

C 1 **36449** SEQUENCE NO. (MDE USE ONLY) **STATE OF MARYLAND WELL COMPLETION REPORT** THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS) **FILL IN THIS FORM COMPLETELY PLEASE TYPE** COUNTY NUMBER **1520385**

ST/CO USE ONLY DATE Received **11/03/15** DATE WELL COMPLETED **10/27/15** Depth of Well **22** PERMIT NO. FROM "PERMIT TO DRILL WELL" **110-15-016**

OWNER **KASSLER VENTURE LLC** WELL SITE ADDRESS **LINDERA CT** TOWN **CLARKSVILLE MD** SUBDIVISION **WALNUT CREEK PHASE 4** SECTION **_____** LOT **120**

WELL LOG
Not required for driven wells

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

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
Top Soil	0	2	
Clay	2	10	✓
White mica	10	50	
Sand Stone	50	55	✓
White mica	55	150	
Sand Stone	150	155	✓
White mica	155	205	

8 bags / 2 = 4 bags/10'

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) **Y** **N**

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT **CM** BENTONITE CLAY **BC**

NO. OF BAGS **8** NO. OF POUNDS **300**
GALLONS OF WATER **48**

DEPTH OF GROUT SEAL (to nearest foot)
from **0** ft. to **20** ft.
(enter 0 if from surface)

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) **6** Total depth of main casing (nearest foot) **22**

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

SCREEN RECORD
screen type or open hole **ST** **BR** **HO**
insert appropriate code below
PL **OT**

C 3

PUMPING TEST

HOURS PUMPED (nearest hour) **3**

PUMPING RATE (gal. per min.) **15**

METHOD USED TO MEASURE PUMPING RATE **Bucket**

WATER LEVEL (distance from land surface)
BEFORE PUMPING **8** ft.
WHEN PUMPING **19** ft.

TYPE OF PUMP USED (for test)
A air **P** piston **T** turbine
C centrifugal **R** rotary **O** other (describe below)
J jet **S** submersible

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, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. **M S D L I P**
DRILLERS SIGNATURE **[Signature]**
LIC. NO. **D**

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

C 2 DEPTH (nearest ft.)

HO **20** **205**

SCREEN RECORD
HO **20** **205**

SLOT SIZE 1 **2** 3

DIAMETER OF SCREEN (NEAREST INCH)
from **58** to **60**

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

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T (E.R.O.S.) W Q

TELESCOPE CASING LOG INDICATOR OTHER DATA

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 **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 } LAND SURFACE
- below } **2** (nearest foot)

LATITUDE **39.23571**
LONGITUDE **76.94204**
(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	28689	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type	STATE PERMIT NUMBER HO-15-0149 <small>fill in this form completely</small>
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OWNER INFORMATION

Date Received (APA) 8 MM DD YY 13

8 Bassler Venture LLC

15 Last Name Bassler Owner PO Box 482 First Name PO **34**

36 Street or RFD Lisbon MD 21265 **55**

57 Town Lisbon **70** State MD **72** Zip 21265 **76**

LOCATION OF WELL

B 3

Howard

8 COUNTY Howard **21**

Walnut Creek Phase 4

23 SUBDIVISION Walnut Creek Phase 4 **42**

SECTION 44 **46** LOT 120 **48** **50**

Claysville

52 NEAREST TOWN Claysville **71**

DRILLER INFORMATION

Ralph Mayne **M S D** 117

76 Driller's Name Ralph Mayne well drilling **81** License No.

76 Firm Name 17024 Handy Rd Mt Airy MD, 21271

76 Address 200 E. Pleasant 9/18/15

76 Signature [Signature] **81** Date

SOURCES OF DRILLING WATER

B 4

1. well

11 STREET ADDRESS Lindera Ct **30**

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH WEST EAST SOUTH

34 DISTANCE FROM ROAD 4 **37**

38 ENTER FT OR MI 4 **39**

TAX MAP: 28 **BLK:** 49 **PARCEL:** 49

WELL INFORMATION

B 2

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

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

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard **(13)** A520385

COUNTY NAME COUNTY NO.

STATE SIGNATURE _____ INSERT S → **41**

DATE ISSUED 9/24/15 Sub. Call 9/24/16

43 MM DD YY **48** CO SIGNATURE EXP. DATE

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

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

APPROXIMATE DEPTH OF WELL 150 FEET

APPROXIMATE DIAMETER OF WELL 6" NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) **JETTED** **Jettied & DRIVEN**

30 AIR-ROTARY **AIR-PERCussion** **ROTARY (Hydraulic Rotary)**

37 CABLE **REVERSE-ROTARY** **DRIVE-POINT**

other _____

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 DEEPEMED 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)

APPROX. PERMIT NUMBER HO2006G020

PERMIT No. HO-15-0149

SPECIAL CONDITIONS

NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED- Wells must be 100' apart. Radium sample req'd at yield.

**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: Robert L. Feezer Co. Telephone #: 410-781-4655
Address: 6321 Barnett Avenue
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): Joshua Henricks License# P10173

***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: NV Homes Telephone #: 410-379-5956
Subdivision: Walnut Creek Lot #: 120 Well Tag #: HO - 15 - 0145
Site Address: 5033 Lindera Court
Elliott City, MD 21042

✓ 11/27/2017

Submersible Pump Data

Make: Schaefer
Model #: 75R0794-2W230
Pump Capacity 7 GPM
Well Yield: 15.0 GPM

Pitless Adapter

Make: Boehart
Model#: P-100-SS
Depth: 42" (36" min)
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: 205 (feet)

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 N/A

Piping to house

Type: Poly
PSI: 200 (160 psi min)
Depth of supply line: 42" (36" min)

House Connection

PVC sleeve to undisturbed soil at wall penetration: Yes
Length of sleeve(5' minimum from foundation): 10'
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.

Joshua Henricks October 26, 2017
Signature of company representative responsible for installation date

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

Date Insp. Requested: 11/27/2017 Date Insp. Approved: 11/27/2017 Inspector: (Signature)
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade ✓ 45" 11/27/2017 (Signature)
Two piece cap installed and attached to casing securely ✓
Elec. conduit extends at least 18" below grade/attached to cap properly ✓ 32" 11/27/2017 (Signature)
Safety rope not outside of well cap/casing ✓
Correct well tag attached properly and casing 8" above finished grade ✓ 16" 11/27/2017 (Signature)
Water supply line sleeved adequately at house connection ✓ 5'10" 11/27/2017 (Signature)
Adequate grout observed below pitless adapter ✓

INTERIM CERTIFICATE OF POTABILITY

Expiration Date – AUGUST 14, 2018

February 14, 2018

Homeowner
5033 Lindera Court
Ellicott City, MD 21042

**RE: Walnut Creek, Lot 120
5033 Lindera Court
Building Permit: B17002832
Well Permit: HO-15-0145**

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 **2/9/2018**. Final approval of the well line connection to the dwelling was granted on **11/27/2017**. The well construction was completed on **11/3/2015**. Water samples were collected on **1/11/2018**.

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 **10/27/2015**. Results showed a Gross Alpha level of **16.6 ± 2.9 pCi/L** and a Gross Beta level of **13.0 ± 2.2 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 (Reverse Osmosis), post-treatment water samples were collected on **1/19/2018** 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.**

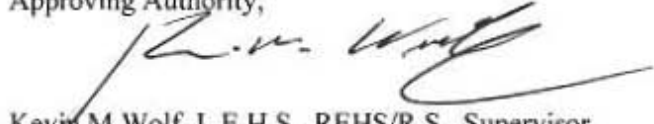
This certifies that the initial sampling requirements of COMAR 26.04.04 "Well Regulations" have been met for the water supply system installed under well permit HO-15-0145. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

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 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" for understanding your onsite sewage disposal system. You will also find a link to Maryland Department of the Environment website which elaborates in further detail operation and maintenance of your Septic System.

Approving Authority,



Kevin M Wolf, L.E.H.S., REHS/R.S., 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 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	119475	Account #:	1920
Reference:	Walnut Creek Lot 120	Company:	Robert L Feezer Co- New Homes
Location:	5033 Lindera Court Ellicott City, MD 21042	Requested By:	Rick Cross
Date/ Time Collected:	1/19/2018 0940	Source:	Well Water
Date/Time Rec'd:	1/19/2018 1224	Site:	R/O Tap
Chlorine ppm:	Free: ND Total: ND	Treatment:	**
Collected By:	J. Yeager 6176JY	pH:	6.9
		Well #:	HO-15-0145

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Radium-226	0.2	pCi/L	****	903.1	1/30/2018 / 0953 / MJN
Radium-228	<0.9	pCi/L	****	Ra-05	1/30/2018 / 0856 / SN

NOTES

- 1 ** Softener/ Neutralizer/ Reverse Osmosis
- 2 ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- 3 pCi/L = picocuries per liter
- 4 Radium 226 Detection Limit: 0.1 pCi/L; Radium 228 Detection Limit: 0.9 pCi/L
- 5 Sub-contracted to Reference Lab #278
- 6 ND:None Detected
- 7 Visual well check: Sealed, vented cap
- 8 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy
 Building Permit # : B17002832

Date Reported: 2/1/2018

MD State Certification # 133

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 #: 119338 Account #: 1920
Reference: Walnut Creek Lot 120 Company: Robert L Feezer Co- New Homes
Location: 5033 Lindera Court Requested By: Rick Cross
Ellicott City, MD 21042 Source: Well Water
Date/ Time Collected: 1/11/2018 1055 Site: Pressure Tank
Date/Time Rec'd: 1/11/2018 1315 Treatment: None**
Chlorine ppm: Free: ND Total: ND pH: 7.5
Collected By: C. Holland 0547CH Well #: HO-15-0145

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	1/12/2018 / 0900 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	1/12/2018 / 0900 / CCH
Nitrate	<1.0	mg/L	10	601	1/11/2018 / 1610 / CRS
Turbidity	1.17	NTU	<10	SM20 2130B	1/11/2018 / 1630 / CRS
Sand	NS	mg/L	5	Visual/Gravimetric	1/11/2018 / 1630 / CRS

NOTES

- 1 ** Sample collected prior to Softener & Neutralizer
- 2 mg/L = milligrams per liter (also, parts per million)
- 3 MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
- 4 NS = None Seen (NS indicates less than 5 mg/L)
- 5 NTU = Nephelometric Turbidity Units
- 6 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 7 ND:None Detected
- 8 Visual well check: Sealed, vented cap
- 9 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy

Building Permit # : B17002832

Date Reported: 1/12/2018

Wolf, Kevin

From: Bozzell, Duane <DBozzell@howardcountymd.gov>
Sent: Tuesday, January 23, 2018 12:38 PM
To: Miscbilling
Cc: Hart, Amy; Rocco, Anthony; Martin, Sharhonda; Williams, Jeffrey; Bozzell, Duane; Bernard, Dana; Wolf, Kevin; Collins, Sarah; Tuder, Matt; Cagle, Clint; Srour, Matthew; Anastasia, James
Subject: [Ext] U&O Release (Street Address)

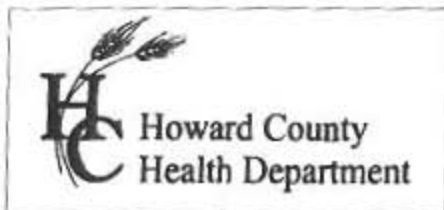
On the morning of 1-13-2018 observed the start-up of a Sewage Grinder Pump at the Walnut Creek Shared Septic System:

Walnut Creek, Contract #4773
NV Homes , Lot # 120
5033 Lindrea ct.
Ellicott City, MD 21042

The Sewage Grinder Pump test was successful; the Bureau of Utilities releases its hold on this property for U&O

DUANE BOZZELL

DPW-Bureau of Utilities
Phone: (410)313-4900
Fax: (410)313-4989



7178 Columbia Gateway Dr., Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Peter L. Bielensohn, M.D., M.P.H., Health Officer

TO ALL INTERESTED PARTIES

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

Well Site Location:

<u>Walnut Creek</u>	<u>120</u>	<u>Lindera Court</u>
Subdivision/Property Name	Lot #	Road Name

- The well site has been staked by Fisher, Collins and Carter, Inc.,
(professional land surveyor or company employing professional land surveyors)
on 09/17/15 (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.

Revised 3/11/07

Oswald, Hank

From: Oswald, Hank
Sent: Tuesday, August 01, 2017 3:08 PM
To: TFARIS@NVRINC.COM
Subject: B17002832_5033 Lindera Court_Lot 120
Attachments: Water Testing Requirements_Walnut Creek_Lot 120.pdf

Hello Mr. Faris:

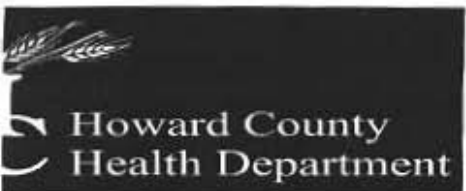
Building permit # B17002832 has been approved by the Health Department for the planned residence located at 5033 Lindera Court, Walnut Creek, Lot 120. Please see attached water sample result letter dated 11.21.2016 for well water treatment and other requirements in order to secure Use & Occupancy.

Should you have any questions, please don't hesitate to ask.

Respectfully,

Hank

Hank Oswald, L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
Well & Septic Program
8930 Stanford Boulevard
Columbia, MD 21045
410.313.1786 (Office)
410.313.2648 (Fax)



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

November 21, 2016

Bassler Venture
 Attn. Tim Feaga
 15950 North Avenue, P.O. Box 482
 Lisbon, Maryland 21765

RE: Walnut Creek Lot 120
 Lindera Court
 Well Tag: HO - 15 - 0145

Dear Mr. Feaga:

Additional follow-up testing was performed on the well serving Lot 120 on March 1, 2016. Samples were submitted to Pace Analytical Services, Inc. to further assess the extent of **Gross Alpha**, **Gross Beta**, **Radium 226/228** and **Total Uranium** in the future well water supply. Prior testing confirmed a level of presence sufficient enough to evaluate whether treatment to address these naturally occurring radioactive nuclides should be considered.

Results from this long term particle screening (based upon the date of analysis) revealed a **Gross Alpha** of 13.4 ± 3.5 picocuries/liter (pCi/L), while the **Gross Beta** level was 13.8 ± 1.75 pCi/L. The **Gross Alpha** result was below 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**).

Additionally, a **Radium 226 / 228** sample was collected and submitted to Pace. These naturally occurring isotopes of radium are considered the most important due to their longer half-lives and health significance. Results revealed a **Radium 226** level of 4.86 ± 1.17 pCi/L, while the **Radium 228** level was 2.98 ± 0.52 pCi/L. Here the **combined Radium 226 / 228** was well **above** the MCL of **5 pCi/L**.

Finally, an analysis for **Uranium** was performed. Results from this screening revealed a **Uranium** level of 7.93 ± 0.15 micrograms per liter (ug/L). This finding is below the current **MCL** of **30 ug/L** for this parameter (roughly equivalent to **20 pCi/L**).

At the time of testing and with respect to these parameters, the future well water supply **does not** meet EPA regulatory standards. Given these findings, treatment (water softener and / or R/O) will be required **prior** to future occupancy. Additional post-treatment testing for **Radium** will be required to secure the future Use & Occupancy. **Additionally**, a Radium Treatment Agreement will need to be signed by the future owner and recorded in Land Records. Finally, **please note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will also 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 or to schedule additional testing.

Sincerely,

 Bert Nixon, Director
 Bureau of Environmental Health

✓ Enclosure
 cc: Property file

ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: Walnutcreek Phase 4 *Lindora Ct HO-15-245*
Pace Project No.: 30174956

Sample: Lot 120 Lab ID: 30174956003 Collected: 03/01/16 09:45 Received: 03/02/16 22:15 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0	13.4 ± 3.54 (2.94) C:NA T:NA	pCi/L	04/05/16 08:44	12587-46-1	
Gross Beta	EPA 900.0	13.8 ± 1.75 (1.76) C:NA T:NA	pCi/L	04/05/16 08:44	12587-47-2	
Radium-226	EPA 903.1	4.86 ± 1.17 (0.644) C:NA T:93%	pCi/L	04/12/16 10:04	13982-63-3	
Radium-228	EPA 904.0	2.98 ± 0.526 (0.707) C:81% T:88%	pCi/L	03/25/16 15:55	15262-20-1	
Total Uranium	ASTM D5174-97	7.93 ± 0.149 (0.193) C:NA T:NA	ug/L	04/11/16 18:16	7440-61-1	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

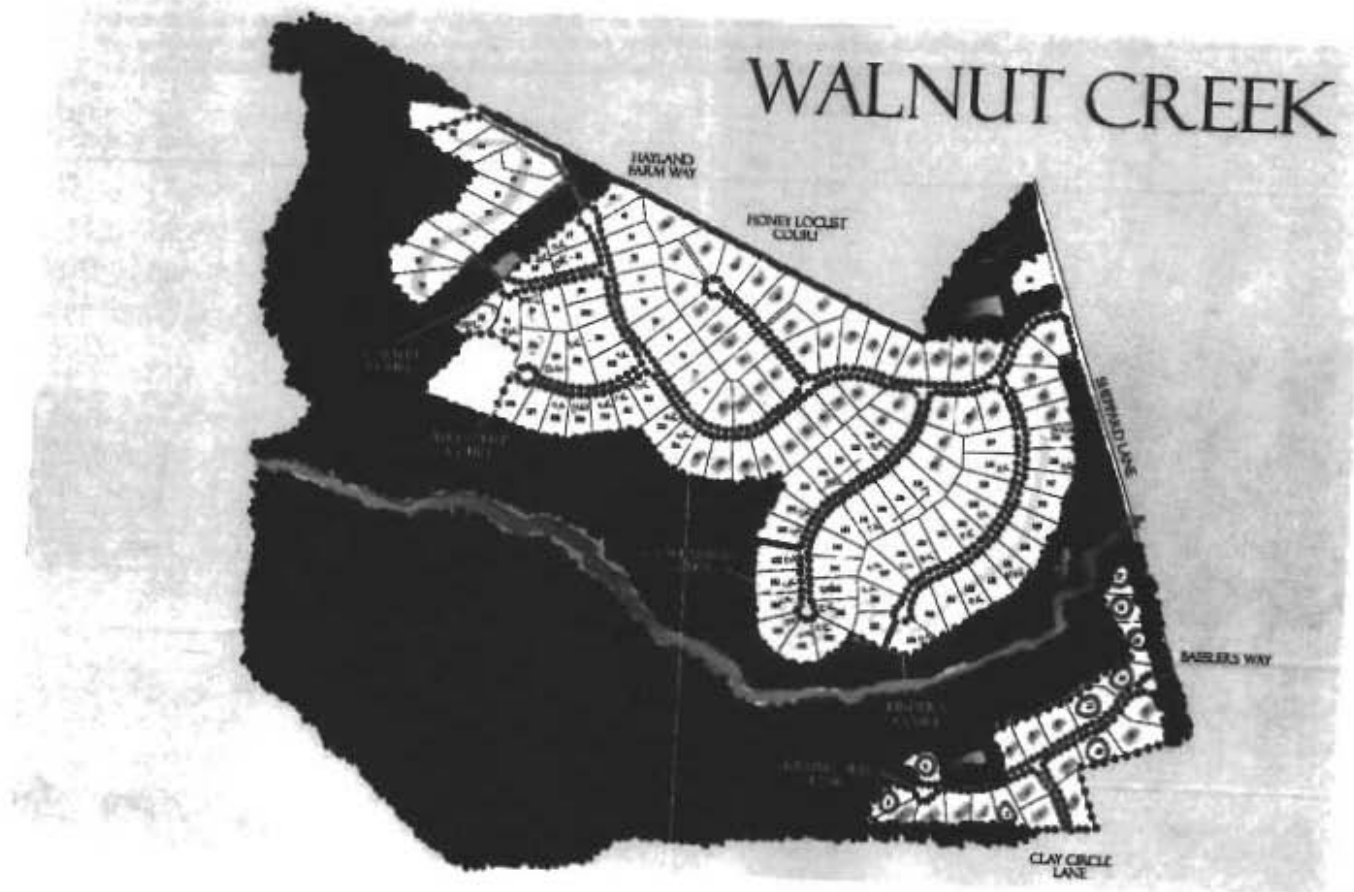
Williams, Jeffrey

From: Williams, Jeffrey
Sent: Friday, May 16, 2014 12:16 PM
To: Tim Feaga
Subject: Walnut Creek Radium testing
Attachments: Walnut Creek radium.pdf; Walnut Creek radium_2.pdf

Hi Tim. I met with Bert regarding possible easement of radium testing at all lots in Walnut Creek. I've attached a map showing the additional lots that we would like to still be tested to ensure that there is not an area of concern in the remaining lots. The lots in the green cloud have been tested and passed. The lots in the red cloud are lots that we would like to be tested. The lots at the top corner (82-86, 90-94) fall within the radium testing boundary. We want the lots near the river tested to prove whether the stream is in fact acting as a natural buffer from the positive tests on the other side and the passing lots above them. Furthermore, we'd like some representative lots tested in the other section near the upper testing boundary to prove that there are no hot spots. If these are also passing, then we would likely be comfortable waiving the remaining.

We'd be happy to meet with you to discuss if you prefer. Thanks.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov





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

January 11, 2016

**Need Further Testing*

Bassler Venture
Attn. Tim Feaga
15950 North Avenue, P.O. Box 482
Lisbon, Maryland 21765

RE: Walnut Creek Lot 120
Lindera Court
Well Tag: HO - 15 - 0145

Dear Mr. Feaga:

A sample was collected during a yield test on October 27, 2015 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 **16.6 ± 2.9 picocuries/liter (pCi/L)**, while the **Gross Beta** level was **13.0 ± 2.2 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**).

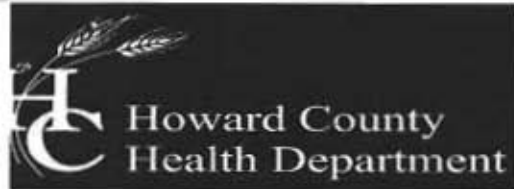
At the time of testing and with respect to these parameters, the future well water supply **does not** meet EPA regulatory standards. Additional testing **for these parameters** will be required to secure the future Use & Occupancy. Additional raw water samples for **short and long term Gross Alpha and Gross Beta**, plus **Radium 226 / 228** will be needed to assess any future treatment needs. **Please note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will also 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,

Bert Nixon, Director
Bureau of Environmental Health

✓ Enclosure
cc: Property file



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Sincerely,

Bert Nixon, Director
Bureau of Environmental Health

✓ Enclosure
cc: Property file

SEND REPORT TO: Bert Nixon
 Howard Co. Health Dept
 Bureau of Environmental Health
 8933 Stanford Blvd
 Calverton, MD 21045

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

Lab No.
 E000702 328

Plant/Site Name: Walnut Creek - Lot 120 County: Howard

Sample Source: Lindera Court Location: HO-15-0145

(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.: 410-312-6287

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

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample taken during yield

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
✓	Gross Alpha	4000	0702	EPA900.0	16.6 ± 2.9	10/30/15	JJ	11/6/15
✓	Gross Beta	4100	0702	EPA900.0	12.6 ± 2.2	10/30/15	JJ	11/6/15
<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							
✓	Gross Alpha - Conf		0702	EPA900.0	13.7 ± 2.9	11/6/15	JJ	11/10/15
✓	Gross Beta - Conf		0702	EPA900.0	12.3 ± 2.3	11/6/15	JJ	11/10/15

Date Received: 10/28/15 Received By: In JJ

Data Release Signature: Deborah Miller - Jurek Date: 11-10-15

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: Brett Nixon
Howard Co Health Dept
Bureau of Environmental Health
9930 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. E000700 828

LABORATORY ANALYSIS REQUEST FORM

Plant/Site Name: Field Blank County: Howard

Sample Source: dH₂O Location: HCHE Lab

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: S

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

Date Collected: 10/27/15 Time Collected: _____ a.m. 3:30 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	<u>0700</u>	<u>EPA 900.0</u>	<u><2.0</u>	<u>10/30/15</u>	<u>JJ</u>	<u>11/6/15</u>
<input checked="" type="checkbox"/>	Gross Beta	4100	<u>0700</u>	<u>EPA 900.0</u>	<u>4.4</u>	<u>10/30/15</u>	<u>JJ</u>	<u>11/6/15</u>
<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: 10/28/15 Received By: In JJ
 Data Release Signature: Deborah Miller-Juel Date: 11/6/15

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

5033 Lindera Ct.

Clerk of the Circuit Court for
Howard County
Land Records/Licensing

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

=====
LR - Agreement Recording Fee
1x 20.00 20.00

Name: nv homes
Ref: 26

=====
LR - Agreement Surcharge
1x 40.00 40.00

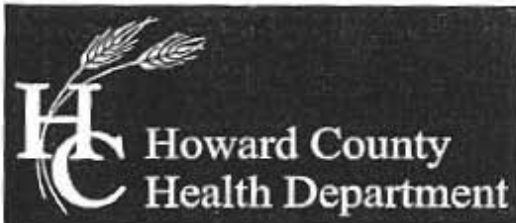
=====
SubTotal: 60.00
Total: 60.00

=====
CRD-Credit 60.00
Credit Card Confirmation : 041819

02/13/2018 10:13
#9838336 /494/109

CC13-YW

Thank you for visiting us today~



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

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

AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN ON-SITE TREATMENT SYSTEM

This agreement is entered into by and between the Howard County Health Department ("the Health Department") and NV Homes ("the Owner").

WHEREAS, the Owner owns a tract of land at street address 5033 Lindera Ct.
Ellicott City, MD 21042 and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 2B, Block # 1718, Parcel # 49, Deed Reference # 17794100380 and Tax Account # 05-598873 ("the Property").

WHEREAS, the Property lacks an available public drinking water source and is required to have and individual well as the source of drinking water for the residence of the property.

WHEREAS, the Owner has installed a residential drinking well under well permit H-15-045 that has been tested by the Health Department (or a private laboratory certified to perform testing) for radionuclide particles. The results of the tests have shown that the gross alpha particle content and/or the gross beta particle content and/or the combined radium 226/228 levels exceeds the standards of 15 picocuries per liter (pCi/L), 4 millirems per year (mrem/yr) and/or 5pCi/L respectively.

WHEREAS, The Maryland Department of the Environment (MDE) has promulgated rules and regulations under which a Certificate of Potability may be issued and has delegated the authority to issue such Certificate to the Health Department.

WHEREAS, MDE regulations permit the Health Department to issue as a special condition, a permanent deviation to the Certificate of Potability for individual wells where treatment has been installed to meet the maximum contaminate levels (MCL's) for radionuclides.

WHEREAS, MDE has determined that radium can be effectively removed from the drinking water by the use of treatment devices (e.g., ion exchange or reverse osmosis).

WHEREAS, the Owner is requesting that the Health Department issue a Certificate of Potability contingent upon installation and maintenance of a water treatment device to reduce radionuclides.

WHEREAS, neither the Owner nor the Health Department has knowledge of an alternative safe source of water for the Property.


NOW THEREFORE, the parties have agreed to the following terms and conditions:

1. The Owner will record this Agreement among the Land Records of Howard County, Maryland and provide confirmation to the Health Dept.
2. The Owner agrees to install and maintain a water treatment device, which effectively reduces the gross alpha, gross beta and radium levels to below their respective MCL. The Health Department

shall verify that the treatment device is operating effectively and the Owner agrees to allow access to the Health Department to collect a follow-up sample(s).

3. The Health Department shall issue a Certificate of Potability for the well once follow-up sampling shows acceptable gross alpha, gross beta (short and long term) and radium 226 / 228 levels.
4. The Owner agrees that there shall be no liability on part of the Health Department for any immediate or long term impacts to health or property, under any circumstance or including, but not limited to, treatment device failure, improper maintenance or installation, or defect. The Health Department does not warranty or guarantee that the device will adequately or properly function and the Owner agrees to implement and pay for any necessary changes or corrections.
5. The Owner acknowledges and agrees that neither the Health Department nor any of its agents or employees, either officially or individually, underwrites the operation of any system or treatment device.
6. This Agreement shall not be construed to limit any authority of the Health Department to protect the public health, safety or enjoyment of property or to issue any other orders to take any other action, which is now or may hereafter be within its authority.
7. This agreement contains the entire agreement and understanding between the Health Department and the Owner. There are no additional terms other than as contained in this Agreement. This Agreement may not be modified except in writing signed by each of the parties or their authorized representatives.
8. The Agreement shall run with the land and binds the Owner, his heirs, successors, and assigns. The owner agrees to provide a copy of this agreement to any purchaser or lessee of the property.
9. The laws of the State of Maryland govern the provisions of all transactions.

The parties have signed and sealed this Agreement on the dates set forth below.

	<u>2/12/18</u>	<u>R.S. Tubioni</u>	<u>2/12/18</u>
Owner	Date	Buyer	Date

_____	_____	_____	_____
Owner	Date	Buyer	Date

	<u>2/13/18</u>
Howard County Health Department	Date