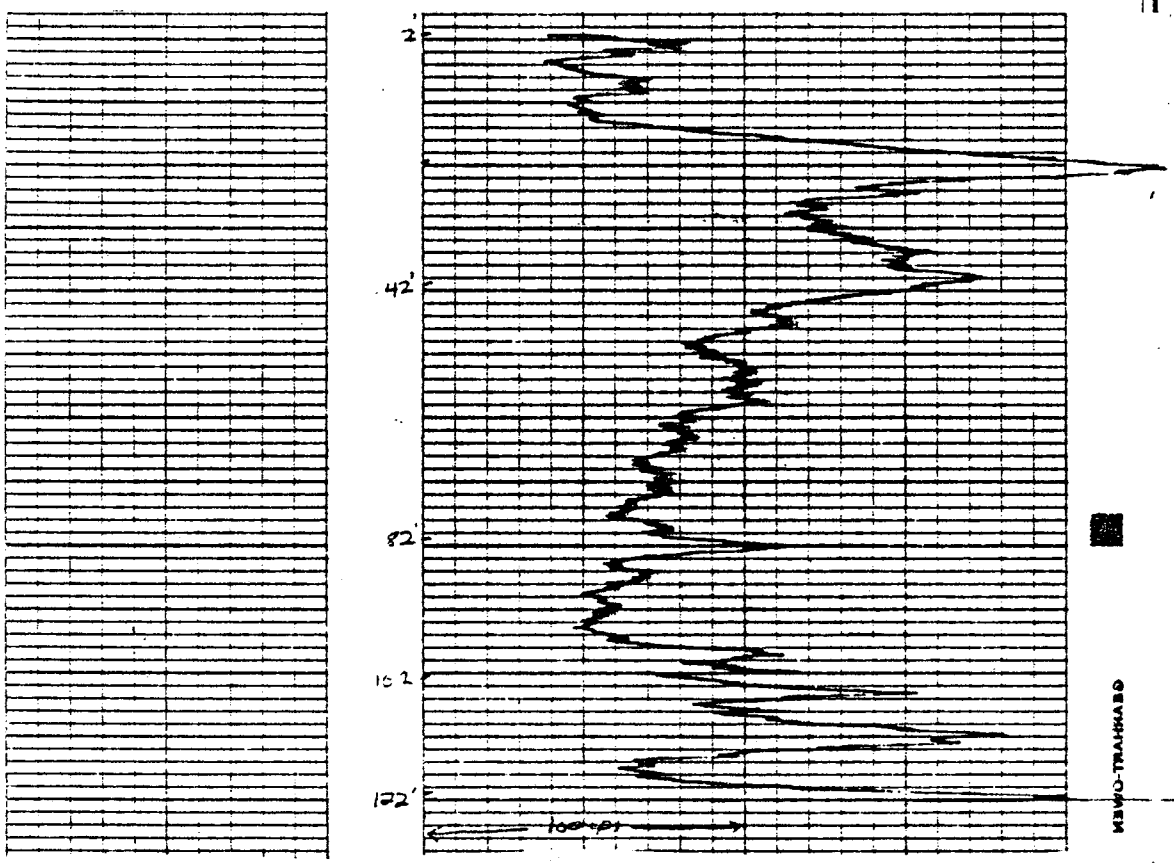
ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 122
LAST READING	AT 2
FEET LOGGED	120
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	4"

LOGGED BY: M Testi

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: TC=3



GEOPHYSICAL LOG

MISSIMER AND ASSOCIATES, INC.

WELL NUMBER: [illegible]

DATE LOGGED: [illegible]

PROJECT: Estero Bay

NUMBER: 50-53

LOGS, SCALES, AND CONSTANTS

Log		Checked	Horizontal	Vertical	Speed
SPONTANEOUS POTENTIAL		☐			
RESISTIVITY		☐			
GAMMA RAY		☒	1" = 40 cps	1" = 20'	13'/min
CALIPER		☐			
TEMPERATURE		☐			
FLOW VELOCITY		☐			
INSTRUMENT					

LOCATION: COUNTY: Lee, — 1/4 NW 1/4 NE 1/4, SECTION 29, TOWNSHIP: T47S, RANGE: 25E

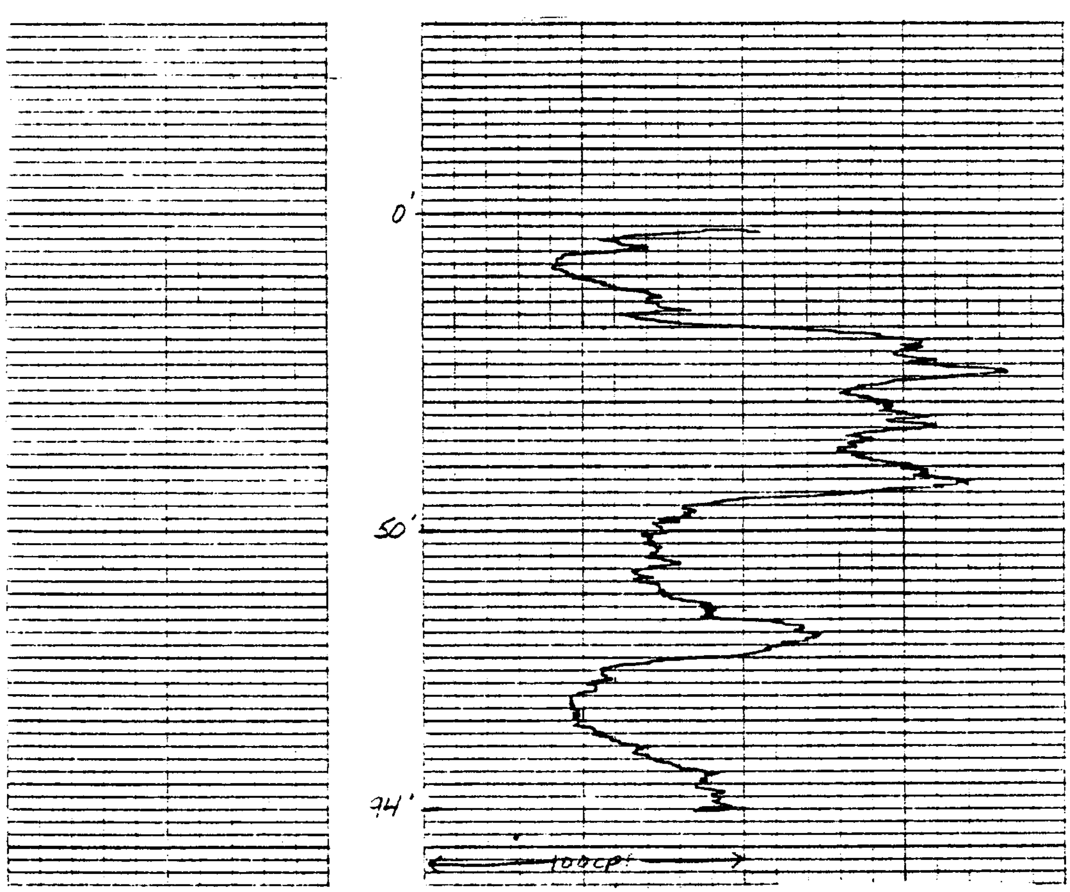
ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 94'
LAST READING	AT 3'
FEET LOGGED	91'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	4"

LOGGED BY: R Banks

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: TL: 3



MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 165

DATE LOGGED:

PROJECT: BONITA BAY

NUMBER: 90-53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL				
RESISTIVITY				
GAMMA RAY		0-150	2"/min	6"/min
CALIPER				
TEMPERATURE				
FLOW VELOCITY				

INSTRUMENT

LOCATION: COUNTY: LEE, NE¼ NW¼ SW¼ SECTION 28, TOWNSHIP 47S, RANGE 25E

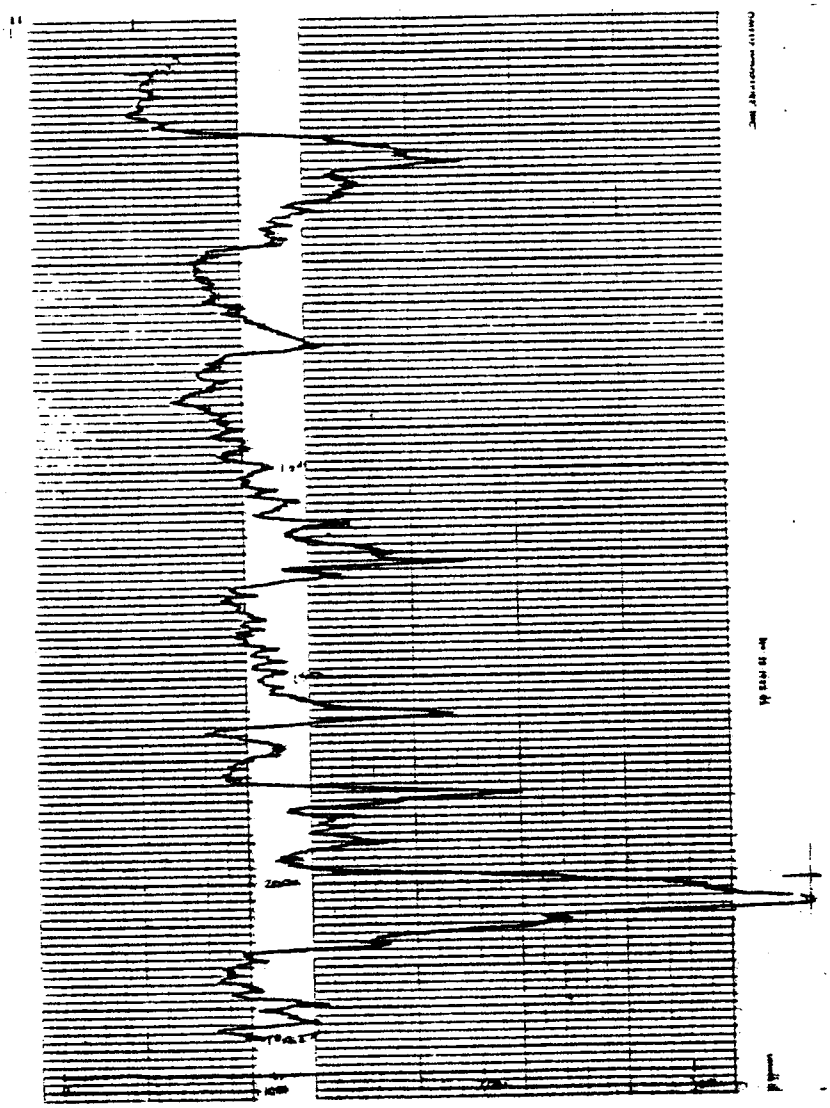
ELEVATION (LSD) 2 FEET (MSL)

FIRST READING	AT	237
LAST READING	AT	5
FEET LOGGED		232
BOTTOM - DRILLER		240
CASING - LOG		
CASING - DRILLER		232
HOLE DIAMETER		4"
CASING DIAMETER		4"

LOGGED BY: R. Banks

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:



MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: LM 1676

DATE LOGGED: [illegible]

PROJECT: Benito Bay

NUMBER: [illegible] 53

LOGS, SCALES, AND CONSTANTS

			HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐				
RESISTIVITY	☐				
GAMMA RAY	☒		1"=40 cps	1"=20'	12/min
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				

INSTRUMENT: ———

LOCATION: COUNTY: Los, ¼ NE ¼ SE ¼, SECTION: 25, TOWNSHIP: 7S, RANGE: 25E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 114'
LAST READING	AT 3'
FEET LOGGED	111'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	4"

LOGGED BY: M. Test

ASSISTED BY: R. Banks

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

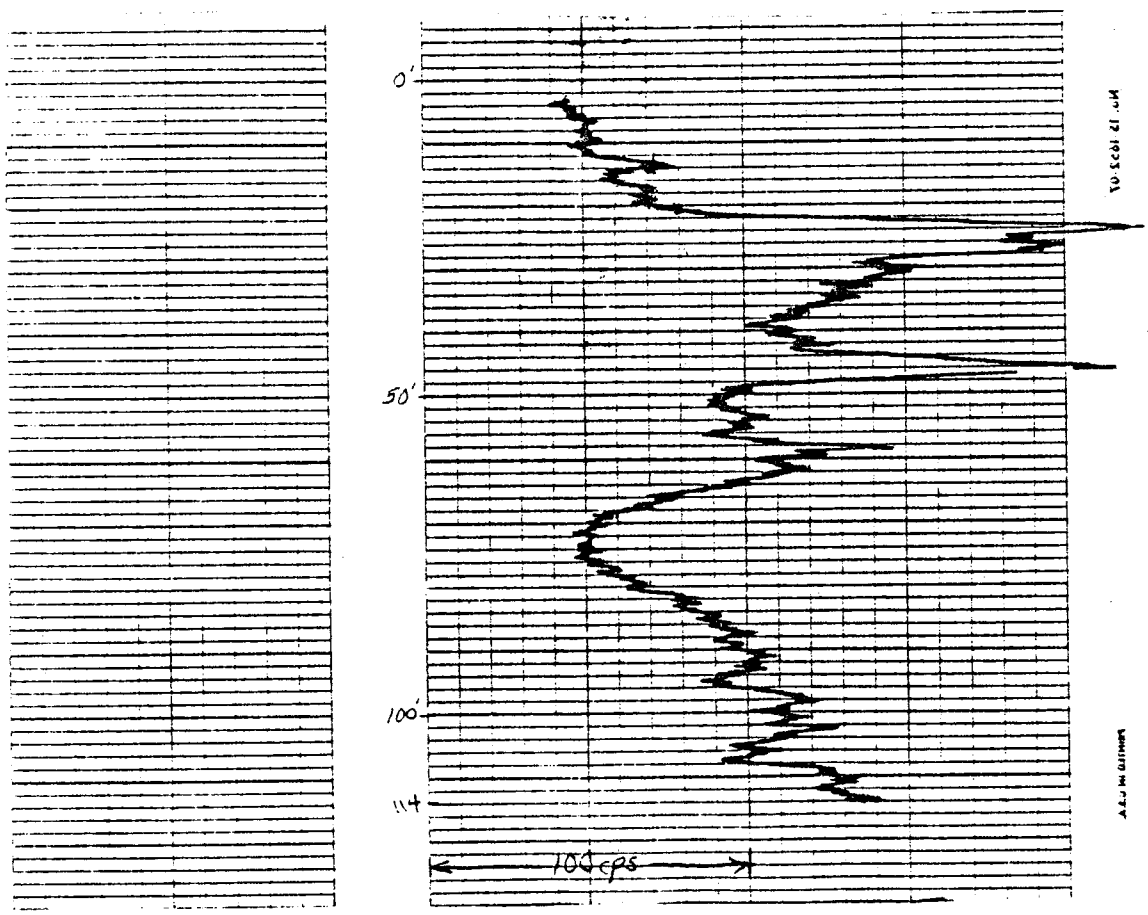


FIGURE A-7. GAMMA RAY LOG OF WELL L-M-1676.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M 1677

DATE LOGGED: [illegible]

PROJECT: Bonita Bay

NUMBER: [illegible] 53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☐				
RESISTIVITY	☐				
GAMMA RAY	☒	1" = 40 cps	1" = 20'	19 in/hr	
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				
INSTRUMENT			HORIZONTAL	VERTICAL	SPEED

LOCATION: COUNTY: Lee, [illegible] 1/4 NE 1/4 SE 1/4, SECTION: 22, TOWNSHIP: 47 S, RANGE: 25 E

ELEVATION (LSD) [illegible] FEET (MSL)

FIRST READING	AT	117'
LAST READING	AT	4
FEET LOGGED		117'
BOTTOM - DRILLER		120
CASING - LOG		
CASING - DRILLER		7"
HOLE DIAMETER		4"
CASING DIAMETER		7"

LOGGED BY: MC Tech

ASSISTED BY: R Banks

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

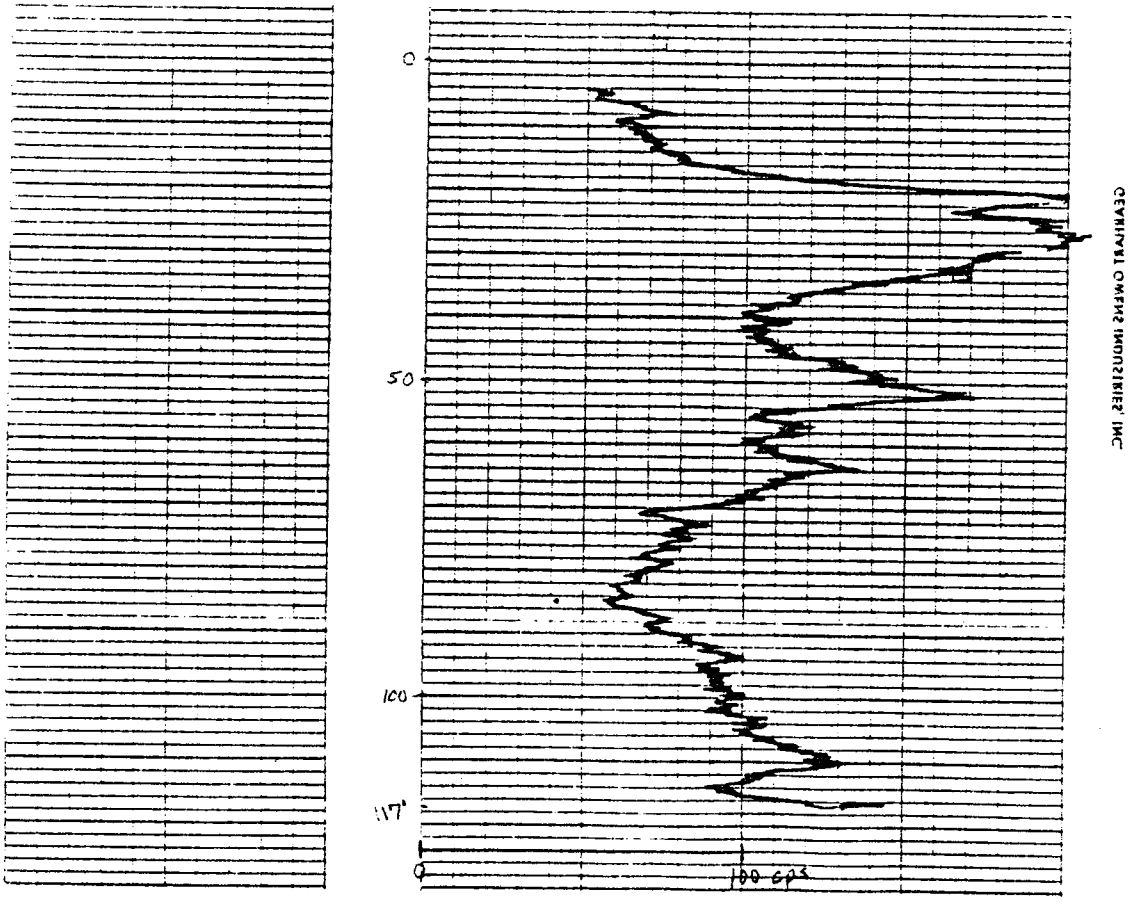


FIGURE A-8 GAMMA RAY LOG OF WELL L-M 1677

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M-1679

DATE LOGGED: 3/23/31

PROJECT: Bonita Bay

NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☒	1"=160 cps	1"=20'	1 ft/min
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			

INSTRUMENT: ———

LOCATION: COUNTY: Lee, NE¼ NE¼ SE¼, SECTION: 28, TOWNSHIP: 47 S, RANGE: 25E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT	117'
LAST READING	AT	2'
FEET LOGGED		115'
BOTTOM - DRILLER		120'
CASING - LOG		
CASING - DRILLER		
HOLE DIAMETER		4"
CASING DIAMETER		4"

LOGGED BY: R. Banks

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

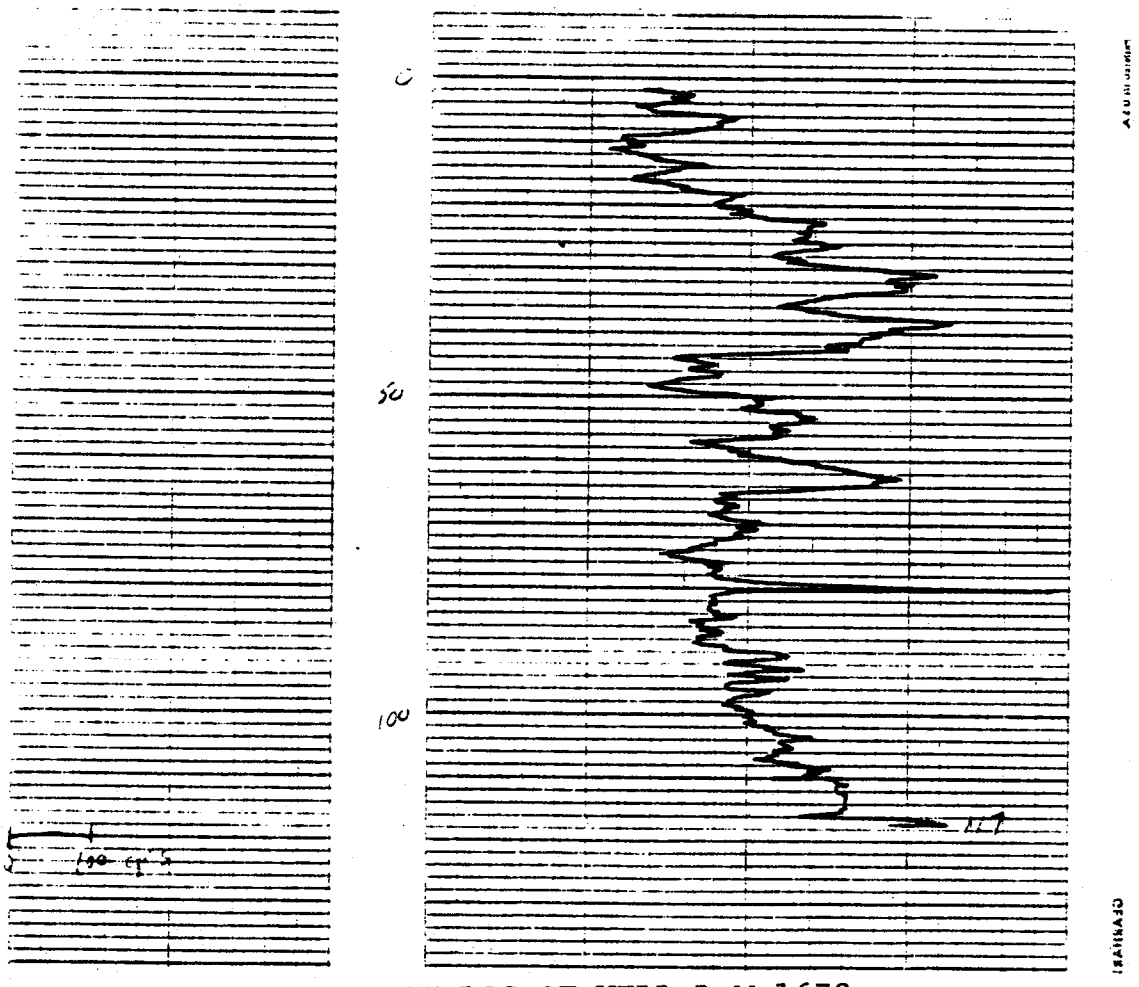


FIGURE A-9 GAMMA RAY LOG OF WELL L-M-1679.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M-1630

DATE LOGGED: 2/4/81

PROJECT: Bonita Bay

NUMBER: 80.53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☒	1"=40cps	20'/1"	17'/min
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			

INSTRUMENT: ———

LOCATION: COUNTY: Lee, ¼ NE ¼ SE ¼, SECTION: 23, TOWNSHIP: 47S, RANGE: 25E

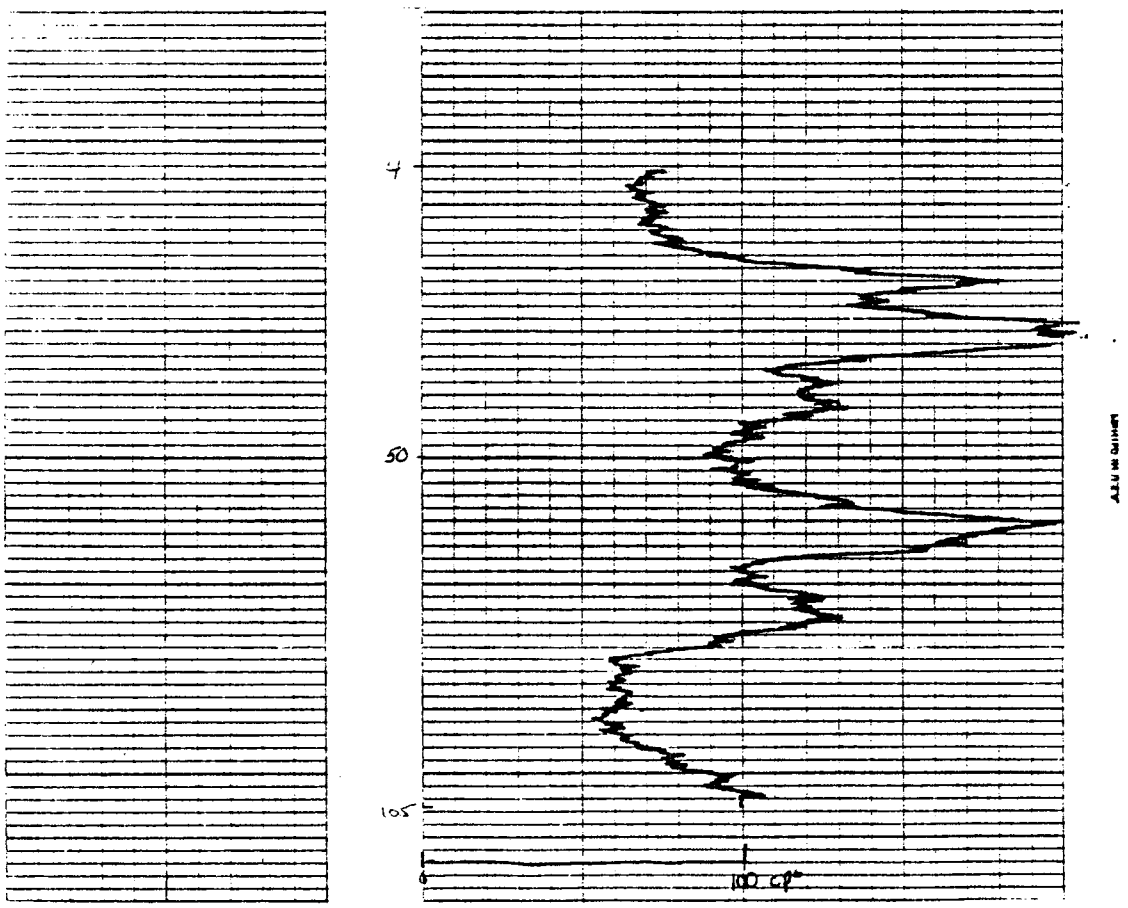
ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT	105'
LAST READING	AT	4'
FEET LOGGED		101'
BOTTOM - DRILLER		
CASING - LOG		
CASING - DRILLER		75'
HOLE DIAMETER		4"
CASING DIAMETER		4"

LOGGED BY: MC Testi

ASSISTED BY: R. Banks

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:



MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M-1680

DATE LOGGED: —

PROJECT: Bonita Bay

NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

			HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	-------	☒	1"=40 mv	1"=20'	18"/min
RESISTIVITY	-------	☒	1"=40 ohms	1"=20'	18"/min
GAMMA RAY	-------	☐	—	—	—
CALIPER	-------	☐	—	—	—
TEMPERATURE	-------	☐	—	—	—
FLOW VELOCITY	-------	☐	—	—	—

INSTRUMENT: ———

LOCATION: COUNTY: Lee, NE 1/4 NE 1/4 SE 1/4, SECTION: 23, TOWNSHIP: 47S, RANGE: 25E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 125
LAST READING	AT 7
FEET LOGGED	118
BOTTOM - DRILLER	127
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	10" to 72' 7" to 127
CASING DIAMETER	

LOGGED BY: R Banks

ASSISTED BY: ———

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: Resistivity scale change at 83' and 106'

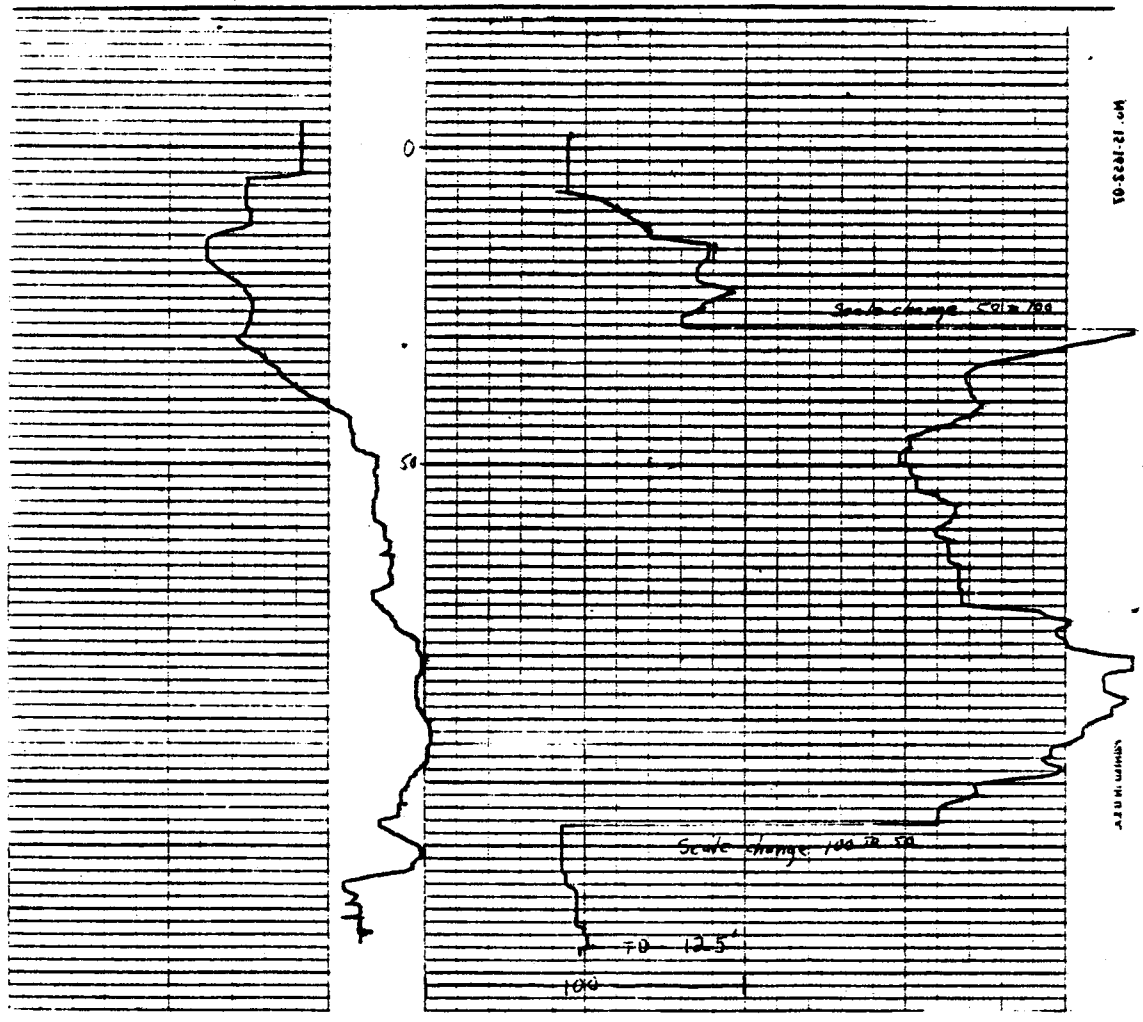


FIGURE A-11 ELECTRIC LOGS OF WELL L-M-1680

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M-1682A

DATE LOGGED: 7/29/81

PROJECT: Bonita Bay

NUMBER: 30-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☒	1"=20 mv	1"=20'	1"/min
RESISTIVITY	☒	1"=20 ohms	1"=20'	1"/min
GAMMA RAY	☐			
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			
		HORIZONTAL	VERTICAL	SPEED
INSTRUMENT				

LOCATION: COUNTY: Lee, NE NE SE 1/4, SECTION: 28, TOWNSHIP: 47S, RANGE: 25E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 77
LAST READING	AT 7
FEET LOGGED	70
BOTTOM - DRILLER	
CASING - LOG	73
CASING - DRILLER	75
HOLE DIAMETER	15"
CASING DIAMETER	10"

LOGGED BY: R. Banks

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: * Resistivity scale change at 75' from 1"=35 ohms to 1"=3 ohms

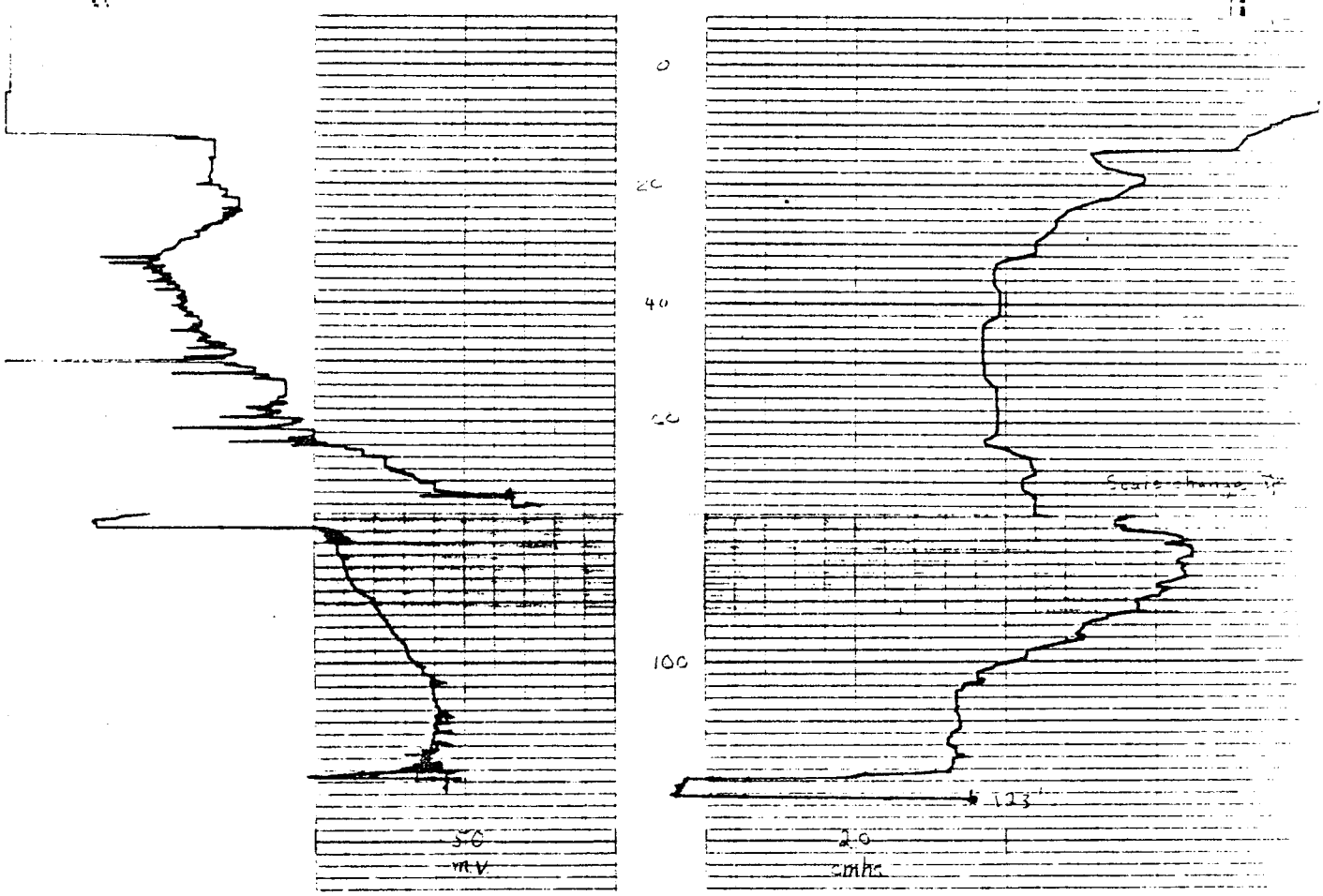


FIGURE A-12 ELECTRIC LOGS OF WELL L-M-1682A.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: LM1682A

DATE LOGGED: [illegible]

PROJECT: [illegible]

NUMBER: 32-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	-------	☐		
RESISTIVITY	-------	☐		
GAMMA RAY	-------	☒	1"=40 cps	20'/inch	15'/min
CALIPER	-------	☐		
TEMPERATURE	-------	☐		
FLOW VELOCITY	-------	☐		
			HORIZONTAL	VERTICAL	SPEED
INSTRUMENT	———				

LOCATION: COUNTY: Lee, [illegible] 1/4, SECTION: 29, TOWNSHIP: 47S, RANGE: 28E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT [illegible]'
LAST READING	AT 4'
FEET LOGGED	4'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	

LOGGED BY: Ken Farren

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

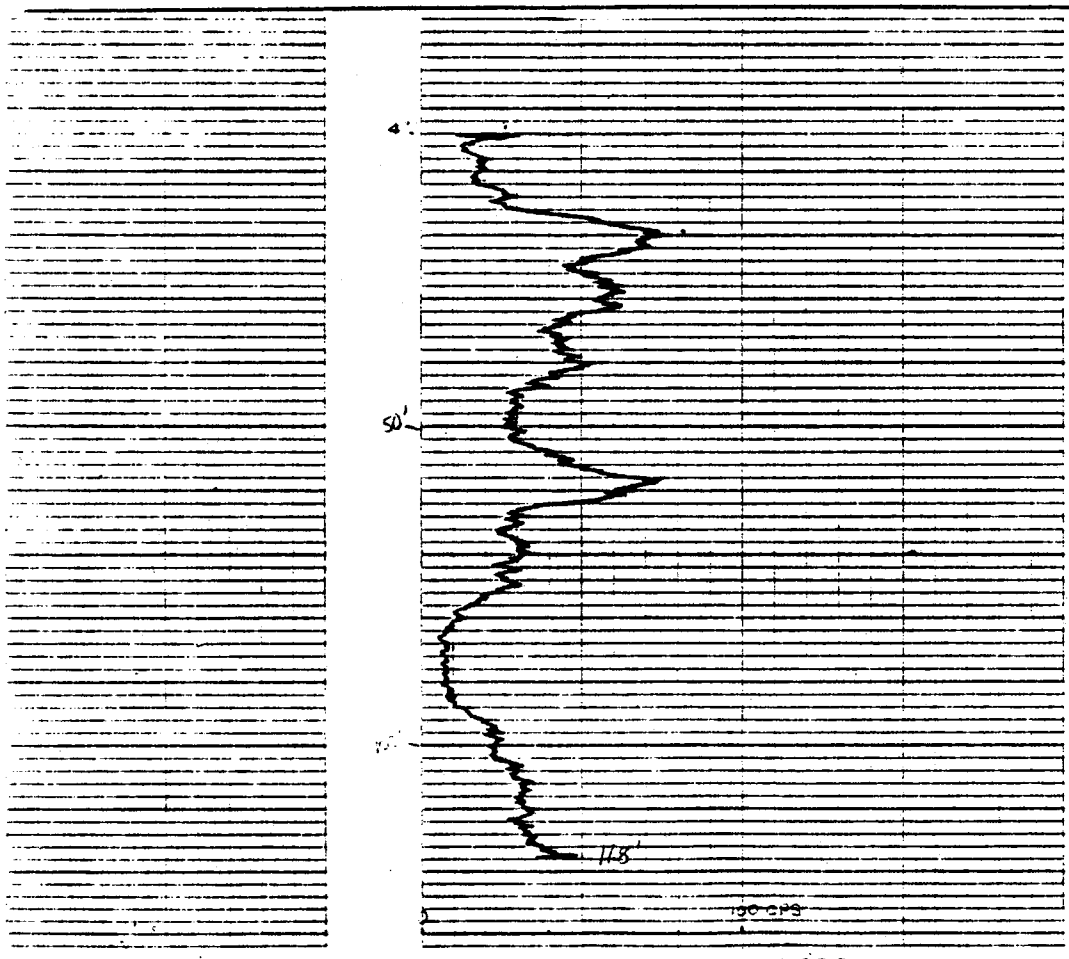


FIGURE A-13 GAMMA RAY LOG OF WELL L-M-1682A

GEOPHYSICAL LOG

MISSIMER AND ASSOCIATES, INC.

WELL NUMBER: L-M-1682A
DATE LOGGED: [illegible]

PROJECT: Bonita Bay
NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☐			
CALIPER	☒	1" = 2½"	1" = 25'	13 /min
TEMPERATURE	☐			
FLOW VELOCITY	☐			

INSTRUMENT ________

LOCATION COUNTY: Lee, NE 1/4, NE 1/4, SE 1/4, SECTION 23, TOWNSHIP 47S, RANGE: 25E

ELEVATION (LSD) ______ FEET (MSL)

FIRST READING	AT [illegible]
LAST READING	AT [illegible]
FEET LOGGED	[illegible]
BOTTOM - DRILLER	[illegible]
CASING - LOG	[illegible]
CASING - DRILLER	74
HOLE DIAMETER	[illegible]
CASING DIAMETER	[illegible]

LOGGED BY: C Banks
ASSISTED BY: ________

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

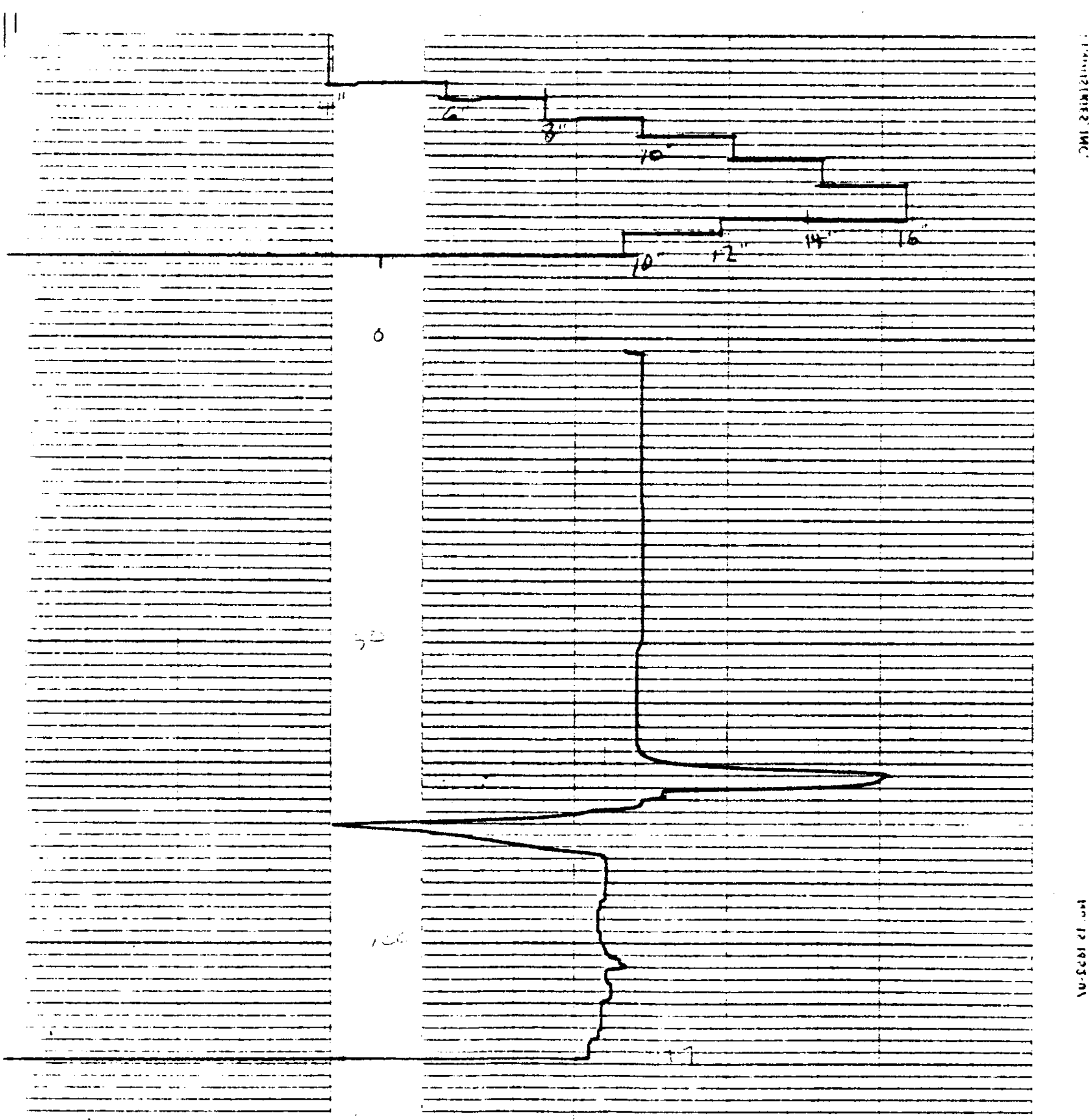


FIGURE A-14. CALIPER LOG OF WELL L-M-1682A.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1713

DATE LOGGED:

PROJECT: Fort Myers

NUMBER: 1713

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL				
RESISTIVITY				
GAMMA RAY	☒	1"=40 cps	1"=20'	5"/min
CALIPER				
TEMPERATURE				
FLOW VELOCITY				
		HORIZONTAL	VERTICAL	SPEED

INSTRUMENT

LOCATION: COUNTY: Lee, SW 1/4 SW 1/4 SE 1/4, SECTION 29, TOWNSHIP 47S, RANGE 27E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 243
LAST READING	AT 7
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	4"

LOGGED BY: M.S. Tsai

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: T-3

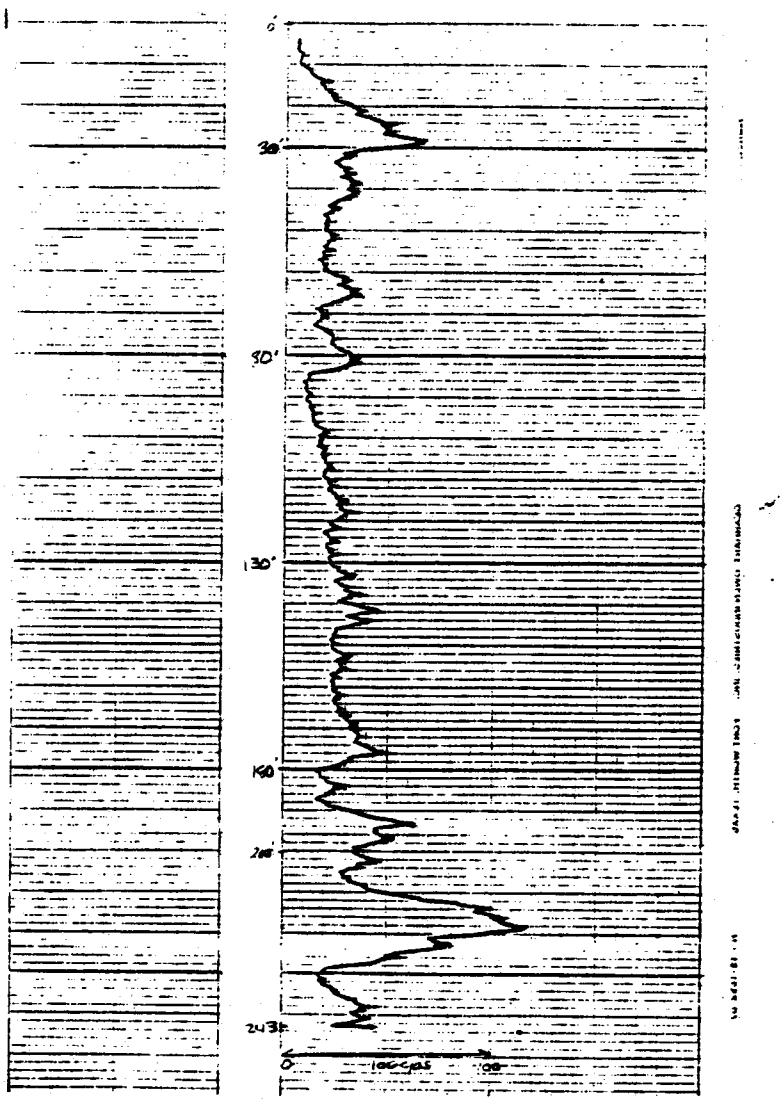


FIGURE A-15. GAMMA RAY LOG WELL L-M-1713.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1716

DATE LOGGED: 7/16/91

PROJECT: Bonita Peak

NUMBER: 90-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☒	20	1": 8 mv	1"=2'	25'/min
RESISTIVITY	☒	20	1": 8 ohms	1"=20'	25'/min
GAMMA RAY	☐				
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				
			HORIZONTAL	VERTICAL	SPEED

INSTRUMENT: ———

LOCATION: COUNTY: Loc., NW 1/4 NW 1/4 NW 1/4, SECTION: 29, TOWNSHIP: 47S, RANGE: 25E

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 202
LAST READING	AT
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	7"
CASING DIAMETER	

LOGGED BY: U.L. Tesh

ASSISTED BY: D Hire

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

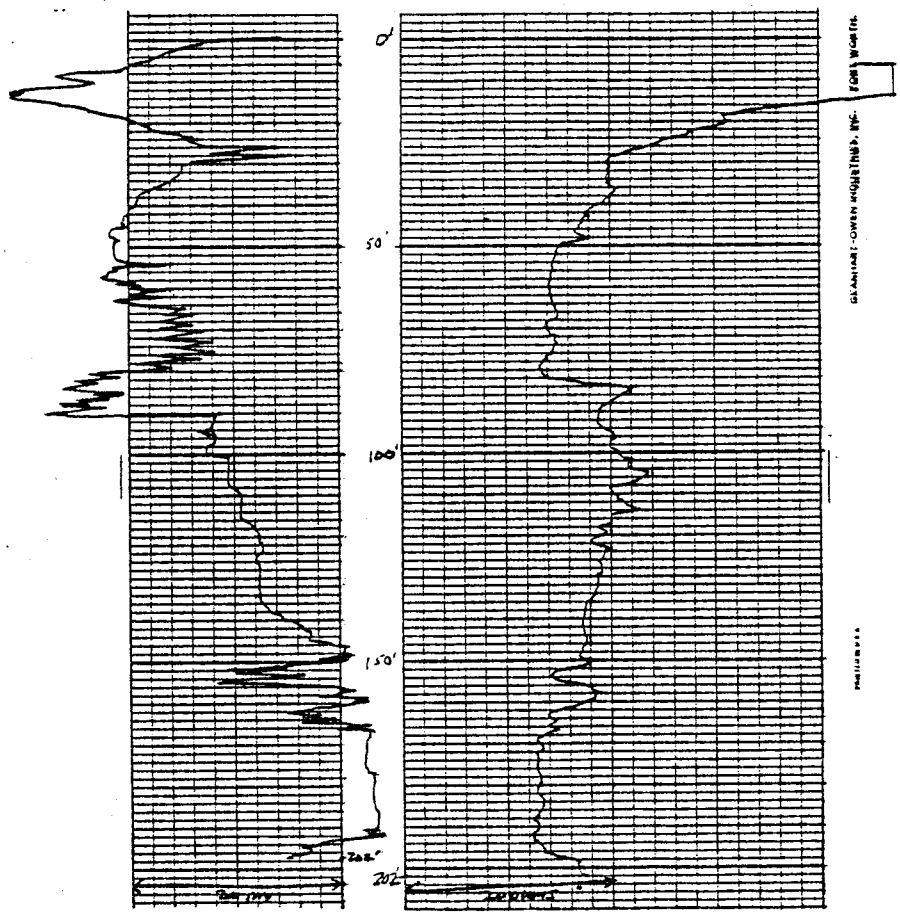


FIGURE A-16 ELECTRIC LOGS OF WELL L.M.1716

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1716

DATE LOGGED: 8/19/81

PROJECT: Bonita Bay

NUMBER: 80-53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☒	1" = 40 cps	1" = 20'	25"/min
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			

INSTRUMENT: ———

LOCATION: COUNTY: Lee, NW 1/4 NW 1/4 NW 1/4, SECTION: 29, TOWNSHIP: 47S, RANGE: 25E

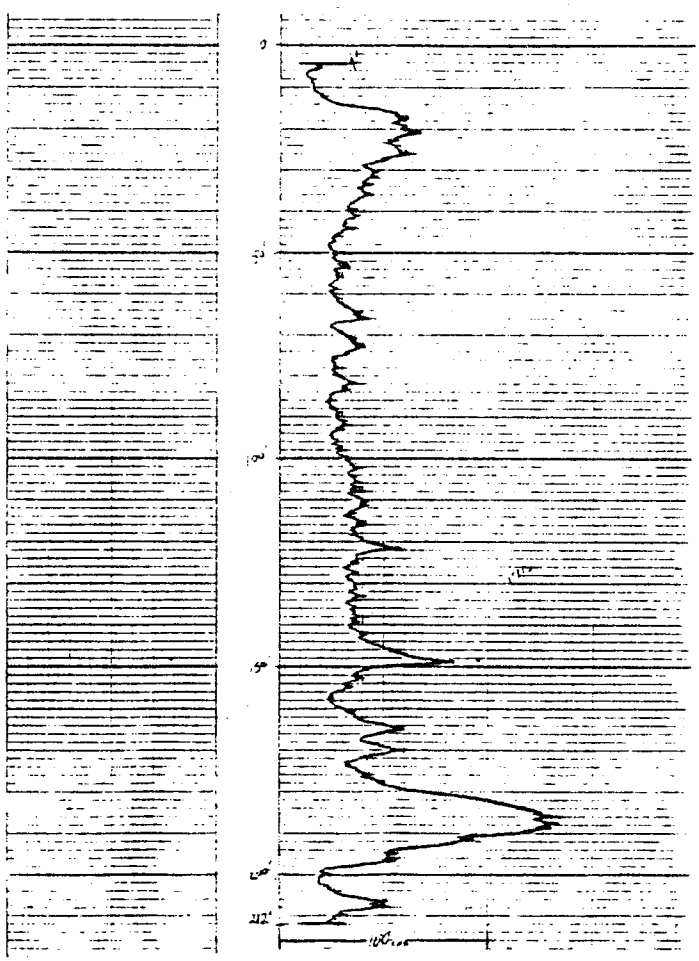
ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 212'
LAST READING	AT 4'
FEET LOGGED	208'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	4"

LOGGED BY: D. Hire

ASSISTED BY: ———

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: T.C. = 3



MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1718

DATE LOGGED:

PROJECT:

NUMBER:

LOGS, SCALES, AND CONSTANTS

			HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☒				
RESISTIVITY	☒				
GAMMA RAY	☐				
CALIPER	☐				
TEMPERATURE	☐				
FLOW VELOCITY	☐				

INSTRUMENT

LOCATION: COUNTY: ___ SECTION: ___ TOWNSHIP: ___ RANGE: ___

ELEVATION (LSD) ___ FEET (MSL)

FIRST READING	AT 211'
LAST READING	AT 0'
FEET LOGGED	211'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	5"
CASING DIAMETER	

LOGGED BY:

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

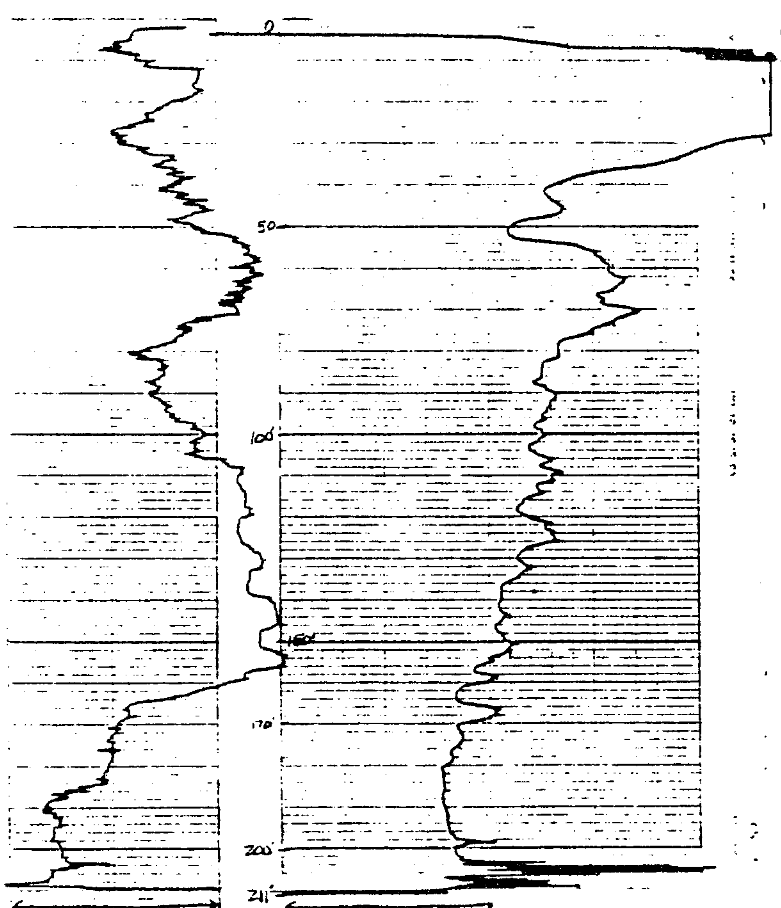


FIGURE A-18. ELECTRIC LOGS OF WELL L-M-1718.

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: [illegible]

DATE LOGGED: [illegible]

PROJECT: Unit 12

NUMBER: 81-53

LOGS, SCALES, AND CONSTANTS

		HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☒	1"=40 m	1"=20'	30 m/min
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			
INSTRUMENT				

LOCATION: COUNTY: [illegible], NW 1/4 NE 1/4 SECTION: [illegible], TOWNSHIP: [illegible], RANGE: [illegible]

ELEVATION (LSD) ——— FEET (MSL)

FIRST READING	AT 337'
LAST READING	AT 4'
FEET LOGGED	333'
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	

LOGGED BY: D. Hine

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES: TD = 3

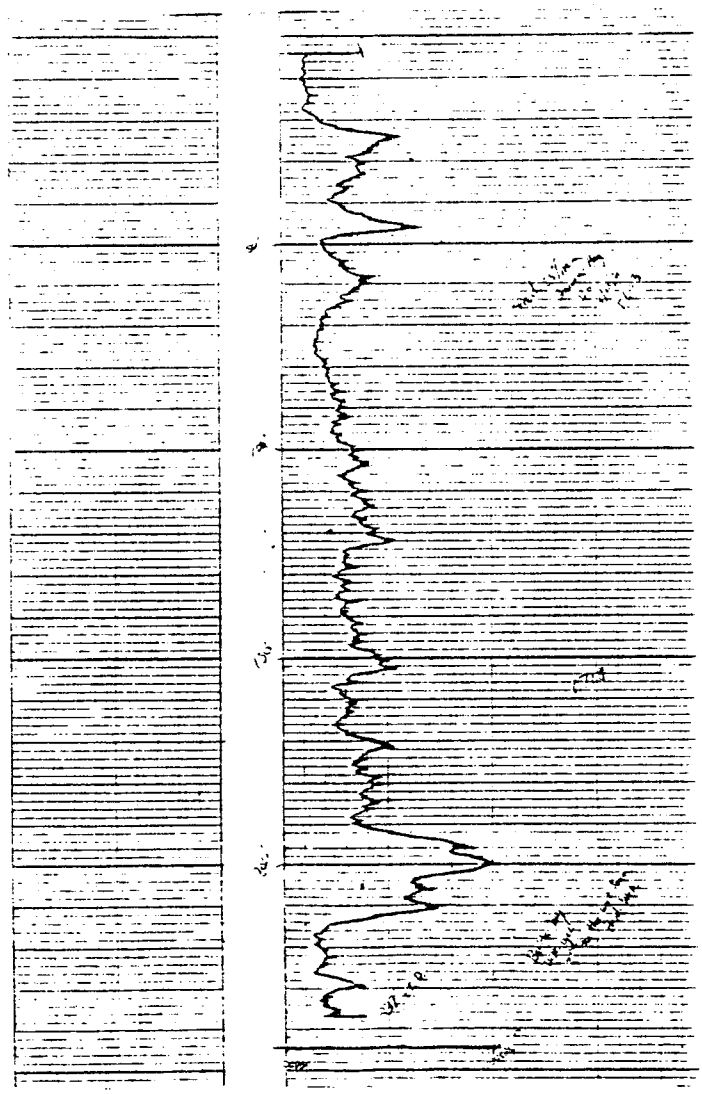


FIGURE 4.10 GAMMA RAY LOG OF WELL L-M 1718

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1719

DATE LOGGED: [illegible]

PROJECT: [illegible]

NUMBER: 90-53

LOGS, SCALES, AND CONSTANTS

			HORIZONTAL	VERTICAL	SPEED
SPONTANEOUS POTENTIAL		☒	[illegible]	[illegible]	30'/min.
RESISTIVITY		☒	[illegible]	[illegible]	30'/min
GAMMA RAY		☐			
CALIPER		☐			
TEMPERATURE		☐			
FLOW VELOCITY		☐			
INSTRUMENT					

LOCATION: COUNTY: [illegible], ___ 1/4 [illegible] 1/4 SECTION: [illegible] TOWNSHIP: 47S, RANGE: [illegible]

ELEVATION (LSD) ___ FEET (MSL)

FIRST READING	AT 228
LAST READING	AT
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	5"
CASING DIAMETER	

LOGGED BY: [illegible]

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

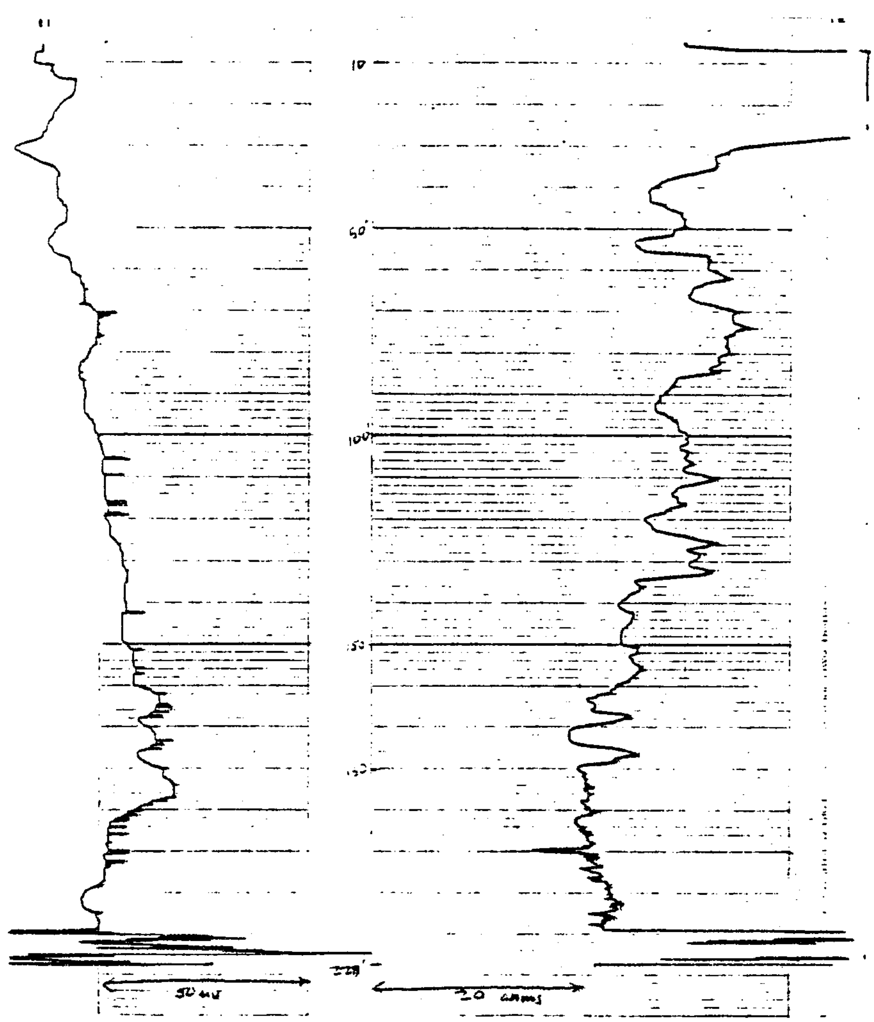


FIGURE A-20. ELECTRIC LOGS OF WELL L-M-1719

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M-1719

DATE LOGGED:

PROJECT:

NUMBER:

LOGS, SCALES, AND CONSTANTS

			Horizontal	Vertical	Speed
SPONTANEOUS POTENTIAL		☐			
RESISTIVITY		☐			
GAMMA RAY		☒			25'
CALIPER		☐			
TEMPERATURE		☐			
FLOW VELOCITY		☐			
INSTRUMENT					

LOCATION: COUNTY: ___, ___ 1/4 ___ 1/4 ___ 1/4, SECTION ___ TOWNSHIP: ___, RANGE: ___

ELEVATION (LSD) ___ FEET (MSL)

FIRST READING	AT 246'
LAST READING	AT
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	

LOGGED BY: D. Hire

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

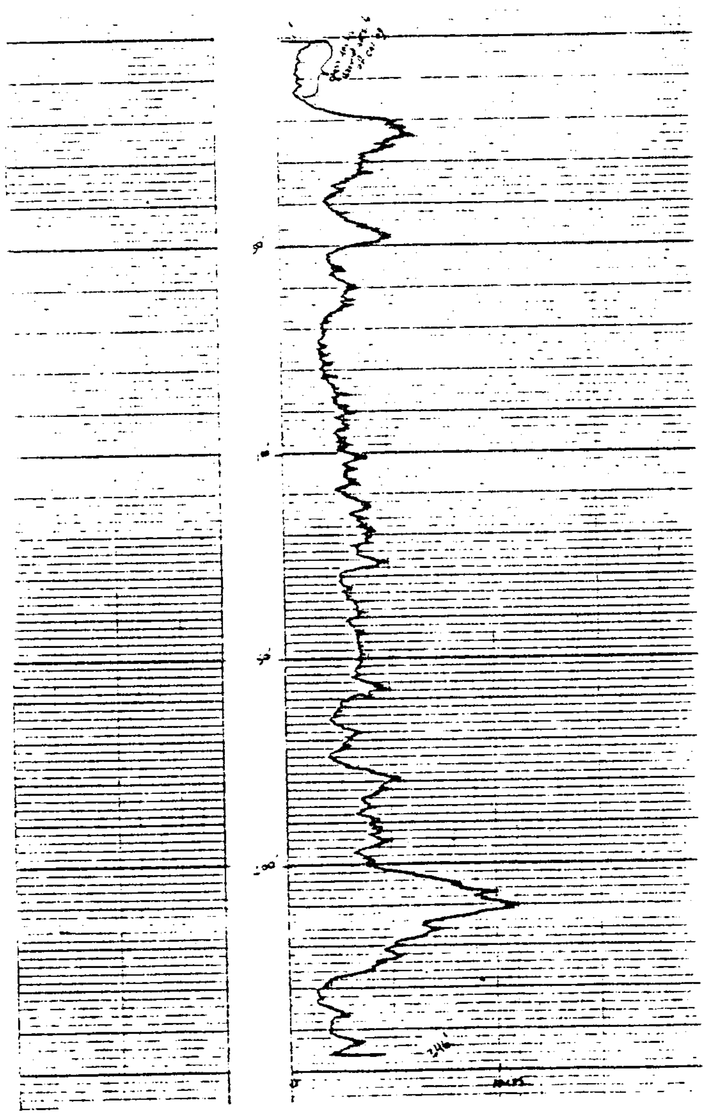


FIGURE A-21. GAMMA RAY LOG OF WELL L-M-1719

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: 1720
DATE LOGGED: ——

PROJECT: Brita Bay
NUMBER: 5-53

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☒	10 mv		25'/min
RESISTIVITY	☒	20 ohms		
GAMMA RAY	☐			
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			
		HORIZONTAL	VERTICAL	SPEED

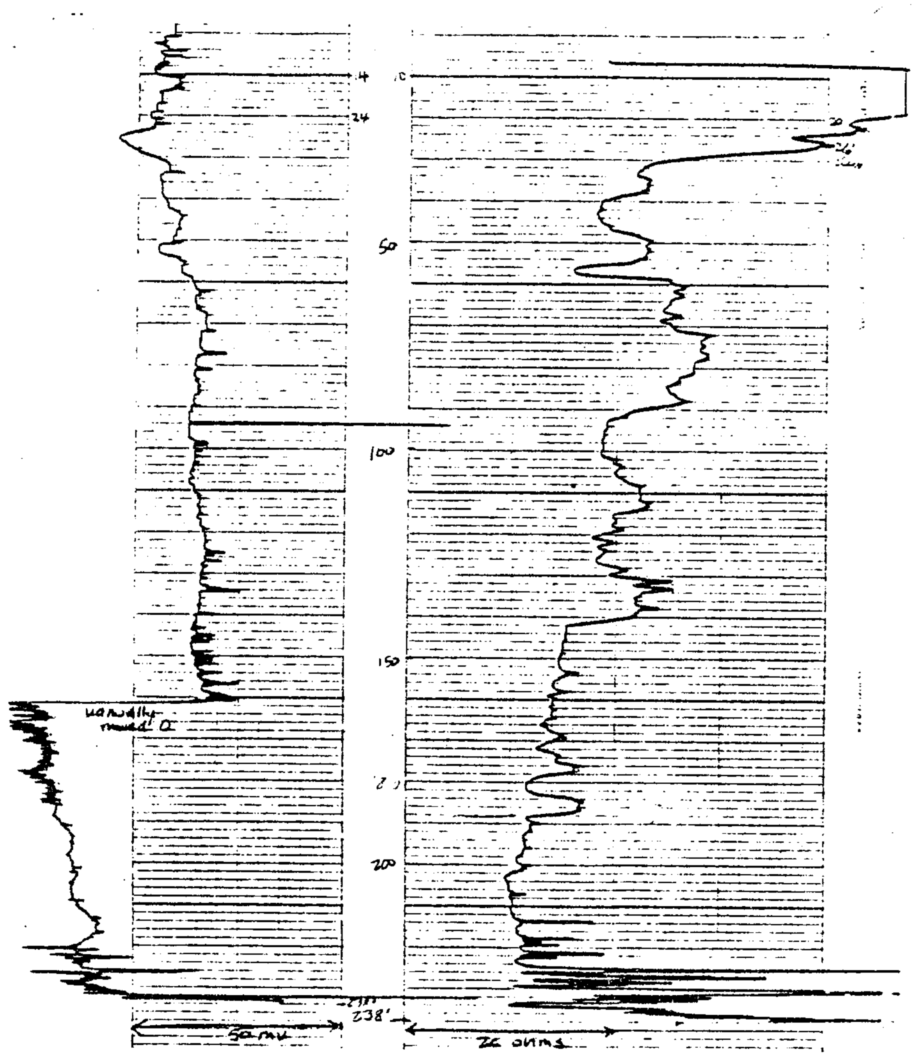
INSTRUMENT ——

LOCATION: COUNTY: ——, ——1/4 ——1/4 ——1/4, SECTION ——, TOWNSHIP ——, RANGE: ——
ELEVATION (LSD) —— FEET (MSL)

FIRST READING	AT 279'
LAST READING	AT 6'
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	4"
CASING DIAMETER	

LOGGED BY: ML Tech
ASSISTED BY: ——

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:



30. ELECTRIC LOGS OF WELL L-M-1720

MISSIMER AND ASSOCIATES, INC.

GEOPHYSICAL LOG

WELL NUMBER: L-M 1780

DATE LOGGED:

PROJECT:

NUMBER:

LOGS, SCALES, AND CONSTANTS

SPONTANEOUS POTENTIAL	☐			
RESISTIVITY	☐			
GAMMA RAY	☒			
CALIPER	☐			
TEMPERATURE	☐			
FLOW VELOCITY	☐			
INSTRUMENT		HORIZONTAL	VERTICAL	SPEED

LOCATION: COUNTY: ___, ___1/4 ___1/4 ___1/4, SECTION ___, TOWNSHIP ___, RANGE: ___

ELEVATION (LSD) ___ FEET (MSL)

FIRST READING	AT
LAST READING	AT
FEET LOGGED	
BOTTOM - DRILLER	
CASING - LOG	
CASING - DRILLER	
HOLE DIAMETER	
CASING DIAMETER	

LOGGED BY:

ASSISTED BY:

REMARKS AND INTERPRETIVE COMMENTS OR NOTES:

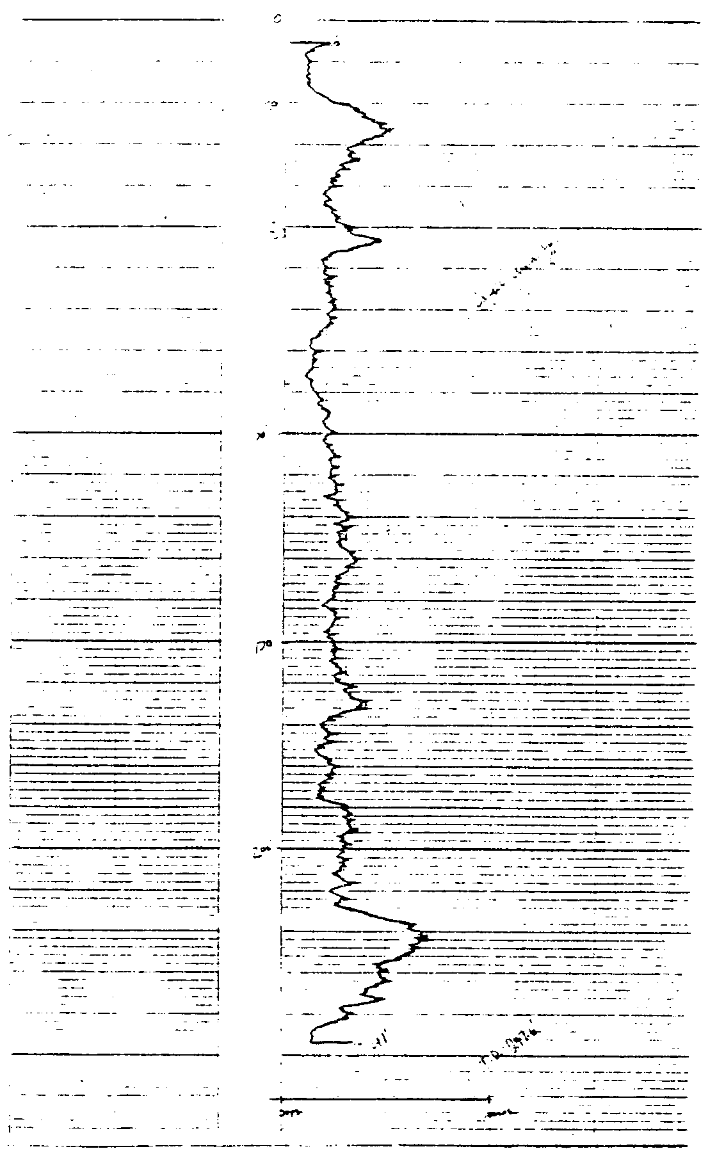


FIGURE A-30. GAMMA RAY LOG OF WELL L-M 1780

C. AQUIFER TEST DATA

1. WATER - TABLE AQUIFER TEST DATA

TABLE A-18. STEP-DRAWDOWN TEST DATA FOR TEST-PRODUCTION WELL L-M-1684 (WATER-TABLE AQUIFER)

Discharge Rate (gpm)	Time (Minutes)	Drawdown (Feet)	Specific Capacity (gpm/ft)
150	8	1.00	
	15	1.05	
	30	1.10	
	48	1.10	
	60	1.15	130
250	5	1.90	
	25	2.05	
	35	2.05	
	60	2.10	119
350	30	3.05	
	45	3.05	
	60	3.10	
450	15	4.15	
	37	4.15	
	60	4.20	113
520	15	5.05	
	30	4.95	
	60	4.90	
	correction est.	5.10	est.102

TABLE A-19. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1684

Time (Minutes)	Drawdown (Feet)
0	0
0.15	1.75
0.62	2.25
1.	2.30
1.5	2.35
2.5	2.45
3.5	2.47
5.	2.48
7.	2.52
10.	2.55
14.	2.60
20.	2.64
40.	2.77
51.	2.82
60.	2.85
76.	2.90
93.	2.94
108.	3.00
121.	3.02
150.	3.07
180.	3.12
240.	3.20
300.	3.27
360.	3.33
422.	3.39
480	3.44
540	3.51

TABLE A-20. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1683 (r = 40 FEET)

Time (Minutes)	Drawdown (Feet)
0	0
0.25	0.98
0.50	1.26
0.75	1.35
1.	1.43
1.5	1.50
2.	1.53
3.	1.57
4.	1.60
5.	1.62
6.	1.64
7.	1.65
8.	1.66
9.	1.68
10.	1.69
12.5	1.71
15.	1.74
20.	1.78
26.	1.82
30.	1.84
40.	1.89
50.	1.94
60.	1.97
75.	2.03
92.	2.08
105.	2.11
120	2.15
150.	2.22
180.	2.28
240.	2.36
300.	2.43
360.	2.48
420.	2.54
480.	2.59
540.	2.65

TABLE A-21. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1685 (r = 82 FEET)

Time (Minutes)	Drawdown (Feet)
0	0
0.003	0.505
0.25	0.82
0.50	1.03
0.75	1.14
1.	1.21
1.5	1.27
2.	1.305
3.	1.345
4.	1.37
5.	1.39
6.	1.40
7.	1.42
8.	1.43
9.	1.44
10.	1.45
12.5	1.485
15.	1.50
20.	1.535
25.	1.565
30.	1.59
40.	1.64
50.	1.68
60.	1.72
75.	1.78
91.	1.825
105.	1.86
120.	1.89
151.	1.958
181.	2.008
240.	2.095
300.	2.164
360.	2.222
420.	2.28
480.	2.33
540.	2.38

TABLE A-22. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1681 (r = 140 FEET)

Time (Minutes)	Drawdown (Feet)
0	0
0.083	0
0.25	0
0.50	0.005
0.75	0.01
1.	0.013
1.5	0.021
2.	0.03
3.	0.045
4.	0.058
5.	0.067
6.	0.076
7.	0.084
8.	0.090
9.	0.097
10.	0.102
12.5	0.12
15.	0.128
20.	0.149
25.	0.170
30.	0.190
40.	0.218
50.	0.255
60.	0.285
75.	0.32
91.	0.362
106.	0.40
121.	0.432
150.	0.49
180.	0.54
239.	0.602
300.	0.67
360.	0.72
420.	0.76
480.	0.805
540.	0.84

TABLE A-23. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1690. (r = 250 FEET)

Time (Minutes)	Drawdown (Feet)
0	0
0.083	0.008
0.25	0.066
0.5	0.146
0.75	0.193
1.	0.229
1.5	0.262
2.	0.282
3.	0.305
4.	0.318
6.	0.334
7.	0.34
8.	0.347
9.	0.35
10.	0.355
12.5	0.365
15.	0.37
20.	0.395
25.	0.41
30.	0.421
40.	0.45
50.	0.475
60.	0.491
75.	0.53
90.	0.57
105.	0.59
120.	0.612
149.	0.655
182.	0.695
241.	0.763
300.	0.81
362.	0.87
424.	0.92
480.	0.955
540.	0.99

TABLE A-24. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1678 (r = 430 Feet)

Time (Minutes)	Drawdown (Feet)*
0	0
0.75	0.01
8.	0.03
25.	0.04
30.	0.04
40.	0.04
50.	0.04
60.	0.04
75.	0.04
95.	0.04
105.	0.04
125.	0.04
155.	0.04
185.	0.04
245.	0.04
300.	0.04
360.	0.04
502.	0.05

* These drawdowns may represent background evapo-transpiration.

TABLE A-25. TIME AND DRAWDOWN DATA FOR WELL L-M-1682A DURING THE WATER-TABLE AQUIFER TEST (r = 16.3 Feet)

Time (Minutes)	Drawdown (Feet)
2	0.01
9	0.01
40	+0.02
52	+0.02
61	+0.01
77	+0.01
124	+0.01
190	+0.03
240	+0.03
495	+0.06

2. TAMIAMI AQUIFER SYSTEM-ZONE I TEST DATA

TABLE A-26. STEP-DRAWDOWN TEST DATA FOR TEST-PRODUCTION WELL L-M-1682A (TAMIAMI AQUIFER SYSTEM-ZONE I)

Discharge Rate (gpm)	Time (Minutes)	Drawdown (Feet)	Specific Capacity (gpm/ft)
600	5	22.3	
	10	22.8	
	15	23,15	
	20	23.50	
	25	24.20	
	35	24.7	
	40	24.83	
	45	24.97	
	55	25.1	24
700	1	29.6	
	2.5	29.7	
	5	30.0	
	10	30.1	
	15	30.4	
	20	30.4	
	27	30.45	
	49	30.6	23
800	2	36.00	
	5	36.2	
	10	36.25	
	15	36.70	
	30	36.35	22
900	1	42.1	
	3	42.5	
	5	42.55	
	10	42.6	
	15	41.75	
	20	42.9	
	25	43.0	
	30	43.05	
	35	43.1	
	42	43.2	
	45	43.1	21

TABLE A-27. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1682A AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
0.25	12.05
0.50	13.05
1	13.5
1.5	13.85
2	14.05
3	14.45
4	14.65
5	14.95
6	15.15
7	15.18
8	15.28
9	15.38
10	15.43
12.5	15.63
15	15.77
20	15.98
25	16.21
30	16.33
40	16.57
52	16.85
56	16.85
80	17.12
94	17.20
117	17.33
150	17.48
180	17.55
238	17.37
300	17.95
355	18.01
415	18.10
475	18.15
535	18.20
600	18.22
660	18.30
715	18.30
778	18.30
837	18.37
910	18.38
960	18.38
1065	18.42
1200	18.43
1325	18.63

TABLE A-28. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1682A AT 576 GPM.

Time (Minutes)	Drawdown (Feet)
0	0
0.33	16.95
0.75	18.00
1.5	18.85
2.25	19.25
6.	20.05
7.	20.30
8.	20.30
9.	20.45
10.	20.55
12.5	20.80
15.	21.00
20.	21.30
25.	21.55
30.	21.75
40.	22.15
50.	22.40
61.	22.55
75.	22.75
90.	22.95
105.	23.05
120.	23.15
150.	23.25
180.	23.40
240.	23.55
300.	23.65
360.	23.75
420.	23.90
496.	24.00
568.	24.10
625.	24.20
680.	24.30
720.	24.40
780.	24.50
840.	24.55
900.	24.55
960.	24.55
1020.	24.55
1140.	24.55
1230.	24.62
1437.	24.65
1555.	24.65

TABLE A-28. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M- 1682A AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
1689.	24.65
1747.	24.65
1910.	24.68
2044.	24.79
2162.	25.00
2280.	25.18
2400.	25.13
2640.	25.05
2865.	25.25
3020.	25.27
3125.	25.30
3245.	25.33
3355.	25.33
3605.	25.58
3838.	25.57
4090.	25.49

TABLE A-29. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1680 (r = 135.6 feet) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0.00	0.00
0.083	0.24
0.25	0.73
0.50	1.13
0.75	1.40
1	1.60
1.5	1.91
2	2.15
3	2.48
4	2.72
5	2.90
6	3.06
7	3.19
8	3.3
9	3.4
10	3.48
12.5	3.675
15	3.83
20	4.08
25	4.28
30	4.45
40	4.71
50	4.9
60	5.042
75	5.27
90	5.34
105	5.49
120	5.55
150	5.70
182	5.81
239	5.87
298	6.07
362	6.19
420	6.24
480	6.30
540	6.34
595	6.37
655	6.43
705	6.46
770	6.48
840	6.52
905	6.54
955	6.55
1060	6.565
1195	6.63
1322	6.72

TABLE A-30. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1680 (r = 135.6 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0
0.083	0.1
0.167	0.49
0.25	0.83
0.50	1.43
0.75	1.80
1	2.10
1.5	2.52
2	2.83
3	3.28
4	3.582
5	3.82
6	4.005
7	4.16
8	4.30
9	4.43
10	4.54
12.5	4.788
15	5.0
20	5.32
25	5.58
30	5.80
40	6.13
50	6.385
60	6.58
75	6.802
90	6.978
105	7.108
120	7.22
150	7.39
180	7.52
240	7.69
300	7.82
360	7.935
420	8.03
480	8.108
540	8.20
600	8.32
660	8.45
720	8.59
780	8.70
840	8.76
900	8.78
960	8.78

TABLE A-30. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1680 (r = 135.6 Feet) AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
1020	8.76
1135	8.74
1290	8.79
1340	8.82
1433	8.81
1553	8.825
1684	8.83
1745	8.825
1905	8.848
2035	8.984
2160	9.26
2280	9.37
2400	9.34
2520	9.27
2640	9.23
2760	9.27
2870	9.36
3000	9.41
3120	9.41
3240	9.40
3350	9.40
3630	9.65
3830	9.635
4075	9.567

TABLE A-31. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1679 (r = 220 FEET) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0.00	0.00
0.083	0.00
0.25	0.17
0.50	0.42
0.75	0.605
1	0.77
1.5	1.02
2	1.22
3	1.52
4	1.743
5	1.94
6	2.04
7	2.18
8	2.283
9	2.38
10	2.46
12.5	2.63
15	2.78
20	3.015
25	3.185
30	3.34
40	3.575
50	3.75
60	3.90
75	4.0
102	4.23
120	4.32
150	4.46
184	4.475
244	4.62
300	4.80
370	4.95
427	5.0
488	5.04
545	5.07
675	5.12
720	5.15
781	5.175
843	5.2
915	5.22
965	5.23
1070	5.26
1160	5.31
1205	5.31
1330	5.40

TABLE A-32. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1679 (r = 220 Feet)AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0
0.25	0.19
0.50	0.51
0.75	0.78
1	0.99
1.5	1.33
2	1.59
3	1.99
4	2.29
5	2.50
6	2.68
7	2.83
8	2.97
9	3.08
10	3.19
12.5	3.41
15	3.59
20	3.89
25	4.13
30	4.33
40	4.64
50	4.87
60	5.05
75	5.25
90	5.40
105	5.52
120	5.61
150	5.77
180	5.82
240	6.00
300	6.16
360	6.26
420	6.36
480	6.44
540	6.52
600	6.63
661	6.76
725	6.88
785	7.00
847	7.05
908	7.07
968	7.07

TABLE A-32. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1679 (r = 220 Feet) AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
1035	7.06
1140	7.04
1295	7.11
1437	7.16
1556	7.19
1688	7.20
1753	7,21
1912	7.23
2040	7.34
2164	7.56
2285	7.72
2403	7.73
2520	7.67
2660	7.64
2900	7.72
3130	7.73
3247	7.72
3355	7.71
3635	7.93
3847	7.95
4105	7.89
4295	7.93

TABLE A-33. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1677 (r = 470 feet) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
0.083	0.00
0.25	0.00
0.50	0.02
0.75	0.0425
1	0.075
1.5	0.14
2	0.21
3	0.34
4	0.46
5	0.56
6	0.65
7	0.735
8	0.8
9	0.87
10	0.92
12.5	1.04
15	1.13
20	1.29
25	1.42
30	1.53
40	1.81
50	1.87
60	1.97
75	2.10
90	2.185
105	2.26
122	2.33
150	2.43
182	2.522
240	2.615
296	2.745
375	2.85
433	2.86
490	2.93
555	2.99
607	3.02
680	3.07
725	3.1
785	3.12
845	3.15
917	3.17
965	3.18
1073	3.21
1205	3.26
1332	3.325

TABLE A-34. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1677 (r = 470 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0
0.083	0
0.25	0
0.5	0.03
0.75	0.08
1.	0.115
1.5	0.215
2.	0.315
3.	0.49
4.	0.63
5.	0.76
6.	0.87
7.	0.97
8.	1.055
9.	1.165
10.	1.205
12.5	1.46
15.	1.485
20.	1.685
25.	1.855
30.	2.00
40.	2.24
50.	2.42
60.	2.555
75.	2.71
89.	2.83
105.	2.94
120.	3.035
150.	3.18
180.	3.282
241.	3.431
300.	3.537
361.	3.633
420.	3.715
480.	3.785
541.	3.867
601.	3.963
663.	4.085
726.	4.21
788.	4.32
852.	4.39
910.	4.42

TABLE A-34. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1677 (r = 470 Feet) AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
969.	4.43
1040.	4.42
1142.	4.41
1295.	4.47
1438.	4.54
1558.	4.565
1689.	4.57
1758.	4.56
1913.	4.581
2048.	4.683
2166.	4.87
2288.	5.022
2106.	5.024
2663.	4.965
2895.	5.07
3130.	5.07
3250.	5.075
3360.	5.075
3637.	5.28
3851.	5.30
4107.	5.253
4302	5.30

TABLE A-35. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1676 (r = 1125 Feet) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0.00	0.00
0.50	0.00
1	0.00
1.5	0.00
2.30	0.00
3	0.00
4	0.01
5	0.01
6	0.01
7	0.01
8	0.01
9	0.04
10	0.04
12.5	0.04
15.30	0.04
20	0.04
25.30	0.045
30	0.065
40	0.10
50	0.12
60	0.15
75	0.20
90	0.22
105	0.25
120	0.30
150	0.36
180	0.42
240	0.48
300	0.58
380	0.65
440	0.68
500	0.71
560	0.76
610	0.80
683	0.84
730	0.85
788	0.875
848	0.91
920	0.93
970	0.95
1080	0.985
1210	1.04

TABLE A-36. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1676 (r = 1125 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
0.5	0.00
1	0.00
1.5	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.04
10	0.04
12.5	0.21
15	0.21
21	0.25
25	0.26
30	0.27
40	0.31
50	0.35
60	0.38
75	0.43
90	0.45
105	0.53
122.5	0.59
152	0.67
184	0.72
245	0.81
304	0.90
363	0.96
424	1.03
483	1.10
553	1.17
604	1.24
665	1.34
730	1.44
792	1.54
855	1.59
917	1.64
972	1.67
1043	1.68
1145	1.69
1305	1.76
1440	1.84

TABLE A-36. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1676 (r = 1125 Feet) AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
1565	1.87
1692	1.88
1800	1.87
1916	1.89
2051	1.96
2170	2.10
2293	2.15
2400	2.17
2892	2.35
3135	2.37
3255	2.36
3362	2.37
3630	2.50
3856	2.57
4112	2.54
4315	2.61

TABLE A-37. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1644 (r = 1875 feet) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0.00	0.00
0.50	0.00
1.0	0.00
1.5	0.00
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00
12.5	0.02
15	0.03
20	0.065
25	0.11
30	0.13
40	0.22
50	0.27
60	0.34
75	0.42
90	0.5
105	0.56
125	0.66
150	0.75
180	0.81
240	0.87
250	0.98
310	1.09
387	1.16
450	1.22
505	1.26
570	1.32
615	1.35
688	1.40
735	1.42
800	1.44
855	1.48
930	1.49
980	1.51
1090	1.55
1218	1.63

TABLE A-38. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1644 (r = 1875 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0
9	0.01
12.5	0.03
15.	0.05
20	0.08
25	0.12
30	0.17
40	0.26
50	0.33
60	0.42
75	0.52
90	0.62
115	0.76
124	0.80
154	0.93
190	1.05
247	1.19
307	1.31
368	1.42
430	1.51
493	1.58
560	1.70
612	1.82
660	2.01
745	2.18
800	2.27
863	2.29
925	2.31
980	2.25
1050	2.22
1155	2.21
1315	2.31
1449	2.36
1572	2.35
1695	2.31
1810	2.33
1923	2.43
2060	2.58
2180	2.67
2303	2.92
2678	2.73
2985	2.90
3145	2.86

TABLE A-38. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1644 (r = 1875 Feet) AT 576 GPM - Continued:

Time (Minutes)	Drawdown (Feet)
3262	2.85
3371	2.88
3645	3.15
3868	3.08
4125	3.09
4325	3.16

TABLE A-39. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1644 (r = 3300 feet) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0.00	0.00
130	0.26

TABLE A-40. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1649 (r = 3300 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0
18	0.03
27	0.06
44	0.12
57	0.15
77	0.22
93	0.25
113	0.30
125	0.33
157	0.40
188	0.46
248	0.56
305	0.63
367	0.70
428	0.77
480	0.83
555	0.90
608	0.97
670	1.07
740	1.18
780	1.26
860	1.33
920	1.37
975	1.39
1026	1.40
1150	1.42
1310	1.50
1445	1.56
1568	1.60
1695	1.60
1804	1.61
1920	1.63
2055	1.69
2175	1.82
2298	1.95
2675	2.00
2960	2.11
3140	2.11
3258	2.09
3365	2.09
3640	2.24
3862	2.39
4120	2.28
4320	2.34

TABLE A-41. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1684 DURING THE TAMIAMI AQUIFER SYSTEM-ZONE I TEST (r = 16.3 FEET) AT 440 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
11	0.00
12.5	0.00
20	0.00
25	0.00
36	0.00
55	0.01
80	0.01
94	0.01
116	0.01
165	0.02
260	0.02
293	0.03
710	0.03
780	0.02
960	0.02
1200	0.01
1345	0.01

TABLE A-42. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1684 DURING THE TAMIAMI AQUIFER SYSTEM - ZONE I TEST (r = 16.3 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
11	0.00
40	0.00
90	0.00
120	0.00
200	0.01
248	0.01
319	0.01
499	0.01
622	0.02
750	+0.01
870	+0.02
960	+0.02
1160	+0.05
1325	+0.07
1465	+0.07
1620	+0.05
1750	+0.03
2040	+0.03
2280	+0.05
2400	+0.03
2640	+0.11
2970	+0.11
3125	+0.08
3245	+0.08
3355	+0.08
3622	+0.11
3842	+0.13
4095	+0.15

TABLE A-43. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1683 DURING THE TAMIAMI AQUIFER SYSTEM-ZONE I TEST (r = 56 FEET) AT 440 GPM

Time(Minutes)	Drawdown(Feet)
0	0.00
40	0.01
174	0.02
263	0.02
295	0.03

TABLE A-44. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1683 DURING THE TAMIAMI AQUIFER SYSTEM - ZONE I TEST (r = 56 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
21	+0.01
50	0.01
90	0.00
105	0.00
150	0.01
200	0.01
247	0.02
300	0.02
375	0.02
500	0.02
620	0.015
750	0.00
870	+0.01
1160	+0.06
1323	+0.07
1465	+0.06
1620	+0.04
2040	+0.03
2280	+0.06
2640	+0.11
2925	+0.08
3125	+0.08
3845	+0.13
4085	+0.17

TABLE A-45. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1681 DURING THE TAMIAMI AQUIFER SYSTEM-ZONE I TEST (r = 125.5 FEET) AT 440 GPM

Time(Minutes)	Drawdown(Feet)
0	0.00
29	0.00
78	0.01
120	0.00
280	0.00
720	-0.04
780	-0.05
960	-0.05
1065	-0.08
1200	-0.10
1320	-0.11

TABLE A-46. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1681 DURING THE TAMIAMI AQUIFER SYSTEM - ZONE I TEST (r = 125.5 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	0.00
12.5	0.00
50	0.00
120	0.00
180	0.01
240	0.01
300	0.01
420	0.00
575	+0.015
1410	+0.175
1620	+0.20
2280	+0.26
2640	+0.28
3240	+0.34
3350	+0.35
3630	+0.34
4080	+0.40

TABLE A-47. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1682A AT RECOVERY AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0 = 1555	25.54
2.5	6.45
3	6.30
4	6.05
5	5.80
6	5.65
7	5.45
8	5.30
9	5.15
10	5.07
12.5	4.81
15	4.60
20	3.85
25	4.05
30	3.85
40	3.50
50	3.25
61	3.10
75	2.82
90	2.65
105	2.55
120	2.43

TABLE A-48. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1680 AT RECOVERY (r = 135.6 Feet) AT 576 GPM

Time (Minutes)	DRAWDOWN (Feet)
0	9.62
0.083	9.42
0.25	8.56
0.50	7.94
0.75	7.54
1	7.24
1.5	6.84
2	6,60
3	6.32
4	6.06
5	5.82
6	5.67
7	5.51
8	5.37
9	5.25
10	5.14
12.5	4.90
15	4.70
20	4.38
25	4.12
30	3.92
40	3.58
50	3.32
60	3.14
75	2.90
90	2.72
105	2.58
120	2.52

TABLE A-49. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1679 AT RECOVERY (r = 220 Ft) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	7.94
0.083	7.94
0.25	7.68
0.5	7.31
0.75	7.03
1	6.79
2.5	6.45
2	6.20
3	5.89
4	5.64
5	5.41
6	5.28
7	5.14
8	5.01
9	4.905
10	4.80
12.5	4.58
15	4.395
20	4.095
25	3.865
30	3.67
40	3.37
50	3.15
60	2.975
75	2.77
90	2.62
105	2.49
119	2.39

TABLE A-50. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1677 AT RECOVERY (r = 470 Feet) AT 576 GPM

Time (Minutes)	Drawdown (Feet)
0	5.31
0.083	5.31
0.25	5.31
0.50	5.27
0.75	5.22
1	5.17
1.5	5.05
2	4.95
3	4.77
4	4.635
5	4.52
6	4.42
7	4.33
8	4.245
9	4.17
10	4.10
12.5	3.94
15	3.82
20	3.62
25	3.46
30	3.32
40	3.09
50	2.91
60	2.78
75	2.61
90	2.50
105	2.40
120	2.32

3. HAWTHORN AQUIFER SYSTEM-ZONE I TEST DATA

TABLE A-51. STEP-DRAWDOWN TEST DATA FOR TEST-PRODUCTION WELL L-M-1720 (HAWTHORN AQUIFER SYSTEM-ZONE I)

Discharge Rate (gpm)	Time (Minutes)	Drawdown (Feet)	Specific Capacity (gpm/ft)
380	75[1]	17.77	21
446	2	22.00	
	5	22.00	
	10	22.00	
	25	22.00	
	30	21.90	
	40	22.00	20
508	2	27.90	
	10	28,20	
	20	28,35	
	30	28.45	
	40	28.45	18
560	3	33.22	
	8	33.47	
	15	33.47	
	25	33.55	
	30	33.65	
	35	33.9	
	40	33.95	16.5

[1] Only one measurement was made because the water level was at 12.6 feet above land surface at the start of the test.

TABLE A-52. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1720

Time (Minutes)	Drawdown (Feet)
0	0
8.	16.65
9.	16.75
10.	16.85
12.5	17.00
17.	17.20
20.	17.30
25.	17.40
30.	17.50
40.	17.70
50.	17.78
74.	18.10
90.	18.20
105.	18.25
120.	18.50
150.	18.53
185.	18.90
240.	19.21
310.	19.45
351.	19.57
430.	19.82
490.	20.00
555.	20.20
600.	20.22
658.	20.38
710.	20.47
870.	20.72
1027.	20.96
1145.	21.00
1260.	21.25
1380.	21.42
1500.	21.50
1620.	21.65
1655.	21.69

TABLE A-53. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1719 (r = 304 Feet)

Time (Minutes)	Drawdown (Feet)
0	0
0.5	0.37
0.75	0.57
1.	0.71
1.5	0.92
2.	1.08
3.	1.31
4.	1.455
5.	1.57
6.	1.66
7.	1.73
8.	1.795
9.	1.85
10.	1.91
12.5	2.02
15.	2.11
20.	2.26
25.	2.37
30.	2.48
40.	2.65
50.	2.80
60.	2.94
75.	3.11
90.	3.27
105.	3.41
120.	3.55
150.	3.74
183.	3.94
240.	4.22
300.	4.49
350.	4.64
425.	4.88
485.	5.045
550.	5.21
610.	5.34
660.	5.45
713.	5.57
865.	5.825
1024.	6.01
1140.	6.135
1278.	6.30
1380.	6.48
1505.	6.59
1625.	6.68
1675.	6.70

TABLE A-54. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1718 (r = 752 Feet)

Time (Minutes)	Drawdown (Feet)
0	0
0.083	0
0.25	0
0.50	0.04
0.75	0.104
1.	0.17
1.5	0.28
2.	0.379
3.	0.53
4.	0.663
5.	0.75
6.	0.845
7.	0.903
8.	0.972
9.	1.03
10.	1.076
12.5	1.195
15.	1.28
20.	1.419
25.	1.54
30.	1.64
40.	1.83
50.	1.973
60.	2.11
75.	2.28
90.	2.44
105.	2.575
120.	2.699
150.	2.942
180.	3.101
240.	3.449
300.	3.645
353.	3.825
420.	4.06
480.	4.22
540.	4.37
615.	4.50
663.	4.615
717.	4.715
780.	4.81
860.	4.965
920.	5.06

TABLE A-54. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1718 (r = 752 Feet) CONT'D.

Time (Minutes)	Drawdown (Feet)
960.	5.09
1020.	5.16
1140.	5.30
1275.	5.45
1377.	5.58
1500.	5.72
1620.	5.81
1675.	5.83

TABLE A-55. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1675 (r = 2850 Feet)

Time (Minutes)	Drawdown (Feet)
0	0
0.003	0
0.25	0
0.50	0
1.	0
1.5	0
2.	0
3.	0
4.	0
5.	0
6.	0
7.	0
8.	0
9.	0
10.	0
12.5	0
15.	0
20.	0
25.	0
30.	0
40.	0
50.	0
60.	0
75.	0
90.	0
105	0
140.	0
180.	0
240.	0
300.	0.01
360.	0.05
420.	0.10
480.	0.15
540.	0.20
600.	0.26
660.	0.32
720.	0.40
780.	0.45
852.	0.54
900.	0.58
960.	0.61
1035.	0.65

TABLE A-55. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1675 (r = 2850 Feet) CONT'D.

Time (Minutes)	Drawdown (Feet)
1080.	0.68
1135.	0.73
1200.	0.77
1269.	0.84
1320.	0.87
1405.	0.96
1445.	0.99
1560.	1.09
1675.	1.13

TABLE A-56. TIME AND DRAWDOWN DATA FOR PRODUCTION WELL L-M-1720 AT RECOVERY

Time (Minutes)	Drawdown (Feet)
0	22.00
3	5.30
6	5.05
13	4.70
14	4.60
20	4.50
25	4.40
30	4.30
40	4.10
50	3.90
60	3.80
75	3.70
90	3.50

TABLE A-57. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1719 AT RECOVERY (r = 304 Feet)

Time (Minutes)	Drawdown (Feet)
0	6.70
0.083	6.70
0.25	6.44
0.50	6.22
0.75	6.03
1	5.89
1.5	5.72
2	5.62
3	5.43
4	5.29
5	5.18
6	5.09
7	5.02
8	4.96
9	4.91
10	4.86
12.5	4.76
15	4.67
20	4.53
25	4.42
30	4.34
40	4.14
51	3.99
61	3.86
76	3.70
97	3.47
105	3.39

TABLE A-58. TIME AND DRAWDOWN DATA FOR OBSERVATION WELL L-M-1718 AT RECOVERY (r = 752 Feet)

Time (Minutes)	Drawdown (Feet)
0	4.832
0.083	4.832
0.25	4.832
0.50	4.766
1	4.645
1.5	4.53
2	4.43
3	4.285
4	4.162
5	4.03
6	3.92
7	3.836
8	3.79
9	3.704
10	3.657
12.5	3.56
15	3.47
20	3.33
25	3.211
30	3.08
40	2.86

D. WATER QUALITY DATA

1. WATER-TABLE AQUIFER

TABLE A-59. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1684 DURING AQUIFER TEST START.

BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33940
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT Missimer & Associates

ADDRESS 1031 Cape Coral Parkway
Cape Coral, Florida 33904

DATE 6-23-81

SAMPLED BY Client

IDENTIFICATION Bonita Bay Water Table
L-M-1684 Start A.T.

SAMPLE NUMBER

METHODS

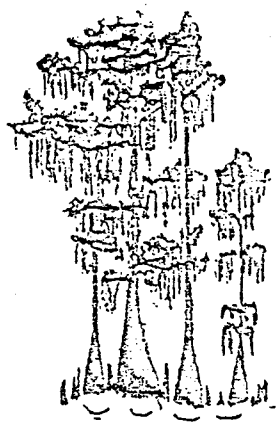
This water was analyzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", Latest Edition, APHA, AWWA and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	212	Iron, Total, as Fe	0.98
Alkalinity, Total, as $CaCO_3$	170	Calcium, as Ca	68
Alkalinity, Phenolphthalein, as $CaCo_3$	0	Magnesium, as Mg	2
Alkalinity, Carbonate, as $CaCO_3$	0	Chloride, as CL	10
Alkalinity, Bicarbonate, as $CaCO_3$	170	Fluoride, as F	< 0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	3
Carbonate, as CO_3	0	Color, P.C.U.	40
Bicarbonate, as HCO_3	207	Turbidity, N.T.U.	0.96
Hardness, Total, as $CaCO_3$	178	pH	7.1
Hardness, Calcium, as $CaCO_3$	170	pHs	7.4
Hardness, Magnesium, as $CaCO_3$	8	Stability Index	--
Hardness, Carbonate, as $CaCO_3$	170	Saturation Index	-0.3
Hardness, Non-Carbonate, as $CaCO_3$	8	Conductivity	365
Sulfide, Including Hydrogen, as H_2S	< 0.01		

BIG CYPRESS SERVICE COMPANY, INC.

BY Alan C. Bishop
ANALYST

TABLE A-60. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1647.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1647
	Cape Coral, Florida 33904		
DATE	8-31-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	2,168	Iron, Total, as Fe	6.1
Alkalinity, Total, as $CaCO_3$	222	Calcium, as Ca	252
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	54
Alkalinity, Carbonate, as $CaCC_3$	12	Chloride, as Cl	950
Alkalinity, Bicarbonate, as $CaCO_3$	210	Fluoride, as F	$\angle$ 0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	215
Carbonate, as CO_3	7	Color, P.C.U.	40
Bicarbonate, as HCO_3	256	Turbidity, N.T.U.	13
Hardness, Total, as $CaCO_3$	630	pH	7.7
Hardness, Calcium as $CaCO_3$	410	pHs	6.9
Hardness, Magnesium, as $CaCO_3$	220	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	222	Saturation Index	0.8
Hardness, Non-Carbonate, as $CaCO_3$	408	Conductivity	3,050
Sulfide, Including Hydrogen, as H_2S	$\angle$0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-61. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1648.

BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1648
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

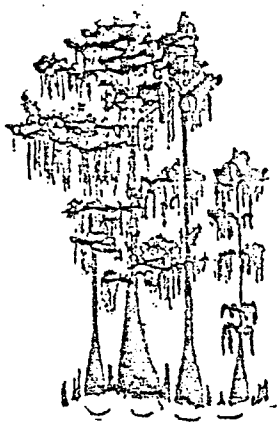
	Mg/L		Mg/L
Total Dissolved Solids	232	Iron, Total, as Fe	4.7
Alkalinity, Total, as $CaCO_3$	210	Calcium, as Ca	84
Alkalinity, Phenolphthalein, as $CaCO_3$	8	Magnesium, as Mg	3
Alkalinity, Carbonate, as $CaCO_3$	16	Chloride, as Cl	21
Alkalinity, Bicarbonate, as $CaCO_3$	194	Fluoride, as F	<0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	4
Carbonate, as CO_3	10	Color, P.C.U.	10
Bicarbonate, as HCO_3	237	Turbidity, N.T.U.	7.4
Hardness, Total, as $CaCO_3$	222	pH	8.0
Hardness, Calcium as $CaCO_3$	210	pHs	7.2
Hardness, Magnesium, as $CaCO_3$	12	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	210	Saturation Index	0.8
Hardness, Non-Carbonate, as $CaCO_3$	12	Conductivity	430
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-62. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1650.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1650
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	200	Iron, Total, as Fe	1.44
Alkalinity, Total, as $CaCO_3$	166	Calcium, as Ca	66
Alkalinity, Phenolphthalein, as $CaCO_3$	8	Magnesium, as Mg	6
Alkalinity, Carbonate, as $CaCC_3$	16	Chloride, as Cl	12
Alkalinity, Bicarbonate, as $CaCO_3$	150	Fluoride, as F	<0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	43
Carbonate, as CO_3	10	Color, P.C.U.	65
Bicarbonate, as HCO_3	183	Turbidity, N.T.U.	125
Hardness, Total, as $CaCO_3$	188	pH	8.0
Hardness, Calcium as $CaCO_3$	164	pHs	7.4
Hardness, Magnesium, as $CaCO_3$	24	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	166	Saturation Index	0.6
Hardness, Non-Carbonate, as $CaCO_3$	22	Conductivity	345
Sulfide, Including Hydrogen, as H_2S	0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-63. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1651.

BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1651
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

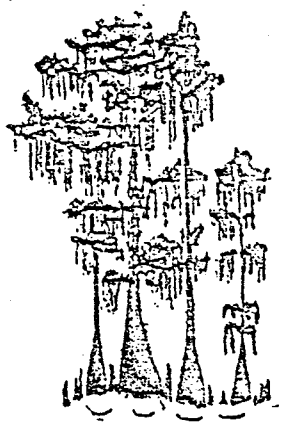
	Mg/L		Mg/L
Total Dissolved Solids	4,588	Iron, Total, as Fe	4.2
Alkalinity, Total, as $CaCO_3$	286	Calcium, as Ca	248
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	244
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	2,330
Alkalinity, Bicarbonate, as $CaCO_3$	274	Fluoride, as F	<0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	120
Carbonate, as CO_3	7	Color, P.C.U.	300
Bicarbonate, as HCO_3	334	Turbidity, N.T.U.	23
Hardness, Total, as $CaCO_3$	1,140	pH	7.7
Hardness, Calcium as $CaCO_3$	620	pHs	6.6
Hardness, Magnesium, as $CaCO_3$	520	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	286	Saturation Index	1.1
Hardness, Non-Carbonate, as $CaCO_3$	854	Conductivity	6,000
Sulfide, Including Hydrogen, as H_2S	0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-64. COMPLETE CHEMICAL ANALYSIS OF WATER FROM WATER-TABLE AQUIFER WELL L-M-1678.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L M 1678
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	216	Iron, Total, as Fe	3.0
Alkalinity, Total, as $CaCO_3$	164	Calcium, as Ca	66
Alkalinity, Phenolphthalein, as $CaCO_3$	8	Magnesium, as Mg	2
Alkalinity, Carbonate, as $CaCO_3$	16	Chloride, as Cl	10
Alkalinity, Bicarbonate, as $CaCO_3$	148	Fluoride, as F	< 0.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	3
Carbonate, as CO_3	10	Color, P.C.U.	20
Bicarbonate, as HCO_3	181	Turbidity, N.T.U.	21
Hardness, Total, as $CaCO_3$	170	pH	8.0
Hardness, Calcium as $CaCO_3$	162	pHs	7.4
Hardness, Magnesium, as $CaCO_3$	8	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	164	Saturation Index	0.6
Hardness, Non-Carbonate, as $CaCO_3$	6	Conductivity	310
Sulfide, Including Hydrogen, as H_2S	0.01		

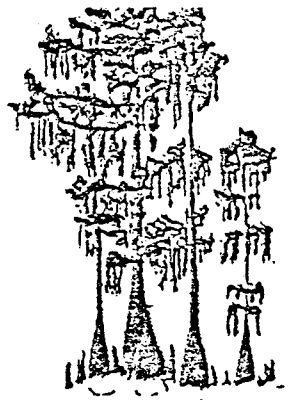
BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

2. TAMIAMI AQUIFER SYSTEM-ZONE I

TABLE A-65. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1682A AT THE START OF THE AQUIFER TEST.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33940
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT Missimer & Associates
ADDRESS 1031 Cape Coral Parkway
Cape Coral, Florida 33904
DATE 6-10-81

SAMPLED BY Client
IDENTIFICATION L-M - 1682 A.T. Start
SAMPLE NUMBER

METHODS

This water was analyzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", Latest Edition, APHA, AWWA and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	988	Iron, Total, as Fe	0.04
Alkalinity, Total, as $CaCO_3$	234	Calcium, as Ca	156
Alkalinity, Phenolphthalein, as $CaCo_3$	0	Magnesium, as Mg	15
Alkalinity, Carbonate, as $CaCO_3$	0	Chloride, as CL	312
Alkalinity, Bicarbonate, as $CaCO_3$	234	Fluoride, as F	0.6
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	100
Carbonate, as CO_3	0	Color, P.C.U.	<5
Bicarbonate, as HCO_3	285	Turbidity, N.T.U.	0.43
Hardness, Total, as $CaCO_3$	450	pH	7.1
Hardness, Calcium, as $CaCO_3$	390	pHs	6.9
Hardness, Magnesium, as $CaCO_3$	60	Stability Index	+0.2
Hardness, Carbonate, as $CaCO_3$	234	Saturation Index	--
Hardness, Non-Carbonate, as $CaCO_3$	216	Conductivity	1,600
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

BY Alan Bishop
ANALYST

TABLE A-66. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1682A AT THE START OF THE AQUIFER TEST (DUPLICATE).

Orlando Laboratories, Inc.

P. O. Box 8008 • Orlando, Florida 32856 • 305/843-1661

Report to: Missimer & Assoc.

Date: 1 July 1981

Report Number: 23797 (6348)

Appearance: clear

Sampled by: client

Identification: Bonita Bay
L-M-1682

METHODS

This water was analyzed according to "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF.

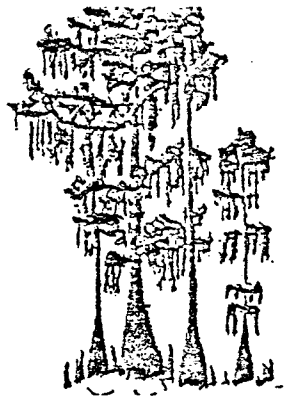
RESULTS

Determination	Data Significance	mg/l
Total Dissolved Solids	x.	602(?)
Phenolphthalein Alkalinity, as $CaCO_3$	x.	0
Total Alkalinity, as $CaCO_3$	x.	246
Carbonate Alkalinity, as $CaCO_3$	x.	0
Bicarbonate Alkalinity, as $CaCO_3$	x.	246
Carbonates, as CO_3	x.	0
Bicarbonates, as HCO_3	x.	300
Hydroxides, as OH	x.	0
Carbon Dioxide, as CO_2	x.	16
Chloride, as Cl	x.	303
Sulfate, as SO_4	x.	77
Fluoride, as F	.x	0.65
pH (Laboratory)	.x	7.5
pHs	.x	6.9
Stability Index	.x	6.3
Saturation Index	.x	0.6
Color, PCU	x.	0
Odor Threshold	x.	0
Turbidity, NTU	x.	0.19

Determination	Data Significance	mg/l
Total Hardness, as $CaCO_3$	x.	461.2
Calcium Hardness, as $CaCO_3$	x.	324
Magnesium Hardness, as $CaCO_3$	x.	137
Calcium, as Ca	x.	130
Magnesium, as Mg	.x	34
Sodium, as Na	x.	126
Iron, as Fe	.x	0.02
Manganese, as Mn	.x	<0.05
Copper, as Cu	.x	<0.3
Silica, as SiO_2		34
Dissolved Iron, Fe		0.02
Dissolved Potassium, K		7.8

Signed: Donna Lubrish
Chemist

TABLE A-67. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1682A AT THE END OF THE AQUIFER TEST.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33940
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT Missimer & Associates

ADDRESS 1031 Cape Coral Parkway
Cape Coral, Florida 33904

DATE 6-19-81

SAMPLED BY Client

IDENTIFICATION Tamiami Zone 1
End of Pump Test

SAMPLE NUMBER

METHODS

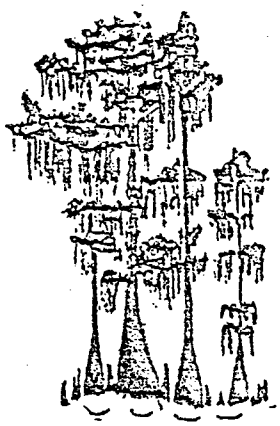
This water was analyzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", Latest Edition, APHA, AWWA and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	984	Iron, Total, as Fe	0.03
Alkalinity, Total, as $CaCO_3$	216	Calcium, as Ca	112
Alkalinity, Phenolphthalein, as $CaCo_3$	0	Magnesium, as Mg	39
Alkalinity, Carbonate, as $CaCO_3$	0	Chloride, as CL	315
Alkalinity, Bicarbonate, as $CaCO_3$	216	Fluoride, as F	0.5
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	95
Carbonate, as CO_3	0	Color, P.C.U.	10
Bicarbonate, as HCO_3	263	Turbidity, N.T.U.	0.26
Hardness, Total, as $CaCO_3$	440	pH	7.3
Hardness, Calcium, as $CaCO_3$	280	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	160	Stability Index	--
Hardness, Carbonate, as $CaCO_3$	216	Saturation Index	0.2
Hardness, Non-Carbonate, as $CaCO_3$	224	Conductivity	1,600
Sulfide, Including Hydrogen, as H_2S	0.01		

BIG CYPRESS SERVICE COMPANY, INC.

BY _____
ANALYST

TABLE A-68. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1644.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1644
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

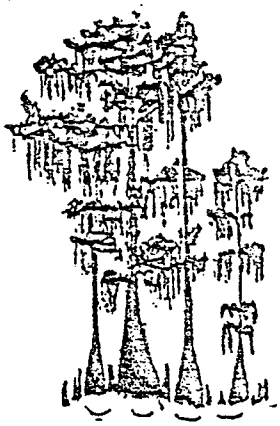
	Mg/L		Mg/L
Total Dissolved Solids	1,288	Iron, Total, as Fe	0.02
Alkalinity, Total, as $CaCO_3$	210	Calcium, as Ca	128
Alkalinity, Phenolphthalein, as $CaCO_3$	10	Magnesium, as Mg	49
Alkalinity, Carbonate, as $CaCO_3$	20	Chloride, as Cl	480
Alkalinity, Bicarbonate, as $CaCO_3$	190	Fluoride, as F	0.5
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	120
Carbonate, as CO_3	12	Color, P.C.U.	15
Bicarbonate, as HCO_3	231	Turbidity, N.T.U.	0.44
Hardness, Total, as $CaCO_3$	520	pH	7.9
Hardness, Calcium as $CaCO_3$	320	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	200	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	210	Saturation Index	0.8
Hardness, Non-Carbonate, as $CaCO_3$	310	Conductivity	1,900
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-69. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1645.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1645
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	2,510	Iron, Total, as Fe	0.06
Alkalinity, Total, as $CaCO_3$	188	Calcium, as Ca	161
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	88
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	1,083
Alkalinity, Bicarbonate, as $CaCO_3$	176	Fluoride, as F	0.5
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	275
Carbonate, as CO_3	7	Color, P.C.U.	5
Bicarbonate, as HCO_3	214	Turbidity, N.T.U.	0.42
Hardness, Total, as $CaCO_3$	764	pH	7.9
Hardness, Calcium as $CaCO_3$	404	pHs	7.0
Hardness, Magnesium, as $CaCO_3$	360	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	188	Saturation Index	0.9
Hardness, Non-Carbonate, as $CaCO_3$	576	Conductivity	3,300
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY _____
ANALYST

TABLE A-70. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1646.

BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1646
	Cape Coral, Florida 33904		
DATE	8-31-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

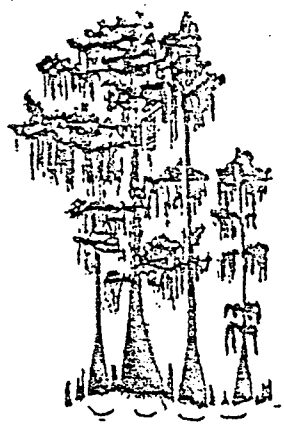
	Mg/L		Mg/L
Total Dissolved Solids	2,414	Iron, Total, as Fe	0.07
Alkalinity, Total, as $CaCO_3$	184	Calcium, as Ca	150
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	108
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	1,120
Alkalinity, Bicarbonate, as $CaCO_3$	172	Fluoride, as F	0.6
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	260
Carbonate, as CO_3	7	Color, P.C.U.	7
Bicarbonate, as HCO_3	209	Turbidity, N.T.U.	1.8
Hardness, Total, as $CaCO_3$	820	pH	7.7
Hardness, Calcium as $CaCO_3$	376	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	444	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	184	Saturation Index	0.6
Hardness, Non-Carbonate, as $CaCO_3$	636	Conductivity	3,400
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY _____
ANALYST

TABLE A-71. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1649.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1649
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

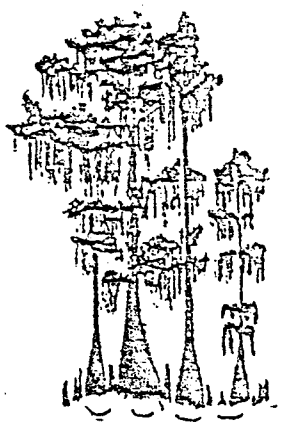
	Mg/L		Mg/L
Total Dissolved Solids	1,172	Iron, Total, as Fe	0.09
Alkalinity, Total, as $CaCO_3$	228	Calcium, as Ca	127
Alkalinity, Phenolphthalein, as $CaCO_3$	8	Magnesium, as Mg	41
Alkalinity, Carbonate, as $CaCO_3$	16	Chloride, as Cl	383
Alkalinity, Bicarbonate, as $CaCO_3$	212	Fluoride, as F	0.4
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	80
Carbonate, as CO_3	10	Color, P.C.U.	5
Bicarbonate, as HCO_3	259	Turbidity, N.T.U.	0.44
Hardness, Total, as $CaCO_3$	484	pH	7.9
Hardness, Calcium as $CaCO_3$	318	pHs	7.0
Hardness, Magnesium, as $CaCO_3$	166	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	228	Saturation Index	0.9
Hardness, Non-Carbonate, as $CaCO_3$	256	Conductivity	1,700
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-72. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1676.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1676
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

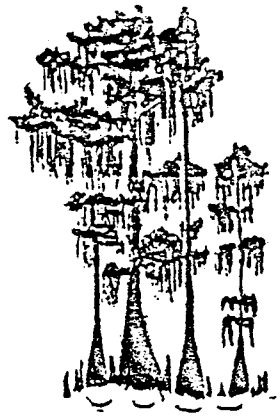
	Mg/L		Mg/L
Total Dissolved Solids	1,218	Iron, Total, as Fe	0.08
Alkalinity, Total, as $CaCO_3$	222	Calcium, as Ca	121
Alkalinity, Phenolphthalein, as $CaCO_3$	12	Magnesium, as Mg	45
Alkalinity, Carbonate, as $CaCO_3$	24	Chloride, as Cl	405
Alkalinity, Bicarbonate, as $CaCO_3$	198	Fluoride, as F	0.5
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	90
Carbonate, as CO_3	14	Color, P.C.U.	19
Bicarbonate, as HCO_3	241	Turbidity, N.T.U.	1.8
Hardness, Total, as $CaCO_3$	486	pH	8.0
Hardness, Calcium as $CaCO_3$	302	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	184	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	222	Saturation Index	0.9
Hardness, Non-Carbonate, as $CaCO_3$	264	Conductivity	1,700
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY _____ Bishop
ANALYST

TABLE A-73. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1677.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L M-1677
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

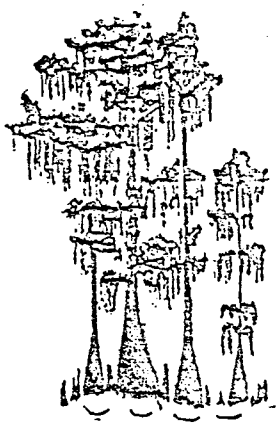
	Mg/L		Mg/L
Total Dissolved Solids	1,072	Iron, Total, as Fe	0.17
Alkalinity, Total, as $CaCO_3$	232	Calcium, as Ca	106
Alkalinity, Phenolphthalein, as $CaCO_3$	10	Magnesium, as Mg	38
Alkalinity, Carbonate, as $CaCO_3$	20	Chloride, as Cl	280
Alkalinity, Bicarbonate, as $CaCO_3$	212	Fluoride, as F	0.4
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	75
Carbonate, as CO_3	12	Color, P.C.U.	15
Bicarbonate, as HCO_3	259	Turbidity, N.T.U.	6.4
Hardness, Total, as $CaCO_3$	422	pH	8.0
Hardness, Calcium as $CaCO_3$	264	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	158	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	232	Saturation Index	0.9
Hardness, Non-Carbonate, as $CaCO_3$	190	Conductivity	1,400
Sulfide, Including Hydrogen, as H_2S	0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-74. COMPLETE CHEMICAL ANALYSIS OF WATER FROM TAMIAMI AQUIFER SYSTEM-ZONE I WELL L-M-1717.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1717
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	2,002	Iron, Total, as Fe	0.14
Alkalinity, Total, as $CaCO_3$	174	Calcium, as Ca	160
Alkalinity, Phenolphthalein, as $CaCO_3$	10	Magnesium, as Mg	79
Alkalinity, Carbonate, as $CaCO_3$	20	Chloride, as Cl	930
Alkalinity, Bicarbonate, as $CaCO_3$	154	Fluoride, as F	0.5
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	34
Carbonate, as CO_3	12	Color, P.C.U.	10
Bicarbonate, as HCO_3	188	Turbidity, N.T.U.	1.6
Hardness, Total, as $CaCO_3$	724	pH	7.9
Hardness, Calcium as $CaCO_3$	400	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	324	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	174	Saturation Index	0.8
Hardness, Non-Carbonate, as $CaCO_3$	550	Conductivity	2,750
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

3. HAWTHORN AQUIFER SYSTEM-ZONE I

TABLE A-75. COMPLETE CHEMICAL ANALYSIS OF WATER FROM HAWTHORN AQUIFER SYSTEM-ZONE I WELL L-M-1720 AT THE START OF THE AQUIFER TEST.

Orlando Laboratories, Inc.

P. O. Box 8008 • Orlando, Florida 32856 • 305/843-1661

Report to: Missimer & Assoc.

Appearance: clear

Date: 15 September 1981

Sampled by: client

Report Number: 24376 (6786)

Identification: LM-1720
Bonita Bay

METHODS

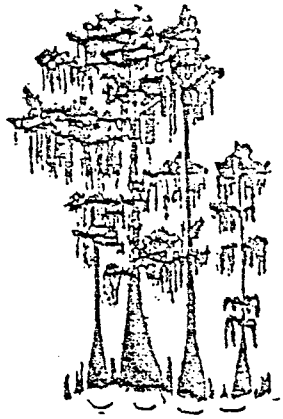
This water was analyzed according to "Standard Methods for the Examination of Water and Wastewater," Latest Edition, APHA, AWWA and WPCF.

RESULTS

Determination	Data Significance	mg/l	Determination	Data Significance	mg/l
Total Dissolved Solids	x.	3,560	Total Hardness, as $CaCO_3$	x.	990
Phenolphthalein Alkalinity, as $CaCO_3$	x.	0	Calcium Hardness, as $CaCO_3$	x.	408
Total Alkalinity, as $CaCO_3$	x.	150	Magnesium Hardness, as $CaCO_3$	x.	582
Carbonate Alkalinity, as $CaCO_3$	x.	0	Calcium, as Ca	x.	163
Bicarbonate Alkalinity, as $CaCO_3$	x.	150	Magnesium, as Mg	.x	141
Carbonates, as CO_3	x.	0	Sodium, as Na	x.	953
Bicarbonates, as HCO_3	x.	183	Iron, as Fe	.x	0.04
Hydroxides, as OH	x.	0	Manganese, as Mn	.x	<0.05
Carbon Dioxide, as CO_2	x.	9.7	Copper, as Cu	.x	<0.3
Chloride, as Cl	x.	1,572	Silica, as SiO_2		6.3
Sulfate, as SO_4	x.	615	Potassium, K		82
Fluoride, as F	.x	1.4	Dissolved Iron, Fe		<0.04
pH (Laboratory)	.x	7.5			
pHs	.x	7.0			
Stability Index	.x	6.5			
Saturation Index	.x	0.5			
Color, PCU	x.	0			
Odor Threshold	x.	0			
Turbidity, NTU	x.	0.31			

Signed: Gene Medina
Chemist

TABLE A-76. COMPLETE CHEMICAL ANALYSIS OF WATER FROM HAWTHORN AQUIFER SYSTEM-ZONE I WELL L-M-1675.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L M-1675
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

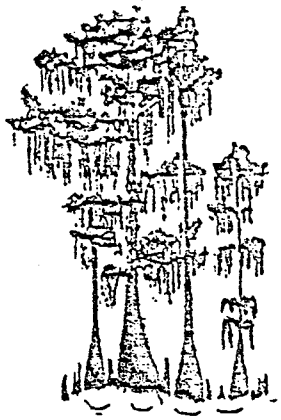
	Mg/L		Mg/L
Total Dissolved Solids	3,416	Iron, Total, as Fe	2.44 (?)
Alkalinity, Total, as $CaCO_3$	162	Calcium, as Ca	133
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	126
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	1,450
Alkalinity, Bicarbonate, as $CaCO_3$	150	Fluoride, as F	1.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	500
Carbonate, as CO_3	7	Color, P.C.U.	15
Bicarbonate, as HCO_3	183	Turbidity, N.T.U.	36 (?)
Hardness, Total, as $CaCO_3$	848	pH	7.7
Hardness, Calcium as $CaCO_3$	332	pHs	7.2
Hardness, Magnesium, as $CaCO_3$	516	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	162	Saturation Index	0.5
Hardness, Non-Carbonate, as $CaCO_3$	686	Conductivity	4,350
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Ola Bishop
ANALYST

TABLE A-77. COMPLETE CHEMICAL ANALYSIS OF WATER FROM HAWTHORN AQUIFER SYSTEM-ZONE I WELL L-M-1713.



BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L-M-1713
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	3,716	Iron, Total, as Fe	0.06
Alkalinity, Total, as $CaCO_3$	134	Calcium, as Ca	171
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	20
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	1,630
Alkalinity, Bicarbonate, as $CaCO_3$	122	Fluoride, as F	0.9
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	470
Carbonate, as CO_3	7	Color, P.C.U.	5
Bicarbonate, as HCO_3	149	Turbidity, N.T.U.	0.56
Hardness, Total, as $CaCO_3$	510	pH	7.8
Hardness, Calcium as $CaCO_3$	428	pHs	7.1
Hardness, Magnesium, as $CaCO_3$	82	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	134	Saturation Index	0.7
Hardness, Non-Carbonate, as $CaCO_3$	376	Conductivity	4,750
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-78. COMPLETE CHEMICAL ANALYSIS OF WATER FROM HAWTHORN AQUIFER SYSTEM-ZONE I WELL L-M-1716.

BIG CYPRESS SERVICE COMPANY, INC.
1383 AIRPORT ROAD, NORTH
NAPLES, FLORIDA 33942
TELEPHONE: 775-0035

WATER ANALYSIS REPORT

CLIENT	Missimer & Associates, Inc.	SAMPLED BY	Client
ADDRESS	1031 Cape Coral Parkway	IDENTIFICATION	L M 1716
	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

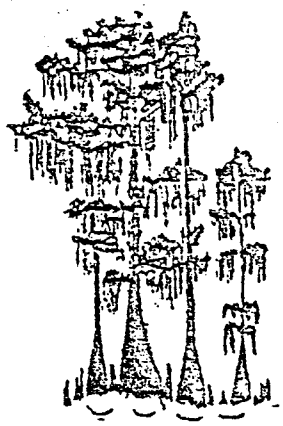
	Mg/L		Mg/L
Total Dissolved Solids	3,152	Iron, Total, as Fe	0.01
Alkalinity, Total, as $CaCO_3$	140	Calcium, as Ca	138
Alkalinity, Phenolphthalein, as $CaCO_3$	8	Magnesium, as Mg	135
Alkalinity, Carbonate, as $CaCO_3$	16	Chloride, as Cl	1,420
Alkalinity, Bicarbonate, as $CaCO_3$	124	Fluoride, as F	1.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	390
Carbonate, as CO_3	10	Color, P.C.U.	5
Bicarbonate, as HCO_3	151	Turbidity, N.T.U.	0.30
Hardness, Total, as $CaCO_3$	900	pH	7.8
Hardness, Calcium as $CaCO_3$	346	pHs	7.2
Hardness, Magnesium, as $CaCO_3$	554	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	140	Saturation Index	0.6
Hardness, Non-Carbonate, as $CaCO_3$	760	Conductivity	4,100
Sulfide, Including Hydrogen, as H_2S	<0.01		

BIG CYPRESS SERVICE COMPANY, INC.

Laboratory I.D. # 85113

BY Alan Bishop
ANALYST

TABLE A-79. COMPLETE CHEMICAL ANALYSIS OF WATER FROM HAWTHORN AQUIFER SYSTEM-ZONE I WELL L-M-1718.



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	Cape Coral, Florida 33904		
DATE	8-28-81	SAMPLE NUMBER	

METHODS

This water was anlayzed using methods adopted from "Standard Methods for the Examination of Water and Wastewater", latest edition, APHA, AWWA, and WPCF.

	Mg/L		Mg/L
Total Dissolved Solids	3,446	Iron, Total, as Fe	0.03
Alkalinity, Total, as $CaCO_3$	144	Calcium, as Ca	154
Alkalinity, Phenolphthalein, as $CaCO_3$	6	Magnesium, as Mg	134
Alkalinity, Carbonate, as $CaCO_3$	12	Chloride, as Cl	1,620
Alkalinity, Bicarbonate, as $CaCO_3$	132	Fluoride, as F	1.1
Alkalinity, Hydroxide, as $CaCO_3$	0	Sulfate, as SO_4	550
Carbonate, as CO_3	7	Color, P.C.U.	7
Bicarbonate, as HCO_3	161	Turbidity, N.T.U.	0.30
Hardness, Total, as $CaCO_3$	932	pH	7.8
Hardness, Calcium as $CaCO_3$	384	pHs	7.2
Hardness, Magnesium, as $CaCO_3$	548	Stability Index (Langlier)	--
Hardness, Carbonate, as $CaCO_3$	144	Saturation Index	0.6
Hardness, Non-Carbonate, as $CaCO_3$	788	Conductivity	4,700
Sulfide, Including Hydrogen, as H_2S	<0.01		

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