

C1 1129

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 AS20415

ST/CO USE ONLY DATE Received MM DO YY

DATE WELL COMPLETED 9 21 2010

Depth of Well 240 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" Ho-95-1996

OWNER Greenfield Homes Inc STREET OR RFD Private Dr - Access Dr TOWN Clarksville SUBDIVISION Willow Pond SECTION LOT 10

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 FROM TO check if water bearing

Sand 0 61 Gray mica Rock 61 240

GROUTING RECORD

WELL HAS BEEN GROUTED (Y) (N) TYPE OF GROUTING MATERIAL (C) (M) (B) (C) NO. OF BAGS 15 NO. OF POUNDS 1440 GALLONS OF WATER 90 DEPTH OF GROUT SEAL 51

CASING RECORD

MAIN CASING TYPE (S) (T) Nominal diameter top (main) casing 6 Total depth of main casing 66

OTHER CASING (if used)

screen type or open hole (S) (T) (B) (R) (H) (O) (P) (L) (O) (T) (O) (T) (O) (T)

SCREEN RECORD

DEPTH (nearest ft.) 64 240

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED (Y) (N)

CIRCLE APPROPRIATE LETTER 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.: MS D024

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO.: MS D027

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) T (E.R.O.S.) W Q

TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3

PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 10 METHOD USED TO MEASURE PUMPING RATE Bucket WATER LEVEL (distance from land surface) BEFORE PUMPING 27 WHEN PUMPING 93 TYPE OF PUMP USED (for test) 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 LAND SURFACE (-) below 2 (nearest foot)

LOCATION OF WELL ON LOT

SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

See attached location

B 1	3409	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL <i>534010</i> please type	STATE PERMIT NUMBER <i>HO-95-1996</i> <small>fill in this form completely</small>
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**OWNER INFORMATION**

Date Received (APA) *08 30 10*

8 MM DD YY 13

*Greenfield Homes Inc*  
15 Last Name Owner First Name 34

*6656 Leeth Drive*  
36 Street or RFD 55

*Highland Md 20977*  
57 Town 70 State 72 Zip 76

**LOCATION OF WELL**

B 3

*Howard*  
8 COUNTY 21

*Willow Pond*  
23 SUBDIVISION 42

SECTION *10* LOT *10*  
44 46 48 50

*Clarksville*  
52 NEAREST TOWN 71

MILES FROM TOWN (enter 0 if in town) *1* M I  
73 76 77 78

**DRILLER INFORMATION**

*Joseph T. Mayne* M S D *24*  
76 Driller's Name License No. 81

*Joseph T. Mayne Well Drilling*  
Firm Name

*5512 Ridge Rd Mt. Airy Md 21771*  
Address

*Joseph T. Mayne* *8-24-2010*  
Signature Date

**DIRECTION OF WELL FROM TOWN (CIRCLE BOX)**

1 2

*Prestwick Dr - Access Dr*  
11 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

*630* 34 37  
DISTANCE FROM ROAD ENTER FT OR MI 38 39

TAX MAP *34* BLK: *17* PARCEL *382*

**WELL INFORMATION**

B 2

APPROX. PUMPING RATE (GAL. PER MIN.) *4*  
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

G GEO-THERMAL

**NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL**

*Howard* (13) *A520415*  
COUNTY NAME COUNTY NO.

STATE SIGNATURE \_\_\_\_\_ INSERT S →

DATE ISSUED *9/13/2010* *Brian Baker* *9/13/2011*  
43 MM DD YY 48 CO SIGNATURE EXP. DATE

NORTH GRID *496* 0 0 0 EAST GRID *813* 0 0 0  
50 55 57 63

APPROXIMATE DEPTH OF WELL *400* 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 \_\_\_\_\_

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

- well*
- 
- 

WRITE THE BOX NUMBER FROM THE MAP HERE

E *813*

N *496*

9/21/10  
*Radium Sample collected @ Yield - 10gpm - 68' casing*

**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

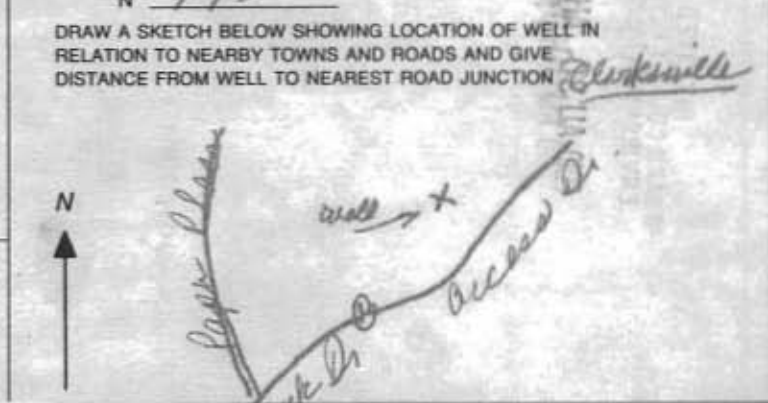
D THIS WELL WILL DEEPEM AN EXISTING WELL

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 \_\_\_\_\_ G \_\_\_\_\_

PERMIT No. *HO-95-1996*  
70 71 72 73 74 75 76 77 78 79



**SPECIAL CONDITIONS**

NOTE - APPROVING AUTHORITIES SHOULD USE APPROPRIATE PERMITS

*Need to Collect Radium Sample During Yield Test*

DENV-Permit 97



**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): Russel C. George License# P10148

**\*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: Mr. Christopher Tippett Telephone #: 443-864-3383  
Subdivision: Willow Pond Lot #: 10 Well Tag #: HO - 85 - 1996  
Site Address: 6513 Heather Glen Way  
Clarksville, MD 21029-1470

**Submersible Pump Data**

Make: Schaefer  
Model #: 7SR07S4-2W230  
Pump Capacity 7 GPM  
Well Yield: 10 GPM

**Pitless Adapter**

Make: Boshart  
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: 240 (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

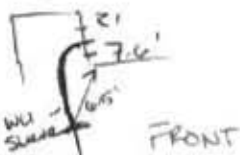
**The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.**

Russell C. George      November 28, 2017  
Signature of company representative responsible for installation      date

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

Date Insp. Requested: 11/29/2017 Date Insp. Approved: 11/29/2017 Inspector: [Signature]  
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade ✓ 44" 11/29/2017 [Signature]  
Two piece cap installed and attached to casing securely ✓  
Elec. conduit extends at least 18" below grade/attached to cap properly ✓ 29" 11/29/2017 [Signature]  
Safety rope not outside of well cap/casing ✓  
Correct well tag attached properly and casing 8" above finished grade ✓ 8" 11/29/2017 [Signature]  
Water supply line sleeved adequately at house connection ✓  
Adequate grout observed below pitless adapter ✓

11/29/2017 [Signature]  
Ex. House



\*\*\*\*\*  
 WATER WELL ABANDONMENT-SEALING REPORT FORM  
 \*\*\*\*\*

SUBMIT COPIES OF COMPLETED FORM TO:

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

DATE WELL ABANDONED: 12 8 2010 (month/day/year)

\* PERMIT NUMBER OF ABANDONED WELL (if any) 40 - 17 - 70

\* PERMIT NUMBER OF REPLACEMENT WELL \_\_\_\_\_

\* PERSON ABANDONING WELL: Charles W. Hagerman

WELL DRILLERS LICENSE NUMBER: 5031

CIRCLE: (MWD/MSD/MGD)

\* OWNER'S NAME: Wm. Hagerman

SITE LOCATION MAP

\* WELL LOCATION:  
 COUNTY: STEARNS  
 NEAREST TOWN: WATERVILLE  
 TAX MAP 34 BLOCK 17 PARCEL 352  
 SUBDIVISION: WATERVILLE  
 SECTION: \_\_\_\_\_ LOT: \_\_\_\_\_  
 NEAREST ROAD: STEARNSVILLE PIKE



\* TYPE OF WELL BEING ABANDONED:

- DRILLED  JETTED  
 BORED/AUGERED  HAND DUG  
 OTHER (specify) \_\_\_\_\_

\* USE CODE:

- DOMESTIC  MUNICIPAL/PUBLIC  
 IRRIGATION  INDUSTRIAL  
 TEST/OBSERVATION  GEOTHERMAL

\* TYPE OF CASING:

- STEEL  PLASTIC  
 CONCRETE  OTHER (specify) \_\_\_\_\_

\* SIZE OF CASING: 2 INCHES IN DIAMETER

\* DEPTH OF WELL: 22 FEET DEEP

\* WAS ANY CASING REMOVED?  YES  NO  
 if yes, length removed, in feet: 22

\* WAS CASING RIPPED OR PERFORATED?  YES  NO

LOG OF SEALING MATERIAL

MATERIAL	FEET	
	FROM	TO
Mixe 1/2" BEJONITE	0	22'
VOLUME OF MATERIAL USED		
15 LBS OF BEJONITE		
3 GALLONS OF WATER		

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN \_\_\_\_\_ LICENSE # \_\_\_\_\_ CIRCLE ONE \_\_\_\_\_ DATE \_\_\_\_\_

MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION  
1800 Washington Blvd., Baltimore, Maryland 21230 (410) 537-3784

\*\*\*\*\*  
WATER WELL ABANDONMENT-SEALING REPORT FORM  
\*\*\*\*\*

SUBMIT COPIES OF COMPLETED FORM TO:

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

DATE WELL ABANDONED: 12-6-2010 (month/day/year)

\* PERMIT NUMBER OF ABANDONED WELL (if any) 110 - 74 - 4554

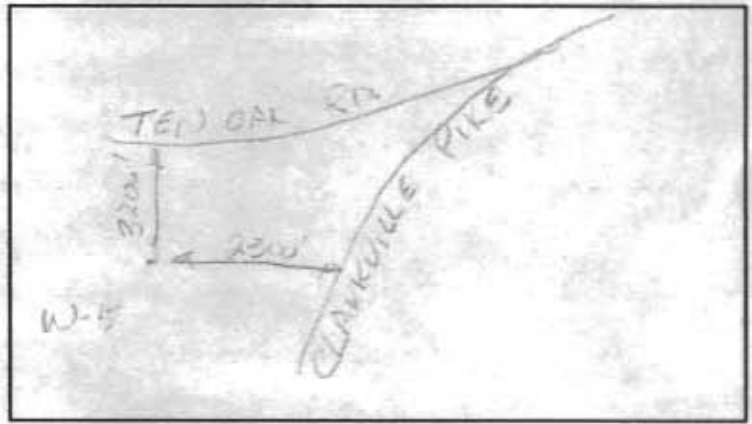
\* PERMIT NUMBER OF REPLACEMENT WELL \_\_\_\_\_

\* PERSON ABANDONING WELL: Charles C. Meader WELL DRILLERS LICENSE NUMBER: 551

\* OWNER'S NAME: WAYNE GREENFIELD CIRCLE: MWD/MSD/MGD

\* WELL LOCATION:  
COUNTY: HOWARD  
NEAREST TOWN: CLARKVILLE  
TAX MAP 34 BLOCK 17 PARCEL 302  
SUBDIVISION: WILLOW POINT  
SECTION: \_\_\_\_\_ LOT: \_\_\_\_\_  
NEAREST ROAD: CLARKVILLE PIKE

SITE LOCATION MAP



\* TYPE OF WELL BEING ABANDONED:

- DRILLED                       JETTED  
 BORED/AUGERED           HAND DUG  
 OTHER (specify) \_\_\_\_\_

\* USE CODE:

- DOMESTIC                       MUNICIPAL/PUBLIC  
 IRRIGATION                       INDUSTRIAL  
 TEST/OBSERVATION           GEOTHERMAL

\* TYPE OF CASING:

- STEEL                               PLASTIC  
 CONCRETE                       OTHER (specify) \_\_\_\_\_

\* SIZE OF CASING: 2 INCHES IN DIAMETER

\* DEPTH OF WELL: 26 FEET DEEP

\* WAS ANY CASING REMOVED?  YES  NO  
if yes, length removed, in feet: 26

\* WAS CASING RIPPED OR PERFORATED?  YES  NO

LOG OF SEALING MATERIAL

MATERIAL	FEET	
	FROM	TO
Hole-Plug BESTONITE	0	28'
VOLUME OF MATERIAL USED		
1705-LBS. BESTONITE 5 GALLONS OF WATER		

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN

LICENSE #

CIRCLE ONE 12-13-2010

DATE

**INTERIM CERTIFICATE OF POTABILITY**  
**PERMANENT DEVIATION FOR RADIUM**  
Expiration Date – OCTOBER 5, 2018

April 5, 2018

Homeowner  
6513 Heather Glen Way  
Clarksville, MD 21029

**RE: Willow Pond, Lot 10**  
6513 Heather Glen Way  
**Building Permit: B17002931**  
**Well Permit: HO-95-1996**

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 **11/7/2017**. Final approval of the well line connection to the dwelling was granted on **11/29/2017**. The well construction was completed on **9/21/2010**. Water samples were collected on **2/5/2018, 2/28/2018, 2/28/2018, 2/28/2018, & 3/15/2018**.

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 **9/21/2010**. Results showed a Gross Alpha level of **26.3 ± 3.7 pCi/L** and a Gross Beta level of **24.4 ± 2.5 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 **2/5/2018** 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-95-1996. 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>

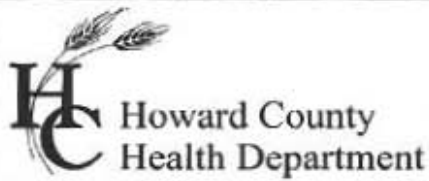
In closing, please refer to our "[Homeowner Fact Sheet](#)" which illustrates a better understanding for your onsite sewage disposal system. You will also find a link to Maryland Department of the Environments website which describes in further detail operation and maintenance of your septic system.

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  
7178 Gateway Drive 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. Beilenson, M.D., M.P.H., Health Officer

October 28, 2010

Greenfield Homes, Inc.  
6656 Luster Drive  
Highland, Maryland 20777

RE: Willow Pond Lot 10  
Prestwick Drive  
Well Tag: HO - 95 - 1996

To Whom It May Concern:

A sample was collected during a yield test on September 21, 2010 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  $26.3 \pm 3.7$  picocuries/liter (pCi/L); while the **Gross Beta** level was  $24.4 \pm 2.5$  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** appear safe for all uses. Additional testing **for these parameters, plus Radium 226 and Radium 228** will be required to secure the future Use & Occupancy. Given the elevated finding for **Gross Alpha** and higher than typical finding for **Gross Beta**, installation of a water softener system and / or a reverse osmosis system will likely be necessary. If you elect to install treatment upfront, **only a post short and long term Gross Alpha and Beta, plus a post Radium 226 / 228** should be needed to properly evaluate the effectiveness of the installed treatment. Given that it typically takes up to one month to perform and receive back the **Radium** analyses, plan accordingly. Also note, this is in addition to other standard testing parameters (bacteria, nitrate, turbidity and sand) that will still be required to help secure Use & Occupancy.

A copy of the test results is enclosed for your information. Please call this office at **410-313-1773** if you have any further questions or to discuss additional testing requirements.

Sincerely,

Bert Nixon, Director  
Bureau of Environmental Health

Enclosure  
cc: Barry Glotfelty, MDE Water Mgmt.  
Well & Septic property file

## Wolf, Kevin

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**From:** Wolf, Kevin  
**Sent:** Wednesday, April 04, 2018 12:34 PM  
**To:** 'dandahvac@aol.com'  
**Subject:** 6513 Heather Glen Way  
**Attachments:** 20180404122331295.pdf; Radium Agreement revised 6.19.15.pdf

Chris,  
I finished reviewing your file. There are a lot of water quality issues that I had to go through on this one. Your elevated turbidity level resulted from the excess iron and manganese in your water. This was followed up by a post treated iron and manganese that resulted below the secondary maximum containment level as implied under the Safe Drinking Water Act and COMAR 26.04.04.16 E. (5). In addition, your bacteria level for total coliform was elevated in the samples taken 2/5/18 and again on 2/18/18 but passed on the test taken 3/15/18.

The radionucleotide (Radium) levels were shown to be elevated beyond the maximum containment level as indicated on the samples taken 9/21/18. This was ultimately followed up with a passing post treated R/o sample for long term and Radium 226, 228 on 2/5/18.

From here, I need you to review the attached Radium agreement, complete and sign as needed and bring original copy into our office. We will review and sign off the agreement form as from there you will need to take this to County Land Records office to record with the deed of the property. They will give you a receipt of invoice, please bring this back to us or send to me via scanned copy as completion of recordation. Once I receive this, I can issue your Interim Certificate of Potability (ICOP) which will follow up on your U & O.

Thanks,

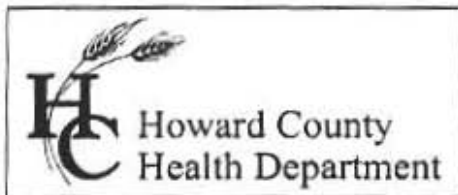
Kevin M. Wolf, LEHS, REHS/RS  
Groundwater Mgmt. Sec. Supervisor  
Well & Septic Program  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045  
(o) 410-313-2645  
(f) 410-313-2648



[kwolf@howardcountymd.gov](mailto:kwolf@howardcountymd.gov)

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Bureau of Environmental Health  
7178 Gateway Drive 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. Beilenson, M.D., M.P.H., Health Officer

October 28, 2010

Greenfield Homes, Inc.  
6656 Luster Drive  
Highland, Maryland 20777

RE: Willow Pond Lot 10  
Prestwick Drive  
Well Tag: HO - 95 - 1996

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A sample was collected during a yield test on September 21, 2010 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  $26.3 \pm 3.7$  picocuries/liter (pCi/L); while the **Gross Beta** level was  $24.4 \pm 2.5$  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** appear safe for all uses. Additional testing for these parameters, plus **Radium 226 and Radium 228** will be required to secure the future Use & Occupancy. Given the elevated finding for **Gross Alpha** and higher than typical finding for **Gross Beta**, installation of a water softener system and / or a reverse osmosis system will likely be necessary. If you elect to install treatment upfront, **only a post short and long term Gross Alpha and Beta, plus a post Radium 226 / 228** should be needed to properly evaluate the effectiveness of the installed treatment. Given that it typically takes up to one month to perform and receive back the **Radium** analyses, plan accordingly. Also note, this is in addition to other standard testing parameters (bacteria, nitrate, turbidity and sand) that will still be required to help secure Use & Occupancy.

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

Sincerely,  
  
Bert Nixon, Director  
Bureau of Environmental Health

Enclosure  
cc: Barry Glotfelty, MDE Water Mgmt.  
✓ Well & Septic property file

Send Report To:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

E000447 22

State of Maryland  
DHMH - Laboratories Administration  
Division of Environmental Chemistry  
**RADIATION LABORATORY**

201 W. Preston Street, Baltimore, Maryland 21201  
John M. DeBoy, Dr. P. H., Director

**LABORATORY ANALYSIS REQUEST**

Sample Bottle No. A: H0-95-1596 No. B: \_\_\_\_\_ Field Blank Bottle No. 1: \_\_\_\_\_ No B: \_\_\_\_\_

Plant/Site Name: Willow Pond - Lot 10 County: Howard

Sample Source: Prestwick Dr. Location: H0-95-1596  
(well no, lab sink, sample tap, etc.)

County:  1  2 Plant No.

CHECK (one per box)

Drinking Water   
Landfill   
Stream   
Other

Community   
Non-community   
Private   
Other

Source (raw water)   
Distribution (treated)   
MCL

Emergency   
Routine   
Recheck   
Special

Collector: K. Wolf

Telephone No.: 410-313-2645

Date Collected: 9/21/10 *amb*

Time Collected: 10:15 a.m. \_\_\_\_\_ p.m.

Nitric Acid Preserved: Yes  No

Iced: Yes  No

Submitters Code:  Federal Project:

Field Data: \_\_\_\_\_

Remarks: pH preserved to < 3.0 / Duplicate 09/27/10 d 239±36 B 21.9±2.5

Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Analyzed	Date Reported
✓ Gross Alpha	4000	0447	26.3±3.7	09/27/10	09/28/10
✓ Gross Beta	4100	0447	24.4±2.5	"	"
Radon-222 Bottle A	4004				
Radon-222 Bottle B	4004				
Field Blank #A	4004				
Field Blank #B	4004				
Tritium					
Ra - 226	4020				
Ra - 228	4030				
Total Uranium	4006				

Date Received: 09/22/10

Supervisor: [Signature]

•Tel. No.: (410) 767 - 5537 •Fax No.: (410) 333- 5373

# 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 #: 119763 Account #: 27621  
Reference: Chris Tippett Company: CASH ACCOUNT  
Location: 6513 Heather Glen Way Requested By: Chris Tippett  
Clarksville, MD 21029 Source: Well Water  
Date/ Time Collected: 2/5/2018 1012 Site: Reverse Osmosis Tap/Temp. Kitchen  
Date/Time Rec'd: 2/5/2018 1214 Treatment: Neutralizer/Softener/Reverse Osmosis  
Chlorine ppm: Free: ND Total: ND pH: 6.4  
Collected By: J. Yeager 6176JY Well #: HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Gross Alpha, Short Term	3.5	pCi/L	15	900.0	2/8/2018 / 0624 / MJN
Gross Beta, Short Term	1.9	pCi/L	50	900.0	2/8/2018 / 0624 / MJN
Gross Alpha, Long Term	0.8	pCi/L	15	900.0	2/15/2018 / 0630 / MJN
Gross Beta, Long Term	<1.9	pCi/L	50	900.0	2/15/2018 / 0630 / MJN
Radium-226	0.3	pCi/L	****	903.1	2/15/2018 / 1304 / MJN
Radium-228	<0.8	pCi/L	****	Ra-05	2/14/2018 / 1009 / SN

### NOTES

- \*\*\*\*Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- Long Term Gross Alpha Detection Limit: 0.8 pCi/L; Long Term Gross Beta Detection Limit: 1.9 pCi/L
- pCi/L = picocuries per liter
- Radium 226 Detection Limit: 0.2 pCi/L; Radium 228 Detection Limit: 0.8 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: 0.7 pCi/L; Short Term Gross Beta Detection Limit: 1.9 pCi/L
- ND:None Detected
- pH & Chlorine level tested on site
- Visual well check: Sealed, vented cap

Reason for Test : Use & Occupancy  
Building Permit # : B17002931

Date Reported: 2/16/2018

**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 #: 119764 Account #: 27621  
Reference: Chris Tippett Company: CASH ACCOUNT  
Location: 6513 Heather Glen Way Requested By: Chris Tippett  
Clarksville, MD 21029 Source: Well Water  
Date/ Time Collected: 2/5/2018 1030 Site: Pressure Tank  
Date/Time Rec'd: 2/5/2018 1214 Treatment: Neutralizer/Softener/Reverse Osmosis\*  
Chlorine ppm: Free: ND Total: ND pH: 6.5  
Collected By: J. Yeager 6176JY Well #: HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	2.0	MPN/ 100 ml	<1.0	SM20 9223	2/6/2018 / 0945 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	2/6/2018 / 0945 / CCH
Nitrate	<1.0	mg/L	10	601	2/6/2018 / 0950 / CRS
Turbidity	24.1	NTU	<10	SM20 2130B	2/6/2018 / 1010 / CRS
Sand	NS	mg/L	5	Visual/Gravimetric	2/6/2018 / 1010 / CRS

**NOTES**

- 1 \*Sample collected prior to treatment
- 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 pH & Chlorine level tested on site
- 9 Visual well check: Sealed, vented cap

Reason for Test : Use & Occupancy  
Building Permit # : B17002931

Date Reported: 2/6/2018

# 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 #:	120191	Account #:	27621
Reference:	Chris Tippett	Company:	CASH ACCOUNT
Location:	6513 Heather Glen Way Clarksville, MD 21029	Requested By:	Chris Tippett
Date/ Time Collected:	2/28/2018 1234	Source:	Well Water
Date/Time Rec'd:	2/28/2018 1410	Site:	Pressure Tank
Chlorine ppm:	Free: ND Total: ND	Treatment:	**
Collected By:	G. Lana 3799GL	pH:	6.3
		Well #:	HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Manganese	0.20	mg/L	0.05*	200.8	3/4/2018 / 1432 / MO

### NOTES

- 1 \*\*Sample collected prior to Neutralizer/Softener/Point of Use Reverse Osmosis
- 2 \*SMCL = Secondary Maximum Contaminant Level
- 3 Manganese Detection Limit: 0.0050 mg/L
- 4 mg/L = milligrams per liter (also, parts per million)
- 5 Sub-contracted to Reference Lab #128
- 6 ND:None Detected
- 7 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy  
Building Permit # : B17002931

Date Reported: 3/8/2018

# 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 #:	120193	Account #:	27621
Reference:	Chris Tippett	Company:	CASH ACCOUNT
Location:	6513 Heather Glen Way Clarksville, MD 21029	Requested By:	Chris Tippett
Date/ Time Collected:	2/28/2018 1245	Source:	Well Water
Date/Time Rec'd:	2/28/2018 1410	Site:	Kitchen Sink
Chlorine ppm:	Free: ND Total: ND	Treatment:	**
Collected By:	G. Lana 3799GL	pH:	6.6
		Well #:	HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Manganese	ND	mg/L	0.05*	200.8	3/4/2018 / 1436 / MO

### NOTES

- 1 \*\*Sample collected after Neutralizer/Softener, but prior to Reverse Osmosis
- 2 \*SMCL = Secondary Maximum Contaminant Level
- 3 Manganese Detection Limit: 0.0050 mg/L
- 4 mg/L = milligrams per liter (also, parts per million)
- 5 Sub-contracted to Reference Lab #128
- 6 ND:None Detected
- 7 pH & Chlorine level tested on site

Reason for Test : Use & Occupancy  
Building Permit # : B17002931

Date Reported: 3/8/2018

**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 #:	120190	Account #:	27621
Reference:	Chris Tippett	Company:	CASH ACCOUNT
Location:	6513 Heather Glen Way Clarksville, MD 21029	Requested By:	Chris Tippett
Date/ Time Collected:	2/28/2018 1234	Source:	Well Water
Date/Time Rec'd:	2/28/2018 1410	Site:	Pressure Tank
Chlorine ppm:	Free: ND Total: ND	Treatment:	**
Collected By:	G. Lana 3799GL	pH:	6.3
		Well #:	HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	2.0	MPN/ 100 ml	<1.0	SM20 9223	3/1/2018 / 0945 / CRS
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	3/1/2018 / 0945 / CRS
Turbidity	4.08	NTU	<10	SM20 2130B	3/1/2018 / 1020 / CRS
Iron	0.72	mg/L	0.3*	FR, 45 (126)	3/1/2018 / 1215 / CRS

**NOTES**

- 1 \*\*Sample collected prior to Neutralizer/Softener/POU Reverse Osmosis
  - 2 \*SMCL = Secondary Maximum Contaminant Level
  - 3 mg/L = milligrams per liter (also, parts per million)
  - 4 MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
  - 5 NTU = Nephelometric Turbidity Units
  - 6 POU: Point of Use
  - 7 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
  - 8 ND:None Detected
  - 9 pH & Chlorine level tested on site
  - 10 Visual well check: Sealed, vented cap
- Reason for Test : Use & Occupancy  
 Building Permit # : B17002931

Date Reported: 3/1/2018

**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 #:	120192	Account #:	27621
Reference:	Chris Tippett	Company:	CASH ACCOUNT
Location:	6513 Heather Glen Way Clarksville, MD 21029	Requested By:	Chris Tippett
Date/ Time Collected:	2/28/2018 1245	Source:	Well Water
Date/Time Rec'd:	2/28/2018 1410	Site:	Kitchen Sink Tap
Chlorine ppm:	Free: ND Total: ND	Treatment:	Neutralizer/Softener/POU R/O
Collected By:	G. Lana 3799GL	pH:	6.6
		Well #:	HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	0.80	NTU	<10	SM20 2130B	3/1/2018 / 1020 / CRS
Iron	0.09	mg/L	0.3*	FR, 45 (126)	3/1/2018 / 1215 / CRS

**NOTES**

- 1 \*\*Sample collected prior to Reverse Osmosis
- 2 \*SMCL = Secondary Maximum Contaminant Level
- 3 mg/L = milligrams per liter (also, parts per million)
- 4 NTU = Nephelometric Turbidity Units
- 5 POU: Point of Use
- 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 pH & Chlorine level tested on site
- 9 Visual well check: Sealed, vented cap

Reason for Test : Use & Occupancy  
Building Permit # : B17002931

Date Reported: 3/1/2018

**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 #:	120522	Account #:	27621
Reference:	Chris Tippett	Company:	CASH ACCOUNT
Location:	6513 Heather Glen Way Clarksville, MD 21029	Requested By:	Chris Tippett
Date/ Time Collected:	3/15/2018 1100	Source:	Well Water
Date/Time Rec'd:	3/15/2018 1202	Site:	Pressure Tank
Chlorine ppm:	Free: ND Total: ND	Treatment:	**
Collected By:	J. Yeager 6176JY	pH:	6.7
		Well #:	HO-95-1996

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	3/16/2018 / 0900 / CRS
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223	3/16/2018 / 0900 / CRS

**NOTES**

- \*\*Sample collected prior to Neutralizer/Softener/POU Rev. Osmosis
- MPN/ 100 ml = Most Probable Number [of viable bacteria] per 100 ml of sample.
- Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- ND:None Detected
- pH & Chlorine level tested on site
- Visual well check: Sealed, vented cap

Reason for Test : Use &amp; Occupancy

Building Permit # : B17002931

Date Reported: 3/16/2018

6513 Heather Glen  
Clarks Summit, MD, 21029 Way

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: Tippett  
Ref: 62

LR - Agreement Surcharge  
1x 40.00 40.00

=====  
SubTotal: 60.00  
Total: 60.00

=====  
REV-Check-BOA 60.00  
Number : 1893

04/04/2018 14:04  
#10102396/1246/109

CC13-DS

~ Thank you for visiting us today ~



## 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

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 Chris Tippet ("the Owner").

WHEREAS, the Owner owns a tract of land at street address 6513 Heather Glen way, Clarksville MD 21029 and the deed and subdivision plat of the property is recorded among the Land Records of Howard County, Maryland, Tax Map # 37, Block #     , Parcel # 0444, Deed Reference # 0730/00158 and Tax Account # 593283. ("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 40951996 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>4/4/18</u>		<u>4/4/18</u>
Owner	Date	Buyer	Date

_____	_____	_____	_____
Owner	Date	Buyer	Date

	<u>5/4/18</u>
Howard County Health Department	Date