

Eastern Part Alachua Co.



No. 8.



Commenced Aug. 10th 1907.

PROPERTY OF
FLA. STATE GEOL. SURVEY

Herman Gunter.
Indexed June 18. 1915.
Bradford & Baker Counties

7/15 1811

1.

Underground Water supply. General notes
for the County.

- 1.- Natural topographic divisions of the ~~State~~ ^{County}
- 2.- Characteristics of each division.
- 3.- Geological features of the County or of several divisions if differing materially.
- 4.- Geological formations exposed at the surface, and those formations encountered by borings.
5. The surface water wells of the county or of the several divisions of the county.
- 6.- The lime water wells of medium debth.
- 7.- Wells of exceptional debth.
- 8.- Springs of the County.
- 9.- Mineral indutstries of the county, including names of owners an address.

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UNDERGROUND WATER SCHEDULE

The following list enumerates the chief points to be considered in detailed hydrologic work. In folio work only the more general subjects need be covered.

GENERAL	
1	Sources of water in area under investigation.
2	Chief source for domestic use; for stock; for manufacturing; for irrigation.
3	Range of depth of wells.
4	Most common depth.
5	Quality of supplies.
6	Head of water.
7	Yield of wells.
8	Depth to rock.
9	Character of water beds.
10	Character of springs. (For individual springs, see "Springs.")
11	Public water supplies. (For individual supplies, see "Public Supplies.")
RESIDUAL SOILS	
12	Character of soils.
13	From what rock derived.
14	Waterbearing capacity.
15	Nature of transmission (seepage or open passages.)
16	Character and depth of wells.
17	Quality of water.
18	Pollution.
19	Quality obtained.
20	Seasonal variation.
21	Use (see "Wells.")
WATER IN QUARRIES	
22	Relation of quarry to drainage.
23	Protection from surface wash.
24	Character of stripping.
25	Kind and texture of rock.
26	Character of bedding planes.
27	Character of joints.
28	Presence of dikes, veins, cleavage, schistosity, etc., determining circulation.
29	Present circulation in pores, joints or bedding planes.
30	Weathering of joints and bedding planes and other indications of past circulation.
31	Solution effects.
32	Amount of water pumped from quarry.
33	Mode of entrance of water.
34	Effect of quarrying on wells.
WELLS	
35	Owner.
36	Town and county.
37	Exact location. (Town, range and section or distance and direction from postoffice.)
38	Driller and address.
39	Situation and elevation of well.
40	Type of well.
41	When completed.
42	Top and bottom diameters.
43	Material penetrated.
44	Depth of water beds.
45	Character of water beds.
46	Casing.
47	Head.
48	Kind of pump, if any.
49	Natural yield of well if flowing.
50	Yield to pump.
51	Increase or decrease of supply.
52	Effect of storms, etc. on well.
53	Chemical composition of water.
54	Samples taken or not.
55	Are analyses available?
56	Sanitary quality of water.
57	Pollution.
58	Uses; Washing, Cooking, Stock, Laundry, Steam boilers, Irrigation, Public supply, Industrial processes.
60	Does it corrode or incrust boilers?
61	Peculiarities of well or material penetrated.
62	Unsuccessful wells, if any.
63	Wells abandoned and cause.
SPRINGS	
64	Owner.
65	Location (see "Wells.")
66	Name of spring.
67	Color, odor, taste, etc.
68	Chemical composition.
69	Samples taken or not.
70	Are analyses available.
71	Pollution.
72	Mineral or other deposits.
73	Volume of flow.
74	Seasonal or weather fluctuations.
75	Temperature.
76	Surroundings.
77	Manner of emergence.
78	From what does water come?
79	Does it form a stream?
80	Utilization (see "Wells").
81	Behavior in boilers.
82	Medicinal properties.
83	Trade name of water.
84	Amount sold.
85	Retail price.
86	Improvements at spring.
87	Other points of interest.
PUBLIC SUPPLIES	
88	Owner.
89	Source.
90	From what distributed (reservoir, etc.).
91	Capacity of reservoir, etc.
92	Elevation of reservoir, etc., in relation to source and town.
93	How carried to distributing point.
94	How distributed (gravity, direct pressure, etc.).
95	Length of mains in miles.
96	Number of taps and fire hydrants.
97	People supplied.
98	Proportion of total population.
99	Describe source in detail (see "Wells" and "springs") etc.
100	How much is used daily.
101	Maximum capacity of pumps;
102	Effect of maximum pumping on supply.
103	Average vacuum. Vacuum during fires.
104	Domestic and fire pressures.
105	Sufficiency of water.
106	Restrictions as to use of water.
107	Chemical composition at source.
108	Sanitary conditions at source.
109	Analyses if any. Did you take samples?
110	Deposit or organic growths in reservoir or pipes.
111	Quality of water at taps.
112	Causes of pollution if any.
113	Uses (see "Wells").
114	Is supply entirely satisfactory?
115	Improvements or new sources contemplated.

Starke area.

1. Shallow wells & medium deep wells.
2. Drilled wells in Starke town, shallow wells mostly in country ^{& Springs} for stock same, for irrigation same.
3. From a few feet to 529 feet.
- 4.
5. Hard water from deep wells, soft from shallow, surface pond water often slightly acid.
- 6.
7. Deep wells not exhausted by pumping.
8. Variable, about 80 ft. at Starke.
9. Deep water from limestone, surface water from clays & sand
- 10.
11. Deep well for city of Starke.
12. Hard soil with clay beneath.
- 13.
- 14.
15. Seepage.
16. Shallow open dug wells, shallow driven wells, deep drilled wells.
17. Surface pond water discolored & often acid. wells of ^(20 to) medium depth) ending in sand & clay supply soft water. Deep wells supply hard water.

18.
19.
20.
21.
22. to 34 - no quarries.

Mills of Starke area.

No. 1.

35. Starke Ice Co.
36. Starke, Bradford Co.
37. $\frac{1}{4}$ mi. N. of P.O.
38. W. F. Hamilton
39. Situation level, above sea 150 ft. (S.A.L.)
40. Drilled.
41. 1906.
42. 6 in.
43. Rock at - feet.
44.
45. Limestone
46. Cased to rock.
47. Water stands within 26 ft. of surface.
48.
49.
50. 300 gal. per hour.

- 51
- 52
- 53
- 54
- 55
- 56
- 57

58. manufacture of ice.

well No. 2.

- 35, city of Stark
- 36, Stark. Bradford Co.
- 37. Near P. O.
- 38. Hughes & Co. Charleston S.C.
- 39. Level
- 40. Drilled
- 41. 1902
- 42. 8" at top, 6" at bottom.
- 43. Sand & clay to 80 ft. Limestone rock at 80 ft.
- 44. Near bottom of well, Total depth 529 ft.
- 45. Limestone
- 46. Cased 80 ft. to rock.
- 47. Water stands 79 ft. from surface.
- 48. Pumped by air lift.
- 49.
- 50.
- 51.
- 52.

Mr. H.E. Zoller grew
gins with lime in this well as
80 ft. See letter.

(4

58. City water supply.

The following is the analysis of the Heilbronn Mineral Waters, as made by Henry Leffmann, M. D., Philadelphia, Pa., chemist to the State Board of Health of Pennsylvania (Eastern District), chemist to the Dairy and Food Commission of Pennsylvania, and Food Inspector of the State Board of Agriculture of Pennsylvania.

The waters are tasteless, colorless and odorless.

ANALYSIS.

	GRAINS PER U. S. GAL.	
	Spring No. 1	Spring No. 2
Sodium chloride.....	2.08	1.42
Sodium carbonate.....	0.40	0.60
Potassium carbonate.....	0.20	
Potassium sulphate.....	0.17	
Calcium carbonate.....	5.13	5.83
Magnesium carbonate.....	0.20	3.73
Ferrous carbonate.....	0.33	
Silica.....	1.51	1.51
Nitrogen by permanganate.....	0.20	0.0011
Iron oxide and alumina.....		0.23
	10.22	13.32
GASES.		
Dissolved oxygen.....	0.92	0.67
Dissolved carbon dioxide.....	11.70	12.30

NOTE.—Heilbronn Water is free from organic impurities

Springs at Stark.

(5)

64. ~~Heilbronn mineral water Co.~~ W. E. Davis.
65. 5 1/2 N/W Stark.
66. Heilbronn mineral Springs
67. Colorless, odorless, no distinct taste.
68. Na Cl 2.08 Ferrous CO₂ .33
Na₂CO₃ .40 Silica 1.51
K₂CO₃ .20 N. by permanganate .20
K sulphate .17 Gases.
Ca CO₂ 5.13 Dissolved oxygen .92
Mg CO₂ .20 " CO₂ 11.70
69. not taken
- 70.
71. not liable.
72. no deposits
73. About 250 gals. per min.
74. Has none
75. 70° F.
76. Swampy, surrounded by many water oaks & stream
77. Boiling spring
- 78.
79. Forms stream
80. Bottled for sale. Drinking purposes mostly now.
- 81.
82. Has medicinal properties
83. Heilbronn mineral water.
- 84.
- 85.
86. Cypress trees surrounding spring & machinery near for bottling.
87. Additional improvements for bottling contemplated.

Public Supplies in Starks.

88. City of Starks.
89. Deep well.
90. Reservoir.
91. 40,000 gals.
92. 70 feet.
93. By pipes
94. Gravity.
95. 3 mi.
96. 115 taps. 33 fire hydrants.
97. 115 families
98. $5\frac{1}{2}$ population.
99. See well No. 2, above.
100. 150,000 gals.
101. 700,000 gals. pr. hr.
102. Supply not appreciably affected by pumping.
103. Provision for connecting mains with direct pressure.
104. Water sufficient.
105. No restrictions on use of water.
107. Sanitary conditions apparently good.

(7)
Wells at Hampton.

35. City of Hampton.
36. Hampton, Bradford Co.
37. Near P.O.
38. W. W. Spaulman, Waldo, Fla.
39. Level. 146 ft. above sea.
40. Driven well
41. 1907.
42. Two inch
43. ~~Limestone~~, Sand, clay & Limestone.
44. 66 feet.
45. Limestone.
46. Cased 55 ft.
- 47.
48. Hand pumped.
- 49.
50. General purposes.

Section of well, one mi. W from Hampton
owned by Eli Hicks.

Sand 4 feet.

Light colored, plastic clay 13 feet.

Sand 15 feet.

Stark Area cont'd.

(8)

Lawley Section. Wells.

35. Bradford Lumber Co.
36. $2\frac{1}{2}$ mi. north of Lawley on S.A.L. Bradford Co.
37. $2\frac{1}{2}$ mi. north Lawley.
- 38.
39. Level but low flat woods.
- 40.
- 41.
- 42.
- 43.
- 44.
- 45.
- 46.
- 47.
- 48.
- 49.
- 50.
- 51.
- 52.
- 53.
- 54.
- 55.
- 56.
- 57.
- 58.
- 59.
- 60.

Record not to be had.

Lake Butler area.

(9)

Wells.

35. W. A. Epperson.
36. Lake Butler, Bradford Co.
37. $3\frac{1}{4}$ c. post-office
38. Work done by owner.
39. Level.
40. 2" tubular driven. 35 ft. deep.
41. 1907.
42. 2"
43. Sand, clay + sand to rock.
- 44.
45. Slight sulphur
- 46.
47. Water stands at 23 ft. from surface.
48. Hand pump.
- 49.-57.
- 58 Household purposes + stock.

Small springs around Lake Butler.

Chase Spring, owned by Mr. Odorn,
about $\frac{3}{4}$ mi. $\frac{5}{2}$ town on G.S. & F.

Richard Spring, owned by O. G. Richard,
about $1\frac{1}{4}$ mi. E. town

James Spring, owned by Mr. Coffin, about
1 mi. $\frac{5}{2}$ town.

Worthington Springs.

(11)

64. J. W. Wells. Lake Butler, Fla.
65. $\frac{1}{4}$ mi. S.W. of post. office, at Worthington, Fla.
66. Worthington Springs.
67. Colorless, Sulphur. Sulphur.
68. S. Fe. mg.
69. none
70. no.
71. not very liable.
72. Some sulphur.
73. 150,000 gals. per min.
74. not affected
75.
76. Hill on one side, Santa Fe river on other, rather low, swampy.
77. Boil
78.
79. Flows into Santa Fe river.
80. Drinking & bathing purposes.
81. Not used for such.
82. Has medicinal properties
83. Worthington Springs Mineral Water.
84.
85.
86. Bath houses, & concrete pool 45 x 60.
87.

Providence area.

(12

Wells. #1

Blair, Fla.

35. H. S. Crawford.
36. Blair, Bradford Co. P. O. Dukes, Fla. R. F. D. #1
37. $\frac{1}{4}$ mi. E of Town store.
38. Tom Fielder, Alachua, Fla.
39. Nearly level
40. 2" well
41. Jan. 1899.
42. 2"
43. Sand $3\frac{1}{2}$ ft. Clay 6 ft. Rock $93\frac{1}{2}$ ft.
- 44.
45. Slight line
46. Entire
47. Stands 85 ft. from surface.
48. Hand Force pump.
- 49-50
51. Not affected by pumping.
- 52-55.
56. Good.
57. Not liable
58. Household purposes & stock.

Wells, cont'd.

no. 2 of Providence area.

35. C. M. Olgatt.
36. Providence, Bradford Co. Post office Lulu P. O. #1
37. $1\frac{1}{4}$ mi. ^{N. of} W. of Town.
38. E. H. McSwane, Lake City, Fla.
39. Well no. 1 on slight ~~aslope~~ north.
40. 2 in
41. 1892.
42. 2 in
43. Sand 2 ft. stiff clay 10 ft. soft clayey substance until struck rock, penetrated medium hard rock about 2 ft.
44. Stands 50 ft. from surface. 62 feet deep.
- 45.
46. Entire
47. Stands 50 ft. from surface
48. Hand pump.
- 49.
50. Inexhaustable.
51. Not.
52. -55.
53. Good
54. Not ~~the~~ good location, near stock barn
55. Household purposes, stock, etc. This well used mostly for stock, being near the barn.
- Wells # 2 & 3 more for household in general.

Wells cont'd.

No. 3. Providence area.

- 35. C. M. Clyatt
- 36. Providence, Bradford Co. R.F.D. #1. Lulu.
- 37. $1\frac{1}{4}$ mi. ^{NE} of town.
- 38. C. M. Ray, Leno City, Fla.
- 39. Elevation, slope westward, No. 2.
- 40. 2 in
- 41. 1905
- 42. 2 in
- 43. Sand 6 ft. clay 12 ft. soft clayey substance to rock
penetrated rock about 2 ft.
- 44. 72 ft.
- 45. Has slight lime taste.
- 46. all.
- 47. Stands 65 ft. from surface. 72 feet deep.
- 48. Hand pump.
- 49.
- 50. inexhaustible.
- 51. none
- 52-55
- 56. Good
- 57. not liable
- 58. General household purposes, stock.

Wells, conti

Providence area. No. 4.

35. C. M. Cyatt.
36. Providence, Bradford Co. R. F. D #1 Lulu
37. ^{no. 1} 1 1/4 mi. W. town.
38. C. M. Ray, Lake City, Fla.
39. On hill
40. 2 in.
41. 1905.
42. 2 in.
43. Sand 2 ft. clay 10 ft. soft clayey substance to core.
44. 68 ft. deep.
45. Has slight lime taste as others.
46. All
47. Stands 61 ft. from surface. 68 ft. deep. went to flint rock.
48. Force pump.
- 49 - 50
51. inexhaustable.
52. none
- 53 - 55
56. Good
57. none
58. Household purposes,

Wells cont'd. Providence area. No. 5. (16

35. W. O. Clyatt. No. 1
36. Providence, Bradford Co. R. F. D. No. 1 Lulu
37. $1\frac{1}{4}$ W. town.
38. C. M. Ray. Lake City, Fla.
39. Gradual slope westward, near house on hill
40. 2 in
41. 1898
42. 2 in
43. Sand 6 ft. Clay 20 ft. Sand 38 ft. lime + flint rock
40 ft. 104 ft. deep.
44. 104 ft.
45. Slight lime taste, nearly free.
46. 2 in casing 84 ft. $1\frac{1}{2}$ in casing to bottom, (20 ft) 104 ft. deep
47. Stands 93 $\frac{1}{2}$ ft. from surface.
48. Force pump.
- 49.
50. Unhaustable.
51. none
- 52-55.
56. Good, reported.
57. not liable, but near stable which lies on slope below well.
58. General household purposes + stock.

Wells cont'd. Providence area No. 6

35. W. O. Clyatt. No. 2
36. Providence, Bradford Co. R. F. D #1 Under
37. $1\frac{1}{4}$ mi. N of town.
38. C. M. Ray, Lake City, Fla.
39. On slight slope westward, farther down than #1
40. 2 in
41. 1906
42. 2 in
43. Sand 6 ft. Clay 63 ft. Lime + Flint rock 12 ft.
44. 81
45. Slight lime
46. all.
47. 70 feet from surface. 81 feet deep.
48. Hand pump.
49. -
50. -
51. None.
- 52-55.
56. Good.
57. not viable.
58. Household purposes only.

Wells cont'd. Providence area.

no 7. (18

35. T. B. M. Gay.

36. 2 1/2 mi. S/w Providence R. F. D. #, Lulu

37. —

38. Julius Thomas. High Springs, Fla.

39. Level or nearly so.

40. 2 in

41. 1897

42. 2 in

43. Clay 20 ft. Rock 40. (rather soft) under top. 60 deep

44. 60

45. Slight lime.

46. All

47. Stands 53 ft. from surface.

48. Force pump

49.

50. Inexhaustable.

51. In wet season seems to be slightly affected.

52. - 55.

56. Good

57. Not liable

58. General Household purposes + stock.

Wells cont'd Providence area. No. 8.

35. A. H. Williams.

36. $4\frac{1}{2}$ mi. $\frac{3}{4}$ E. Providence. P.O. boxes TR 50 #1,

37.

38. Henry Thomas, Alachua, Fla.

39. Level

40. $2\frac{1}{2}$ in

41. 1900

42. $2\frac{1}{2}$ in

43. Sand Clay Rock

44.

45. Hard water.

46. Cased within 2 ft. of bottom.

47. Stands 60 ft. from surface. 72 ft. deep

48. Force pump, gasoline engine.

49.

50. Inexhaustible.

51. Can not be noticed.

52-55.

56. Good, in good location not far from house.

57. Not.

58. General household purposes.

Wells contd. Providence area.

(20
1509

35. L. B. Dees.
36. $4\frac{1}{2}$ $\frac{1}{2}$ Providence. P. O. Duesel, RFD #,
- 37.
38. Henry Thomas, Alachua, Fla.
39. Level
40. 2 $\frac{1}{2}$ in tubular
41. 1894.
42. Same as top 2 $\frac{1}{2}$
43. Sand Clay Rock
44. 75
45. Hard water
46. Cased within 2 feet of bottom.
47. Stands 70 ft. from surface. 75 ft. deep.
48. Force pump.
- 49.
50. Inexhaustible by pumping
51. not appreciable
- 52.-55.
56. Good, away from barns etc.
57. not.
58. Household purposes & stock.

Wells contd. Providence Area. No. 10.

35. J. W. Nessmith.

36. $4\frac{1}{2}$ mi. $\frac{3}{4}$ E. Providence. P.O. Dussac, RFD #1,

37.

38. Tom Fielder, Alachua, Fla.

39. Level

40. $2\frac{1}{2}$ in tubular.

41. 1907

42. $2\frac{1}{2}$ in

43. Sand Clay Rock 30 ft.

44.

45. Slight line & sulphur.

46. All

47. Stands 78 ft from surface. 85 ft. deep.

48. Force pump.

49.

50. Unexhaustable by pumping.

51. Reported good & not effected.

52. ~~55 ft. depth~~

56. Reported good.

57. In good location.

58. General household & stock.

Wells contd. Providence area. No. 11

35. B. W. Dees.
36. $4\frac{1}{2}$ mi. $\frac{1}{2}$ E. Providence. P.O. Butler RFD #,
- 37.
38. Tom Fielder, Alachua, Fla.
39. Level
40. $2\frac{1}{2}$ in tubular
41. 1900
42. $2\frac{1}{2}$ in
43. Sand Clay Rock.
- 44.
45. Lime
46. All
47. Stands ? ft. from surface. 130 ft. deep.
48. Pitcher pump.
- 49.
50. Inexhaustable to pump.
51. none.
- 52-55
56. Good
57. not liable
58. General household purposes.

Wells contd. Providence area. No. 12

35. Jack Price

36. $4\frac{1}{2}$ mi. $\frac{1}{2}$ Providence. O. O. Husko, RFD #1

(24)

General for Lake Butler area.

1. Shallow wells, only one deep (medium) well found in area, under investigation.
2. Surface wells & small springs, for stock same. no irrigating plants.
3. Surface wells, 20 to 30 ft.
- 4.
5. Soft water, streams very slightly acid.
- 6.
7. The deep well inexhaustable by pumping.
- 8.
9. Mostly from sand & clay.
10. Only small springs in this area.
- 11.
12. Sand soil with clay beneath, clay often exposed
- 13.-14.
15. Seepage.
16. Shallow open dug wells, & shallow driven wells.
17. Pond water discolored, surface well water soft.
- 18-21
- 22-34, No quarries.

Not:

Providence is situated in western Bradford Co, near the boundary line between ~~the~~ Bradford & Columbia Cos, the Olustee Creek, in a very important cotton growing section. The country surrounding it is of a rolling nature and clay soil. There are some surface streams leading to Olustee Creek. It is to be noted also that in this part of the county the natural sinks occur, and seem to occur along the border of this Olustee Creek.

General for Providence Area.

1. Shallow wells, medium deep wells.
2. Shallow wells. for stock same.
3. From a few feet to 104 feet.
- 4.
5. Soft for shallow wells, lime with sometimes a little sulphur for deep wells.
- 6.
7. Deep wells inexhaustably by pumping, shallower wells often dry in dry seasons.
8. Variable, ranging between 60 + 70 feet in the vicinity of Providence.
9. Deep wells, mostly from lime & flint rocks.
- 10.
- 11.
12. Clay soil.
13. 14.
15. Lepage, apparently, and streams leading to Olustee Creek.
16. Shallow open dug wells and medium deep wells, same wells.
17. Soft for shallow, slightly hard for deep wells.
- 18-21
- 22-34. No quarries in area.

General for Brooker area.

(26)

1. Surface wells mostly, medium deep wells.
2. Shallow wells; for stress same.
3. From few feet to about 83 ft deep.
4. From 20 to 25 feet.
5. Mostly soft water.
- 6.
7. Deeper wells inexhaustible.
8. Variable, according to records from 20 to 40 ft.
9. Mostly soft water, even the deeper wells.
- 10 - 11
12. Sandy, usually from 10 to 18 ft. to clay.
13. - 14.
15. Seepage mostly.
16. Shallow open dug wells, deeper driven ^{drilled} wells.
17. Soft water from shallow wells, lime or mineral water from deep wells. Stream water often acid.
- 18 - 21
- 22 - 34. No quarries in area.

Note:-

Brooker & Ward City same place.
P.O. R.R. station

Brooker is located in Southern part of Bradford Co. on the rail-road, in a low flat woods country. It is only within the past two years that deeper wells have been put in and previous to this time typhoid fever was quite prevalent, even now, at this time Aug. 1907, typhoid fever was in the town but attributed to surface water wells. One man in particular, Mr. Shiver, said that before he had his well he had a great deal of fever, even typhoid, but since that time his family had always had excellent health. The drainage in the area leads to the Santa Fe river.

(27)

Brooker Area.

Wells, 100.1

35. John Shiver.

36. Brooker, Bradford Co.

37. Near post-office

38. C. F. Wilson, Brooker, Fla.

39. Level.

40. $1\frac{1}{4}$ in tubular.

41. 1905.

42. $1\frac{1}{4}$ in

43. Sand 18 ft. clay 8 ft. sand 5 ft. clay 3 ft. sand 4 ft. sand rock 5 ft. pebble pas. 10 ft. soft rock 2 ft.

Has marl 4 ft. white phos. (soft) 10 ft. sand 8 ft. clay 2 ft.

44.

45. Mineral water, has lime taste.

46. Cased to clay last strata. drilled 12 feet below casing

47. Stands 68 ft. from surface, 83 ft. deep.

48. Force pump.

49.

50. Inexhaustable.

51. not.

52-55.

56. Good

57. In good location.

58. Used for drinking only.

Well, #2.

35. C. B. Stephenson.

36. Brooker, Bradford Co.

37. $\frac{1}{2}$ mi. S post-office.

38. C. F. Wilson, Brooker,

39. Well, sloping to south.

40. 2 in tubular

41. 1906.

42. 2 in

43. Sand 3 ft. clay 20 ft. sand + lime rock 6 ft.
sand $1\frac{1}{2}$ ft. clay phos. 13 ft.

44.

45. Soft water.

46. Cased 36 ft.

47. Stands 26 $\frac{1}{2}$ ft. from surface

48. Hand pump #3.

49.

50. Inexhaustable by pumping.

51. Not.

52-55.

56. Good.

57. Not near barn or such.

58. Household purposes + stock.

Well #3.

35. J. A. Jones.
36. Brooker, Bradford Co.
37. 1 mi. $\frac{N}{W}$ Brooker.
38. C. F. Wilson. Brooker.
39. Level.
40. 2 in
41. 1906.
42. 2 in
43. Sand 10 ft. clay 10 ft. soft phosphate 8 ft.
substance look like yellow ochre 2 ft.
- 44.
45. Soft water
46. Cased 28 ft.
47. Stands 20 ft from surface.
48. Hand pump.
- 49.
50. Inexhaustible.
51. None.
- 52-55.
56. Good.
57. not liable.
58. Household purposes + stock.

Well #4.

(30

35. Mrs. Fannie Knight.
36. Brooks, Bradford Co.
37. $\frac{1}{4}$ mi $\frac{N}{E}$ post-office
38. C. F. Wilson, Brooks.
39. Slight slope.
40. 2 in tubular
41. 1905
42. 2 in
43. Sand 18 ft. clay 10 ft. sand 4 ft. clay 5 ft.
dry sand 8 ft. clay 4 ft. rock (not penetrated).
- 44.
45. Slight line.
46. Cased to rock
47. Stands 30 feet from surface.
48. Hand pump #2
- 49.
50. Inexhaustable to pump -
51. none.
- 52-55.
56. Good.
57. not near anything that would cause pollution
58. Household purposes + stock.

Well #5.

35. Mrs. J. S. Lewis.
36. Brooks, Bradford Co.
37. 1 mi N. post-office
38. C. F. Wilson, Brooks, Fla.
39. Level.
40. $1\frac{1}{4}$ in
41. 1905.
42. $1\frac{1}{4}$ in
43. Sand 13 ft. "Hand pump" 5 ft. Quick sand to cavity.
- 44.
45. Soft water.
46. Cased to cavity.
47. Water stands 12 ft. from surface.
48. Hand pump.
- 49.
50. Inexhaustable to pump.
51. None
- 52-55.
56. Good.
57. In good location.
58. Household purposes & stock.

Well #6.

35. Osgood Greene.

36. Brooker, Bradford Co.

37. $3\frac{1}{2}$ mi $\frac{1}{2}$ P.O.

38. C.F. Wilson, Brooker, Fla.

39. Level, very flat.

40. 2 in

41. 1906.

42. 2 in

43. Sand 18 ft. clay 4 ft. pebble rock $2\frac{1}{2}$ ft. very coarse sand to cavity.

44.

45. Soft.

46. Cased to sand or

47. Stands $\$$ 20 ft. from surface

48. Hand pump #3.

49.

50. Inexhaustable.

51. none.

52-55

56. Good.

57. Not liabh.

58. Household & stock.

Well #1

35. J. H. Wilson

36. Brooker, Bradford Co.

37. Near post-office, E.

38. C. F. Wilson, Brooker, Fla.

39. Level.

40. 2 in tubular

41. 1906.

42. 2 in

43. Sand 10 ft. clay 20 ft. Sand + clay 20 ft.
clay 15 ft.

44.

45. Doft.

46. Cased 35 ft.

47. Stands 28 ft. from surface.

48. Hand pump.

49-50. Inexhaustable.

51. Seemingly a decrease in very dry season.

52-55

56. Good.

57. Not.

58. General household & stock.

Well #8

35. J. G. Colson

36. Brookers, Bradford Co.

37. $3\frac{1}{2}$ mi. N. Brookers.

38. C. F. Wilson, Brookers, Fla.

39. Slope, edge of hummock.

40. 2 in

41. 1907

42. 2 in

43. Band 15 ft. clay 15 ft. dry sand 7 ft. black
loamy substance 5 ft. pebble sand 2 ft.

44.

45. Soft.

46. Cased 35 ft.

47. Stands 24 ft. from surface.

48. Hand pump.

49.

50. Inexhaustable.

51. None

52-55.

56. Good.

57. Not.

58. Household purposes & stock.

Notes:-

The water supply at Melrose is almost entirely from surface wells, the deepest well on record being 58 ft. The water level in the wells seems to be the same as the level of Santa Fe lake, since the level in the wells is affected according to rise or fall of lake. There is no rock exposed in the Melrose area so far as can be ascertained, and no natural sinks occur. The Santa Fe lake has two outlets, - one to St. John's River and thence to the Atlantic ocean, and one to the Santa Fe river and thence to the Gulf of Mexico. The lake is fed almost entirely by springs, have streams of no consequence feeding it. Several wells near the border of lake are sulphur and apparently there is a sulphur chain reaching to Calatka and then along the St. John's river south. One spring near post-office Sta is reported to have medicinal properties, and gives and abundant supply of good sulphur-mineral water.

Melrose Area.

Springs:-

64. E. F. Ford,
65. Melrose, Putnam Co. Near post-office Sta 1/2 m
66. Ford Spring.

67. Colorless, sulphur odor, no decided taste, except sulphur.
68. Total solids from 100,000 parts = 4.8 parts.

Composed of:-

Sulphate of lime

Sulphate of magnesia

Sodium chloride

Trace of iron and ammonia.

" " organic matter.

69. No.

70. From State Chemist

71. No, in low places where other water can enter.

72. none.

73.

74. not.

75.

76. Hummock, very low & wet around spring.

77. Several small bolls.

78. In putting a 2 in pipe down 40 feet the only
struck rock which was not, however, penetrated.

79. Spring streams flow into Melrose lake.

80. Drinking only.

81. Reported to have medicinal properties.

Note:

Melrose is situated just at the dividing line of ~~three~~ counties, Alachua, Putnam, Clay, The main street being one of the division lines.

The whole eastern end of Alachua County is very sandy soil, clay exposed in some fine places but as a usual rule lies from 2 to 10 feet below the surface.

Wells # 1

- (36)
35. C. P. Heyman.
 36. Melrose, Clay Co.
 37. New post-office $10\frac{1}{2}$.
 38. Henry Lewis, Gainesville, Fla.
 39. Lurch.
 40. $1\frac{1}{2}$ in driven well.
 41. 1897.
 42. $1\frac{1}{2}$ in.
 43. Sand 8 ft. Clay 18 ft. White Sand 24 ft.
 - 44.
 45. Soft.
 46. 50 ft. Brick curb through fine sand to clay.
 47. Stands 38 ft. from surface.
 48. Hot air pump.
 - 49.
 50. Intoxicated.
 51. Not.
 - 52-55.
 56. Look.
 57. Not.
 58. General was for the hotel & stock.
 63. Abandoned on account of expense to run pump when the town supply was cheaper.

61. Water seemed to have a great deal of iron in it, necessary to have pipel replaced several times while in use.

Well #2.

35. C. P. Huffman.
 36. Melrose, Alachua, Co.
 37. 900 ft. N. post. office
 38. John Mizelle, Alachua, Fla.
 39. Dip North to lake.
 40. $1\frac{1}{4}$ in driven
 41. 1892.
 42. $1\frac{1}{4}$ in
 43. Sand 7 ft. clay 8 ft. sand 7 ft. 22 ft. deep.
 44.
 45. Hands. jet from surface
 46. Sulphur water
 46. All
 48. Force pump.
 49.
 50. Unworkable.
 51. Not.
 52-55.
 56. Good
 57. Not
 58. General household.

Well #3.

35. Harry Jackson.
36. Melrose, Alachua Co.
37. near post-office west.
38. Harry Jackson, Melrose, Fla.
39. Level.
40. 3 in
41. 1906.
42. 3 in
43. Sand 8 ft. Clay 12 ft. sand 25 ft.
- 44.
45. Soft.
46. All
47. Stands 30 feet from surface
48. Pumped by gasoline engine.
- 49.
50. Inexhaustible by pumping.
51. Effected by lake, according to rise or fall.
- 52-55.
56. Good, as reported.
57. not.
58. For household and recently supplies
some few families and hotel in town.

Well # 4.

35. Town of Melrose.
36. Melrose, Putnam Co.
37. Near post-office E.
38. L. M. Baldwin, Melrose, Fla
39. Lined
40. $1\frac{1}{4}$ in driven
41. 1907 in June
42. $1\frac{1}{4}$ in
43. Sand $6\frac{1}{2}$ ft. Clay 22 ft. sand $12\frac{1}{2}$ ft.
- 44.
45. Soft. sulphur & iron taste.
46. All, brick cut to clay.
47. Stands 32 ft. from surface.
48. Force pump.
- 49.
50. Inexhaustible.
51. Not.
52. 55.
53. Good
54. Liable if no improvement made soon around well.
55. For convenience of public & town.

Wells.

Hawthorn Area.

35. Town of Hawthorn.

36. Hawthorn, Alachua.

37. near post-office.

38.

39. Level

40. 4 in

41. 18 86

42. 4 in

43. Sand 5 ft. clay 8 ft. sand 20 ft. rock
clay, flint rock.

44.

45. Soft water.

46. Cased to flint rock about 90 ft.

47. Stood 28 feet from surface.

48-49-50

51. Supply seemed to decrease after well
was bored deeper.

52-55.

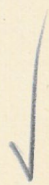
63. Broken drill and unsatisfactory
machinery caused them to abandon same
before completed. Well was never in use.
About 80 or 90 feet they struck an abundance of water
which came within 9 feet of surface, after going deeper
however, the water sank to about 28 feet of surface.

Hawthorn area.

Springs.

64. R. C. Brown, Grove Park, Fla.
 65. 1 mi. S. post-office.
 66. Magnesia Spring.
 67. Colorless, odorless + tasteless. Slight sulphur.
 68.
 69. Not.
 70. Yes.
 71. Yes, no improvement and in bad condition.
 72. None.
 73. 150,000 gals. per hour.
 74. Hardly noticeable.
 75. 73° F?
 76. Swampy
 77. Boil
 78.
 79. Flows from branch to Locksloss Creek and Creek flows to Locksloss Lake.
 80. Drinking purposes, bath house and other improvements all decayed.
 81-82 - medicinal properties reported.
 86. Owners given up improving same, abandoned.

(a) 150,000 (2500)
 150
 300
 300



General for Eastern border Alachua Co.

1. Shallow wells, & springs & med. deep wells.
2. Shallow wells for domestic use; for stock same.
3. From few feet to about 58 ft.
4. About 20 to 25 ft.
5. Nearly all soft water.
6. Deeper wells seem to be inexhaustable, while shallow or surface wells are affected by the seasons.
7. Variable, one layer of rock about 35 ft. from surface at Hawthorn.
8. Surface water from clays & sands.
9. Only small springs (2) in this area.
- 10.
11. Sandy with clay sub-soil. Often clay is exposed at surface,
12. -14
13. Seepage, mostly.
14. mostly surface, open dug wells.
15. Soft.
16. Liable.
17. Some localities good, others not so good.

(43)

20. Surface wells are often dry in dry season.

21.

22-34. no quarries in this area.

General for Barker Co.

(44

1. Shallow driven wells, & open dug wells.
2. Shallow driven wells for domestic use, for stock same.
3. From 20 to 30 ft.
4. About 20 feet.
5. Soft water.
- 6.
7. Depends on the seasons entirely with these surface wells.
- 8.
9. From clays and sands.
- 10-11.
12. Mostly sandy at surface, very little clay exposed. Clay sub-soil.
- 13-14.
15. Beepage.
16. Many driven shallow wells, open dug wells.
17. Soft.
18. Liable.
- 19.
- 20.
- 21.
- 22-34. no quarries in this area.

(45)

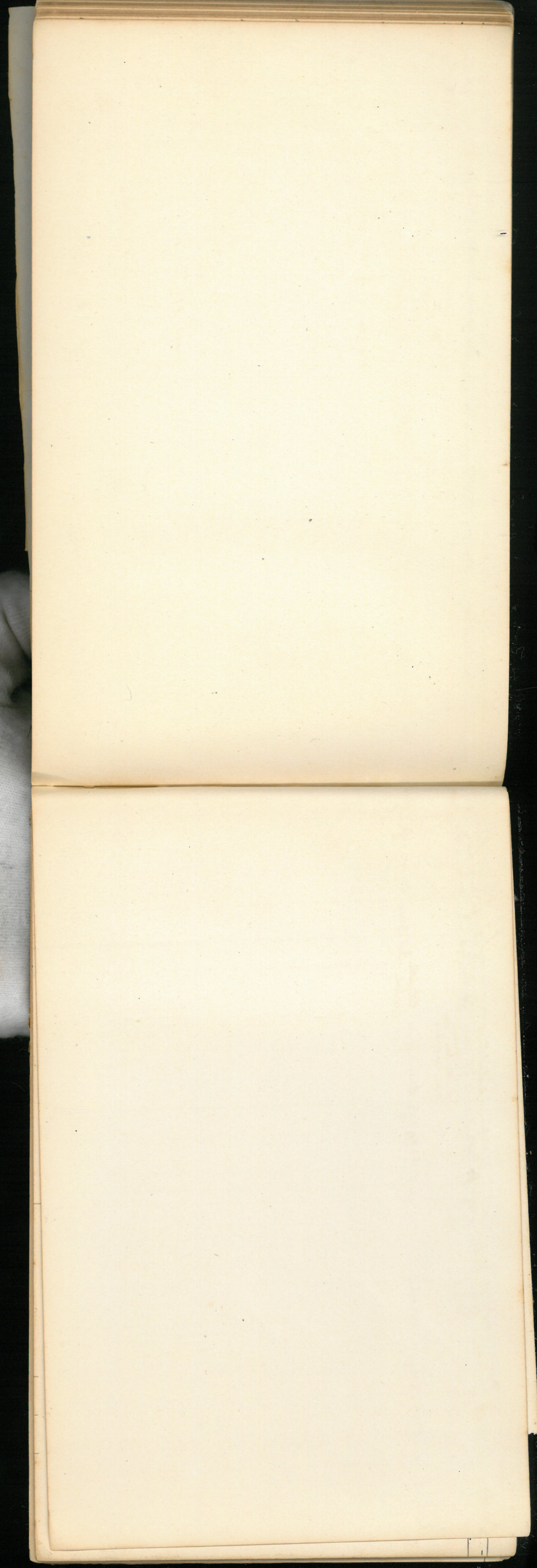
General Water Resources.											
County	Town	Principal Source of water	Other Sources	Depth of Shallow wells	Depth of Deep wells	Average	Surf. material	Thickness of water	Water Supply	Surf. formation	
Bradford	Hampton	Shallow wells	medium deep wells	5 to 20			Sand		Variable, usually abundant	Clays	
Bradford	Starke	Deep wells	medium deep wells				Sand		usually abundant	Clays	
Bradford	Lawley	Shallow wells	One deep well.	5 to 25 ft.			Sand		variable with season	clays	
Bradford	Raiford	Shallow wells		10 to 20 ft.			Sand		variable with season	clays	
Bradford	Lake Butler	Shallow wells.	Springs	10 to 35 ft.			Sand		usually abundant	Clays	
Bradford	Northington Springs	Spring	Shallow wells				Sand & clay			Clays	
Bradford	Providence	Medium deep wells	Shallow wells				Clay and Sand		varies with seasons	clays	
Bradford	Brooker	medium deep wells	Shallow wells.	10 to 20 ft.	83 ft.		Sand		Variable	clays	

Water Supply	Principal Water Beds	Water Supply	Prob. depths.	Quality of water	Incr. of Seci.	Notes.
	Limestone	Abundant	Obtained at variable depths.	Hard	none	
	Limestone	Abundant	Obtained at variable depths	Hard.	none at this depth.	
				Soft.	according to seasons.	
				Soft.	varies with season.	
				Soft.	According to seasons.	
				Sulphur water		
	Limestone for deep wells.	abundant		Hard for deep wells. Soft for shallow wells.	none for deep wells.	
	Limestone	Abundant		Hard	varies for shallow wells	

County	Township	Topographic Situation		Disposal of Sewage	General water resources	
		Location of town	Number & kind of creeks, pools, springs etc.		Sanitary cond. of wells	Prevalence of typhoid fever et.
Bradford	Hampton	Flat.			Usually good	none reported
Bradford	Starks	Flat			Good	none reported
Bradford	Lawley	Flat.			Liable to contamination	
Bradford	Raiford	Very Flat			Liable to contamination	
Bradford	Lake But	Rolling				
Bradford	Worthen	Hilly			Good	
	Spring					
Bradford	Pronis	Rolling			Good	
Bradford	Brook	Flat.			Good for medium deep wells. Shallow wells poor.	Fever reported

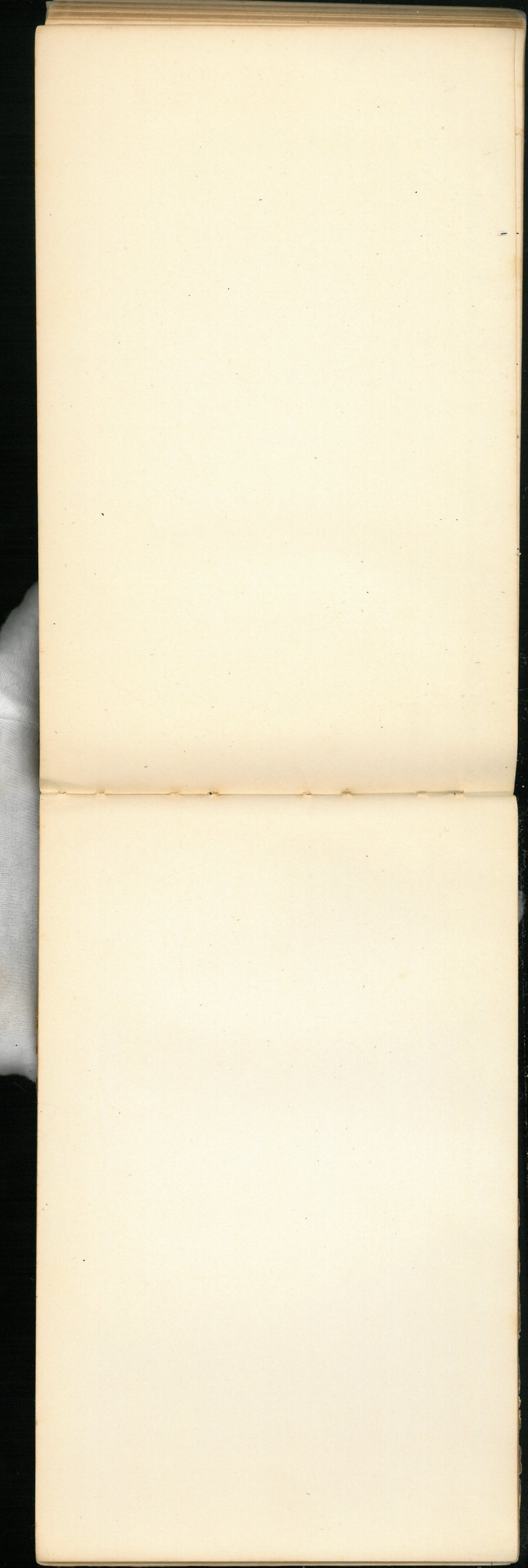
Contd.

Suggested improvements	References to supplementary notes.
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	Pages 1 to 8 inc.
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County	Town	Public or Private ownership.	Source (well, spring, stream, pond, etc.)	Geologic Source	Wells			Distribution or storage. Direct or from elevated tank, stand pipe, reservoir.	Services	Public Water				Supplies.										Pumped direct or from cisterns	Location	
					Di.	Depth	Head			Fire hydr.	Miles to main	avg. daily consumption.	Dom. pres.	Fire pres.	Mineral Character	Capacity of res. or stand pipe	Elev. feet	Elev. above T	Use meter	Sufficiency	D	Depth				
Bradford	Starks City.		Well		2	8"	52 ft	79 ft	Stand pipe	City water supply	33	3 mi	35,000 gals.	Provision for connecting main with direct pressure		40,000 gals.	100 ft above town		no restrictions as to use of water	Supply sufficient	Pumped from cisterns					

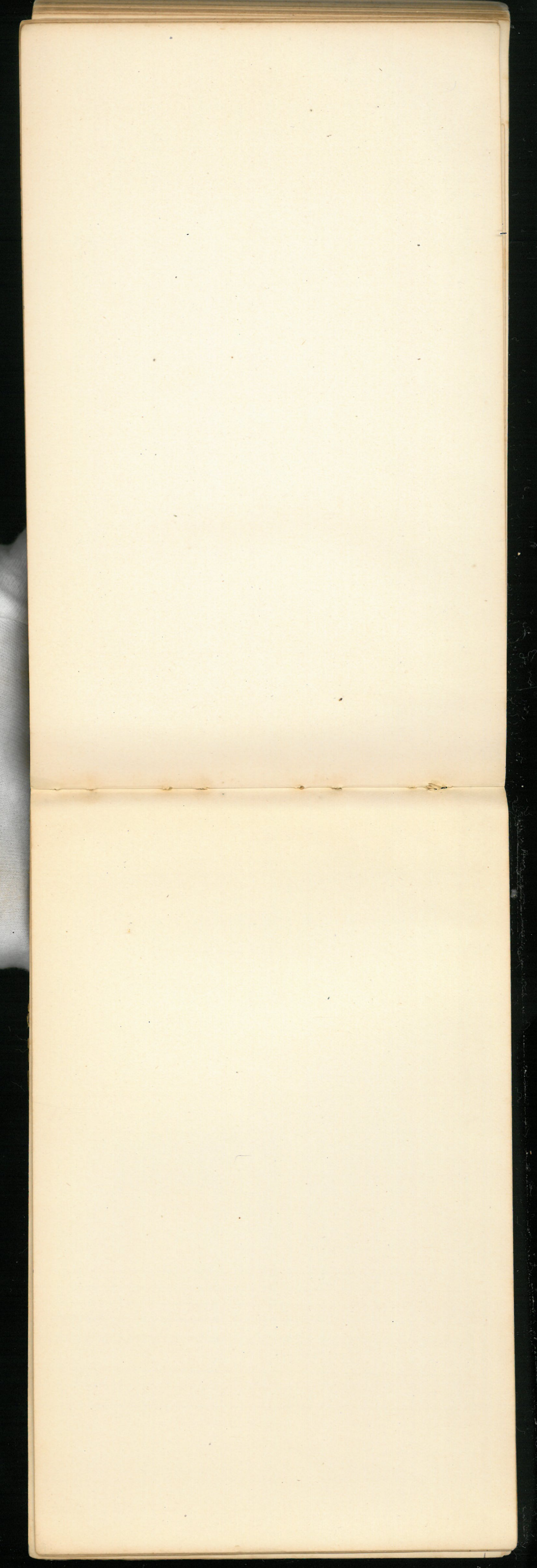
Public Water Supplies. Cont'd.												
County	Town	Typical location of well or spg.	Relation to town	Direction of most of p'd. water	distance from nearest house	distance from nearest well	distance from nearest pump	distance from nearest barn	Is supply satisfactory?	Changes contemplated	Suggestions	References to supplementary notes
Bradford	Sto Level		Same	unknown					yes	—	—	Page 3



Springs												nature of	variation of flow	bedlog formation	Nature of passage	Manner of emergence	Nature of stream	
County	nearest town or P.O.	Dist. from P.O.	Dist. P.O.	S	T	R	Q	Owner	Name of Spring.	Character of Water.	Discharge or yield	Miner. deposits	Temp	with seasons	from which water issues			
Bradford	Northampton	5/16	1/4 mi					J. W. Wells.	Northampton Spring	Superior.	150,000 gls. per min.			none	Unknown	Soil	Soil	Short stream emptying into river (Santee)

County	Nearest town or P.O.	Topographic surroundings	Distance from nearest				Possibility of pollution	Is spring muddy after rain	Spring	
			House	Pine	Cool	Barn			drinking - domestic	also boiler, indus. public supply, medicinal, irrig.
Bradford	Northington	Hilly to the East					not likely	no	drinking + bathing	

Cont'd.		Trade name of water	Improvements at Spring	Unit shipped	Price	Remarks
		Northington Spring Mineral water	Bath House + concrete pool 45 x 60	—	—	—



Nell

[illegible]

