

C1 34898

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY PLEASE TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER P43587

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

ST/CO USE ONLY DATE RECEIVED MM DD YY 10 03 14

DATE WELL COMPLETED MM DD YY 9 21 16

Depth of Well 22 300 26 (TO NEAREST FOOT)

DK 10/5/16 SC

PERMIT NO. FROM "PERMIT TO DRILL WELL" HD-15-0317

OWNER Halton Allen last name first name WELL SITE ADDRESS 10660 BreezeWood DR TOWN Woodstock SUBDIVISION BreezeWood farm SECTION LOT 17

WELL LOG Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM TO), check if water bearing. Rows include Brown Shale (0-30), Gray schist (30-260), White (260-261), Gray schist (261-300).

GROUTING RECORD yes no Y N WELL HAS BEEN GROUTED (Circle Appropriate Box)

TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 25 NO. OF POUNDS 230 GALLONS OF WATER 150 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 54 ft.

CASING RECORD casing types insert appropriate code below ST STEEL CO CONCRETE PL PLASTIC OT OTHER

MAIN CASING TYPE ST Nominal diameter top (main) casing (nearest inch)! 06 Total depth of main casing (nearest foot) 56

OTHER CASING (if used) diameter inch depth (feet) from to

SCREEN RECORD screen type or open hole insert appropriate code below ST STEEL BR BRASS PL PLASTIC HO OPEN HOLE OT OTHER

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes no Y N

CIRCLE APPROPRIATE LETTER A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED E ELECTRIC LOG OBTAINED P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO. 1 M SD 009

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. 1 D

SITE SUPERVISOR (sign of driller or journeyman responsible for sitework if different from permittee)

DEPTH (nearest ft.) HO 56 300

ACCHSR EEN SLOT SIZE 1 2 3 DIAMETER OF SCREEN (NEAREST INCH) 56 60

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q TELESCOPE CASING LOG INDICATOR OTHER DATA

C3 1 2 PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 8.5 METHOD USED TO MEASURE PUMPING RATE 1 gal WATER LEVEL (distance from land surface) BEFORE PUMPING 69 ft WHEN PUMPING 81 ft TYPE OF PUMP USED (for test) A air P piston T turbine C centrifugal R rotary O other J jet S submersible

PUMP INSTALLED DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29 CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35 PUMP HORSE POWER 37 41 PUMP COLUMN LENGTH (nearest ft.) 43 47

CASING HEIGHT (circle appropriate box and enter casing height) + above - below LAND SURFACE 01 (nearest foot)

LATITUDE 39.3266220 LONGITUDE 76.8816396 (DEFAULT COORD. WGS 84)

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info. may result in this form not being processed.

B 1 39459

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type

STATE PERMIT NUMBER

40-15-0317 fill in this form completely

Date Received (APA)

09 20 16

OWNER INFORMATION

Halton Allen, 10660 Breezewood Dr, Woodstock Md

B 3

LOCATION OF WELL

Howard County, Breezewood Farm, Section 4, Lot 17, Woodstock

DRILLER INFORMATION

Allen Compton, MS Doog, Eagles Well Drilling, LLC, P.O. Box 202 Woodbine, Md 21797

B 4

SOURCES OF DRILLING WATER

1. well water

10660 Breezewood Dr

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



34 30 37 DISTANCE FROM ROAD

ENTER FT OR MI 38 39

TAX MAP: 0010 BLK: 0018 PARCEL 0269

B 2

WELL INFORMATION

APPROX. PUMPING RATE 51, AVERAGE DAILY QUANTITY NEEDED 500

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- Domestic Potable Supply & Residential Irrigation, Farming, Industrial, Commercial, Dewatering, Public Water Supply Well, Test, Observation, Monitoring, Open Loop Geothermal, Closed Loop Geothermal

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard P43587, County Name, State Signature, Date Issued 9/20/2016, Co Signature Brian Baker, Exp. Date 9/20/2017

APPROXIMATE DEPTH OF WELL 300 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

- Bored (or Augered), Jetted, Jetted & Driven, Air-Rotary, Air-PerCussion, Rotary (Hydraulic Rotary), Cable, REVerse-ROtary, Drive-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

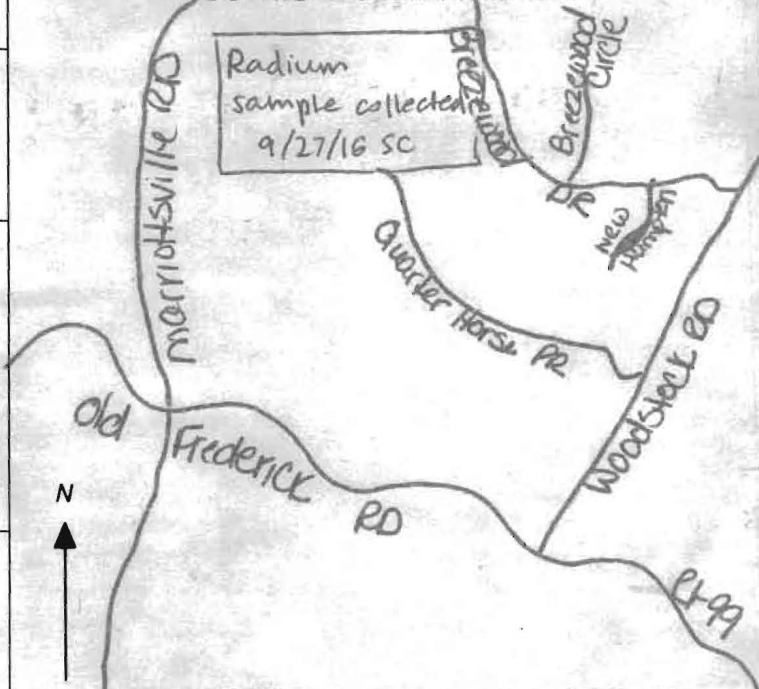
- This well will not replace an existing well, This well will replace a well that will be abandoned and sealed, This well will replace a well that will be used as a standby-contact local approving authority for policy on standby wells, This well will deepen an existing well

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 H0-73-2746

Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROP. PERMIT NUMBER G, PERMIT No. H0-15-0317

PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
WELL & SEPTIC PROGRAM
TEL: (410)313-1771 FAX: (410)313-2648

Information Form for the Installation of the Well Pump, Pitless Adapter, and Supply Piping

NOTE: The installer is responsible for requesting an inspection prior to 9 am on the day of the desired inspection. No work is to be covered until approved by the Health Department. All installations must comply with the National Standard Plumbing Code (NSPC, as amended locally) and COMAR 26.04.04 (MD Well Construction Regulations). Submission of a complete form is required prior to Use and Occupancy approval.

Company Name: Fogles Well Drilling LLC Telephone #: 410 795 5670
Address: PO Box 202
Woodbine, MD 21797

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): David Fogle License # MSD 226
*A licensed individual must perform the actual installation. Apprentices must be under the supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification. Unlicensed individuals may be reported to the appropriate licensing agency.

Name of Property Owner: Allen HAMTON Telephone #: 443-668-0081
Subdivision: _____ Lot #: _____ Well Tag #: HO-15-0317
Site Address: 14660 Breezewood Dr
Woodstock, MD 21163

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>Grundfos</u>	Make: <u>Amplex II</u>	Two piece watertight cap: <u>YES</u>
Model #: <u>ISS0207-180</u>	Model #: <u>N/A</u>	Screened, vented well cap: <u>YES</u>
Pump Capacity: <u>15</u> GPM	Depth: <u>36"</u> (36" min)	Cap secured to casing: <u>YES</u>
Well Yield: <u>8.5</u> GPM	NSF/WSC approved: <u>N/A</u>	Conduit min 1 1/2" B.G.: <u>YES</u>
Depth of well encountered at time of pump installation: <u>300'</u> (feet)	Conduit secured to well cap: <u>YES</u>	

If pump capacity exceeds well yield, a low water cutoff switch is required by NSPC 1990 Section 17.2.4
Torque arrestors, cable guards, or other acceptable method used— Must circle one
Safety rope, if used, attached to brass rope adapter or other acceptable method inside of well casing N/A

<u>Piping to house</u>	<u>House Connection</u>
Type: <u>1" poly pipe</u>	PVC sleeve to undisturbed soil at wall penetration: <u>YES</u>
PSI: <u>700</u> (160 psi min)	Length of sleeve (5' minimum from foundation): <u>6'</u>
Depth of supply line: <u>36"</u> (36" min)	Sleeve sealed properly: <u>YES</u>

The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation: David Fogle date: 10/27/16

For Health Department Use Only – Not to be completed by Installer

Date Insp. Requested: 10/28/16 Date Insp. Approved: 10/28/16 Inspector: rk

Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade	<input checked="" type="checkbox"/>
Two piece cap installed and attached to casing securely	<input checked="" type="checkbox"/>
Elec. conduit extends at least 18" below grade/attached to cap properly	<input checked="" type="checkbox"/>
Safety rope not outside of well casing	<input checked="" type="checkbox"/>
Correct well tag attached properly and casing 8" above finished grade	<input checked="" type="checkbox"/>
Water supply line sleeved adequately at house connection	<u>not needed</u> ✓
Adequate grout observed below pitless adapter	<input checked="" type="checkbox"/>



Bureau of Environmental Health

8930 Stanford Blvd, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org

Maura J. Rossman, M.D., Health Officer

March 13, 2017

Allen Hatton
10660 Breezewood Dr.
Woodstock, MD 21163

RE: **Replacement Well Sampling**
10660 Breezewood Dr.
#HO-15-0317

Dear Mr. Hatton,

On 11/17/16 the Health Department collected water samples from the new well on the property, #HO-15-0317. Testing indicated bacteria in the water sample. We recommend treating the well with chlorine bleach to disinfect. Chlorination can be done by a water quality professional or by following the steps on the attached sheet.

After disinfection of the well, please contact the Community Hygiene Program at **410-313-1773** to schedule repeat bacteria testing. There is no charge for the testing and it is to your benefit to have the water tested.

The Health Department received an abandonment report from Fogle's Well Drilling for the old well on the property, #HO-73-2746. The passing bacteria test is the final documentation we need for the wells on the property at this time.

Feel free to contact me with any questions.

Sincerely,

A handwritten signature in cursive script that reads 'Sarah Collins'.

Sarah Collins, L.E.H.S.
Well and Septic Program
SCollins@howardcountymd.gov
410-313-6287

Cc: Community Hygiene Program
File

 WATER WELL ABANDONMENT-SEALING REPORT FORM

SUBMIT COPIES OF COMPLETED FORM TO:

- * COUNTY ENVIRONMENTAL AGENCY (contact MDE, WMA if address needed)
- * WELL OWNER
- * MDE, WATER MANAGEMENT ADMINISTRATION, WELL PROGRAM

OK
 3/13/17 SC

DATE WELL ABANDONED: 2-3-17 (month/day/year)

* PERMIT NUMBER OF ABANDONED WELL (if any)

HO-73 - 2746
HO-15 - 0317

* PERMIT NUMBER OF REPLACEMENT WELL:

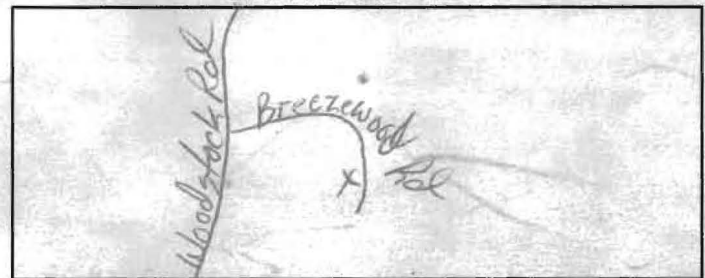
* PERSON ABANDONING WELL: Andrew Houseman WELL DRILLER'S LICENSE NUMBER: 224

CIRCLE: MWD / MSD / MGD

* OWNER'S NAME: Allen Hatton

SITE LOCATION MAP

* WELL LOCATION:
 COUNTY: Howard
 NEAREST TOWN: Woodstock
 TAX MAP 0010 BLOCK 0018 PARCEL 0269
 SUBDIVISION: BreezeWood Farm
 SECTION: _____ LOT: 17
 STREET ADDRESS: 10660 BreezeWood Dr.



LATITUDE 3 9 . 326328

LONGITUDE 7 6 . 880997

LOG OF SEALING MATERIAL

MATERIAL	FEET	
	FROM	TO
Bentonite	145	0
VOLUME OF MATERIAL USED		
1900 lbs Bentonite		

* TYPE OF WELL BEING ABANDONED:
 DRILLED JETTED
 BORED HAND DUG
 OTHER (specify) _____

* USE CODE:
 DOMESTIC MUNICIPAL/PUBLIC
 IRRIGATION INDUSTRIAL
 TEST/OBSERVATION GEOTHERMAL

* TYPE OF CASING:
 STEEL PLASTIC
 CONCRETE OTHER (specify) _____

SIZE OF CASING: 6 INCHES IN DIAMETER

DEPTH OF WELL: 145 FEET DEEP

WAS ANY CASING REMOVED? YES NO
 If yes, length removed, in feet: _____

WAS CASING RIPPED OR PERFORATED? YES NO

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN LICENSE#

224

MWD / MSD / MGS
 CIRCLE ONE

2-14-17
 DATE

COUNTY

Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.



Bureau of Environmental Health

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www.hchealth.org

Facebook: www.facebook.com/hocohealth

Maura Rossman, M.D., Health Officer

December 6, 2016

Mr. and Mrs. Allen Hatton
10660 Breezewood Drive
Woodstock, Maryland 21163-1317

RE: Breezewood Farm Lot 17
Replacement Well
10660 Breezewood Drive
Well Tag: HO - 15 - 0317

Dear Mr. and Mrs. Hatton:

Follow-up testing was collected on November 17, 2016 and submitted to the Department of Health & Mental Hygiene Laboratories (DHMH) and Florida Radiochemistry (FRC) to assess the effectiveness of treatment to address the presence of **Gross Alpha**, **Gross Beta** and possible **Radium 226 / 228** in the future well water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Pre-treatment short-term results from this screening (sample collected from the water tank pre-softener and submitted to DHMH) revealed a **Gross Alpha** of 9.9 ± 2.0 pCi/L; while the **Gross Beta** level was 13.3 ± 2.2 pCi/L. The **Gross Alpha** result was below the maximum contaminant level (MCL) of 15 pCi/L, while the **Gross Beta** level was below the targeted value of 50 pCi/L (roughly equivalent to 4 millirems/year).

Post-treatment short-term results (sample collected from the bathroom sink after the softener system) revealed a **Gross Alpha** of $< 2.0 \pm 0.0$ pCi/L, while the **Gross Beta** level was $< 4.0 \pm 0.0$ pCi/L. Here the **Gross Alpha** result remained below its MCL of 15 pCi/L, while the **Gross Beta** level was again below its targeted value of 50 pCi/L.

Pre-treatment long-term results from this screening (sample collected from the water tank pre-softener and submitted to FRC) revealed a **Gross Alpha** of 3.3 ± 1.3 pCi/L; while the **Gross Beta** level was 14.0 ± 1.7 pCi/L. Again, the **Gross Alpha** result was below the MCL of 15 pCi/L, while the **Gross Beta** level was below the targeted value of 50 pCi/L.

Post-treatment long-term results (sample collected from the kitchen sink and after the R/O system) revealed a **Gross Alpha** of $< 1.4 \pm 1.0$ pCi/L, while the **Gross Beta** level was $< 1.9 \pm 1.1$ pCi/L. Here the **Gross Alpha** result was below its MCL of 15 pCi/L, while the **Gross Beta** level was again below its targeted value of 50 pCi/L.

Additionally, a post-treated **Radium 226 / 228** sample was collected and also submitted to FRC. These naturally occurring isotopes of radium are considered the most important due to their longer half-lives and health significance. Results from the post-treatment sample revealed a **Radium 226** level of $< 0.2 \pm 0.1$ pCi/L, while the **Radium 228** level was $< 0.7 \pm 0.5$ pCi/L. Here the combined **Radium 226 / 228** for both the post-treatment sample was below the MCL of 5 pCi/L.

At the time of testing and with respect to these parameters, the future **treated** well water supply **meets** EPA regulatory standards. **For these parameters**, findings from this testing will satisfy that portion of the future Certificate of Potability. Given the initial readings (from October 2016), treatment to address these naturally occurring contaminants should be used and maintained. In this case, the water softener treatment appears effective in reducing levels of these contaminants. Given these findings, your existing water softener system is able to reduce /remove these naturally occurring radionuclides to a safe level.

Please note that when the other standard testing parameters (bacteria, nitrate, turbidity and sand) pass, the Certificate of Potability can be issued.

A copy of each test report is enclosed for your information. Please call this office at **410-313-1773** if you have any further questions.

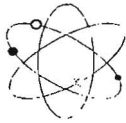
Sincerely,



Bert Nixon, Director
Bureau of Environmental Health

Enclosure

✓ cc: Property file



Florida Radiochemistry Services, Inc.

Analysis Report

Lab Sample I.D.	1611172-01	1611172-02	1611172-03
Client I.D.	HC10660L - Pre	HC10660L - Post	HC10660L - 226/228
Gross Alpha	3.3	<1.4	
Error +/-	1.3	1.0	
MDL	1.4	1.4	
EPA Method	900.0	900.0	
Prep Date / Time	11/28/16 06:15	11/28/16 06:15	
Analysis Date / Time	11/29/16 09:57	11/29/16 09:59	
Analyst	MJN	MJN	
Gross Beta	14.0	<1.9	
Error +/-	1.7	1.1	
MDL	1.9	1.9	
EPA Method	900.0	900.0	
Prep Date / Time	11/28/16 06:15	11/28/16 06:15	
Analysis Date / Time	11/29/16 09:57	11/29/16 09:59	
Analyst	MJN	MJN	
Radium 226			<0.2
Error +/-			0.1
MDL			0.2
EPA Method			903.1
Prep Date / Time			11/28/16 05:50
Analysis Date / Time			12/05/16 10:57
Analyst			MJN
Radium 228			<0.7
Error +/-			0.5
MDL			0.7
EPA Method			Ra-05
Prep Date / Time			11/28/16 05:50
Analysis Date / Time			12/05/16 12:21
Analyst			SN
Units	pCi/l	pCi/l	pCi/l

SEND REPORT TO:

Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, Maryland 21045

State of Maryland
DHMH - Laboratories Administration
Division of Environmental Chemistry
RADIATION LABORATORY
1770 Ashland Avenue
Baltimore, Maryland 21205

Lab No.
E001017 2172

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Field Blank County: Howard

Sample Source: 10000 Breezwood Dr, Woodstock Location: _____

Radon-222 Bottle A _____ Radon-222 Field Blank Bottle A _____
Bottle B _____ Bottle B _____
(Well no., lab sink, sample tap, etc.)

County 13 Plant No. _____

CHECK (one per Box)

Type	Service	Point of Collection	Testing
Drinking Water <input type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input type="checkbox"/>	Routine <input type="checkbox"/>
Stream <input type="checkbox"/>	Private <input type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input type="checkbox"/>
Other _____ <input type="checkbox"/>	Other _____ <input type="checkbox"/>		Special <input type="checkbox"/>

Submitters Code: _____ Federal Project: 5

Collector: BULESTAV SHKLYAK Telephone No.: 410-313-1787

Date Collected: 11/17/16 Time Collected: _____ a.m. _____ p.m.

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: _____

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/>	Gross Alpha	4000	1017	EPA900.0	<2.0	11/18/16	ST	11/28/16
<input checked="" type="checkbox"/>	Gross Beta	4100	1017	EPA900.0	<4.0	11/18/16	ST	11/28/16
<input type="checkbox"/>	Radium-226	4020						
<input type="checkbox"/>	Radium-228	4030						
<input type="checkbox"/>	Total Uranium	4006						
<input type="checkbox"/>	Radon-222 (Bottle A)	4004						
<input type="checkbox"/>	Radon-222 (Bottle B)	4004						
<input type="checkbox"/>	Radon Field Blank A	4004						
<input type="checkbox"/>	Radon Field Blank B	4004						
<input type="checkbox"/>	Tritium							
<input type="checkbox"/>								
<input type="checkbox"/>								


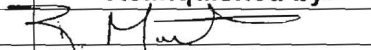

Date Received: 11/17/16 Received By: [Signature]

Data Release Signature: [Signature] Date: 11-28-16

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>		
Sample pH <2.0?	<input checked="" type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>		

•Tel. No.: (443) 681-3766 •Fax No.: (443) 681-4507

Chain of Custody

		Florida Radiochemistry Services, Inc.			FL Certification E83033	
		5456 Hoffner Ave., Suite 201 Orlando, FL. 32812				
		Ph.(407)382-7733				
		Fax(407)382-7744				
Company Name:		Howard County Health Dept			Phone # (410) 313-1773	
Address:		8930 Stanford Blvd.			Fax # (410) 313-2648	
City / State / Zip		Columbia, MD 20145				
Send Report to:		Bert Nixon, bnixon@howardcountymd.gov				
Additional Report:						
Invoice to:		Bert Nixon				
Project I.D.						
P.O. #						
Sample I. D.		Date / Time Sampled	Sample # of	Pres.	Analysis	Remarks
(Sample Location)			Type	Btls	Requested	
HC10660L - Pre		11/17/2016	Raw	1	HNO3	Gross Alpha / Beta (Long Term)
HC10660L - Post		11/17/2016	Treat	1	HNO3	Gross Alpha / Beta (Long Term) Post Softner
HC10660L - 226/228		11/17/2016	Treat	1	HNO3	Radium 226/228 Post Softner
Relinquished by:		Date/Time			Sampled By:	
		11/21/16 1:23 pm			Boleslav Shklyar 410-313-1787	
Received by:		Date/Time				
		11/21/16 1:23 pm				



Bureau of Environmental Health

8930 Stanford Blvd, Columbia, MD 21045
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org

Maura J. Rossman, M.D., Health Officer

October 21, 2016

Allen Hatton
10660 Breezewood Dr.
Woodstock, MD 21163

RE: **Replacement and Existing Well Sampling**
10660 Breezewood Dr.
#HO-15-0317 and #HO-73-2746

Dear Mr. Hatton,

Fogle's Well Drilling recently drilled a replacement well on your property, #HO-15-0317. As indicated in the letter recently sent from the Health Department, the well has high levels of radium. We recommend that you consider a treatment device to reduce levels of radium in the water. Additional testing post-treatment can ensure that levels are reduced.

Once the new well is connected to the dwelling, we request that you contact the Community Hygiene Program at (410) 313-1773 to schedule initial water sampling as required by the Maryland Well Construction Regulation (*COMAR 26.04.04*). This sampling includes testing for bacteria, nitrates, turbidity, and sand. There is currently no charge for the sampling and it is to your benefit to have it tested.

Fogle's Well Drilling also mentioned that you'd like to keep the existing well on the property, #HO-73-2746. We would first need to ensure that there is sufficient recharge on the well; a well with little or no recharge can lead to contamination of the groundwater aquifer. Given the high levels of radium found in the replacement well, we recommend sampling the existing well for radium. In addition, the well has a loose cap and electrical conduit and does not meet current construction standards. We also recommend sampling for bacteria to ensure the water is free of contaminants. The well cap and electrical conduit should also be replaced if the well is to remain in use. Please contact the Community Hygiene Program to schedule testing.

Sampling of the wells should be collected from the primary indoor drinking tap, but if suitable scheduling is not possible, the sample may be taken from an outside tap to complete your sampling obligation. However, the potential for unsuccessful sample results increases when samples are collected from taps exposed to the outside environment. If sampling has already been performed by an outside lab, please help us by forwarding the results of the samples to our office.

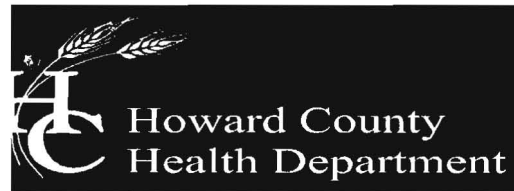
Feel free to contact me with any questions.

Sincerely,

A handwritten signature in cursive script that reads 'Sarah Collins'.

Sarah Collins, L.E.H.S.
Well and Septic Program
SCollins@howardcountymd.gov
410-313-6287

Cc: Fogle's Well Drilling
Community Hygiene Program
File



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Maura Rossman, M.D., Health Officer

October 19, 2016

Mr. Allen Hatton
10660 Breezewood Drive
Woodstock, Maryland 21163-1317

RE: Breezewood Farm Lot 17
Replacement Well
10660 Breezewood Drive
Well Tag: HO - 15 - 0317

Dear Mr. Hatton:

A sample was collected during a yield test on September 27, 2016 and submitted to the Department of Health & Mental Hygiene Laboratories to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this screening revealed a **Gross Alpha** of 25.9 ± 3.4 picocuries/liter (pCi/L), while the **Gross Beta** level was 23.4 ± 2.7 pCi/L. The **Gross Alpha** result was above its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L (roughly equivalent to the **annual dose rate** of 4 millirems/year).

At the time of testing and with respect to these parameters, the future well water supply **does not** meets EPA regulatory standards. Additional testing **for these parameters** will be required to secure the future Use & Occupancy. Given these initial readings, treatment to address these naturally occurring contaminants should be considered. Both a water softener and R/O system, have been shown to be effective in reducing levels of these contaminants. If treatment is installed, post treatment levels for **Gross Alpha, Gross Beta** and **Radium 226/228** shall be collected to ensure that the treatment is effective. **Please note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will still be required to help secure Use & Occupancy.

A copy of the test results is enclosed for your information. Please call this office at 410-313-1773 if you have any further questions.

Sincerely,

A handwritten signature in black ink that reads 'Bert Nixon'.

Bert Nixon, Director

Bureau of Environmental Health

✓ Enclosure
cc: Property file

SEND REPORT TO: Bert Nixon
 Howard Co. Health Dept
 Bureau of Environmental Health
 8930 Stanford Blvd
 Columbia, MD 21045

State of Maryland
 DHMH - Laboratories Administration
 Division of Environmental Chemistry
RADIATION LABORATORY
 1770 Ashland Avenue
 Baltimore, Maryland 21205

03-303349
 Lab No.
 E000672 6209

LOT 17 BREEZEWOOD FARMS

ALLAN HATTON LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: BreezeWood Farm - Lot 17 County: Howard

Sample Source: 10667 BreezeWood Dr. Woodstock Location: HD-15-0317

21163-1317

(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A _____ Radon-222 Field Blank Bottle A _____
 Bottle B _____ Bottle B _____

County 13 Plant No. _____

CHECK (one per Box)

Type	
Drinking Water	<input checked="" type="checkbox"/>
Landfill	<input type="checkbox"/>
Stream	<input type="checkbox"/>
Other	<input type="checkbox"/>

Service	
Community	<input type="checkbox"/>
Non-Community	<input type="checkbox"/>
Private	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Point of Collection	
Source (Raw)	<input checked="" type="checkbox"/>
Distribution (treated)	<input type="checkbox"/>
MCL	<input type="checkbox"/>

Testing	
Emergency	<input type="checkbox"/>
Routine	<input checked="" type="checkbox"/>
Recheck	<input type="checkbox"/>
Special	<input type="checkbox"/>

Submitters Code: _____ Federal Project: 5

Collector: S. Collins Telephone No.: 410-313-6287

Date Collected: 9/27/16 Time Collected: 10:15 a.m. _____ p.m.

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample collected during yield test (RESPIRIMENT WELL)

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/>	Gross Alpha	4000	0672	EPA900.0	25.9 ± 3.4	9/29/16	JT	10/3/16
<input checked="" type="checkbox"/>	Gross Beta	4100	0672	EPA900.0	23.4 ± 2.7	9/29/16	JT	10/3/16
<input type="checkbox"/>	Radium-226	4020						
<input type="checkbox"/>	Radium-228	4030						
<input type="checkbox"/>	Total Uranium	4006						
<input type="checkbox"/>	Radon-222 (Bottle A)	4004						
<input type="checkbox"/>	Radon-222 (Bottle B)	4004						
<input type="checkbox"/>	Radon Field Blank A	4004						
<input type="checkbox"/>	Radon Field Blank B	4004						
<input type="checkbox"/>	Tritium							
<input checked="" type="checkbox"/>	Gross Alpha - Conf		0672	EPA900.0	28.2 ± 3.5	9/29/16	JT	10/3/16
<input checked="" type="checkbox"/>	Gross Beta - Conf		0672	EPA900.0	21.3 ± 2.6	9/29/16	JT	10/3/16

Date Received: 09/28/16 Received By: JT JT

Data Release Signature: _____ Date: 10/3/16

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample pH < 2.0?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

•Tel. No.: (443) 681-3766 •Fax No.: (443) 681-4507

SEND REPORT TO: Bert Nixon
 Howard Co. Health Dept.
 Bureau of Environmental Health
 8930 Stanford Blvd.
 Columbia, MD 21045

State of Maryland
 DHMH - Laboratories Administration
 Division of Environmental Chemistry
RADIATION LABORATORY
 1770 Ashland Avenue
 Baltimore, Maryland 21205

Lab No. E000670-28

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Field Blank County: Howard

Sample Source: dH₂O Location: HCHD Lab

(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A _____ Radon-222 Field Blank Bottle A _____
 Bottle B _____ Bottle B _____

County 13 Plant No.

--	--	--	--	--	--	--	--	--	--

CHECK (one per Box)

Type	
Drinking Water	<input checked="" type="checkbox"/>
Landfill	<input type="checkbox"/>
Stream	<input type="checkbox"/>
Other _____	<input type="checkbox"/>

Service	
Community	<input type="checkbox"/>
Non-Community	<input type="checkbox"/>
Private	<input type="checkbox"/>
Other _____	<input type="checkbox"/>

Point of Collection	
Source (Raw)	<input checked="" type="checkbox"/>
Distribution (treated)	<input type="checkbox"/>
MCL	<input type="checkbox"/>

Testing	
Emergency	<input type="checkbox"/>
Routine	<input checked="" type="checkbox"/>
Recheck	<input type="checkbox"/>
Special	<input type="checkbox"/>

Submitters Code:

--	--

 Federal Project: 5

Collector: S. Collins Telephone No.: 410-313-6287

Date Collected: 9/27/16 Time Collected: _____ a.m. 3:45 p.m.

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: _____

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input type="checkbox"/>	Gross Alpha	4000	0670	EPA900.0	<2.0	09/29/16	JJ	10/3/16
<input type="checkbox"/>	Gross Beta	4100	0670	EPA900.0	5.5 ± 1.6	09/29/16	JJ	10/3/16
<input type="checkbox"/>	Radium-226	4020						
<input type="checkbox"/>	Radium-228	4030						
<input type="checkbox"/>	Total Uranium	4006						
<input type="checkbox"/>	Radon-222 (Bottle A)	4004						
<input type="checkbox"/>	Radon-222 (Bottle B)	4004						
<input type="checkbox"/>	Radon Field Blank A	4004						
<input type="checkbox"/>	Radon Field Blank B	4004						
<input type="checkbox"/>	Tritium							
<input type="checkbox"/>								
<input type="checkbox"/>								

Date Received: 09/28/16 Received By: JJ
 Data Release Signature: _____ Date: 10-3-16

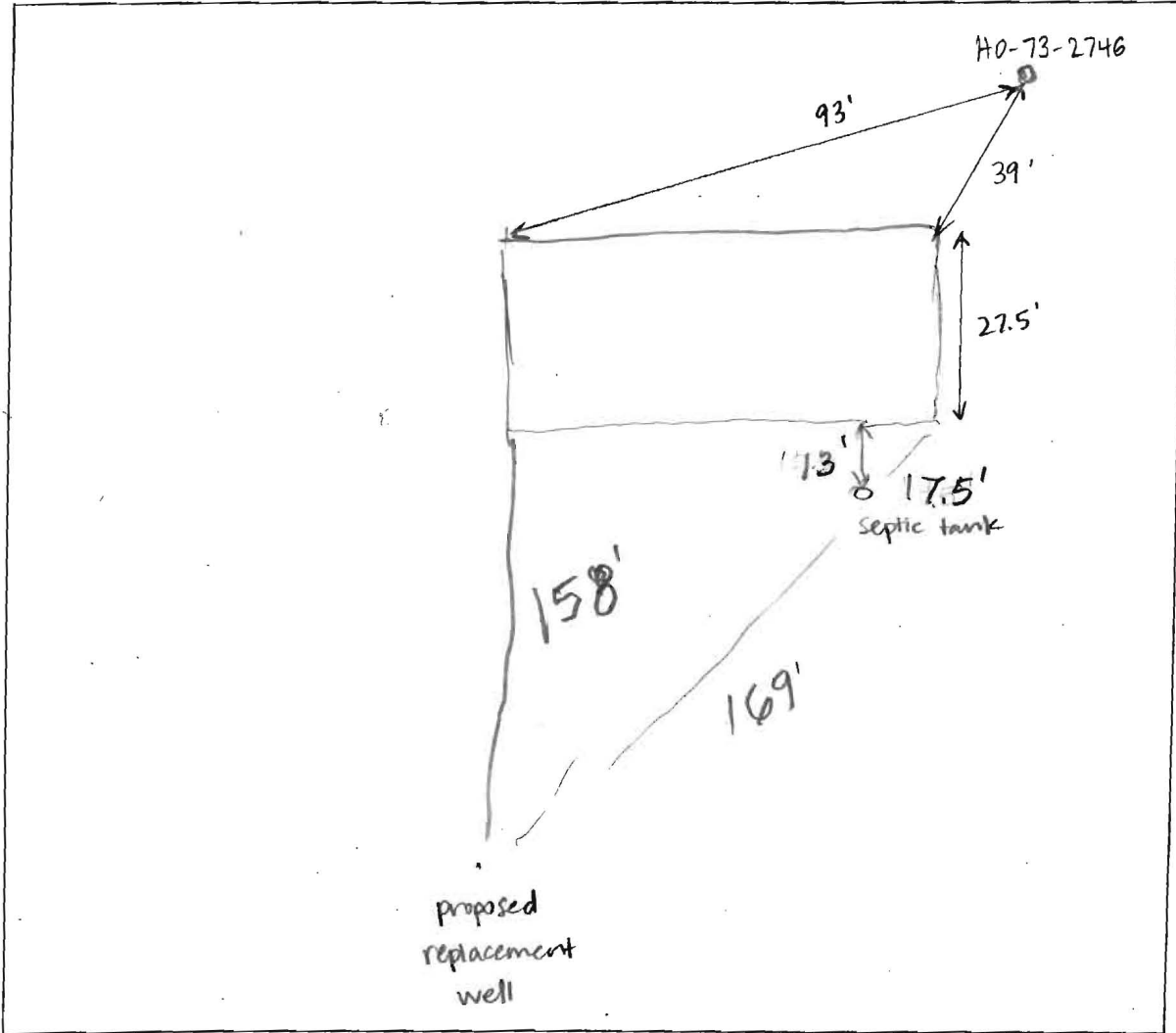
Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>		
Sample pH <2.0?	<input checked="" type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>		

•Tel. No.: (443) 681-3766 •Fax No.: (443) 681-4507

SITE INSPECTION SHEET

OWNER: Allen Hatton PHONE #: _____
ADDRESS: 10660 Breezewood Dr. CONTRACTOR: Fogles
WELL TAG #: _____
SUBDIVISION: _____ LOT: _____ COUNTY #: P43587
PROPOSAL: _____

LOCATION DIAGRAM



COMMENTS: _____

FILE INQUIRY NOTES

DATE	RESULTS OF REVIEW FOR FILE
9/27/16	On site during yield test. Still pumping down, started at 8:30 am.
	Well 300', 69' static, 50' steel casing. Currently pumping 8.5 gpm.
	at 88'. Collected radium sample at 10:15 am. (Sc)

SEND REPORT TO:

Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, Maryland 21045

State of Maryland
DHMH - Laboratories Administration
Division of Environmental Chemistry
RADIATION LABORATORY
1770 Ashland Avenue
Baltimore, Maryland 21205

Lab No.
E001019 2172

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Arlene Hathon County: Howard

Sample Source: 10660 Breezwood Dr, Woodstock Location: _____

(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A HCHWOODS POST Radon-222 Field Blank Bottle A _____
Bottle B _____ Bottle B _____

County 13 Plant No. _____

CHECK (one per Box)

Type	Service	Point of Collection	Testing
Drinking Water <input type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input checked="" type="checkbox"/>	Routine <input checked="" type="checkbox"/>
Stream <input type="checkbox"/>	Private <input checked="" type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input type="checkbox"/>
Other _____ <input type="checkbox"/>	Other _____ <input type="checkbox"/>		Special <input type="checkbox"/>

Submitters Code: _____ Federal Project: 5

Collector: Boleslav Shklyav Telephone No.: 410-313-1787

Date Collected: 11/17/16 Time Collected: 11:00 a.m. _____ p.m.

Field pH: 6.7 Field Chlorine: 0.0

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Samples taken from bath room
* GIVE A/SUITS TO W/ SEPTIC AND TO B. MIXON

TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/> Gross Alpha	4000	1019	EPA900.0	27.0	11/18/16	ST	11/28/16
<input checked="" type="checkbox"/> Gross Beta	4100	1019	EPA900.0	24.0	11/18/16	ST	11/28/16
<input type="checkbox"/> Radium-226	4020						
<input type="checkbox"/> Radium-228	4030						
<input type="checkbox"/> Total Uranium	4006						
<input type="checkbox"/> Radon-222 (Bottle A)	4004						
<input type="checkbox"/> Radon-222 (Bottle B)	4004						
<input type="checkbox"/> Radon Field Blank A	4004						
<input type="checkbox"/> Radon Field Blank B	4004						
<input type="checkbox"/> Tritium							
<input type="checkbox"/>							
<input type="checkbox"/>							

Date Received: 11/17/16 Received By: JR

Data Release Signature: _____ Date: 11-28-16

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample pH <2.0?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Received within holding time?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

•Tel. No.: (443) 681-3766 •Fax No.: (443) 681-4507