

No. 4.



Water analysis.

PROPERTY OF

FLA. STATE GEO. SURVY

Index.

Analyses made by Capt. T. E. Rose, State
Chemist. Pages 1 to 13, 19 to

Log of different wells. pages 50

Analyses from various sources 14,

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Quantities are expressed in parts per million.

Total Solids are dried @ 120° C.

When no loss on ignition is given there was no evidence of organic matter in total solids.

The following determinations were made: SO_4 , Cl , CaO , MgO , SiO_2 , Al_2O_3 & Fe_2O_3 , total solids & loss on ignition - volatile matter.

When any one of the above are not (given), reported they are absent.

#1 Water from well of Southern Pine Lumber Co. Expressed from Citra, Fla.

Slight Brown color, odorless, and considerable suspended matter. Normal taste.

Cl	—	—	14.77
SO ₄	—	—	47.70
SiO ₂	—	—	3.70
Fe ₂ O ₃	—	—	4.00
CaO	—	—	45.20
MgO	—	—	3.20
Total Solids	—	—	161.6 (Rapidly increasing in weight.



#2. Water from well of
3 mi. South of Citra, Fla.

Clear, odorless, and slight suspended
matter. Normal taste.

Cl.	_____	11.81	
SO ₄	_____	39.50	
SiO ₂	_____	3.60	
Fe ₂ O ₃	_____	absent	✓
Al ₂ O ₃	_____	absent	
CaO	_____	85.00	
MgO	_____	2.50	
Total Solids.	_____	209.00	(Rapidly increasing in weight).

#3. Water from "Oil well" near Crystal River.
Odor of H₂S (strong), disagreeable taste, slight
suspended matter, clear.

Cl	_____	903.9	
SO ₄	_____	2684.0	✓
SiO ₂	_____	30.0	
Fe ₂ O ₃	_____	absent	
Al ₂ O ₃	_____	"	
CaO	_____	1385.0	
MgO	_____	480.6	
Total Solids	_____	6474.0	

#4. Water from well of H. H. Redditt,
Citra, Fla.

Clear, odorless, perceptible taste - and
considerable suspended matter.

Al.	15.36
SO ₄	45.70
Si O ₂	4.50
Fe ₂ O ₃	absent
Al ₂ O ₃	"
Ca O	94.20
Mg O	4.50
Total Solids	228.1 (Rapidly increases in Ht.)

#5
No. 2 Duplicate sample of water from
Blue Springs, 3 1/2 mi. West of Bronson, Fla.

Al	35.07.
SO ₄	64.40
Si O ₂	5.70
Fe ₂ O ₃	absent
Al ₂ O ₃	"
Ca O	49.00
Mg O	10.50
Total Solids	196.80

Very abundant suspended matter, clear, odorless,
Taste normal.

#6. Water from Hoopes Broc. & Darlington's mill, Brooksville, Fla.

Shipped by E. H. S. Leesburg, Fla.

Total solids per million = 273.

Solids composed of CaCO_3 , NaCl , & MgSO_4 , set down according to relative preponderance.

no organic matter present.



#7. Water from well of Dibble & Earnest, Gustis, Fla.

Odorless, clear, normal taste, no suspended matter.

Al.	7.00
SO_4	11.52
SiO_2	19.00
Fe_2O_3	0.30
Al_2O_3	absent
CaO	32.00
MgO	6.88
Total Solids.	123.00
Volatile	9.00



#8.

From 190 ft. well at Ocala, Water Co., Ocala
Fla. Odorless, tasteless, small suspended
matter, + clear.

Al	19.85
SO ₄	179.40
SiO ₂	66.00
Fe ₂ O ₃	Absent
Al ₂ O ₃	12.00
Ca O	171.00
Mg O	37.33
Total Solids	652.00
Volatile	68.00
Non Volatile	584.00



#9. Demijohn. Dr. J. M. Posey. Hudson, Fla.

Foul odor, abundant suspended matter including roach wings + eggs and what would seem to be the hair + hide of a rat; very turbid.

Cl.	_____	73.02
SO ₄	_____	26.33
SiO ₂	_____	_____
Fe ₂ O ₃	_____	_____
Al ₂ O ₃	_____	45.00
CaO	_____	30.00
MgO	_____	12.99
Total Solids	_____	353.00
Volatile	_____	87.00
non volatile	_____	266.00

Solids on igniting chars and sparks, hence presence of NO₃.

Vol. matter smells like wool burning.

#10. Mailed E. H. S. Weinsdale, Fla.
Water has faint odor of oil of sassafras -
stopper is more so than water. This is
likely due to cork. Clear and some
suspended matter.

Water taken from Lake Weir.

Al. 31.90

SO ₄	9.87	
SiO ₂	1.30	
Fe ₂ O ₃	—	
Al ₂ O ₃	—	
CaO	6.00	
MgO	11.95	
Total Solids	187.00	95.02
Volatiles	34.00	
Non Volatiles	153.00	61.02

Small char on ignition of residue.

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Miscellaneous Examination and
Analyses. #540 to

#833.

Jug water from E. E. West's mill
at West Lake, Fla., (for Dr. E. H. Sellards)

Total Solids = 11.5 per H.T.

Loss on ignition = 4 " " "

7.5

Solids composed of organic matter,
NaCl, CaCO₃, MgSO₄,

Not fit for drinking.

#834. Jug H₂O for Dr. E. H. Sellards, from
Allapaha River.

Total Solids = 7.8 per H.T.

Loss on ignition = 6.2 " " "

Non vol. = 1.6 " " "

Composed of organic matter, CaCl₂,
CaSO₄, and MgSO₄.

Not fit for drinking.

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#850.

1 Gal jug H_2O taken from 2nd well owned by Graham Carter, Levyville, Fla., for Dr. E. H. Sellards, Geologist.

Total solids = 22.3 per H.2.

Solids are composed of $CaCO_3$, $NaCl$ and $MgSO_4$ and $NaSO_4$.

Water was clear and odorless.

Only trace of organic matter.

✓

2980.20
128.90
128.00
128.00
128.00
128.00
128.00
128.00
128.00
128.00

#11. From Salt Springs; Water #2.
Expressed from Citra, Fla. Odorless, saline
taste, and small suspended matter, clear.

Al. 1238.97.
SO₄ 360.44.
SiO₂ 30.00.
Al₂O₃ + Fe₂O₃ —
CaO 151.50.
MgO 193.30.
S.S. 5322.70.

5322.70
4900.00
2) 11230.7
5117.3
✓

#12. From Mrs. A. A. Thompson, Astor, Fla.
 Clear, odor H_2S , tasteless, & no turbidity.

Cl.	801.9
SO_4	107.5
SiO_2	11.0
$Al_2O_3 + Fe_2O_3$	—
CaO	233.0
MgO	89.6
J.S.	1793.0



#12. From Mrs. A. A. Thompson, Astor, Fla.
 Clear, odor H_2S , tasteless, + no turbidity.

Cl.	801.9
SO_4	107.5
SiO_2	11.0
$Al_2O_3 + Fe_2O_3$	—
CaO	233.0
MgO	89.6
T. S.	1793.0



#13. Salt Spring water #1. No 1.

Odor $\frac{1}{2}$ S, Saline taste, clear.

Cl.	1928.48.
SO ₄	295.50.
SiO ₂	10.00.
CaO	322.00. ✓
MgO	156.90.
T.S.	4908.00.

#14 Water from Ice plant well at Mayo, Fla.

Odorless, tasteless, clear.

Cl.	159.5
SO ₄	11.4
SiO ₂	
CaO	547.0
MgO	87.7
T.S.	1812.0

Copy:-

Received from B. F. Williamson, Gainesville, Fla.
 Sample from 8" well 1 mi N. Gainesville.

Classification - A carbonated calcic and magnesian
 water, temporary hardness 49.50 pts per mil.

	pts per mil.	Grain U.S. gal.
Total solids	306.00	17.85
Mineral matter	168.93	9.84
Organic matter (loss on ignition) (excl ^d CO ₂)	28.00	1.63
CaO (calcic carbonate 126.05)	78.61	4.80
MgO (magnesian " 74.46)	35.62	2.04
Silica	31.90	1.85
Iron + alumina oxides	1.70	.09
Sodium oxide (alkalin)	3.86	.22
Chlorine (NaCl 9.79)	5.93	.34
Sulphuric anhydride _(19.23) (Calcic Sulph)	11.31	.66
H ₂ S	1.72	.09

Free ammonia	none
Alb. "	0.01
Nitrates	trace
Nitrites	none
Oxygen required to oxidize	0.10.

H. Herzog, Chemist.

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Analysis of old or 375 ft. well of middle
Fla. Ice Co., Tallahassee, Fla., by
Atlantic Refining Co., Cleveland, O.

Lime	9.1	Grains per U.S. Gal.
MgO	5.7	" " " " "
H ₂ SO ₄	3.1	" " " " "
Al	1.4	" " " " "
Al ₂ O ₃ + Fe ₂ O ₃	0.6	" " " " "
Total solids	27.3	" " " " "

Analysis Otha Creek Lbr. Co., Otha Creek, Fla.		Grain U.S. Gal.
	parts per mil.	
Total solids	319.40	18.62
Organic matter	38.00	2.21
Mineral "	281.40	16.40
Carbonate of lime	238.20	13.88
" " magnesia	6.60	.39
Ferric oxide	8.00	.46
Alumina	2.00	.11
Silica	18.00	1.05
Chlorine (as NaCl)	6.10	.35

H. Herzog, Jr., Gainesville, Fla.
June 8 - 1903.

Panacea Springs.

Analysis Mineral Spring No. 1.

ONE U. S. GALLON, 231 CUBIC INCHES,
CONTAINS:

Sodium Chloride.....	135.979 gr.
Magnesium Chloride.....	16.354 gr.
Calcium Chloride.....	3.213 gr.
Sodium Sulphate.....	8.407 gr.
Magnesium Sulphate.....	4.441 gr.
Calcium Sulphate.....	3.213 gr.
Calcium Carbonate.....	20.475 gr.
Magnesium Carbonate.....	1.051 gr.
Ferrous Carbonate.....	0.882 gr.
Silicic Acid (si. O ₂).....	0.893 gr.
Alumina.....	Traces.
Org. matter, loss on ig.....	3.210 gr.

Total.....198.118 gr.

V. COBLENTZ, A. M., PH. D., PHAR. M.
NEW YORK.

Analysis Mineral Spring No. 2.

ONE U. S. GALLON, 231 CUBIC INCHES,
CONTAINS:

Chloride of Sodium.....	23.664 gr.
Chloride of Magnesia.....	15.080 gr.
Chloride of Calcium.....	0.870 gr.
Chloride of Potassium.....	5.452 gr.
Sulphate of Sodium.....	2.807 gr.
Sulphate of Magnesium.....	3.770 gr.
Sulphate of Calcium.....	0.382 gr.
Carbonate of Iron.....	0.672 gr.
Carbonate of Calcium.....	6.656 gr.
Alumina.....	0.197 gr.
Silica.....	0.348 gr.

Total.....58.898 gr.

Organic Matter, Traces.

V. COBLENTZ, A. M., PH. D., PHAR. M.
NEW YORK, NOVEMBER 29, 1898.

Analysis of Jacksonville City Water, by
Albert Ledde, Stephen Inst. Technology.
May, 19, 1898.

	Gr. U. S. Gal.	per mil.
Silica + insoluble matter	0.729	12.568
Alumina	0.047	.810
Carbonate of Lime	3.866	66.665
Sulphate of Lime	4.053	64.879
" " Magnesia	2.927	50.465
" " Soda	5.843	100.706
Chloride of Soda	4.811	82.948
	22.276	384.068
Per mil.		
Free ammonia	0.143	by Dr. Sillard
Albuminoid ammonia	0.0044.	



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Continuation of analyses made by State Chemist.

#15. Water from H. J. Dees well, Mayo, Fla.

Tasteless, slight odor H_2S , slightly turbid.

Cl.	58.8
SO_4	39.0
SiO_2	90.0
CaO	1105.0
MgO	733.2
T.S.	2510.0

#16. Water from Fenholloway Sulphur Springs.
Fenholloway, Fla.

Odor H_2S , Tasteless, Clear.

Cl	70.9
SO_4	640.5
SiO_2	50.0
CaO	920.0
MgO	420.0
T.S.	3282.0

#17 + 18 not copied. (invalid) 41

#19. Water # from city well, Palatka, Fla.
Sunk by E.S. Crill.

Odor H_2S , sulphur taste, clear.

Total Solids	_____	531.0
Cl.	_____	156.3
SO_4	_____	76.9
SiO_2	_____	18.0
CaO	_____	97.1
MgO	_____	43.3
Al_2O_3	_____	Trace
Fe_2O_3	_____	absent
CO_2	_____	7.2
HCO_3	_____	156.1

#20, Water #2 from Palatka City Water drawn from tap. sent by Dr. E. S. Cline.

Odor H₂S. Tasteless, Clear.

Cl	138.2
SO _x	66.9
SiO ₂	11.8
Al ₂ O ₃	trace
Fe ₂ O ₃	absent
CaO	101.8
MgO	39.1
CO ₂	10.8
HCO ₃	129.3
Total Solids	488.0

#21. Water from Blue Springs, Juliette, Florida.
Odorless, tasteless, clear.

Cl -	4.3
SO _x	9.0
SiO ₂	5.3
CaO	33.0
MgO	8.7
CO ₂	3.6
HCO ₃	115.9
T.S.	112.1

Considerable organic matter present.

#22. Water from Ocean House, Manatee.
Odorless, tasteless, clear.

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Cl	53.1
SO ₄	57.4
SiO ₂	36.0
CaO	75.0
MgO	26.4
CO ₂	16.8
HCO ₃	239.1
Sol. matter	34.0
Total solids	351.2

#23. Water from H. L. Widmeyer, New Smyrna.
Odor H₂S, saline + sulphur taste, clear.

Cl	836.6
SO ₄	7.8
SiO ₂	27.0
CaO	197.7
MgO	108.6
CO ₂	12.0
HCO ₃	209.8
T.S.	1980.0

#24. Water from Itasca/Lake Springs, sent by
N.H. Cox. 8/10/08. ⁴⁷

Odorless, tasteless, clear.

Al	5.3
SO ₄	9.5
SiO ₂	5.0
CaO	89.3
MgO	9.7
CO ₂	27.6
HCO ₃	420.9
Vol. mat.	48.1
T.S.	211.6

includes volatile matter

#25. Water from Newland Spring, Falmouth. (Pace & Co.)

Al	3.9	Odorless, tasteless, clear.
SO ₄	12.8	
SiO ₂	27.5	7/10/08
CaO	90.0	
MgO	19.0	
CO ₂	22.8	
HCO ₃	284.8	
Vol. matter	34.5	
T.S.	233.5	includes volatile

#26. Water from well Gainesville City Water Works,
 Gainesville, Sent by B. F. Miller. 8/10/08
 Odorless, tasteless, clear.

Al	10.6
SO ₄	5.5
SiO ₂	3.8
CaO	49.8
MgO	5.3
CO ₂	7.2
HCO ₃	255.5
Sol. Matter	24.3
J. S.	139.6

considerable char.

Induced to here June 18 1915

Log of H. H. Thurman well, Kissimmee, Fl.
Reported by A. A. Lott, driller. " "

0 to	149 $\frac{1}{2}$ ft.	Sand + Shell.
149 $\frac{1}{2}$ to	151 $\frac{1}{2}$ "	Rock.
151 $\frac{1}{2}$ to	231 "	Soft limestone + shell.
231 to	233 $\frac{1}{2}$ "	Flint rock
233 $\frac{1}{2}$ to	236 $\frac{1}{2}$ "	Cavity
236 $\frac{1}{2}$ to	244 "	Soft whitish clay substance
244 to	250 "	Cavity
250 to	268 "	Soft limestone + white clay sub. + cavities.
268 to	340 $\frac{8}{12}$ "	White clay, milky.
340 $\frac{8}{12}$ to	341 "	Flint rock.

Lost drill.

8" well 1 mile north of Esauville

went through

Dilled by J. D. Allen

Jan-1907

18 ft surface sand

7" coarse sand containing clay.

80 ft Blue clay mixed with gravel & small boulders.

37 ft clay, gravel & sand rocks at lower end.

6 ft soft rock then hard lime stone

Here we stopped casing had continued to
drill to 266 ft.

Water level - 128 from surface

5 water cavities

Given by

D. F. Williamson, Esq.

