

C1 31497 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

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

COUNTY NUMBER A 520 449-A

ST/CO USE ONLY DATE Received MM DD YY

DATE WELL COMPLETED MM DD YY 10 29 2009

Depth of Well 22 300 26 (TO NEAREST FOOT)

11/20/07 OK (SD)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-95-1313

OWNER Demmitt Richard STREET OR RFD all Daughters Lane TOWN Fulton SUBDIVISION Orchard Estates SECTION LOT 6

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 36 Gray Mica Rock 36 300

GROUTING RECORD

WELL HAS BEEN GROUTED (Y) (N) TYPE OF GROUTING MATERIAL (C) (M) (B) (C) NO. OF BAGS 15 NO. OF POUNDS 1410 GALLONS OF WATER 90 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 36 ft.

CASING RECORD

MAIN CASING TYPE (S) (T) (P) (L) (O) (T) Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 40

OTHER CASING (if used)

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

SCREEN RECORD

DEPTH (nearest ft.) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED (Y) (N)

CIRCLE APPROPRIATE LETTER - A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED ELECTRIC LOG OBTAINED TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS LIC. NO. 1 M 5 D 024 DRILLERS SIGNATURE Joseph E. Mayne

LIC. NO. 1 D

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

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

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

TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3

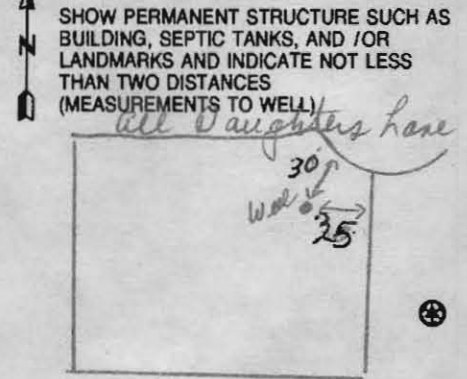
PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 4.5 METHOD USED TO MEASURE PUMPING RATE Bucket WATER LEVEL (distance from land surface) BEFORE PUMPING 23 ft. WHEN PUMPING 223 ft. 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



B 1 1035

SEQUENCE NO (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL 527836 please type

STATE PERMIT NUMBER 40-95-1313 fill in this form completely 79

DATE RECEIVED (APA) OWNER INFORMATION Demmitt Richard P.O. Box 228 Clarksville Md 21029

LOCATION OF WELL Howard Orchard Estates Fulton 2 MILES FROM TOWN

DRILLER INFORMATION Joseph L Mayne M.S. DO-34 Joseph L Mayne Well Drilling 5512 Ridge Rd Mt. Airy Md 21211

DIRECTION OF WELL FROM TOWN (CIRCLE BOX) all Daughters Lane ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) DISTANCE FROM ROAD 30 FT TAX MAP: 40 BLK: 18 PARCEL 178

WELL INFORMATION APPROX. PUMPING RATE 5 (GAL. PER MIN.) AVERAGE DAILY QUANTITY NEEDED 500 (GAL. PER DAY)

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL Howard A520449-A COUNTY NAME COUNTY NO. STATE SIGNATURE DATE ISSUED 10/11/07 CO SIGNATURE EXP. DATE 10/11/08 NORTH GRID 484 000 EAST GRID 816 000

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

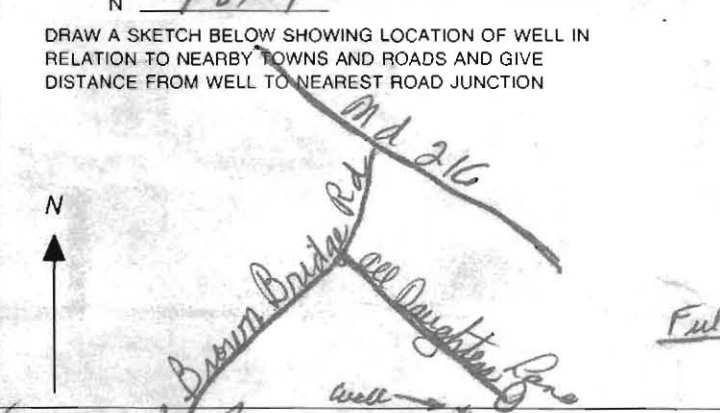
APPROXIMATE DEPTH OF WELL 300 FEET APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST TOWN

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X 10/29/07 sample collected @ field (ru) SOURCES OF DRILLING WATER 1. well WRITE THE BOX NUMBER FROM THE MAP HERE E 816 N 4844

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

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX) N THIS WELL WILL NOT REPLACE AN EXISTING WELL Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS D THIS WELL WILL 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) APPROX. PERMIT NUMBER G PERMIT No. 40-95-1313



SPECIAL CONDITIONS NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET (NEEDED) Radiation Sample needed @ 1/16/08 test

**HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
WATER AND SEWERAGE PROGRAM
TEL: (410)313-2640 FAX: (410)313-2648**

7-11-18
AM

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: NATIONAL WATER SVC Telephone #: 301-854-1333
Address: P.O. Box 138
Ashton, MD 20861

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): DAVID RYCKE License# PE 0145

*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: Mitchell & Best Telephone #: 301-252-0126
Subdivision: 06B Lot #: 6 Well Tag #: HO-95-1313 ✓ 7/11/2018 ⊕
Site Address: 12410 All Daughters LA
Fulton, MD

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: <u>SCHAEFER</u>	Make: <u>CAMPBELL</u>	Two piece watertight cap: <u>✓</u>
Model #: <u>3/4 HP</u>	Model #: <u>PA 500</u>	Screened, vented well cap: <u>✓</u>
Pump Capacity: <u>10</u> GPM	Depth: <u>48"</u> (36" min)	Cap secured to casing: <u>✓</u>
Well Yield: <u>45</u> GPM	NSF approved: <u>✓</u>	Conduit min 18" B.G.: <u>✓</u>
Depth of well encountered at time of pump installation: <u>300</u> (feet)		Conduit secured to well cap: <u>✓</u>

If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4
Torque arrestors or Cable guards are required - Must circle one N/A
Safety rope, if used, attached to inside of well casing with eye bolt N/A

<u>Piping to house</u>	<u>House Connection</u>
Type: <u>POLY</u>	PVC sleeved to undisturbed soil at wall penetration: <u>YES</u>
PSI: <u>200</u> (160 psi min)	Approximate length of sleeve: <u>5'</u>
Depth of supply line: <u>4'</u> (36" min)	Sleeve caulked and sealed properly: <u>YES</u>

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

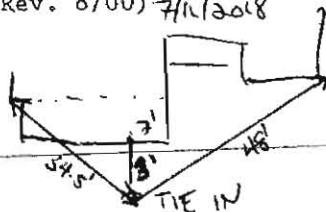
Signature of company representative responsible for installation _____ date 7-9-18

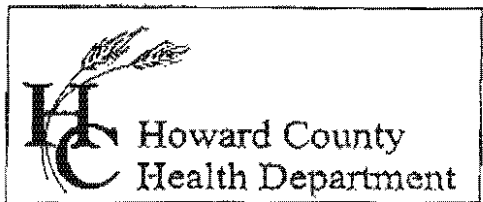
For Health Department Use Only - Not to be completed by Installer

Date Insp. Requested: 7/11/2018 Date Insp. Approved: 7/11/2018

Inspection Data: Pitless adapter and water supply line at least 36" below grade	<input checked="" type="checkbox"/>	<u>40"</u> 7/11/2018 ⊕
Two piece cap installed and attached to casing securely	<input checked="" type="checkbox"/>	
Elec. conduit extends at least 18" below grade/attached to cap properly	<input checked="" type="checkbox"/>	<u>29"</u> 7/11/2018 ⊕
Safety rope installed inside of well casing	<input checked="" type="checkbox"/>	
Correct well tag attached properly and casing 8" above finished grade	<input checked="" type="checkbox"/>	<u>18"</u> 7/11/2018 ⊕
Water supply line sleeved adequately at house connection	<input checked="" type="checkbox"/>	<u>*UNDER FANIER</u>
Adequate grout observed below pitless adapter	<input checked="" type="checkbox"/>	<u>7/11/2018 ⊕</u>

HD-215 (Rev. 8/00) 7/11/2018 EX HOUSE





7178 Columbia 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

Penny E. Borenstein, M.D., M.P.H., Health Officer

TO ALL INTERESTED PARTIES

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

Well Site Location:

Orchard Est - Parcel A
Subdivision/Property Name 1, 2, 3, 4 all Daughters Lane
5, 6, 7, 8 Lot# Road Name

The well site has been staked by Patten Harris Rust + Ass -
 (professional land surveyor or company employing professional land surveyors)
 on Sept 2007 (date) and does not require a site inspection.

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

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

Revised 3/11/05

Richard Demmitt

INTERIM CERTIFICATE OF POTABILITY
PERMANENT DEVIATION FOR RADIUM

Expiration Date – APRIL 10, 2019

October 10, 2018

Homeowner
12410 All Daughters Lane
Highland, MD 20777

RE: Orchard Estates, Lot 6
12410 All Daughters Lane
Building Permit: B18001101
Well Permit: HO-95-1313

Dear Homeowner:

This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **7/12/2018**. Final approval of the well line connection to the dwelling was granted on **7/11/2018**. The well construction was completed on **10/29/2007**. Water samples were collected on **9/19/2018, 10/4/2019**.

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 **10/29/2007**. Results showed a Radium 226 level of **18.0 ± 3.0 pCi/L** and **Radium 228** level of **11.0 ± 2.0 pCi/L**. **This exceeds the maximum contaminant level (MCL) combined Radium 226 and 228 of 5.0 pCi/L.**

After installation of a radionuclide removal device (Water Softener), post-treatment water samples were collected on **9/19/2018** and indicated a Radium 226 of **0.2 pCi/L**, a Radium 228 of **0.8 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.
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.**



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

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

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-95-1313. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

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

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

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

Approving Authority,

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

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

9106 Philadelphia Road
Suite 106
Rosedale, MD 21237



HOME LAND ENVIRONMENTAL HEALTH LABS

"Healthy Homes Start Here"

State Certified
Water Quality
Laboratory #353

Certificate of Analysis

Property Information	Customer Information
Property Address: 12410 All Daughters Lane Lot 6 Highland, MD 20777 Well Tag Number: HO-95-1313, Building Permit #B-18001101	Name: Well Water Solutions Phone Number: (410) 935-7185 Email: jemoseman@wellwatersolutions.net

Field Data		
Date & Time Sampled: 9/19/2018 12:15PM Date & Time Received: 9/20/2018 10:00AM Sampled By: Janet Walker Sampler ID: 9006JW Sample Location: Kitchen sink, Bacteria – Bathroom sink	pH: 6.0 Chlorine Residual: 0.0 Clarity: Clear Sand: None Preservation: Cool, 4°C	Well Type: Not noted Well Height: Not noted Cap Type: Not noted Casing: Not noted Conduit: Not noted

Water Conditioning: **Sediment Filter, Water Softener, First Test – Samples collected post treatment after sediment filter and water softener**

Parameter	Method	Result	Pass/Fail	Units	MCL	RL	Analyst	Date of Analysis
Total Coliform	Colitag	Absent	Pass	Per/100mL	Present	1.0	KMB	9/21/2018
<i>E. Coli</i>	Colitag	Absent	Pass	Per/100mL	Present	1.0	KMB	9/21/2018
Nitrate-Nitrite	EPA 353.2	1.1	Pass	mg/L	10.0	0.5	KMB	9/20/2018
Turbidity	EPA 180.1	0.76	Pass	NTU	10.0	0.5	KMB	9/20/2018
Gross Alpha	EPA 900.0	2.0	Pass	pCi/L	15.0	-	FRC	9/26/2018
Radium 226	EPA 903.1	<0.2	Pass	pCi/L	5.0	-	FRC	10/1/2018
Radium 228	EPA Ra-05	<0.9	Pass	pCi/L	5.0	-	FRC	10/1/2018

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

Report Date: 10/2/2018

9106 Philadelphia Road
 Suite 106
 Rosedale, MD 21237



**HOME LAND
 ENVIRONMENTAL
 HEALTH LABS**

"Healthy Homes Start Here"

State Certified
 Water Quality
 Laboratory #353

Certificate of Analysis

Property Information	Customer Information
Property Address: MB Lot 6, 12410 All Daughters Lane Highland, MD 20777 Well Tag Number: HO-95-1313 Permit B-18001101	Name: Well Water Solutions Phone Number: (410) 935-7185 Email: jemoseman@wellwatersolutions.net

Field Data		
Date & Time Sampled: 10/4/2018 12:15PM	pH: 6.0	Well Type: Not noted
Date & Time Received: 10/5/2018 9:55AM	Chlorine Residual: 0.0	Well Height: Not noted
Sampled By: Janet Walker	Clarity: Clear	Cap Type: Not noted
Sampler ID: 9006JW	Sand: None	Casing: Not noted
Sample Location: Raw PT	Preservation: Cool, 4°C	Conduit: Not noted
Water Conditioning: None		

Parameter	Method	Result	Pass/Fail	Units	MCL	RL	Analyst	Date of Analysis
Turbidity	EPA 180.1	ND	Pass	NTU	10.0	0.5	KMB	10/5/2018

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

Report Date: 10/5/2018

9/21 - Bact, Nitrate, Turb.
 10/23 - Gross Alpha + Radium 226/228



**HOME LAND
 ENVIRONMENTAL
 HEALTH LABS**

Healthy Homes Start Here

*** RUSH ***

PH (443) 505-8375 FX (443) 267-0098
 9106 Philadelphia Road
 Suite 108B
 Rosedale, MD 21237
 lab@mdwellandseptic.com
 www.mdwellandseptic.com

Chain Of Custody Form

Well Water Solutions, Inc
 Client Name
 5163 Darting Bird Lane, Columbia, MD 21044
 Address
 410-935-7185
 Phone
 jemoseman@wellwatersolutions.net &
 Email jbieber@wellwatersolutions.net

Site Address:
 MB Lot- 6
 12410 All Daughters Lane
 Highland, MD 20777

Field Collection Information: Collector's Name: Janet Walker Sampler ID #: 9006JW 9/5/21
 Collected Date and Time: 9/19/18 @ 12:15
 Well Tag Number: HO-95-1313 /Building Permit # B-18001101 Sand: Yes / No
 Field PH: 6 Field Chlorine: Present / Absent
 Clear when Water Drawn: Yes / No Was Well Chlorinated? Yes / No

Requested Testing:

IMPURITY	SOURCE
<input checked="" type="checkbox"/> Bacteria	Bathroom Sink
<input checked="" type="checkbox"/> Nitrates	Kitchen Sink
<input type="checkbox"/> Nitrites	
<input type="checkbox"/> Lead	
<input type="checkbox"/> Iron	
<input checked="" type="checkbox"/> Turbidity	Kitchen Sink
<input checked="" type="checkbox"/> Other Radium Short Term Gross Alpha	Kitchen Sink
<input checked="" type="checkbox"/> Other: Radium Long Term 226 & 228	Kitchen Sink

Well Casing / Cap Condition:

Height above grade: _____
 Cap Type: _____
 Casing: _____
 Conduit: _____

Water Conditioning: Sediment Filter Water Softener
 Plumbing Notes: First Test - Samples Collected Post Treatment after Sediment Filter & Water Softener

Release Signatures:

Released By: [Signature] Date/Time: 9/19/18 @ 2:30
 Released By: [Signature] Date/Time: 9/20/18 10:00
 Received in Lab By: [Signature] Date/Time: 9/20 10:00

Wolf, Kevin

From: Wolf, Kevin
Sent: Monday, July 16, 2018 9:28 AM
To: Marc Quint (mquint@mitchellbest.com)
Subject: FW: Message from "RNP00267387C03D"
Attachments: 20180716085639779.pdf; Radium Agreement revised 7.16.18.pdf

Mark,
FYI. We just finished the well and septic portion of the permitting for this lot. I came across the Radium results back in 2007 (see attached). You will need to have a treatment installed along with post treatment samples taken for gross alpha/beta long term, and Radium 226, 228. Along with the samples, please have the attached radium agreement signed and recorded if not done so already. Call me with any questions.

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

CONFIDENTIALITY NOTICE

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

From: savinscanner@howardcountymd.gov [<mailto:savinscanner@howardcountymd.gov>]
Sent: Monday, July 16, 2018 8:57 AM
To: Wolf, Kevin
Subject: Message from "RNP00267387C03D"

This E-mail was sent from "RNP00267387C03D" (MP 3053).

Scan Date: 07.16.2018 08:56:39 (-0400)
Queries to: savinscanner@howardcountymd.gov



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
(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
February 20, 2008

Mr. Richard Demitt
P.O. Box 228
Clarksville, Maryland 21029

RE: Orchard Estates Lot 6
All Daughter's Lane
Well Tag: HO - 95 - 1313

Dear Mr. Demitt:

A follow-up sample was collected during a pump test on December 27, 2007 and submitted to the GPL Laboratories to further assess levels of **Gross Alpha**, **Gross Beta**, as well as **radium** in the future well water supply. Prior yield test results revealed an elevated level for **Gross Alpha** particle activity in a water supply.

Short term follow-up results from this screening revealed a **Gross Alpha** of 12.9 ± 4.9 picocuries/liter (pCi/L); while the **Gross Beta** level was 14.4 ± 2.7 pCi/L. With the margin of error, the **Gross Alpha** result exceeded 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).

Long term follow-up results from this screening revealed a **Gross Alpha** of 6.3 ± 2.8 picocuries/liter (pCi/L); while the **Gross Beta** level was 15.3 ± 2.7 pCi/L. The **Gross Alpha** result was below its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was remained below its targeted value of 50 pCi/L (roughly equivalent to the annual dose rate of 4 millirems/year).

Additionally, a **Radium** sample was taken to assess the presence of **Radium 226** or **Radium 228**. These naturally occurring isotopes of radium are considered the most important due to their longer half-lives and health significance.

Results revealed a **Radium 226** level of 7.8 ± 1.0 pCi/L, while the **Radium 228** level was 3.5 ± 0.5 pCi/L. Here the **combined Radium 226 / 228** was at the MCL of 5 pCi/L.

Since the **Gross Alpha** and combined **Radium** findings are at or slightly above their respective **MCL's**, you will need to install treatment designed to reduce **Gross Alpha**, **Gross Beta** and **Radium**, plus provide post treated results (**for all 3 parameters**) confirming that levels are in conformance with existing standards. These tests are **in addition** to the standard parameters required for Use & Occupancy. **Additionally**, the owners will be required to sign an "AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN ON-SITE TREATMENT SYSTEM" as part of the Use and Occupancy process.

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,

A handwritten signature in cursive script that reads 'Bert Nixon'.

Bert Nixon, Director
Bureau of Environmental Health

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

Send Report To:

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

Relist

201 W. Preston Street, Baltimore, Maryland 21201

John M. DeBoy, Dr. P.H., Director

LABORATORY ANALYSIS REQUEST

Sample Bottle No. A: 140-95-1313 ST No. B: _____ Field Blank Bottle No. A: _____ No. B: _____

Plant/Site Name: Orchard Est Lot 6 County: Howard

Sample Source: _____ Location: 140-95-1313
(well no., lab sink, sample tap, etc.)

County: Plant No.

CHECK (one per box)

Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (raw water) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-community <input type="checkbox"/>	Distribution (treated) <input type="checkbox"/>	Routine <input checked="" type="checkbox"/>
Stream <input type="checkbox"/>	Private <input type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input checked="" type="checkbox"/>
Other <input type="checkbox"/>	Other <input type="checkbox"/>		Special <input type="checkbox"/>

Collector: K. Wolf Telephone No: 410-313-2645

Date Collected: 12/27/07 Time Collected: 10:55 a.m. _____ p.m.

Nitric Acid Preserved: Yes No Iced: Yes No

Submitters Code: Federal Project: Field Data: _____
pH _____ Chlorine _____

Remarks:

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Reported
✓	Gross Alpha	4000	712100-004	12.9 ± 4.9	1/2/08
✓	Gross Beta	4100		14.4 ± 2.7	
	Radon-222 Bottle A	4004			
	Radon-222 Bottle B	4004			
✓	Field Blank A <i>GROSS ALPHA</i>	4004	712101-004	6.3 ± 2.8	1/8/08
✓	Field Blank B <i>GROSS BETA</i>	4004		15.3 ± 2.7	
	Tritium				
✓	Ra - 226	4020	712102-005	7.8 ± 1.0	1/30/08
✓	Ra - 228	4030		3.05 ± 0.5	
	Total Uranium	4006			

Date Received: 1/1/08

Supervisor: _____



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
(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

November 30, 2007

Mr. Richard Demitt
P.O. Box 228
Clarksville, Maryland 21029

RE: Orchard Estates Lot 6
All Daughter's Lane
Well Tag: HO - 95 - 1313

Dear Mr. Demitt:

A sample was collected during a yield test on October 29, 2007 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 18.0 ± 3.0 picocuries/liter (pCi/L); while the **Gross Beta** level was 11.0 ± 2.0 pCi/L. The **Gross Alpha** result exceeded 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).

Since the **Gross Alpha** finding exceeded its MCL, additional testing for **Gross Alpha** and **Gross Beta** (both short and long term components), plus **Radium** will be necessary prior to occupancy to verify existing levels and assess the need for appropriate treatment. Alternatively, you may install treatment designed to reduce **Gross Alpha**, **Gross Beta** and **Radium**, plus provide post treated results (for all 3 parameters) confirming that levels are in conformance with existing standards. These tests are in addition to the standard parameters required for Use & Occupancy.

Additionally, the owners will be required to sign an "AGREEMENT FOR APPROVAL OF AN INDIVIDUAL DRINKING WELL WITH AN ON-SITE TREATMENT SYSTEM" as part of the Use and Occupancy process.

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,

A handwritten signature in black ink that reads 'Bert Nixon'.

Bert Nixon, Director
Bureau of Environmental Health

cc: Eric Dougherty, MDE Water Mgmt., Groundwater
✓Well & Septic property file

Send Report To:

Best Nixon

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

Unrecorded

201 W. Preston Street, Baltimore, Maryland 21201

John M. DeBoy, Dr. P.H., Director

LABORATORY ANALYSIS REQUEST

Sample Bottle No. A: H0-95-1313 No. B: _____ Field Blank Bottle No. A: _____ No. B: _____

Plant/Site Name: Orchards Est Lot 6 County: Howard

Sample Source: All Daughter Ln. Location: H0-95-1313
(well no., lab sink, sample tap, etc.)

County: Plant No.

CHECK (one per box)

Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (raw water) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-community <input type="checkbox"/>	Distribution (treated) <input type="checkbox"/>	Routine <input checked="" type="checkbox"/>
Stream <input type="checkbox"/>	Private <input checked="" type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input type="checkbox"/>
Other <input type="checkbox"/>	Other <input type="checkbox"/>		Special <input type="checkbox"/>

Collector: K. Wolf

Telephone No: 410-313-2645

Date Collected: 10/29/07

Time Collected: _____ a.m. 12:02 p.m.

Nitric Acid Preserved: Yes No

Iced: Yes No

Submitters Code: Federal Project: Field Data: _____

Remarks: Sample collected @ field

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Reported
✓	Gross Alpha	4000			
✓	Gross Beta	4100			
	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: _____ / _____ / _____

Supervisor: _____