

C1 1139

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)

COUNTY NUMBER A520415

ST/CO USE ONLY DATE RECEIVED

DATE WELL COMPLETED 10 4 2010

Depth of Well 22 240 26 3/4/2010

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-95-2004

OWNER Greenfield Homes Inc STREET OR RFD Willow Pond TOWN SECTION LOT 6

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for Sand and Gray Mica Rock.

GROUTING RECORD form with fields for WELL HAS BEEN GROUTED, TYPE OF GROUTING MATERIAL, NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL.

CASING RECORD form with fields for MAIN CASING TYPE, Nominal diameter, Total depth, OTHER CASING.

SCREEN RECORD table with columns for screen type, diameter, depth.

DEPTH (nearest ft.) table with columns for depth intervals.

WELL HYDROFRACTURED form with YES/NO options.

CIRCLE APPROPRIATE LETTER form with options A, E, P.

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. and SIGNATURE fields.

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

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) form with fields T, W, Q, TELESCOPE CASING, LOG INDICATOR, OTHER DATA.

PUMPING TEST form with fields for HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL, TYPE OF PUMP USED.

PUMP INSTALLED form with fields for DRILLER INSTALLED PUMP, TYPE OF PUMP INSTALLED, CAPACITY, PUMP HORSE POWER, PUMP COLUMN LENGTH, CASING HEIGHT.

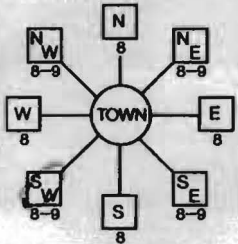
LOCATION OF WELL ON LOT form with fields for SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL).

B 1 3406 SEQUENCE NO. (MDE USE ONLY) STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL STATE PERMIT NUMBER HO-95-2004  
 1 2 3 6 70 fill in this form completely 79  
 534010 please type

Date Received (APA) 08 30 10 OWNER INFORMATION  
 8 MM DD YY 13  
 15 Last Name Greenfield Home Inc Owner First Name 34  
 36 Street or RFD 6656 Luster Drive 55  
 57 Town Highland Md 20997 State 72 Zip 76

B 3 LOCATION OF WELL  
 8 COUNTY Howard 21  
 23 SUBDIVISION Willow Pond 42  
 SECTION 44 46 LOT 6 50  
 52 NEAREST TOWN Clarksville 71  
 MILES FROM TOWN (enter 0 if in town) 1 M I 73 76 77 78

DRILLER INFORMATION  
 Driller's Name Joseph L Mayne M S D 024 License No. 76 81  
 Firm Name Joseph L Mayne Well Drilling  
 Address 5512 Ridge Rd Mt. Airy Md 21771  
 Signature Joseph L Mayne Date 8-24-2010

B 4 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)  
  
 11 NEAR WHAT ROAD Prestwick Dr. Access Rd 30  
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)  
 NORTH  EAST   
 WEST  SOUTH   
 34 540 37 DISTANCE FROM ROAD FT  
 ENTER FT OR MI 38 39  
 TAX MAP: 34 BLK: 17 PARCEL 382

B 2 WELL INFORMATION  
 1 2 APPROX. PUMPING RATE (GAL. PER MIN.) 4 8 12  
 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 500 14 20

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL  
 COUNTY NAME Howard COUNTY NO. (13) A520415  
 STATE SIGNATURE \_\_\_\_\_ INSERT S → 41  
 DATE ISSUED 9/24/2010 Brian Baker 9/24/2011  
 43 MM DD YY 48 CO SIGNATURE EXP. DATE  
 NORTH GRID 496 000 EAST GRID 813 000  
 50 55 57 63

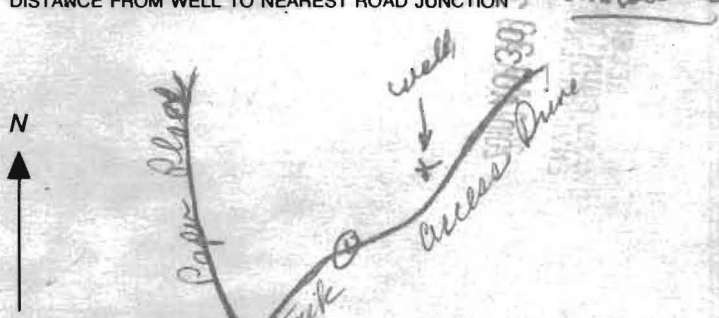
USE FOR WATER (CIRCLE APPROPRIATE BOX)  
 DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION  
 FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)  
 INDUSTRIAL, COMMERCIAL, DEWATERING  
 PUBLIC WATER SUPPLY WELL  
 TEST, OBSERVATION, MONITORING  
 GEO-THERMAL

APPROXIMATE DEPTH OF WELL 400 FEET  
 24 28  
 APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X  
 SOURCES OF DRILLING WATER  
 1. well  
 2.  
 3.  
 WRITE THE BOX NUMBER FROM THE MAP HERE  
 E 8103  
 N 496  
 000  
 000

METHOD OF DRILLING (circle one)  
 BORED (or Augered) JETTED Jetted & DRIVEN  
 30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)  
 37 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 HO-73-0726 52

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION  
  
 Clarksville

Not to be filled in by driller (MDE OR COUNTY USE ONLY)  
 APPROP. PERMIT NUMBER \_\_\_\_\_ G \_\_\_\_\_  
 PERMIT No. HO-95-2004  
 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS  
 NOTE - APPROVING AUTHORITIES SHOULD USE IF DATE SPECIFIED IS NEEDED  
Radium Sample Needed, Minimum Diameter of 50' of Steel Casing Required



B 1 11251

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type 345135-B

STATE PERMIT NUMBER

Ho - 95 - 2586 fill in this form completely

Date Received (APA) 08-29-13

OWNER INFORMATION

Green Philip A. 927 Balto Annap Blvd Severna Park Md 21146

B 3

LOCATION OF WELL

Howard County Willow Pond Clarksville

DRILLER INFORMATION

C John Hess MW D 553 Allied Environmental Svc PO Box 139 Annap June 20701 8/28/13

B 4

SOURCES OF DRILLING WATER

1. Public

6495 Prestwick Dr

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) NORTH WEST SOUTH EAST

B 2

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 8 12 AVERAGE DAILY QUANTITY NEEDED (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 8 loops

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard 13 COUNTY NAME COUNTY NO. STATE SIGNATURE INSERT S DATE ISSUED 09/17/2013 CO SIGNATURE RHT EXP. DATE 9/17/14

APPROXIMATE DEPTH OF WELL 375 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary) CABLE REVerse-ROTary DRive-POINT

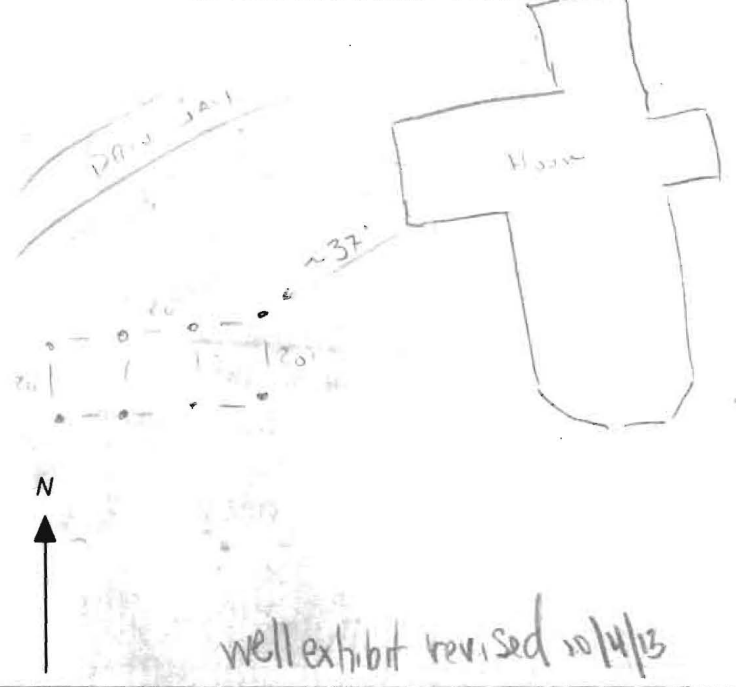
REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- THIS WELL WILL NOT REPLACE AN EXISTING WELL THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS THIS WELL WILL 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 - 2586

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



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED wells must be grouted from bottom to top.

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: 10-18-2010 (month/day/year)

3/7/2011

O.K. BB

\* PERMIT NUMBER OF ABANDONED WELL (if any)

Ho - 73 - 0726

\* PERMIT NUMBER OF REPLACEMENT WELL

Ho - 95 - 2004

\* PERSON ABANDONING WELL: Joseph L. Maize

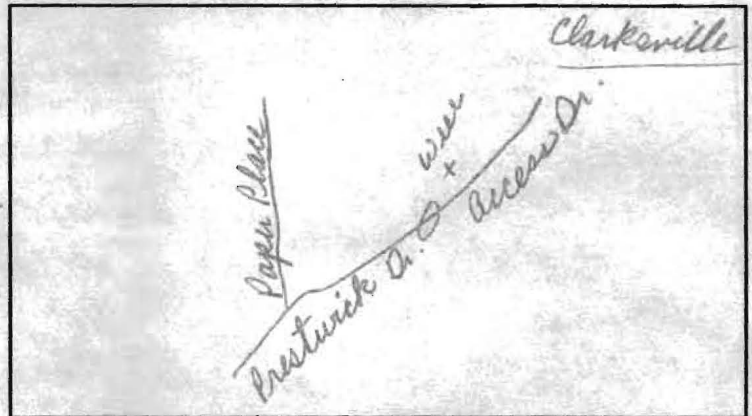
WELL DRILLERS LICENSE NUMBER: MSD 024

CIRCLE: MWD/MSD/MGD

\* OWNER'S NAME: Greenfield Homes Inc

SITE LOCATION MAP

\* WELL LOCATION:  
COUNTY: Howard  
NEAREST TOWN: Clarksville  
TAX MAP 34 BLOCK 17 PARCEL 382  
SUBDIVISION: Willow Pond  
SECTION: \_\_\_\_\_ LOT: 6  
NEAREST ROAD: Purwick Dr - Access Dr



\* TYPE OF WELL BEING ABANDONED:

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

LOG OF SEALING MATERIAL

| MATERIAL                     | FEET     |            |
|------------------------------|----------|------------|
|                              | FROM     | TO         |
| <u>Cement + gravel mixed</u> | <u>0</u> | <u>103</u> |
| VOLUME OF MATERIAL USED      |          |            |

\* USE CODE:

DOMESTIC                       MUNICIPAL/PUBLIC  
 IRRIGATION                     INDUSTRIAL  
 TEST/OBSERVATION           GEOTHERMAL

\* TYPE OF CASING:

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

\* SIZE OF CASING: 6 INCHES IN DIAMETER

\* DEPTH OF WELL: 103 FEET DEEP

\* WAS ANY CASING REMOVED?  YES  NO  
if yes, length removed, in feet: 3

\* WAS CASING RIPPED OR PERFORATED?  YES  NO

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN Joseph L. Maize

LICENSE # MSD 024

CIRCLE ONE MWD/MSD/MGD

DATE 10-19-2010

Send Report To: Bert Nixon  
Howard Co. Env. Health  
7178 Columbia Gateway Dr.  
Columbia, MD 21046

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: 952004BB No. B: \_\_\_\_\_ Field Blank Bottle No. 1: \_\_\_\_\_ No B: \_\_\_\_\_

Plant/Site Name: Willow Pond - Lot 6 County: Howard

Sample Source: Prestwick Drive Location: HO-95-2004  
 (well no, lab sink, sample tap, etc.)

County:  1  3 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: Brian Baker

Telephone No.: (410) 313-2643

Date Collected: 10/15/2010

Time Collected: \_\_\_\_\_ a.m. 1:45 p.m.

Nitric Acid Preserved: Yes  No

Iced: Yes  No

Submitters Code:

Federal Project:

Field Data: \_\_\_\_\_ pH \_\_\_\_\_ Chlorine \_\_\_\_\_

Remarks: Sample Collected During Yield Test

| ✓ | Test                  | EPA Code | Laboratory No. | Results (pCi/L) | Date Analyzed | Date Reported |
|---|-----------------------|----------|----------------|-----------------|---------------|---------------|
| ✓ | Gross Alpha           | 4000     |                |                 |               |               |
| ✓ | Gross Beta            | 4100     |                |                 |               |               |
|   | Radon-222<br>Bottle A | 4004     |                |                 |               |               |
|   | Radon-222<br>Bottle B | 4004     |                |                 |               |               |
|   | Field Blank #A        | 4004     |                |                 |               |               |
|   | Field Blank #B        | 4004     |                |                 |               |               |
|   | Tritium               |          |                |                 |               |               |
|   | Ra - 226              | 4020     |                |                 |               |               |
|   | Ra - 228              | 4030     |                |                 |               |               |
|   | Total Uranium         | 4006     |                |                 |               |               |
|   |                       |          |                |                 |               |               |
|   |                       |          |                |                 |               |               |

Date Received: \_\_\_ / \_\_\_ / \_\_\_

Supervisor: \_\_\_\_\_

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

**HOWARD COUNTY HEALTH DEPARTMENT  
BUREAU OF ENVIRONMENTAL HEALTH  
WATER AND SEWERAGE PROGRAM  
TEL: (410)313-2640 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: Gartland Plumbing Telephone #: 410-875-5303  
Address: 1620 W. Old Liberty 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): Joe Gartland License# 5342

\*A licensed individual must perform the actual installation. Apprentices must be under the direct supervision of a licensed journeyman or master plumber, pump installer or well driller. Licenses may be subjected to field verification.

Name of Property Owner: Greenfield Homes Telephone #: 410-365-3702  
Subdivision: Willow Pond Lot #: 6 Well Tag #: HO-45-2009  
Site Address: 6495 Restwick Dr  
Clarksville, MD 21031

|   |  |  |
|---|--|--|
| <u>Submersible Pump Data</u>  | <u>Pitless Adapter</u>                 | <u>Well Cap and Electric Conduit</u>                             |
| Make: <u>Goulds</u>   | Make: <u>BT</u>                        | Two piece watertight cap: <input checked="" type="checkbox"/>    |
| Model #: <u>1 HP</u>  | Model #: <u>P-100-SS</u>               | Screened, vented well cap: <input checked="" type="checkbox"/>   |
| Pump Capacity <u>10</u> GPM   | Depth: <u>48</u> (36" min)             | Cap secured to casing: <input checked="" type="checkbox"/>       |
| Well Yield: <u>15</u> GPM   | NSF approved: <input type="checkbox"/> | Conduit min 18" B.G.: <input checked="" type="checkbox"/>        |
| Depth of well encountered at time of pump installation: <u>240</u> (feet) |  | Conduit secured to well cap: <input checked="" type="checkbox"/> |

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

Torque arrestors of Cable guards are required - Must circle one

Safety rope, if used, attached to inside of well casing with eye bolt Yes

Piping to house

Type: Poly  
PSI: 160 (160 psi min)  
Depth of supply line: 48 (36" min)

House Connection

PVC sleeved to undisturbed soil at wall penetration: \_\_\_\_\_  
Approximate length of sleeve: \_\_\_\_\_  
Sleeve caulked and sealed properly: \_\_\_\_\_

} Sleeved und  
Footer To Pump  
Room

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

[Signature]  
Signature of company representative responsible for installation

11-18-13  
date

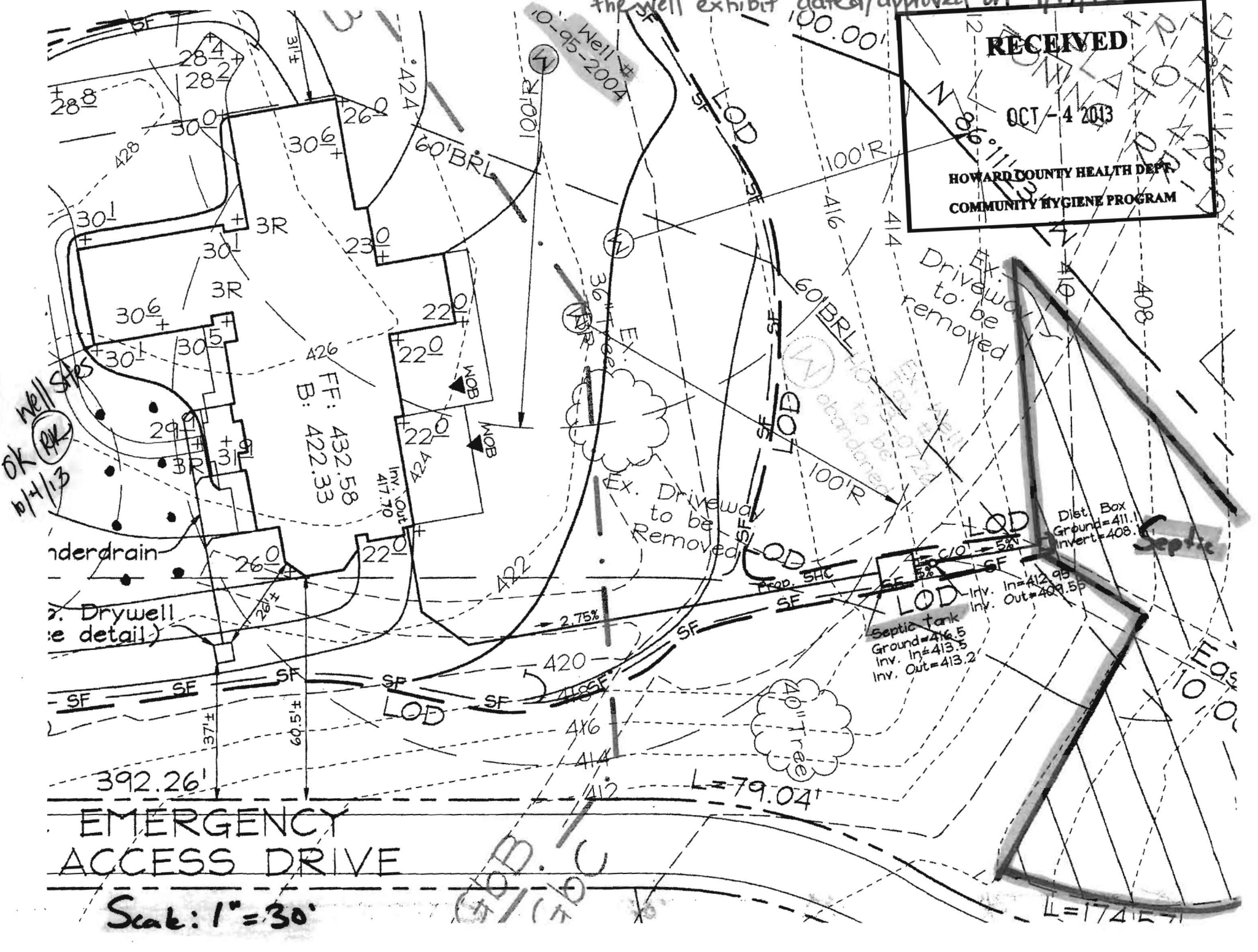
For Health Department Use Only - Not to be completed by Installer

Date Insp. Requested: \_\_\_\_\_ Date Insp. Approved: 5/10/13 (KW)  
Inspection Data: Pitless adapter and 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 installed inside of well 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



This revised Well exhibit Superseades the well exhibit dated/approved on 9/17/13

**RECEIVED**  
OCT - 4 2013  
HOWARD COUNTY HEALTH DEPT.  
COMMUNITY HYGIENE PROGRAM



EMERGENCY ACCESS DRIVE

Scale: 1" = 30'

LOT 7

456.01'

LOD

30' BRL

LOT 6  
3.071 AC±

Roof underdrain

Prop. Drywell  
(see detail)

FF: 432.58  
B: 422.33

Septic tank  
Ground=416.5  
Inv. In=413.5  
Inv. Out=413.2

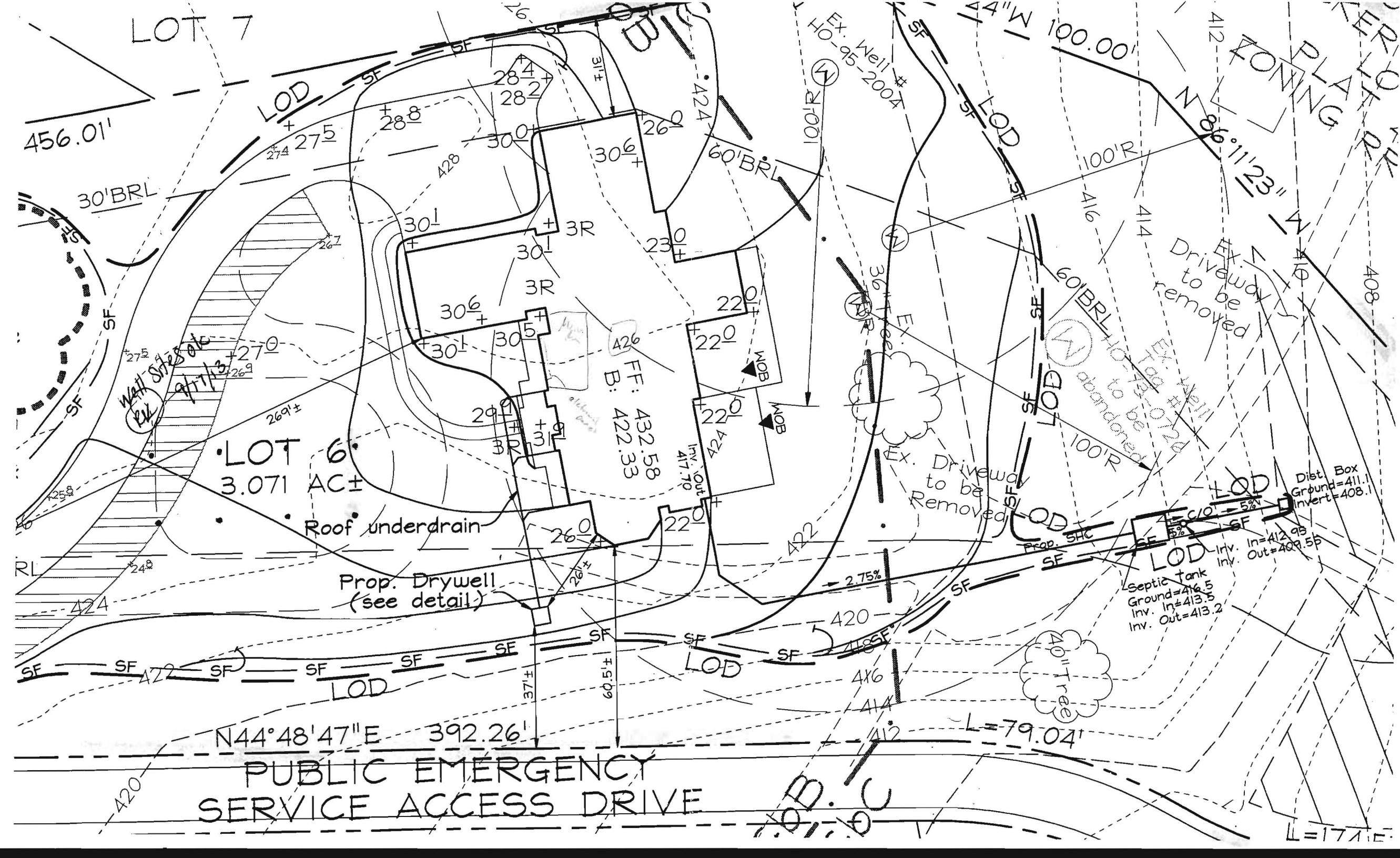
Dist. Box  
Ground=411.  
Invert=408.

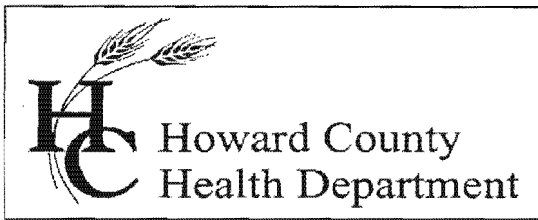
PUBLIC EMERGENCY  
SERVICE ACCESS DRIVE

N44°48'47"E 392.26'

L=79.04'

L=177.1'





Bureau of Environmental Health  
7178 Columbia Gateway Drive, Columbia, MD 21046-2147  
Main: 410-313-6300 | Fax: 410-313-6303  
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

**INTERIM CERTIFICATE OF POTABILITY**  
**PERMANENT DEVIATION FOR RADIUM**  
Expiration Date – FEBRUARY 25, 2015

August 25, 2014

Philip Green and Denise Green  
6495 Prestwick Drive  
Clarksville, MD 21029

**RE: Willow Pond, Lot 6**  
**6495 Prestwick Drive**  
**Building Permit: B13000091**  
**Well Permit: HO-95-2004**

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 **5/10/2013**. Final approval of the well line connection to the dwelling was granted on **5/10/2013**. The well construction was completed on **10/4/2010**. Water samples were collected on **7/21/2014**.

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 **10/5/2010**. Results showed a Gross Alpha level of **20.5 ± 3.2 pCi/L** and Gross Beta level of **23.9 ± 2.7 pCi/L**. **This exceeds the maximum contaminant level (MCL) of 15 pCi/L and/or 50 pCi/L, respectively.**

After installation of a radionuclide removal devices (water softener and kitchen tap reverse osmosis system), post-treatment water samples were collected on **7/21/2014** and indicated a Gross Alpha level of **< 2.1 ± 1.2 pCi/L**, a Gross Beta level of **35.8 ± 2.8 pCi/L**. A Radium 226/228 had a level of **< 1.0 ± 0.7 pCi/L** in a post-treatment sample obtained on **8/4/2014**.

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.

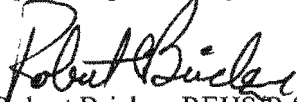
2. It is recommended that a Maryland certified water laboratory certified for radionuclide analysis perform a radionuclide analysis at six month intervals to determine an appropriate maintenance regime for the treatment devices. Yearly radionuclide analyses is recommended after a maintenance regime is established.
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-95-2004. 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.**

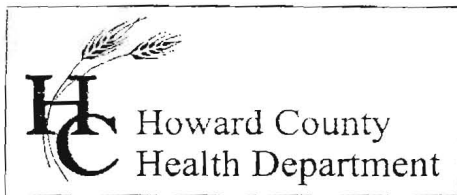
Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water quality laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:  
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

Approving Authority,



Robert Bricker, REHS/R.S., L.E.H.S.  
Environmental Sanitarian  
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

June 3, 2011

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

**RE: Willow Pond Lot 6 Follow-up**  
**Prestwick Drive**  
**Well Tag: HO - 95 - 2004**

To Whom It May Concern:

A series of follow-up samples were collected during a simulated yield test on May 16, 2011 and submitted to Florida Radiochemistry (FRC), to help assess the level of treatment necessary to address elevated **Gross Alpha** and somewhat higher than normal **Gross Beta** findings from the initial yield test back in October 2010. A portable treatment set-up was constructed to enable a series of samples to be collected after a sediment filter and prior to and after a softener and reverse osmosis (R/O) device to determine what level or combination of treatment would be needed to adequately address existing contaminant levels.

Post-sediment filter (pre water softener) long term results from this screening revealed a **Gross Alpha** of  $9.1 \pm 1.7$  picocuries/liter (pCi/L); while the **Gross Beta** level was  $9.8 \pm 1.4$  pCi/L. The **Gross Alpha** result was below the MCL of 15 pCi/L, while the **Gross Beta** level was below the targeted value of 50 pCi/L.

Post-treatment long term results (after water softener ) revealed a **Gross Alpha** of  $< 0.7 \pm 0.5$  pCi/L; while the **Gross Beta** level was  $< 1.5 \pm 1.0$  pCi/L. Here the **Gross Alpha** result remained well below the MCL of 15 pCi/L, while the **Gross Beta** level was again well below the targeted value of 50 pCi/L.

A post-treatment **Radium** sample was taken (after the softener system) to assess the presence of **Radium 226** or **Radium 228** following treatment. These naturally occurring isotopes of radium are considered the most important due to their longer half-lives and health significance. Results (post softener) revealed a **Radium 226** level of  $< 0.2 \pm 0.1$  pCi/L; while the **Radium 228** level was  $< 0.9 \pm 0.6$  pCi/L. Here the combined **Radium 226 / 228** was well below the MCL of 5 pCi/L.

At this time, your treated well water supply (for long term **Gross Alpha** and **Gross Beta**, plus **Radium 226 / 228** using the softener system) appears safe for all uses. When evaluating the long term findings, levels for **Gross Alpha** and **Gross Beta** appear to be effectively treated. A low post-treated finding for radium was a similar outcome. Given these results, the installation of a water softener system appears sufficient to address these contaminants for this water supply. To ensure future continuous safe levels, continue to have your water softener system serviced on a regular basis.

Also, as previously noted, other standard testing parameters (bacteria, nitrate, turbidity and sand) are still required to help secure Use and Occupancy.

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

Sincerely,  
  
Bert Nixon, Director  
Bureau of Environmental Health

Enclosure

cc: Barry Glotfelty, MDE Water Mgmt.

✓ Well & Septic property file

## Rappaport, Ryan

---

**From:** Andy Capelle [acapelle@alliedwells.com]  
**Sent:** Monday, September 16, 2013 2:22 PM  
**To:** Rappaport, Ryan  
**Subject:** Grouting Spec

Ryan,

Here is our grouting plan:

Boreholes will be grouted from the bottom to the top via a tremie pipe and positive displacement pump. Bentonite grout, known as Quik-Grout will be used according to the manufacturer's specifications to achieve a consistency of at least 20% solids (24 gallons potable water/50 lb. sack of grout) and a permeability no more than  $2.5 \times 10^{-8}$  cm/sec. Grouting will be completed immediately after installing the geothermal loop and no later than twenty-four (24) hours after installing the geothermal loop. Open boreholes/annular space will be protected as necessary to prevent the entry of surface water or pollutants.

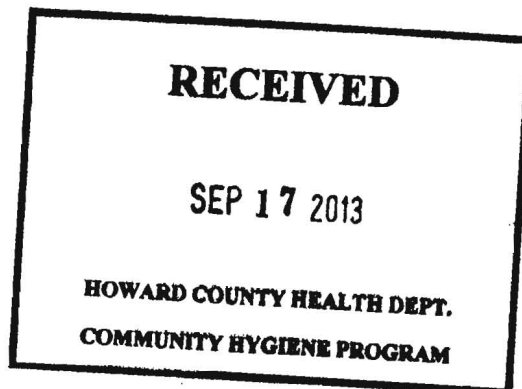
Andy

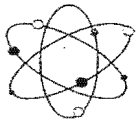
--

**Andy Capelle**  
Project Manager



P.O. Box 129  
Annapolis Junction, MD 20701  
410-371-2219 cell  
301-776-8370 office  
301-776-8374 fax  
[alliedwells.com](http://alliedwells.com)





# Florida Radiochemistry Services, Inc.

## Analysis Report

| Lab Sample I.D. | 1105179-01       | 1105179-02      | 1105179-03       | 1105179-04 |
|-----------------|------------------|-----------------|------------------|------------|
| Client I.D.     | HOMJ2004POSTLTWS | HOMJ2004PRELTWS | HOMJ2004POSTRAWS | HOMJ2004   |
| Gross Alpha     | <0.7             | 9.1             |                  | <0.6       |
| Error +/-       | 0.5              | 1.7             |                  | 0.3        |
| MDL             | 0.7              | 1.1             |                  | 0.6        |
| EPA Method      | 900.0            | 900.0           |                  | 900.0      |
| Prep Date       | 05/24/11         | 05/24/11        |                  | 05/24/11   |
| Prep Time       | 06:22            | 06:22           |                  | 06:22      |
| Analysis Date   | 05/25/11         | 05/25/11        |                  | 05/25/11   |
| Analysis Time   | 10:01            | 10:01           |                  | 10:03      |
| Analyst         | MJN              | MJN             |                  | MJN        |
| Gross Beta      | <1.5             | 9.8             |                  | <1.3       |
| Error +/-       | 1.0              | 1.4             |                  | 0.8        |
| MDL             | 1.5              | 1.6             |                  | 1.3        |
| EPA Method      | 900.0            | 900.0           |                  | 900.0      |
| Prep Date       | 05/24/11         | 05/24/11        |                  | 05/24/11   |
| Prep Time       | 06:22            | 06:22           |                  | 06:22      |
| Analysis Date   | 05/25/11         | 05/25/11        |                  | 05/25/11   |
| Analysis Time   | 10:01            | 10:01           |                  | 10:03      |
| Analyst         | MJN              | MJN             |                  | MJN        |
| Radium 226      |                  |                 | <0.2             |            |
| Error +/-       |                  |                 | 0.1              |            |
| MDL             |                  |                 | 0.2              |            |
| EPA Method      |                  |                 | 903.1            |            |
| Prep Date       |                  |                 | 05/25/11         |            |
| Prep Time       |                  |                 | 10:04            |            |
| Analysis Date   |                  |                 | 06/02/11         |            |
| Analysis Time   |                  |                 | 11:08            |            |
| Analyst         |                  |                 | MJN              |            |
| Radium 228      |                  |                 | <0.9             |            |
| Error +/-       |                  |                 | 0.6              |            |
| MDL             |                  |                 | 0.9              |            |
| EPA Method      |                  |                 | Ra-05            |            |
| Prep Date       |                  |                 | 05/25/11         |            |
| Prep Time       |                  |                 | 10:04            |            |
| Analysis Date   |                  |                 | 06/02/11         |            |
| Analysis Time   |                  |                 | 11:14            |            |
| Analyst         |                  |                 | PJ               |            |
| Units           | pCi/l            | pCi/l           | pCi/l            | pCi/l      |



**TRACE LABORATORIES, INC**  
 5 North Park Drive  
 Hunt Valley, MD 21030 USA  
 Telephone: 410/584-9099 / Fax: 410/584-9117  
 Website: www.traceclabs.com / Email: info@traceclabs.com

Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 1818 Liberty Road  
 Eldersburg, Maryland 21784

**S/O Number:** 93987-2

**Report Date:** August 18, 2014

*Raw Sample*

**Property Sampled:** 6495 Prestwick Drive, 21029  
**Sample Location:** Pressure Tank Tap  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B13000091  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard      **Subdivision:** Willow Pond      **Lot #:** 6

**Date/Time Collected in Field:** August 4, 2014 12:40 pm  
**Date/Time Received in Lab:** August 4, 2014 4:24 pm

**Well Tag #:** HO-95-2004  
**Well Condition:** 2-Piece Cap, Satisfactory

**Water Treatment/Conditioning:** N/A – Raw Sample ✓

| PARAMETER  | METHOD    | MCL                 | RESULT (pCi/L) | COMMENT |
|------------|-----------|---------------------|----------------|---------|
| Radium 226 | EPA 903.1 | 5 pCi/L<br>Combined | 0.2 ± 0.1      | Pass    |
| Radium 228 | EPA Ra-05 |                     | <0.8 ± 0.6     |         |

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

OK  
 MB 8/25/2014

Katherine C. Higgs  
 Katherine C. Higgs  
 Manager - Drinking Water Testing



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 Hunt Valley, MD 21030 USA  
 Telephone: 410/584-9099 / Fax: 410/584-9117  
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Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 1818 Liberty Road  
 Eldersburg, Maryland 21784

**S/O Number:** 93987-1

**Report Date:** August 18, 2014

*Treated Sample*

**Property Sampled:** 6495 Prestwick Drive, 21029  
**Sample Location:** R/O Tap  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B13000091  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard

**Subdivision:** Willow Pond

**Lot #:** 6

**Date/Time Collected in Field:** August 4, 2014 11:20 am

**Date/Time Received in Lab:** August 4, 2014 4:24 pm

**Well Tag #:** HO-95-2004

**Well Condition:** 2-Piece Cap, Satisfactory

**Water Treatment/Conditioning:** Neutralizer, Softener, Sediment Filters (2), Reverse Osmosis (R/O)

| PARAMETER  | METHOD    | MCL                 | RESULT (pCi/L) | COMMENT |
|------------|-----------|---------------------|----------------|---------|
| Radium 226 | EPA 903.1 | 5 pCi/L<br>Combined | 0.2 ± 0.1      | Pass    |
| Radium 228 | EPA Ra-05 |                     | <0.8 ± 0.6     |         |

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

*'OK' reB. 8/25/2014*

*Katherine C. Higgs*  
 Katherine C. Higgs  
 Manager - Drinking Water Testing



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 Hunt Valley, MD 21030 USA  
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Maryland State Certified Laboratory #318

CERTIFICATE OF ANALYSIS

Requester:

Greenfield Homes  
 1818 Liberty Road  
 Eldersburg, Maryland 21784

S/O Number: 93829-1

Report Date: August 6, 2014

Property Sampled: 6495 Prestwick Drive, 21029  
 Sample Location: Pressure Tank Tap  
 Residual Chlorine: <0.1 mg/L

Building Permit #: B13000091  
 Sampler ID #: 7483AM  
 Samples Iced: Yes

County: Howard

Subdivision: Willow Pond

Lot #: 6

Date/Time Collected in Field: July 21, 2014 11:03 am

Date/Time Received in Lab: July 21, 2014 4:04 pm

Well Tag #:

HO-95-2004

*correct tag# confirmed*

Well Condition:

2-Piece Cap, Satisfactory

Water Treatment/Conditioning: N/A – Raw Sample

| PARAMETER      | METHOD                   | MCL/*SMCL      | RESULT        | COMMENT |
|----------------|--------------------------|----------------|---------------|---------|
| Total Coliform | SM 9223B                 | Absent         | Absent        | Pass    |
| <i>E. coli</i> | SM 9223B                 | Absent         | Absent        | Pass    |
| Nitrate        | SM 4500-NO3D             | 10 mg/L as N   | 1.3 mg/L as N | Pass    |
| Turbidity      | EPA 180.1                | 10 NTU         | <1.0 NTU      | Pass    |
| pH             | SM 4500-H <sup>+</sup> B | *6.5-8.5 Units | 6.9 Units     | ***     |
| Sand           |                          | Absent         | Absent        | Pass    |

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

*OK  
 reb 8/25/2014*

*Katherine C. Higgs*  
 Katherine C. Higgs  
 Manager – Drinking Water Testing

MCL: Maximum Contamination Level, an enforceable level established by the EPA

\*SMCL: Secondary Maximum Contamination Level, a level recommended by the EPA

\*\*\*A non-enforceable parameter that may cause cosmetic effects or aesthetic effects (such as taste, color or odor) in drinking water.



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 Telephone: 410/584-9099 / Fax: 410/584-9117  
 Website: www.tracelabs.com / Email: info@tracelabs.com

Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 1818 Liberty Road  
 Eldersburg, Maryland 21784

**S/O Number:** 93829-1

**Report Date:** July 22, 2014

**Property Sampled:** 6495 Prestwick Drive, 21029  
**Sample Location:** Pressure Tank Tap  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B13000091  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard      **Subdivision:** Willow Pond      **Lot #:** 6

**Date/Time Collected in Field:** July 21, 2014 11:03 am

**Date/Time Received in Lab:** July 21, 2014 4:04 pm

**Well Tag #:** HO-95-2005 <sup>HO-95</sup> 7/2004  
**Well Condition:** 2-Piece Cap, Satisfactory

**Water Treatment/Conditioning:** N/A – Raw Sample

| PARAMETER      | METHOD                   | MCL/*SMCL      | RESULT          | COMMENT |
|----------------|--------------------------|----------------|-----------------|---------|
| Total Coliform | SM 9223B                 | Absent         | Absent ✓        | Pass    |
| <i>E. coli</i> | SM 9223B                 | Absent         | Absent ✓        | Pass    |
| Nitrate        | SM 4500-NO3D             | 10 mg/L as N   | 1.3 mg/L as N ✓ | Pass    |
| Turbidity      | EPA 180.1                | 10 NTU         | <1.0 NTU ✓      | Pass    |
| pH             | SM 4500-H <sup>+</sup> B | *6.5-8.5 Units | 6.9 Units ✓     | ***     |
| Sand           |                          | Absent         | Absent ✓        | Pass    |

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

'OK' reb 7/31/2014 Katherine C. Higgs  
 Katherine C. Higgs  
 Manager – Drinking Water Testing

MCL: Maximum Contamination Level, an enforceable level established by the EPA  
 \*SMCL: Secondary Maximum Contamination Level, a level recommended by the EPA  
 \*\*\*A non-enforceable parameter that may cause cosmetic effects or aesthetic effects (such as taste, color or odor) in drinking water.



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Maryland State Certified Laboratory #318

**CERTIFICATE OF ANALYSIS**

**Requester:**

Greenfield Homes  
 1818 Liberty Road  
 Eldersburg, Maryland 21784

**S/O Number:** 93829-2

**Report Date:** July 28, 2014

**Property Sampled:** 6495 Prestwick Drive, 21029  
**Sample Location:** R/O Test Line  
**Residual Chlorine:** <0.1 mg/L

**Building Permit #:** B13000091  
**Sampler ID #:** 7483AM  
**Samples Iced:** Yes

**County:** Howard

**Subdivision:** Willow Pond

**Lot #:** 6

**Date/Time Collected in Field:** July 21, 2014 11:09 am

**Date/Time Received in Lab:** July 21, 2014 4:04 pm

**Well Tag #:**

HO-95-2005 *> HO-95-2004*

**Well Condition:**

2-Piece Cap, Satisfactory

**Water Treatment/Conditioning:** Softener, Neutralizer, Sediment Filter (2), Reverse Osmosis (R/O)

| PARAMETER   | METHOD    | MCL (pCi/L) | RESULT (pCi/L) | COMMENT  |
|-------------|-----------|-------------|----------------|----------|
| Gross Alpha | EPA 900.0 | 15          | <2.1 ± 1.2 ✓   | Pass [+] |
| Gross Beta  | EPA 900.0 | 50          | 35.8 ± 2.8 ✓   | Pass [+] |

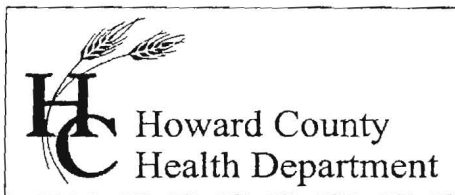
[+] NOTE: The primary sources of gross alpha activity in water are Radium-224, Radium-226, and/or Uranium. Gross alpha levels between 5 and 15 pCi/L are considered moderate, and levels greater than 15 pCi/L are considered high. When levels are moderate or high, treatment or further testing is recommended and in certain cases may be required by the health department. Gross beta activity in water is primarily from Radium-228.

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of Trace Laboratories Inc.

*'OK' reb 7/31/2014*

Katherine C. Higgs  
 Katherine C. Higgs  
 Manager - Drinking Water Testing





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

January 5, 2011

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

RE: Willow Pond Lot 6  
Prestwick Drive  
Well Tag: HO - 95 - 2004

To Whom It May Concern:

A sample was collected during a yield test on October 5, 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  $20.5 \pm 3.2$  picocuries/liter (pCi/L); while the **Gross Beta** level was  $23.9 \pm 2.7$  pCi/L. The **Gross Alpha** result was above its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L (roughly equivalent to the **annual dose rate of 4 millirems/year**).

At the time of testing and with respect to these parameters, the future well water supply **does not** 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 both **Gross Alpha** and somewhat higher than typical **Gross Beta**, the installation of a water softener system and / or a reverse osmosis system will likely be necessary. **Post short and long term Gross Alpha and Beta, plus a post Radium 226 / 228** will 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.

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: Bert Nixon  
Howard Co. Env. Health  
7178 Columbia Gateway Dr  
Columbia, MD 21046

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

E000578 8-6 01

**LABORATORY ANALYSIS REQUEST**

Sample Bottle No. A: 952004BB No. B: \_\_\_\_\_ Field Blank Bottle No. 1: \_\_\_\_\_ No B: \_\_\_\_\_

Plant/Site Name: Willow Pond - Lot 6 County: Howard

Sample Source: Prestwick Drive Location: HO-95-2004  
(well no, lab sink, sample tap, etc.)

County:  1  3 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: Brian Baker

Telephone No.: (410) 313-2643

Date Collected: 10/15/2010

Time Collected: \_\_\_\_\_ a.m. 1:45 p.m.

Nitric Acid Preserved: Yes  <sup>cont</sup> No

Iced: Yes  No

Submitters Code:

Federal Project:

Field Data: \_\_\_\_\_ pH \_\_\_\_\_ Chlorine \_\_\_\_\_

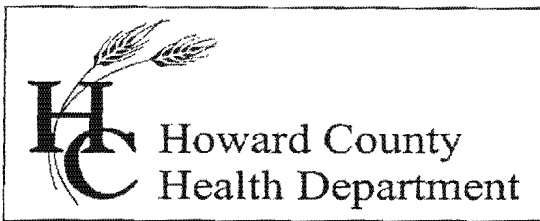
Remarks: Sample Collected During Yield Test

| ✓ | Test                  | EPA Code | Laboratory No. | Results (pCi/L) | Date Analyzed | Date Reported |
|---|-----------------------|----------|----------------|-----------------|---------------|---------------|
| ✓ | Gross Alpha           | 4000     | 0578           | 20.5 ± 3.2      | 10/13/10      | 10/14/10      |
| ✓ | Gross Beta            | 4100     | 0578           | 23.9 ± 2.7      | " "           | " "           |
|   | Radon-222<br>Bottle A | 4004     |                |                 |               |               |
|   | Radon-222<br>Bottle B | 4004     |                |                 |               |               |
|   | Field Blank #A        | 4004     |                |                 |               |               |
|   | Field Blank #B        | 4004     |                |                 |               |               |
|   | Tritium               |          |                |                 |               |               |
|   | Ra - 226              | 4020     |                |                 |               |               |
|   | Ra - 228              | 4030     |                |                 |               |               |
|   | Total Uranium         | 4006     |                |                 |               |               |
|   |                       |          |                |                 |               |               |
|   |                       |          |                |                 |               |               |

Date Received: 10/06/10

Supervisor: [Signature]

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



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045  
Main: 410-313-1771 | 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

TEMPORARY INTERIM CERTIFICATE OF POTABILITY  
**TEMPORARY DEVIATION FOR RADIUM**  
Expiration Date – JANUARY 31, 2015

July 31, 2015

Philip and Denise Green  
6495 Prestwick Drive  
Clarksville, MD 21029

**RE: Willow Pond, Lot 6  
6495 Prestwick Drive  
Building Permit: B13000091  
Well Permit: HO-95-2004**

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 **5/10/2013**. Final approval of the well line connection to the dwelling was granted on **5/10/2013**. The well construction was completed on **10/4/2010**. Water samples were collected on **7/21/2014**.

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 collected on **10/5/2010**. Results showed a Gross Alpha level of **20.5 ± 3.2 pCi/L** and Gross Beta level of **23.9 ± 2.7 pCi/L**. **The results exceed the maximum contaminant limit (MCL) of 15 pCi/L and/or 50 pCi/L, respectively.**

After installation of a radionuclide removal device (water softener system and kitchen tap reverse osmosis system), post-treatment water samples were collected on **7/21/2014** and indicated a Gross Alpha level of **< 2.1 ± 1.2 pCi/L**, a Gross Beta level of **35.8 ± 2.8 pCi/L**, and the Radium 226/228 analyses was not conducted.

This is a **temporary deviation** to allow additional time for submission of water sample results for Radium 226 and Radium 228 indicating that the treated water meets EPA recommendations.

This Department will grant a **temporary deviation** to the Interim Certificate of Potability on condition that water sample results for pre- and post-treatment radium 226/228 are submitted to this Department **within 45 days**. Those results must indicate that the radionuclide removal system is effectively maintaining a Radium 226/228 level of less than **5 pCi/L**.

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

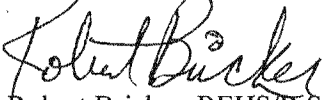
1. The system must be properly operated and maintained continuously in accordance with the service contract for the life of the residence.
2. It is recommended that a Maryland certified water laboratory certified for radionuclide analysis perform a yearly radionuclide analysis.
3. If you decide to sell or rent your home in the future, you must make any potential buyer/tenant aware of this 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 Temporary Interim Certificate of Potability will expire 45 days from the date of issuance. **Failure to submit the required radium sample results and obtain an Interim Certificate of Potability before the expiration date 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 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>

~~Approving Authority,~~



Robert Bricker, REHS/R.S., L.E.H.S.  
Environmental Sanitarian  
Well & Septic Program

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

## Martin, Sharhonda

---

**From:** Higgs, Katie [Katie.Higgs@tracelabs.com]  
**Sent:** Thursday, August 21, 2014 11:26 AM  
**To:** Martin, Sharhonda  
**Subject:** RE: U&O - 6495 Prestwick Drive, 21029 (Radium 226 & 228)

Good Morning,

According to the technician who performed the radium 226 & radium 228 analysis at this property, the raw and treated values are the same because the raw level was so low that is unlikely the treatment would help reduce levels further.


Thank you!

Best Regards,

**Katie Higgs**

**Trace Laboratories, Inc.** | Water Department Manager  
5 North Park Drive  
Hunt Valley, Maryland 21030  
Phone: 410-584-9099 | Fax: 410-584-9117  
Direct Line: 410-229-4371  
Mobile: 443-257-7316  
Office Hours: 8:00 – 16:30 (M-F)  
Sample Drop-Off Hours: 8:00 – 16:00 (M-Th); 8:00 – 12:00 (F)

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**Check out the new Trace at <http://tracelabs.com>!**

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---

**From:** Higgs, Katie  
**Sent:** Monday, August 18, 2014 11:04 AM  
**To:** smmartin@howardcountymd.gov  
**Cc:** Rick Minor  
**Subject:** U&O - 6495 Prestwick Drive, 21029 (Radium 226 & 228)

Good Morning,

Please see attached report. Thank you!

Best Regards,

## **Katie Higgs**

**Trace Laboratories, Inc.** | Water Department Manager

5 North Park Drive

Hunt Valley, Maryland 21030

Phone: 410-584-9099 | Fax: 410-584-9117


Direct Line: 410-229-4371

Mobile: 443-257-7316

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## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Friday, August 01, 2014 10:15 AM  
**To:** 'raminor@comcast.net'  
**Cc:** Greenfield Wayne  
**Subject:** RE: Willow Pond lot 3

I talked with Bert this morning. Given the very high numbers pre-treatment on lot 3 and the relatively high numbers post treatment on lot 6, on both of these cases we need to see the radium test results to confirm that the treatment devices are working properly. We are ready with the temp deviation for lot 3 when we get a temp deviation request.

Moving forward, I will reiterate to our staff that our standard protocol is to require alpha, beta, and radium tests post-treatment in order to confirm that the levels across the board are down below the thresholds and are able to be approved for a deviation. Thanks and sorry for the confusion.

Jeff

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**From:** raminor@comcast.net [mailto:raminor@comcast.net]  
**Sent:** Thursday, July 31, 2014 4:58 PM  
**To:** Williams, Jeffrey  
**Cc:** Greenfield Wayne  
**Subject:** Re: Willow Pond lot 3

Jeff

Thanks for getting back with me. I have Trace coming out Monday to collect samples. Did you have a chance to look at Lot 6 / 6495 Predtwick Dr. For it's numbers?

Thanks  
Rick

Sent from Xfinity Connect Mobile App

----- Original Message -----

**From:** Jeffrey Williams  
**To:** Rick Minor  
**Sent:** July 31, 2014 at 3:50 PM  
**Subject:** Willow Pond lot 3

Hi Rick. I don't see Bert around this afternoon. I'm sure I will catch up to him tomorrow for a definitive answer. However, looking at the file, I see that the post-treatment beta levels were still pretty high (actually higher than the pre-treatment levels). We typically see radium 226/228 levels more closely correlate to the beta numbers than the alpha numbers. For that reason, I'm pretty confident that he will not be comfortable waiving the radium tests here. We want to make sure that the treatment devices are getting all the numbers down.

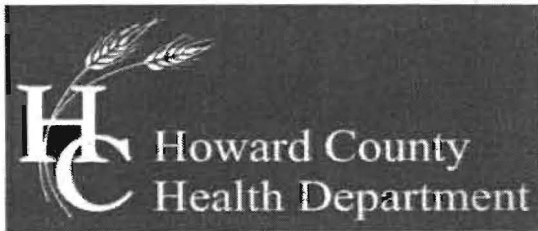
Again, I'm sorry that there was some misstatements in our office to cause this hassle, but hopefully with the temporary deviations and the additional tests, we can get to the point of a normal deviation without major problems. Thanks

Jeff Williams  
Program Supervisor, Well & Septic Program  
Bureau of Environmental Health

Howard County Health Dept.  
410-313-4261  
[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)

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Bureau of Environmental Health

8930 Stanford Blvd, Columbia, MD 21045  
Main: 410-313-1771 | 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

REQUEST FOR TEMPORARY DEVIATION TO  
RADIUM STANDARDS FOR CERTIFICATE OF POTABILITY

DATE: 7/31/14 WELL PERMIT #: HO-95-2005

PROPERTY OWNER: Philip and Denise Green

SUBDIVISION & LOT #: Willow Pond, Lot 6

PROPERTY ADDRESS: 6495 Prestwick Drive, Clarksville, MD 21029

TESTIMONIAL: Steps that will be taken, or that have already been taken, by the well owner or agent to bring the well into compliance with COMAR 26.04.04.09 (B) within forty-five (45) days. If post-treatment water samples have been taken, state the specific analyses that will be reported in results, e.g. Gross Alpha and Gross Beta and/or Radium.

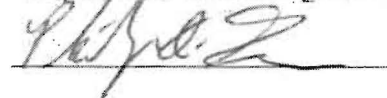
Post treatment Gross Alpha and Gross Beat analyses have been completed and are within acceptable range. Post-treatment and raw water Radium 226/Radium228 analyses are needed.

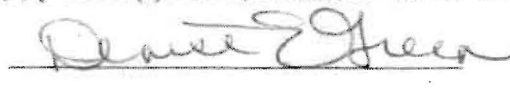
CONDITIONS:

- 1) Within forty-five (45) days, the well installed under permit # HO-95-2005 will be documented to have Gross Alpha level of 15 pCi/l, Gross Beta level 50 pCi/l, and sum of Radium 226 and Radium 228 at level 5 pCi/l or less (including reported margin of error) at the primary drinking tap as a result of installation of a water softener system, or at the reverse osmosis tap.
- 2) If the radium condition cannot be remediated to a level of Gross Alpha level of 15 pCi/l, Gross Beta level 50 pCi/l, and sum of Radium 226 and Radium 228 at level 5 pCi/l or less (including reported margin of error) via installation of a water softener treatment or reverse osmosis system, then drilling a replacement well would likely be necessary. Issuance of a Final Certificate of Potability will be delayed until the issue is resolved.

I hereby request that a Forty-five Day Temporary Deviation to COMAR 26.04.04.09 be granted for the well installed under permit #HO-95-2005. I am fully aware of the conditions under which this deviation will be granted, and of my responsibilities as the well owner which include advising any future buyer/tenant of the installation, condition and maintenance responsibilities of the radium removal device.

Prospective Owner's Original Signature(s) [Person(s) that intend to live in the dwelling.]





Prospective Owner's Day Time Phone Number(s)

443 858-5125

443-858-4973

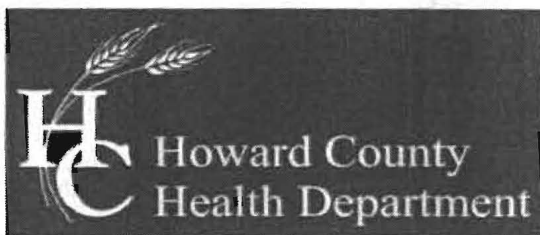
Well Permit #  
(HC-95-2005)

may have been  
reported incorrectly

---

They will check  
tag # on Monday  
August 4.

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Bureau of Environmental Health

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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

REQUEST FOR TEMPORARY DEVIATION TO RADIUM STANDARDS FOR CERTIFICATE OF POTABILITY

DATE: 7/31/14 WELL PERMIT #: HO-95-2004

PROPERTY OWNER: Philip and Denise Green

SUBDIVISION & LOT #: Willow Pond, Lot 6

PROPERTY ADDRESS: 6495 Prestwick Drive, Clarksville, MD 21029

TESTIMONIAL: Steps that will be taken, or that have already been taken, by the well owner or agent to bring the well into compliance with COMAR 26.04.04.09 (B) within forty-five (45) days. If post-treatment water samples have been taken, state the specific analyses that will be reported in results, e.g. Gross Alpha and Gross Beta and/or Radium.

Post treatment Gross Alpha and Gross Beta analyses have been completed and are within acceptable range. Post-treatment and raw water Radium 226/Radium 228 analyses are needed.

CONDITIONS:

- 1) Within forty-five (45) days, the well installed under permit # HO-95-2004 will be documented to have Gross Alpha level of 15 pCi/l, Gross Beta level 50 pCi/l, and sum of Radium 226 and Radium 228 at level 5 pCi/l or less (including reported margin of error) at the primary drinking tap as a result of installation of a water softener system, or at the reverse osmosis tap.
2) If the radium condition cannot be remediated to a level of Gross Alpha level of 15 pCi/l, Gross Beta level 50 pCi/l, and sum of Radium 226 and Radium 228 at level 5 pCi/l or less (including reported margin of error) via installation of a water softener treatment or reverse osmosis system, then drilling a replacement well would likely be necessary. Issuance of a Final Certificate of Potability will be delayed until the issue is resolved.

I hereby request that a Forty-five Day Temporary Deviation to COMAR 26.04.04.09 be granted for the well installed under permit #HO-95-2004. I am fully aware of the conditions under which this deviation will be granted, and of my responsibilities as the well owner which include advising any future buyer/tenant of the installation, condition and maintenance responsibilities of the radium removal device.

Prospective Owner's Original Signature(s) [Person(s) that intend to live in the dwelling.]

Philip Green Denise Green

Prospective Owner's Day Time Phone Number(s)

443-858-5725 443-858-4973