Village of Millbrook Board of Trustees
Meeting Minutes

June 27, 2017

I. Call to order

Mayor Brown called the meeting to order at 6:30 PM and led the Pledge of allegiance.

Roll Call: Mayor Brown, Trustee Hicks, Trustee Herzog and Clerk Witt.
Absent: Deputy Mayor Rochfort

II. Administrative Business:

Trustee Hicks made a motion to accept the minutes from June 13th, seconded by Trustee Herzog and all were in favor.

Old Business:

Mayor Brown asked if any Trustees had any questions about the new building department fees, there were none. Trustee Hicks made a motion to accept the new fees, seconded by Trustee Herzog and all were in favor.

New Business:

Mayor Brown informed the Board and the public that he has appointed Kyle Van De Water for the Board of Trustees. Clerk Witt then administered the Oath of Office to Mr. Van De Water.

Well Update- Delaware Engineering Consultant William Bright:
Mr. Bright gave a brief history of the water system for the Village of Millbrook. He explained the cost savings reasoning behind going the test well route versus the complete water filtration facility upgrade. Mr. Bright informed the Board there were a series of complications including weather, obtaining permits, well blockages, etc. that lead to the delays in digging the test well and getting water quality tests. He gave the Board a letter from the hydrogeologist that explains the process (attached). The preliminary water pump tests came back with good quality and a water production of roughly 75 gallons/ minutes. An additional more extensive water quality test for the test well came back with a small amount of radium in the water (please see attached report). He then gave the Board project cost estimate documents for the water system upgrade along with paperwork for the preliminary water and sewer rate impact. Mr. Bright then took some time to answer some public questions. (Mr. Bright's entire presentation can be heard via audio file posted on the Village website.)

III. Board Member Updates:

Trustee Hicks told the Board that the public works department is working on the catch basins throughout the Village. The New York State Police have been contacted to help with the fireworks at the Golf and Tennis. Mayor Brown received an email from Village resident Karin Shrubsole (attached). Trustee Hicks said he would discuss her concerns with PWS Collocola. Mayor Brown said we would mention poison ivy on the insert that is mailed out in the water bills.
Trustee Herzog told the Board that the ADA sidewalk project is moving along with invitation to bids having gone out. He then updated the Board on the Shared Services initiative and the WIC committee. Mayor Brown said he was unclear on who would be reviewing the bids received to make sure the Village is getting the service that is required on the bid specs for the ADA project and said he has not seen a professional service agreement for Mr. Holt (engineer on the project) to know what exactly the Village will be paying him for. Trustee Hicks exited the meeting at 8:05 PM. Mayor Brown then asked Trustee Van De Water to work with Trustee Herzog on the Inter-Municipal Agreements (IMA).

Mayor Brown gave a reminder for the fireworks at the Golf and Tennis on July 1st with a rain date of July 2nd and the Firemen's Carnival is July 5-8 with the Firemen's parade on July 8th at 6 PM.

The Board had a time of public comment, no actions were taken during that time.

IV. Adjournment:

Mayor Brown adjourned the meeting at 8:25 seconded by Trustee Van De Water and all were in favor.

Respectfully Submitted by:

Sarah J. Witt Village Clerk/Treasurer

Village of Millbrook
Village Hall – Board of Trustees
June 27, 2017 6:30pm

1. **Administrative Business :**
   a. Acceptance of minutes
   b. Approval of Budget Modifications – adjustments to 6/13/17 modifications
   c. CDs
2. **Old Business :**
   a. Implementing new fees for Building Department
3. **New Business :**
   a. Well Project Update – Delaware Rep – Bill Bright
   b. Swearing in Kyle Van De Water – Board of Trustee
   c. Possible swearing in of Fire Department Treasurer – Allison Hults
4. **Department Reports :** (first meeting of month only)
   a. FD/Rescue – Matthew Rochfort, Ted Bownas and Laurie Olsen
   b. Police – Officer Jared Witt
   c. Water and Sewer – Scott Osborne (VRI)
   d. Highway – Robert Collocola
   e. Treasurer – Sarah Witt
5. **Board Member Updates :**
   a. Deputy Mayor - Joe Rochfort
   b. Trustee Brian Hicks
   c. Trustee Mike Herzog
   d. Reminder – Golf and Tennis Club fireworks
      July 8th Fireman's Parade – 6pm
      Stanford Road closing – TofW website
      Water/Sewer insert – something to add – See Sarah
6. **Public Comment :** (number of speakers will determine amount of time given to each speaker)
7. **Executive Session** (if needed)
8. **Adjournment**
9. **Audition of Bills**

RB – 6/23/17

MARCUS J. MOLINARO
COUNTY EXECUTIVE

KARL REIBER, M.D.
COMMISSIONER

COUNTY OF DUTCHESS
DEPARTMENT OF HEALTH

October 29, 2015

Certified Mail # 7004 0750 0000 0457 3282

Laura Hurley, Village Mayor
Village of Millbrook
P.O. Box 349
Millbrook, N.Y. 12545

Re: Millbrook Village - Public Water Supply Inspection
Federal ID# 1302770
Town of Washington

Dear Ms. Hurley:

On October 16, 2015, this Department conducted its regular inspection of the above referenced supply to determine compliance with Part 5 of the New York State Sanitary Code. Accompanying me and providing input was your New York State certified operator, Scott Osborn of VRI Environmental Services. Below is a summary of the community water system's general operation.

- The supply serves well over 1500 people through 778 service connections consisting of residences, schools, and businesses.
- Three infiltration galleries located adjacent to the treatment plant serve as water sources for this supply. These galleries have several bunkers where ground water accumulates for use. The supply is allowed to take up to 374,000 gallons per day by DEC permit.
- Raw water from bunker 1, bunker 2, and former bunker 3 flows by gravity into a small wet well next to the treatment plant and then into the treatment plant clear well. Raw water from bunker 4, bunker 5, and bunker 6 flows by gravity directly into the treatment plant clear well.
- Water in the 45,000 gallon clear well located below the treatment plant is injected with a 50/50 sodium hypochlorite solution for disinfection. The clear well provides adequate chlorine contact time. The chlorinator pump runs when the high lift pumps run. A spare chlorinator pump is available in the plant.
- Water in the clear well is also injected with sodium hydroxide for pH control and zinc orthophosphate for corrosion control. The sodium hydroxide is used to control pH within the range of 7.0 to 8.0. The zinc orthophosphate works best at a pH of 7.5 and the concentration is targeted within the range of 0.5 to 0.8 mg/L in distribution.
- Alternating high lift pumps then send water from the clear well into the distribution system and/or a 500,000 gallon above ground atmospheric storage tank depending on system demand. A float in the clear well will turn off the high lift pumps if the water level is too low. The storage tank provides storage volume for present and future use as well as adequate pressure for the distribution system. The storage tank operates in the 75 to 85 foot range. Presently, high lift pump 1 is not being used due to a failure of the soft start system. The pump can be used in manual if needed.

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www.dutchessny.gov

- A meter pit with a sump pump exists just down stream of the treatment plant.
- Alarms exist for high and low storage levels, power failure, and storage tank communication failure which are relayed to the CIA security company who then notifies the system operator.
- A rental diesel emergency generator is on site to provide power to the treatment plant during an outage. The generator is exercised weekly and must be manually transferred. The meter read 3436.7 hours.
- The distribution system is flushed once a year in May.

The following items were discussed during the inspection and/or are reiterated here as documentation for the New York State Department of Health, Bureau of Public Water Supply Protection program.

1. All water quality monitoring is to be performed according to methods and procedures as required by the New York State Sanitary Code, Part 5, Subpart 5-1. Sample results are to be submitted in a timely manner to this Department for review. A violation will be issued for failure to comply with the sampling requirements and due dates. Monthly operation reports indicating daily treated water volumes, daily entry point chlorine residual, turbidity, and pH values, and any water system issues that developed are to be submitted to this Department by the 10th of the following month for review. This Department is to be promptly notified if delivery of water is interrupted for more than four hours. An Annual Water Quality Report (AWQR) is to be submitted to this Department for approval each year well before the State required distribution date of May 31st.

2. The chlorine residual from the entry point at the treatment plant was 1.5 parts per million (ppm). A bacteriological surveillance sample was taken at 3292 Franklin Avenue. The chlorine residual was 0.0 ppm due to a softener and the sample results were satisfactory.

3. In the past, bunker 3 was excavated for inspection and found to be in need of repair. It was stated in a previous sanitary survey inspection letter that "ponding" water around bunker 3 was a possible source of contamination and that the excavation was to be filled in by September 30, 2013. It was stated in last year's sanitary survey inspection letter that bunker 3 was still not repaired and not backfilled and that bunker 2 was not backfilled completely. It was noted now that bunker 3 has been removed, that a sample port was installed where the bunker was removed, and it is understood that the original influent and effluent piping was connected together underground. **As such, a violation is now issued for failure to meet requirements of New York State Sanitary Code Subpart 5-1.22 (a): No supplier of water shall make, install or construct, or allow to be made, installed or constructed, a public water system or any addition or deletion to or modification of a public water system until the plans and specifications have been submitted to and approved by the State.** The supply is to submit an engineers report and as built plans for this work on the removal of bunker 3 to this Department by November 30, 2015 for review.

4. A filtration system has still not been installed on this public water supply. **As such, the violation issued in 2015 still stands for failure to meet requirements within 18 months of New York State Sanitary Code Subpart 5-1.30 (b): Minimum treatment for surface water sources or ground water sources directly influenced by surface water shall be filtration and disinfection techniques capable of 99 percent removal of Cryptosporidium oocysts, 99.9 percent removal and/or inactivation of Giardia lamblia cysts and 99.99 percent removal and/or inactivation of viruses.** Quarterly public notification of this violation will be required until the issue is resolved via installation of filtration on the existing source or provision of a new source.

5. A Preliminary Engineering Report for the proposed Village of Millbrook Water Supply Improvements dated February 2014 was delivered to this Department on February 18, 2015. A meeting was held on the same date with William Bright and Derrick Wilcox of Delaware Engineering, DPC, Scott Osborn of VRI Environmental Services, and Peter Marlow, Marie Brule, and myself from this Department to review and discuss the report. A subsequent comment letter on the report from this Department was sent to the State on March 19, 2015. **It is now required that a detailed compliance schedule be developed and submitted to this Department by December 31, 2015 for the installation of a filtration system to resolve the fact that the Village of Millbrook Water Supply is ground water under the direct influence of surface water and needs additional treatment.**

6. It was discussed again that an inspection of the elevated 500,000 gallon storage tank was conducted in 2010 and it apparently was found to be deteriorating on the inside. It was also noted that the outside of the tank has rust forming and grass growing at the base and that the tank needs painting. It is strongly suggested that another inspection of the tank be performed as soon as possible and that repair work or total replacement be planned based on the new inspection results.

7. All existing backflow prevention devices within the water system must be tested annually by a certified backflow prevention device tester. Please be advised that the supply is responsible to develop and maintain a list of all existing backflow prevention devices and their respective dates of testing. This list must be made available for review at future inspections. Additionally, the supply is responsible to survey the distribution system to determine if additional cross connections might exist and have proper backflow prevention devices installed.

I would like to thank Scott Osborn for his assistance during the inspection. Please keep this office updated on any changes associated with the water system. If you have any questions regarding this correspondence, or if I can be of further assistance, please contact me at (845) 486-3541.

Sincerely,

David C. Pearson
Public Health Engineer
Environmental Health Services

DCP/ef

cc: File
Scott Osborn, Operator – VRI Environmental Services via email scotto@vri-usa.com

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April 12, 2017

Ron Bayer
EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550

RE: Project: LBG, Inc
Pace Project No.: 35299278

Dear Ron Bayer:
Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revision 1: Report re-issued 4/12/17 for lab site correction

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Bo Garcia
bo.garcia@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Debra Bayer, EnviroTest Laboratories Inc.
Renee Cusack, EnviroTest Laboratories Inc.
Laura Marciano, EnviroTest Laboratories Inc.
Janine Rader, EnviroTest Laboratories Inc.
Meredith Ruthven, EnviroTest Laboratories Inc.

Pace Analytical Services, LLC
8 East Tower Circle
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CERTIFICATIONS

Project: LBG, Inc
Pace Project No.: 35299278

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683
Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008
Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

Ormond Beach Certification IDs

8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Wyoming Certification: FL NELAC Reciprocity
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747
New York Certification #: 10478 Primary Accrediting Body
New Jersey Certification #: NY158
Pennsylvania Certification #: 68-00350
Connecticut Certification #: PH-0435
Maryland Certification #: 208

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LBG, Inc
Pace Project No.: 35299278

Sample: Millbrook **Lab ID: 35299278001** Collected: 03/07/17 08:45 Received: 03/08/17 11:20 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
504.1 GCS EDB and DBCP	Analytical Method: EPA 504.1 Preparation Method: EPA 504.1								
1,2-Dibromo-3-chloropropane	**<0.0063**	ug/L	0.020	0.0063	1	03/15/17 09:25	03/15/17 17:31	96-12-8	
1,2-Dibromoethane (EDB)	**<0.0074**	ug/L	0.0099	0.0074	1	03/15/17 09:25	03/15/17 17:31	106-93-4	
505 GCS Pesticides/PCBs	Analytical Method: EPA 505 Preparation Method: EPA 505								
Aldrin	**<0.025**	ug/L	0.025	0.025	1	04/03/17 14:01	04/03/17 23:16	309-00-2	H3
Surrogates									
Tetrachloro-m-xylene (S)	91	%.	30-150		1	04/03/17 14:01	04/03/17 23:16	877-09-8	
Decachlorobiphenyl (S)	83	%.	30-150		1	04/03/17 14:01	04/03/17 23:16	2051-24-3	
508.1 GCS Pesticides	Analytical Method: EPA 508.1 Preparation Method: EPA 508.1								
Alachlor	**<0.035**	ug/L	0.20	0.035	1	03/18/17 10:34	03/20/17 00:45	15972-60-8	
Atrazine	**<0.063**	ug/L	0.10	0.063	1	03/18/17 10:34	03/20/17 00:45	1912-24-9	L1
gamma-BHC (Lindane)	**<0.0030**	ug/L	0.020	0.0030	1	03/18/17 10:34	03/20/17 00:45	58-89-9	
Butachlor	**<0.027**	ug/L	0.10	0.027	1	03/18/17 10:34	03/20/17 00:45	23184-66-9	
Chlordane (Technical)	**<0.047**	ug/L	0.20	0.047	1	03/18/17 10:34	03/20/17 00:45	57-74-9	
Dieldrin	**<0.019**	ug/L	0.10	0.019	1	03/18/17 10:34	03/20/17 00:45	60-57-1	
Endrin	**<0.0070**	ug/L	0.010	0.0070	1	03/18/17 10:34	03/20/17 00:45	72-20-8	
Heptachlor	**<0.012**	ug/L	0.040	0.012	1	03/18/17 10:34	03/20/17 00:45	76-44-8	
Heptachlor epoxide	**<0.0030**	ug/L	0.020	0.0030	1	03/18/17 10:34	03/20/17 00:45	1024-57-3	L1
Hexachlorobenzene	**<0.019**	ug/L	0.10	0.019	1	03/18/17 10:34	03/20/17 00:45	118-74-1	L1
Hexachlorocyclopentadiene	**<0.032**	ug/L	0.10	0.032	1	03/18/17 10:34	03/20/17 00:45	77-47-4	L1
Methoxychlor	**<0.051**	ug/L	0.10	0.051	1	03/18/17 10:34	03/20/17 00:45	72-43-5	
Metolachlor	**<0.047**	ug/L	0.10	0.047	1	03/18/17 10:34	03/20/17 00:45	51218-45-2	
PCB, Total	**<0.080**	ug/L	0.10	0.080	1	03/18/17 10:34	03/20/17 00:45	1336-36-3	
Propachlor	**<0.030**	ug/L	0.10	0.030	1	03/18/17 10:34	03/20/17 00:45	1918-16-7	
Simazine	**<0.069**	ug/L	0.070	0.069	1	03/18/17 10:34	03/20/17 00:45	122-34-9	L1
Toxaphene	**<0.61**	ug/L	1.0	0.61	1	03/18/17 10:34	03/20/17 00:45	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	119	%	70-130		1	03/18/17 10:34	03/20/17 00:45	2051-24-3	
515.3 Chlorinated Herbicides	Analytical Method: EPA 515.3 Preparation Method: EPA 515.3								
2,4-D	**<0.081**	ug/L	0.10	0.081	1	03/17/17 09:15	03/22/17 01:51	94-75-7	
Dalapon	**<0.89**	ug/L	1.0	0.89	1	03/17/17 09:15	03/22/17 01:51	75-99-0	
Dicamba	**<0.067**	ug/L	0.10	0.067	1	03/17/17 09:15	03/22/17 01:51	1918-00-9	
Dinoseb	**<0.16**	ug/L	0.20	0.16	1	03/17/17 09:15	03/22/17 01:51	88-85-7	
Pentachlorophenol	**<0.030**	ug/L	0.040	0.030	1	03/17/17 09:15	03/22/17 01:51	87-86-5	
Picloram	**<0.094**	ug/L	0.10	0.094	1	03/17/17 09:15	03/22/17 01:51	1918-02-1	
2,4,5-TP (Silvex)	**<0.16**	ug/L	0.20	0.16	1	03/17/17 09:15	03/22/17 01:51	93-72-1	
Surrogates									
2,4-DCAA (S)	89	%	70-130		1	03/17/17 09:15	03/22/17 01:51	19719-28-9	
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
Aldicarb	**<0.64**	ug/L	2.0	0.64	1		03/15/17 21:16	116-06-3	
Aldicarb sulfone	**<0.37**	ug/L	2.0	0.37	1		03/15/17 21:16	1646-88-4	
Aldicarb sulfoxide	**<0.59**	ug/L	2.0	0.59	1		03/15/17 21:16	1646-87-3	
Carbofuran	**<0.32**	ug/L	2.0	0.32	1		03/15/17 21:16	1563-66-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: LBG, Inc
Pace Project No.: 35299278

Sample: Millbrook **Lab ID: 35299278001** Collected: 03/07/17 08:45 Received: 03/08/17 11:20 Matrix: Drinking Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
531.1 HPLC Carbamates	Analytical Method: EPA 531.1								
3-Hydroxycarbofuran	**<0.45**	ug/L	2.0	0.45	1		03/15/17 21:16	16655-82-6	
Methomyl	**<0.57**	ug/L	2.0	0.57	1		03/15/17 21:16	16752-77-5	
Oxamyl	**<0.55**	ug/L	2.0	0.55	1		03/15/17 21:16	23135-22-0	
Carbaryl	**<0.27**	ug/L	2.0	0.27	1		03/15/17 21:16	63-25-2	
Surrogates									
BDMC (S)	92	%	80-120		1		03/15/17 21:16		
525.2 Base Neutral Extractable	Analytical Method: EPA 525.2 Preparation Method: EPA 525.2								
Benzo(a)pyrene	**<0.013**	ug/L	0.10	0.013	1	03/18/17 10:34	03/20/17 23:06	50-32-8	
bis(2-Ethylhexyl)adipate	**<0.38**	ug/L	1.6	0.38	1	03/18/17 10:34	03/20/17 23:06	103-23-1	
bis(2-Ethylhexyl)phthalate	**<0.56**	ug/L	2.0	0.56	1	03/18/17 10:34	03/20/17 23:06	117-81-7	
Metribuzin	**<0.15**	ug/L	0.30	0.15	1	03/18/17 10:34	03/20/17 23:06	21087-64-9	
Surrogates									
1,3-Dimethyl-2-nitrobenzene(S)	107	%	70-130		1	03/18/17 10:34	03/20/17 23:06	81209	
Perylene-d12 (S)	99	%	70-130		1	03/18/17 10:34	03/20/17 23:06	1520963	
Triphenylphosphate (S)	117	%	70-130		1	03/18/17 10:34	03/20/17 23:06	115-86-6	

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LBG, Inc
Pace Project No.: 35299278

Sample: Millbrook **Lab ID: 35299278001** Collected: 03/07/17 08:45 Received: 03/08/17 11:20 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	**439.9 ± 55.7 (66.8)** **C:NA T:NA**	pCi/L	03/11/17 04:58	10043-92-2	
Gross Alpha	EPA 900.0	**13.6 ± 3.49 (2.90)** **C:NA T:NA**	pCi/L	03/21/17 08:57	12587-46-1	
Gross Beta	EPA 900.0	**5.68 ± 1.42 (1.70)** **C:NA T:NA**	pCi/L	03/21/17 08:57	12587-47-2	
Radium-226	EPA 903.1	4.47 ± 1.07 (0.500) C:NA T:104%	pCi/L	03/25/17 11:55	13982-63-3	
Radium-228	EPA 904.0	4.32 ± 0.645 (0.718) C:67% T:83%	pCi/L	03/23/17 11:49	15262-20-1	
Total Uranium	ASTM D5174-97	**1.26 ± 0.032 (0.193)** **C:NA T:NA**	ug/L	03/28/17 15:02	7440-61-1	

REPORT OF LABORATORY ANALYSIS

EnviroTest Laboratories, Inc.
315 Fullerton Avenue
Newburgh, NY 12550
Phone (845) 562-0890 Fax (845) 562-0841

WO# : 35299278

35299278

f Custody Record

EnviroTest Laboratories Inc.

Client Information (Sub Contract Lab)	A: , Debra	Carrier Tracking No(s):	COC No: 420-8838.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: dbayer@envirotestlaboratories.com	Page: Page 1 of 1
Company: Pace Analytical Ormond Beach			STL Job #: 420-117737-1
Address: 8 East Tower Circle,	Due Date Requested: 3/17/2017		
City: Ormond Beach	TAT Requested (days): Std TAT 3/7/17 03		
State, Zip: FL, 32174	PO #:		
Phone: 111-222-3333(Tel)	WO #:		
Email:	Project #: 42001269		
Project Name: LBG, Inc.	SSOW#:		
Site:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	SUBCONTRACT// 515 Chlorinated Acids	SUBCONTRACT// 504 EPA 504.1 EDB/DBCP	SUBCONTRACT// 531.1 Carbamate Pesticides in DW	SUBCONTRACT// 525.2 Semivolatile Organics	SUBCONTRACT// 900 GA/GB/RA 226/RA 228	SUBCONTRACT// Total Uranium	SUBCONTRACT// Radon	SUBCONTRACT// 508	Perform MS/MSD (Yes or No)	Special Instructions/Note:
				Preservation Code:											
Millbrook (420-117737-1)	3/7/17	8:45		Water		X	X	X	X	X	X	X	X		

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: A. Elmendorf	Date/Time: 3/7/17 1240	Company: ETL	Received by:	Date/Time: 3/8/17 1120	Company: Pace
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.7°C IR T271		

Form No. CA-C-WI-002, rev. 4.30, dated 6/6/2016

Sample Condition Upon Receipt Form (SCUR)

Project # WO#: 35299278

Project Manager: PM: VEG **Due Date:** 03/28/17

Client: CLIENT: EVNTES

Date and Initials of person:
Examining contents:
Label:
Deliver: Bam
pH:

Thermometer Used: T277 Date: 3/8/17 Time: 1120 Initials: MA

Cooler #1 Temp.°C	3.1 (Visual)	+0.6 (Correction Factor)	3.7 (Actual)	☐	Samples on ice, cooling process has begun
Cooler #2 Temp.°C	3.0 (Visual)	+0.6 (Correction Factor)	3.6 (Actual)	☐	Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐	Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ Other

Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Unknown

Tracking # 7785 9269 7857 (Montrose)

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** ☑ Wet Blue None

Packing Material: ☑ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☑ Yes ☐ No ☐ N/A	Preservation Information:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A	Preservative: Lot #/Trace #: Date: Time: Initials:
Headspace in VOA Vials? (>6mm):	☐ Yes ☐ No ☑ N/A	
Trip Blank Present:	☐ Yes ☐ No ☑ N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review: Date:

Grain per gallon (GPG) is a unit of water hardness defined as 1 grain (64.8 milligrams) of calcium carbonate dissolved in 1 US gallon of water (3.785412 L). It translates into 1 part in about 58,000 parts of water or 17.1 parts per million (ppm). 1 grain = 17.1 mg/l

SM 2340B-97,-11 Hardness by Calculation

Method:	SM 2340B-97,-11	Analysis Batch: 420-108689		Instrument ID:	None
Preparation:	N/A			Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	
Date Analyzed:	03/08/2017 1656			Final Weight/Volume:	
Date Prepared:	N/A				

Analyte	Result (mg/L)	Qualifier	RL
Calcium hardness as calcium carbonate	54.6		1.2.5

54.6 mg/l ÷ 17.1 = 3.19 Grains of hardness

The water sampled from the Village of Millbrook test well had 54.6 mg/l of calcium hardness

54.6 mg/l CaCO3 = 3.19 Grains of Hardness which USGS considered Soft

United States Geological Survey uses the following classification into hard and soft water,

Classification	hardness in mg/L	hardness in mmol/L	hardness in dGH/°dH	hardness in Grain/Gal.	hardness in ppm
Soft	0–60	0–0.60	0-3.37	0-3.50	less than 60
Moderately hard	61–120	0.61–1.20	3.38-6.74	3.56-7.01	60-120
Hard	121–180	1.21–1.80	6.75–10.11	7.06-10.51	120-180
Very hard	≥ 181	≥ 1.81	≥ 10.12	≥ 10.57	> 181

SMITH ENVIRONMENTAL LABORATORY

Smith Environmental Laboratory
4 Scenic Drive
Hyde Park, NY 12538
845-229-6536

CERTIFICATE OF ANALYSIS

NY ELAP ID: 10924 / NJ: NY032 / PA: 68-05361

Report To: VRI-Village of Millbrook
PO Box 943
Millbrook, NY 12545
Attention: Melissa Toro

Lab No: S016236
Reported: 03/21/17
PO:

Project: Village of Millbrook-PWS NY1302770

Lab ID: S016236-01
Sample ID: Test Well #1
Field Chlorine (mg/L):

Date Collected: 03/03/17 12:30
Date Received: 03/03/17 14:00

Matrix: Drinking Water
Collected By: Scott Osborn

Total Metals

Analyte	Results	Flag	Units	RDL	MCL	MDL	Method	Analyzed	Analyst
Iron	0.010		mg/L	0.010	0.3		EPA 200.7 Rev 4.4	03/17/17 16:51	JE
Iron, Dissolved	<0.010		mg/L	0.010			EPA 200.7 Rev 4.4	03/17/17 16:51	JE
Manganese	0.033	B3	mg/L	0.003	0.3		EPA 200.7 Rev 4.4	03/17/17 16:51	JE
Manganese, Dissolved	0.037	B3	mg/L	0.003	0.3		EPA 200.7 Rev 4.4	03/17/17 16:51	JE

General Chemistry Parameters

Analyte	Results	Flag	Units	RDL	MCL	MDL	Method	Analyzed	Analyst
Chloride	2		mg/L	2	250		EPA 300.0 Rev 2.1	03/04/17 00:50	JE
Turbidity	0.4		NTU	0.05	5		EPA 180.1	03/03/17 17:46	BR
Alkalinity, to pH 4.5 as mg/L CaCO3	142		mg/L	10			SM 22 2320B	03/15/17 14:25	LF
Color	<5		PtCo	5	15		SM 22 2120B	03/03/17 18:07	BR
pH at time of Color, Standard pH Units	8		PtCo				SM 22 2120B	03/03/17 18:07	BR

Total Metals by SM3111B

Analyte	Results	Flag	Units	RDL	MCL	MDL	Method	Analyzed	Analyst
Sodium	25	NJ, D	mg/L	1.0	50	0.020	SM 3111 B	03/09/17 09:22	AM

General Chemistry Parameters

Analyte	Results	Flag	Units	RDL	MCL	MDL	Method	Analyzed	Analyst
Total Hardness	96	NJ	mg/L	10		4.7	SM 2340 C	03/15/17 13:30	SG

Smith Environmental Laboratory

Nicole A. Coenen

Nicole Coenen For Dorothy DiNobile, Laboratory Director

Smith Environmental Laboratory is approved as an environmental testing laboratory in conformance with the National Environmental Laboratory Accreditation Conference (NELAC) Standards. This test report pertains only to the above items analyzed as the samples as received by the laboratory. Any condition supplied by the client is reported in bold. This report may be reproduced in its entirety.

RADIONUCLIDES

Where do radionuclides occur, and what are the public health risks?

Radionuclides occur naturally as trace elements in rocks and soils as a consequence of the "radioactive decay" of uranium-238 (U-238) and thorium-232 (Th-232). This decay happens because radioactive atoms have too much energy. When radioactive atoms release or transfer their extra energy, it is called decay. The energy they release is called ionizing radiation, which may be alpha particles, beta particles, or gamma rays. This energy is transmitted through space or another medium in waves (e.g., x-rays or gamma rays) or particles (e.g., electrons or neutrons) and is capable of either directly or indirectly removing electrons from atoms, thereby creating ions, which are electrically charged atoms. Radon-222, radium-226, radium-228, uranium-238, and uranium-234 are ions of the U-238 and Th-232 decay series. They are the most common radionuclides found in groundwater.

Radon – Recommended limit 300 pCi/l

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: LBG, Inc
Pace Project No.: 35299278

Sample: Millbrook — Lab ID: 35299278001 — Collected: 03/07/17 09:45 — Received: 03/09/17 11:20 — Matrix: Drinking Water
PWS: — Site ID: — Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radon	SM7500RnB-07	439.9 ± 55.7 (66.8) C:NA T:NA	pCi/L	03/11/17 04:52	10043-92-2	
Gross Alpha	EPA 900.0	13.8 ± 3.49 (2.90) C:NA T:NA	pCi/L	03/21/17 08:57	12587-46-1	
Gross Beta	EPA 900.0	5.68 ± 1.42 (1.70) C:NA T:NA	pCi/L	03/21/17 08:57	12587-47-2	
Radium-226	EPA 903.1	4.47 ± 1.07 (0.500) C:NA T:104%	pCi/L	03/25/17 11:55	13982-63-3	
Radium-228	EPA 904.0	4.32 ± 0.645 (0.718) C:87% T:83%	pCi/L	03/23/17 11:49	15262-20-1	
Total Uranium	ASTM D5174-97	1.26 ± 0.032 (0.193) C:NA T:NA	ug/L	03/25/17 15:02	7440-61-1	

Radionuclide	Maximum Contaminant Level
Beta/photon emitters*	4 mrem/year
Gross alpha particle	15 pCi/L
Radium-226 and Radium-228	5 pCi/L
Uranium	30 µg/L
*A total of 179 individual beta particle and photon emitters may be used to calculate compliance with the MCL.	

TABLE 2: Technologies for Radionuclides

Unit technology	Limitations (see footnotes)	Operator skill level required[1]	Raw water quality range and considerations[1]
1. Ion Exchange (IX)	(a)	Intermediate	All groundwater
2. Point of Use (POU) IX	(b)	Basic	All groundwater
3. Reverse Osmosis (RO)	(c)	Advanced	Surface water usually requires prefiltration
4. POU RO	(b)	Basic	Surface water usually requires prefiltration
5. Lime Softening	(d)	Advanced	All water
6. Green Sand Filtration	(e)	Basic	
7. Co-precipitation with Barium Sulfate	(f)	Intermediate to Advanced	Groundwater with suitable water quality
8. Electrodialysis/Electrodialysis Reversal		Basic to Intermediate	All groundwater
9. Pre-formed Hydrous Manganese Oxide Filtration	(g)	Intermediate	All groundwater

1. National Research Council (NRC). "Safe Water from Every Tap: Improving Water Service to Small Communities." National Academy Press. Washington, DC. 1997.

Limitations Footnotes:

a. The regeneration solution contains high concentrations of the contaminant ions. Disposal options should be carefully considered before choosing this technology.

b. When POU devices are used for compliance, programs for long-term operation, maintenance, and monitoring must be provided by the water utility to ensure proper performance.

c. Reject water disposal options should be carefully considered before choosing this technology.

d. The combination of variable source water quality and the complexity of the chemistry involved in lime softening may make this technology too complex for small surface water systems.

e. Removal efficiencies can vary depending on water quality.

f. This technology may be very limited in application to small systems. Since the process requires static mixing, detention basins, and filtration; it is most applicable to systems with sufficiently high sulfate levels that already have a suitable filtration treatment train in place.

g. This technology is most applicable to small systems that already have filtration in place.

Source: Environmental Protection Agency, 1998

Radium Treatment

Water Remediation Technology's (WRT's) Z-88® Radium Removal process is the most effective and environmentally responsible choice you can make for removing radium from drinking water and the community. That's because after removing the radium, we dispose of it in a licensed facility. With other treatment processes, radium removed from water may be sent to the wastewater treatment plant and can end up back in the local environment.

This process removes radium by passing contaminated water through a fluidized bed of our proprietary Z-88® natural adsorptive media in treatment columns—without adding chemicals, generating liquid waste, or wasting water. We provide a complete solution, from process equipment and radiation safety assurance to the handling and transportation of radium-loaded media.

WRT's Z-88® Radium Removal Solution

- Reduction of radium to less than the MCL of 5 pCi/L guarantees regulatory compliance
- No backwash or regeneration cycle required
- Zero-liquid discharge system ensures that no liquid waste stream is generated
- Pre-treatment for iron removal not required
- Minimal maintenance and operation consists of routine monitoring and sampling
- No handling of radioactive materials, media or chemicals by utility staff
- Disposal of TENORM* to a licensed facility
- Z-88® is NSF Standard 61 certified for use in drinking water
- Complete package of services can be provided on a long-term contract basis

* Technically Enhanced Naturally Occurring Radioactive Material

Technology Overview

Water Remediation Technology's (WRT) Z-88® Radium Removal and Gross Alpha Treatment Process utilizes proprietary adsorptive media in a series of down-flow treatment vessels to remove radium from drinking water. The water is moved through the treatment system using the water pressure generated from the well source. No chemicals are added to the water for the treatment process. After the media is sufficiently loaded with

radium contaminant, it is removed from the circuit and permanently disposed of in a licensed facility. WRT designs, manufactures and provides the equipment and media used in the facility. The handling and exchange of new media to replace spent media, as well as the shipping and disposal into licensed disposal sites, is handled by WRT. The treatment media are ANSI/NSF Standard 61 certified for use in drinking water.

Hydraulic Loading Rate (HLR) and Empty-bed Contact Time (EBCT) – operate nominally at 11.5 gallons per minute per square foot. Recommended Standards for pressure filtration is 5 GPM/ ft.sq.

Equipment

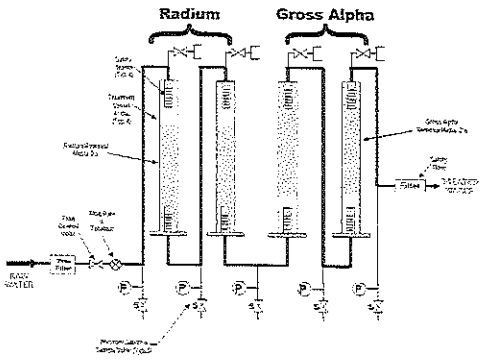

Figure 3. Simplified Process Flow Diagram