

C 1 26560 SEQUENCE NO. (MDE USE ONLY)

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

ST/CO USE ONLY
 DATE RECEIVED
 MM DD YY
 06 01 14

DATE WELL COMPLETED
 MM DD YY
 07 10 14

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 520 385
A 520 448

PERMIT NO. FROM "PERMIT TO DRILL WELL"
140 - 14 - 0031

OWNER BASSLER VENTURE LLC

WELL SITE ADDRESS last name CAPA LPA CH first name _____ TOWN CLARKSVILLE

SUBDIVISION Walnut Creek SECTION PHASE III LOT 95

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	
Top Soil	0	2	
Sandy	2	50	✓
Sand Stone	50	55	
MICKA	55	100	
Sand Stone	100	105	✓
MICKA	105	180	
Sand Stone	180	185	✓
MICKA	185	265	

GROUTING RECORD yes no

WELL HAS BEEN GROUTED (Circle Appropriate Box)
 44 44

TYPE OF GROUTING MATERIAL (Circle one)
 CEMENT BENTONITE CLAY

CEMENT BENTONITE CLAY

NO. OF BAGS 15 NO. OF POUNDS 1500

GALLONS OF WATER 90

DEPTH OF GROUT SEAL (to nearest foot)
 from 0 ft. to 65 ft.
 (enter 0 if from surface)
 48 TOP 52 54 BOTTOM 58 ft.

CASING RECORD

casing types insert appropriate code below

ST STEEL CO CONCRETE
 PL PLASTIC OT OTHER

MAIN CASING TYPE PL Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 68

60 61 63 64 66 70

OTHER CASING (if used)

diameter inch _____ depth (feet) from _____ to _____

E A C H C A S I N G

SCREEN RECORD

screen type or open hole insert appropriate code below

ST STEEL BR BRASS HO OPEN HOLE
 PL PLASTIC OT OTHER

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes no

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. M SD 117

DRILLERS SIGNATURE _____

LIC. NO. D

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

C 2 DEPTH (nearest ft.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
E	8	9	11	15	17	21															
A																					
C																					
H	23	24	26	30	32	36															
S																					
C																					
R	38	39	41	45	47	51															
E																					
E																					
N																					

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) 3

PUMPING RATE (gal. per min.) 7.5

METHOD USED TO MEASURE PUMPING RATE Bucket

WATER LEVEL (distance from land surface)

BEFORE PUMPING 44 ft.
 17 20

WHEN PUMPING 95 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 (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 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 } 3 (nearest foot)

LATITUDE 39.23952
 LONGITUDE 76.95347
 (DEFAULT COORD. WGS 84)

NOTES:

B 1 26827

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO -14 -0031

fill in this form completely

Date Received (APA)

05/16/14

OWNER INFORMATION

Bassler Venture LLC PO Box 482 Lisbon MD 21085

B 3

LOCATION OF WELL

Howard COUNTY Walnut Creek Phase III SECTION 95 LOT 95 CLARKSVILLE NEAREST TOWN

DRILLER INFORMATION

Ralph Mayne MSD 119 Driller's Name License No. 81 Ralph Mayne Well Drilling Firm Name 17024 Handy Rd. Mt. Airy MD 21071 Address 26 E Hwy 5/15/14 Signature Date

B 4

SOURCES OF DRILLING WATER

1. well

CATALPA CT. STREET ADDRESS

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



DISTANCE FROM ROAD ENTER FT OR MI

TAX MAP: 28 BLK: 11 PARCEL 49

B 2

WELL INFORMATION

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

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION (circled) 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 A520385 COUNTY NO. 13 STATE SIGNATURE DATE ISSUED 06/11/2014 CO SIGNATURE EXP. DATE 6/11/15

APPROXIMATE DEPTH OF WELL 150 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST INCH

METHOD OF DRILLING (circle one)

- BORED (or Augered) AIR-ROTary (circled) AIR-PERCussion ROTARY (Hydraulic Rotary) JETTED Drive-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

- THIS WELL WILL NOT REPLACE AN EXISTING WELL (circled) 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)

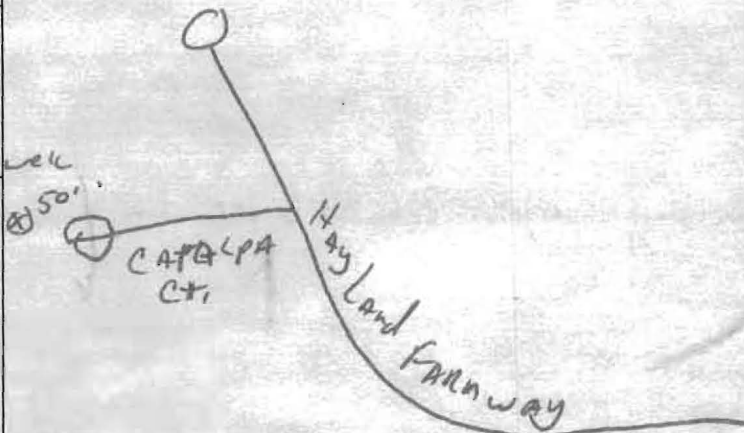
Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROX. PERMIT NUMBER HO 2006 G020 PERMIT No. HO -14 -0031

SPECIAL CONDITIONS All wells must be at least 100 feet apart, maintain 100 feet or greater

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

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



**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: Mitchell & Best Telephone #: _____
Subdivision: WALNUT CREEK Lot #: 95 Well Tag #: HO-14-0031
Site Address: 5319 CATALPA CT
ELICOTT CITY

Submersible Pump Data

Make: GRUND 705
Model #: _____
Pump Capacity _____ GPM
Well Yield: 7 GPM

Pitless Adapter

Make: Campbell
Model#: PA 800
Depth: 48 (36" min)
NSF approved: YES

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: 265 (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 N/A

Piping to house

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

House Connection

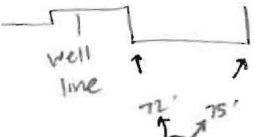
PVC sleeved to undisturbed soil at wall penetration: YES
Approximate length of sleeve: 5'
Sleeve caulked and sealed properly: YES

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 12-8-16

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

Date Insp. Requested: 12/8/16 Date Insp. Approved: 12/19/16 SC
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



I:\2004\04001\dwg\PHASE THREE FINALS\04001 Phase Three WELL MAPS Lots 87-89, Lots 95-97, Lots 101-104 & Lots 107-114.dwg, 5/1/2014 5:35:26 PM, \ISR\VIDS Generic

BUILDABLE BULK PARCEL 'U'

Well site OK
2/22 6/11/14
100' R

LOT 95

LOT 96

WELL LOCATION INFORMATION:

NORTHING = 572,731.36 EASTING = 1,325,515.63
LATITUDE = N39°14'21" LONGITUDE = W76°57'12"

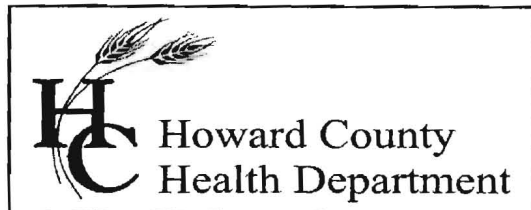
**LOT 95 WELL MAP
WALNUT CREEK
PHASE THREE**

Lots 69 - 114, Non-Buildable Preservation Parcels
'O' Thru 'R' & 'V', Non-Buildable Parcel 'S', Buildable Preservation
Parcel 'T' and Buildable Bulk Parcel 'U'

ZONED: RC-DEO & RR-DEO

TAX MAP No. 28 GRID Nos. 4, 5, 10-12, 17, AND 18
FIFTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: MAY 1, 2014 SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PKE.
BELLGATE CITY, MARYLAND 21042
(410) 461 - 2295



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21046-2147

Main: 410-313-1774 | 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 – August 6, 2017

February 6, 2017

Homeowner
5319 Catalapa Court
Ellicott City, MD 21042

**RE: Walnut Creek, Lot 95
5319 Catalapa Court
Building Permit: B16003106
Well Permit: HO-14-0031**

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 **12/15/2016**. Final approval of the well line connection to the dwelling was granted on **12/19/2016**. The well construction was completed on **7/10/2014**. Water samples were collected on **01/19/2017**.

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 **3/3/2015 & 4/7/2015**. Results showed a Gross Alpha level of **1.6 ± 1.0 pCi/L** and **Gross Beta** level of **5.6 ± 1.4 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). 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-14-0031. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

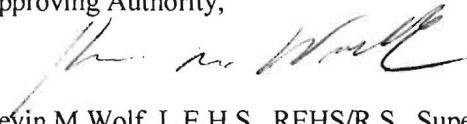
This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will 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>

In closing, please refer to our "Homeowner Fact Sheet" for understanding your Best Available Technology (BAT) for your onsite sewage disposal. You will also find a link to Maryland Department of the Environments website which elaborates in further detail operation and maintenance of your BAT.

Approving Authority,



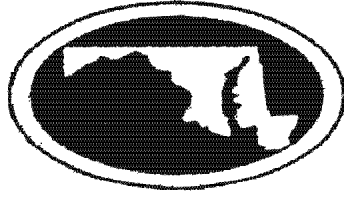
Kevin M Wolf, L.E.H.S., REHS/R.S., Supervisor
Groundwater Management Section
Well & Septic Program

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

Environmental Testing Lab Inc.

108 Old Solomons Island Rd
Annapolis, MD 21401

State Certified Water Quality
Laboratory # 106



3430 Rockefeller Ct
Waldorf, MD 20602

State Certified Water Quality
Laboratory # 139

Certificate of Analysis

Well Water Solutions, Inc.
5163 Darting Bird Lane
Columbia, MD 20144

Project Lot 95
Date Received 1/19/2017
Date Reported 1/23/2017

This report is the sole property of Well Water Solutions, Inc.. Any questions about the report MUST be directed to Well Water Solutions, Inc. at (410) 935-7185.

Environmental Testing Lab is not at liberty to discuss this report without written consent from Well Water Solutions, Inc..

Sample No: 146071-01	Sampled: 1/19/2017 10:00:0	Sampler: JWalker9006JW (Exp. 8/6/2018)
Location: 5319 Catalpa Court Ellicott City, MD 21042	Sample ID: Lot 95	Preservation: Ice
		Sample Point: Bathroom

Parameter	Method	Result	Qualifiers	Units	RL	Test Date	Analyst
Bacteria-Total Coliform	Colitag Test	Absent/Pass		Per/100ml		01/19/2017	LC-106
Bacteria-E.coli	Colitag Test	Absent/Pass		Per/100ml		01/19/2017	LC-106
Nitrate + Nitrite as N	EPA 353.2	1.4		mg/l	1	01/23/2017	DB-139
Turbidity	EPA 180.1	Not Detected		NTU	0.5	01/23/2017	RM-139

Field Test(s) for chlorine are reported on the attached COC form. "NT" means Not Tested.

Approved By

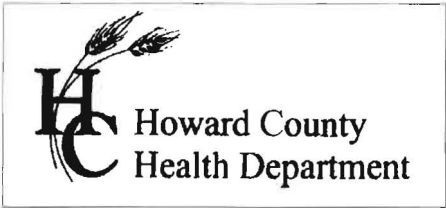
Daniel J. Brumsted, Laboratory Director

Annapolis

Ph 410-224-4304 Fax 443-926-0586

Waldorf

Ph 410-224-4304 Fax 443-926-0586



7178 Columbia Gateway Dr., 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. Bielensohn, M.D., M.P.H., Health Officer

TO ALL INTERESTED PARTIES

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

Well Site Location:

Walnut Creek Phase 3	95	Catalpa Ct.
Subdivision/Property Name	Lot #	Road Name

The well site has been staked by Fisher, Collins and Carter, Inc.,
 (professional land surveyor or company employing professional land surveyors)
 on 05/07/14 (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 3/11/07



146071

ENVIRONMENTAL TESTING LAB, INC - CHAIN OF
ANNAPOLIS
410-224-4304 FAX 443-926-0586

Client: Well Water Solutions, Inc.
Project: Lot 95
Date Due: 1/24/2017

Company Name, Address Phone & Fax

Testing Address

Well Water Solutions
5163 Darting bird Lane
Columbia, MD 21044

Lot-95 5319 Catalpa Court
STREET
Ellicott City, MD 21042
CITY STATE ZIP

Send Report By: Fax Postal Service Email jemoseman@wellwatersolutions.net/
jbieber@wellwatersolutions.net

THIS FORM WILL BE ATTACHED AS A PERMANENT PART OF YOUR FINAL REPORT

FIELD COLLECTION INFORMATION

Collected: Date 1/19/17 Time 10:00 Well Tag #: HO-14-0031

Collectors Name: Janet Walker Certification # 9006JW Expires 08/7/18

Collectors Signature: [Signature] Circle One: PRIVATE WELL or CITY WATER

pH: 6 Chlorine, Total mg/L: 0 Results for U & O Permit? YES ~~NO~~ Sample Clear when drawn? YES ~~NO~~

Sand present? YES ~~NO~~ If "YES" submit one liter of sample to lab for testing

Sample Tap Bacteria: Bathroom sink Chemicals: Bathroom sink Lead: NT

Bacteriological Test Next Day 11:30 Next Day 3:30 2 Day

FULL Chemical Analysis Next Day 3:30 2 Day 3 Day
(Iron, Nitrite, Nitrite/Nitrate, Nitrate, Turbidity, Lead)

BASIC Chemical Analysis Next Day 3:30 2 Day 3 Day wellset
(Iron, Nitrite, Nitrite/Nitrate, Nitrate, Turbidity)

Lead Arsenic Next Day 3:30 2 Day 3 Day

Cadmium 2 Day 4 Day 6 Day

Radium Gross Alpha One Week 2 Week

Special Instructions: wellset first test - NO treatment

Released By: [Signature] Date: 1/19/17 Time: 1:10 Received By: [Signature]

Released By: [Signature] Date: Time: Received By:

(*) TAT: is by Close of Business; Samples for chemical analysis received at 1:30 or later cannot be guaranteed "Next Day" results.
TAT's are a good faith estimate and are not guaranteed. ALL SAMPLES FOR BACTERIOLOGICAL TESTING MUST BE
DELIVERED BY 2:30 pm ON FRIDAY'S & HOLIDAY'S.

LABORATORY SAMPLE RECEIPT INFORMATION

Samples Delivered on ICE: YES NO N/A Add Qualifiers: Non-Certified Holding Time Sample Volume Frozen

Received in LAB By: [Signature] Date: 1/19/17 Time: 1:10pm

SEND REPORT TO:

Bert Nixon

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Laboratories Administration

201 W. Preston St., Baltimore, MD 21201

Robert A. Myers, Ph.D., Director

Lab No.

0000117-113

Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, Maryland 21045

RADIATION ANALYSIS REQUEST FORM

Plant/Site Name: Walnut Creek Phase III - Lot 95

County: Howard

Sample Source: Well "Catalpa Ct." (HC-0031)

Location: HO-14-0031

(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A _____

Radon-222 Field Blank

Bottle A _____

Bottle B _____

Bottle B _____

County 13

Plant No. _____

CHECK (one per Box)

Type
Drinking Water <input checked="" type="checkbox"/>
Landfill <input type="checkbox"/>
Stream <input type="checkbox"/>
Other <input type="checkbox"/>

Service
Community <input type="checkbox"/>
Non-Community <input type="checkbox"/>
Private <input checked="" type="checkbox"/>
Other <input type="checkbox"/>

Point of Collection
Source (Raw) <input checked="" type="checkbox"/>
Distribution (treated) <input type="checkbox"/>
MCL <input type="checkbox"/>

Testing
Emergency <input type="checkbox"/>
Routine <input checked="" type="checkbox"/>
Recheck <input type="checkbox"/>
Special <input type="checkbox"/>

Submitters Code: _____

Federal Project: S

Collector: R. Ruppert

Telephone No.: 410-313-1781

Date Collected: 7/10/14

Time Collected: 11 a.m. _____ p.m.

Field pH: _____

Field Chlorine: _____

Nitric Acid Preserved: Yes No

Iced: Yes No

Remarks: Sample taken 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	0117	EPA 900.0	16.9 ± 2.6	7/14/14	CWB	7/21/14
<input checked="" type="checkbox"/> Gross Beta	4100	0117		4.7 ± 2.0			
<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 checked="" type="checkbox"/> Gross Alpha - Conf		0117	EPA 900.0	19.0 ± 1.2	7/17/14	CWB	7/21/14
<input checked="" type="checkbox"/> Gross Beta - Conf		0117		7.9 ± 1.1			

Date Received: 07/11/14 Received By: C. W. Boyd

Data Release Signature: Deborah Miller - JMR Date: 7/21/14

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

CUSTOMER COPY I

SEND REPORT TO:

Bert Nixon

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Laboratories Administration

201 W. Preston St., Baltimore, MD 21201

Robert A. Myers, Ph.D., Director

Lab No.

0000115 #115

Howard County Health Department
Bureau of Environmental Health
8930 Stanford Blvd.
Columbia, Maryland 21045

RADIATION ANALYSIS REQUEST FORM

Plant/Site Name: Howard County Health Dept

County: Howard

Sample Source: 40000 (Field Blank)

Location: Lab

(Well no., lab sink, sample tap, etc.)

Radon-222 Bottle A _____

Radon-222 Field Blank

Bottle A _____

Bottle B _____

Bottle B _____

County 13

Plant No. [] [] [] [] [] [] [] [] [] []

CHECK (one per Box)

Type	
Drinking Water	<input checked="" type="checkbox"/>
Landfill	<input type="checkbox"/>
Stream	<input type="checkbox"/>
Other	<input type="checkbox"/>

Service	
Community	<input type="checkbox"/>
Non-Community	<input type="checkbox"/>
Private	<input checked="" type="checkbox"/>
Other	<input type="checkbox"/>

Point of Collection	
Source (Raw)	<input checked="" type="checkbox"/>
Distribution (treated)	<input type="checkbox"/>
MCL	<input type="checkbox"/>

Testing	
Emergency	<input type="checkbox"/>
Routine	<input checked="" type="checkbox"/>
Recheck	<input type="checkbox"/>
Special	<input type="checkbox"/>

Submitters Code: [] []

Federal Project: S

Collector: R Rappaport

Telephone No.: 410-313-1781

Date Collected: 7/10/14

Time Collected: _____ a.m. 3 p.m.

Field pH: _____

Field Chlorine: _____

Nitric Acid Preserved: Yes No

Iced: Yes No

Remarks: Sample taken in hb w/ distilled water

TEST	EPA Code	Lab No.	Method No.	Results (pCi/L)	Date Analyzed	Analyst	Date Reported
<input checked="" type="checkbox"/> Gross Alpha	4000	0115	EPA 9400	<2.0	7/10/14	CMB	7/21/14
<input checked="" type="checkbox"/> Gross Beta	4100	0115		<4.0			
<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: 07/11/14

Received By: C. Waddy - Bay

Data Release Signature: Richard Miller - JWR

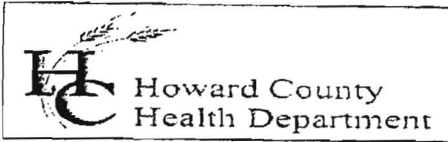
Date: 7/21/14

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

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

ORIG MAILED 8/6/14

Invoice



Bureau of Environmental Health
 Attn: Bert Nixon, Director

DATE: AUGUST 6, 2014
 DATES OF SERVICE: JULY 10 & 21, 2014
 INVOICE #: 2014-015

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

BILL TO Heritage Reality and Land Development
 Attn: Tim Feaga
 15950 North Ave P.O. Box 482
 Lisbon, MD 21765

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

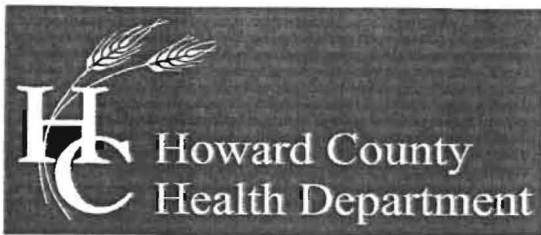
DATE	DESCRIPTION	BALANCE	AMOUNT
07/21/14	Gross alpha/beta testing performed for Walnut Creek, Lots # 77, 78, and 87 HO - 95 - 2668 HO - 95 - 2669 HO - 14 - 0028		\$135.00
07/10/14	Gross alpha/beta testing performed for Walnut Creek Lots # 79, 89, and 95 HO - 95 - 2670 HO - 14 - 0030 HO - 14 - 0031		\$135.00
			AMOUNT DUE
			\$270.00

Please detach and return with payment.

REMITTANCE	
Invoice #	2014-015
Site Information	Walnut Creek Lots 77, 78, 79, 87, 89, & 95
Amount Due	\$270.00

Receipt 54603
8/27/14

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



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., Acting Health Officer

TO: Maury Gogolski
Development Engineering Division
Department of Planning & Zoning

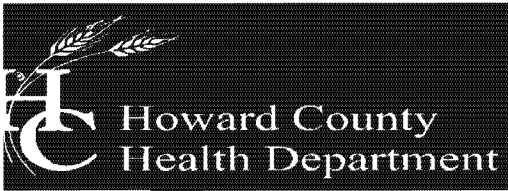
FROM: Michael J. Davis *mjd*
Assistant Director

RE: W&S Contract Number: **50-476-D**
Development Name: Walnut Creek, Phase III

DATE: October 15, 2012

The Health Department has no objection to the red-lined revision. Please note that part of the well box for lot 95 is less than 100 feet from the cemetery. A note has been added to the lot file to require the well to be staked in the area of the well box that is 100 feet or greater from the cemetery.

lots
69-114
Phase III



Bureau of Environmental Health

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Maura Rossman, M.D., Health Officer

April 28, 2015

Land Marketing Consultants, Inc.
Attn. Tim Feaga
15950 North Avenue, P.O. Box 482
Lisbon, Maryland 21765

RE: Walnut Creek Lot 95
Catalpa Court
Well Tag: HO - 14 - 0031

Dear Mr. Feaga:

Follow-up sampling was collected at the well head on March 3rd and April 7th, 2015 and submitted to NTS Laboratory to verify/confirm the presence of **Gross Alpha**, **Gross Beta**, **Radium 226/228** and **Uranium** in the future well 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 and in some instances, detected during earlier sampling of this future supply.

Results from this follow-up short-term screening (sample collected April 7, 2015) revealed a **Gross Alpha** of 1.6 ± 1.0 picocuries/liter (pCi/L), while the **Gross Beta** level was 5.6 ± 1.4 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).

Long-term testing performed on March 3, 2015 revealed a **Gross Alpha** of 1.5 ± 1.1 pCi/L, while the **Gross Beta** level was 7.0 ± 1.6 pCi/L. Here the **Gross Alpha** result was below its MCL of 15 pCi/L, while the **Gross Beta** level was below its targeted value of 50 pCi/L.

Additionally, testing for **Radium 226/228** and **Uranium** was also performed on March 3, 2015. This testing revealed a **Radium 226** level of 0.7 ± 0.1 pCi/L; while the **Radium 228** level was $< 0.7 \pm 0.5$ pCi/L. These naturally occurring isotopes of radium are considered the most important due to their longer half-lives and health significance. Here the **combined Radium 226 / 228** was below the **MCL** of 5 pCi/L. With respect to **Uranium**, the finding of $< 0.6 \pm 0.5$ pCi/L was well below the **MCL** of 30 µg/L (approx. 20 pCi/L).

At the time of testing and with respect to these parameters, the future well water supply **currently** meets EPA regulatory standards. Additional testing **for these parameters** will not be required to secure the future Use & Occupancy. Please also note that other standard testing parameters (bacteria, nitrate, turbidity and sand) will still be required to help secure Use & Occupancy.

A copy of each 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 black ink that reads 'Bert Nixon'.

Bert Nixon, Director

Bureau of Environmental Health

Enclosures
cc: Property file



Maryland State Certified Laboratory #318

NTS - BALTIMORE
Formerly Trace Laboratories, Inc.
5 North Park Drive
Hunt Valley, MD 21030 USA
Telephone: 410/584-9099 / Fax: 410/584-9117
www.nts.com

LETTER OF RESULTS

Requester:

Land Marketing Consultants, Inc.
P.O. Box 482
Lisbon, Maryland 21765

S/O Number: 98951-3A

Report Date: April 13, 2015

Listed below are results of drinking water analyses on a sample collected by client and delivered to National Technical Systems (NTS) for analysis:

Date/Time Collected in Field: April 7, 2015 8:00 am
Date/Time Received in Lab: April 7, 2015 2:15 pm

Information Provided By Client:

Property Location: Walnut Creek Lot 95
Sample Location: Wellhead
Well Tag #: HO-14-0031
Sampler ID #: Ralph Mayne

PARAMETER	METHOD	MCL	RESULT (pCi/L)	COMMENT
Gross Alpha (Short-Term)	EPA 900.0	15 pCi/L	1.6 ± 1.0	Pass
Gross Beta (Short-Term)	EPA 900.0	50 pCi/L	5.6 ± 1.4	Pass

MCL: Maximum Contamination Level, an enforceable level established by the EPA

Note: The primary sources of gross alpha activity in water are Radium-224, Radium-226, and/or Uranium. Gross alpha levels between 5 and 15 pCi/L are considered moderate, and levels greater than 15 pCi/L are considered high. When levels are moderate or high, treatment or further testing is recommended and in certain cases may be required by the health department. Gross beta activity in water may be due to Radium-228 or any combination of beta-emitting elements.

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of NTS.

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

NOTE: NTS is not responsible for the collection or the transportation of the sample
Analyzed by Lab #278

NOTE: LAB 278 - FLORIDA RADIOCHEMISTRY



Maryland State Certified Laboratory #318

NTS - BALTIMORE
Formerly Trace Laboratories, Inc.
5 North Park Drive
Hunt Valley, MD 21030 USA
Telephone: 410/584-9099 / Fax: 410/584-9117
www.nts.com

LETTER OF RESULTS

Requester:

Land Marketing Consultants, Inc.
P.O. Box 482
Lisbon, Maryland 21765

S/O Number: 98951-3

Report Date: March 31, 2015

Listed below are results of drinking water analyses on a sample collected by client and delivered to National Technical Systems (NTS) for analysis:

Date/Time Collected in Field: March 3, 2015 10:00 am
Date/Time Received in Lab: March 4, 2015 10:22 am

Information Provided By Client:

Property Location: Walnut Creek Lot 95
Sample Location: Wellhead
Well Tag #: HO-14-0031
Sampler ID #: Ralph Mayne

Table with 5 columns: PARAMETER, METHOD, MCL, RESULT (pCi/L), COMMENT. Rows include Gross Alpha (Long-Term), Gross Beta (Long-Term), Radium 226, Radium 228, and Uranium.

MCL: Maximum Contamination Level, an enforceable level established by the EPA

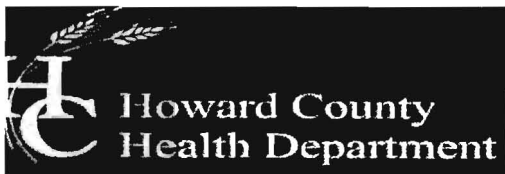
[*] According to EPA's Implementation Guidance for Radionuclides, 1 µg/L uranium is equal to 0.67 pCi/L.

Note: The primary sources of gross alpha activity in water are Radium-224, Radium-226, and/or Uranium. Gross alpha levels between 5 and 15 pCi/L are considered moderate, and levels greater than 15 pCi/L are considered high. When levels are moderate or high, treatment or further testing is recommended and in certain cases may be required by the health department. Gross beta activity in water may be due to Radium-228 or any combination of beta-emitting elements.

The results in this report relate only to those items tested. If any additional information or clarification of this report is required, please contact us. This test report shall not be reproduced except in full without the written approval of NTS.

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

NOTE: NTS is not responsible for the collection or the transportation of the sample
Analyzed by Lab #278



Bureau of Environmental Health

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

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Facebook: www.facebook.com/hocohealth

Maura Rossman, M.D., Health Officer

September 8, 2014

Bassler Venture LLC
Attn. Tim Feaga
15950 North Avenue, P.O. Box 482
Lisbon, Maryland 21765

RE: Walnut Creek Phase III Lot 95
Catalpa Court
Well Tag: HO - 14 - 0031

Dear Mr. Feaga:

A sample was collected during a yield test on July 10, 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 revealed a **Gross Alpha** of 16.9 ± 2.6 picocuries/liter (pCi/L), while the **Gross Beta** level was 4.7 ± 2.9 pCi/L. The **Gross Alpha** result was above 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, the future well water supply **does not meet** EPA regulatory standards. Given elevated reading for **Gross Alpha**, additional testing for **these parameters** will be required to secure the future Use & Occupancy. The installation of a water softener system and / or a reverse osmosis system may be necessary. If treatment is installed, **pre and post short and long term Gross Alpha and Beta, plus a post Radium 226 / 228** will be needed to properly evaluate the effectiveness of the installed treatment(s). Alternatively, you may collect raw water samples for **short and long term Gross Alpha and Beta, plus Radium 226 / 228** to see if all values are below existing standards. Given that it typically takes up to one month to perform and receive back the **Radium** analyses, plan accordingly. **Please note** that other standard testing parameters (bacteria, nitrate, turbidity and sand) will 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.

Sincerely,

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

Bert Nixon, Director

Bureau of Environmental Health

Enclosure
cc: Property file

Williams, Jeffrey

5319 Catalpa Lot 95

From: Williams, Jeffrey
Sent: Friday, May 16, 2014 12:16 PM
To: Tim Feaga
Subject: Walnut Creek Radium testing
Attachments: Walnut Creek radium.pdf, Walnut Creek radium_2.pdf

Hi Tim. I met with Bert regarding possible easement of radium testing at all lots in Walnut Creek. I've attached a map showing the additional lots that we would like to still be tested to ensure that there is not an area of concern in the remaining lots. The lots in the green cloud have been tested and passed. The lots in the red cloud are lots that we would like to be tested. The lots at the top corner (82-86, 90-94) fall within the radium testing boundary. We want the lots near the river tested to prove whether the stream is in fact acting as a natural buffer from the positive tests on the other side and the passing lots above them. Furthermore, we'd like some representative lots tested in the other section near the upper testing boundary to prove that there are no hot spots. If these are also passing, then we would likely be comfortable waiving the remaining.

We'd be happy to meet with you to discuss if you prefer. Thanks.

Jeff Williams
Program Supervisor, Well & Septic Program
Bureau of Environmental Health
Howard County Health Dept.
410-313-4261
jewilliams@howardcountymd.gov

WALNUT CREEK

