C 1 0756 SEQUENCE NO. (MDE USE ONLY)

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

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

ST/CO USE ONLY DATE Received MM 12 DD 20 YY 10

DATE WELL COMPLETED MM 10 DD 28 YY 10

Depth of Well 200 (TO NEAREST FOOT) 2/1/11 OK (lw)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO - 95 - 1985

OWNER Toll Brothers

STREET OR RFD Valley View Overlook TOWN Columbia

SUBDIVISION Bentley Farm SECTION LOT 85

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	FEET TO	check if water bearing
Brown Mica	0	37	
Gray Mica	37	41	
Brown?	41	47	✓
(screen)			
Gray Mica	47	200	✓

OK

12 ÷ 3.9 = 3.1

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. MSD 009

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ___ D ___

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

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes Y no N

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT CM BENTONITE CLAY BC

NO. OF BAGS 12 NO. OF POUNDS 1128

GALLONS OF WATER 72

DEPTH OF GROUT SEAL (to nearest foot)

from 0 ft. (TOP) to 39 ft. (BOTTOM)

(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

ST STEEL CO CONCRETE PL PLASTIC OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
PL	06	41

OTHER CASING (if used)

EACH CASING	diameter inch	depth (feet) from	to

SCREEN RECORD
screen type or open hole insert appropriate code below

ST STEEL BR BRASS BRONZE PL PLASTIC HO OPEN HOLE OT OTHER

C 2 DEPTH (nearest ft.)

EACH SCREEN		from	to
1	HO	41	200
2	PL	40	50
3			

SLOT SIZE 1 0.20 2 ___ 3 ___

DIAMETER OF SCREEN 4 (NEAREST INCH)

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) 03 ✓

PUMPING RATE (gal. per min.) 4

METHOD USED TO MEASURE PUMPING RATE Pitot.

WATER LEVEL (distance from land surface)

BEFORE PUMPING 33 ft.

WHEN PUMPING 43 ft.

TYPE OF PUMP USED (for test)

A air P piston T turbine

C centrifugal R rotary O other (describe below)

J jet S submersible

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

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height)

+ above LAND SURFACE

− below 02 (nearest foot)

LOCATION OF WELL ON LOT

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

N

Valley View Overlook

OK 30' 75'

COUNTY

DENV-CR00

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL

please type

B 1 | 9580 | SEQUENCE NO. (MDE USE ONLY)

533980

STATE PERMIT NUMBER: Ho - 95 - 1985

fill in this form completely

Date Received (APA): 08 19 10 (MM DD YY)

OWNER INFORMATION

Toll Brothers (Last Name / First Name)

11423 Hunt Crossing ct (Street or RFD)

Ellicott City, Md 21042 (Town / State / Zip)

DRILLER INFORMATION

Allen Compton | MSD009 (Driller's Name / License No.)

Fogles Well Drilling (Firm Name)

P.O. Box 202 (Address)

Signature | 8-9-10 (Date)

LOCATION OF WELL

B 3

Howard (COUNTY)

Homewood Crossing (SUBDIVISION)

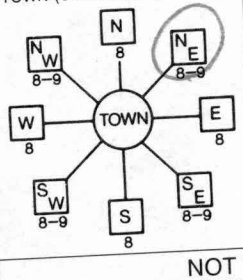
SECTION | LOT 85

Columbia (NEAREST TOWN)

MILES FROM TOWN (enter 0 if in town): 5

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



Valley View Overlook (NEAR WHAT ROAD)

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

DISTANCE FROM ROAD: 30 FT

TAX MAP: 29 BLK: 9 PARCEL 28

WELL INFORMATION

B 2

APPROX. PUMPING RATE (GAL. PER MIN.): 5

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 500

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D — DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
- F — FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION
- I — INDUSTRIAL, COMMERICIAL, 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) (A) 5/5042 (COUNTY NAME / COUNTY NO.)

STATE SIGNATURE | INSERT S

DATE ISSUED: 9/7/10 | CO SIGNATURE | EXP. DATE: 9/7/10

NORTH GRID: 51 000 | EAST GRID: 6826 000

APPROXIMATE DEPTH OF WELL: 300 FEET

APPROXIMATE DIAMETER OF WELL: 6 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) | JETTED | Jetted & DRIVEN

AIR-ROTary | AIR-PERcussion | ROTARY (Hydraulic Rotary)

CABLE | REVerse-ROTary | DRive-POINT

other

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

1.

2.

3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 822 C

N 510 I

10/28/10
- screen @ 40-50'
- very turbid H2O
- 4 gpm - Red Rock @ 3hr
- 200' deep
- 41' casing
Radium sample collected

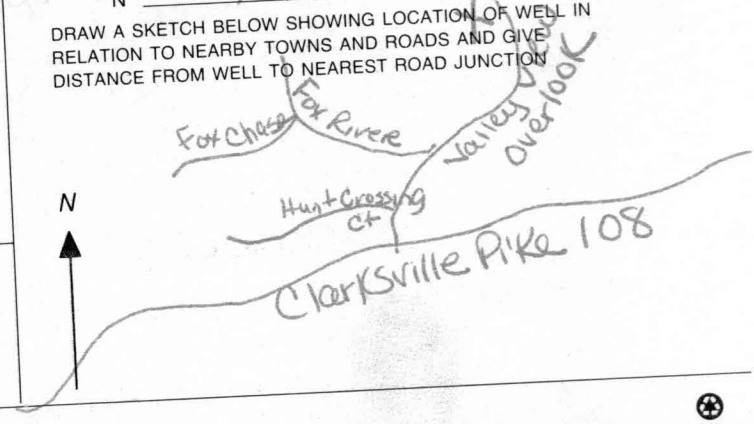
000
000

REPLACEMENT OR DEEPENED 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 DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE)

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



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

APPROP. PERMIT NUMBER: Ho 2003 G 006

PERMIT No. Ho - 95 - 1985

SPECIAL CONDITIONS

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

② COUNTY

Yield Test Data Sheet

County File # _____

District _____

MD Well Permit #: Ho-95-1985

Date of Test: 10-28-10

Subdivision Name: Homewood Crossing

Section _____ Lot # 85

Street Address: Valley View Overlook

Measuring Point (MP) Description: Top of casing
(for ex. "Top of casing")

Distance from MP to ground surface 2' ft.

Well Depth 200 ft.

Well Driller: Allen Compton

Must be submitted with the State of Maryland Well Completion Report

Submit to:

NOTES:

Pump Start Time	Static Water level 33 ft.	Pumping Rate ( ) Time to fill 1 1 gal. bucket ( ) Flow meter reading (if useed)	Calculated Flow (gallons per minute)
8:00			15
TIME	WATER LEVEL BELOW M.P.		

Water level and pumpimg rate must be recorded every 15 minutes

1	8:00	33 ft.	4	15 GPM
2	8:15	43 ft.	15	4 GPM
3	8:30	43 ft.	15	4 GPM
4	8:45	43 ft.	15	4 GPM
5	9:00	43 ft.	15	4 GPM
6	9:15	43 ft.	15	4 GPM
7	9:30	43 ft.	15	4 GPM
8	9:45	43 ft.	15	4 GPM
9	10:00	43 ft.	15	4 GPM
10	10:15	43 ft.	15	4 GPM
11	10:30	43 ft.	15	4 GPM
12	10:45	43 ft.	15	4 GPM
13	11:00	43 ft.	15	4 GPM
14	11:15	43 ft.	15	4 GPM
15		ft.		GPM
16		ft.		GPM
17		ft.		GPM
18		ft.		GPM
19		ft.		GPM
20		ft.		GPM
21		ft.		GPM
22		ft.		GPM
23		ft.		GPM
24		ft.		GPM
25		ft.		GPM
26		ft.		GPM
27		ft.		GPM
28		ft.		GPM
29		ft.		GPM
30		ft.		GPM

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: Fogle Well Drilling Telephone #: 443-609-4195
Address: P.O. Box 203
Woodbine Md 21797

(Must circle one) Licensed Plumber (Licensed Well Driller) Licensed Well Pump Installer
License # and name of individual responsible for the field installation:
Name (Print): Allen Compton License# MSD 009
***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: Toll Brothers Telephone #: 410-992-5978
Subdivision: Patuxent Chase (Homewood Crest) Lot #: 85 Well Tag #: HO-95-1985
Site Address: 4949 Valley View Overlook
Ellicott City Md 21042

Submersible Pump Data
Make: Grundfos
Model #: 15SQE07-180
Pump Capacity 7 GPM
Well Yield: 4 GPM

Pitless Adapter
Make: Campbell
Model#: N/A
Depth: 36 (36" min)
NSF/WSC approved: yes

Well Cap and Electric Conduit
Two piece watertight cap: yes
Screened, vented well cap: yes
Cap secured to casing: yes
Conduit min 18" B.G.: yes
Conduit secured to well cap: yes

Depth of well encountered at time of pump installation: 200' (feet)
If pump capacity exceeds well yield, a low water cut off switch is required by NSPC 1990 Section 17.8.4
Torque arrestors, Cable guards, or other acceptable method used– Must circle one
Safety rope, if used, attached to brass rope adapter or other acceptable method inside of well casing N/A

Piping to house
Type: 1" Black Poly
PSI: 160 (160 psi min)
Depth of supply line: 42" (36" min)

House Connection
PVC sleeve to undisturbed soil at wall penetration: yes
Length of sleeve(5' minimum from foundation): 5'
Sleeve sealed properly: yes

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

Allen Compton 2/2/12
Signature of company representative responsible for installation date

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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
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 #: _____ Well Tag # : HO - 95-1985
Site Address: 4999 Valley View Overlook
_____

Submersible Pump Data
Make: _____
Model #: _____
Pump Capacity _____ GPM
Well Yield: _____ GPM

Pitless Adapter
Make: _____
Model#: _____
Depth: ____ (36" min)
NSF approved: ____

Well Cap and Electric Conduit
Two piece watertight cap: _____
Screened, vented well cap: _____
Cap secured to casing: _____
Conduit min 18" B.G.: _____
Conduit secured to well cap: _____

Depth of well encountered at time of pump installation: _____(feet)
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 ____

Piping to house
Type: _____
PSI: _____(160 psi min)
Depth of supply line: ___(36" min)

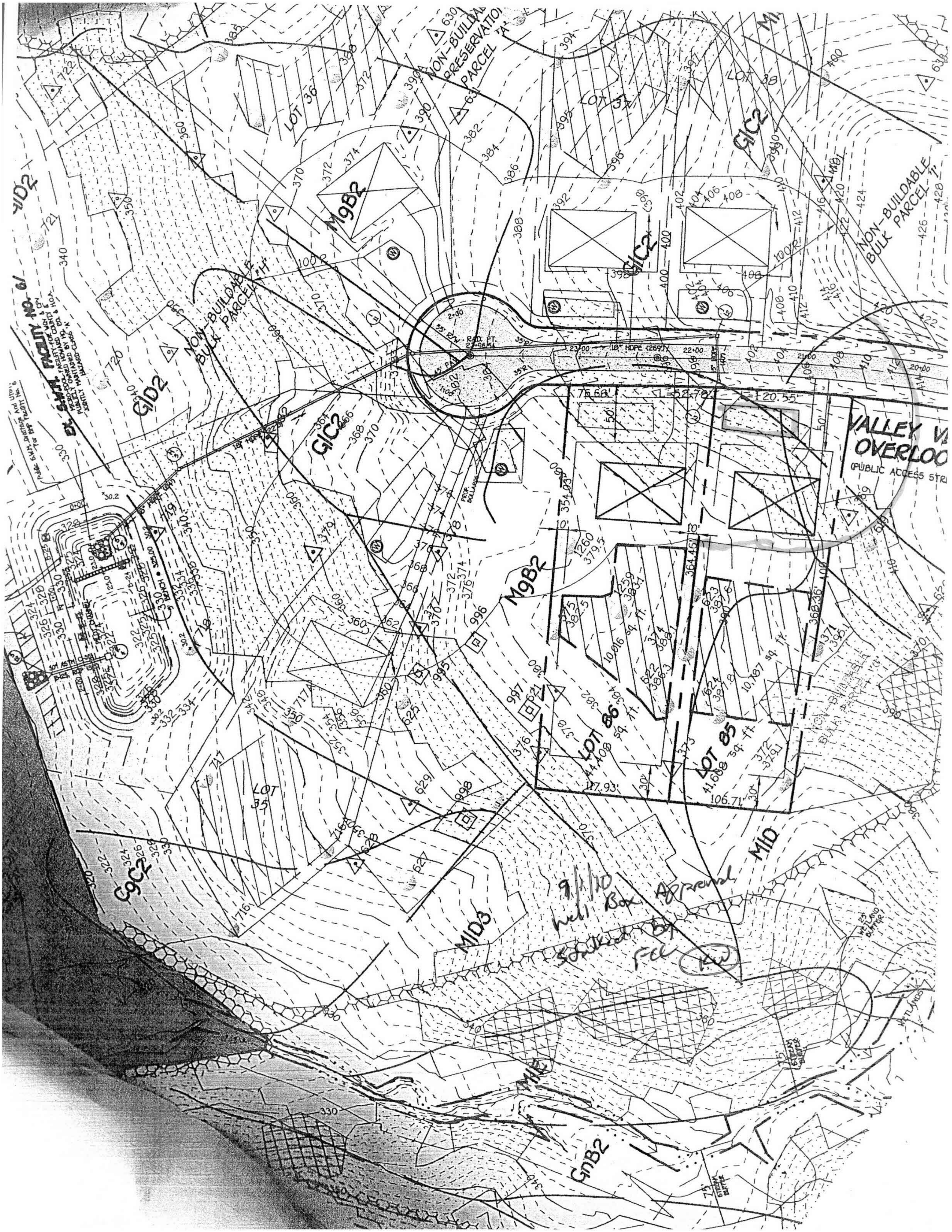
House Connection
PVC sleeved to undisturbed soil at wall penetration: _____
Approximate length of sleeve: _____
Sleeve caulked and sealed properly: _____

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: _____ Date Insp. Approved: _____ 12/20/2011
Inspection Data:
Pitless adapter and water supply line at least 36" below grade ✓
Two piece cap installed and attached to casing securely Not Glued (BB)
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 ✓


NON-BUILDABLE BULK PARCEL 'H'
NON-BUILDABLE BULK PARCEL 'I'
LOT 35
LOT 36
LOT 37
LOT 38
LOT 86
44,408 sq. ft
LOT 85
41,608 sq. ft
10,016 sq. ft.
10,187 sq. ft.
MgB2
GlC2
GlD2
MlD
MlD3
GnB2
18" HDPE
9/1/10
Well Box Approval

Howard County Health Department

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

INTERIM CERTIFICATE OF POTABILITY

Expiration Date – October 6, 2012

4/6/2012

Homeowner
4949 Valley View Overlook
Ellicott City, MD 21042

RE: Patuxent Chase, Lot 85
4949 Valley View Overlook
Building Permit: B11001945
Well Permit: HO-95-1985

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 **12/21/2011.** Final approval of the well line connection to the dwelling was granted on **3/23/2012.** The well construction was completed on **10/28/2010.** Water samples were collected on **3/15/2012.**

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 **10/28/2010 and on 3/23/2012**. Results from 10/28/2010 showed a Gross Alpha level of **11.8** ± 2.8 **pCi/L** and **Gross Beta** level of **14.8 ± 2.4 pCi/L**. The Gross Alpha was below the maximum contaminant level (MCL) of 15 pCi/L and the Gross Beta was below the target level of 50pCi/L (roughly equivalent to the annual dose rate of 4 millirems per year). Results from 3/23/2012, for a sample taken at the reverse osmosis tap, showed a Gross Alpha level of **3.8 pCi/L** and **Gross Beta** level of **5.6 pCi/L**. The Gross Alpha was below the maximum contaminant level (MCL) of 15 pCi/L and the Gross Beta was below the target level of 50pCi/L (roughly equivalent to the annual dose rate of 4 millirems per year). The sample collected on 3/23/2012 had a **Radium 226** level **<0.2 pCi/L** and a **Radium 228** level **<0.8 pCi/L**, the sum of both being less than the reference level of 5 pCi/L. At the times of testing and with respect to these parameters, the well water is safe for all uses.

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-95-1985. 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 certified water quality laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website: http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf

Approving Authority,

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

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

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	83745		
Reference:	Patuxent Chase Toll Brothers Lot 85	Account #:	1930
Location:	4949 Valley View Overlook	Company:	Fogle's Well Drilling
	Ellicott City, MD 21042	Requested By:	Dave Fogle
Date/ Time Collected:	3/23/2012 1335	Source:	Well Water
Date/Time Rec'd:	3/23/2012 1510	Site:	R/O Tap
Chlorine ppm:	Free: ND Total: ND	Treatment:	Reverse Osmosis
Collected By:	J. Fogle 1974JF	pH:	6.4
		Well #:	HO-95-1985

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Radium-226	<0.2	pCi/L	**	903.1	4/3/2012 / 1015 / MJN
Radium-228	<0.8	pCi/L	**	Ra-05	4/3/2012 / 1104 / SN

VCB 'OK' 4/6/12

NOTES

1. *****Preliminary Report 04/06/12 CH
2. **Radium 226 and Radium 228 combined have a reference of 5 piC/L
3. pCi/L = picocuries per liter
4. Radium 226 Detection Limit: 0.2 piC/L
5. Radium 228 Detection Limit: 0.8 piC/L
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. Chlorine level tested on site; pH level tested in lab

Reason for Test : Use & Occupancy
Building Permit # : B11001945

Date Reported: 4/6/2012

MD State Certification # 133

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	83746	Account #:	1930
Reference:	Patuxent Chase Toll Brothers Lot 85	Company:	Fogle's Well Drilling
Location:	4949 Valley View Overlook	Requested By:	Dave Fogle
	Ellicott City, MD 21042	Source:	Well Water
Date/ Time Collected:	3/23/2012 1355	Site:	Pressure Tank
Date/Time Rec'd:	3/23/2012 1510	Treatment:	Reverse Osmosis
Chlorine ppm:	Free: ND Total: ND	pH:	6.4
Collected By:	J. Fogle 1974JF	Well #:	HO-95-1985

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Radium-226	0.3	pCi/L	**	903.1	4/3/2012 / 1015 / MJN
Radium-228	1.0	pCi/L	**	Ra-05	4/3/2012 / 1104 / SN
Gross Alpha, Long Term	3.8	pCi/L	15	900.0	3/29/2012 / 0647 / MJN
Gross Beta, Long Term	5.6	pCi/L	50	900.0	3/29/2012 / 0647 / MJN

VCB 'OK'
4/6/12

NOTES

1 *****Preliminary Report 04/06/12 CH
2 **Radium 226 and Radium 228 combined have a reference of 5 piC/L
3 Gross Alpha Detection Limit: 1.1 piC/L
4 Gross Beta Detection Limit: 1.7 piC/L
5 pCi/L = picocuries per liter
6 Radium 226 Detection Limit: 0.1 piC/L
7 Radium 228 Detection Limit: 0.9 piC/L
8 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
9 ND:None Detected
10 Visual well check: Sealed, vented cap
11 Chlorine level tested on site; pH level tested in lab

Reason for Test : Use & Occupancy
Building Permit # : B11001945

Date Reported: 4/6/2012

MD State Certification # 133

FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

1413 Old Taneytown Rd. Westminster, MD (410) 848-1014 (410) 876-4554 FAX (410) 848-0298

REPORT OF ANALYSIS

Laboratory ID #:	83630		Account #:	1930
Reference:	Patuxent Chase Toll Brothers Lot 85		Company:	Fogle's Well Drilling
Location:	4949 Valley View Overlook		Requested By:	Dave Fogle
	Ellicott City, MD 21042		Source:	Well Water
Date/ Time Collected:	3/15/2012	1355	Site:	Downstairs Powder Room Sink
Date/Time Rec'd:	3/15/2012	1930	Treatment:	None
Chlorine ppm:	Free: ND	Total: ND	pH:	6.2
Collected By:	B. Dutterer	4717BD	Well #:	HO-95-1985

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	3/16/2012 / 1400 / BCD
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	3/16/2012 / 1400 / BCD
Nitrate	2.04	mg/L	10	601	3/16/2012 / 1140 / CCH
Turbidity	0.54	NTU	<10	SM18 2130B	3/16/2012 / 1100 / CCH
Sand	NS	mg/L	5	Visual/Gravimetric	3/16/2012 / 1100 / CCH

Ok DB 3/21/12

NOTES

1. mg/L = milligrams per liter (also, parts per million)
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
Building Permit # : B11001945

Date Reported: 3/16/2012

MD State Certification # 133

Howard County
Health Department

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

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

January 18, 2011

Toll Brothers-Maryland Division
7164 Columbia Gateway Drive
Suite 250
Columbia, Maryland 21046

RE: Homewood Crossing Lot 85
Valley View Overlook
Well Tag: HO - 95 - 1985

To Whom It May Concern:

A sample was collected during a yield test on October 28, 2010 and submitted to the Department of Health & Mental Hygiene Laboratories to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this **long term** screening revealed a **Gross Alpha** of **11.8 ± 2.8 picocuries/liter (pCi/L),** while the **Gross Beta** level was **14.8 ± 2.4 pCi/L.** The **Long Term Gross Alpha** result was below its **maximum contaminant level (MCL)** of **15 pCi/L,** while the **Long Term 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 analysis was performed in lieu of the more standard short term analysis to ensure compliance with established time constraints.

At the time of testing and with respect to these parameters, it's unclear if the future well water supply is safe for all uses. Though both levels were technically below relevant standards, prior experience has shown that long term values in this range (particularly **Long Term Gross Beta**) have frequently resulted in a **combined Radium 226 / 228** above **5 pCi/L** (the MCL for this value). As a result, additional testing **for these parameters** will be required to secure the future Use & Occupancy. If raw water testing is done, **Gross Alpha, Gross Beta** (both short and long term), plus **Radium 226 / 228** will be necessary to determine if treatment will be required. Alternatively, treatment can be installed (i.e., a softener or R/O system) and post-treatment **Radium 226 / 228** submitted to verify that the installed treatment is properly functioning. Please note that other standard testing parameters (bacteria, nitrate, turbidity and sand) will also still be required to help secure Use & Occupancy.

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

Sincerely,

Bert Nixon, Director
Bureau of Environmental Health

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

E000689 829

Send Report To:
Bert Nixon
7178 Columbia Gateway Dr
Columbia, MD 21046

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

LABORATORY ANALYSIS REQUEST

Sample Bottle No. A: H095/985 **No. B:** _____ **Field Blank Bottle No. 1:** _____ **No B:** _____

Plant/Site Name: Homewood Crossing - Lot 85 **County:** Howard

Sample Source: well - Valley View Overlook **Location:** H0 - 95 - 1985
(well no, lab sink, sample tap, etc.)

County: 1 3 **Plant No.** ☐☐☐☐☐☐☐☐☐

CHECK (one per box)

Drinking Water	☐	Community	☐	Source (raw water)	☐	Emergency	☐
Landfill	☐	Non-community	☐	Distribution (treated)	☐	Routine	☐
Stream	☐	Private	☐	MCL	☐	Recheck	☐
Other	☐	Other	☐			Special	☐

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

Date Collected: 10/28/10 **Time Collected:** 11:30 a.m. _____ p.m.

Nitric Acid Preserved: Yes ☐ No ☐ **Iced:** Yes ☐ No ☐

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

Remarks: Sample collected @ Yield. / Could not make short term analysis. Testing to be done for Long Term

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Analyzed	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				
✓	Gross Alpha Long Term			11.8 ± 2.8	11/29/10	12/1/10
✓	Gross Beta Long Term			14.8 ± 2.4	"	"

Date Received: 10/29/10

Supervisor: MSC

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

FORM REVISED 10/07
DHMH 4540 10/07

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Howard County Health Department

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7178 Gateway Drive Columbia, MD 21046
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Peter L. Beilenson, M.D., M.P.H., Health Officer

January 18, 2011

Toll Brothers-Maryland Division
7164 Columbia Gateway Drive
Suite 250
Columbia, Maryland 21046

RE: Homewood Crossing Lot 85
Valley View Overlook
Well Tag: HO - 95 - 1985

To Whom It May Concern:

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At the time of testing and with respect to these parameters, it's unclear if the future well water supply is safe for all uses. Though both levels were technically below relevant standards, prior experience has shown that long term values in this range (particularly **Long Term Gross Beta**) have frequently resulted in a **combined Radium 226 / 228** above **5 pCi/L** (the MCL for this value). As a result, additional testing **for these parameters** will be required to secure the future Use & Occupancy. If raw water testing is done, **Gross Alpha, Gross Beta** (both short and long term), plus **Radium 226 / 228** will be necessary to determine if treatment will be required. Alternatively, treatment can be installed (i.e., a softener or R/O system) and post-treatment **Radium 226 / 228** submitted to verify that the installed treatment is properly functioning. Please note that other standard testing parameters (bacteria, nitrate, turbidity and sand) will also still be required to help secure Use & Occupancy.

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

Sincerely,

Bert Nixon

Bert Nixon, Director
Bureau of Environmental Health

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

Send Report To:

E000688 829 0

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

Field Blank

~~Sample Bottle~~ No. A: FB102810 **No. B:** ____ **Field Blank Bottle No. 1:** ____ **No B:** ____

Plant/Site Name: Ho. Co. **County:** Howard

Sample Source: Distilled H2O **Location:** Distilled H2O
(well no, lab sink, sample tap, etc.)

County: [1] [3] **Plant No.** [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

CHECK (one per box)

Drinking Water	☑	Community	☐	Source (raw water)	☐	Emergency	☐
Landfill	☐	Non-community	☐	Distribution (treated)	☐	Routine	☑
Stream	☐	Private	☐	MCL	☑	Recheck	☐
Other	☑	Other	☑			Special	☐

Collector: K. Wolf **Telephone No.:** 410-313-1771

Date Collected: 10/28/10 **Time Collected:** 9:55 a.m. ____ p.m.

Nitric Acid Preserved: Yes ☒ No ☐ (cons) **Iced:** Yes ☐ No ☐

Submitters Code: ☐☐ **Federal Project:** ☐ **Field Data:** ____ pH ____ Chlorine

Remarks: Field Blank preserved to pH < 2.0

✓	Test	EPA Code	Laboratory No.	Results (pCi/L)	Date Analyzed	Date Reported
✓	Gross Alpha	4000	688	< 2.0	11/29/10	12/1/10
✓	Gross Beta	4100	688	< 4.0	"	"
	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: 10/29/10

Supervisor: [signature]

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

FORM REVISED 10/07
DHMH 4540 10/07

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Toll Bros., Inc
VIRGINIA REGIONAL OFFICE
19775 Belmont Executive Plaza, Suite 250
Ashburn, VA 20147-4197
(571) 291-8000

Check No. - 1677111 Check Date - 12/31/10 Stub 1 of 1

INVOICE NO	INVOICE DATE	COMMENT	GROSS	DEDUCTIONS	AMOUNT PAID
2010-011	120810		90.00		90.00

Howard County
Health Department

7178 Columbia Gateway Drive, Columbia MD 21046
(410) 313-2640 Fax (410) 313-2648
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website: www.hchealth.org

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

MEMORANDUM

TO: Fogle's Well Drilling
Theresa
Allen Compton MWD

FROM: Kevin M. Wolf, R.S., R.E.H.S. (KMW)
Well and Septic Program
Groundwater Management Section

RE: *Homewood Crossing Lots 81-88 Well Permit Applications*
Special Condition→ **Radium Testing Needed**

DATE: September 7th, 2010

The following comments apply to the above referenced Well Permit Applications. Please read through and complete as needed.

Homewood Crossing Lots 81-88 are located in the Radium area and require testing. This testing will be done during the yield test of each well on each indicated lot. When calling in yields and grouts on such pre-scheduled days, please make a note that a sanitarian will need to be present during the time of the yield test to sample the water for radium.

If you have any questions on this matter, please feel free to call me at any time at 410-313-2645.

KMW
C.C. Files Lots 81-88