

C1 1156

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 A516063

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well 240

PERMIT NO. FROM "PERMIT TO DRILL WELL" Ho-95-0232

OWNER Horton R. STREET OR RFD Grovewood Ct. TOWN Clarksville Md SUBDIVISION Turnbury Grove SECTION LOT 10

WELL LOG

Not required for driven wells

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

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

GROUTING RECORD

WELL HAS BEEN GROUTED (Y) NO (N) TYPE OF GROUTING MATERIAL (C) M BENTONITE CLAY (B) C NO. OF BAGS 13 NO. OF POUNDS 1322

CASING RECORD

MAIN CASING TYPE (S) T Nominal diameter top (main) casing 6 Total depth of main casing 52

OTHER CASING (if used)

Table for other casing with columns for diameter and depth.

SCREEN RECORD

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

DEPTH (nearest ft.)

Table showing depth intervals for casing sections 1, 2, and 3.

DIAMETER OF SCREEN (NEAREST INCH) from 56 to 60

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

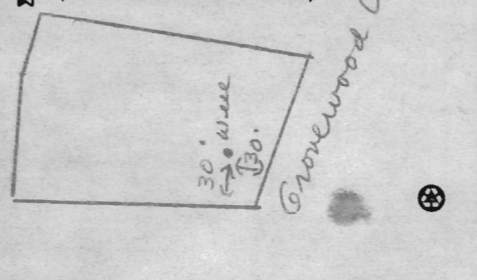
HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 15 METHOD USED TO MEASURE PUMPING RATE Bucket

PUMP INSTALLED

DRILLER INSTALLED PUMP YES (NO) 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

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)



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

DRILLERS LIC. NO. 1 M S D 024

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. 1 D

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

B 1 1465
1 2 3 6

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
523944 please type

STATE PERMIT NUMBER
HO-95-0232
fill in this form completely

Date Received (APA) 01 20 06
8 MM DD YY 13
OWNER INFORMATION
Horton R. D.
15 Last Name Owner First Name 34
1370 Piccard Drive
36 Street or RFD 55
Rockville Md. 20850
57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL
Howard
8 COUNTY 21
Surrey Home
23 SUBDIVISION 42
SECTION 44 46 LOT 8 10
48 50
Clarksville
52 NEAREST TOWN 71
MILES FROM TOWN (enter 0 if in town) 1/2 M I
73 76 77 78

DRILLER INFORMATION
Joseph L. Mayne M S D 024
76 License No. 81
Joseph L. Mayne Well Drilling
Firm Name
5512 Ridge Rd Mt. Airy Md 21781
Address
Joseph L. Mayne 1-6-06
Signature Date

B 4
1 2 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)
Grovewood Ct.
11 NEAR WHAT ROAD 30
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
NORTH N
WEST W EAST E
SOUTH S
34 25 37 DISTANCE FROM ROAD
ENTER FT OR MI 38 39
TAX MAP: 34 BLK: 17 PARCEL 22

B 2 WELL INFORMATION
1 2 APPROX. PUMPING RATE 5
8 GAL. PER MIN. 12
AVERAGE DAILY QUANTITY NEEDED 500
(GAL. PER DAY) 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)
 D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
 F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
22 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) A516063
COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S →
DATE ISSUED 2/8/06 2/9/07
43 MM DD YY 48 CO SIGNATURE EXP. DATE
NORTH GRID 497 0 0 0 EAST GRID 814 0 0 0
50 55 57 63

APPROXIMATE DEPTH OF WELL 300 FEET
24 28
APPROXIMATE DIAMETER OF WELL 6 INCH
NEAREST TOWN

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 814
N 497
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)
 N THIS WELL WILL NOT REPLACE AN EXISTING WELL
 Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
39 S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS.
 D THIS WELL WILL DEEPEMED AN EXISTING WELL
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION
Ten Oaks Rd
Grovewood Ct.
Clarksville
well
Caden way

Not to be filled in by driller (MDE OR COUNTY USE ONLY)
APPROP. PERMIT NUMBER HO 2006 G003(01)
PERMIT No. HO-95-0232
70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS
This well must be tested for Radium & VOC's @ the yield test

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: Tri-Country Service Inc Telephone #: 301-432-0330
Address: 6711 Old National Hill
Baltimore, Md 21117

(Must circle one) Licensed Plumber Licensed Well Driller Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): William Griffith License# 20135

*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: Bryant Group, Inc Telephone #: 301-610-7100
Subdivision: Westwood Park II Lot #: 10 Well Tag #: HO-95-0232
Site Address: 12610 Greenwood Ct
Clarksville, Md

Submersible Pump Data Pitless Adapter Well Cap and Electric Conduit
Make: Grundfos Make: American Bronze Two piece watertight cap: Y
Model #: 15SQE07180 Model #: PT 400 Screened, vented well cap: Y
Pump Capacity: 15 GPM Depth: 36 (36" min) Cap secured to casing: Y
Well Yield: 20 GPM NSF/WSC approved: Y Conduit min 18" B.G.: Y
Depth of well encountered at time of pump installation: 260 (feet) Conduit secured to well cap: Y
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

Piping to house House Connection
Type: Poly PVC sleeve to undisturbed soil at wall penetration: Y
PSI: 160 (160 psi min) Length of sleeve (5' minimum from foundation): 20ft
Depth of supply line: 36" (36" min) Sleeve sealed properly: Y

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: [Signature] date: 2-11-2013

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

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

**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: _____ Telephone #: _____
Address: _____

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

***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: _____ Telephone #: _____
Subdivision: Preston @ Clarksville Lot #: 1/1 Well Tag #: HO-95-0298
Site Address: 12610 Greenwood Ct.

<u>Submersible Pump Data</u>	<u>Pitless Adapter</u>	<u>Well Cap and Electric Conduit</u>
Make: _____	Make: _____	Two piece watertight cap: _____
Model #: _____	Model#: _____	Screened, vented well cap: _____
Pump Capacity _____ GPM	Depth: _____ (36" min)	Cap secured to casing: _____
Well Yield: _____ GPM	NSF/WSC approved: _____	Conduit min 18" B.G.: _____
Depth of well encountered at time of pump installation: _____ (feet)	Conduit secured to well cap: _____	
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 <u>inside of well casing</u> _____		

<u>Piping to house</u>	<u>House Connection</u>
Type: _____	PVC sleeve to undisturbed soil at wall penetration: _____
PSI: _____ (160 psi min)	Length of sleeve(5' minimum from foundation): _____
Depth of supply line: _____ (36" min)	Sleeve sealed properly: _____

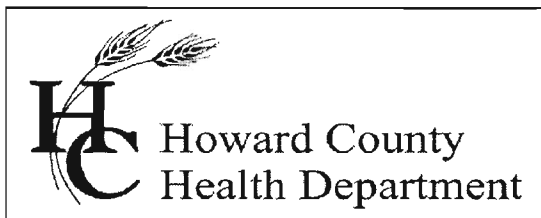
The water supply line is required to be at least ten feet from the septic tank, pump chamber, sewage piping, distribution box, drainfields, and sewage reserve area. If this cannot be accomplished, contact this office for approval prior to installation.

Signature of company representative responsible for installation _____ date _____

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

Date Insp. Requested: 2/11/13 Date Insp. Approved: 2/14/13 Inspector: (KW)
 Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade
 Two piece cap installed and attached to casing securely
 Elec. conduit extends at least 18" below grade/attached to cap properly
 Safety rope not outside of well cap/casing
 Correct well tag attached properly and casing 8" above finished grade
 Water supply line sleeved adequately at house connection
 Adequate grout observed below pitless adapter

*Am + PM
myps*



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 – January 30, 2013

July 30, 2013

Homeowner
12610 Grovewood Court
Clarksville, MD 21029

RE: The Preserves at Clarksville, Lot #10
12610 Grovewood Court
Building Permit: B12001155
Well Permit: HO-95-0232

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 **3-14-13**. Final approval of the well line connection to the dwelling was granted on **2-11-13**. The well construction was completed on **9-29-06**. Water samples were collected on **7-26-13**.

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 **Date**. Results showed a Gross Alpha level of **27.2 ± 3.2 pCi/L** and Gross Beta level of **13.7 ± 2.3 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 device(kitchen tap reverse osmosis system), post-treatment water samples were collected on **07-25-13** and indicated a Gross Alpha level of **<1.1 ± 0.7 pCi/L**, a Gross Beta level of **23.4 ± 2.1 pCi/L**, and a Radium 226/228 level of **0.1 ± <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.**

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-95-0232. 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,



Dana Bernard, REHS/RS
Environmental Sanitarian
Well & Septic Program

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



TRACE LABORATORIES, INC
 5 North Park Drive
 Hunt Valley, MD 21030 USA
 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:

Amy Ferrer
 Compass Homes
 6206 Heather Glen Way
 Clarksville, Maryland 21029

S/O Number: 89796-2

Report Date: July 26, 2013

Treated Sample

Property Sampled: 12610 Grovewood Court, 21029
Sample Location: Kitchen R/O Tap
Residual Chlorine: <0.1 mg/L

Building Permit #: B1200155
Sampler ID #: 7483AM
Samples Iced: Yes

County: Howard **Subdivision:** Preserve at Clarksville
Map: 34 **Parcel:** 77 **Lot#:** 10

Date/Time Collected in Field: July 25, 2013 @ 9:30 am
Date/Time Received in Lab: July 25, 2013 @ 11:51 am

Well Tag #: HO-95-0232
Well Condition: 2-Piece Cap, Satisfactory

Water Treatment/Conditioning: Sediment Filter, Reverse Osmosis (R/O)

PARAMETER	METHOD	MCL (pCi/L)	RESULT (pCi/L)	COMMENT
Radium 226	EPA 903.1	5 pCi/L Combined	0.1 ± 0.1	Acceptable
Radium 228	EPA Ra-05		<0.8 ± 0.5	Acceptable

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.

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



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 Hunt Valley, MD 21030 USA
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 Website: www.tracelabs.com / Email: info@tracelabs.com

Maryland State Certified Laboratory #318

CERTIFICATE OF ANALYSIS

Requester:

Amy Ferrer
 Compass Homes
 6206 Heather Glen Way
 Clarksville, Maryland 21029

S/O Number: 89796-2

Report Date: July 26, 2013

Treated Sample

Property Sampled: 12610 Grovewood Court, 21029
Sample Location: Kitchen R/O Tap
Residual Chlorine: <0.1 mg/L

Building Permit #: B1200155
Sampler ID #: 7483AM
Samples Iced: Yes

County: Howard
Map: 34

Subdivision: Preserve at Clarksville
Parcel: 77

Lot#: 10

Date/Time Collected in Field: July 25, 2013 @ 9:30 am
Date/Time Received in Lab: July 25, 2013 @ 11:51 am

Well Tag #: HO-95-0232
Well Condition: 2-Piece Cap, Satisfactory

Water Treatment/Conditioning: Sediment Filter, Reverse Osmosis (R/O)

PARAMETER	METHOD	MCL (pCi/L)	RESULT (pCi/L)	COMMENT
Gross Alpha (Short-Term)	EPA 900.0	15	<1.1 ± 0.7	Acceptable [+]
Gross Beta (Short-Term)	EPA 900.0	50	23.4 ± 2.1	Acceptable
Gross Alpha (Long-Term)	EPA 900.0	15	<1.0 ± 0.6	Acceptable [+]
Gross Beta (Long-Term)	EPA 900.0	50	15.1 ± 1.7	Acceptable

[+] 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.

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Katherine C. Higgs
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 Manager – Drinking Water Testing



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Maryland State Certified Laboratory #318

CERTIFICATE OF ANALYSIS

Requester: Amy Ferrer
 Compass Homes
 6206 Heather Glen Way
 Clarksville, Maryland 21029

S/O Number: 89796-1

Report Date: July 26, 2013

Raw Sample

Property Sampled: 12610 Grovewood Court, 21029
Sample Location: Pressure Tank Tap
Residual Chlorine: <0.1 mg/L

Building Permit #: B1200155
Sampler ID #: 7483AM
Samples Iced: Yes

County: Howard
Map: 34

Subdivision: Preserve at Clarksville
Parcel: 77
Lot#: 10

Date/Time Collected in Field: July 25, 2013 @ 9:24 am
Date/Time Received in Lab: July 25, 2013 @ 11:51 am

Well Tag #: HO-95-0232
Well Condition: 2-Piece Cap, Satisfactory

Water Treatment/Conditioning: Sediment Filter, Reverse Osmosis (R/O)

PARAMETER	METHOD	MCL (pCi/L)	RESULT (pCi/L)	COMMENT
Gross Alpha (Short-Term)	EPA 900.0	15	27.2 ± 3.2	HIGH [+]
Gross Beta (Short-Term)	EPA 900.0	50	21.4 ± 2.1	Acceptable
Gross Alpha (Long-Term)	EPA 900.0	15	13.7 ± 2.3	MODERATE [+]
Gross Beta (Long-Term)	EPA 900.0	50	19.3 ± 1.9	Acceptable

[+] 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.

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CERTIFICATE OF ANALYSIS

Requester:

Amy Ferrer
 Compass Homes
 6206 Heather Glen Way
 Clarksville, Maryland 21029

S/O Number: 89796-1

Report Date: July 26, 2013

Raw Sample

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Sample Location: Pressure Tank Tap
Residual Chlorine: <0.1 mg/L

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Well Tag #: HO-95-0232
Well Condition: 2-Piece Cap, Satisfactory

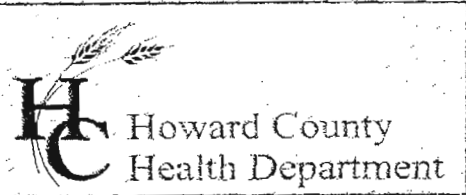
Water Treatment/Conditioning: Sediment Filter, Reverse Osmosis (R/O)

PARAMETER	METHOD	MCL/*SMCL	RESULT	PASS/FAIL
Total Coliform	SM 9223B	Absent	Absent	Pass
<i>E. coli</i>	SM 9223B	Absent	Absent	Pass
Nitrate	SM 4500D	10 mg/L as N	<1.0 mg/L as N	Pass
Turbidity	EPA 180.1	10 NTU	1.7 NTU	Pass
pH	EPA 150.1	*6.5-8.5 Units	6.6 Units	***
Sand		Absent	Absent	Pass

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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.



Bureau of Environmental Health
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

May 10, 2006

D.R. Horton
1370 Piccard Drive
Rockville, MD 20850

RE: Turnberry Grove, Lot # 9
Well Tag: HO-95-0232

To Whom It May Concern,

A sample was collected from a yield test on March 29, 2006 and submitted to GPL 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 activity in a water supply. In turn, this can provide information regarding naturally occurring radiation (i.e., Radionuclides) that may exist in your area of development within the County.

Results from this screening revealed a **Gross Alpha** of 11.3 ± 0.8 picocuries per liter (pCi/L); while the **Gross Beta** level was 11.7 ± 0.6 pCi/L. The **Gross Alpha** result was below the **maximum contamination level (MCL)** of 15 pCi/L, while the **Gross Beta** was below the **MCL** of 50 pCi/L. At the time of testing and with respect to these parameters, your well water supply is safe for all uses.

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 concerns.

Sincerely,

Bert Nixon, Deputy Director
Bureau of Environmental Health

cc: Eric Dougherty, MDE, Water Mgmt., Groundwater

D.R. Horton 301-670-6144
1370 Piccard Drive 410-939-8793
Rockville, MD 20850

Send Report To:

State of Maryland

DHMH - Laboratories Administration
Division of Environmental Chemistry
RADIATION LABORATORY

201 W. Preston Street, Baltimore, Maryland 21201
J. Mehsen Joseph, Ph.D., Director

LABORATORY ANALYSIS REQUEST

HOGCTG09329

Sample Bottle No. A: _____ No. B: _____ Field Blank Bottle No. 1: _____ No. 2: _____

Plant/Site Name: Turnberry Grove Lot 9 County: HOWARD

Sample Source: well - yield test Location: HO-95-0232
(well no., lab sink, sample tap, etc.)

County: Plant No.

Collector: G. Creighton Telephone No.: 410 313 1773

Date Collected: 3/29/06 Time Collected: 10 a.m. _____ p.m.

Nitric Acid Preserved: Yes No Iced: Yes No

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

Remarks: _____

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Reported
✓	Gross Alpha	4000	<u>03212-012</u>	<u>11.3 ± 0.8</u>	<u>4/3/06</u>
✓	Gross Beta	4100		<u>11.7 ± 0.6</u>	
	Radon-222 Bottle A	4004			
	Radon-222 Bottle B	4004			
	Field Blank #1	4004			
	Field Blank #2	4004			
	Tritium				
	Ra - 226	4020			
	Ra - 228	4030			
	Total Uranium	4006			

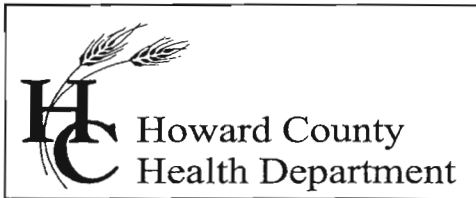
Date Received: / /

Section Chief: _____

Analytical Summary Report

Client Name:	Howard County Health Department	Client Sample ID:	HOGCTG09329
Sample Date/Time:	03/29/2006	Lab Sample ID:	603212-012-012-1/1
Receipt Date/Time:	03/29/2006	Sample Matrix:	WATER
Prepared Date/Time:		Analytical Method:	ALPHA/BETA BY METHOD 900.0

Isotope	Result	Uncertainty 1σ	MDA	Q
Gross Alpha	11.3392 pCi/L	± 0.7804 pCi/L	0.9493 pCi/L	
Gross Beta	11.6847 pCi/L	± 0.6433 pCi/L	1.5107 pCi/L	



Bureau of Environmental Health
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

July 6, 2006

D. R. Horton, Inc.
1370 Picardi Drive
Rockville, Maryland 20850

RE: Water Sample Results
Lot ~~8~~ Turnbury Grove
HO - 95 - 0232

10

To Whom it May Concern:

During the recent "yield test" of the well serving the future Lot 9 (located on Grovewood Court), a sample was collected for volatile organic compounds (VOC's) on March 29, 2006. This testing was performed to establish a baseline evaluation of the well water supply due to known VOC ground water contamination concerns previously documented (during the 1990's and earlier) in properties nearby this development.

Results from this sampling were free of all tested VOC's to the limit of detection for the test method employed. Similar findings were noted for corresponding Field and Trip Blank samples. With respect to these parameters, the future well water supply is **currently** safe for all uses.

A copy of the VOC test report is enclosed for your records.

If questions should arise, you may contact Stuart Oster of the Well & Septic Program at (410) 313 - 1771 or me at (410) 313 - 1773.

Sincerely,

Bert Nixon, Assistant Director
Bureau of Environmental Health

Enclosure

cc: Lot 9 Turnbury Grove Property File

State of Maryland
 DHMH - Laboratories Administration
 Division of Environmental Chemistry
TRACE ORGANICS SECTION
 201 W. Preston Street, Baltimore, MD 21201
 John M. DeBoy, Dr. P.H., Director

Certificate of Analysis - Volatiles

Sample Name: 961469 HOGCTGO9329 Method: EPA 524.2
 Date Analyzed: 04/12/06

<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>	<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>
TRIHALOMETHANES				UNREGULATED			
Bromodichloromethane	0.5	na	ND	Dichlorodifluoromethane	0.5	na	ND
Bromoform	0.5	na	ND	Chloromethane	0.5	na	ND
Chloroform	0.5	na	ND	Bromomethane	0.5	na	ND
Dibromochloromethane	0.5	na	ND	Chloroethane	0.5	na	ND
TOTAL THMs	-	80	-	Trichlorofluoromethane	0.5	na	ND
REGULATED				1,1-Dichloroethane	0.5	na	ND
Benzene	0.5	5	ND	1,3-Dichlorobenzene	0.5	na	ND
Carbon Tetrachloride	0.5	5	ND	Dibromomethane	0.5	na	ND
Chlorobenzene	0.5	100	ND	1,1-Dichloropropene	0.5	na	ND
1,4-Dichlorobenzene	0.5	75	ND	trans-1,3-Dichloropropene	0.5	na	ND
1,1-Dichloroethene	0.5	7	ND	1,1,2,2-Tetrachloroethane	0.5	na	ND
1,2-Dichloroethane	0.5	5	ND	1,3-Dichloropropane	0.5	na	ND
1,2-Dichlorobenzene	0.5	600	ND	2,2-Dichloropropane	0.5	na	ND
1,2-Dichloropropane	0.5	5	ND	cis-1,3-Dichloropropene	0.5	na	ND
cis-1,2-Dichloroethene	0.5	70	ND	2-Chlorotoluene	0.5	na	ND
trans-1,2-Dichloroethene	0.5	100	ND	4-Chlorotoluene	0.5	na	ND
Ethylbenzene	0.5	700	ND	Bromobenzene	0.5	na	ND
Styrene	0.5	100	ND	1,3,5-Trimethylbenzene	0.5	na	ND
Tetrachloroethene	0.5	5	ND	1,2,4-Trimethylbenzene	0.5	na	ND
Trichloroethene	0.5	5	ND	1,2,3-Trichlorobenzene	0.5	na	ND
1,1,1-Trichloroethane	0.5	200	ND	n-Propylbenzene	0.5	na	ND
Toluene	0.5	1000	ND	n-Butylbenzene	0.5	na	ND
Vinyl Chloride	0.5	2	ND	Naphthalene	0.5	na	ND
o-Xylene	0.5	na	ND	Hexachlorobutadiene	0.5	na	ND
m+p-Xylene	1.0	na	ND	Isopropylbenzene	0.5	na	ND
Total Xylenes	1.5	10000	ND	1,2,3-Trichloropropane	0.5	na	ND
Methylene Chloride	0.5	5	ND	1,2-Dibromo-3-Chloropropane	0.5	na	ND
1,1,2-Trichloroethane	0.5	5	ND	p-Isopropyltoluene	0.5	na	ND
1,2,4-Trichlorobenzene	0.5	70	ND	tert-Butylbenzene	0.5	na	ND
				sec-Butylbenzene	0.5	na	ND
				Bromochloromethane	0.5	na	ND
				1,1,1,2-Tetrachloroethane	0.5	na	ND
				1,2-Dibromoethane	0.5	na	ND
				Methyl-tert-Butyl Ether (MTBE)	0.5	na	ND
				Ethyl-tert-Butyl Ether (ETBE)	0.5	na	ND
				tert-Amyl Methyl Ether (TAME)	0.5	na	ND

*All results are in parts per billion (ppb)
 ND = Less than the detection limit
 na = not applicable
 e = estimated value

Section Chief: Deborah Miller Date Approved: 4/17/06

State of Maryland
 DHMH - Laboratories Administration
 Division of Environmental Chemistry
TRACE ORGANICS SECTION
 201 W. Preston Street, Baltimore, MD 21201
 John M. DeBoy, Dr. P.H., Director

Certificate of Analysis - Volatiles

Sample Name: 961469 FB
 Date Analyzed: 04/12/06

Method: EPA 524.2

<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>	<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>
<u>TRihalOMETHANES</u>				<u>UNREGULATED</u>			
Bromodichloromethane	0.5	na	ND	Dichlorodifluoromethane	0.5	na	ND
Bromoform	0.5	na	ND	Chloromethane	0.5	na	ND
Chloroform	0.5	na	ND	Bromomethane	0.5	na	ND
Dibromochloromethane	0.5	na	ND	Chloroethane	0.5	na	ND
TOTAL THMs	-	80	-	Trichlorofluoromethane	0.5	na	ND
<u>REGULATED</u>				1,1-Dichloroethane	0.5	na	ND
Benzene	0.5	5	ND	1,3-Dichlorobenzene	0.5	na	ND
Carbon Tetrachloride	0.5	5	ND	Dibromomethane	0.5	na	ND
Chlorobenzene	0.5	100	ND	1,1-Dichloropropene	0.5	na	ND
1,4-Dichlorobenzene	0.5	75	ND	trans-1,3-Dichloropropene	0.5	na	ND
1,1-Dichloroethene	0.5	7	ND	1,1,2,2-Tetrachloroethane	0.5	na	ND
1,2-Dichloroethane	0.5	5	ND	1,3-Dichloropropane	0.5	na	ND
1,2-Dichlorobenzene	0.5	600	ND	2,2-Dichloropropane	0.5	na	ND
1,2-Dichloropropane	0.5	5	ND	cis-1,3-Dichloropropene	0.5	na	ND
cis-1,2-Dichloroethene	0.5	70	ND	2-Chlorotoluene	0.5	na	ND
trans-1,2-Dichloroethene	0.5	100	ND	4-Chlorotoluene	0.5	na	ND
Ethylbenzene	0.5	700	ND	Bromobenzene	0.5	na	ND
Styrene	0.5	100	ND	1,3,5-Trimethylbenzene	0.5	na	ND
Tetrachloroethene	0.5	5	ND	1,2,4-Trimethylbenzene	0.5	na	ND
Trichloroethene	0.5	5	ND	1,2,3-Trichlorobenzene	0.5	na	ND
1,1,1-Trichloroethane	0.5	200	ND	n-Propylbenzene	0.5	na	ND
Toluene	0.5	1000	ND	n-Butylbenzene	0.5	na	ND
Vinyl Chloride	0.5	2	ND	Naphthalene	0.5	na	ND
o-Xylene	0.5	na	ND	Hexachlorobutadiene	0.5	na	ND
m+p-Xylene	1.0	na	ND	Isopropylbenzene	0.5	na	ND
Total Xylenes	1.5	10000	ND	1,2,3-Trichloropropane	0.5	na	ND
Methylene Chloride	0.5	5	ND	1,2-Dibromo-3-Chloropropane	0.5	na	ND
1,1,2-Trichloroethane	0.5	5	ND	p-Isopropyltoluene	0.5	na	ND
1,2,4-Trichlorobenzene	0.5	70	ND	tert-Butylbenzene	0.5	na	ND
				sec-Butylbenzene	0.5	na	ND
				Bromochloromethane	0.5	na	ND
				1,1,1,2-Tetrachloroethane	0.5	na	ND
				1,2-Dibromoethane	0.5	na	ND
				Methyl-tert-Butyl Ether (MTBE)	0.5	na	ND
				Ethyl-tert-Butyl Ether (ETBE)	0.5	na	ND
				tert-Amyl Methyl Ether (TAME)	0.5	na	ND

*All results are in parts per billion (ppb)

ND = Less than the detection limit

na = not applicable

e = estimated value

Section Chief: Richard Miller-Jones Date Approved: 4/17/06

Phone: (410) 767-5896

Fax: (410) 225-9318

State of Maryland
 DHMH - Laboratories Administration
 Division of Environmental Chemistry
TRACE ORGANICS SECTION
 201 W. Preston Street, Baltimore, MD 21201
 John M. DeBoy, Dr. P.H., Director

Certificate of Analysis - Volatiles

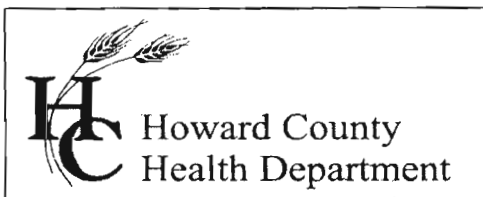
Sample Name: 961469 TB
 Date Analyzed: 04/12/06

Method: EPA 524.2

<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>	<u>Contaminants</u>	<u>DL*</u>	<u>MCL*</u>	<u>Result*</u>
TRihalOMETHANES				UNREGULATED			
Bromodichloromethane	0.5	na	ND	Dichlorodifluoromethane	0.5	na	ND
Bromoform	0.5	na	ND	Chloromethane	0.5	na	ND
Chloroform	0.5	na	ND	Bromomethane	0.5	na	ND
Dibromochloromethane	0.5	na	ND	Chloroethane	0.5	na	ND
TOTAL THMs	-	80	-	Trichlorofluoromethane	0.5	na	ND
REGULATED				1,1-Dichloroethane	0.5	na	ND
Benzene	0.5	5	ND	1,3-Dichlorobenzene	0.5	na	ND
Carbon Tetrachloride	0.5	5	ND	Dibromomethane	0.5	na	ND
Chlorobenzene	0.5	100	ND	1,1-Dichloropropene	0.5	na	ND
1,4-Dichlorobenzene	0.5	75	ND	trans-1,3-Dichloropropene	0.5	na	ND
1,1-Dichloroethene	0.5	7	ND	1,1,2,2-Tetrachloroethane	0.5	na	ND
1,2-Dichloroethane	0.5	5	ND	1,3-Dichloropropane	0.5	na	ND
1,2-Dichlorobenzene	0.5	600	ND	2,2-Dichloropropane	0.5	na	ND
1,2-Dichloropropane	0.5	5	ND	cis-1,3-Dichloropropene	0.5	na	ND
cis-1,2-Dichloroethene	0.5	70	ND	2-Chlorotoluene	0.5	na	ND
trans-1,2-Dichloroethene	0.5	100	ND	4-Chlorotoluene	0.5	na	ND
Ethylbenzene	0.5	700	ND	Bromobenzene	0.5	na	ND
Styrene	0.5	100	ND	1,3,5-Trimethylbenzene	0.5	na	ND
Tetrachloroethene	0.5	5	ND	1,2,4-Trimethylbenzene	0.5	na	ND
Trichloroethene	0.5	5	ND	1,2,3-Trichlorobenzene	0.5	na	ND
1,1,1-Trichloroethane	0.5	200	ND	n-Propylbenzene	0.5	na	ND
Toluene	0.5	1000	ND	n-Butylbenzene	0.5	na	ND
Vinyl Chloride	0.5	2	ND	Naphthalene	0.5	na	ND
o-Xylene	0.5	na	ND	Hexachlorobutadiene	0.5	na	ND
m+p-Xylene	1.0	na	ND	Isopropylbenzene	0.5	na	ND
Total Xylenes	1.5	10000	ND	1,2,3-Trichloropropane	0.5	na	ND
Methylene Chloride	0.5	5	ND	1,2-Dibromo-3-Chloropropane	0.5	na	ND
1,1,2-Trichloroethane	0.5	5	ND	p-Isopropyltoluene	0.5	na	ND
1,2,4-Trichlorobenzene	0.5	70	ND	tert-Butylbenzene	0.5	na	ND
				sec-Butylbenzene	0.5	na	ND
				Bromochloromethane	0.5	na	ND
				1,1,1,2-Tetrachloroethane	0.5	na	ND
				1,2-Dibromoethane	0.5	na	ND
				Methyl-tert-Butyl Ether (MTBE)	0.5	na	ND
				Ethyl-tert-Butyl Ether (ETBE)	0.5	na	ND
				tert-Amyl Methyl Ether (TAME)	0.5	na	ND

*All results are in parts per billion (ppb)
 ND = Less than the detection limit
 na = not applicable
 e = estimated value

Section Chief: Richard Miller Date Approved: 4/17/06



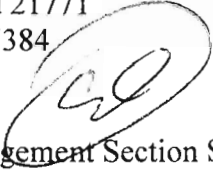
7178 Columbia Gateway Drive, Columbia MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

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

February 8, 2006

MEMORANDUM

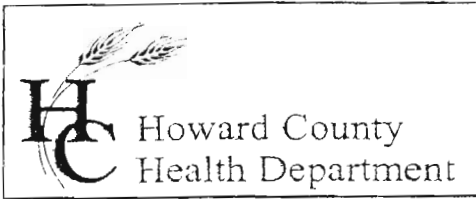
TO: Joseph L. Mayne Well Drilling
5512 Ridge Road
Mt. Airy, Maryland 21771
Faxed to 301-829-5384

FROM: Stuart Oster, R.S. 
Groundwater Management Section Supervisor
Well and Septic Program

RE: File Number: P-05-013
Title: Turnbery Grove

The Health Department requires that all the wells in this subdivision be tested for radium and V.O.C.'s (Volatile Organic Contaminants). The optimum time to sample would be when the yield test is being completed. When contacting this office about the yield test, please mention that these water test need to be collected. Also, attached is a letter dated November 21, 2005 from Bert Nixon further explaining the radium testing.

Cc: D. R. Horton, Inc.
File



Bureau of Environmental Health
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

November 21, 2005

RE:

To Whom It May Concern:

Previous findings from a pilot study conducted by Maryland Geological Survey and Maryland Department of the Environment (MDE) have found elevated levels of naturally occurring radioactive elements in groundwater from and underground rock formation, the Baltimore Gneiss. As a result of this study, we have verified that your subdivision is located within the Baltimore Gneiss testing area. We are in the process of notifying existing properties of this study, plus developers building developments within this formation.

All wells within this area are being sampled for Gross Alpha and Gross Beta particles. These particles measure the alpha and beta activity in a water supply. In turn, this can provide information regarding naturally occurring radiation (i.e. Radionuclides) that may exist in your water supply. These particles are measured in picocuries per liter (pCi/L) and several have EPA established maximum contaminant levels (MCL's). The standards define the maximum permissible level of a contaminant legally allowed in water taking into account the public health risk, available treatment technology and costs of treatment.

From this point forward, we will require that all new subdivisions and properties within this formation to be tested during yield tests or prior to issuance of the Intern Certificate of Potability (ICOP). In the event that elevated levels are detected, appropriate treatment will be needed to help secure the ICOP and occupancy by the resident(s).

Please call this office at (410) 313-1773 if you have any further questions or concerns.

Sincerely,

Bert Nixon, Assistant Director
Bureau of Environmental Health

Eric Dougherty, MDE, Water Mgmt., Groundwater