

C1 56559 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.

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

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM/DD/YY 11/18/18

DATE WELL COMPLETED MM/DD/YY 11-8-18

Depth of Well 22 150 26 (TO NEAREST FOOT)

OK 11/26/18 SC

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-17-0334

OWNER Trinity Homes WELL SITE ADDRESS Allouff Lane TOWN Highland SUBDIVISION The Estates at River Hill SECTION LOT 10

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, FEET (FROM, TO), check if water bearing. Rows: Brown shale (0-38), Grey s/s (38-96), Broken (96-100), Grey s/s (100-150).

GROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box) YES Y NO N

TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 23 NO. OF POUNDS 2182 GALLONS OF WATER 138 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 64 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) 67

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

DEPTH (nearest ft.) HO 67 150

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED YES Y NO 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, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. MSD 224 DRILLERS SIGNATURE L.C. NO. D

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

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

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) TELESCOPE CASING LOG INDICATOR OTHER DATA

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 32 WHEN PUMPING 75 TYPE OF PUMP USED (for test) 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 PUMP HORSE POWER 37 PUMP COLUMN LENGTH (nearest ft.) 41 CASING HEIGHT (circle appropriate box and enter casing height) + above LAND SURFACE 3 (nearest foot)

LATITUDE 39.196815 LONGITUDE 76.961544 (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. 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.

B 1 SEQUENCE NO. (MDE USE ONLY) **59732** STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type **503707-I** STATE PERMIT NUMBER **HO-17-0334** fill in this form completely

B 2 OWNER INFORMATION
 Date Received (AFA) **012718**
 8 MM DD YY 13
 Trinity Homes
 15 Last Name Owner First Name 34
 3675 Park Ave Suite 301
 36 Street or RFD 55
 Ellicott City Md 21043
 57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL
 Howard
 8 COUNTY 21
 The Estates at River Hill
 23 SUBDIVISION 42
 SECTION 44 46 LOT 10 48 50
 Highland
 52 NEAREST TOWN 71

B 2 DRILLER INFORMATION
 Andrew Houseman MSD
 Allen Compton M SD 009 224
 76 Driller's Name 81 License No.
 Fokes Well Drilling, LLC
 Firm Name
 P.O. Box 202 Woodbine Md 21797
 Address
 Andrew R. Houseman 7-27-18
 Signature Date

B 4 SOURCES OF DRILLING WATER
 1. Well water
 2.
 3.
 Allnut Lane
 11 STREET ADDRESS 30
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
 NORTH
 WEST EAST
 SOUTH
 34 50 37
 DISTANCE FROM ROAD ENTER FT OR MI 38 39
 TAX MAP: 34 BLK: 23 PARCEL 389

B 2 WELL INFORMATION
 APPROX. PUMPING RATE 5
 (GAL. PER MIN.) 8 12
 AVERAGE DAILY QUANTITY NEEDED 500
 (GAL. PER DAY) 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)
 DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
 FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
 INDUSTRIAL, COMMERCIAL, DEWATERING
 PUBLIC WATER SUPPLY WELL
 TEST, OBSERVATION, MONITORING
 OPEN LOOP GEOTHERMAL
 CLOSED LOOP GEOTHERMAL

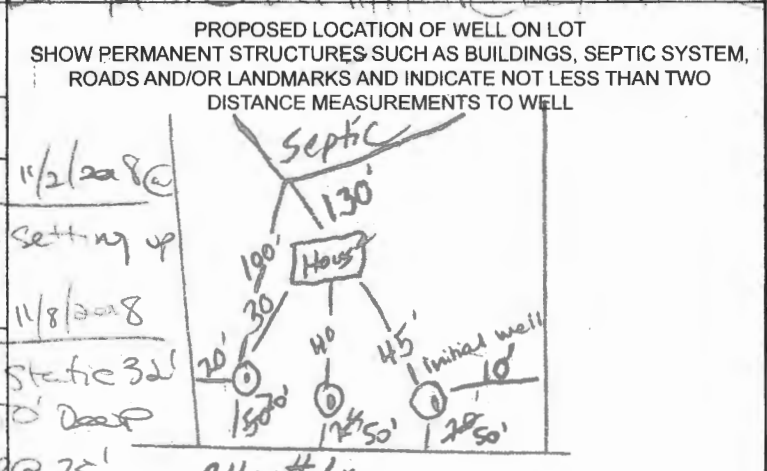
NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL
 Howard
 COUNTY NAME COUNTY NO. 13
 STATE SIGNATURE INSERT S → 41
 DATE ISSUED 9/18/18
 43 MM DD YY 48 CO SIGNATURE S.L. LLC EXP. DATE 9/18/19

APPROXIMATE DEPTH OF WELL 300 FEET
 24 28

APPROXIMATE DIAMETER OF WELL 6 INCH
 NEAREST INCH

METHOD OF DRILLING (circle one)
 BORED (or Augered) JETTED Jetted & DRIVEN
 AIR-ROTARY AIR-PERCussion ROTARY (Hydraulic Rotary)
 CABLE REVERSE-ROTary DRIVE-POINT
 other

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 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 **HO 2018G005**
 PERMIT No. **HO-17-0334**
 70 71 72 73 74 75 76 77 78 79

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SPECIAL CONDITIONS
 NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED- **SEE ATTACHED MEMO**

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

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 Pump & Wt, LLC Telephone #: 410 795 5670
 Address: 580 Obrecht Rd
Sykesville, MD 21784

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 E Fogle License# MSD2226

***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: Trinity Homes Telephone #: 443-324-9806
 Subdivision: Est @ RIVER Hill Lot #: 10 Well Tag #: HO-17-0334
 Site Address: 13514 Allhyatt Lane
Highland, MD 20777

Submersible Pump Data

Make: Goulds
 Model #: 7H50S422
 Pump Capacity: 7
 Well Yield: 10

Pitless Adapter

Make: Campbell +
 Model#: NA
 GPM Depth: 36" (36" min)
 GPM NSF/WSC approved: YES

Well Cap and Electric Conduit

Two piece watertight cap: YES
 Screened, vented well cap: YES
 Cap secured to casing: YES
 Conduit min 18" B.G.: YES
 Conduit secured to well cap: YES

Depth of well encountered at time of pump installation: 150 (feet)
 If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4

Must circle one: Torque arrestors / Cable guards / Other acceptable method used

Safety rope, if used, attached to brass rope adapter or other acceptable method inside of well casing NA

Piping to house

Type: 1" poly pipe
 PSI: 200 (160 psi min)
 Depth of supply line: 36" (36" min)

House Connection

PVC sleeve to undisturbed soil at wall penetration: YES
 Length of sleeve (5' minimum from foundation): 6'
 Sleeve sealed properly: YES

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.

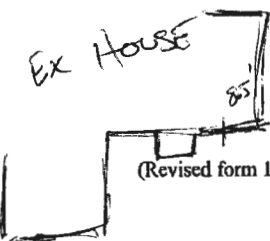
David E Fogle
 Signature of company representative responsible for installation

1/14/2020
 date

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

Date Insp. Requested: 01/14/2020 Date Insp. Approved: 01/14/2020 Inspector: JE
 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

39" 01/14/2020 JE
29" 01/14/2020 JE
37" 01/14/2020 JE
8" 01/14/2020 JE



(Revised form 10/24/2018)

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

INTERIM CERTIFICATE OF POTABILITY
PERMANENT DEVIATION FOR RADIUM

Expiration Date – FEBRUARY 7, 2020

August 7, 2020

Homeowner
13514 Allnut Lane
Highland, MD 20777

RE: Estates @ River Hill, Lot 10
13514 Allnut Lane
Building Permit: B19002370
Well Permit: HO-17-0334

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 **2/20/2020**. Final approval of the well line connection to the dwelling was granted on **1/14/2020**. The well construction was completed on **11/8/2018**. Water samples were collected on 6/18/2020.

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 **11/18/2018**. Results showed a Gross Alpha level of **26.5 ± 3.5 pCi/L** and a Gross Beta level of **20.9 ± 2.6 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 **7/16/2020** and indicated a combined Radium 226/228 level of **1.3 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-17-0334. 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>

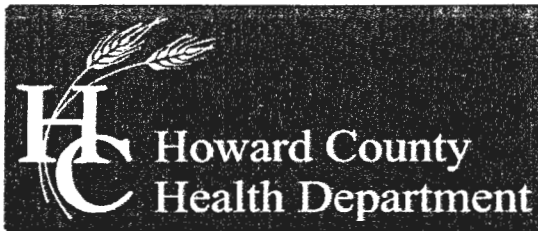
In closing, please refer to our "Homeowner Fact Sheet" which illustrates a better understanding for your onsite sewage disposal system. You will also find a link to Maryland Department of the Environment website which describes in further detail operation and maintenance of your septic system.

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



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:

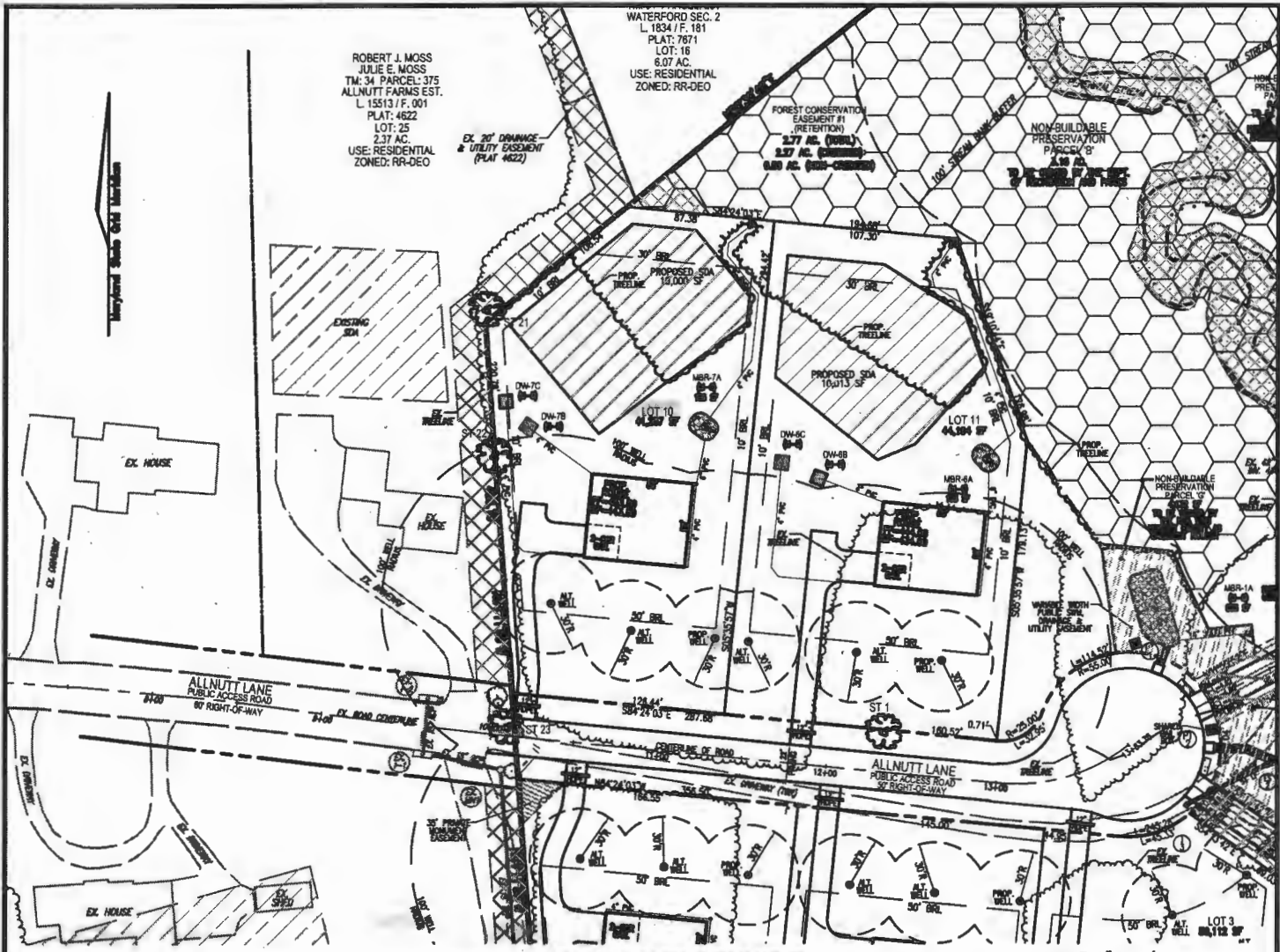
Well Site Location:

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.

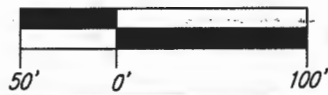
The well driller, builder or property owner will call the Health Department to schedule a time to meet in the field to verify the proposed well site location.

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



LOT 10 - WELL EXHIBIT

SCALE 1"=100'



- FENCE
- PROP. SEWAGE DISPOSAL AREA
- EX. FENCE
- PROP. WELL AREA
- 100-YEAR
- PROP. STORMDRAIN
- DRAINAGE & UTILITY EASEMENT (PLAT 12949)
- EXISTING WELL
- PROPOSED WELL
- USE-IN-COMMON EASEMENT
- PROP. PUBLIC SWM, DRAINAGE & UTILITY EASEMENT
- PROP. 35' PRIVATE MONUMENT EASEMENT
- EXISTING WETLAND BUFFER
- EXISTING SPECIMEN TREES

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 3300 N. RIDGE ROAD, SUITE 110 ELLIGOTT 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 sites approved 9/10/10 SC
 Well sites staked by Vogel Engineering
WELL EXHIBIT - LOT 10
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



Bureau of Environmental Health
8930 Stanford Blvd | Columbia, MD 21045
410.313.2640 - Voice/Relay
410.313.2648 - Fax
1.866.313.6300 - Toll Free

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

November 28, 2018

Trinity Homes
3675 Park Ave
Suite 301
Ellicott City, MD 21043

Re: Water sample results for The Estates at River Hill Lot 10 well, #HO-17-0334

Dear Trinity Homes,

The Health Department received results from the testing for sodium, chloride, and total dissolved solids (TDS) from the well at The Estates at River Hill Lot 10.

Elevated sodium levels in drinking water may affect individuals on low-salt diets. The action level for sodium is 20 milligrams per liter (mg/L); **sodium from the well measured 9.18 mg/L.**

Chloride and TDS are both considered secondary contaminants, meaning high concentrations may affect taste, color, odor, or corrosive properties of water but present no risk to health. The secondary maximum contaminant level for chloride is 250 mg/L; **chloride from the well measured 42 mg/L.** The secondary maximum contaminant level for TDS is 500 mg/L; **TDS from the well measured 197 mg/L.**

Feel free contact me at the number or email below with any questions regarding the results of water sampling.

Sincerely,

Sarah Collins, L.E.H.S.
Howard County Health Department
Well & Septic Program
SCollins@howardcountymd.gov
410-313-6287

Cc: File

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 Sciences
TRACE METALS LABORATORY
1770 Ashland Avenue
Baltimore, Maryland 21205



E19001627001

Received: 11/13/2018

Metals

HOJC0334NA

LABORATORY ANALYSIS REQUEST

Do not write above this line

Please Print

Sample ID No: HOJC0334NA Site Name: HO-17-0334 County: HOWARD

Sample Source: ESTATES AT RIVER HILL LOT 10 Collector: CABANUS
Street Town or City Name

Date Collected: 11/08/2018 Time Collected: 11:00 a.m. / p.m. Phone #: 410 313 2643
P.S. 11-1378

Sample Preserved By: Field ESRL WMRL Central Lab
Preservative Used: HNO₃ ~2 mL pH: < 2

Sample Type: Drinking Water Landfill Source (Raw Water) Liquid
Data Category: Community Stream Distribution (Treated) Solid
Code: Non-Community Sediment Other
 Private

Specify Program: SDWA NPDES CWA RCRA Consumer Products Other

Type of Sample Preparation: Total Metals Total Metals TCLP Dissolved Metals
(field preparation required)

Remarks: Sample collected at field

✓	Element	Lab Use	✓	Element	Lab Use	✓	Element	Lab Use
	Antimony (Sb)			Aluminum (Al)			Uranium (U)	
	Arsenic (As)			Calcium (Ca)			Vanadium (V)	
	Barium (Ba)			Cobalt (Co)			Zinc (Zn)	
	Beryllium (Be)			Copper (Cu)				
	Cadmium (Cd)			Iron (Fe)				
	Chromium (Cr)			Lead (Pb)				
	Mercury (Hg)			Magnesium (Mg)				
	Nickel (Ni)			Manganese (Mn)				
	Selenium (Se)			Molybdenum (Mo)				
✓	Sodium (Na)	<u>SAS</u>		Potassium (K)				
	Thallium (Tl)			Silver (Ag)				

Lab Supervisor: _____ Date Reported: ____/____/____

•Phone: (443) 681 - 4596 •Fax: (443) 681 - 4507



State of Maryland
Department of Health
Laboratories Administration
Division of Environmental Sciences
TRACE METALS LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project No: E19001627 Date Coll.: 11/08/2018 Date Received: 11/13/2018 Submitted By: Cabahug

Field ID: HOJC0334NA
Lab No.: E19001627001

<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.7	Sodium	9.18	ppm	11/14/2018

Comments:

Approved by: *Sadia Muneer*

Approval date: 11/19/2018

**The following methods are included in our A2LA Scope of Accreditation: EPA 200.7, EPA 200.8, EPA 245.1. Samples are tested as received.

This document contains confidential health information that is privileged, confidential and exempt from disclosure under law. If you have received this information in error, please call (410) 767-6944 and arrange for return or destruction.

Send Report To:
 Howard County Health Department
 Bureau of Environmental Health
 8930 Stanford Blvd.
 Columbia, Maryland 21045

State of Maryland
 MDH-Laboratories Administration
 Division of Environmental Sciences
 INORGANICS ANALYTICAL LABORATORY
 1770 Ashland Avenue
 Baltimore, Maryland 21205
WATER ANALYSIS


E19001626001
 Received: 11/13/2018
 Inorganic HOJC0334TD

SAMPLE ID

Bottle Number: HOJC0334TD Name: HO-17-0334 County: HOWARD County Code: 13

Location: ESTATES AT RIVER HILL LOT 10 Data Category Code: 4/F

Collected: Date 11/08/2018 Time 11:00 Collector & Phone: CABANUS 410 313 2643 Submitter Code:

CHECK (one per box)

Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (raw water) <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"/>

Federal Project

FIELD

Plant No. Sampling Station Preservation: Iced Acid Type of Acid

pH 6.5 Chlorine: Free 0.0 Total 0.0 Specific Conductance

Notes to Lab/Remarks: Sample collected at yield

CHECK TESTS	TESTS	Error Code	RESULTS
	Alkalinity (Total)		
	Ammonia - N		
<input checked="" type="checkbox"/>	Chloride		
	Conductance*, Spec.		
<input checked="" type="checkbox"/>	Dissolved Solids (Total)		
	Hardness		
	Fluoride		
	Nitrite, N		
	Nitrate + Nitrite, N		
	Sulfate		
	Total Solids		
	Turbidity*		
	Other:		

* Results reported in Units, all others in milligrams per liter (ppm)

Number of Tests Requested Section **SUBMITTER'S COPY**

SAMPLE TESTED AS RECEIVED
 Date Reported

MDH-90-A 07/17



State of Maryland
Department of Health
Laboratories Administration
Division of Environmental Sciences
INORGANICS ANALYTICAL LABORATORY
1770 Ashland Avenue, Baltimore, Maryland 21205
Robert Myers, Ph.D., Director



Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH
8930 STANFORD BLVD
COLUMBIA, MD 21045

Lab Project NoE19001626 Date Coll. 11/08/2018 Date Received 11/13/2018 Submitted By: Cabahug

Field ID: HOJC0334TD
Lab No.: E19001626001

<u>Analyte</u>	<u>Method</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
Chloride	SM 4500-Cl E	42	mg/L	11/20/2018
Total Dissolved Solids	SM 2540C	197	mg/L	11/15/2018

Comments:

Approved by: _____

Shahin Amini

Approval date: 11/21/2018

*The following methods are included in our A2LA Scope of Accreditation: EPA150.1, EPA 353.2, EPA 375.2, SM4500F C, SM 4500-CN G & QCM-CN, QCM-CN. Samples are tested as received.

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FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #: 138563 Account #: 4035
Reference: Estates at River Hill Lot 10 Company: Trinity Quality Homes, Inc.
Location: 13514 Allnutt Lane Requested By: Michael Pfau
Highland, MD 20777 Source: Well Water
Date/ Time Collected: 7/16/2020 1135 Site: Kitchen Tap
Date/Time Rec'd: 7/16/2020 1440 Treatment: Softener/Neutralizer/Sediment Filter
Chlorine ppm: Free: ND Total: ND pH: 6.7
Collected By: J. Yeager 0819JY Well #: HO-17-0334

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Gross Alpha, Short Term	2.6	pCi/L	15	900.0	7/20/2020 / 0734 / MJN
Gross Beta, Short Term	<2.8	pCi/L	50	900.0	7/20/2020 / 0734 / MJN
Gross Alpha, Long Term	<2.0	pCi/L	15	900.0	7/31/2020 / 0742 / MJN
Gross Beta, Long Term	<2.5	pCi/L	50	900.0	7/31/2020 / 0742 / MJN
Radium-226	0.3	pCi/L	****	903.1	7/23/2020 / 1049 / MJN
Radium-228	<1.0	pCi/L	****	Ra-05	7/23/2020 / 1024 / SN

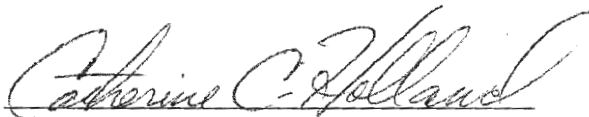
NOTES

- ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- Long Term Gross Alpha Detection Limit: 2.0 pCi/L; Gross Alpha Error: +/- 1.5 pCi/L
- Long Term Gross Beta Detection Limit: 2.5 pCi/L; Gross Beta Error: +/- 1.6 pCi/L
- pCi/L = picocuries per liter
- Radium 226 Detection Limit: 0.2 pCi/L; Radium 226 Error: +/- 0.1 pCi/L
- Radium 228 Detection Limit: 1.0 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: 1.9 pCi/L; Gross Alpha Error: +/- 1.7 pCi/L
- Short Term Gross Beta Detection Limit: 2.8 pCi/L; Gross Beta Error: +/- 1.7 pCi/L
- ND:None Detected
- Subcontracted to Reference Lab #278
- pH & Chlorine level tested on site

Reason for Test : Use & Occupancy
Building Permit # : B19002370

Date Reported: 7/31/2020

Reviewed By:



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

April 2, 2019

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

RE: Estates at River Hill Lot 10
Allnutt Lane
Well Tag: HO – 17 – 0334

Dear Mr. Keane:

A sample was collected during a yield test on November 8, 2018 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 26.5 ± 3.5 picocuries/liter (pCi/L), while the **Gross Beta** level was 20.9 ± 2.6 pCi/L. The **Gross Alpha** result was above its **maximum contaminant level (MCL)** of **15 pCi/L**, while the **Gross Beta** level was below (though somewhat 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:

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

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

Lab No.

3

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: ESTATES AT RIVER HILL County: HOWARD

Sample Source: LOT 10 Location: HO-17-0334
(Well no., lab sink, sample tap, etc.)

~~Radon-222~~ Bottle A HOJCO334RA Radon-222 Field Blank Bottle A _____
RADIUM 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: 4 F Federal Project: []

Collector: CABAHUG Telephone No.: 410 313 2643

Date Collected: 11/08/2018 Time Collected: 11:00 a.m. _____ p.m.

Field pH: 6.5 Field Chlorine: NEG

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: sample collected at 1/4 c/a

TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/> Gross Alpha	4000	1017	EPA 900.0	26.5 ± 2.5	11/14/18	AH	11/14/18
<input checked="" type="checkbox"/> Gross Beta	4100	1017	EPA 900.0	20.9 ± 2.6	11/14/18	AH	11/14/18
<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 Dup		1017	EPA 900.0	26.4 ± 2.5	11/14/18	AH	11/14/18
<input checked="" type="checkbox"/> Gross Beta Dup		1017	EPA 900.0	22.0 ± 2.8	11/14/18	AH	11/15/18

Date Received: 11/13/18 Received By: [Signature] Date: 11/16/18

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

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