

C 1 08058 SEQUENCE NO. (MDE USE ONLY) **STATE OF MARYLAND WELL COMPLETION REPORT** THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS) FILL IN THIS FORM COMPLETELY PLEASE TYPE COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY 08 06 13 DATE WELL COMPLETED MM DD YY 8 07 2013 Depth of Well 22 310' 26 8/12/2013 PERMIT NO. FROM "PERMIT TO DRILL WELL" HO 95-2566
 8 13 15 20 (TO NEAREST FOOT) O.K. (PR) 28 29 30 31 32 33 34 35 36 37

OWNER Hall Kathryn & George
 WELL SITE ADDRESS Hall Shop Rd TOWN Clarksville Md 21029
 SUBDIVISION _____ SECTION _____ LOT _____

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		check if water bearing
	FROM	TO	
Clay	0	12	
Micas sand	12	204	✓
Micas gravel	204	290	✓
Mica Rock	290	320	✓
Water	80'	290'	
Back filled 200' well			
200 - 40 Drilling material			
40 - 0 cement			

GROUTING RECORD yes no
 WELL HAS BEEN GROUTED Y N
 (Circle Appropriate Box) 44 44

TYPE OF GROUTING MATERIAL (Circle one)
 CEMENT CM BENTONITE CLAY BC

NO. OF BAGS 25 NO. OF POUNDS 2,250
 GALLONS OF WATER 150
 DEPTH OF GROUT SEAL (to nearest foot)
 from 0 ft. to 100 ft.
 (enter 0 if from surface)

CASING RECORD

casing types insert appropriate code below

<input checked="" type="checkbox"/> ST STEEL	<input type="checkbox"/> CO CONCRETE
<input type="checkbox"/> PL PLASTIC	<input type="checkbox"/> OT OTHER

MAIN CASING TYPE ST Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 208
 60 61 63 64 66 70

OTHER CASING (if used)

E A C H C A S I N G	diameter inch	depth (feet)	
		from	to
<u>PL</u>	<u>10"</u>	<u>0</u>	<u>33</u>
<u>PL</u>	<u>4"</u>	<u>20</u>	<u>320</u>

SCREEN RECORD

screen type or open hole insert appropriate code below

<input checked="" type="checkbox"/> ST STEEL	<input type="checkbox"/> BR BRASS	<input type="checkbox"/> HO OPEN HOLE
<input type="checkbox"/> PL PLASTIC	<input type="checkbox"/> PL BRONZE	<input type="checkbox"/> OT OTHER

NUMBER OF UNSUCCESSFUL WELLS: 1

WELL HYDROFRACTURED Y 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 28.04.04 "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. M 5 D 0 2 4
 DRILLERS SIGNATURE [Signature]
 (MUST MATCH SIGNATURE ON APPLICATION)
 LIC. NO. M 5 D 0 2 7
 [Signature]

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

C 2 DEPTH (nearest ft.)

E A C H S C R E E N	DEPTH (nearest ft.)	
	1	2
<u>HO</u>	<u>206</u>	<u>320</u>
8 9 11 15 17 21		
23 24 26 30 32 36		
38 39 41 45 47 51		
SLOT SIZE 1 _____ 2 _____ 3 _____		
DIAMETER OF SCREEN _____ (NEAREST INCH)		
56 60		
from _____ to _____		

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

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
 T _____ (E.R.O.S.) W Q _____
 70 _____ 72 _____ 74 75 76 _____
 TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3 PUMPING TEST

HOURS PUMPED (nearest hour) 6
 8 9

PUMPING RATE (gal. per min.) 3
 11 15

METHOD USED TO MEASURE PUMPING RATE Bucket

WATER LEVEL (distance from land surface)
 BEFORE PUMPING 10 ft.
 17 20
 WHEN PUMPING 210 ft.
 22 25

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 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. 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)
 49 50 51

LATITUDE 39.17835
 LONGITUDE 76.93503
 (DEFAULT COORD. WGS 84)

NOTES:
Dry well
Latitude 39.17809
Longitude 76.93521

B 1 12112

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO-95-2566

fill in this form completely

545089 please type

Date Received (APA) 070813

OWNER INFORMATION

Hall, Kathryn + George
Hall Shop Rd
Clarksville Md

B 3

LOCATION OF WELL

Howard
Clarksville

DRILLER INFORMATION

Joseph L Mayne M SD 034
Joseph L Mayne Well Drilling
5512 Ridge Rd Mt. Airy 21771

B 4

SOURCES OF DRILLING WATER

1. well

Hall Shop Rd
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
DISTANCE FROM ROAD 30 FT
TAX MAP: 41 BLK: 1 PARCEL 133

B 2 WELL INFORMATION

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

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
INDUSTRIAL, COMMERCIAL, DEWATERING
PUBLIC WATER SUPPLY WELL
TEST, OBSERVATION, MONITORING
OPEN LOOP GEOTHERMAL
CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard
COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S
DATE ISSUED 07 10 13
CO-SIGNATURE EXP. DATE 7/10/14

APPROXIMATE DEPTH OF WELL 300 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN
AIR-ROTARY AIR-PERCussion ROTARY (Hydraulic Rotary)
CABLE REVERSE-ROTARY DRIVE-POINT
other

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

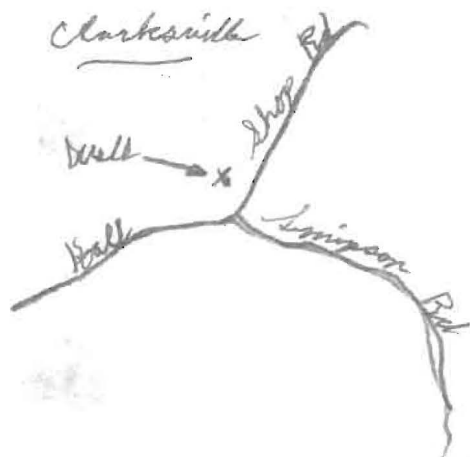
- THIS WELL WILL NOT REPLACE AN EXISTING WELL
THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
THIS WELL WILL DEEPEMED AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41

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

APPROP. PERMIT NUMBER G
PERMIT No. HO-95-2566

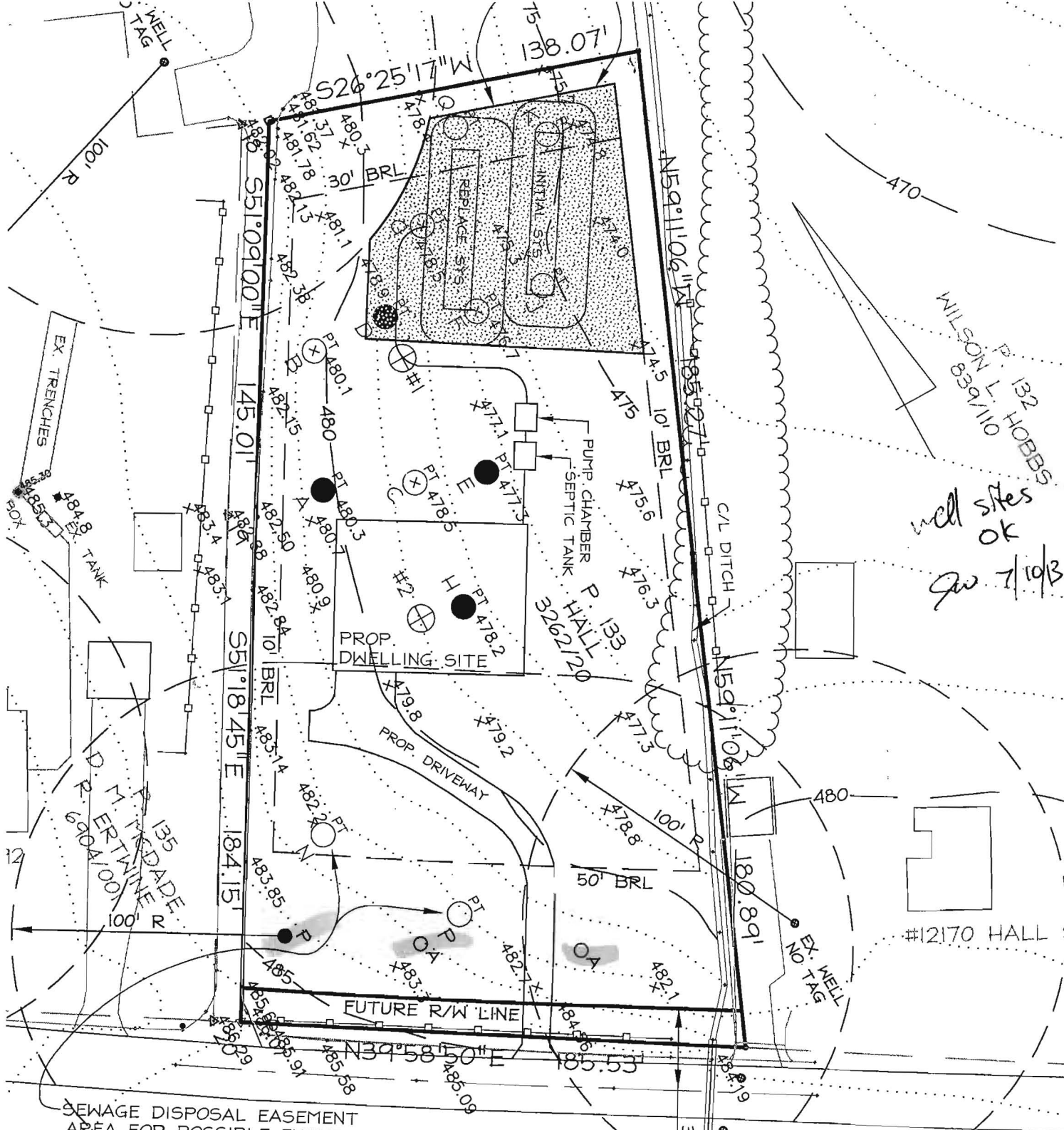
PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

Radium Sample required at yield test



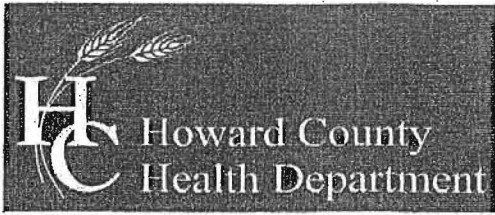
well sites OK
 JW 7/10/13

SEWAGE DISPOSAL EASEMENT
 AREA FOR POSSIBLE FUTURE
 SAND MOUND LOCATION
 UPON FAILURE OF SYSTEMS AT
 REAR OF PROPERTY.
 USE OF THIS SYSTEM WILL
 REQUIRE RELOCATION OF WELL
 TO A SUITABLE LOCATION
 APPROVED BY HOWARD COUNTY
 HEALTH DEPARTMENT

HALL SHOP ROAD
 (EX. VARIABLE WIDTH PUBLIC R/W)
 (MAJOR COLLECTOR ROAD)

F:\09-200-02-2\dwg\09-200-02-2 EXHIBIT- WELL PERMIT.dwg, PERC APP, 7/9/2013 10:28:39 AM, 1:1

LDE Inc. Engineers ♦ Surveyors ♦ Planners Historic Carriage House ♦ 7520 Main Street ♦ Suite 203 ♦ Sykesville, Maryland ♦ 21784 (410)795-6391 ♦ (410)795-6392 ♦ FAX(410)795-9540 ♦ www.Landsurveyormd.com		
DESIGNED	EXHIBIT TO ACCOMPANY APPLICATION FOR WELL PERMIT A#530987 PROPERTY OF GEORGE E. & KATHRYN A. HALL TAX MAP 41 GRID 1 PARCEL 133 5th ELECTION DISTRICT HOWARD COUNTY, MD	SCALE
BDB		1" = 50'
DRAWN		DRAWING
LDE		1 OF 1
CHECKED		JOB NO.
BDB	09-200.02.2	
DATE	OWNER:	CONTRACT PURCHASER:
7/2013	George E. & Kathryn A. Hall 387 Yorkshire Lane Riva, MD 21140 410-269-5588	The Rainmaker Group DEVELOPMENT, INC. 6755 Business Parkway, #123 Elkridge, MD 21075 410-379-1005 1525
		FILE NO.



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

TO ALL INTERESTED PARTIES

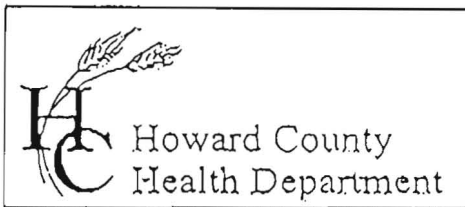
When submitting a well permit application for a proposed well for new construction, please indicate one of the following:

Well Site Location:
Subdivision/Property Name Lot# Road Name
GEORGE HALL PROPERTY HALL SHOP ROAD

- The well site has been staked by LDE, INC.
(professional land surveyor or company employing professional land surveyors)
on 7/9/13 (date) and does not require a site inspection.
- The well driller, builder or property owner will call the Health Department to schedule a time to meet in the field to verify the proposed well site location.

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

Revised 3/11/05



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:

		<u>Hall Shop Rd</u>
Subdivision/Property Name	Lot#	Road Name

The well site has been staked by LDE, INC
 (professional land surveyor or company employing professional land surveyors)
 on 7/10/13 (date) and does not require a site inspection.

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

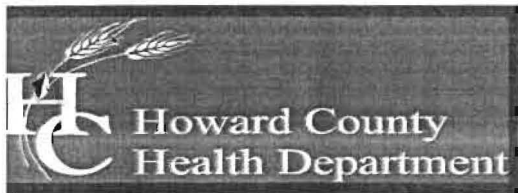
This sheet, along with two copies of an acceptable well site plan, must be attached to the green well permit application.

Revised 3/11/05

George Hall

Call Scott Arterburn

C. 443-829-9222



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Maura Rossman, M.D., Health Officer

July 30, 2014

Rainmaker Development
Attn: Mr. Scott Arterburn
6755 Business Parkway, Suite 101
Elkridge, Maryland 21705

RE: 12180 Hall Shop Road
Clarksville, Maryland 21029
HO - 95 - 2566

Dear Mr. Arterburn:

A short-term sample was collected on June 26, 2014 and submitted to the Department of Health & Mental Hygiene Laboratories to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this screening (sample collected from the pressure tank) revealed a **Gross Alpha** of 2.2 ± 1.4 picocuries/liter (pCi/L), while the **Gross Beta** level was 4.1 ± 1.9 pCi/L. The **Gross Alpha** result was below its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L (roughly equivalent to the **annual dose rate** of 4 millirems/year).

At the time of testing and with respect to these parameters, your well water supply is within applicable EPA regulatory standards. Given these findings, your well water supply **will not** require additional testing for these parameters. However, additional testing to satisfy standard potability requirements (bacteria, nitrate, turbidity and sand) **will** be needed to achieve Use and Occupancy.

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

Sincerely,

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

Bert Nixon, Director

Bureau of Environmental Health

Enclosure
cc: Property file

SEND REPORT TO: Bert Nixon
Howard Co. Env. Health
8930 Stanford Blvd.
Columbia, MD 21045

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St., Baltimore, MD 21201
 Robert A. Myers, Ph.D., Director

Lab No.
 2888 327

RADIATION ANALYSIS REQUEST FORM

Plant/Site Name: Rainmaker Development County: Howard
 Sample Source: 12180 Hall Shop Road Location: HO-95-2566
 (Well no., lab sink, sample tap, etc.)
 Radon-222 Bottle A 12180 Hall Shop Rd. Radon-222 Field Blank Bottle A Radium Blank
 Bottle B _____ Bottle B FBKW62614

County 113 Plant No. _____

CHECK (one per Box)

Type	Service	Point of Collection	Testing
Drinking Water <input checked="" type="checkbox"/>	Community <input type="checkbox"/>	Source (Raw) <input checked="" type="checkbox"/>	Emergency <input type="checkbox"/>
Landfill <input type="checkbox"/>	Non-Community <input type="checkbox"/>	Distribution (treated) <input type="checkbox"/>	Routine <input checked="" type="checkbox"/>
Stream <input type="checkbox"/>	Private <input checked="" type="checkbox"/>	MCL <input type="checkbox"/>	Recheck <input type="checkbox"/>
Other <input type="checkbox"/>	Other <input type="checkbox"/>		Special <input type="checkbox"/>

Submitters Code: _____ Federal Project: _____

Collector: B. Baker Telephone No.: (410) 313-2643

Date Collected: 6/26/2014 Time Collected: _____ a.m. 1:30 p.m.

Field pH: _____ Field Chlorine: _____

Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample Collected From Pressure Tank Tap

✓	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/>	Gross Alpha	4000	2888	EPA 900.0	2.2 ± 1.4	7/1/14	MA	7/2/14
<input checked="" type="checkbox"/>	Gross Beta	4100	2888	"	4.1 ± 1.9			
<input type="checkbox"/>	Radium-226	4020						
<input type="checkbox"/>	Radium-228	4030						
<input type="checkbox"/>	Total Uranium	4006						
<input type="checkbox"/>	Radon-222 (Bottle A)	4004						
<input type="checkbox"/>	Radon-222 (Bottle B)	4004						
<input type="checkbox"/>	Radon Field Blank A	4004						
<input type="checkbox"/>	Radon Field Blank B	4004						
<input type="checkbox"/>	Tritium							
<input type="checkbox"/>								

Date Received: 06/27/14 Received By: C. Whitty-Boyd

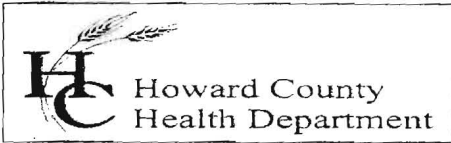
Data Release Signature: Deborah Miller - JWR Date: 7/3/14

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>		
Sample pH <2.0?	<input checked="" type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>		

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

orig sent 7/24/14

Invoice



Bureau of Environmental Health
 Attn: Bert Nixon, Director

DATE: JULY 24, 2014
 DATE OF SERVICE: JUNE 26, 2014
 INVOICE #: 2014-012

8930 Stanford Boulevard, Columbia, MD 21045
 Phone 410-313-2640 Fax 410-313-2648
 www.hchealth.org

BILL TO Rainmaker Development Inc.
 6755 Business Parkway, Suite 101
 Elkridge, Maryland 21075

COMMENTS Payment due upon receipt. Letter and results will be released upon receipt of payment.

DATE	DESCRIPTION	BALANCE	AMOUNT
06/26/14	Gross alpha/beta testing performed for 12180 Hall Shop Road HO - 95 - 2566		\$45.00
			AMOUNT DUE
			\$45.00

Please detach and return with payment.

REMITTANCE	
Invoice #	2014-012
Site Information	12180 Hall Shop Road
Amount Due	\$45.00

Make Checks Payable to: **Director of Finance** Mail Payments to: **Bureau of Env. Health**

Payment 7/29/14
 # 54562

Baker, Brian

From: Baker, Brian
Sent: Wednesday, September 11, 2013 1:06 PM
To: 'sarterburn@therainmakergroup.com'
Subject: FW: Radium Testing

Scott,

Wanted to give you an update on the radium testing. The lab did do a long term test on the water sample and it was below the cutoff limit for treatment. This is a good sign. However, we still need the short term test done. The results from this test are more conclusive. Call me at 410-313-2643 or 410-313-1773, (This program does most of the water testing and gets the results), when you are ready for us to get the water sample. Do not call 410-313-1771.

Brian

From: Baker, Brian
Sent: Wednesday, August 21, 2013 12:55 PM
To: sarterburn@therainmakergroup.com
Subject: Radium Testing

Scott,

Please inform us as soon as it is possible to take another radium sample (Well pump is working). Sorry the last one didn't go through. Since the well casing is so deep it would also be a good idea for us to get a turbidity sample. Hopefully the casing has sealed off any caving. I don't recall ever seeing a well with such deep casing. It's not a good area to drill wells in. Anyway, chances are the radium results will be O.K. Only about one out of four wells need treatment. Call (410)313-1771 to schedule the sampling that is our secretary's number. Alternatively you can reach me at (410)313-2643 but I am out of the office most of the time.

Thanks,

Brian

CONFIDENTIALITY NOTICE

This message and the accompanying documents are intended only for the use of the individual or entity to which they are addressed and may contain information that is privileged, confidential, or exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, you are hereby notified that you are strictly prohibited from reading, disseminating, distributing, or copying this communication. If you have received this email in error, please notify the sender immediately and destroy the original transmission.

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: _____ Lot #: _____ Well Tag #: HO 95-2566
 Site Address: 12180 Hall Shop Road

Submersible Pump Data

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

Pitless Adapter

Make: _____
 Model#: _____
 Depth: _____ (36" min)
 NSF/WSC 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, 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

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

House Connection

PVC sleeve to undisturbed soil at wall penetration: _____
 Length of sleeve (5' minimum from foundation): _____
 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: _____ Date Insp. Approved: 5/27/2014 Inspector: (BB)

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

SEND REPORT TO: Bert Nixon DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Howard Co. Env. Health
7178 Columbia Gateway Dr. 201 W. Preston St., Baltimore, MD 21201
Columbia, MD 21046 Robert A. Myers, Ph.D., Director

Lab No.
 E000369 2132

RADIATION ANALYSIS REQUEST FORM

Plant/Site Name: _____ County: Howard
 Sample Source: Hall Shop Road Location: HO-95-2566
(Well no., lab sink, sample tap, etc.)
 Radon-222 Bottle A 952566BB Radon-222 Field Blank Bottle A 2566
 Bottle B _____ Bottle B _____
 County 13 Plant No. _____

CHECK (one per Box)

<p>Type</p> <p>Drinking Water <input checked="" type="checkbox"/></p> <p>Landfill <input type="checkbox"/></p> <p>Stream <input type="checkbox"/></p> <p>Other <input type="checkbox"/></p>	<p>Service</p> <p>Community <input type="checkbox"/></p> <p>Non-Community <input type="checkbox"/></p> <p>Private <input checked="" type="checkbox"/></p> <p>Other <input type="checkbox"/></p>	<p>Point of Collection</p> <p>Source (Raw) <input checked="" type="checkbox"/></p> <p>Distribution (treated) <input type="checkbox"/></p> <p>MCL <input type="checkbox"/></p>	<p>Testing</p> <p>Emergency <input type="checkbox"/></p> <p>Routine <input checked="" type="checkbox"/></p> <p>Recheck <input type="checkbox"/></p> <p>Special <input type="checkbox"/></p>
--	--	--	--

Submitters Code: _____ Federal Project: _____
 Collector: B. Baker Telephone No.: (410) 313-2643
 Date Collected: 8/1/2013 Time Collected: _____ a.m. 2:00 p.m.
 Field pH: _____ Field Chlorine: _____
 Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample Collected During Yield Test

TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/> Gross Alpha	4000	<u>0369</u>	<u>EPA 9000</u>	<u>< 2.0</u>	<u>08/15/13</u>	<u>C. Watty-Boyd</u>	<u>08/19/13</u>
<input checked="" type="checkbox"/> Gross Beta	4100	<u>0369</u>	<u>4</u>	<u>< 4.0</u>			
<input type="checkbox"/> Radium-226	4020						
<input type="checkbox"/> Radium-228	4030						
<input type="checkbox"/> Total Uranium	4006						
<input type="checkbox"/> Radon-222 (Bottle A)	4004						
<input type="checkbox"/> Radon-222 (Bottle B)	4004						
<input type="checkbox"/> Radon Field Blank A	4004						
<input type="checkbox"/> Radon Field Blank B	4004						
<input type="checkbox"/> Tritium							

Long Term - Need Short Term

Date Received: 08/13/13 Received By: C. Watty-Boyd
 Data Release Signature: Deborah Miller - JWR Date: 8/23/13

Sample intact upon arrival?	<input checked="" type="checkbox"/>
Sample pH < 2.0?	<input checked="" type="checkbox"/>
Received within holding time?	<input checked="" type="checkbox"/>

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

**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: Fogles Well Drilling LLC Telephone #: 410 795 5670
Address: P.O. Box 202
Woodbine, MD

(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 C. Fogle License# MSD 2226

*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: Rainmaker Contracting Telephone #: 443-829-9222
Subdivision: _____ Lot #: _____ Well Tag #: HO-95-2506
Site Address: 12160 Hall Shop Rd
Clarksville, MD 21029

Submersible Pump Data

Make: Goulds
Model #: 75B07422C
Pump Capacity: 7 GPM
Well Yield: 3 GPM

Pitless Adapter

Make: Campbell
Model #: NA
Depth: 36" (36" min)
NSF/WSC approved: _____

Well Cap and Electric Conduit

Two piece watertight cap: YES
Screened, vented well cap: YES
Cap secured to casing: YES
Conduit min 1 1/2" B.G.: YES

Depth of well encountered at time of pump installation: 320' (feet) Conduit secured to well cap: YES

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

Torque anestors, 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" PEX pipe
PSI: 160 (160 psi min)
Depth of supply line: 36" (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.

Signature of company representative responsible for installation: David Fogle date: 5/22/14

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

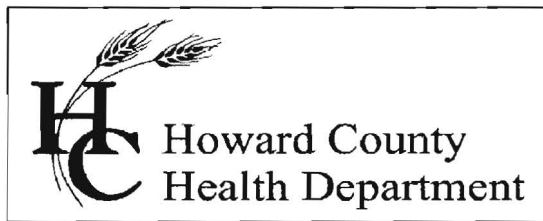
Date Insp. Requested: _____ Date Insp. Approved: _____ Inspector: _____
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade _____
Two piece cap installed and attached to casing securely _____
Elec. conduit extends at least 1 1/2" below grade/attached to cap properly _____
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 _____

Please detach and return with payment.

REMITTANCE	
<i>Invoice #</i>	2014-012
<i>Site Information</i>	12180 Hall Shop Road
<i>Amount Due</i>	\$45.00

Make Checks Payable to: **Director of Finance** Mail Payments to: **Bureau of Env. Health**

* Mr. Arterburn picked
up report on 7/30/14



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21046-2147

Main: 410-313-1771 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Twitter: HowardCoHealthDep

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

INTERIM CERTIFICATE OF POTABILITY

Expiration Date – April 16, 2015

October 16, 2014

Homeowner
12180 Hall Shop Road
Clarksville, MD 21029

**RE: Subdivision, Lot#
12180 Hall Shop Road
Building Permit: B13003811
Well Permit: HO-95-2566**

Dear Homeowner:

This is to advise you that the septic system installation and water well construction for the above referenced property have been inspected and approved. Final approval of the septic system was granted on **7/24/2014**. Final approval of the well line connection to the dwelling was granted on **5/27/2014**. The well construction was completed on **8/1/2013**. Water samples were collected on **6/26/2014, 8/14/2014, 9/8/2014 and 10/13/2014**.

The water sample results indicate that the water samples submitted for testing were free of coliform and fecal coliform bacteria at the time of sampling and are bacteriologically safe for drinking.

Gross Alpha and Beta samples were also collected on **6/26/2014**. Results showed a Gross Alpha level of **2.2 ± 1.4 pCi/L** and **Gross Beta** level of **4.1 ± 1.9 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). At the time 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-95-2566. 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,

Hank Oswald

Hank Oswald, L.E.H.S.
Environmental Sanitarian
Well & Septic Program

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



HOWARD COUNTY HEALTH DEPARTMENT

54562

DATE 7/29/14

Received From

Rainmaker Contracting

PHONE #

Water Report

For

12180 Hall Shop Road - Alpha Beta

CASH

CHECK

NO.

1803

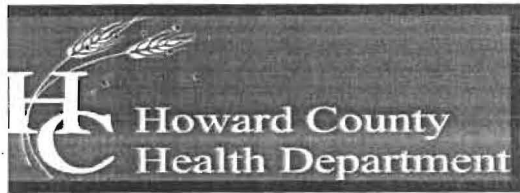
Dollars

\$

45 | 00

Received By

Marian Curry



Bureau of Environmental Health

8930 Stanford Boulevard, Columbia, MD 21045

Main: 410-313-2640 | Fax: 410-313-2648

TDD 410-313-2323 | Toll Free 1-866-313-6300

www.hchealth.org

Facebook: www.facebook.com/hocohealth

Maura Rossman, M.D., Health Officer

July 30, 2014

Rainmaker Development
Attn: Mr. Scott Arterburn
6755 Business Parkway, Suite 101
Elkridge, Maryland 21705

RE: 12180 Hall Shop Road
Clarksville, Maryland 21029
HO - 95 - 2566

Dear Mr. Arterburn:

A short-term sample was collected on June 26, 2014 and submitted to the Department of Health & Mental Hygiene Laboratories to assess the possible presence of **Gross Alpha** and **Gross Beta** in the future well water supply. **Gross Alpha** and **Gross Beta** measure the total alpha and beta particle activity in a water supply. These naturally occurring radioactive nuclides have been demonstrated to be present in a certain type of geologic formation known as the Baltimore Gneiss which exists in your area of development within the County.

Results from this screening (sample collected from the pressure tank) revealed a **Gross Alpha** of 2.2 ± 1.4 picocuries/liter (pCi/L), while the **Gross Beta** level was 4.1 ± 1.9 pCi/L. The **Gross Alpha** result was below its **maximum contaminant level (MCL)** of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L (roughly equivalent to the **annual dose rate** of 4 millirems/year).

At the time of testing and with respect to these parameters, your well water supply is within applicable EPA regulatory standards. Given these findings, your well water supply **will not** require additional testing for these parameters. However, additional testing to satisfy standard potability requirements (bacteria, nitrate, turbidity and sand) **will** be needed to achieve Use and Occupancy.

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

Sincerely,

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

Bert Nixon, Director

Bureau of Environmental Health

Enclosure
cc: Property file

SEND REPORT TO: Bert Nixon
Howard Co. Env. Health
8930 Stanford Blvd.
Columbia, MD 21045

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St., Baltimore, MD 21201
 Robert A. Myers, Ph.D., Director

Lab No.
ERK2008 #27

RADIATION ANALYSIS REQUEST FORM

Plant/Site Name: Rainmaker Development County: Howard
 Sample Source: 12180 Hall Shop Road Location: HO-95-2566
 (Well no., lab sink, sample tap, etc.)
 Radon-222 Bottle A 12180 Hall Shop Rd. Radon-222 Field Blank Bottle A Radium Blank
 Bottle B _____ Bottle B ERKW62.614

County 13 Plant No. _____

CHECK (one per Box)

Type
 Drinking Water
 Landfill
 Stream
 Other

Service
 Community
 Non-Community
 Private
 Other

Point of Collection
 Source (Raw)
 Distribution (treated)
 MCL

Testing
 Emergency
 Routine
 Recheck
 Special

Submitters Code: _____ Federal Project: _____
 Collector: B. Baker Telephone No.: (410) 313-2643
 Date Collected: 6/26/2014 Time Collected: _____ a.m. 1:30 p.m.
 Field pH: _____ Field Chlorine: _____
 Nitric Acid Preserved: Yes No Iced: Yes No

Remarks: Sample Collected From Pressure Tank Tap

<input checked="" type="checkbox"/>	TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/>	Gross Alpha	4000	<u>2888</u>	<u>EPA 900.0</u>	<u>2,231.4</u>	<u>7/1/14</u>	<u>MA</u>	<u>7/2/14</u>
<input checked="" type="checkbox"/>	Gross Beta	4100	<u>2888</u>	<u>"</u>	<u>4,121.9</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>
<input type="checkbox"/>	Radium-226	4020						
<input type="checkbox"/>	Radium-228	4030						
<input type="checkbox"/>	Total Uranium	4006						
<input type="checkbox"/>	Radon-222 (Bottle A)	4004						
<input type="checkbox"/>	Radon-222 (Bottle B)	4004						
<input type="checkbox"/>	Radon Field Blank A	4004						
<input type="checkbox"/>	Radon Field Blank B	4004						
<input type="checkbox"/>	Tritium							
<input type="checkbox"/>								

Date Received: 06/27/14 Received By: C. Watty Boyd
 Data Release Signature: Richard Miller - JMC Date: 7/3/14

Lab Use Only	Yes	No	N/A
Sample Intact upon arrival?	<input checked="" type="checkbox"/>		
Sample pH < 2.0?	<input checked="" type="checkbox"/>		
Received within holding time?	<input checked="" type="checkbox"/>		

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

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 #: 96929 Account #: 1930
Reference: Fogle's Well Drilling Company: Fogle's Well Drilling
Location: 12180 Hall Shop Road Requested By: Dave Fogle
Clarksville, MD 21029 Source: Well Water
Date/ Time Collected: 10/13/2014 1037 Site: Kitchen Sink Tap
Date/Time Rec'd: 10/13/2014 1340 Treatment: None
Chlorine ppm: Free: ND Total: ND pH: 6.9
Collected By: J. Fogle 1974JF Well #: HO-95-2566

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
✓ Turbidity	3.06	NTU	<10	SM18 2130B	10/14/2014 / 0850 / JKW
Iron	0.23	mg/L	0.3	FR, 45 (126)	10/14/2014 / 1300 / CRS

NOTES

- 1 mg/L = milligrams per liter (also, parts per million)
- 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 pH and Chlorine level tested in lab
- 6 Sample collected by client, analyzed as received

Reason for Test : Use & Occupancy**Building Permit # :** B13003811Date Reported: 10/14/2014

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 #: 96080 Account #: 1930
Reference: Rainmaker Contracting Company: Fogle's Well Drilling
Location: 12180 Hall Shop Road Requested By: Dave Fogle
Clarksville, MD 21029 Source: Well Water
Date/ Time Collected: 9/8/2014 1115 Site: Kitchen Sink Tap
Date/Time Rec'd: 9/8/2014 1500 Treatment: None
Chlorine ppm: Free: ND Total: ND pH: 7.1
Collected By: J. Fogle 1974JF Well #: HO-95-2566

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
✓ Turbidity	13.1	NTU	<10	SM18 2130B	9/9/2014 / 1420 / BCD
✓ Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	9/10/2014 / 1015 / CCH
✓ Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	9/10/2014 / 1015 / CCH
Iron	1.21	mg/L	0.3	FR, 45 (126)	9/9/2014 / 1330 / CRS

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 NTU = Nephelometric Turbidity Units
- 4 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 5 ND:None Detected
- 6 pH and Chlorine level tested in lab
- 7 Sample collected by client, analyzed as received

Reason for Test : Use & Occupancy

Building Permit # : B13003811

Date Reported: 9/10/2014

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 #: 95644 Account #: 1930
Reference: Rainmaker Contracting Company: Fogle's Well Drilling
Location: 12180 Hall Shop Road Requested By: Dave Fogle
Clarksville, MD 21029 Source: Well Water
Date/ Time Collected: 8/14/2014 1302 Site: Kitchen Sink Tap
Date/Time Rec'd: 8/14/2014 1430 Treatment: None
Chlorine ppm: Free: ND Total: ND pH: 7.1
Collected By: J. Fogle 1974JF Well #: HO-95-2566

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
✗ Bacteria, Coliform, Total, MPN	73.8	MPN/ 100 ml	<1.0	SM18 9223	8/15/2014 / 1000 / CCH
✓ Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM18 9223	8/15/2014 / 1000 / CCH
✓ Nitrate	<1.0	mg/L	10	601	8/15/2014 / 1140 / CM/CS
✗ Turbidity	13.9	NTU	<10	SM18 2130B	8/15/2014 / 1040 / CRS
✓ Sand	NS	mg/L	5	Visual/Gravimetric	8/15/2014 / 1025 / CRS

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 pH and Chlorine level tested in lab
- 8 Sample collected by client, analyzed as received

Reason for Test : Use & Occupancy

Building Permit # : B13003811

Date Reported: 8/15/2014