

MAP OF A PART OF THE WILLISTON QUADRANGLE, FLORIDA
SHOWING SINKHOLE TOPOGRAPHY

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Topography by Wm. L. Miller and Wm. H. Griffin
under direction of H. L. Baldwin, Jr.
Surveyed in 1893

Scale $\frac{1}{62,500}$
1 0 1 2 Miles
1 0 1 2 Kilometers

Contour interval 10 feet
Datum is mean sea level
1913

ENGRAVED AND PRINTED BY THE
U. S. GEOLOGICAL SURVEY





A. SINK HOLE, ALACHUA COUNTY.



B. SINK HOLE CONTAINING POND, 10 MILES SOUTHEAST OF VERNON, WASHINGTON COUNTY.



A. SINK OF SANTA FE RIVER.



B. DRAINAGE SINK OF OCLAHATCHEE LAKE, 7 OR 8 MILES SOUTH OF LAKE PARK, GA.



A. PLEISTOCENE TERRACE AND ESCARPMENT BORDERING ST. MARYS RIVER ON FLORIDA SIDE, OPPOSITE TRADERS HILL, GA.



B. OLD WELL OF SPANISH TYPE, ST. AUGUSTINE.



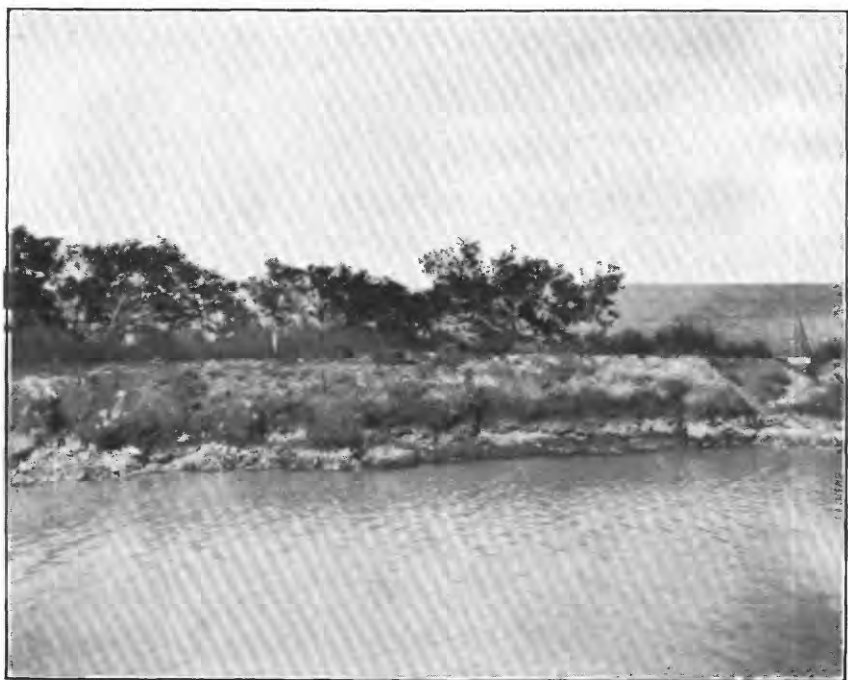
A. MANGROVE KEY, WATER'S EDGE.



B. ROOT GROWTH OF MANGROVES, SOUTH END OF KEY VACA.



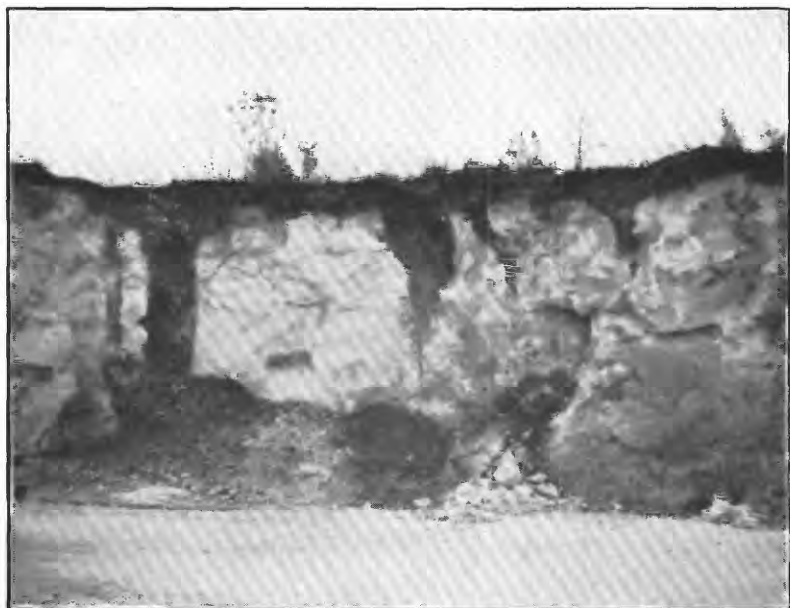
A. BEACH RIDGE OF CORAL AND SHELL SAND, KNIGHTS KEY.



B. CALCAREOUS SAND ON REEF ROCK.



A. SECTION IN QUARRY OF OCALA LIME CO. AT OCALA.



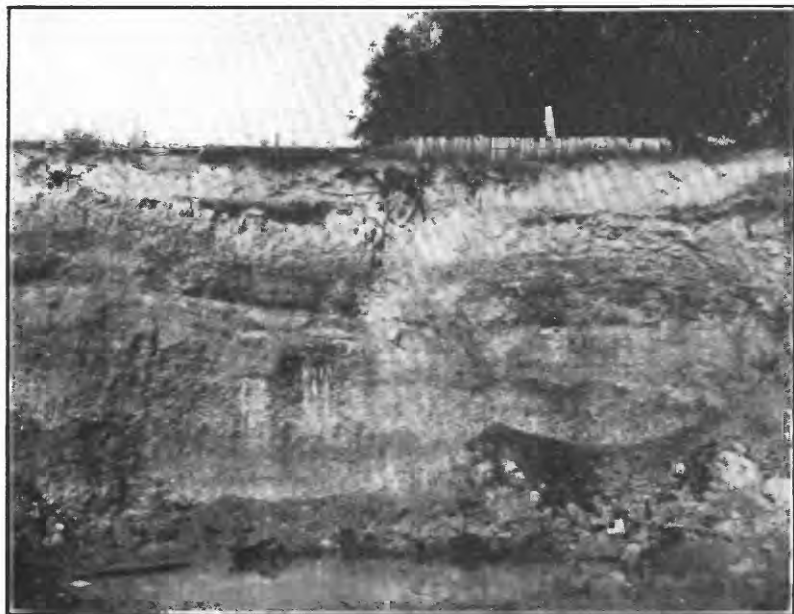
B. QUARRY OF OCALA LIME CO. (OLD PHILLIPS QUARRY) 1 MILE SOUTHEAST OF OCALA.



A. LIMESTONE OF TAMPA FORMATION EXPOSED ALONG SIXMILE CREEK A QUARTER OF A MILE BELOW ATLANTIC COAST LINE RAILWAY BRIDGE, HILLSBOROUGH COUNTY.



B. LIMESTONE OF CHATTAHOOCHEE FORMATION ON WITHLACOOCHEE RIVER AT NEW BRIDGE (OR HORN BRIDGE), 3 MILES BELOW GEORGIA & FLORIDA RAILWAY BRIDGE, LOWNDES COUNTY, GA.



A. CONTACT OF NASHUA MARL AND PLEISTOCENE SAND A QUARTER OF A MILE BELOW NASHUA, ON ST. JOHNS RIVER.



B. CLAY UNCONFORMABLY OVERLYING NASHUA MARL IN PIT ABOUT HALF A MILE SOUTH OF DE LEON SPRINGS STATION.



A. CONGLOMERATE OF LAFAYETTE (?) FORMATION, RESTING ON SANDSTONE OF UNCERTAIN AGE, TOP OF ROCK HILL, WASHINGTON COUNTY.



B. ROCK FACE IN COQUINA QUARRY, ANASTASIA ISLAND.



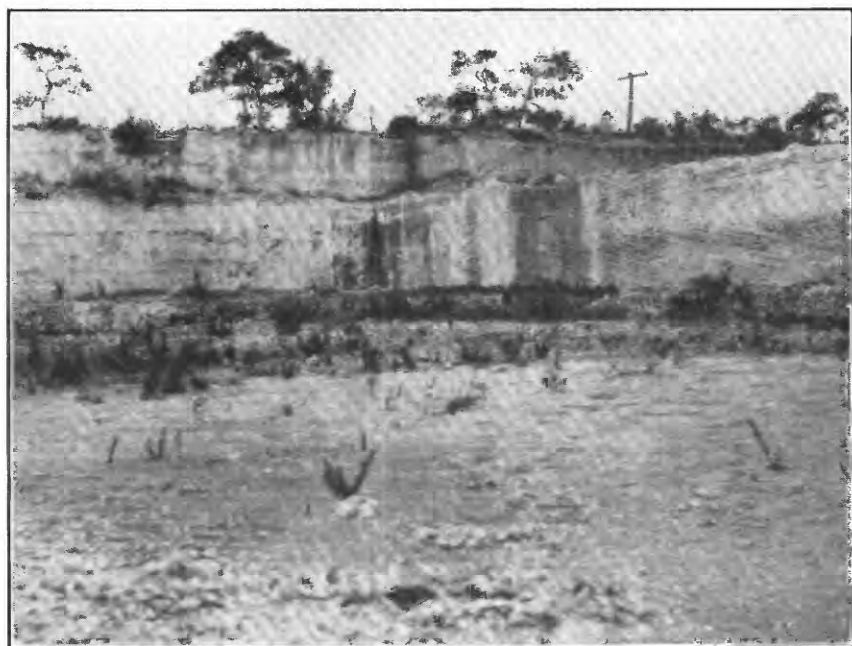
A. COQUINA ROCK ON GULF SIDE OF SARASOTA KEY.



B. TURTLE MOUND, AN ANCIENT SHELL MOUND ON NORTH INDIAN RIVER.



A. REEF ROCK, KEY LARGO LIMESTONE, SHOWING EROSION.



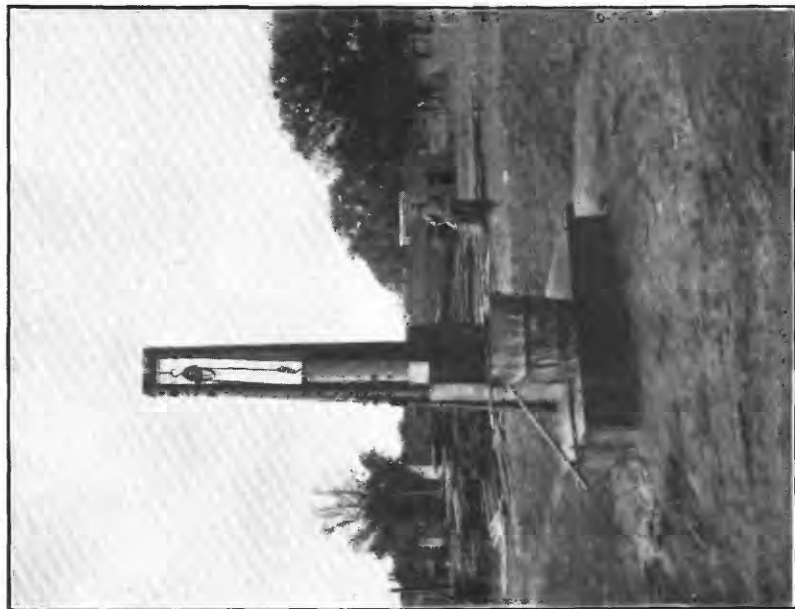
B. QUARRY IN MIAMI OOLITE.



A. REEF ROCK, KEY LARGO LIMESTONE, CORAL HEAD.

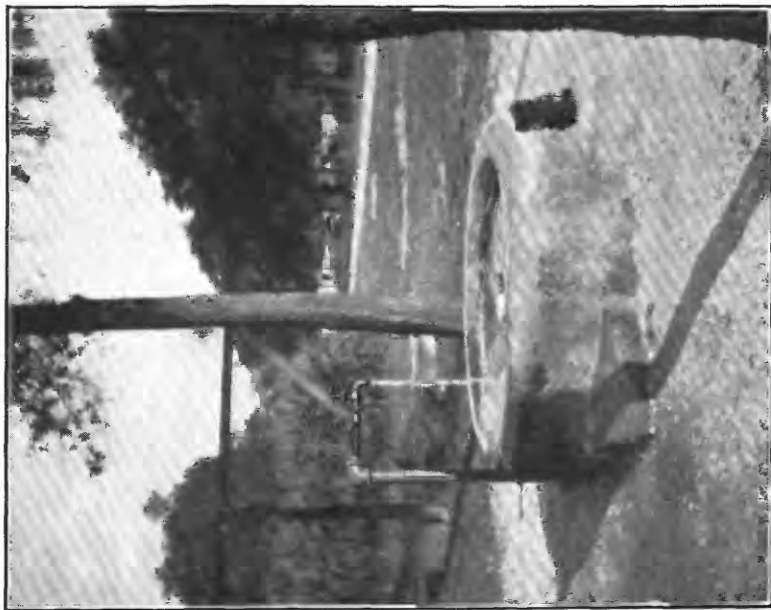


B. MUD CRACKS IN CRUSTAL LAYERS OF KEY WEST OOLITE.



A. WELL AT QUINCY.

Illustrating type of bored well and bucket in use in Gadsden County.



B. FLOWING WELL AT NEW SMYRNA.

With provision for shutting off water when not in use.



A. WATERWHEEL FOR PUMPING WATER, CALOOSAHATCHEE RIVER.



B. WEKIVA SPRING, SHOWING SPRING AND BATHHOUSE.

Public water supplies in central and northern Florida.

Location.	Source.	Ownership.	Daily consumption.	Wells or springs.					Waterworks.							Water.			Remarks.	
				Num-ber.	Diam-eter.	Depth.	Topo-graphic location.	Relation to town.	Reservoir or standpipe.		Fire hy-drants.	Mains.	Do-mestic pres-sure.	Fire pres-sure.	Character of pressure.	Meters.	Quality.	Geologic source.		Sufficiency.
									Capacity.	Elevation above town.										
ALACHUA COUNTY.																				
Gainesville.....	Spring and well.	City.....	Gallons. 250,000	1	Inches. 12	Feet. 194	Sandy rolling up-land.	90 feet be-low.	Gallons.	Feet.	92	Miles. 11	Pounds. 40	Pounds. 90	Pumped from well.....	35 p e r cent.	Slightly hard.....		Sufficient.....	
BRADFORD COUNTY.																				
Worthington.....	Spring.....	J. W. Wells.....					Valley.....	Near.....	Small.	30	0	1				None.....	Soft.....	Pleistocene.....	Sufficient.....	
CLAY COUNTY.																				
Green Cove Springs.....	Wells.....	N. B. Ivey.....	Not measured.	2	4	500,815	Plain.....	In.....	None.	0			30±	30±	Artesian.....	None.....	Hard and sulphur.	"Peninsular" limestone...	Sufficient.....	Another well supplies part of town.
COLUMBIA COUNTY.																				
Lake City.....	Well.....	City.....	150,000	1	10	400	Plain.....	Same.....	41,250	None.		6-8	40	80-100	Pumped from basin.....	None.....	Hard, some sulphur		Sufficient.....	
DE SOTO COUNTY.																				
Arcadia.....	Well.....	City.....		1	8	375	Plain.....	In.....	50,000	125 (top).	20+	1½			Pumped from well.....	None.....	Hard.....	"Peninsular" limestone...	Sufficient.....	
DUVAL COUNTY.																				
Pablo Beach.....	Well.....	John S. Christopher.....	Not estimated.	1	8	511	Plain.....	In.....	None.		0	1±			Artesian.....	None.....	Hard and sulphur.	"Peninsular" limestone...	Sufficient.....	
Jacksonville.....	Wells.....	City.....		11	8, 12	650-1,020	do.....	do.....	Small.		553	55	64	100	Pumped from reservoir.....	Yes.....	do.....	do.....	do.....	
Riverside.....	do.....	Riverside Water Works Co.....		4			do.....	do.....			0	0			do.....	do.....	do.....	do.....	do.....	
South Jacksonville.....	do.....	South Jacksonville Water Co.....	Not measured.	2			do.....	do.....			0	0	3	20	Artesian.....	None.....	do.....	do.....	do.....	
ESCAMBIA COUNTY.																				
Millview.....	Well.....	German-American Lumber Co.....		1	6	206	Plain.....		60,000	85	4	1				None.....	Hard.....	"Peninsular" limestone...	Sufficient.....	
Pensacola.....	Wells.....	City.....	650,000	13	6	112-150	Valley.....	In.....		200	195	21	75	125		Some.....	Soft.....	Pleistocene and Pliocene.....	do.....	Wells used all within a radius of 200 feet.
FRANKLIN COUNTY.																				
Apalachicola.....	Well.....	Apalachicola Water Co.....	30,000	1	6	363	Plain.....	In.....	100,000	110	58	¾	125		Pumped from basin.....	Some.....	Hard and sulphur.	Vicksburgian limestone...	Sufficient.....	Another well near the town used for medicinal purposes.
GADSDEN COUNTY.																				
Havana.....	Well.....	Havana Tobacco Co.....		1	6	266	Plain.....	At edge.....	Small.							None.....		Marianna limestone.....		
Quincy.....	do.....	City.....	50,000	1	6	766	Valley.....	Near.....	60,000	100	35	3	85	105		do.....	Hard, sulphur.	do.....	Sufficient.....	
HILLSBOROUGH COUNTY.																				
Clearwater.....	Wells.....	Tom Taylor.....	25,000	3	4, 6	52-80	Plain.....	In.....	10,000	70	0		25		Pumped from wells.....	Some.....	Hard.....	Tampa formation.....	Sufficient.....	System being installed.
Belleair.....	Lake.....	M. F. Plant.....		1	8, 10	340			50,000	100	3	1	40	100		None.....	Soft.....		do.....	Used as supply for hotel.
Plant City.....	Well.....	City.....		11 (9 used).	10	180-325	Plain.....	At edge.....	60,000	100		3	65					"Peninsular" limestone...	do.....	System being installed.
Tampa.....	Wells.....	Tampa Water Works Co.....	2,750,000	3	6	65-105	Plain.....	In.....	110,000	47+	387	33	60	80-100	Pumped from basin.....	Some.....	Hard, some sulphur.		do.....	The water was obtained at less than 180 feet.
Tarpon Springs.....	do.....	City.....		3	6	65-105	do.....	do.....	100	20	1½							"Peninsular" limestone...		Supply being installed.
St. Petersburg.....	Lake and wells.	do.....	200,000-250,000	1			Plain.....	do.....	60,000	85	35	8½	40	100	Pumped from lake.....		Lake soft, well sulphur.	do.....	Usually sufficient.	
West Tampa.....	Wells.....	West Tampa Water Co.....	500,000	4	6	290-396	do.....	do.....	100,000	125 (top).	55		55	65	Pumped from well.....	Some.....	Hard.....	do.....	Sufficient.....	
JACKSON COUNTY.																				
Aycock.....	Well.....	Aycock Lumber Co.....	19,000	1	5	262	Plain.....	At mill.....	20,000	20±	24	1	15	250	Pumped from wells.....	None.....	Hard.....	Marianna limestone.....	Sufficient.....	Some water used from a pond.
Marianna.....	do.....	Marianna Water Co.....	5,000	1	6	386	do.....	In.....	24,000	65		3	32	100	do.....	do.....	do.....	do.....	do.....	
State Reform School.....	do.....	State.....	6,000	1	8	276	do.....	do.....	3,500	32		½	15		do.....	do.....	do.....	do.....	do.....	
JEFFERSON COUNTY.																				
Monticello.....	Wells.....	City.....	40,000	2	8 6	800 400	Bottom of hill.	20 feet lower.	40,000	105	25		45	75	Pumped from basin.....	None.....	Hard.....		Sufficient.....	Additional cistern with 100,000 gallons capacity.
LAFAYETTE COUNTY.																				
Mayo.....	Well.....	Private.....	10,000	1	3	120	Sandy up-land.	Little lower.	16,000	70		½			Gravity.....	None.....	Hard.....		Sufficient.....	Wooden tank.
LAKE COUNTY.																				
Leesburg.....	Wells.....	Private.....	30,000	3	4 2½ 2½	98 100 101	Plain.....		20,000	60	12	2½				None.....	Hard.....		Sufficient.....	
LEON COUNTY.																				
Tallahassee.....	Wells.....	Private.....		3	8 10 12	717 400 400	Rolling.....	Lower.....	235,000	100	66		50	100	Pumped from basin.....	Yes.....	Hard.....		Sufficient.....	
MADISON COUNTY.																				
Madison.....	Well.....	City.....	70,000	1	4	200	Hill.....	About same.	132,000		32		55		Gravity from basin.....	None.....	Hard.....		Not sufficient.	Cistern 15 feet diameter by 10 feet deep.
MANATEE COUNTY.																				
Bradentown.....	Wells.....	City.....		2	6	410,427	Plain.....	In.....	75,000	100 (top).	9	2	55	145	Pumped from wells.....	None.....	Sulphur.....	"Peninsular" limestone...	Sufficient.....	System being installed.
MARION COUNTY.																				
Dunnellon.....	Well.....	City.....	60,000±	1	8	155	Plain.....	Same.....	40,000	30	5	2	24	60		None.....	Hard.....		Sufficient.....	
Ocala.....	Wells.....	Private.....	500,000	2	12	190	do.....	do.....	112,000	80	91	9	50	50		3¾ per cent.	do.....		do.....	Cistern 2½ feet diameter by 13 feet deep.
NASSAU COUNTY.																				
Callahan.....	Well.....	City.....		1	3	600±	Plain.....	In.....	None.		0	½			Artesian.....	None.....	Hard and sulphur.	"Peninsular" limestone...	Sufficient.....	
Fernandina.....	Wells.....	City.....	600,000	2	6, 8	731-733	do.....	At edge.....	110,000	100	54	6	43	110		do.....	do.....	do.....	do.....	
ORANGE COUNTY.																				
Orlando.....	Lake.....	Orlando Water & Light Co.....	1,000,000				Plain.....	½ mile.	101,000	120	58	15	40	100		None.....	Soft.....		Sufficient.....	
Sanford.....	Lake and wells.	Sanford Water Co.....					Plain.....	In.....	300,000	38	42	12	40	60	Pumped from source.....	do.....	Soft (well water sulphur).		do.....	The water is usually taken from lake.
FOLK COUNTY.																				
Bartow.....	Well.....	City.....	75,000	1	6	720-725	Plain.....	In.....	50,000	90 (top).	50	4	40	100	Pumped from well.....	None.....	Hard.....	"Peninsular" limestone...	Sufficient.....	
Lakeland.....	Wells.....	Lakeland Water Co.....	75,000	1	10	600	do.....	do.....	50,000	100	35	1½	45	100	do.....	do.....	do.....	do.....	do.....	More wells will be drilled.
Mulberry.....	do.....	L. N. Pipkin.....	10,000	4	1, 3, 4	150	do.....	do.....	105,000	42	7	4-5	40	125	do.....	do.....	do.....	do.....	do.....	
PUTNAM COUNTY.																				
Crescent City.....	Wells.....	C. H. Cash.....		Several.			Valley.....	In.....												
Palatka.....	Springs and wells.	City.....		Several test wells.			At edge.....	At edge.....	375,000	65		15	65	150		None.....	Chalybeate.	Pliocene.....	Not sufficient.	Intended to increase the amount of water.
ST. JOHN COUNTY.																				
St. Augustine.....	Wells.....	City.....	900,000	2	10, 12	525	Plain.....	At edge.....	286,000	100	131	6	157	100			Hard and sulphur.	"Peninsular" limestone...	Sufficient.....	
Do.....	do.....	St. Augustine Waterworks Co.....		Several.																
SUWANNEE COUNTY.																				
Live Oak.....	Well.....	City.....	500,000	1	6	1,080	Plain.....	At edge.....	85,000	83+	37	5	43	70		None.....	Hard.....	"Peninsular" limestone...	Sufficient.....	Cistern 25 feet diameter by 15 feet deep.
TAYLOR COUNTY.																				
Perry.....	Well.....	City.....		1	10		Plain.....	At edge.....		116	16				Gravity.....	None.....	Hard.....		Sufficient.....	
VOLUSIA COUNTY.																				
De Land.....	Wells.....	City.....	750,000	2	6, 10	490, 264	Plain.....	In.....	46,000	100	29		45	125	Pumped from well.....	Yes.	Hard.....	"Peninsular" limestone...	Sufficient.....	
Orange City.....	Well.....	do.....	20,000	1	10	117	At edge.....	At edge.....	60,000	90	15	7	65	125		Same.....	do.....	do.....	do.....	
Seville.....																				
WALTON COUNTY.																				
Freeport.....	Well.....	City.....	(3)	1	8	180	Plain.....	In.....	None.	0	0	½	35±	35±	Artesian.....	None.....	Sulphur and hard.		Sufficient.....	
Do.....	do.....	Blackman & McLean.....	(5)	1	4	186	do.....	do.....	do.....	0	0	½	35±	35±	do.....	do.....	do.....	do.....	do.....	
De Funiak Springs.....	Springs.....	Beach-Rogers Lumber Co.....	(6)				Edge of swamp.	At edge.....	12,000	35	0	2	15	15		do.....	Soft.....	Pleistocene.....	Sufficient for hotel and mill.	
WASHINGTON COUNTY.																				
Chipley.....	Well.....	Town.....	50,000	1	8, 10	160	Plain.....	In.....	60,000	86	2 or 3	35				None.....	Hard.....	Marianna limestone.....	Sufficient.....	
Vernon.....	do.....	Town and county.....	6,000	1	6	190	do.....	do.....	10,000	52	5					do.....	do.....	do.....	do.....	

Nearest town or post office.	Direction and distance.	Owner.	Driller.	Date sunk.	Surface formation.	Geologic source.	Type of well.	Use.	Depth.	Diameter.	Casing.	Elevation above sea.	Head—		Depth to rock.	Depth to principal supply.	Quality of water.	Yield per minute.	Remarks.	
													Above sea.	Above surface.						
Artesia	Near	J. H. Hogan ^a						Irrigation	Feet. 300	Inches. 3	Feet.	Feet. 14	Feet.	Feet. 18		Feet. 240	Feet. 300	Hard, sulphur	Gallons. 2 100	
Do.	do.	do.						do.	425			14				18	400	do.	2 100	
Do.	2½ miles north	Raymond & Holman ^a						do.	160	4		15				8	do.	50		
Do.	1 mile north	C. A. Welch, Jr. ^a						do.	300+	3		10				12	235	do.	50	
Banyan	1 mile south	L. Mathers ^a						General	300	4		Few.				3	Sulphur			
Do.	do.	Louise M. Power ^a						Irrigation	190	4		Few.				15	Soft			
Canaveral Lighthouse	1 mile south	Lighthouse.	Capt. Near		Pleistocene	Vicksburgian limestone.	Drilled	Domestic	313	4	8½		10				185+	Sulphur		
Cocoa	¼ mile southwest	Cocoa Ice Co.	Magruder	1888	do.	do.	do.	Ice manufacturing and boilers.	325	4	90-100	c 10		12			150 and below.	do.	Several.	Forms scale in boilers.
Do.	do.	County school board.	Wm. Coward	1898	do.	do.	do.	Irrigation	200	4	100	20		15		10	180-250	Hard, sulphur		
Do.	2 miles	W. F. Dixon	V. Hall	1889	do.	do.	do.	Drinking, irrigation, and stock.	368	3				30		32	Sulphur			
Do.	do.	J. A. Fiske	O. K. Key	1907	do.	do.	do.	Domestic	165	3	100	c 8		20+			160	Sulphur and trace of salt.	150	150 feet of protective clay present.
Do.	1 mile south	S. G. Hardee	Albert Magruder	1888	do.	do.	do.	Domestic and irrigation.	260	2	100±	c 7		20			160	Sulphur	Many.	Increased yield at 160 feet.
Do.	do.	do.	do.	1890	do.	do.	do.	do.	390	4	100±	c 7		20			160	do.	200	
Do.	do.	do.	do.	1890	do.	do.	do.	do.	350	3	100±	c 7		20			160	do.	Many.	
Do.	do.	Dr. W. L. Hughlett	H. H. Wilkinson	1897	do.	do.	do.	Fountain and stock.	276	3	75	c 10		22			225-230	Sulphur and trace of salt.	Many.	Corrodes boilers.
Do.	½ mile.	L. M. Huglet ^a						do.	276	3		10		22		20	265	Hard, salty, alkaline, sulphur.		
Do.	¼ mile north	J. G. Powell	W. W. Akerson		Pleistocene	Vicksburgian limestone.	Drilled	Drinking	150	2	90	15		15		90	150	Sulphur		
Do.	do.	Joseph Smith	Capt. Near		do.	do.	do.	Stock	200	2	60	c 15					80+	do.	Several.	Corrodes boilers.
Courtenay	1 mile north	J. H. Davis	Albert Magruder	1891	do.	do.	do.	do.	170	4	80	c 6					80+	Sulphur and trace of salt.	Few.	
Do.	do.	M. S. Davis	do.	1891	do.	do.	do.	Spraying trees	170	4	80	c 6		2			80+	do.	Many.	
Do.	4 miles south	T. H. Sanders ^a						Irrigation, farm	180	2				11+		140	170	Salt, sulphur	50	
Eau Gallie	¼ mile southeast	East Coast Lumber Co.	Capt. Near		Pleistocene	Vicksburgian limestone.	Drilled	Water power and fire protection.	500	6	80	c 6	50				315+	Sulphur		
Do.	½ mile southwest	Kentucky Military Institute	do.	1906	do.	do.	do.	Domestic	440	3, 2		c 12	50					do.	Many.	
Do.	do.	P. A. McMillan	do.	1905	do.	do.	do.	Domestic and irrigation.	335	2	100	c 10	50				335	do.	Many.	
Do.	do.	John McAllister ^a						Irrigation	2 435	1½						200	220+	do.	Many.	
Do.	Near	Capt. Near ^a						do.	325	2		12				95	230	do.	Many.	
Do.	do.	do.	Capt. Near		Pleistocene	Vicksburgian limestone.	Drilled	Domestic	340	2	95	c 10	50				230+	do.	Many.	Second supply at 25 feet.
Do.	do.	Geo. F. Paddison		1887	do.	do.	Drilled	do.	337	1½		c 6					237	do.	Many.	
Do.	¼ mile south	do.	Capt. Near	1907	do.	do.	do.	Domestic	357	3		c 8					50	do.	Many.	
Do.	do.	do.	do.					Manufacturing plant.	484	6		4		46		70	300	Hard, sulphur	2 2, 500	
Do.	do.	C. J. Young	Capt. Near	1905	Pleistocene	Vicksburgian limestone.	Drilled	Domestic	315	2		c 10	50					Sulphur	Many.	
Do.	do.	Mary Young	do.	1905	do.	do.	do.	Domestic stock and irrigation.	315	2	95	Few.			70	230-315	do.	Many.		
East Eau Gallie	do.	Indian River & Lake Worth Fish & Ice Co.	do.	1905	do.	do.	do.	Cooling condensers	333	4	100	c 18	50				230-333	do.	Many.	
Do.	do.	E. V. Vinell	do.	1894	do.	do.	do.	Irrigation and drinking.	350	4	80	c 4	45+				240	do.	Many.	
Georgiana	Near	F. W. Lyman ^a						Domestic	218	3		30		3			b 218	do.	Many.	
Do.	¼ mile southeast	F. W. Munson ^a						Irrigation	220	3		10					100	do.	Many.	
Grant	Near	J. B. Wells estate ^a						do.	300	4		12					200	Hard, sulphur	Many.	
Do.	do.	J. B. Welsh	Capt. Near	1896	Pleistocene	Vicksburgian limestone.	Drilled	Irrigation and drinking.	350	4	90			40			256	Sulphur	Many.	
Indianola	3 miles south	Mrs. J. B. Allen	Lapham	1896	do.	do.	do.	Not used	180	2	100+	c 6	35				180	Sulphur and slight salt.	Many.	No protective clay.
Do.	½ mile south	E. L. Crawford	do.		do.	do.	do.	do.	160	2	60	4						do.	Many.	
Do.	¼ mile southwest	Ed. Hildreth	do.	1898	do.	do.	do.	Domestic and irrigation.	205?		100+	8		16+			200	do.	Many.	
Do.	1 mile south	J. Latham	Owner	1898	do.	do.	do.	Toilet and fountain.	200	2	140	12	35				150	Sulphur	Many.	Second supply at 150 feet.
Do.	do.	John McDonald	Capt. Near	1896	do.	do.	do.	Water power	260	4	80	c 5			31		150	do.	Many.	Power for pumping from a shallow well.
Do.	do.	do.	do.	1905	Pleistocene	Vicksburgian limestone.	do.	Not used	300	4	80	c 5			31		168	do.	Many.	
Do.	do.	do.	do.	1905	do.	do.	do.	do.	300±	6	80	c 5			31		160	do.	Many.	
Do.	do.	do.	do.	1905	do.	do.	do.	do.	300±	6	80	c 5			31		150	do.	Many.	
Do.	do.	E. P. Mansfield	do.	1898	do.	do.	do.	Hotel	200	3	100	c 12	40+				75+	do.	Many.	
Do.	½ mile south	G. W. Schuyler ^a						Domestic	200	3		10			18		75	Hard, salt, sulphur	250	
Do.	5 miles east	Wyatt, Nesbit, et al.	Owners		Pleistocene	Vicksburgian limestone.	do.	do.	210	2	100	c 6			18		200	Sulphur	Many.	
Do.	Do																			

Typical wells of Duval County.

Nearest town or post office.	Direction and distance.	Owner.	Driller.	Date sunk.	Surface formation.	Geologic source.	Type of well.	Use.	Depth.	Diameter.	Casing.	Elevation above sea.	Head—		Depth to rock.	Depth to principal supply.	Quality of water.	Depth to second supplies.	Yield per minute.	Remarks.
													Above sea.	Above or below surface.						
Baldwin	½ mile north	Atlantic Coast Line R. R.			Pleistocene	Jacksonville formation	Drilled	Locomotives	Feet. 100±	Inches. 3	Feet.	Feet. Level.	Feet.	Feet. —4	Feet.	Feet.		Feet.	Gallons.	
Do.	do.	do.	Stafford	1907	do.	Vicksburgian limestone?	Drilled	Not used.	580	5, 3	511	Level.				92	Slight sulphur		Many.	Reported a failure.
Do.	do.	Seaboard Air Line Ry.		1898	do.	Jacksonville formation	Drilled	Locomotives	92	5	92	a 47		+0						
Do.	6 miles southeast	Yellow Water School-house.		1906	do.	do.	do.	do.	80±			a 40		+			Soft			
Bayard		Cotter, Lucas & Co.			do.	Vicksburgian limestone?	do.	Boilers, domestic, etc.	500±	4				+Several.			Sulphur		Many.	No action in boilers.
East Mayport		Florida East Coast Ry.			do.	do.	do.	Locomotives	600			a 10		+					Many.	
Floral Bluff	2 miles east	Old hotel at Eggleston.			do.	Jacksonville formation?	do.	Not used.	72	3		Few.		—Few.						
Fort George		Gov. N. B. Broward.	Hugh Partridge	1890	do.	Vicksburgian limestone	do.	do.	840?	2½	600	5		+		600+	Sulphur		Many.	Forms scale in boilers.
Jacksonville	¾ miles northeast	Armour Fertilizer Co.	do.		do.	do.	do.	Condensers and boilers.	600±	4		6		+40+		300+	do	300	300+	
Do.	2 miles northeast	Atlantic Coast Line R. R.			do.	do.	do.	do.	708	6		14		+50		487		300, 399	400	Formerly belonged to Hayward & Bostwick.
Do.		Armour & Co.	Hugh Partridge	1902	do.	do.	do.	Drinking and manufacturing.	685	4	400	14	40	40		650	Sulphur	350	300	
Do.	1½ miles east-northeast	R. F. Barker		1885	do.	do.	do.	Domestic, stock, and irrigation.	525	4	400	Few.		55			do.			
Do.	4½ miles east	F. E. T. Bowden	Joyce		do.	do.	do.	do.	652	6	400	Few.		30±			do.			
Do.	1 mile southwest	John G. Christopher			do.	do.	do.	Drinking	616	4		8		+2	39	600		420-510	Many.	
Do.	¾ mile northeast	Citizens Gas Co.			Pleistocene	Vicksburgian limestone	Drilled	City supply	800	6		4					Sulphur			
Do.	1½ miles south	City	R. N. Ellis	1903	do.	do.	do.	Domestic and stock	980	10	45	3		58		865-970	do.	{ 40-44 510-727 }	1,380	
Do.		do.		1905	do.	do.	do.	City supply	984	10	494	5	55	50		{ 524, 750, 860- 980 }			1,215	
Do.	Seventh and Silver streets.	City waterworks			do.	do.	do.	Public supply	980	12		Few.				850	Sulphur	700±		
Do.	do.	do.			do.	do.	do.	do.	900±	10		Few.					do.	700+		
Do.	Market and Phelps streets.	do.			do.	do.	do.	do.	980	10		Few.					do.	700±	1,000	
Do.	Hubbard near Phelps Street.	do.			do.	do.	do.	do.	980	10		Few.		50		950	do.	700±	1,000	
Do.	East Jacksonville	Commercial Ice & Fertilizer Co.			do.	do.	do.	Ice manufacturing	650			Few.		+					(c)	
Do.	5 miles northeast	Cummer Lumber Co.	Wade		do.	do.	do.	Boilers and drinking.	500+	6		a 15		+30			Sulphur			Forms scale in boilers.
Do.	3 miles east	G. M. Diven			do.	do.	do.	Irrigation, bathing, etc.	800	6		20		+Several.		800?	do.		Many.	
Do.	Near	Dodge & Cullins			do.	do.	do.	Windsor Hotel.	746	8		9		+35			do.	50	Many.	
Do.		Electric Light Co.			Pleistocene	Vicksburgian limestone	Drilled	Not used.	1,025	8	400			+50		555	Sulphur and salt		1,000	Protective clay at 975+ feet.
Do.	1½ miles east	Fairfield Water Co.	B. F. Partridge	1892	do.	do.	do.	Domestic	500±	8		Few.		45±		500±	Sulphur			
Do.	2 miles west	Florida Cooperage Co.		1905	do.	do.	do.	Drinking and boilers	750	8				+			do.			
Do.		Florida Ice Manufacturing Co.	Niel Prince	{ 1902- 1906 }	do.	Jacksonville formation	do.	Boilers	80±	2½	80±	Few.		—		80±			Many.	Four shallow wells.
Do.		do.		1906	do.	Vicksburgian limestone	do.	Ice manufacturing	630			Few.		+			Sulphur		Many.	
Do.		do.		1902	do.	do.	do.	do.	752	8		Few.					do.			
Do.		Gas factory		1906	do.	do.	do.	Public supply	750	8		Few.		+			do.			
Do.	2 miles northeast	Howard & Bostwick, Jr.			do.	do.	do.	Domestic	708	6		14		+50	37+	487	Sulphur	300-399	400	
Do.	2½ miles west	Jacksonville Brick Co.			Pleistocene	Jacksonville formation	Drilled	do.	70	2	70			—16			do.		Many.	
Do.		Jacksonville Electric Co.	Hugh Partridge	1903	do.	Vicksburgian limestone	do.	Drinking, manufacturing, and power.	730	10		4		47		385	do.		1,500	
Do.		Merrill Stevens Manufacturing Co.	do.		do.	do.	do.	Shipbuilding yards	750±	6		Few.		+		550±	do.			Pressure, 24 pounds per square inch.
Do.		do.			do.	do.	do.	do.	750			Several.		+60±			do.		Many.	
Do.	9 miles northeast	J. E. Merrill			do.	do.	do.	Domestic	750	6		Few.		+		550±	do.			Pressure, 24½ pounds per square inch.
Do.		D. F. Mitchell	Hugh Partridge		do.	do.	do.	Fountain	890	8, 6		a 10		+Many.			Sulphur		Many.	
Do.		do.			do.	do.	do.	Domestic and farm	750	8, 6		a 10					do.		300	Reported pressure, 27 pounds per square inch.
Do.	1½ miles northeast	Peoples Ice Co.		1900	do.	do.	do.	Manufacturing	628	6		Few.					Hard, sulphur		500	
Do.		do.			do.	do.	do.	Ice manufacturing	650	5		Few.		+			do.			
Do.	¼ mile west	Refrigerator Ice Co.	N. S. Ware	1902	do.	do.	do.	Manufacturing	744	6	440	Few.	62			630	Hard, sulphur			
Do.	Forest and Myrtle streets.	Riverside Water Works Co.	Partridge	1896	do.	do.	do.	Public supply	950					+			do.		Many.	Pressure, 18 pounds per square inch.
Do.	2 miles southwest	Riverside Water Co.	do.	1895	do.	do.	do.	City supply	720	10	70	20		48		600-700	do.		811	
Do.		South Jacksonville Water Works Co.			do.	do.	do.	Public supply	850	6				+15		850		None.	Many.	The company owns another similar well.
Do.		Springfield Ice Factory.	Partridge	1907	Pleistocene	Vicksburgian limestone	Drilled	Ice manufacturing	665	6		Few.		+					400	
Do.		Merrill Stevens	do.	1889	do.	do.	do.	Domestic and manufacturing.	669	6	400	5		62		500	Sulphur		800	
Do.	2½ miles northeast	Wilson & Toomer Fertilizer Co.	do.	1904	do.	do.	do.	Drinking and manufacturing.	798	6	60			50		796	do			
Do.		Windsor Hotel (2 wells)			do.	do.	do.	Domestic	746	8		a 15		+35			do.	50		
Do.	¾ mile southwest	Laura Warts		1886	do.	do.	do.	Domestic and stock	689	6	60	Few.		30±		650	do.			
Mandarin	¼ mile east	J. D. Mead			do.	do.	do.	Domestic and irrigation.	625	4		20		+40		550	do.		Many.	
Do.		J. H. Patterson	Partridge	1905	Pleistocene	Vicksburgian limestone	Drilled	Domestic	600?	2		a 15		+			do.			
Do.		H. J. Reid			do.	Jacksonville formation	do.	do.	157	1½		12		—2	150	157	Soft		Many.	
Manhattan Beach		Florida East Coast Ry.			do.	Vicksburgian limestone	do.	Supplies pavilion	600	4		a 10		+Many.			Sulphur		Many.	
Do.		do.	Henry Van Dorn	1907	do.	do.	do.	do.	800	4	394	a 10		+47					230±	Corrodes boilers.
Maxville		R. V. Douglas		1902	do.	do.	do.	Turpentine still	650+											Do.
Mayport		Florida East Coast Ry.	B. F. Partridge	1900	do.	do.	do.	do.	630	6				+55						
Pablo Beach		John G. Christopher		1885	do.	do.	do.	Public supply	511	8	265	a 10		+30+						Three wells drilled near did not affect yield.
Do.		Florida East Coast Ry.			do.	do.	do.	Supplies pavilion	400±	4		a 10		+Few.			Sulphur		Many.	
Plummer		J. H. Batchelder			do.	do.	do.	Domestic and irrigation.	600	4		18		+20	400	500+	Hard, sulphur			
Do.		J. Cronin			do.	do.	do.	do.	700	8				+0			do.		Many.	
St. Nicholas		Mrs. Mary P. Cummings			do.	do.	do.	Irrigation	678	6		25		+30	618	619	do.	80	Many.	
Do.		Gen. G. M. Divens			Pleistocene	Vicksburgian limestone	Drilled	Irrigation, bathing, etc.	800	6		a 20		+Several.		500±			Many.	
South Jacksonville		Cummings estate.	Harold Simson		do.	do.	do.	do.	800	6				+40+		550			Many.	
Do.		H. G. De Grove	B. F. Partridge	1891	do.	do.	do.	Domestic and stock	600±	6	600±	a 15		+30			Hard, sulphur	600±	1,200	Forms scale in boilers.
Do.	1 mile east	E. O. Painter Fertilizer Co.		1907	do.	do.	do.	Water power		(c)		a 3		+46		604		575	1,000	Pressure, 20 pounds per square inch.
Do.		do.	Harold Simson		do.	do.	do.	do.	625	8				+40+			Hard, sulphur		1,500	
Whitehouse	2½ miles south	J. L. Jackson			do.	do.	do.	Domestic	128	1½		100		0					Several.	

a Estimated.

b Water-Supply Paper U. S. Geol. Survey No. 102, p. 244.

c 800 when first drilled; 600 now.

d Op. cit., p. 246.

e 12 inches, 40 feet; 8 inches, 385 feet.

Typical wells of Hillsborough County.

Nearest town or post office.	Direction and distance.	Owner.	Driller.	Date sunk.	Surface formation.	Geologic source.	Type of well.	Use.	Depth.	Diameter.	Casing.	Elevation above sea.	Head—		Depth to rock.	Depth to principal supply.	Quality of water.	Depth of second supplies.	Yield per minute.	Remarks.
													Above sea.	Above or below surface.						
Antioch.		Buay Fegel.							Feet.	Inches.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.		Feet.	Gallons.	
Belleair.	1 mile south.	M. H. Plant.	T. J. Zimmerman	1905	Pleistocene.	Tampa formation.	Drilled.	Irrigation.	86	2										
Clearwater.		H. W. Bachman.	do.	1896	do.	do.	do.	Domestic.	135	6	50	45				50	Hard.	40	Several.	
Do.		Clearwater Ice Co.	do.	1904	do.	do.	do.	Not used.	75	4	26	28				70	do.	12	Several.	
Do.		do.	Wm. Taylor.	1900	do.	do.	do.	Public supply and ice factory.	80	6	36	27				75±	do.	36	Several.	
Do.		do.	John Philpot.	1903	do.	do.	do.	Not used.	52	4	36	27				52	do.	36	200	
Do.		J. R. Davey b.	do.		do.	do.	do.	Domestic, except drinking.	43	6	33	27				41-43	do.	38		
Do.		Col. Scott's estate.	John Philpot.	1898	do.	Tampa formation.	Drilled.	Domestic.	78	2		35			20	74	do.	15	Many.	
Dunedin.	1½ miles north.	L. B. Skinner.	T. J. Zimmerman		do.	do.	do.	Irrigation.	125	4	125	25				120	do.		Several.	
Do.	1½ miles north.	do.	do.	1904	do.	do.	do.	do.	50	1½	50	0				+ 1	Sulphur, slight.		Few.	
Do.	1 mile north.	do.	do.	1904	do.	do.	do.	do.	120	6	80	20					do.		Many.	
Plant City.		City.	Hughes Spec. Well Drilling Co.	1908	do.	Vicksburgian limestone.	do.	Public supply.	60	6	30+	20				55	do.		Few.	
Do.	3 miles southeast.	Coronet Phosphate Co.	do.	1909	do.	do.	do.	Domestic stock.	340	10, 8	280	20				340	Sulphur.		500	
Do.		E. W. Mays.	do.		do.	do.	do.	Ice manufacturing.	1,100	16, 12	800	125					do.		1,010	
Do.		Plant City Ice & Power Co.	do.	1906	do.	do.	do.	do.	600±	5½		135					do.		Many.	
Do.	1 mile southeast.	do.	Read.	1902	do.	do.	do.	do.	180	8		4				-31	Hard.			
Do.	do.	Refrigerating & Power Co.	do.		do.	do.	do.	Ice and electric plant.	180	6		65				+ 1	Soft.	None.	60	
Do.	3 miles southeast.	E. C. Stewart.	Pickney	1908	Pleistocene.	Pleistocene.	Driven.	Public supply.	370+	10										
Do.		Town.	do.		do.	do.	do.	do.	25		25	135				25				Not completed.
St. Petersburg.		Atlantic Coast Line.	do.		do.	Vicksburgian limestone.	Drilled.	Locomotives.	300	3½	607	20					Sulphur.			Typical well of the city.
Do.		A. P. Avery.	do.		do.	do.	do.	Drinking.	116	3	70	25					do.		1,500	Forms scale in boilers.
Do.		Bay Bros. Investment Co.	W. W. Jacobs.	1906	do.	do.	do.	Domestic and stock.	130	6	78	12				130	do.	400		
Do.		Chas. Broof.	do.	1908	do.	do.	do.	Domestic.	130	3							Sulphur.		100	
Do.		City waterworks.	Abner Powell	1902	do.	do.	do.	Ice manufacturing.	203½	10		42				+17	Sulphur, slight.		93	
Do.		Crystal Ice Co.	W. W. Jacobs.		do.	do.	do.	do.	178	6		10				-2	Sulphur.		Many.	Do.
Do.		do.	do.		do.	do.	do.	do.	265	6		10				-	do.		Many.	Do.
Do.		do.	do.		do.	do.	do.	do.	150	4		10				-2	do.		Many.	Abandoned.
Do.		W. P. Kerr.	do.		do.	do.	do.	Irrigation.	168			Sev.				+ 0				
Do.	At end of dock.	E. H. Tomlinson.	do.		do.	do.	do.	By boats.	90	4		5				+	Sulphur.			
Do.		Town.	do.		do.	do.	do.	Public supply.	432	10	80	35				-22	Hard and sulphur.	130±		Drill dropped 5 feet when it struck hard water; sulphur water encountered below.
Tampa.		City waterworks.	Abner Powell	1902	do.	do.	do.	do.	193	10	70±	9.86				+17	Sulphur, slight.	168-182	108	
Do.		do.	do.	1902	do.	do.	do.	do.	195½	10	70±					+17	do.		214	
Do.		do.	do.	1904	do.	do.	do.	do.	197½	10	97	9.31				+17	do.		250	
Do.		do.	do.	1904	do.	do.	do.	do.	233½	10	103	15.59				+17	do.			
Do.		do.	do.	1904	do.	do.	do.	do.	202½	10		12.39				+15½	Sulphur, slight.		50	
Do.		do.	do.	1904	do.	do.	do.	do.	197½	10		8					do.	150	225	9 of these 11 wells are used for public supply; 2 are held in reserve.
Do.		do.	do.	1905	do.	do.	do.	do.	203	10	65						do.		150	
Do.		do.	do.	1905	do.	do.	do.	do.	328	10	67	9½					do.			
Do.		do.	do.	1906	do.	do.	do.	do.	206½	10	58½	9½					do.			
Do.		do.	do.	1906	do.	do.	do.	do.	201½	10	52	2.76					do.		200	
Do.		do.	do.	1906	do.	do.	do.	do.	202½	10	61						do.			
Do.		do.	do.	1906	do.	do.	do.	do.	249	10		5.18					do.		80	
Do.	4 miles north.	W. N. Camp.	do.		do.	do.	do.	Irrigation.	250	6		10				+2	Sulphur.		Several.	
Do.		M. M. Jattton.	Abner Powell	1902	do.	do.	do.	Domestic.	111	3	70	47				-31	do.		Few.	
Do.		Mrs. Murray.	do.		do.	do.	do.	do.	137	3						-37	do.			
Do.		Seaboard Air Line.	do.		do.	do.	do.	Locomotives.	245	4		8					do.		Many.	Forms scale in boilers.
Do.		Tampa Electric Co.	do.	1906	do.	do.	do.	Used little.	450	8	150+	6				+1	Sulphur and salt.	300±	400	Flows at high tide.
Do.		do.	do.	1907	do.	do.	do.	do.	8607	8	150+	6				+1	do.		400	Do.
Do.	Ybor City.	Tampa Gas Co.	do.		do.	do.	do.	Gas factory.	80+	4		10				+	Hard, sulphur.		Several.	Forms scale in boilers.
Do.		Tampa-Havana Lumber Co.	Abner Powell	1905	do.	Vicksburgian limestone.	do.	do.	328	10	23						do.		Many.	
Do.		Tampa Ice Co.	E. W. Smith.		do.	do.	do.	Ice factory.	377	10	90	Several.				-10	do.		Several.	
Do.		do.	do.		do.	do.	do.	do.	100	6	60	Several.				-16	do.		Several.	
Do.		Tedder-McLeod Lumber Co.	Abner Powell		do.	do.	do.	do.	286	6	76						Sulphur.	150-160	160+	
Do.		Tropical Ice Co.	Smith.		do.	do.	do.	Ice factory.	200+	10	40	4				-3	do.		300	
Do.		do.	do.		do.	do.	do.	do.	200	6	40	4				-3	do.			
Tarpon Springs.		City.	De Long.	1907	do.	do.	do.	Public supply.	57	6	42	22				-21	do.		80	
Do.		do.	do.	1907	do.	do.	do.	do.	105	6	65	22				-21	do.		80	
Do.		do.	do.	1907	do.	do.	do.	do.	105	6	65	22				-21	do.		80	
Thonotosassa.	2½ miles southeast.	T. J. Baker.	Abner Powell	1906	do.	do.	do.	Irrigation.	380			45				-16	Hard.		Many.	
West Tampa.		City of West Tampa.	J. L. Mathews.		do.	do.	do.	Boilers.	4760	8	42					-7	Sulphur.	175 ft. below.		
Do.		Tampa Power & Traction Co.	do.	1907	do.	do.	do.	do.	200	8						+1	do.		Few.	Do.
Ybor City.		Havana Lumber Co.	Abner Powell	1905	do.	do.	do.	Not used.	226	6	42					-5	do.		Many.	Do.
Do.		Jattton-Dickie Lumber Co.	do.	1903	do.	do.	do.	Boilers.	321	8	16	5				-2	do.		Many.	Do.
Do.		do.	do.		do.	do.	do.	do.	132	8	18	5				-5½	do.		Many.	Do.
Do.	1 mile northeast.	A. J. Knight.	do.	1901	do.	do.	do.	Domestic.	140	3	60					+3	do.		Few.	
Do.		Reed, et al.	do.		Pleistocene.	do.	Driven.	do.	50	1½	50					-20	Hard.			
Do.		Ybor City ice factory.	do.	1888	do.	Vicksburgian limestone.	Drilled.	Cooling condensers.	180	8						-4	Sulphur; slight salt.		Several.	2 wells.
Do.		do.	do.		do.	do.	do.	do.	393	6	93					-7	Sulphur.			
Do.		do.	do.		do.	do.	do.	do.	406	6	90					-7	do.			
Do.		do.	A. W. Smith.		do.	do.	do.	do.	380	6	135					-7	do.			

Typical wells of Manatee County.

Nearest town or post office.	Direction and distance.	Owner.	Driller.	Date sunk.	Surface formation.	Geologic source.	Type of well.	Use.	Depth.	Diam-eter.	Casing.	Eleva-tion above sea.	Head—		Depth to rock.	Depth to principal supply.	Quality of water.	Depth to sec-ondsup-plies.	Yield per minute.	Remarks.	
													Above sea.	Above or below surface.							
Bradentown.	1 mile east.	Maj. A. J. Adams ^a .			Pleistocene.	Vicksburgian limestone		Irrigation, house.	Feet. 395	Inches. 3	Feet.	Feet. 14	Feet.	Feet. +19	Feet.	Feet. 347	Hard, sulphur	Feet.	Gallons. 150		
Do.	1 mile north.	Barrack.	W. W. Jacobs.	1905	do.	do.	Drilled.	Domestic.	381	3½		b 8		+18		370±	do.		Many.		
Do.		Bradentown Water-works Co.	Taylor & Sons.	1908	do.	do.	do.	Public supply.	410	6	270	b 20		+15		60, 80	do.		500	Forms scale in boilers.	
Do.		do.	do.	1908	do.	do.	do.	do.	427	6	270	b 20		+15		110, 180	do.		500	Do.	
Do.		do.	do.		do.	do.	do.	do.								60, 80, 110, 180	do.				
Do.	2 miles south.	L. S. Elliott.	Holcomb.	1908	do.	do.	do.	Stock.	500	4½-5	200					400	Sulphur.				
Do.		J. A. Fletcher.	Taylor & Sons.	1907	do.	do.	do.	Domestic and stock.	440	4		c 17		+		300	do.		100		
Do.		H. W. Fuller.			do.	do.	do.	do.	450								do.				
Do.		Manatee L. & P. Co.		1907	do.	do.	do.	do.	372	7		b 16		17½			do.		350		
Do.		do.			do.	do.	do.	do.	200			b 16		+			do.		Many.		
Do.		do.		1905	do.	do.	do.	do.	587			b 16		+			do.		Many.		
Do.		do.		1905	do.	do.	do.	do.	287	8	180	b 16		+	½		Sulphur.		200	Pumped with air lift.	
Do.		D. W. Turner.	E. J. Pettigrew.	1898	do.	do.	do.	do.	384	4	200±			+22		300-375	do.		Many.		
Cortez.		Mrs. J. C. Brutton.	L. Sims.	1907	do.	do.	do.	Domestic and stock.	420	3	163	b 2		+32		365	Sulphur; some salt.	140		Many.	Salt water at 90 to 100 feet.
Ellenton.		C. D. Fuller.	Jacobs.		do.	do.	do.	Irrigation.	360	4½		b 12		+25			Sulphur.		Many.		
Do.		C. S. Harlee.	C. A. Wimsett.		do.	do.	do.	do.	470	4½	160	b 12		+15		370	do.		Many.		
Do.	1 mile west.	J. J. Hurst.	do.		do.	do.	do.	do.	380	4½	250	b 14		+22		370	do.		Many.		
Do.	½ mile north.	E. Nichols.	Owner.		do.	do.	do.	do.	400	3	270	b 12		+25		200	do.	200	Many.		
Do.	do.	A. B. Ladlock ^a .			do.	do.	do.	Irrigation, house, stock	400	4		20		+20			Sulphur.		Many.		
Do.	do.	Mrs. E. Swift.	C. A. Wimsett.	1907	Pleistocene.	Vicksburgian limestone	Drilled.	do.	540	4½	327½	b 8	+30			453	Sulphur; very strong.	321		Many.	
Do.	do.	Alex. Watson.			do.	do.	do.	Irrigation.	380	4½		b 13		+20			Sulphur.		Many.		
Do.	do.		Williams.		do.	do.	do.	do.	382	3	282	b 13		+		293	do.	293+	Several.		
Do.	do.		Jacobs.		do.	do.	do.	do.	400	3		b 10		+17		350	do.	350+	Many.		
Do.	1 mile west.	D. M. Gibbs.			do.	do.	do.	do.	300					+20			do.				
Longboat Key.		Eason & Stearns.			do.	do.	do.	do.									do.				
Do.		A. W. Wallace.			do.	do.	do.	do.	400					+			do.				
Manatee.		Mrs. A. J. Adams.	Jacobs.		do.	do.	do.	Domestic and stock.	460±	3	400	b 10		+24		400	Sulphur.		Many.		
Do.		Central Hotel.	E. J. Pettigrew.	1904	do.	do.	do.	Hotel.	400+	4		b 15		+		263	do.		Few.		
Do.	1½ miles southeast.	Mrs. Minerva Coombs ^a .			do.	do.	do.	Irrigation.	350	3		10		+12		350	do.	50, 150	100		
Do.		D. B. Curry.			Pleistocene.	Vicksburgian limestone	Drilled.	do.	410	4½	265	b 26		+12½		320	Sulphur.		Many.		
Do.		Excelsior Ice Co.	W. D. Holcomb.	1907	do.	do.	do.	Cooling condensers.	407	5		b 20		+		2	do.		70		
Do.	1½ miles southeast.	S. C. Gates ^a .			do.	do.	do.	Irrigation.	286	3		Few.		+8			do.		40		
Do.	9 miles southeast.	Oscar Krause.	E. J. Pettigrew.	1908	Pleistocene.	Vicksburgian limestone	Drilled.	do.	385	5	21	12	15	+3		175	Hard.		150	Protective clay present.	
Do.	½ mile northeast.	Capt. Perkins.	Jacobs.		do.	do.	do.	Hotel.	400	6½	100	b 6		+30		210+	do.		Many.		
Do.	7 miles west.	A. J. Pettigrew.	Owner.	1899	do.	do.	do.	Irrigation.	364	3	200±			+		300	do.		Many.		
Do.	do.	do.	do.		do.	do.	do.	Stock.	368	4		9		+20		348	Hard.		150		
Do.		A. E. Stebbins.			Pleistocene.	do.	Drilled.	do.	80	2				+			do.		Few.		
Do.	½ mile south.	Wm. Richman.			do.	Vicksburgian limestone	do.	Drinking.	505	4½	260					505	Hard.				
Do.	½ mile southeast.	J. H. Viser.	E. J. Pettigrew.	1897	do.	do.	do.	Irrigation.	400	4	300	b 20		6	15, 30	300	do.				
Do.	do.	do.			do.	do.	do.	do.	300+	3		18		+20		300	do.		100		
Do.	½ mile east.	J. W. Wiggins.			Pleistocene.	Vicksburgian limestone	Drilled.	Domestic and irrigation	398	5	325	b 10		+20		320+	Hard.		150		
Osprey.	2 miles northwest.	F. E. Smith.		1908	do.	do.	do.	do.	367	3	165	b 10				22	do.		40		
Palma Sola.		C. N. Pettigrew ^a .			do.	do.	do.	Domestic and irrigation	352	3		12		+15		48	Sulphur.	120	30		
Palmetto.	3 miles north.	A. R. Bishop.	Olive.		Pleistocene.	Vicksburgian limestone	Drilled.	Domestic.	370	4	42	b 8		+2		300+	do.		Many.		
Do.	1 mile east.	Courtney Bros.	C. E. Hill.		do.	do.	do.	Irrigation.	520	3½	520	b 12		+15+		400	do.		140		
Do.	2½ miles north.	G. I. Dickie ^a .			do.	do.	do.	do.	386	3		16		+13		273	Hard, sulphur.	125	55		
Do.	1½ miles north.	W. O. Harrison.	C. A. Wimsett.		Pleistocene.	Vicksburgian limestone	Drilled.	do.	373	4½	252	b 15		+20		285+	do.		93		
Do.		S. S. Lamb.	C. E. Hill.		do.	do.	do.	Domestic.	415	3		b 12		+			do.		Many.		
Do.	1 mile north.	Manatee Lemon Co. ^a .			do.	do.	do.	Irrigation.	450	4		8		+10		200	Sulphur.	Several	20		
Do.	2 miles north.	Schuyler Poitesent ^a .			do.	do.	do.	do.	426	3		12		+4		185	Hard.	Several			
Do.	½ mile east.	R. F. Willis.	C. E. Hill.		Pleistocene.	Vicksburgian limestone	Drilled.	Domestic and stock.	600	3	300	b 6		+25		500	do.		100+		
Parish.	½ mile east.	F. D. Lowry.			do.	do.	do.	do.	550								do.				
Do.	do.	H. O. Lowry.		1907	do.	do.	do.	do.	582	6	150			+7			do.			No rock to bottom of casing.	
Do.	1 mile east.	J. Parrish.		1907	do.	do.	do.	Irrigation.	522	6	300	b 15		+16		500±	Hard.	300		Forms scale on casing.	
Do.	do.	R. E. L. Turner.			do.	do.	do.	do.	975			b 33		-1		300±	do.		Many.		
Do.		do.		1907	do.	do.	do.	do.	555	8	101	b 33		-2½		300-320	Hard.			No rock to bottom of casing.	
Do.		do.		1901	do.	do.	do.	do.	550	3	300	b 33		-2½		300-320	do.				
Sarasota.		A. W. Bradley.		1906	do.	do.	do.	Stock and drinking.	118	2		b 15		-5			Hard.				
Do.		David Backamon.			do.	do.	do.	Irrigation, etc.	252	4	407	b 3	18	15±			do.				
Do.		Col. J. H. Gillespie.			Pleistocene.	Vicksburgian limestone	do.	Domestic and irrigation	400±		30-50	b 15		+20±		400±	do.				
Do.		do.		1905	do.	do.	do.	Domestic and stock.	440±	4	120	b 5	+20±			400±	Sulphur.		Many.		
Do.	At wharf.	Harry S. Higel.			do.	do.	do.	do.	40			b 5		+			do.				
Do.		Ice, Fish & Power Co. ^a .			do.	do.	do.	Ice manufacturing.	128	4		15		-8		90	Iron, sulphur.	40-128			
Do.		J. H. Lord ^a .			do.	do.	do.	do.									do.				
Do.		do.			Pleistocene.	Vicksburgian limestone	Drilled.	Domestic.	400	6		20		+3		350	Hard, sulphur.	150+			
Do.		do.			do.	do.	do.	Public supply, domestic, and irrigation.	450±	4	30-50										

^a Water-Supply Paper U. S. Geol. Survey No. 102, p. 248.

^b Estimated.

^c By barometer.

Typical wells of Volusia County.

Nearest town or post office.	Direction and distance.	Owner.	Driller.	Date sunk.	Surface formation.	Geologic source.	Type.	Use.	Depth.	Diameter.	Casing.	Elevation above sea.	Head— Above sea.	Above or below surface.	Depth to rock.	Depth to principal supply.	Quality of water.	Depth to second supplies.	Yield per minute.	Remarks.
									<i>Feet.</i>	<i>Inches.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>		<i>Feet.</i>	<i>Gallons.</i>	
Beresford		O. J. Hill a						Drinking.	125	3										
Bulow		B. K. & B. Co. a						Irrigation and drinking.	120	2										
Coronado	1 mile north.	J. H. Dass.	Bellev & Milton.	1906	Pleistocene.		Drilled.	Drinking.	132	3	95	b 10		+ 2	90	90	Hard sulphur, magnesia	+ 90		
Do.	1 mile southwest.	J. Y. Detwiler a						Drinking.	105	3				+ 8			Sulphur.		50	
Do.		A. L. Miller.	Haven.	1907	Pleistocene.		Drilled.	Stock and drinking.	100	2	100(?)	b 10		+ 6	95	105	Hard sulphur, magnesia		25	
Do.		Town.						Drinking.	100			b 10		+ 2±			Sulphur.		1-2	
Daytona		About 400 wells a.						All purposes.	100-220	1½, 2, 3, 4		4-14		Abv. tide			do.			Flows only at high tide.
Do.		Dr. Bennett.	D. W. Winn	1900	Pleistocene.		Drilled.	Domestic.	112	2	85±	b 6		+ 11		90+	Sulphur, slight		Many.	
Do.		Blodgett.	Bellev & Milton.		do.	Vicksburgian limestone.		Domestic and stock.	158	3	87	b 3		+ 14		88+	Sulphur.		140	
Do.		Geo. H. Brown.	do.	1908	do.	do.	do.	do.	98	2	96	b 3		+ 14		98	do.		90	
Do.		Burgoyne.	do.	1901	do.	do.	do.	do.	164	4	85	b 3		+ 14		85+	do.		120	
Do.		do.	do.	1901	do.	do.	do.	do.	157	3	85	b 3		+ 14		85+	do.		90	
Do.		Bush estate.	do.	1891	do.	do.	do.	Domestic and drinking.	160	3	87	b 8		+ 14		115	do.		180	
Do.		City.	do.	1905	do.	do.	do.	Street sprinkling.	169	3	83	b 3		+ 14		83+	do.		180	
Do.		do.	do.	1905	do.	do.	do.	do.	157	3	84	b 3		+ 14		84+	do.		190	
Do.		do.	do.	1902	do.	do.	do.	do.	130±	2	85	b 5		+ 14			do.			
Do.		J. C. Combs.	Van Dorn.	1903	do.	Vicksburgian limestone.	do.	Steam.	145	4	84	b 3		+ 11		84+	Sulphur.	10-45	150	Forms scale.
Do.		Daytona Ice & Electric Co.	Bellev & Milton.		do.	do.	do.	do.									do.			
Do.		do.	do.		do.	do.	do.	do.	150	4	85	b 3		+ 11		85+	do.		Many.	
Do.		do.	do.		do.	do.	do.	do.	240	4	85	b 3		+ 11		85+	do.		Many.	Reported poor water.
Do.		Florida East Coast Ry.	do.	1886	do.	do.	do.	Not used.	280	4	84	b 4		+ 11		83+	do.		160	Corrosive.
Do.	2 miles north.	W. H. Heath a						Hotel.	125	2		b 6		+ 5	125		do.		88	
Do.		John Humphrey.	Bellev & Milton.	1906	Pleistocene.	Vicksburgian limestone.	Drilled.	do.	168	4	86	b 3	+ 14			86+	do.		120	
Do.		Geo. MacDonald.	Haven.	1906	do.	do.	do.	Domestic and stock.	112	2		b 8		+ 3+			do.		Many.	
Do.		Schmitz Villa.	Bellev & Milton.	1906	do.	do.	do.	Hotel.	157	4	84	b 5		+ 9		85-157	do.		90	Use hydraulic ram.
Do.		J. H. Donnelly.	do.	1907	do.	do.	do.	Domestic.	155	2	90	b 15		+ 4	90	155	do.		10	
Daytona Beach		E. C. Hibbard.	do.	1906	do.	do.	do.	do.	148	1½	94	b 19		+ 0	94	140	do.		4	Flows a little.
Do.	½ mile northeast.	Col. J. H. Shaffner.	do.	1907	do.	do.	do.	Domestic and power.	159	2	90	b 9		+ 2	90	149	do.		10+	Use hydraulic ram.
Do.		Mrs. Julia Stewart.	Wm. E. Bellev	1835	do.	do.	do.	Domestic.	140	1½					95	140				
De Land		W. B. Burgess a						do.	205	3										
Do.		J. T. Carnes a						Public supply.	126	3						350	Sulphur.		50	
Do.		City a	W. F. Hamilton.	1906	Pleistocene.	do.	Drilled.	Domestic and power.	485	6		b 101		- 22			do.			No action in boilers.
Do.		do.	do.	1896	do.	do.	do.	Public supply.	264	10	108	b 101		- 26			do.			Do.
Do.		do.	do.		do.	do.	do.	do.	490	6, 2		b 101		- 26		None below 26.4				
Do.		do.	do.		do.	do.	do.	do.	209	10	108	40-90				200	Sulphur.			
Do.		College Arms (hotel).	Wm. F. Burton.	1865	do.	do.	do.	do.	300	6	100	b 101		- 50	100	200±	do.			
Do.		College Arms (golf club).	do.		do.	do.	do.	do.	285	4		b 101		- 30	100	200±	do.			
Do.		Harriet Haines (well at Glenwood) a	do.		do.	do.	do.	House, stock.	170	4		80		- 70			Soft, sulphur.		Many.	
Do.		O. A. Hatcher a						do.	150	3										
Do.		G. W. Lancaster a						Irrigation, domestic.	272	2		60		- 34	140		Soft.		Several.	Many.
Do.		J. B. Stetson a						Irrigation, ice manu-	334	12		130		- 79			do.		Several.	Many.
Do.		facturing.						Medicinal, drinking.	100	2				+ 3	76	100				
De Land (Lake Beresford)	4½ miles southwest.	J. B. Taylor.						do.	290	6		50								
De Land (Lake Helen)		D. M. Hess a						do.												
De Land Junction.		Atlantic Coast Line	Merwin		Pleistocene.		Drilled.	do.	105-108			60+								
Enterprise	2 miles below.	Beresford Celery Co.		1907	do.	do.	do.	do.	104	4	104			+ 3			Sulphur.		Many.	
Do.	On sidewalk.	A. De Barry (3 wells).	A. F. Rossiter.		do.	do.	do.	do.	140±	2				+ 3			do.			
Do.		Mrs. Emma Jackson and A. M. Stead.			do.	do.	do.	Bottling.	29	2		10±		+ 3			Salt.			
Do.		do.			do.	do.	do.	do.	20	8		10±		+ 3+			do.			
Do.		do.			do.	do.	do.	do.	20	2		10±		+ 6+			do.			
Do.		Johnson & Sauls.			do.	do.	do.	do.	200±	2		40±		+ 0			Sulphur.			
Do.	Upper end of lake.	Theron Sauls.			do.	do.	do.	do.	116	2		40±		Several.			do.			
Do.	½ mile from end of lake.	do.		1907	do.	do.	do.	do.	135	2, 1½		40±		+ 12+			do.		Many.	All mud to 116 feet. Then shell, red clays, and rock.
Do.		do.			do.	do.	do.	Drinking.	75±	1½		40±		- 2			Chalybeate.			
Do.	2½ miles west.	do.			do.	do.	do.	do.	76	2		40±		- 2			do.		30?	
Do.		do.			do.	do.	do.	do.	99	2		40±		- 2			do.			
Do.		do.			do.	do.	do.	do.	99	2		40±		- 1½			do.			
Enterprise Junction.		E. A. Osteen.			do.	do.	do.	do.	110	1½				+			do.		Many.	
Enterprise (Lake Monroe).		R. S. Dickens & Bros. a						Irrigation and stock.	137	2		12		+ 10	97		Sulphur.		10	
Glenwood	1 mile northwest.	Bond Lumber Co.			Pleistocene.		Drilled.	do.	190					- 16		190				Water would rise 10 to 12 feet above river.
Do.		H. R. Geddes.			do.	do.	do.	Domestic.	135								do.			
Do.	1½ miles northwest.	Glenwood Celery Co.			do.	do.	do.	do.	60	3	60			+			Sulphur.			Do.
Do.		do.			do.	do.	do.	do.	60	3	60			+			do.			Do.
Hollyhill.	½ mile north.	M. F. Blitch.	W. E. Bellev	1907	do.	Vicksburgian limestone.	do.	Domestic and stock.	140	1½	80	b 6		Several.	60-80	130	do.		140	
Do.		do.			do.	do.	do.	do.	140	3	60			+ 5±			do.		Many.	
Do.		Will Blue.			do.	do.	do.	Domestic.	130-160								do.			
Do.	1½ mile northwest.	T. H. Cave a			do.	do.	do.	Domestic and irrigation.	163	1½		15		+ 3	89	163	Hard, sulphur.	89, 105	2	
Do.	1½ miles north.	L. M. Drake	Milton & Bellev	1905	Pleistocene.	Vicksburgian limestone.	Driven.	do.	105	2	85	b 9		+ 3	95	95	Sulphur.			
Do.		do.			do.	do.	do.	do.	135	1½				+ 7	85	135	Hard, sulphur, magnesia	10	15	
Do.	Near.	G. W. Harris a			do.	do.	do.	do.	110								Sulphur.		10	
Do.	1 mile north.	C. C. Malone.	Bellev & Milton.	1903	Pleistocene.		Drilled.	Domestic.	138	1½				+ 8	80	138	Hard, sulphur, magnesia	80, 135	16	
Do.	½ mile north.	C. F. Wetherell a			do.	do.	do.	do.	112	4		14		+ 5	80	112	Sulphur.	80	6	
Do.	½ mile north.	W. W. Wetherell a			do.	do.	do.	do.	96	2	76	b 5		+			do.		Few.	Corrodes pipes. Deerfoot Spring (well).
Lake Beresford.		J. B. Taylor.			Pleistocene.		Drilled.	Not used.												Several wells.
Lake Helen.	½ mile southwest.	E. G. Blake a			do.	do.	do.	House, barn, garden.	160	4		60		- 42	96	100	Hard.		7	
Do.		Bond Sand-Lime Brick Co.			Pleistocene.		Drilled.	do.	Av. 130 one 140.					- 28			do.			
Do.		do.			do.	do.	do.	do.	Av. 130					- 31			do.			Two or more wells.
Do.		E. M. Bond Co.			do.	do.	do.	Manufacturing starch.	227	7-6		70				96	Hard, sulphur.		115	
Do.		Lake Helen Mfg. Co. a			do.	do.	do.	do.	163	4	105	b 50			100	105	Hard.			
Do.	½ mile south.	G. P. Ware.	H. C. Haven.	1901	Pleistocene.		Drilled.	Domestic and stock.	238	4	158					70	Hard, little sulphur.			
Do.		G. W. Webster.	do.	1897	do.	Vicksburgian limestone.	do.	Abandoned.	125	2				+ 5			Sulphur.			
New Smyrna.		Maj. Wiley Abercrombie.			do.	do.	do.	do.	144	2							do.			
Do.		Alba Court Hotel.		1906	do.	do.	do.	Drinking.	145	3		Several.		+ Several.			do.		9	
Do.		do.			do.	do.	do.	Hotel.						+ Several.			do.			
Do.	North end of town.	J. J. Birch.			do.	do.	do.	do.	108		98					108	do.	90-100	Few.	
Do.		do.			do.	do.	do.	do.									do.			
Do.	St. Jungle Grove, 4 miles west.	W. E. Connor, No. 1.			do.	do.	do.	do.	110	2				+ 5			do.			
Do.		W. E. Connor, No. 2.			do.	do.	do.	do.	121	2				+ 5			do.			
Do.		W. E. Connor, No. 3.			do.	do.	do.	do.	118	2				+ 5			do.			
Do.		W. E. Connor, No. 4.			do.	do.	do.	do.	124	2				+ 5			do.			
Do.		W. E. Connor, No. 5.			do.	do.	do.	do.	125	2				+ 5			do.			
Do.	Osceola Grove, 2 miles north.	do.			do.	do.	do.	do.	109-115	2				+ 5			do.			Three wells.
Do.	Horn Grove.	do.		1906	do.	do.	do.	do												

