

# STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION

# **General Aviation Airport**

# Certificate of Registration

(New York Transportation Law Article 2, Section 14-m. Airport Security)

FAA Location ID: 8NY3

Facility Name: NORTH FORK AIRPORT

Facility Location: 187 Little Hill Rd

Afton, NY 13730

Registration Period: August 1, 2017 - July 31, 2020

Owner: Wayne Leidecker

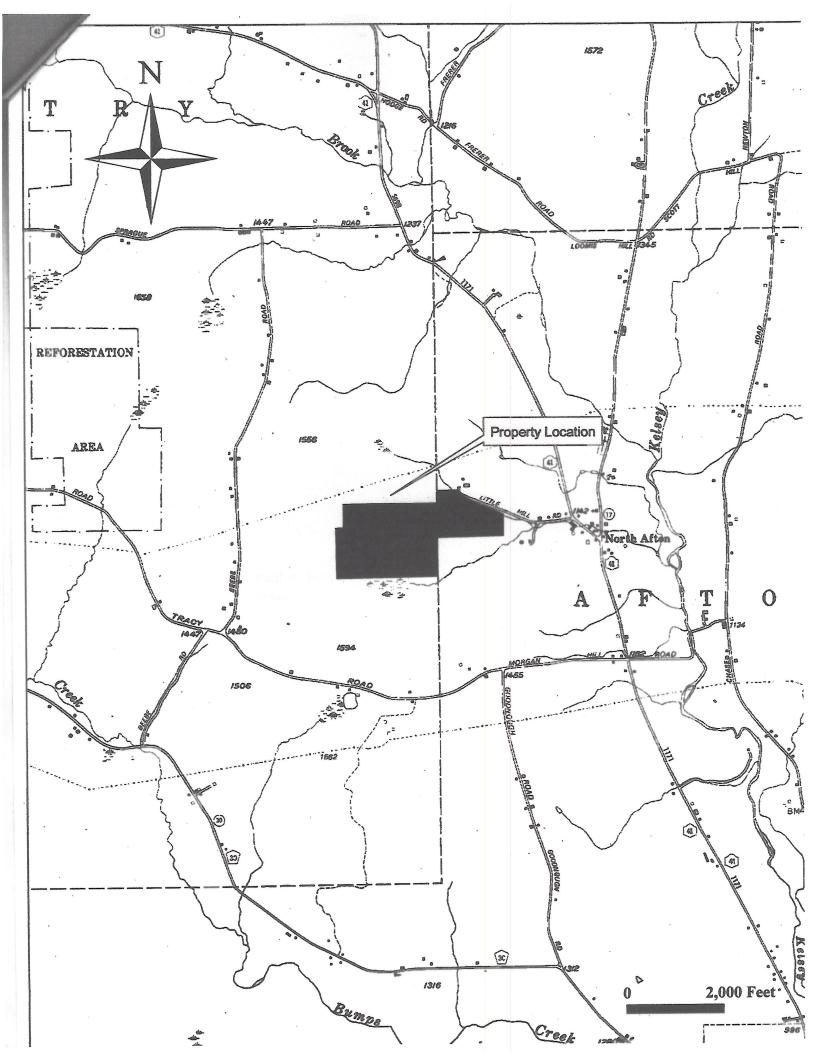
Owner Address: 187 Little Hill Rd Afton, NY 13730

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Acting Commissioner of Transportation

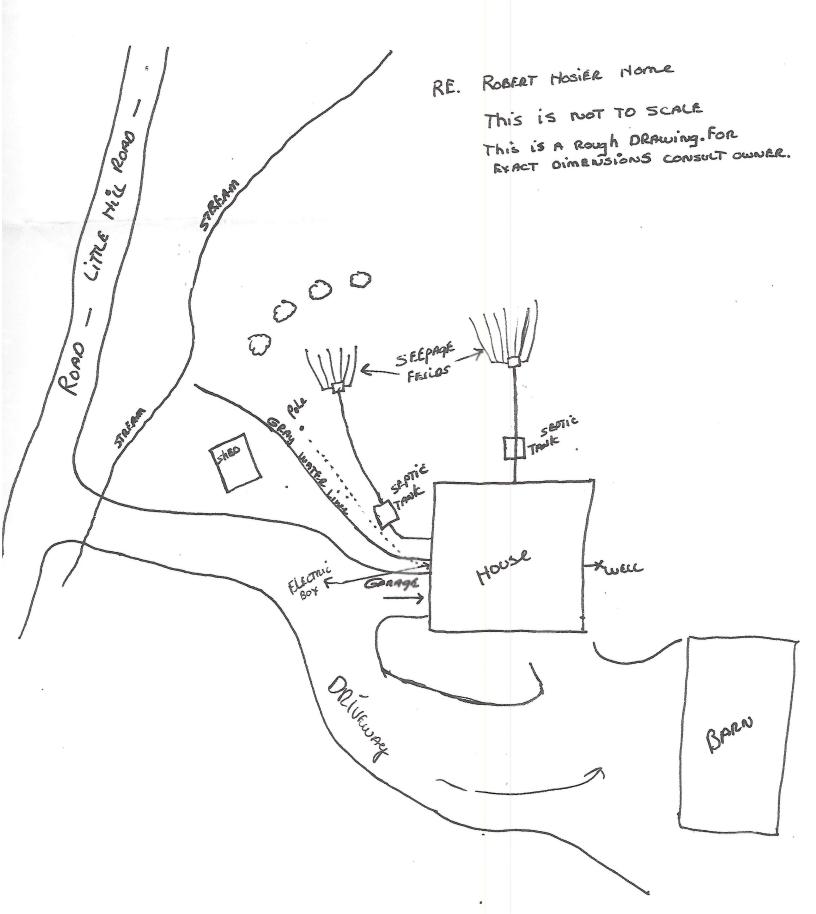
To verify, contact:

NYSDOT Aviation Bureau 50 Wolf Road, Pod 54 Albany, NY 12232 518-485-7691 Aviation@dot.ny.gov



# RALPH RICE & SON, INC.

28 SOUTH MAIN STREET BAINBRIDGE, NEW YORK 13733 (607) 967-8030



Wayne Leidecker 187 Little Hill Rd Afton, NY 13730

October 11, 2012

Dear Wayne,

Thank you very much for participating in our baseline water quality research study in Chenango County. As promised, we are enclosing the results of the water quality tests that were run on the groundwater sample that we obtained from your property earlier this year. Additionally, we are including a reference sheet put together by the New York Department of Health that provides guidelines for water quality testing, including some parameters that were not included in our analyses.

Please remember that our lab is not officially certified by the New York State Department of Health's Environmental Laboratory Approval Program (ELAP) as commercial water quality analysis labs are. Therefore these results may not be accepted in any potential legal action. If you feel that your water is in danger of being impaired by nearby gas drilling (or other) activities in the future, you should consider having your water tested by a commercial lab.

With the results in the report, we provide information on why certain tests were run and what acceptable levels are for each result. We have some additional resources on our website, if you wish to learn more about different water quality parameters. We will also post information on the overall average and range that we found for the various parameters in our testing throughout the county, as well as some graphics of some basic results and publications related to the project as they become available.

Our website is located at: http://soilandwater.bee.cornell.edu/Research/baseline.htm

If you have questions about your analysis or the interpretations we have provided or general feedback, feel free to contact Todd Walter (mtw5@cornell.edu, Ph. 607-255-2488) or Lauren McPhillips (lem36@cornell.edu).

Sincerely, Staff of the Cornell Soil & Water Lab

Enclosures:
Water quality report
NY DOH fact sheet



# **GROUNDWATER OUALITY REPORT**

Name Wayne Leidecker
Address 187 Little Hill Rd, Afton, NY
Sample Source Before pressure tank
Date/time sampled 5/18/2012
Project Supervisor Todd Walter (mtw5@cornell.edu, 607-255-2488)

For each category of analysis below, we present an overview of what was analyzed, the results, and an interpretation of the results. Most results have been reported in units of "parts per million" (ppm) or "parts per billion" (ppb). A ppm is approximately equal to 1 mg/L (about 1/100000th of a pound per gallon). A ppb is 1000 times smaller (1 microgram/L).

## **Total Suspended Solids**

Total Suspended Solids ("TSS") is the total amount of sediment in the water sample. It is determined by filtration; these solids cannot pass through the filter. If the values are above 30mg/L, the water will appear cloudy and should be treated, as it can promote bacteria.

 TCC	1	/s \	2.0
133	(mg/	L.)	2.0

### Interpretation

The sample has a low TSS value at this time; therefore, the water should appear relatively clear.

# **Specific Conductance**

Conductivity is measured by an electrical probe in units of microSiemens/cm and is related to the total amount of dissolved solids in the water. More ions or dissolved solids present correlate with a higher conductivity. Rock composition and geology of an area affects the conductivity of water, ie: granite and limestone lead to higher conductivity. Further, wastewater from sewage, septic systems, and road runoff (salt) can increase the concentration of ions in the water.

Conductivity (uS/cm)	192
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#### Interpretation

Drinking water typically has conductivity between 50-500uS/cm. The conductivity of the sampled water is well within this range.

#### Dissolved Solids

Dissolved solids include inorganic salts, metals, and minerals that are dissolved in the water sample and pass through a filter. Elevated levels may pose health concerns. Drinking water standards are defined at a Maximum Contaminant Level (MCL) or Secondary Maximum Contaminant Level (SMCL). MCL is the maximum concentration legally allowed by the US Environmental Protection Agency in drinking water of substances that pose health-related risks. SMCL is a limit given to substances that may pose aesthetic problems (e.g., bad taste or unpleasant color), but for which there are no serious health concerns.



# NEW YORK STATE DEPARTMENT OF HEALTH

Bureau of Water Supply Protection Flanigan Square, 547 River Street, Troy, New York 12180-2216

# INDIVIDUAL WATER SUPPLY WELLS - FACT SHEET #3 RECOMMENDED RESIDENTIAL WATER QUALITY TESTING

Water quality testing is important for new drinking water wells in addition to periodic evaluation of existing wells. The table below lists the recommended testing parameters for new individual residential water supply wells. These tests should be performed following proper well installation and development, and prior to homeowner use. Beyond these initial tests it is recommended to test for coliform bacteria every year and to periodically re-test water quality for other well-specific constituents of concern.

All samples should be analyzed by a laboratory certified by the NYSDOH Environmental Laboratory Approval Program (ELAP) for testing potable water. A current listing of ELAP laboratories may be accessed at <a href="http://www.wadsworth.org/labcert/elap/elap.html">http://www.wadsworth.org/labcert/elap/elap.html</a> or by contacting your Local Health Department (LHD).

Analysis *	Recommended MCL (1)(2)	Concerns
Coliform Bacteria	Any positive result is unsatisfactory	Indicator of possible disease causing contamination, e.g. Gastro-intestinal illness
Lead	0.015 mg/l	Brain, nerve and kidney damage (especially in children)
Nitrate	10 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Nitrite	1 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Iron	0.3 mg/l	Rust-colored staining of fixtures or clothes
Manganese	0.3 mg/l	Black staining of fixtures or clothes
Iron plus manganese	0.5 mg/l	Rusty or black staining of fixtures or clothes
Sodium	No designated limit (3)	Effects on individuals with high blood pressure
pH	No designated limit	Pipe corrosion (lead and copper), metallic-bitter taste
Hardness	No designated limit	Mineral and soap deposits, detergents are less effective
Alkalinity	No designated limit	Inhibits chlorine effectiveness, metallic-bitter taste
Turbidity	5 NTU	Cloudy, "piggybacking" of contaminants, interferes with chlorine and UV-light disinfection

- (1) MCL means maximum contaminant level. The MCLs listed are based upon requirements for Public Water Supply systems and are also recommended for use on individual residential systems.
- (2) mg/l means milligram per liter (parts per million); NTU means Nephelometric Turbidity Units.
- (3) Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

Additional tests are recommended for naturally occurring constituents that appear on a regional basis such as: arsenic, barium, fluoride, methane, radium, radon, and uranium. Additional tests may also be appropriate for contaminants associated with potential sources such as: oil storage facilities, junkyards, gasoline stations, landfills, industry, and active or historic agricultural use. Water samples from older existing residences or residences with corrosive water (i.e., pH less than 6.5) should be tested for lead and copper.

Some LHD's may have their own residential water quality testing requirements. Contact the LHD to determine their required analyses and procedures, and to inquire about any local water quality concerns.

<sup>\*</sup>Individual Residential Well Water Supply Quality Testing/HUD Mortgage Requirements (July 27,1995)

	Result	Units
CH <sub>4</sub> isotope differential	-44.86	%
CH <sub>4</sub>	<.01	ppm

# Interpretation

The methane concentration is well below "action levels," which are defined above.

The isotopic composition of the methane dissolved in these samples indicates that the methane is a primarily "thermogenic". This form of methane is created from increased temperature and pressure in deep rock formations. You can learn more about the sources and production of methane from our website at <a href="http://soilandwater.bee.cornell.edu/Research/baseline.htm">http://soilandwater.bee.cornell.edu/Research/baseline.htm</a>.

If you have questions about your analysis or the interpretations we have provided, feel free to contact Todd Walter (<a href="mailto:mtw5@cornell.edu">mtw5@cornell.edu</a>, Ph. 607-255-2488) or Lauren McPhillips (<a href="mailto:lem36@cornell.edu">lem36@cornell.edu</a>).

	Units	Limit	Concentration
Arsenic	ppb	10	<.5÷
Barium	ppm	2	.01
Cadmium	ppb	5	<2.0 <sup>+</sup>
Chloride	ppm	250*	.98
Chromium	ppb	100	<1.0 <sup>+</sup>
Copper	ppm	1*-	<.05 <sup>+</sup>
Hardness	ppm	180^	110.79
Iron	ppm	0.30	<0.05*
Lead	ppb :	15	<5.0 <sup>+</sup>
Manganese	ppb	50*	43.48
Mercury	ppb	2	<1.0 <sup>+</sup>
Nitrate as N	ppm	10	.1
Nitrite as N	ppm	1	<.1+
Selenium	ppb	50	<5.0 <sup>+</sup>
Sulfate	ppm	250	8.81

<sup>\*</sup> Denotes a SMCL; all other limits are MCL values.

### Interpretation

The US EPA drinking water limits (MCL & SMCL) are shown for the analyzed dissolved solids. None of the dissolved solids in these samples are above the existing drinking water MCL values. The sample hardness is 110.79 ppm; moderate levels of hardness, between 60-120ppm are desirable for corrosion control.

#### Dissolved Gas

The EPA does not have specific limits on methane (CH<sub>4</sub>) concentration in groundwater, but the Department of Interior Office of Surface Mining describes contaminant "action levels:"

- 1) < 10 mg/L: no action required
- 2) 10 28 mg/L: monitor methane levels and consider mitigation measures
- 3) > 28 mg/L: potential risk of explosion, definitely mitigate

We have included an analysis of the isotopic composition of the methane in the water sample. Isotopes are versions of the same element that have different weights. Here we have analyzed how much of the methane has a heavy version of carbon ( $^{13}$ C- CH<sub>4</sub>) relative to the light version ( $^{12}$ C-CH<sub>4</sub>). Microbes can generate methane and, because they preferentially take up the compounds with the light carbon ( $^{12}$ C), the methane they generate tends to have more of the light carbon than methane that comes from geologic sources (where methane is created due to pressure and temperature). We report our results as a "CH<sub>4</sub> isotope differential," which is a sort of ratio between the two isotopes found in the methane in the groundwater (units are expressed as ‰). Typically, geologically derived methane has a CH<sub>4</sub> differential between -30 and -50‰ and biologically derived methane has a differential less than -50‰; therefore, -50‰ is a rough dividing point between the two methane sources.

<sup>^</sup> There is no MCL or SMCL for hardness, but 180 ppm is considered "very hard".

<sup>+</sup> When a value is "less than" a certain concentration, the true value is below the detection limits of our analyzers.

(USEPA) publication: "Drinking Water From Household Wells", January 2002.

This table may also be used as a reference for determining additional testing.

Conditions or Nearby Activities:	Test for:
Recurring gastro-intestinal illness <sup>1</sup>	Coliform bacteria, e-coli
Household plumbing contains lead (older homes)	pH, lead, copper
Radon in indoor air or region is radon rich	Radon
Corrosion of pipes, plumbing	pH, lead, copper
Nearby areas of intensive agriculture	Nitrate, pesticides, arsenic, coliform bacteria
Coal or other mining operations nearby	Metals, pH
Gas drilling operations nearby	Sodium, chloride, barium, strontium
Dump, junkyard, landfill, factory, gas station, or dry-cleaning operation nearby	Volatile organic compounds, total dissolved solids, pH, sulfate, chloride, metals
Odor of gasoline or fuel oil, and near gas station or buried fuel tanks	Volatile organic compounds
Objectionable taste or smell	Hydrogen sulfide, pH, metals
Stained plumbing fixtures, toilet tanks or laundry	Iron, copper, manganese, hardness
Salty taste and seawater, or a heavily salted roadway nearby	Sodium, chloride, total dissolved solids
Scaly residues, soaps don't lather	Hardness
Rapid wear of water treatment equipment	pH3 (3) (3) (3) (3) (3) (3) (3) (3) (3) (3
Water softener needed to treat hardness	Hardness, manganese, iron
Water appears cloudy, frothy, or colored	Color, detergents, turbidity, total dissolved solids
Reddish-brown films on fixtures or toilet tanks	Iron bacteria, iron, manganese

<sup>&</sup>lt;sup>1</sup> Individuals with symptoms of gastro-intestinal illness should seek the attention of a medical physician.

### Sampling and Treatment

- 1. Sampling for lead and coliform may give false results if sampling is not done properly. Please contact your Local Health Department for guidance on sampling and interpreting results.
- 2. If testing shows any level above the recommended MCL, a new water source and/or treatment may be necessary. Please contact your Local Health Department for guidance.

#### Other sources of information that may be helpful:

American Groundwater Trust, www.agwt.org

American Water Works Association, www.awwa.org

Water Systems Council, www.watersystemscouncil.org

Wellowner, www.wellowner.org

United States Environmental Protection Agency, www.epa.gov

New York Rural Water Association, www.nyruralwater.org

Appendix 5-B, http://www.health.state.ny.us/nysdoh/water/part5/appendix5b.htm

For questions concerning this Fact Sheet or a copy of Appendix 5-B:

Residential Sanitation Section Bureau of Water Supply Protection New York State Department of Health (518) 402-7650 or FAX (518) 402-7659

E-mail: bpwsp@health.state.ny.us

Contact your Local Health Department

or