

C1 56547 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

ST/CO USE ONLY DATE RECEIVED MM 02 DD 19 YY 98

DATE WELL COMPLETED MM 02 DD 19 YY 98 DEPTH OF WELL 22 200 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" OK 2/25/19 SC HO-17-0339

OWNER Trinity Homes WELL SITE ADDRESS 15000 Hillcroft Lane TOWN Highland SUBDIVISION The Estates at River Hill SECTION LOT 15

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for Red Clay, Soft Brown, Grey Limestone, Broken, and White Limestone.

GRROUTING RECORD WELL HAS BEEN GROUTED (Y) NO (N) TYPE OF GROUTING MATERIAL (C) M BENTONITE CLAY (B) C CEMENT NO. OF BAGS 19 NO. OF POUNDS 1786

CASING RECORD casing types insert appropriate code below (S) T (S) T STEEL (C) O CONCRETE (P) L PLASTIC (O) T OTHER

MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot) (S) T 60 61 63 64 66 70

OTHER CASING (if used) diameter inch depth (feet) from to (S) T 4 95 137

SCREEN RECORD screen type or open hole insert appropriate code below (S) T (B) R BRASS BRONZE (H) O OPEN HOLE (P) L PLASTIC (O) T OTHER

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED (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 3224 DRILLERS SIGNATURE LIC. NO. 1 D

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

C2 DEPTH (nearest ft.) 1 2 ST 137 200 E A C H S R E E N

DIAMETER OF SCREEN (NEAREST INCH) 56 60 from to 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 PUMPING TEST HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 10 METHOD USED TO MEASURE PUMPING RATE 1000 WATER LEVEL (distance from land surface) BEFORE PUMPING 24 WHEN PUMPING 38 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 (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 (2) (nearest foot)

LATITUDE 39.198705 LONGITUDE 76.958092 (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 SEQUENCE NO. (MDE USE ONLY) **59737**

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
 please type **503967-11**

STATE PERMIT NUMBER **HO - 17 - 0339**
 fill in this form completely

Date Received (APA) 07-27-18
 8 MM DD YY 13

OWNER INFORMATION

15 Last Name **Trinity Homes** Owner First Name **Trinity** 34

36 Street or RFD **3675 Park Ave Suite 301** 55

57 Town **Ellicott City, Md** 70 State **Md** 72 Zip **21043** 76

B 3 LOCATION OF WELL

8 COUNTY **Howard** 21

23 SUBDIVISION **The Estates at River Hill** 42

SECTION **44** 46 LOT **15** 48 50

52 NEAREST TOWN **Highland** 71

DRILLER INFORMATION Andrew Houseman M5 D 224

Driller's Name **Allen Compton** 76 License No. **M SD 009** 81

Firm Name **Eagles Well Drilling, LLC**

Address **P.O. Box 202 Woodbine Md 21797**

Signature **Allen Compton** 7-27-18 Date

B 4 SOURCES OF DRILLING WATER

1. **Well water**

2. _____

3. _____

11 STREET ADDRESS **Allnut Lane** 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH WEST EAST SOUTH

34 DISTANCE FROM ROAD **1000** 37 FT 38 39

ENTER FT OR MI

TAX MAP: **34** BLK: **23** PARCEL **389**

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) **5** 8 12

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) **500** 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION

F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)

I INDUSTRIAL, COMMERCIAL, DEWATERING

P PUBLIC WATER SUPPLY WELL

T TEST, OBSERVATION, MONITORING

O OPEN LOOP GEOTHERMAL

C CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard **(13)** COUNTY NAME COUNTY NO.

STATE SIGNATURE _____ INSERT S → 41

DATE ISSUED **9/18/18** 43 MM DD YY 48

CO SIGNATURE **SLC/M** EXP. DATE **9/18/19**

DOB: 2/4/2019 (S) DOB: 2/6/19 (S) DOB: 2/6/19 (S)

APPROXIMATE DEPTH OF WELL **300** FEET 24 28

APPROXIMATE DIAMETER OF WELL **6** INCH NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) AIR-ROTary AIR-PERCussion CABLE other _____

JETTED Jetted & DRIVEN ROTARY (Hydraulic Rotary) DRIVE-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

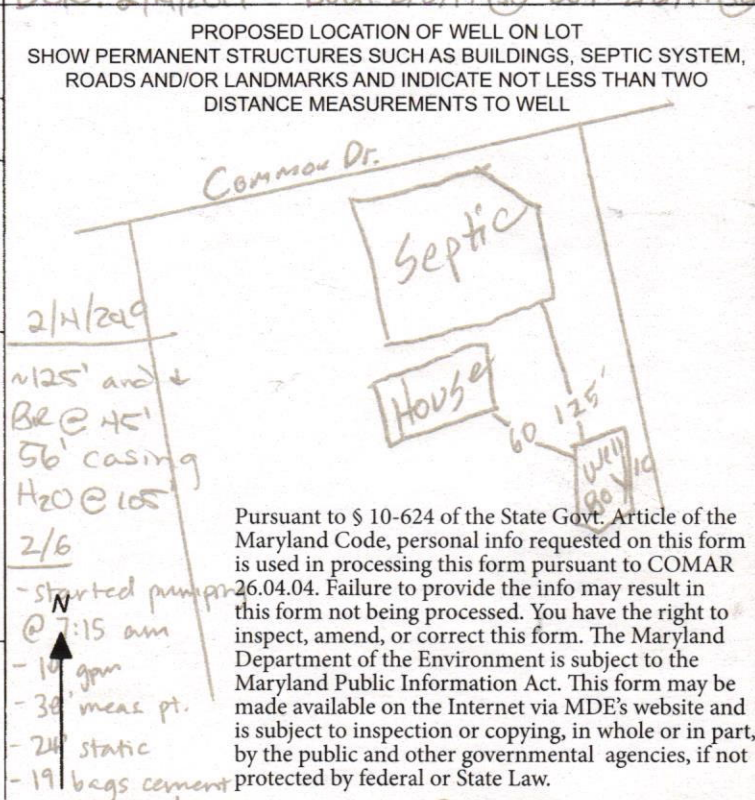
N THIS WELL WILL NOT REPLACE AN EXISTING WELL

Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED

S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS

D THIS WELL WILL DEEPEM AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 _____ 52



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

APPROP. PERMIT NUMBER **H02018G005**

PERMIT No. **HO - 17 - 0339** 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS **SEE ATTACHED MEMO.**

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: Do-It Plumbing & Heating Telephone #: 2408820069
Address: 9955 Old Mill Rd
B.C. MD 21042

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:

Name (Print): Duane Gilbert License# 21899

***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: TBF Telephone #: 410-428-0823
Subdivision: The Estate of River Hill Lot #: 15 Well Tag #: HO-17-0379 ✓
Site Address: 13612 OLIVIA WAY
Highland Md.

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>Goulds</u>	Make: <u>Campbell</u>	Two piece watertight cap: <u>yes</u>
Model #: <u>10HS05 422C</u>	Model#: <u>P800LF</u>	Screened, vented well cap: <u>yes</u>
Pump Capacity <u>10</u> GPM	Depth: <u>42"</u> (36" min)	Cap secured to casing: <u>yes</u>
Well Yield: <u>10</u> GPM	NSF/WSC approved: <u>yes</u>	Conduit min 18" B.G.: <u>yes</u>
Depth of well encountered at time of pump installation: <u>200</u> (feet)		Conduit secured to well cap: <u>yes</u>

If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4

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

<u>Piping to house</u>	<u>House Connection</u>
Type: <u>Black Poly</u>	PVC sleeve to undisturbed soil at wall penetration: <u>yes</u>
PSI: <u>200</u> (160 psi min)	Length of sleeve (5' minimum from foundation): <u>10ft</u>
Depth of supply line: <u>42"</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: [Signature] date: 5-12-21

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

Date Insp. Requested: 5/13/21 Date Insp. Approved: 5/13/21 Inspector: RR

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

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

MEMORANDUM

TO: Allen Compton (MSD 009)

FROM: Sarah Collins, L.E.H.S. SEC
Howard County Health Department
Well and Septic Program

DATE: September 17, 2018

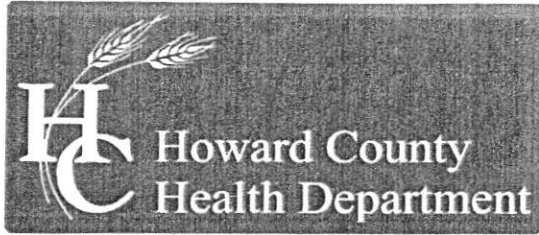
RE: Well permits for the Estates at River Hill

The following conditions apply to the well permits for the Estates at River Hill:

- A radium sample is required at the yield test for all lots.
- Sodium, chloride, and total dissolved solids samples are required at the yield test for Lots 1, 2, 3, 4, 10, and 11.
- Steel casing to 50' or 10' into competent bedrock, whichever is deeper, is required for Lots 5, 7, and 8.
- Per the Groundwater Appropriations Permit from Maryland Department of the Environment, any well less than 100' from another well AND on a lot less than one acre requires a simultaneous yield test. Lot 10 is the only lot less than one acre; any well less than 100' from Lot 10 requires a simultaneous yield test with the Lot 10 well.

Feel free to contact me at 410-313-6287 or SCollins@howardcountymd.gov with any questions.

Cc: Vogel Engineering, Rob Vogel (rvogel@vogeleng.com)
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

Twitter: HowardCoHealthDep

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

TO ALL INTERESTED PARTIES

When submitting a well permit application for a proposed well for new construction, please indicate one of the following:

Well Site Location:

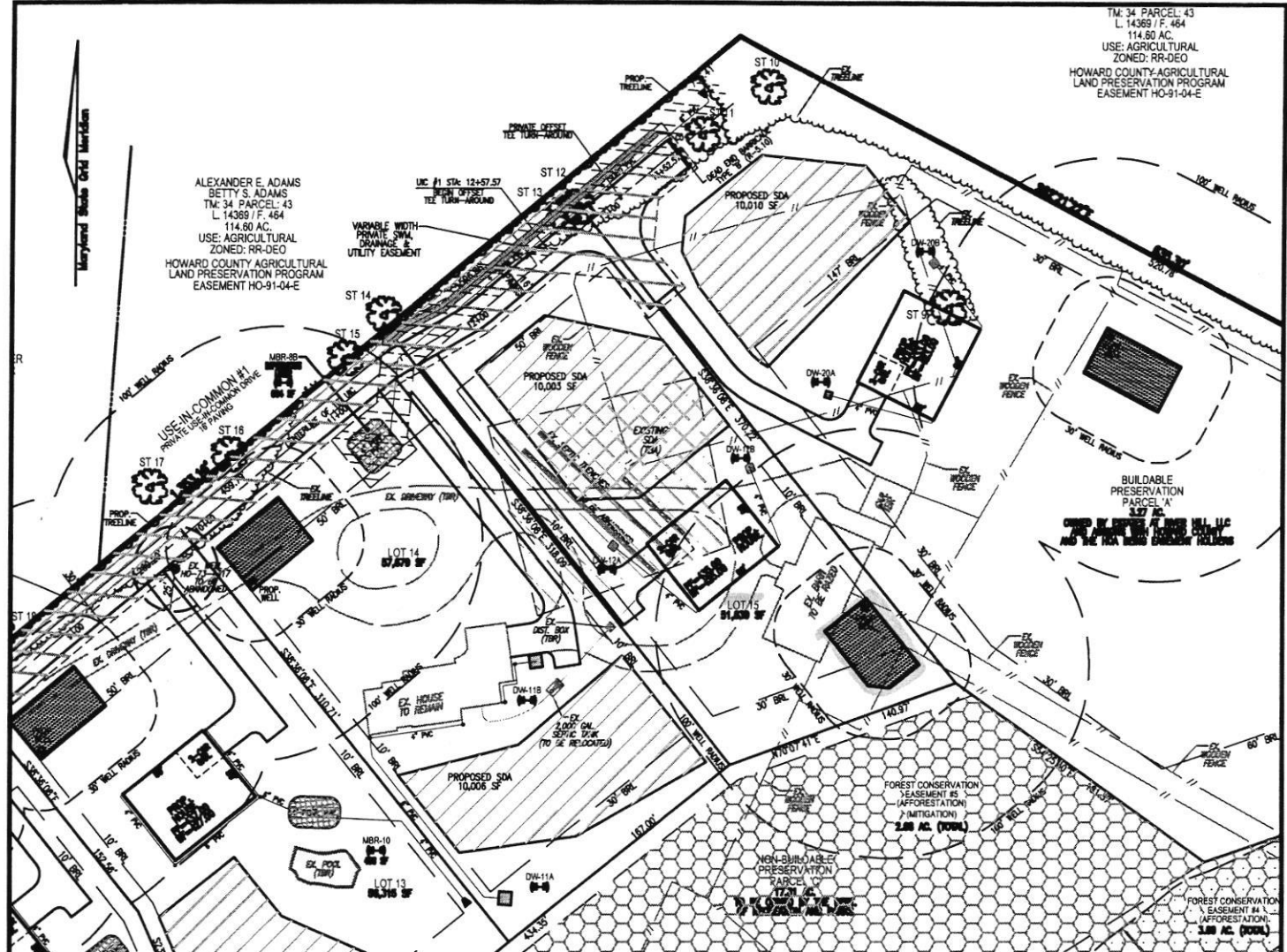
The Estates at River Hill 1-15 Parcel A - Allnut Lane
Subdivision/Property Name Lot # Road Name

The well site has been staked by Robert H. Vogel Engineering, Inc.
(professional land surveyor or company employing professional land surveyors)
on _____ (date) and does not require a site inspection.

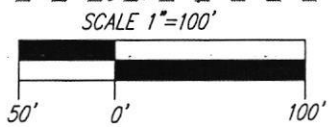
The well driller, builder or property owner will call the Health Department to schedule a time to meet in the field to verify the proposed well site location.

This sheet, along with two copies of an acceptable well site plan, must be attached to the green well permit application.

TM: 34 PARCEL: 43
 L: 14389 / F: 464
 114.80 AC.
 USE: AGRICULTURAL
 ZONED: RR-DEO
 HOWARD COUNTY AGRICULTURAL
 LAND PRESERVATION PROGRAM
 EASEMENT HO-91-04-E



LOT 15 - WELL EXHIBIT
 SCALE: 1"=100'



DO NOT REMOVE THIS TAG
 DEPARTMENT OF THE ENVIRONMENT
 WELL PERMIT NUMBER
HO-17-0339
 INFORMATION CALL NUMBER AND ADDRESS
 1800 WASHINGTON BLVD
 BALTIMORE MARYLAND 21230

- PROP. SEWAGE DISPOSAL AREA
- PROP. WELL AREA
- PROP. STORMDRAIN
- EXISTING WELL
- PROPOSED WELL

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110
 ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

SCALE: 1"=100'
 DRAWN BY: JMR
 CHECKED BY: RHV
 DATE: JUNE 2018
 W. O. #: 15-39
 SHEET #: 1 OF 1

Well box approved 9/18/18 sc
 Well box staked by Vogel Engineering
WELL EXHIBIT - LOT 15
THE ESTATES AT RIVER HILL
 LOTS 1-15, BUILDABLE PRESERVATION PARCEL 'A'
 AND NON-BUILDABLE PRESERVATION PARCELS 'B-H'
 A RE-SUBDIVISION OF THE "GREENE PROPERTY" LOT 1
 PARCEL: 389
 TAX MAP: 34 GRID: 23
 5TH ELECTION DISTRICT

ZONED: RR-DEO
 L 4772 / F. 265
 HOWARD COUNTY, MARYLAND

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

March 29, 2019

Tim Keane
Trinity Homes
3625 Park Avenue
Ellicott City, Maryland 21043

**RE: Estates at River Hill Lot 15
Allnutt Lane
Well Tag: HO - 17 - 0339**

Dear Mr. Keane:

A sample was collected during a yield test on February 6, 2019 and submitted to the Maryland Department of Health 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 60.7 ± 6.2 picocuries/liter (pCi/L), while the **Gross Beta** level was 23.1 ± 3.0 pCi/L. The **Gross Alpha** result was well above its **maximum contaminant level (MCL)** of **15 pCi/L**, while the **Gross Beta** level was below (though higher than typically seen) its targeted standard 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 well water supply **does not meet** EPA regulatory standards. Additional testing **for these parameters** will be required to secure the future Use & Occupancy. Additional raw water samples for **short and long term Gross Alpha and Gross Beta**, plus **Radium 226 / 228** will be needed to assess any future treatment needs. Alternatively, treatment such as a water softener system or point of use reverse osmosis (R/O) could be considered. If installed, post-treated sampling for **short and long term Gross Alpha, Gross Beta and Radium 226 / 228** will be **required**. Please **note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will still be needed 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 or to schedule additional testing.

Sincerely,



Bert Nixon, Director
Bureau of Environmental Health

Enclosure

cc: Property file

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

INTERIM CERTIFICATE OF POTABILITY
PERMANENT DEVIATION FOR RADIUM

Expiration Date – April 26, 2022

October 26, 2021

Homeowner
13612 Olivia Way
Highland, MD 20777

RE: Estates @ Riverhill, Lot 15
13612 Olivia Way
Building Permit: B19003297
Well Permit: HO-17-0339

Dear Homeowner:

This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **7/27/2021**. Final approval of the well line connection to the dwelling was granted on **5/13/2021**. The well construction was completed on **2/6/2019**. Water samples were collected on 10/5/2021, 10/12/2021, 10/20/2021.

The water sample results indicate that the water samples submitted for testing were free of coliform and fecal coliform bacteria at the time of sampling and are bacteriologically safe for drinking.

Gross Alpha and Beta samples were also collected on **3/29/2019**. Results showed a Gross Alpha level of **60.7 ± 6.2 pCi/L** and a Gross Beta level of **23.1 ± 3.0 pCi/L**. **This exceeds the maximum contaminant level (MCL) combined Radium 226 and 228 of 5.0 pCi/L.**

After installation of a radionuclide removal device (water softener), post-treatment water samples were collected on **10/5/2021** and indicated a combined Radium 226/228 level of **<1.1 pCi/L** which is below the MCL of 5 pCi/L.

This Department will grant a **permanent deviation** to the Interim Certificate of Potability on condition that the radionuclide removal system effectively maintains a Gross Alpha level of less than **15 pCi/L**, a Gross Beta level of less than **50 pCi/L**, and a Radium 226/228 level of less than **5 pCi/L**.

Furthermore, it will be necessary for you to comply with the following conditions:

1. The system must be properly operated and maintained continuously in accordance with the service contract for the life of the residence.
2. It is recommended that a Maryland certified water laboratory certified for radionuclide analysis perform a yearly radionuclide analysis.

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

3. If you decide to sell or rent your home in the future, you must make any potential buyer/tenant aware of this permanent deviation. **A person who fails to make this disclosure is subject to the penalties set out in COMAR 26.04.04.12F Enforcement and Environment Article 9-1311, Annotated Code of Maryland.**

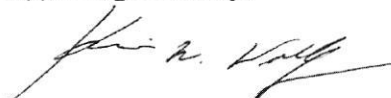
This certifies that the initial sampling requirements of COMAR 26.04.04 "Well Regulations" have been met for the water supply system installed under well permit HO-17-0339. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will be issued. **Failure to submit an additional sample and obtain a Final Certificate of Potability will result in a Notice of Violation and is punishable as a misdemeanor under the *Annotated Code of Maryland, Environment Article, 9-1311*, subject to a fine of up to \$500 or imprisonment not to exceed three months.**

Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water quality laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

In closing, please refer to our "[Homeowner Fact Sheet](#)" which illustrates a better understanding for your onsite sewage disposal system. You will also find a link to Maryland Department of the Environment website which describes in further detail operation and maintenance of your septic system.

Approving Authority,



Kevin M Wolf, L.E.H.S., R.E.H.S./RS, Supervisor
Groundwater Management Section
Well & Septic Program

cc: Howard County Dept. of Inspections, Licenses, and Permits
Community Hygiene Program
File

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 147836 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/5/2021 1132 Site: Pressure Tank
Date/Time Rec'd: 10/5/2021 1550 Treatment: **
Chlorine ppm: Free: ND Total: ND pH: 6.9
Collected By: R. Ott 0266RO Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223B	10/6/2021 / 1040 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223B	10/6/2021 / 1040 / CCH
Nitrate	<1.0	mg/L	10	601	10/5/2021 / 1640 / CRS
Turbidity	66.6	NTU	<10	SM20 2130B	10/6/2021 / 0820 / CRS
Sand	ND	mg/L	5	Visual/Gravimetric	10/6/2021 / 0845 / CRS

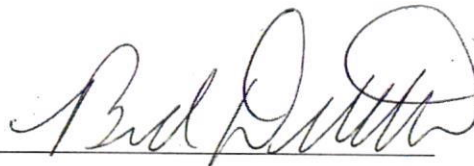
NOTES

- **Sample collected prior to Softener & Sediment Filter
- mg/L = milligrams per liter (also, parts per million)
- MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
- NTU = Nephelometric Turbidity Units
- Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- ND:None Detected
- Visual well check: Sealed, vented cap
- pH & Chlorine level tested on site

Reason for Test : Use & Occupancy
Building Permit # : B19003297

Date Reported: 10/6/2021

Reviewed By:



FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 147997 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/12/2021 1320 Site: Pressure Tank
Date/Time Rec'd: 10/12/2021 1445 Treatment: **
Chlorine ppm: Free: ND Total: ND pH: 6.9
Collected By: J. Yeager 0819JY Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	10.6	NTU	<10	SM20 2130B	10/13/2021 / 0830 / CRS

NOTES

- 1 NTU = Nephelometric Turbidity Units
- 2 pH & chlorine tested on site
- 3 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 4 ND:None Detected
- 5 Visual well check: Sealed, vented cap
- 6 **Sample collected prior to Softener & Sediment Filter

Reason for Test : Use & Occupancy
Building Permit # : B19003297

Date Reported: 10/13/2021

Reviewed By: 

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 147998 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/12/2021 1339 Site: Downstairs Bathroom Tap
Date/Time Rec'd: 10/12/2021 1445 Treatment: Softener/Sediment Filter
Chlorine ppm: Free: ND Total: ND pH: 6.3
Collected By: J. Yeager 0819JY Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	3.48	NTU	<10	SM20 2130B	10/13/2021 / 0830 / CRS

NOTES

- 1 NTU = Nephelometric Turbidity Units
- 2 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 3 ND:None Detected
- 4 Visual well check: Sealed, vented cap
- 5 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy

Building Permit # : B19003297

Date Reported: 10/13/2021

Reviewed By: 

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 148194 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/20/2021 1505 Site: Downstairs Bathroom Tap
Date/Time Rec'd: 10/20/2021 1620 Treatment: Softener/Sediment Filter
Chlorine ppm: Free: ND Total: ND pH: 6.8
Collected By: J. Yeager 0819JY Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	2.26	NTU	<10	SM20 2130B	10/20/2021 / 1710 / TSD
Iron	0.15	mg/L	0.3*	FR, 45 (126)	10/20/2021 / 1730 / CRS

NOTES

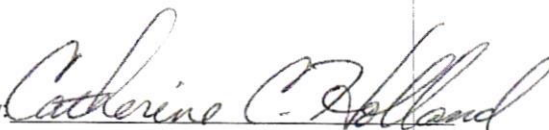
- 1 *SMCL = Secondary Maximum Contaminant Level
- 2 NTU = Nephelometric Turbidity Units
- 3 pH & chlorine tested on site
- 4 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 5 ND:None Detected
- 6 Visual well check: Sealed, vented cap
- 7 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy

Building Permit # : B19003297

Date Reported: 10/21/2021

Reviewed By:



FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 148191 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/20/2021 1451 Site: Pressure Tank
Date/Time Rec'd: 10/20/2021 1620 Treatment: **
Chlorine ppm: Free: ND Total: ND pH: 6.9
Collected By: J. Yeager 0819JY Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	24.6	NTU	<10	SM20 2130B	10/20/2021 / 1710 / TSD
Iron	4.80	mg/L	0.3*	FR, 45 (126)	10/20/2021 / 1730 / CRS

NOTES

- 1 *SMCL = Secondary Maximum Contaminant Level
- 2 NTU = Nephelometric Turbidity Units
- 3 pH & chlorine tested on site
- 4 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 5 ND:None Detected
- 6 Visual well check: Sealed, vented cap
- 7 **Sample collected prior to Softener & Sediment Filter

Reason for Test : Use & Occupancy

Building Permit # : B19003297

Date Reported: 10/21/2021

Reviewed By:



FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS


Laboratory ID #: 147838 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/5/2021 1119 Site: Kitchen Sink Tap
Date/Time Rec'd: 10/5/2021 1550 Treatment: Softener/Sediment Filter
Chlorine ppm: Free: ND Total: ND pH: 6.8
Collected By: R. Ott 0266RO Well #: HO-17-0339

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Gross Alpha, Short Term	1.9	pCi/L	15	900.0	10/8/2021 / 0632 / MJN
Gross Beta, Short Term	<1.5	pCi/L	50	900.0	10/8/2021 / 0632 / MJN
Gross Alpha, Long Term	5.3	pCi/L	15	900.0	10/14/2021 / 0648 / MJN
Gross Beta, Long Term	<1.6	pCi/L	50	900.0	10/14/2021 / 0648 / MJN
Radium-226	0.2	pCi/L	****	903.1	10/14/2021 / 1110 / MJN
Radium-228	<0.9	pCi/L	****	Ra-05	10/14/2021 / 1128 / MJN

NOTES:

- ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
 - Long Term Gross Alpha Detection Limit: 1.4 pCi/L; Long Term Gross Alpha Error: +/- 1.1 pCi/L
 - Long Term Gross Beta Detection Limit: 1.6 pCi/L; Long Term Gross Beta Error: +/- 1.0 pCi/L
 - pCi/L = picocuries per liter
 - Radium 226 Detection Limit: 0.1 pCi/L; Radium 226 Error: +/- 0.1 pCi/L
 - Radium 228 Detection Limit: 0.9 pCi/L; Radium 228 Error: +/- 0.6 pCi/L
 - Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
 - Short Term Gross Alpha Detection Limit: 1.2 pCi/L; Short Term Gross Alpha Error: +/- 1.1 pCi/L
 - Short Term Gross Beta Detection Limit: 1.5 pCi/L; Short Term Gross Beta Error: +/- 0.9 pCi/L
 - Sub-contracted to Reference Lab #278
 - ND:None Detected
 - Visual well check: Sealed, vented cap
 - pH & Chlorine level tested on site
- Reason for Test : Use & Occupancy
Building Permit # : B19003297

Date Reported: 10/21/2021

Reviewed By: 

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554

REPORT OF ANALYSIS

Laboratory ID #: 147837 Account #: 4035
Reference: Estates at River Hill Lot 15 Client: Trinity Quality Homes, Inc.
Location: 13612 Olivia Way Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 10/5/2021 1136 Site: Pressure Tank
Date/Time Rec'd: 10/5/2021 1550 Treatment: Prior to Softener/Sediment Filter
Chlorine ppm: Free: ND Total: ND pH: 6.9
Collected By: R. Ott 0266RO Well #: HO-17-0339

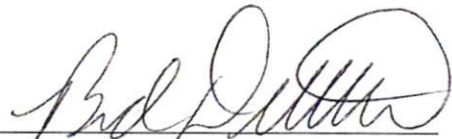
PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Gross Alpha, Short Term	4.6	pCi/L	15	900.0	10/8/2021 / 0632 / MJN
Gross Beta, Short Term	5.8	pCi/L	50	900.0	10/8/2021 / 0632 / MJN
Gross Alpha, Long Term	3.2	pCi/L	15	900.0	10/14/2021 / 0648 / MJN
Gross Beta, Long Term	5.3	pCi/L	50	900.0	10/14/2021 / 0648 / MJN
Radium-226	0.4	pCi/L	****	903.1	10/14/2021 / 1110 / MJN
Radium-228	1.0	pCi/L	****	Ra-05	10/14/2021 / 1128 / MJN

NOTES:

- ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- Long Term Gross Alpha Detection Limit: 1.3 pCi/L; Long Term Gross Alpha Error: +/- 1.3 pCi/L
- Long Term Gross Beta Detection Limit: 1.4 pCi/L; Long Term Gross Beta Error: +/- 1.1 pCi/L
- pCi/L = picocuries per liter
- Radium 226 Detection Limit: 0.2 pCi/L; Radium 226 Error: +/- 0.2 pCi/L
- Radium 228 Detection Limit: 0.9 pCi/L; Radium 228 Error: +/- 0.6 pCi/L
- Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- Short Term Gross Alpha Detection Limit: 1.1 pCi/L; Short Term Gross Alpha Error: +/- 1.5 pCi/L
- Short Term Gross Beta Detection Limit: 1.5 pCi/L; Short Term Gross Beta Error: +/- 1.2 pCi/L
- Sub-contracted to Reference Lab #278
- ND:None Detected
- Visual well check: Sealed, vented cap
- pH & Chlorine level tested on site

Reason for Test : Use & Occupancy
Building Permit # : B19003297

Date Reported: 10/20/2021

Reviewed By: 

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

March 29, 2019

Tim Keane
Trinity Homes
3625 Park Avenue
Ellicott City, Maryland 21043

RE: Estates at River Hill Lot 15
Allnutt Lane
Well Tag: HO – 17 – 0339

Dear Mr. Keane:

A sample was collected during a yield test on February 6, 2019 and submitted to the Maryland Department of Health 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 60.7 ± 6.2 picocuries/liter (pCi/L), while the **Gross Beta** level was 23.1 ± 3.0 pCi/L. The **Gross Alpha** result was well above its **maximum contaminant level (MCL)** of **15 pCi/L**, while the **Gross Beta** level was below (though higher than typically seen) its targeted standard 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 well water supply **does not meet** EPA regulatory standards. Additional testing **for these parameters** will be required to secure the future Use & Occupancy. Additional raw water samples for **short and long term Gross Alpha and Gross Beta**, plus **Radium 226 / 228** will be needed to assess any future treatment needs. Alternatively, treatment such as a water softener system or point of use reverse osmosis (R/O) could be considered. If installed, post-treated sampling for **short and long term Gross Alpha, Gross Beta and Radium 226 / 228** will be **required**. Please **note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will still be needed 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 or to schedule additional testing.

Sincerely,



Bert Nixon, Director
Bureau of Environmental Health

✓ Enclosure
cc: Property file

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

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

Lab No. 1685 H-72

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Estate of River Hill - Lot 15 County: Howard

Sample Source: Allnut Lane Highland Location: 110-17-0339
 (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	Service	Point of Collection	Testing
Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input 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: S. Collins Telephone No.: 410-313 6287

Date Collected: 2/6/19 Time Collected: 9:45 a.m. _____ p.m.

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample collected during yield test

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/>	Gross Alpha	4000	1685	EPA900.0	60.7 ± 6.2	02/5/19	RH	02/15/19
<input checked="" type="checkbox"/>	Gross Beta	4100	1685	EPA900.0	23.1 ± 3.0	02/5/19	RH	02/15/19
<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		1685	EPA900.0	71.2 ± 6.7	02/11/19	MA	02/13/19
<input checked="" type="checkbox"/>	Gross Beta - Conf		1685	EPA900.0	24.7 ± 3.1	02/11/19	MA	02/13/19

Date Received: 2/7/19 Received By: W. Tuxson
 Data Release Signature: _____ Date: 2/11/19

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	✓		
Sample pH <2.0?	✓		
Received within holding time?	✓		

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

FORM REVISED 05/15
 DHMH 4540 05/17

PROGRAM COPY

SAMPLE TESTED AS RECEIVED

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

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

Lab No. 0118-72

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Field Blank County: Howard

Sample Source: dt120 Location: HCAID 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	Service	Point of Collection	Testing
Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input 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: S. Collins Telephone No.: 410-313-6287

Date Collected: 2/6/19 Time Collected: _____ a.m. 2:30 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	1684	PA400.0	<2.0	02/18/19	RH	02/15/19
<input checked="" type="checkbox"/>	Gross Beta	4100	1684	GA400.0	<4.0	02/18/19	RH	02/11/19
<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"/>								

Date Received: 2/7/19 Received By: WA Turner
 Data Release Signature: _____ Date: 1/1/19

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

FORM REVISED 05/15
 DHMH 4540 05/17

PROGRAM COPY **SAMPLE TESTED AS RECEIVED**