

C1 6988

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY PLEASE TYPE

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

COUNTY NUMBER

A 520 414

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

ST/CO USE ONLY

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

DATE Received MM DD YY

6 28 2007

22 160 26 (TO NEAREST FOOT)

Ho-95-0702

OWNER Winchester Homes Inc STREET OR RFD Open Run Rd TOWN Elliott City SUBDIVISION Riverwood Phase 2 SECTION LOT 57

WELL LOG

Not required for driven wells

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box)

yes Y 44 no N 44

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT CM BENTONITE CLAY BC

NO. OF BAGS 16 NO. OF POUNDS 1504

GALLONS OF WATER 96

DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 50 ft.

CASING RECORD

casing types insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE 57 Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 53

OTHER CASING (if used)

Table with columns for diameter (inch) and depth (feet) for casing types A, C, H, S, R, E, N.

SCREEN RECORD

screen type or open hole insert appropriate code below: ST STEEL, BR BRASS, HO OPEN HOLE, PL PLASTIC, OT OTHER

DEPTH (nearest ft.) 51 160

Table with columns for slot size 1, 2, 3 and diameter of screen (nearest inch) from 56 to 68.

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

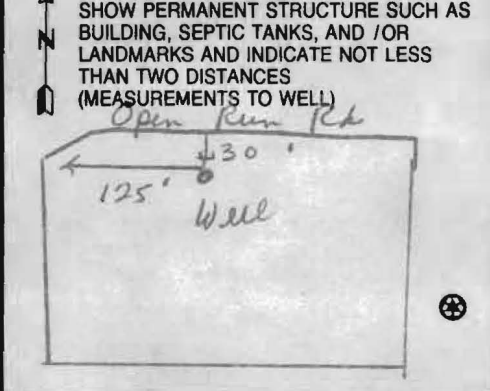
PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 20 METHOD USED TO MEASURE PUMPING RATE bucket WATER LEVEL (distance from land surface) BEFORE PUMPING 24 ft. WHEN PUMPING 40 ft. TYPE OF PUMP USED (for test) S submersible

PUMP INSTALLED

DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES 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



NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED YES Y NO N

CIRCLE APPROPRIATE LETTER: A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED; E ELECTRIC LOG OBTAINED; P TEST WELL CONVERTED TO PRODUCTION WELL

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

DRILLERS LIC. NO. MS DO 24; DRILLERS SIGNATURE Joseph L. Mayno; LIC. NO. D

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

B 1 9867

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

525693 please type

#0-95-0702 fill in this form completely 79

Date Received (APA)

2/11/07

OWNER INFORMATION

Winchester Homes Inc
6905 Rockledge Drive Suite 800
Bethesda Md 20817

B 3

LOCATION OF WELL

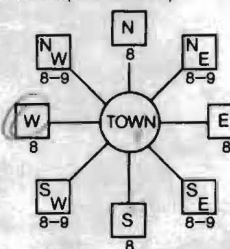
Howard COUNTY
Riverside Phase 2
SECTION 44 46 LOT 48 50
Elliott City
MILES FROM TOWN 5

DRILLER INFORMATION

Joseph L. Mayne MSD 024
Joseph L. Mayne Well Drilling
5512 Ridge Rd Mt. Airy Md 21771
Joseph L. Mayne 1-30-07

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



Open Run Rd
NEAR WHAT ROAD

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
45
DISTANCE FROM ROAD
ENTER FT OR MI
TAX MAP: 29 BLK: 4 PARCEL 20

B 2

WELL INFORMATION

APPROX. PUMPING RATE 5
AVERAGE DAILY QUANTITY NEEDED 500

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

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard COUNTY NAME
A 52044 COUNTY NO.
STATE SIGNATURE
DATE ISSUED 2/13/07
CO SIGNATURE
NORTH GRID 515 000 EAST GRID 0827 000

APPROXIMATE DEPTH OF WELL 300 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

BORED (or Augered)
AIR-ROTARY
CABLE
JETTED
AIR-PERCussion
REVERSE-ROTARY
Jetted & DRIVEN
ROTARY (Hydraulic 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 DEEPEMED AN EXISTING WELL

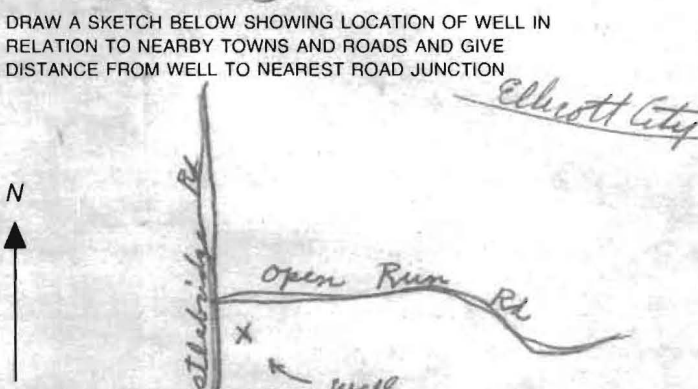
Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROP. PERMIT NUMBER #02004-G-007
PERMIT No #0-95-0702

SPECIAL CONDITIONS

NEED RADIUM SAMPLE

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X
6/28/07
SOURCES OF DRILLING WATER
1. well
2.
3.
WRITE THE BOX NUMBER FROM THE MAP HERE
E 8207
N 5105
DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



**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: NATIONAL WATER SERVICE 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# PI 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: WINCHESTER HOME Telephone #: 301-803-4174
Subdivision: Riverwood Lot #: 57 Well Tag #: HO-95-0702
Site Address: 12071 OPEN RUN RD
ELICOTT CITY, MD

Submersible Pump Data	Pitless Adapter	Well Cap and Electric Conduit
Make: <u>Grundfos</u>	Make: <u>Campbell</u>	Two piece watertight cap: <input checked="" type="checkbox"/>
Model #: <u>15SDE07180</u>	Model#: <u>PA-500</u>	Screened, vented well cap: <input checked="" type="checkbox"/>
Pump Capacity <u>15</u> GPM	Depth: <u>48</u> (36" min)	Cap secured to casing: <input checked="" type="checkbox"/>
Well Yield: <u>20</u> GPM	NSF approved: <u>YES</u>	Conduit min 18" B.G.: <input checked="" type="checkbox"/>
Depth of well encountered at time of pump installation: <u>160</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 or Cable guards are required - Must circle one CPS
Safety rope, if used, attached to inside of well casing with eye bolt N/A

Piping to house
Type: Poly
PSI: 160 (160 psi min)
Depth of supply line: 4' (36" min)

House Connection
PVC sleeved to undisturbed soil at wall penetration: YES
Approximate length of sleeve: 5'
Sleeve caulked and sealed properly: YES

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

Signature of company representative responsible for installation _____ date 10-27-10

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

Date Insp. Requested: _____ Date Insp. Approved: _____
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 _____

**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: _____ 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 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: _____ Telephone #: _____
Subdivision: _____ Lot #: 57 Well Tag #: HO-95-0702
Site Address: 12071 Open Run Road

<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 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 or Cable guards are required – Must circle one		
Safety rope, if used, attached to inside of well casing with eye bolt _____		

<u>Piping to house</u>	<u>House Connection</u>
Type: _____	PVC sleeved to undisturbed soil at wall penetration: _____
PSI: _____ (160 psi min)	Approximate length of sleeve: _____
Depth of supply line: _____ (36" min)	Sleeve caulked and 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: 5/13/10 Date Insp. Approved: 5/11/2010 **BB**

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



OPEN RUN ROAD

EX. PUBLIC ACCESS STREET
(50' R/W, 24' PAVING, F-04-82)

WELL
2/13/07
Kew
Staked by
Bm

LOT 57
48,637 S.F.

RIDGE ROAD

BENCHMARK

ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

RIVERWOOD, PHASE 2

LOT 57

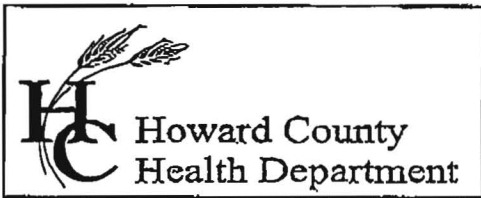
FORTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE: 1" = 50' DATE: 1/24/07

8480 BALTIMORE NATIONAL PIKE • SUITE 418 • ELLICOTT CITY, MD 21043

PHONE 410-465-6100 FAX 410-465-6644
DATE: 1/25/2007 8:41 AM

PL1132 Homewood.dwg 70110251195-6100
inc. Kyocera Mita KM-2530 KX.pc3



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:

Riverwood Phase II 43-77 Castlebridge Rd, Hunters View Road
 Subdivision/Property Name Lot# Road Name
Open Run Road & Whithorn Way

The well site has been staked by Benchmark Eng
 (professional land surveyor or company employing professional land surveyors)
 on _____ (date) and does not require a site inspection.

all lots will be staked by 12/29/06

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

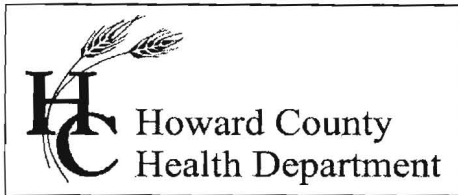
Contact is:

Easterday

301-829-1440

2006 DE 18 PM 2:32

ENVIRONMENTAL HEALTH



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 Beilenson, M.D., M.P.H., Health Officer

November 22, 2010

Homeowner
12071 Open Run Road
Ellicott City, MD 21042

RE: Riverwood, Lot 57
12071 Open Run Road
BP #: B10000242
Well Permit # HO-95-0702

Dear Sir:

This is to advise you that the septic system for the above referenced property has been installed and inspected. **Final approval of the septic system was granted on 6/24/2010. Final approval of the well line connection to the dwelling was approved on 5/11/2010**

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. The water sample results were found to be in compliance with COMAR water quality standards.

Enclosed with this certificate, are copies of the septic permit and the as-built, along with important information regarding the use and maintenance of your septic system. Please read through carefully and thoroughly. Any questions regarding your well and/or septic, please call this office for guidance 410-313-1771.

INTERIM CERTIFICATE OF POTABILITY

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-95-0702. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies. Based upon satisfactory investigation and evaluation, the Howard County Health Department as authorized by the Maryland Department of the Environment accepts this well system as required by COMAR 26.04.04.

This certificate may become final upon completion of the second bacteriological test, which is to be taken by the county health department within six months of receipt of this letter. **Please contact (410) 313-1773 to schedule a final water sample appointment. Currently, there is no charge for this final sampling.**

Date of Water Samples: 10/08/2010, 10/14/2010, 10/21/2010, 11/1/2010, 11/18/2010
Date of Radium Samples: 10/21/2010
Date of Well Completion: 06/28/2007

Approving Authority,



Kevin M. Wolf, R. S./R.E.H.S.
Environmental Sanitarian
Well & Septic Program

cc: Building Inspector's Office
Community Health Services
File

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1110 Old Harwood Rd. Westminster, MD (410) 648-1014 (410) 876-4554 FAX (410) 648-0298

REPORT OF ANALYSIS

Laboratory ID #: 77547 Account #: 3123
 Reference: Riverwood Lot 57 Company: National Water Servicing
 Location: 12071 Open Run Road Requested By: Dave Rycke
 Ellicott City, MD 21042 Source: Well Water
 Date/ Time Collected: 11/12/2010 1220 Site: Test Port Post Treatment
 Date/Time Rec'd: 11/12/2010 1415 Treatment: Neutralizer/ Softener
 Chlorine ppm: Free: ND Total: ND pH: 7.4
 Collected By: J.Yeager 6176JY Well #: HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Radium-226	0.5	pCi/L	****	903.1	11/24/2010 / 1507 / MJN
Radium-228	<0.6	pCi/L	****	Ra-05	11/23/2010 / 1438 / PJ

NOTES

- 1 ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- 2 pCi/L = picocuries per liter
- 3 Radium 226 Detection Limit: 0.1 pCi/L
- 4 Radium 228 Detection Limit: 0.6 pCi/L
- 5 Subcontracted to Reference Lab# 278
- 6 ND:None Detected
- 7 Visual well check: Sealed, vented cap
- 8 pH and Chlorine level tested on site

Reason for Test : Use & Occupancy
 Building Permit # : 10000242

Date Reported: 11/30/2010*MD State Certification # 133*



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

March 1, 2010

Sylkie Knuppel, P.E.
Development Manager
Winchester Homes, Inc.
6905 Rockledge Dr, Suite 800
Bethesda, MD 20817

RE: 12071 Open Run Road, Riverwood II subdivision, Lot 57
Well tag: HO-95-0702

HUW?
↓

Dear Ms. Knuppel,

A well water sample was collected from a yield test on June 28, 2007 and submitted to the Department of Health and 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. In turn, this can provide information regarding naturally occurring radiation (i.e., Radionuclides) that may exist in your area of development within the County. Your organization may have received a letter of notification (August 17, 2007) advising you of the following results at the subject property.


Results from the screening revealed a **Gross Alpha** of 16.0 ± 2.0 picocuries/liter (pCi/L); while the **Gross Beta** level was 13.0 ± 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 target value of 50 pCi/L (roughly equivalent to the **annual dose rate** of 4 millirems/year).

As the **Gross Alpha** finding exceeded its **MCL**, additional testing for **Gross Alpha, Gross Beta (short-term and long-term), and Radium** will be necessary prior to issuance of an Interim Certificate of Potability (ICOP), in essence prior to Use and Occupancy. You may choose to test either (A) a raw water sample, or (B) a post-treatment sample. The analysis of each water sample requires approximately one month.

Should you choose to install a treatment system, an agreement for installation and maintenance must be signed by a representative of your organization and the Director, Bureau of Environmental Health, and then recorded at Howard County Land Records. The agreement is attached with this letter. This agreement must be recorded prior to issuance of the ICOP.

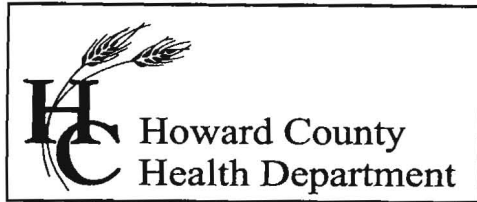
Please call this office at 410-313-1771 if you have any further questions.

Sincerely,


Robert Bricker, R.S.
Environmental Sanitarian Supervisor
Well and Septic Program
410-313-2691

Enclosure: 1

Copy: Well and Septic property 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

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

August 17, 2007

Winchester of Howard County
6905 Rockledge Drive
Suite 800
Bethesda, Maryland 20817

RE: Riverwood Lot 57
Well Tag: HO - 95 - 0702

To Whom It May Concern:

A sample was collected from a yield test on June 28, 2007 and submitted to the Department of Health & Mental Hygiene Laboratory to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this screening revealed a **Gross Alpha** of 16.0 ± 2.0 picocuries/liter (pCi/L); while the **Gross Beta** level was 13.0 ± 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**, **Gross Beta** and **Radium** will be necessary prior to occupancy to verify existing levels. 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,



Bert Nixon, Acting Director
Bureau of Environmental Health

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

Send Report To:

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

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

Sample Bottle No. A: R578B950702 No. B: _____ Field Blank Bottle No. A: _____ No. B: _____

Plant/Site Name: Riverwood - Lot 57 County: Howard

Sample Source: Open Run Road Location: HO-95-0702
(well no., lab sink, sample tap, etc.)

County: B 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: 6/28/2007

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

Nitric Acid Preserved: Yes No

Iced: Yes No

Submitters Code: Federal Project: Field Data: _____

Remarks: Sample Collected During Yield Test pH _____ Chlorine _____

✓	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: _____

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 1413 Old Jamestown Rd. Westminster, MD (410) 848-1010 (410) 876-3539 FAX (410) 848-0258

REPORT OF ANALYSIS

Laboratory ID #:	77272.1	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	10/21/2010 1008	Source:	Well Water
Date/Time Rec'd:	10/21/2010 1256	Site:	Test Port Post Treatment
Chlorine ppm:	Free: ND Total: ND	Treatment:	Neutralizer/ Softener
Collected By:	J.Yeager 6176JY	pH:	6.2
		Well #:	HO-95-0702

ISOTOPES	RESULTS	UNITS	REFERENCE	METHOD	DATE TIME ANALYST
Radium-226	4.9	pCi/L	****	903.1	11/9/2010 / 1336 / MJN
Radium-228	1.5	pCi/L	****	Ra-05	11/8/2010 / 1214 / PJ

NOTES

- 1 ****Radium 226 and Radium 228 combined have a reference of 5 pCi/L
- 2 pCi/L = picocuries per liter
- 3 Radium 226 Detection Limit: 0.2 pCi/L
- 4 Radium 228 Detection Limit: 0.8 pCi/L
- 5 Sub-contracted to Reference Lab #278
- 6 ND:None Detected
- 7 Visual well check: Sealed, vented cap
- 8 pH and Chlorine level tested on site

Reason for Test : Use & Occupancy
 Building Permit # : 10000242

Date Reported: 11/11/2010

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 148 Old Lameytown Rd. Westminster, MD (410) 948-1001 (410) 876-4554 FAX (410) 948-0298

REPORT OF ANALYSIS

Laboratory ID #:	77272	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	10/21/2010 1008	Source:	Well Water
Date/Time Rec'd:	10/21/2010 1256	Site:	Test Port Post Treatment
Chlorine ppm:	Free: ND Total: ND	Treatment:	Neutralizer/ Softener
Collected By:	J.Yeager 6176JY	pH:	6.2
		Well #:	HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Gross Alpha	9.1	pCi/L	15	900.0	10/24/2010 / 1012 / MJN
Gross Beta	8.3	pCi/L	50	900.0	10/24/2010 / 1012 / MJN

NOTES

- 1 Gross Alpha Detection Limit: 0.9 pCi/L
- 2 Gross Beta Detection Limit: 1.0 pCi/L
- 3 pCi/L = picocuries per liter
- 4 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 5 Sub-contracted to Reference Lab #278
- 6 ND:None Detected
- 7 Visual well check: Sealed, vented cap
- 8 pH and Chlorine level tested on site

Reason for Test : Use & Occupancy
 Building Permit # : 10000242

Date Reported: 10/26/2010

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 1413 Old Tane Town Rd., Westminster, MD 21157 (410) 343-1013 (410) 343-4554 (210) 343-0700

REPORT OF ANALYSIS

Laboratory ID #:	77384	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	11/1/2010 1058	Source:	Well Water
Date/Time Rec'd:	11/1/2010 1248	Site:	Test Port Post Treatment
Chlorine ppm:	Free: ND Total: ND	Treatment:	Neutralizer/Softener
Collected By:	J.Yeager 6176JY	pH:	6.3
		Well #:	HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	3.98	NTU	<10	SM18 2130B	11/1/2010 / 1350 / KME
Sand	NS	mg/L	5	Visual/Gravimetric	11/1/2010 / 1350 / KME

Iron!??

NOTES

- 1 NS = None Seen (NS indicates less than 5 mg/L)
- 2 NTU = Nephelometric Turbidity Units
- 3 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 4 ND:None Detected
- 5 Visual well check: Sealed, vented cap
- 6 pH and Chlorine level tested on site

Reason for Test : Use & Occupancy retest
 Building Permit # : 10000242

Date Reported: 11/1/2010

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 1415 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 Fax (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	77207	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	10/14/2010 1033	Source:	Well Water
Date/Time Rec'd:	10/14/2010 1210	Site:	Pressure Tank
Chlorine ppm:	Free: ND Total: ND	Treatment:	Softener**
Collected By:	J. Yeager 6176JY	pH:	6.2
		Well #:	HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	10/15/2010 / 1000 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	10/15/2010 / 1000 / CCH
Turbidity	96.2	NTU	<10	SM18 2130B	10/14/2010 / 1305 / CCH
Sand	Trace	mg/L	5	Visual/Gravimetric	10/14/2010 / 1305 / CCH

Iron?

NOTES

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

Reason for Test : Use & Occupancy retest
 Building Permit # : 10000242

Date Reported: 10/15/2010

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 1213 Old Tracey Road, Westminster, MD 21157 (410) 336-1000 (410) 336-1001 FAX (410) 336-1002

REPORT OF ANALYSIS

Laboratory ID #:	77130	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	10/8/2010 1415	Source:	Well Water
Date/Time Rec'd:	10/8/2010 1615	Site:	Pressure Tank
Chlorine ppm:	Free: ND Total: ND	Treatment:	Softener**
Collected By:	C. Holland 0547CH	pH:	6.7
		Well #:	HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	LABORATORY	DATE/TIME
Bacteria, Colliform, Total, MPN	5.3	MPN/ 100 ml	<1.0	SM18 9223	10/9/2010 / 1700 / CCH
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	10/9/2010 / 1700 / CCH
Nitrate	<1.0	mg/L	10	601	10/8/2010 / 1615 / CCH
Turbidity	11.7	NTU	<10	SM18 2130B	10/8/2010 / 1645 / CCH
Sand	Trace	mg/L	5	Visual/Gravimetric	10/8/2010 / 1615 / CCH

*Retest for Bacteria
 Turbidity => IRON & Manganese*

NOTES

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

Reason for Test : Use & Occupancy
 Building Permit # : 10000242

Date Reported: 10/11/2010

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.
 1913 Old Lantier Road Westminster, MD (410) 848-1014 (410) 876-9553 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	77606	Account #:	3123
Reference:	Riverwood Lot 57	Company:	National Water Servicing
Location:	12071 Open Run Road Ellicott City, MD 21042	Requested By:	Dave Rycke
Date/ Time Collected:	11/18/2010 1143	Source:	Well Water
Date/Time Rec'd:	11/18/2010 1331	Site:	<u>Post Treatment Test Port</u>
Chlorine ppm:	Free: ND Total: ND	Treatment:	Softener
Collected By:	J.Yeager 6176JY	pH:	7.4
		Well #:	HO-95-0702

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE / TIME ANALYZED
Iron	0.10	mg/L	0.3	FR, 45 (126)	11/19/2010 / 1020 / BCD

OK after Treatment

NOTES

- 1 mg/L = milligrams per liter (also, parts per million)
- 2 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 3 ND:None Detected
- 4 Visual well check: Sealed, vented cap
- 5 pH and Chlorine level tested on site

Reason for Test : Use & Occupancy
 Building Permit # : 10000242

Date Reported: 11/19/2010