

- REVISED -

C1 42055

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

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

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

FILL IN THIS FORM COMPLETELY PLEASE TYPE

COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY 03 10 13

DATE WELL COMPLETED MM DD YY 05 31 16

Depth of Well 22 600 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-14-0112

OWNER LAND DESIGN + Development WELL SITE ADDRESS last name first name TRIADELPHIA MILL RD TOWN HighLand SUBDIVISION JACKS LANDING SECTION LOT 4

WELL LOG Not required for driven wells

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

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), check if water bearing. Handwritten entries: Med Gray Rock 300-600, Deepered Existing Well From 300 to 600 Feet.

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes Y no N

- 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...

DRILLERS LIC. NO. M W D 355

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. A W D 920

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

GROUTING RECORD yes no

WELL HAS BEEN GROUTED (Circle Appropriate Box) Y N

TYPE OF GROUTING MATERIAL (Circle one)

CEMENT CM BENTONITE CLAY BC

NO. OF BAGS NO. OF POUNDS

GALLONS OF WATER

DEPTH OF GROUT SEAL (to nearest foot) from 48 TOP 52 ft. to 54 BOTTOM 58 ft.

CASING RECORD

Diagram showing casing types: ST (STEEL), CO (CONCRETE), PL (PLASTIC), OT (OTHER)

Table for MAIN CASING TYPE with columns: Nominal diameter top (main) casing (nearest inch), Total depth of main casing (nearest foot)

Table for OTHER CASING (if used) with columns: diameter inch, depth (feet) from to

SCREEN RECORD

Diagram showing screen types: ST (STEEL), BR (BRASS), HO (OPEN HOLE), PL (PLASTIC), OT (OTHER)

C 2 DEPTH (nearest ft.)

Table for C 2 DEPTH with columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100

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

70 72 TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3

PUMPING TEST

HOURS PUMPED (nearest hour) 6

PUMPING RATE (gal. per min.) 1.67

METHOD USED TO MEASURE PUMPING RATE Submersible

WATER LEVEL (distance from land surface)

BEFORE PUMPING 35 ft.

WHEN PUMPING 275 ft.

TYPE OF PUMP USED (for test)

- A air, P piston, T turbine, C centrifugal, R rotary, O other, 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) 31 35

PUMP HORSE POWER 37 41

PUMP COLUMN LENGTH (nearest ft.) 43 47

CASING HEIGHT (circle appropriate box and enter casing height)

LAND SURFACE 1 (nearest foot)

LATITUDE 39.21663 LONGITUDE 76.07617 (DEFAULT COORD. WGS 84)

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info. may result in this form not being processed.

- REVISED -

C1 42055

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)

COUNTY NUMBER

DATE RECEIVED 03/20/16

DATE WELL COMPLETED 05/31/16

DEPTH OF WELL 600 (TO NEAREST FOOT)

PERMIT NO. HO-14-0112

OWNER LAND DESIGN + Development, WELL SITE ADDRESS TRIADELPHIA MILL RD, TOWN Highland, SUBDIVISION JACKS LANDING, SECTION, LOT 4

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes handwritten notes: 'Med GRAY ROCK 300-600', 'Deepered Existing Well From 300 to 600 Feet'.

GROUTING RECORD form: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (CM), NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL.

CASING RECORD form: casing types insert appropriate code below (ST, CO, PL, OT).

MAIN CASING TYPE form: Nominal diameter top (main) casing, Total depth of main casing.

OTHER CASING (if used) form: diameter inch, depth (feet) from to.

SCREEN RECORD form: screen type or open hole (ST, BR, HO, PL, OT).

WELL HYDROFRACTURED (Y), NUMBER OF UNSUCCESSFUL WELLS: 0.

CIRCLE APPROPRIATE LETTER (A, E, P) for well status.

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04...

DRILLERS LIC. NO. MWD355, DRILLERS SIGNATURE.

LIC. NO. 1 AWD920, SITE SUPERVISOR (sign. of driller or journeyman).

DEPTH (nearest ft.) table with rows A-C3 and columns 1-3. Includes DIAMETER OF SCREEN (56, 60).

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

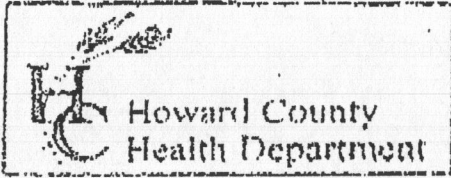
MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q, TELESCOPE CASING, LOG INDICATOR, OTHER DATA.

PUMPING TEST form: HOURS PUMPED (6), PUMPING RATE (1.67), METHOD USED TO MEASURE PUMPING RATE (Submersible), WATER LEVEL (35), WHEN PUMPING (275), TYPE OF PUMP USED (S submersible).

PUMP INSTALLED form: DRILLER INSTALLED PUMP (YES), TYPE OF PUMP INSTALLED PLACE (29), CAPACITY: GALLONS PER MINUTE (31), PUMP HORSE POWER (37), PUMP COLUMN LENGTH (43), CASING HEIGHT (+ above, - below).

LATITUDE 39.21663, LONGITUDE 76.07617 (DEFAULT COORD. WGS 84)

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04.



3525 H Ellicott Mills Drive, Ellicott City, MD 21043  
 (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

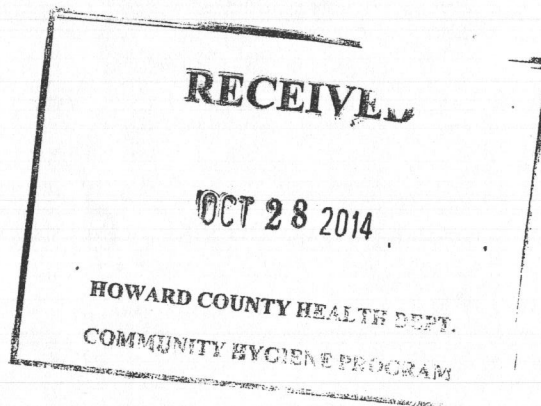
**TO ALL INTERESTED PARTIES**

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

- JACKS LANDING lots 1-8 + Parcel A
- The well site has been staked by Robert Vogel Engineering,  
 (professional land surveyor or company employing professional land surveyors)  
 on 10/29/2014 (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 6/10/03





Send Report To: Bert Nixon  
Howard County Health Department  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, Maryland 21045

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

ICE SLURRY  
1.0°C  
COT  
3/24/15  
CK

Lab No. Date Received

Do not write above this line

### LABORATORY ANALYSIS REQUEST

Bottle No: SCH0140112B-1 Plant / Site Name: Jack's Landing - Lot 4 County: Howard  
SCH0140112B-2

Sample Source: Triadelphia Mill Rd. Street Highland Town or City Location: H0-14-0112B  
(well no., lab sink, sample tap, etc.)

Sampler ID:  PWSID:  Plant ID:

Collector: S. Collins 410-313-6287  
(include telephone number)

Date Collected: 3 / 23 / 200 2015 Time Collected: \_\_\_\_\_ a.m. 2:30 p.m.

Field Preserved:  Yes  No Preservative Used:  1:1 HCl+Ascorbic acid  Na<sub>2</sub>SO<sub>4</sub>  6 mg NH<sub>4</sub>Cl

Sample Type:  Drinking Water  Landfill  Source (Raw Water)  Liquid  
 Community  Stream  Distribution (Treated)  Solid  
 Non-Community  Sediment  Water Treatment Plant POE  Other \_\_\_\_\_  
 Private

Specify Program:  SDWA  NPDES  CWA  RCRA  Consumer Products  Other \_\_\_\_\_

Test Requested:  Trihalomethanes  Volatiles  Semi-volatiles  Haloacetic Acids

FIELD DATA: 6.5 0.0 0.0  
pH Free Cl Total Cl

Field Blank Bottle No.: SCH0140112BF-1  
SCH0140112BF-2  
Trip Blank Bottle No.: SCH0140112AT

Remarks: Run full drinking water scan including MTBE


Laboratory Supervisor: \_\_\_\_\_


Date Reported: \_\_\_\_ / \_\_\_\_ / \_\_\_\_

•Phone: (410) 767-4388

•Fax: (410) 225-9318

Form Revised 12/05  
DHMH 4362 (01/07)

  
**E15002967004**  
Received: 03/24/2015 EPA 524.2  
Trace Organics 0140112B-1&2

  
**E15002967005**  
Received: 03/24/2015 EPA 524.2  
Trace Organics 0140112BFB







**MICHAEL BARLOW WELL DRILLING & SERVICE, INC.**

522 Underwood Lane  
(410) 838-6910

Bel Air, Maryland 21014  
Fax (410) 838-3582

**WELL YIELD REPORT**

|                      |                           |             |               |
|----------------------|---------------------------|-------------|---------------|
| Date Test Completed: | March 23, 2015            |             |               |
| Well Depth:          | 300                       | feet        |               |
| Customer             | Land Design & Development | Permit #    | HO-14-0112    |
| Road                 | Triadelphia Mill Rd       | Subdivision | Jacks Landing |
| City                 | Highland                  | Section     |               |
| State                | Maryland                  | Lot #       | 4             |

| Time  | Water Level feet | Time to Fill 1-gallon bucket seconds | G.P.M. |
|---|------------------|--------------------------------------|--------|
| 10:30 AM  | 42               | 3                                    | 20.00  |
| 10:45 AM  | 180              | 4                                    | 15.00  |
| 11:00 AM  | 241              | 60                                   | 1.00   |
| 11:15 AM  | 241              | 60                                   | 1.00   |
| 11:30 AM  | 241              | 60                                   | 1.00   |
| 11:45 AM  | 241              | 60                                   | 1.00   |
| 12:00 PM  | 241              | 60                                   | 1.00   |
| 12:15 PM  | 241              | 60                                   | 1.00   |
| 12:30 PM  | 241              | 60                                   | 1.00   |
| 12:45 PM  | 241              | 60                                   | 1.00   |
| 1:00 PM   | 241              | 60                                   | 1.00   |
| 1:15 PM   | 241              | 60                                   | 1.00   |
| 1:30 PM   | 241              | 60                                   | 1.00   |
| 1:45 PM   | 241              | 60                                   | 1.00   |
| 2:00 PM   | 241              | 60                                   | 1.00   |
| 2:15 PM   | 241              | 60                                   | 1.00   |
| 2:30 PM   | 241              | 60                                   | 1.00   |
| 2:45 PM   | 241              | 60                                   | 1.00   |
| 3:00 PM   | 241              | 60                                   | 1.00   |
| 3:15 PM   | 241              | 60                                   | 1.00   |
| 3:30 PM   | 241              | 60                                   | 1.00   |
| 3:45 PM   | 241              | 60                                   | 1.00   |
| 4:00 PM   | 241              | 60                                   | 1.00   |
| 4:15 PM   | 241              | 60                                   | 1.00   |
| 4:30 PM   | 241              | 60                                   | 1.00   |
| 4:45 PM   | 241              | 60                                   | 1.00   |
| 5:00 PM   | 241              | 60                                   | 1.00   |
| This yield test report is for informational purposes only. Please note the yield may increase or decrease over time and the GPM indicated above is not a guarantee. |                  |                                      |        |

\*\*\*\*\*  
 WATER WELL ABANDONMENT-SEALING REPORT FORM  
 \*\*\*\*\*

SUBMIT COPIES OF COMPLETED FORM TO:

- \* COUNTY ENVIRONMENTAL AGENCY (contact MDE, WMA if address needed)
- \* WELL OWNER
- \* MDE, WATER MANAGEMENT ADMINISTRATION, WELL PROGRAM

OK  
 DW  
 10/13/16

DATE WELL ABANDONED: 9-26-16 (month/day/year)

\* PERMIT NUMBER OF ABANDONED WELL (if any)

HO-15-002B (SC)

\* PERMIT NUMBER OF REPLACEMENT WELL:

HO-14-0112

\* PERSON ABANDONING WELL: Michael Barlow WELL DRILLER'S LICENSE NUMBER: 355

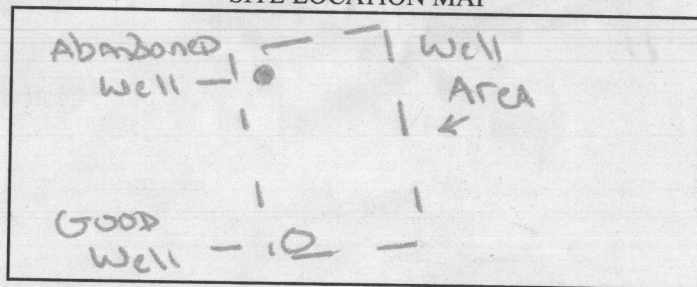
\* OWNER'S NAME: Land Design + Development

CIRCLE: MWD / MSD / MGD

\* WELL LOCATION:

COUNTY: Howard  
 NEAREST TOWN: Highland  
 TAX MAP 34 BLOCK PARCEL 414  
 SUBDIVISION: JACKS LANDING  
 SECTION: LOT: 4  
 STREET ADDRESS: Triadelphia Mill Road

SITE LOCATION MAP



LATITUDE 3 9.21654

LONGITUDE 7 6.07623

LOG OF SEALING MATERIAL

| MATERIAL                | FEET       |          |
|-------------------------|------------|----------|
|                         | FROM       | TO       |
| <u>Cement</u>           | <u>400</u> | <u>0</u> |
| VOLUME OF MATERIAL USED |            |          |
|                         |            |          |

\* TYPE OF WELL BEING ABANDONED:  
 DRILLED                       JETTED  
 BORED                               HAND DUG  
 OTHER (specify) \_\_\_\_\_

\* USE CODE:  
 DOMESTIC                       MUNICIPAL/PUBLIC  
 IRRIGATION                       INDUSTRIAL  
 TEST/OBSERVATION               GEOTHERMAL

\* TYPE OF CASING:  
 STEEL                               PLASTIC  
 CONCRETE                       OTHER (specify) \_\_\_\_\_

SIZE OF CASING: 6 INCHES IN DIAMETER

DEPTH OF WELL: 400 FEET DEEP

WAS ANY CASING REMOVED?  YES  NO  
 If yes, length removed, in feet: \_\_\_\_\_

WAS CASING RIPPED OR PERFORATED?  YES  NO

Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN LICENSE# 355

MWD / MSD / MGS  
 CIRCLE ONE

9/27/16  
 DATE

COUNTY

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

**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 - A - 0112  
 Site Address: \_\_\_\_\_

**Submersible Pump Data**

Make: \_\_\_\_\_  
 Model #: \_\_\_\_\_  
 Pump Capacity \_\_\_\_\_  
 Well Yield: \_\_\_\_\_  
 Depth of well encountered at time of pump installation: \_\_\_\_\_ (feet)

**Pitless Adapter**

Make: \_\_\_\_\_ +  
 Model#: \_\_\_\_\_  
 GPM Depth: \_\_\_\_\_ (36" min)  
 GPM 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: \_\_\_\_\_

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

**Must circle one:** Torque arrestors / Cable guards / Other acceptable method used

**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: 2/27/2019 Date Insp. Approved: 4/26/2019 Inspector: (Signature)  
 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

(Signature)  
41" 2/27/2019 (Signature)  
34" 2/27/2019 (Signature)  
22" 2/27/2019 (Signature)  
(Signature)

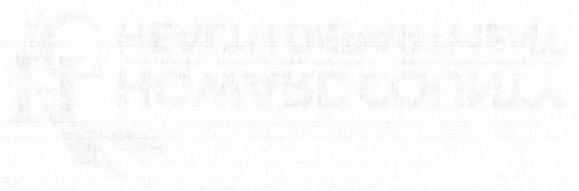
(Revised form 10/24/2018)

2/27/2019  
\* REINSP HOUSE CON. (Signature)  
4/26/2019

1. Introduction  
 2. Background  
 3. Objectives  
 4. Methodology  
 5. Results  
 6. Discussion  
 7. Conclusion  
 8. References

(+) course  
 completed

A. CAPTLE TO  
 EMAIL  
 2/27/09  
 COMPLETED



HEALTH RESEARCH  
 NATIONAL HEALTH AND MEDICAL RESEARCH COUNCIL  
 118 ROYAL SOCIETY BUILDING  
 2002 ANKAPURBA  
 AUSTRALIA

**INTERIM CERTIFICATE OF POTABILITY**

**Expiration Date – NOVEMBER 28, 2019**

May 28, 2019

Amrish Vyaz  
5525 Jacks Landing Way  
Clarksville, MD 21029

**RE: Jacks Landing, Lot 4  
5525 Jacks Landing Way  
Building Permit: B18003388  
Well Permit: HO-14-0112**

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 **4/16/2019**. Final approval of the well line connection to the dwelling was granted on **4/26/2019**. The well construction was completed on **5/31/2016**. Water samples were collected on **4/16/2019, 5/13/2019**.

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. 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-14-0112. Although the submitted sample results are in compliance with COMAR standards, the Health Department does not guarantee water supplies.

This Interim Certificate of Potability will expire **six months** from the date of issuance. Submission of a second bacteriological test indicating the water is free of coliform and fecal coliform bacteria is required prior to the expiration date, after which time a Final Certificate of Potability will be issued. **Failure to submit an additional sample and obtain a Final Certificate of Potability will result in a Notice of Violation and is punishable as a misdemeanor under the Annotated Code of Maryland, Environment Article, 9-1311, subject to a fine of up to \$500 or imprisonment not to exceed three months.**

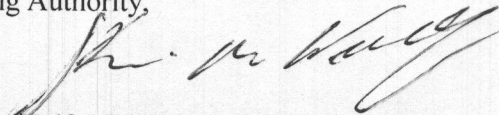
Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:  
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

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

In closing, please refer to our "Homeowner Fact Sheet" which illustrates a better understanding for your Onsite Sewage Disposal System. You will also find a link to Maryland Department of the Environment's website which describes in further detail operation and maintenance of your septic system.

Approving Authority,



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

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

# HOME LAND

L A B S

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

## Certificate of Analysis

Report Date: 5/15/2019

Client: Well Water Solutions

Property Address: Lot 4

5525 Jacks Landing Way

Clarksville, MD 21029

Date & Time Sampled: 5/13/2019 11:00 AM

Date & Time Received: 5/14/2019 10:00 AM

Sampled By: Janet Walker

Sampler ID Number: 9006JW

Sample Location: Collected raw, no treatment,  
from port off pressure tank

Preservation: Cool, 4°C

Chlorine Residual: 0.0

Field pH: 6.0

Well Type: Drilled

Well Height: 18"

Cap Type: Sanitary

Casing: PVC

Conduit: PVC

Well Tag Number: HO-14-0112

Clarity: Clear

Sand: None Observed

Water Conditioning Appears to be: None/All  
samples collected raw

| Primary Contaminants |         |        |           |           |         |     |         |                  |
|----------------------|---------|--------|-----------|-----------|---------|-----|---------|------------------|
| Parameter            | Method  | Result | Pass/Fail | Units     | MCL     | RL  | Analyst | Date of Analysis |
| Total Coliform       | Colitag | Absent | Pass      | Per/100mL | Present | 1.0 | MAK-353 | 5/15/2019        |
| <i>E. Coli</i>       | Colitag | Absent | Pass      | Per/100mL | Present | 1.0 | MAK-353 | 5/15/2019        |

Note: This report is confidential and is for the sole use of the addressee.

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

# HOME LAND LABS

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

## Certificate of Analysis

Report Date: 4/25/2019

Client: Well Water Solutions  
 Property Address: 5525 Jacks Landing Way  
 Lot 4  
 Clarksville, MD 21029  
 Date & Time Sampled: 4/23/2019 4:45PM  
 Date & Time Received: 4/24/2019 9:50AM  
 Sampled By: Janet Walker  
 Sampler ID Number: 9006JW  
 Sample Location: All water treatment in use at  
 time of sample; Samples collected from  
 kitchen sink after water treatment  
 Preservation: Cool, 4°C

Chlorine Residual: 0.0  
 Field pH: 7.2  
 Well Type: Not noted  
 Well Height: Not noted  
 Cap Type: Not noted  
 Casing: Not noted  
 Conduit: Not noted  
 Well Tag Number: HO-94-0112  
 Clarity: Clear  
 Sand: None Observed  
 Water Conditioning Appears to be: Chemical  
 Feeder, House Reverse Osmosis System, Water  
 Softener, Acid Neutralizer, UV Light, Sediment  
 Filter

| Primary Contaminants   |           |        |                     |           |         |     |         |                  |
|------------------------|-----------|--------|---------------------|-----------|---------|-----|---------|------------------|
| Parameter              | Method    | Result | Pass/Fail           | Units     | MCL     | RL  | Analyst | Date of Analysis |
| Total Coliform         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| <i>E. Coli</i>         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| Nitrate+Nitrite        | EPA 353.2 | 1.2    | Pass                | mg/L      | 10.0    | 0.5 | MAK-353 | 4/24/2019        |
| Secondary Contaminants |           |        |                     |           |         |     |         |                  |
| Parameter              | Method    | Result | Acceptable/<br>High | Units     | SMCL    | RL  | Analyst | Date of Analysis |
| Turbidity              | EPA 180.1 | 1.14   | Acceptable          | NTU       | 10.0    | 0.5 | AND-353 | 4/25/2019        |

Note: This report is confidential and is for the sole use of the addressee.

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Wednesday, May 08, 2019 11:08 AM  
**To:** 'Janet Bieber'; Wolf, Kevin  
**Cc:** 'Jemoseman@wellwatersolutions.net'; 'Michael Hohrein'; amrishvyas@gmail.com  
**Subject:** RE: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

I left a voicemail for John and I had a discussion with the homeowner and builder yesterday about this issue. Please be aware that COMAR 26.04.04.24 describes the well chlorination procedures and 26.04.04.30 describes the procedures for issuance of a COP. We need a passing bacteria test from an untreated source. Not having an acceptable place to grab that sample is not a reason to issue a deviation. You can take the test from the pressure tank or you can see if Liberty Pure installed a sampling port that bypasses all of the treatment, or you can install one pre-treatment to grab a sample.

If the test is still positive for bacteria, refer to 26.04.04.24 for the next step in the process to "super chlorinate" the well:

If the well remains unresponsive after repeating the standard disinfection procedure per this section, a volume of water chlorinated to a concentration of 100 mg/l and at least two times the volume of chlorinated, standing water in the well, but not less than 50 gallons, shall be introduced into the well in order to completely displace the volume of chlorinated, standing water and force it out into the water bearing formation.

Also, you need to revise the chain of custody forms for all previous water samples as they reference the wrong well tag number. We will need updated copies of the COCs and the test result sheet from the lab with the correct well tag on them. In the future, make sure that your samplers are inspecting the well upper terminal during the sampling and indicating that on the CoC form. That is blank on the previous CoC forms and it is certainly relevant information if we are trying to clear up failing bacteria tests. Thanks

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

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---

**From:** Williams, Jeffrey  
**Sent:** Tuesday, May 07, 2019 1:37 PM  
**To:** 'Janet Bieber' <jbieber@wellwatersolutions.net>; Wolf, Kevin <KWolf@howardcountymd.gov>  
**Cc:** Jemoseman@wellwatersolutions.net; Michael Hohrein <mHohrein@carusohomes.com>  
**Subject:** RE: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Hello. I am open to allowing the ICOP to proceed with the Chlorides and TDS results pending the Sodium results. However, I don't see a passing raw bacteria result. We need that in order to issue an ICOP. I see the failing result from 4/17 and a passing one post-treatment, but we need a raw sample passing bacteria, prior to all the treatment devices, which will likely be at the pressure tank on this property. Thanks

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

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---

**From:** Janet Bieber <[jbieber@wellwatersolutions.net](mailto:jbieber@wellwatersolutions.net)>  
**Sent:** Tuesday, May 07, 2019 12:14 PM  
**To:** Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)>  
**Cc:** Williams, Jeffrey <[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)>; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net); Michael Hohrein <[mHohrein@carusohomes.com](mailto:mHohrein@carusohomes.com)>  
**Subject:** Fw: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029  
**Importance:** High

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Good Morning!

Attached are the lab results for the TDS and Chlorides, "with out" treatment and "with" treatment. The Sodium was due back Monday however; is still Pending. I was informed we will have the results by tomorrow evening, 5/8/19.

Due to Religious reason's upon completion of New Construction the home *MUST be Blessed no later than today.* They postponed the Religious Blessing once and can not postpone it again. This involves spending the night and several other arrangements.

Is it possible to allow the owner a temporary ICOP letter or anything to allow this Religious Blessing to happen?

Once the results come in, we will forward ASAP.

Thanking you in advance for your assistance.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)  
[www.facebook.com/wellwatersolutions.net](http://www.facebook.com/wellwatersolutions.net)

Well Water Solutions, Inc. is the answer for all of your well concerns.  
Ask us about our Well Warranty, Inspections and Services for Residential and Real estate transactions

---

**From:** Janet Bieber  
**Sent:** Friday, April 26, 2019 2:50 PM  
**To:** Kevin Wolf Howard County ; Howard County Martin, Sharhonda  
**Cc:** Michael Hohrein; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** Fw: ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Kevin,

The Lab results attached from 4/5/19 to the original e-mail have all the "RAW" Water quality results along with the "Treated" Water Quality results from 4/23/19. The treatment system was installed after the original lab results were taken.

We can take additional Water Quality testing for sodium, chlorides and TDS.

- Question? Was the requirement for additional Water Quality testing for sodium, chlorides and TDS in a letter to the Builder or homeowner? Asking because we did not see anything about this.

Is it possible to get a temporary ICOP letter for the Customer to settle on this house today? We will collect the additional samples on Monday 4/29 and get the results ASAP.

Please let us know so we can help the customer and Caruso homes settle this ASAP.

Thanking you in advance for your assistance.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)  
[www.facebook.com/wellwatersolutions.net](http://www.facebook.com/wellwatersolutions.net)

Well Water Solutions, Inc. is the answer for all of your well concerns.  
Ask us about our Well Warranty, Inspections and Services for Residential and Real estate transactions

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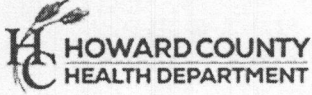
**From:** Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)>  
**Sent:** Friday, April 26, 2019 2:06 PM  
**To:** Janet Bieber; Martin, Sharhonda  
**Cc:** Michael Hohrein; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** RE: ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Janet,  
These samples must be raw/untreated. Since the treatment is connected to the whole house plumbing, I would advise taking from the pressure tank (although not a preferred location for bacteria). We also need to have post treated sample results for sodium, chlorides and TDS.

Thanks,

Kevin M. Wolf, LEHS, REHS/RS  
Groundwater Mgmt. Sec. Supervisor  
Well & Septic Program

Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045  
(o) 410-313-2645  
(f) 410-313-2648



[kwolf@howardcountymd.gov](mailto:kwolf@howardcountymd.gov)

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---

**From:** Janet Bieber <[jbieber@wellwatersolutions.net](mailto:jbieber@wellwatersolutions.net)>  
**Sent:** Thursday, April 25, 2019 4:03 PM  
**To:** Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)>; Martin, Sharhonda <[smmartin@howardcountymd.gov](mailto:smmartin@howardcountymd.gov)>  
**Cc:** Michael Hohrein <[mHohrein@carusohomes.com](mailto:mHohrein@carusohomes.com)>; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Good Afternoon!

Attached are the Passing Potability and the Chain of Custody for the

**URGENT** Request Caruso Homes notified you about a few days ago. They need to obtain the Health Letter (ICOP) for the U&O due to closing Friday 4/26/19.

- Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029
- Well Tag # HO-94-0112

Should you have any questions or need additional information please do not hesitate to contact us.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)

[www.facebook.com/wellwatersolutions.net](http://www.facebook.com/wellwatersolutions.net)

Well Water Solutions, Inc. is the answer for all of your well concerns.  
Ask us about our Well Warranty, Inspections and Services for Residential and Real estate transactions

# HOME LAND

L A B S

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

## Certificate of Analysis

Report Date: 4/25/2019

Client: Well Water Solutions  
Property Address: 5525 Jacks Landing Way  
Lot 4  
Clarksville, MD 21029  
Date & Time Sampled: 4/23/2019 4:45PM  
Date & Time Received: 4/24/2019 9:50AM  
Sampled By: Janet Walker  
Sampler ID Number: 9006JW  
Sample Location: All water treatment in use at  
time of sample; Samples collected from  
kitchen sink after water treatment  
Preservation: Cool, 4°C

Chlorine Residual: 0.0  
Field pH: 7.2  
Well Type: Not noted  
Well Height: Not noted  
Cap Type: Not noted  
Casing: Not noted  
Conduit: Not noted  
Well Tag Number: HO-94-0112  
Clarity: Clear  
Sand: None Observed  
Water Conditioning Appears to be: Chemical  
Feeder, House Reverse Osmosis System, Water  
Softener, Acid Neutralizer, UV Light, Sediment  
Filter

| Primary Contaminants   |           |        |                     |           |         |     |         |                  |
|------------------------|-----------|--------|---------------------|-----------|---------|-----|---------|------------------|
| Parameter              | Method    | Result | Pass/Fail           | Units     | MCL     | RL  | Analyst | Date of Analysis |
| Total Coliform         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| <i>E. Coli</i>         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| Nitrate+Nitrite        | EPA 353.2 | 1.2    | Pass                | mg/L      | 10.0    | 0.5 | MAK-353 | 4/24/2019        |
| Secondary Contaminants |           |        |                     |           |         |     |         |                  |
| Parameter              | Method    | Result | Acceptable/<br>High | Units     | SMCL    | RL  | Analyst | Date of Analysis |
| Turbidity              | EPA 180.1 | 1.14   | Acceptable          | NTU       | 10.0    | 0.5 | AND-353 | 4/25/2019        |

Note: This report is confidential and is for the sole use of the addressee.

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

9106 Philadelphia Road, Suite 106  
Rosedale, MD 21237

443.505.8375  
lab@homelandhealthyhomes.com

## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Wednesday, May 08, 2019 10:59 AM  
**To:** 'Michael Hohrein'; Mr. Vyas (154)  
**Cc:** Wolf, Kevin; Janet Bieber (jbieber@wellwatersolutions.net)  
**Subject:** RE: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

As we discussed yesterday, we will need a passing bacteria result from an untreated water sample prior to 5/22. You could try to take the test now and see if the latest chlorination effort was successful. If not, the next step is to do a super chlorination as described in COMAR 26.04.04.24:

If the well remains unresponsive after repeating the standard disinfection procedure per this section, a volume of water chlorinated to a concentration of 100 mg/l and at least two times the volume of chlorinated, standing water in the well, but not less than 50 gallons, shall be introduced into the well in order to completely displace the volume of chlorinated, standing water and force it out into the water bearing formation.

Let me know if there are any questions. Thanks  
Jeff

---

**From:** Michael Hohrein <mHohrein@carusohomes.com>  
**Sent:** Tuesday, May 07, 2019 2:59 PM  
**To:** Williams, Jeffrey <jewilliams@howardcountymd.gov>; Mr. Vyas (154) <amrishvyas@gmail.com>  
**Subject:** Re: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

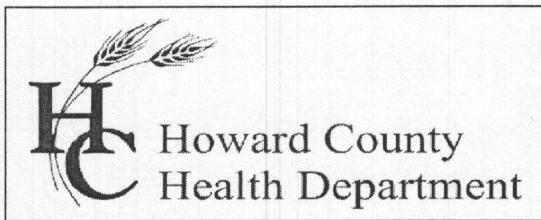
Mr. Vyas email  
[amrishvyas@gmail.com](mailto:amrishvyas@gmail.com)

- PLEASE CONFIRM RECEIPT
- EMAILS REQUIRING RESEARCH WILL BE ANSWERED WITHIN 8 HRS.

Mike Hohrein  
Superintendent  
Caruso Homes  
Sent from Caruso iPhone  
Please excuse spelling errors

On May 7, 2019, at 2:35 PM, Williams, Jeffrey <[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)> wrote:

No. For bacteria, it is very rare that the raw source water is contaminated with bacteria. Typically, a positive bacteria result is due to inadequate chlorination and needs to be redone. The required procedure when a well tests positive for bacteria is to properly chlorinate the well system again. If it is still failing, then a "super-chlorination" procedure as described in the state well regs, COMAR 26.04.04, shall be performed and the water re-tested. In my experience, over 99% of cases are cleared up after that procedure. If a well is still positive after those proper efforts, the homeowner must request a permanent deviation for bacteria from us. We would review the project and decide whether to grant it or require a new well drilled. In some very rare cases, the problem could be from an improperly



## 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](http://www.hchealth.org)

Facebook: [www.facebook.com/hocohealth](https://www.facebook.com/hocohealth)

Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

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

---

### TEMPORARY INTERIM CERTIFICATE OF POTABILITY **TEMPORARY DEVIATION FOR BACTERIA**

Expiration Date – May 22, 2019

May 7, 2019

Amrish Vyaz  
5525 Jacks landing Way  
Clarksville, MD 21029

**RE: Jacks Landing Lot 4  
5525 Jacks Landing Way  
Building Permit: B18003388  
Well Permit: HO-14-0112**

Dear Homeowner:

This is to advise you that the septic system installation for the above referenced property has been inspected and approved. Final approval of the septic system was granted on **4/16/2019**. Final approval of the well line connection to the dwelling was granted on **4/26/2019**. The well construction was completed on **5/31/2016**. Water samples were collected on **4/16/2019**.

The water sample results indicate that the water samples submitted for testing contained elevated levels of coliform bacteria at the time of sampling and are **NOT** bacteriologically safe for drinking.

This is a **temporary deviation** to allow for additional disinfection procedures as described in COMAR 26.04.04.07N. **It is recommended that bottled water be used for drinking and cooking during this time period.**

This Department will grant a **temporary deviation** to the Interim Certificate of Potability on condition that further disinfection of the well is conducted and a water test result from a state certified lab indicating that the water is **free from coliform bacteria** is submitted to this Department **within 15 days**.

By the end of the interim period, a determination shall be made by the Health Department whether to:

- a) Accept the well as being in compliance with the bacteriological standard of Regulation 26.04.04.09B and issue a standard Interim Certificate of Potability **or**
  
- b) Grant approval to install an ultraviolet light or other suitable disinfection system and issue a Permanent Deviation to the Interim Certificate of Potability **or**

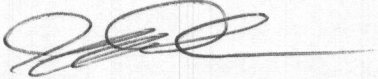
c) Issue an order that the well is abandoned and sealed

This Temporary Interim Certificate of Potability will expire **15 days** from the date of issuance. **Failure to submit the required water test results and obtain an Interim Certificate of Potability before the expiration date 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 water sample appointment or contact a Maryland certified water quality laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:

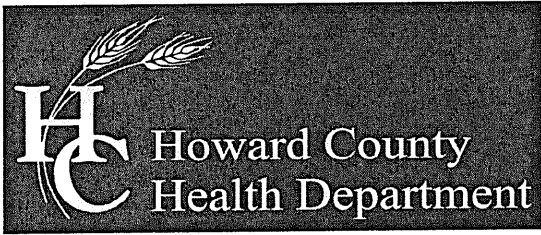
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

Approving Authority,



Jeff Williams  
Program Supervisor  
Well & Septic Program

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



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

REQUEST FOR TEMPORARY DEVIATION TO  
 BACTERIA STANDARDS FOR CERTIFICATE OF POTABILITY

DATE: 5/7/19 WELL PERMIT #: HO - 14 - 0112

PROPERTY OWNER: AMRIGH VTAG  
 SUBDIVISION & LOT #: Jacks Landing Lot 4  
 PROPERTY ADDRESS: 5525 Jacks Landing Way

The water sample results recently submitted for evaluation indicate that the water sample contained coliform bacteria. This bacteria is used as an indicator species which can help measure the sanitary protection of the well and water supply. Coliform bacteria by themselves do not usually cause disease, but their presence may indicate that surface contamination (insects, organic material, surface water, etc.) may have entered the water supply and the water may be potentially unsafe. Coliform bacteria are also good indicators because they are killed by disinfection the same way that most disease-causing organisms are killed. With a few exceptions, a well that is properly disinfected causes the coliform bacteria to disappear, and in most cases disease causing organisms have also been killed.

TESTIMONIAL: (Steps taken thus far by the well owner or agent to make the well water supply bacteriologically safe)

- well was chlorinated approx 4/5/19 and again approx 4/18/19.

PLEDGE: (Steps to be taken by the well owner or agent to bring the well water supply into compliance with COMAR 26.04.04.09 within fifteen (15) days)

- ~~well~~ well will be re-tested and if ~~raw~~ raw sample is positive - well will be "super-chlorinated" according to COMAR 26-04.04 and raw sample re-tested

CONDITIONS:

- 1) Within fifteen (15) days, the well installed under permit # HO-14 - 0112 will meet the bacteria standard resulting from approved disinfection procedures.

2) If condition #1 is not met through disinfection techniques, then either:

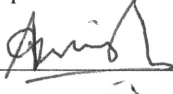
- a) **PRIOR HEALTH DEPARTMENT APPROVAL IS REQUIRED BEFORE AN ULTRAVIOLET DISINFECTION SYSTEM CAN BE INSTALLED (which must be maintained by the homeowner continuously to ensure a bacteriologically safe water supply)**

**OR**

- b) An order to abandon and seal the well will be issued

I hereby request that a Fifteen-Day Temporary Deviation to COMAR 26.04.04.09 B3a be granted for the well installed under permit # HO - 14 - 0112 . I am fully aware of the conditions under which this deviation will be granted, and of my responsibilities as the well owner which will include advising any future buyer/tenant of the installation, condition and maintenance responsibilities of an appropriate disinfection device if applicable.

Prospective Owner's Original Signature(s) [Person(s) who intend to live in the dwelling]

 \_\_\_\_\_

Prospective Owner's Day Time Phone Number(s)

(301) 331-6561 \_\_\_\_\_

amsishujas@gmail.com

---

# HOME LAND

L A B S

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

## Certificate of Analysis

Report Date: 5/1/2019

Client: Well Water Solutions  
Property Address: 5525 Jacks Landing Way  
Clarksville, MD 21029  
Date & Time Sampled: 4/29/2019 10:45AM  
Date & Time Received: 4/30/2019 9:50AM  
Sampled By: Janet Walker  
Sampler ID Number: 9006JW  
Sample Location: Tap at first floor kitchen sink  
after water treatment (all water treatment in use  
at time of sample collection)  
Preservation: Cool, 4°C

Chlorine Residual: 0.0  
Field pH: 7.2  
Well Type: Not noted  
Well Height: Not noted  
Cap Type: Not noted  
Casing: Not noted  
Conduit: Not noted  
Well Tag Number: HO-94-0112  
Clarity: Clear  
Sand: None Observed  
Water Conditioning Appears to be: Chemical  
Feeder, Whole House Reverse Osmosis System,  
Water Softener, Acid Neutralizer, UV Light,  
Sediment Filter

| Secondary Contaminants    |           |         |                     |       |       |      |         |                     |
|---------------------------|-----------|---------|---------------------|-------|-------|------|---------|---------------------|
| Parameter                 | Method    | Result  | Acceptable/<br>High | Units | SMCL  | RL   | Analyst | Date of<br>Analysis |
| Total Dissolved<br>Solids | Probe     | 426.0   | Acceptable          | mg/L  | 500.0 | 1.0  | AND-353 | 5/1/2019            |
| Chlorides                 | EPA 325.2 | 168.8   | Acceptable          | mg/L  | 250.0 | 10.0 | MAK-353 | 4/30/2019           |
| Sodium                    |           | Pending |                     |       |       |      |         |                     |

Note: This report is confidential and is for the sole use of the addressee.

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

# HOME LAND

## L A B S

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

### Certificate of Analysis

Report Date: 4/25/2019

Client: Well Water Solutions

Property Address: 5525 Jacks Landing Way  
Lot 4

Clarksville, MD 21029

Date & Time Sampled: 4/23/2019 4:45PM

Date & Time Received: 4/24/2019 9:50AM

Sampled By: Janet Walker

Sampler ID Number: 9006JW

Sample Location: All water treatment in use at  
time of sample; Samples collected from  
kitchen sink after water treatment

Preservation: Cool, 4°C

Chlorine Residual: 0.0

Field pH: 7.2

Well Type: Not noted

Well Height: Not noted

Cap Type: Not noted

Casing: Not noted

Conduit: Not noted

Well Tag Number: HO-94-0112

Clarity: Clear

Sand: None Observed

Water Conditioning Appears to be: Chemical  
Feeder, House Reverse Osmosis System, Water  
Softener, Acid Neutralizer, UV Light, Sediment  
Filter

| Primary Contaminants   |           |        |                     |           |         |     |         |                  |
|------------------------|-----------|--------|---------------------|-----------|---------|-----|---------|------------------|
| Parameter              | Method    | Result | Pass/Fail           | Units     | MCL     | RL  | Analyst | Date of Analysis |
| Total Coliform         | Collitag  | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| <i>E. Coli</i>         | Collitag  | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| Nitrate+Nitrite        | EPA 353.2 | 1.2    | Pass                | mg/L      | 10.0    | 0.5 | MAK-353 | 4/24/2019        |
| Secondary Contaminants |           |        |                     |           |         |     |         |                  |
| Parameter              | Method    | Result | Acceptable/<br>High | Units     | SMCL    | RL  | Analyst | Date of Analysis |
| Turbidity              | EPA 180.1 | 1.14   | Acceptable          | NTU       | 10.0    | 0.5 | AND-353 | 4/25/2019        |

## Williams, Jeffrey

---

**From:** Williams, Jeffrey  
**Sent:** Tuesday, May 07, 2019 1:37 PM  
**To:** 'Janet Bieber'; Wolf, Kevin  
**Cc:** Jemoseman@wellwatersolutions.net; Michael Hohrein  
**Subject:** RE: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Hello. I am open to allowing the ICOP to proceed with the Chlorides and TDS results pending the Sodium results. However, I don't see a passing raw bacteria result. We need that in order to issue an ICOP. I see the failing result from 4/17 and a passing one post-treatment, but we need a raw sample passing bacteria, prior to all the treatment devices, which will likely be at the pressure tank on this property. Thanks

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

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**From:** Janet Bieber <jbieber@wellwatersolutions.net>  
**Sent:** Tuesday, May 07, 2019 12:14 PM  
**To:** Wolf, Kevin <KWolf@howardcountymd.gov>  
**Cc:** Williams, Jeffrey <jewilliams@howardcountymd.gov>; Jemoseman@wellwatersolutions.net; Michael Hohrein <mHohrein@carusohomes.com>  
**Subject:** Fw: "URGENT" ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029  
**Importance:** High

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Good Morning!

Attached are the lab results for the TDS and Chlorides, "with out" treatment and "with" treatment. The Sodium was due back Monday however; is still Pending. I was informed we will have the results by tomorrow evening, 5/8/19.

Due to Religious reason's upon completion of New Construction the home *MUST be Blessed no later than today.* They postponed the Religious Blessing once and can not postpone it again. This involves spending the night and several other arrangements.

Is it possible to allow the owner a temporary ICOP letter or anything to allow this Religious Blessing to happen?

Once the results come in, we will forward ASAP.

Thanking you in advance for your assistance.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)  
[www.facebook.com/wellwatersolutions.net](http://www.facebook.com/wellwatersolutions.net)

Well Water Solutions, Inc. is the answer for all of your well concerns.  
Ask us about our Well Warranty, Inspections and Services for Residential and Real estate transactions

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**From:** Janet Bieber  
**Sent:** Friday, April 26, 2019 2:50 PM  
**To:** Kevin Wolf Howard County ; Howard County Martin, Sharhonda  
**Cc:** Michael Hohrein; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** Fw: ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Kevin,

The Lab results attached from 4/5/19 to the original e-mail have all the "RAW" Water quality results along with the "Treated" Water Quality results from 4/23/19. The treatment system was installed after the original lab results were taken.

We can take additional Water Quality testing for sodium, chlorides and TDS.

- Question? Was the requirement for additional Water Quality testing for sodium, chlorides and TDS in a letter to the Builder or homeowner? Asking because we did not see anything about this.

Is it possible to get a temporary ICOP letter for the Customer to settle on this house today? We will collect the additional samples on Monday 4/29 and get the results ASAP.

Please let us know so we can help the customer and Caruso homes settle this ASAP.

Thanking you in advance for your assistance.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)  
[www.facebook.com/wellwatersolutions.net](http://www.facebook.com/wellwatersolutions.net)

Well Water Solutions, Inc. is the answer for all of your well concerns.  
Ask us about our Well Warranty, Inspections and Services for Residential and Real estate transactions

---

**From:** Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)>  
**Sent:** Friday, April 26, 2019 2:06 PM  
**To:** Janet Bieber; Martin, Sharhonda  
**Cc:** Michael Hohrein; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** RE: ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

Janet,

These samples must be raw/untreated. Since the treatment is connected to the whole house plumbing, I would advise taking from the pressure tank (although not a preferred location for bacteria). We also need to have post treated sample results for sodium, chlorides and TDS.

Thanks,

Kevin M. Wolf, LEHS, REHS/RS  
Groundwater Mgmt. Sec. Supervisor  
Well & Septic Program  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, MD 21045  
(o) 410-313-2645  
(f) 410-313-2648



[kwolf@howardcountymd.gov](mailto:kwolf@howardcountymd.gov)

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**From:** Janet Bieber <[jbieber@wellwatersolutions.net](mailto:jbieber@wellwatersolutions.net)>  
**Sent:** Thursday, April 25, 2019 4:03 PM  
**To:** Wolf, Kevin <[KWolf@howardcountymd.gov](mailto:KWolf@howardcountymd.gov)>; Martin, Sharhonda <[smmartin@howardcountymd.gov](mailto:smmartin@howardcountymd.gov)>  
**Cc:** Michael Hohrein <[mHohrein@carusohomes.com](mailto:mHohrein@carusohomes.com)>; [Jemoseman@wellwatersolutions.net](mailto:Jemoseman@wellwatersolutions.net)  
**Subject:** ICOP Letter for U&O: Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029

[Note: This email originated from outside of the organization. Please only click on links or attachments if you know the sender.]

Good Afternoon!

Attached are the Passing Potability and the Chain of Custody for the

**URGENT** Request Caruso Homes notified you about a few days ago. They need to obtain the Health Letter (ICOP) for the U&O due to closing Friday 4/26/19.

- Lot 4- 5525 Jacks Landing Way, Clarksville, MD 21029
- Well Tag # HO-94-0112

Should you have any questions or need additional information please do not hesitate to contact us.

Thank you,  
Janet Walker Bieber  
Well Water Solutions, Inc.  
301-674-3137  
410-935-7185  
[www.wellwatersolutions.net](http://www.wellwatersolutions.net)  
[www.facebook.com/wellwatersolutions.net](https://www.facebook.com/wellwatersolutions.net)

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9106 Philadelphia Road  
Suite 106  
Rosedale, MD 21237



HOME LAND  
ENVIRONMENTAL  
HEALTH LABS

"Healthy Homes Start Here"

State Certified  
Water Quality  
Laboratory #353

**Certificate of Analysis**

| Property Information   | Customer Information   |
|--|--|
| Property Address: <b>5525 Jacks Landing Way, Lot 4<br/>Clarksville, MD 21029</b><br>Well Tag Number: <b>HO-94-0112</b> | Name: <b>Well Water Solutions</b><br>Phone Number: <b>(410) 935-7185</b><br>Email: <b>jemoseman@wellwatersolutions.net</b> |

| Field Data  |   |   |
|---|---|---|
| Date & Time Sampled: <b>4/15/2019 2:30PM</b><br>Date & Time Received: <b>4/16/2019 9:50AM</b><br>Sampled By: <b>Janet Walker</b><br>Sampler ID: <b>9006JW</b><br>Sample Location: <b>Bacteria – RAW no treatment from first floor bathroom sink, All other samples collected RAW no treatment from kitchen sink</b> | pH: <b>6.0</b><br>Chlorine Residual: <b>0.0</b><br>Clarity: <b>Clear</b><br>Sand: <b>None</b><br>Preservation: <b>Cool, 4°C</b> | Well Type: <b>Not noted</b><br>Well Height: <b>Not noted</b><br>Cap Type: <b>Not noted</b><br>Casing: <b>Not noted</b><br>Conduit: <b>Not noted</b> |
| Water Conditioning Appears to Be: <b>None – All samples collected RAW from a tap</b>  |   |   |

| Parameter       | Method    | Result  | Pass/Fail | Units     | MCL     | RL  | Analyst | Date of Analysis |
|-----------------|-----------|---------|-----------|-----------|---------|-----|---------|------------------|
| Total Coliform  | Colitag   | Present | Fail      | Per/100mL | Present | 1.0 | KMB     | 4/17/2019        |
| <i>E. Coli</i>  | Colitag   | Absent  | Pass      | Per/100mL | Present | 1.0 | KMB     | 4/17/2019        |
| Nitrate-Nitrite | EPA 353.2 | 14.8    | Fail      | mg/L      | 10.0    | 0.5 | KMB     | 4/16/2019        |
| Turbidity       | EPA 180.1 | 0.99    | Pass      | NTU       | 10.0    | 0.5 | KMB     | 4/16/2019        |

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

Report Date: 4/17/2019

# HOME LAND

L A B S

"Healthy Homes Start Here"

State Certified Water Quality Laboratory #353

## Certificate of Analysis

Report Date: 4/25/2019

Client: Well Water Solutions  
Property Address: 5525 Jacks Landing Way  
Lot 4  
Clarksville, MD 21029  
Date & Time Sampled: 4/23/2019 4:45PM  
Date & Time Received: 4/24/2019 9:50AM  
Sampled By: Janet Walker  
Sampler ID Number: 9006JW  
Sample Location: All water treatment in use at  
time of sample; Samples collected from  
kitchen sink after water treatment  
Preservation: Cool, 4°C

Chlorine Residual: 0.0  
Field pH: 7.2  
Well Type: Not noted  
Well Height: Not noted  
Cap Type: Not noted  
Casing: Not noted  
Conduit: Not noted  
Well Tag Number: HO-94-0112  
Clarity: Clear  
Sand: None Observed  
Water Conditioning Appears to be: Chemical  
Feeder, House Reverse Osmosis System, Water  
Softener, Acid Neutralizer, UV Light, Sediment  
Filter

| Primary Contaminants   |           |        |                     |           |         |     |         |                  |
|------------------------|-----------|--------|---------------------|-----------|---------|-----|---------|------------------|
| Parameter              | Method    | Result | Pass/Fail           | Units     | MCL     | RL  | Analyst | Date of Analysis |
| Total Coliform         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| <i>E. Coli</i>         | Colitag   | Absent | Pass                | Per/100mL | Present | 1.0 | AND-353 | 4/25/2019        |
| Nitrate+Nitrite        | EPA 353.2 | 1.2    | Pass                | mg/L      | 10.0    | 0.5 | MAK-353 | 4/24/2019        |
| Secondary Contaminants |           |        |                     |           |         |     |         |                  |
| Parameter              | Method    | Result | Acceptable/<br>High | Units     | SMCL    | RL  | Analyst | Date of Analysis |
| Turbidity              | EPA 180.1 | 1.14   | Acceptable          | NTU       | 10.0    | 0.5 | AND-353 | 4/25/2019        |

Note: This report is confidential and is for the sole use of the addressee.

Approved By: Kevin Barnaba Kevin Barnaba, Lab Director

9106 Philadelphia Road, Suite 106  
Rosedale, MD 21237

443.505.8375  
lab@homelandhealthyhomes.com



HOME LAND  
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HEALTH LABS

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1day  
443-505-8375  
9106 Philadelphia Road Suite 106  
Rosedale MD 21237  
www.homelandhealthyhomes.com  
lab@homelandhealthyhomes.com

Chain Of Custody Form

Client Name Well Water Solutions, Inc.

Site Address: Lot 4

Address 5163 Darting Bird Lane, Columbia, MD 21044

5525 Jacks Landing Way  
Clarksville, MD 21029

Phone 410-935-7185 &/or 301-674-3137

Email jbieber@wellwatersolutions.net & jemoeman@wellwatersolutions.net

Field Collection Information

|                    |                    |
|--------------------|--------------------|
| Collector's Name:  | Janet Walker       |
| Sampler's ID #:    | 9006JW Exp: 9/5/21 |
| Collected Date and | 4/23/2019 @ 4:45   |
| Well Tag Number:   | HO-94-0112         |

|                          |   |
|--------------------------|---|
| Field pH:                | 7.2   |
| Field Chlorine:          | Present <input checked="" type="radio"/> Absent <input type="radio"/> |
| Sand:                    | Present <input checked="" type="radio"/> Absent <input type="radio"/> |
| Clear At Time of Sample? | Yes <input checked="" type="radio"/> No <input type="radio"/>         |
| Was Well Chlorinated?    | Yes <input checked="" type="radio"/> No <input type="radio"/>         |

Well Casing and Cap Condition

|                     |           |         |          |
|---------------------|-----------|---------|----------|
| Height Above Grade: | Cap Type: | Casing: | Conduit: |
|---------------------|-----------|---------|----------|

Requested Testing: (Please Circle All That Apply)

|  |  |
|--|--|
| FHA/VA (Potability +Nitrites, Lead and Iron) | Potability (Bacteria, Nitrates, pH, Turbidity) |
|--|--|

|                |          |          |           |             |                |
|----------------|----------|----------|-----------|-------------|----------------|
| Arsenic        | Bacteria | Cadmium  | Chlorides | Gross Alpha | Iron           |
| Lead           | MTBE     | Nitrates | Nitrites  | Pesticides  | Radium 226/228 |
| Total Hardness | VOC's    | Other:   | Other:    | Other:      | Other:         |

Source: All water treatment in use at the time of collection. All samples collected from kitchen sink after water treatment.

Water Conditioning: Chemfeeder, house R/O, softener, neutralizer, UV light, sediment filter

Release Signatures

Note: Please return Coc w/ Results  
Thank you Janet

Released By: Janet Walker  
Janet Walker

Date/Time: 4/23/2019 @ 6:00

Released By: Deall

Date/Time: 4/24/19 9:50

Released By: \_\_\_\_\_

Date/Time: \_\_\_\_\_

Received in lab by: Milwaukee

Date/Time: 4/24 9:50



|            |       |                                |  |   |
|------------|-------|--------------------------------|--|---|
| <b>B 1</b> | 35828 | SEQUENCE NO.<br>(MDE USE ONLY) | STATE OF MARYLAND<br>APPLICATION FOR PERMIT TO DRILL WELL<br>please type | STATE PERMIT NUMBER<br><b>HO - 15 - 0028</b><br><small>fill in this form completely</small> |
|------------|-------|--------------------------------|--|---|

**OWNER INFORMATION**

Date Received (APA) 04/09/15

8 MM DD YY 13

LMD Design + Development

15 Last Name Owner First Name 34

5300 Dorsey Hall Drive, Suite 102

36 Street or RFD 55

Ellicott City MD 21043

57 Town 70 State 72 Zip 76

**LOCATION OF WELL**

HOWARD

8 COUNTY 21

JACKS LANDING

23 SUBDIVISION 42

SECTION 4 LOT 4

44 46 48 50

Highland

52 NEAREST TOWN 71

**DRILLER INFORMATION**

Michael Barlow MWD 355

Driller's Name 76 License No. 81

barlow well Drilling

Firm Name

322 Underwood Lane 21044

Address

[Signature] 3/31/15

Signature Date

**SOURCES OF DRILLING WATER**

1. Well

2.

3.

Triadelphia Mill Rd

11 STREET ADDRESS 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH  
 WEST  EAST  SOUTH

34 500 37

DISTANCE FROM ROAD FT

ENTER FT OR MI 38 39

TAX MAP: 34 BLK: 3 PARCEL 414

**WELL INFORMATION**

APPROX. PUMPING RATE 5

(GAL. PER MIN.) 8 12

AVERAGE DAILY QUANTITY NEEDED 750

(GAL. PER DAY) 14 20

**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 (13)

COUNTY NAME COUNTY NO.

STATE SIGNATURE INSERT S → 41

DATE ISSUED 4/9/15 Sub. Well 4/9/16

43 MM DD YY 48 CO SIGNATURE EXP. DATE

APPROXIMATE DEPTH OF WELL 300 FEET

24 28

APPROXIMATE DIAMETER OF WELL 6 INCH

NEAREST INCH

**METHOD OF DRILLING (circle one)**

BORED (or Augered) JETTED Jetted & DRIVEN

30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)

37 CABLE REVerse-ROTary DRive-POINT

other \_\_\_\_\_

**REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)**

THIS WELL WILL NOT REPLACE AN EXISTING WELL Tandem Well

THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED

39  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 DEEPEM AN EXISTING WELL

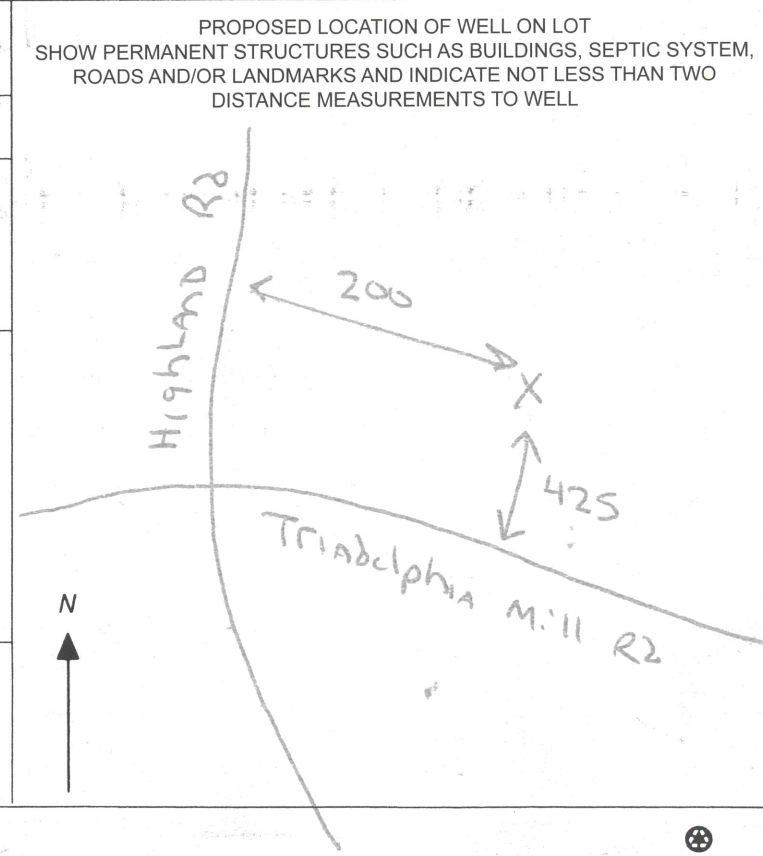
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 \_\_\_\_\_ 52

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

APPROP. PERMIT NUMBER \_\_\_\_\_ G \_\_\_\_\_

PERMIT No. HO - 15 - 0028

70 71 72 73 74 75 76 77 78 79



**SPECIAL CONDITIONS**

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lab. No: E15002967004

Method: EPA 524.2 VOCs and THMs

Lot 4

Well B

Date Received: 03/24/2015

Date Collected: 03/23/2015

Field ID: 0140112B-1&2

Submitted By: Collins

Date Analyzed: 03/30/2015

| <u>Contaminant</u>          | <u>RL</u> | <u>MCL</u> | <u>Result</u> | <u>Contaminant</u>                    | <u>RL</u> | <u>MCL</u> | <u>Result</u> |
|-----------------------------|-----------|------------|---------------|---------------------------------------|-----------|------------|---------------|
| <b>REGULATED</b>            |           |            |               | 2-Chlorotoluene                       | 0.5       |            | ND            |
| 1,1,1-Trichloroethane       | 0.5       | 200        | ND            | 4-Chlorotoluene                       | 0.5       |            | ND            |
| 1,1,2-Trichloroethane       | 0.5       | 5          | ND            | Bromobenzene                          | 0.5       |            | ND            |
| 1,1-Dichloroethene          | 0.5       | 7          | ND            | Bromochloromethane                    | 0.5       |            | ND            |
| 1,2,4-Trichlorobenzene      | 0.5       | 70         | ND            | Bromomethane                          | 0.5       |            | ND            |
| 1,2-Dichlorobenzene         | 0.5       | 600        | ND            | Chloroethane                          | 0.5       |            | ND            |
| 1,2-Dichloroethane          | 0.5       | 5          | ND            | Chloromethane                         | 0.5       |            | ND            |
| 1,2-Dichloropropane         | 0.5       | 5          | ND            | cis-1,3-Dichloropropene               | 0.5       |            | ND            |
| 1,4-Dichlorobenzene         | 0.5       | 75         | ND            | Dibromomethane                        | 0.5       |            | ND            |
| Benzene                     | 0.5       | 5          | ND            | Dichlorodifluoromethane               | 0.5       |            | ND            |
| Carbon Tetrachloride        | 0.5       | 5          | ND            | Ethyl-tert-Butyl Ether (ETBE)         | 0.5       |            | ND            |
| Chlorobenzene               | 0.5       | 100        | ND            | Hexachlorobutadiene                   | 0.5       |            | ND            |
| cis-1,2-Dichloroethene      | 0.5       | 70         | ND            | Isopropylbenzene                      | 0.5       |            | ND            |
| Ethylbenzene                | 0.5       | 700        | ND            | <b>Methyl-tert-Butyl Ether (MTBE)</b> | 0.5       |            | <b>1.01</b>   |
| m+p-Xylene                  | 1.0       |            | ND            | Naphthalene                           | 0.5       |            | ND            |
| Methylene Chloride          | 0.5       | 5          | ND            | n-Butylbenzene                        | 0.5       |            | ND            |
| o-Xylene                    | 0.5       |            | ND            | n-Propylbenzene                       | 0.5       |            | ND            |
| Styrene                     | 0.5       | 100        | ND            | p-Isopropyltoluene                    | 0.5       |            | ND            |
| Tetrachloroethene           | 0.5       | 5          | ND            | sec-Butylbenzene                      | 0.5       |            | ND            |
| Toluene                     | 0.5       | 1000       | ND            | tert-Amyl Methyl Ether (TAME)         | 0.5       |            | ND            |
| Total Xylenes               | 1.5       | 10000      | ND            | tert-Butylbenzene                     | 0.5       |            | ND            |
| trans-1,2-Dichloroethene    | 0.5       | 100        | ND            | trans-1,3-Dichloropropene             | 0.5       |            | ND            |
| Trichloroethene             | 0.5       | 5          | ND            | Trichlorofluoromethane                | 0.5       |            | ND            |
| Vinyl Chloride              | 0.5       | 2          | ND            |                                       |           |            |               |
| <b>TRIALOMETHANES</b>       |           |            |               |                                       |           |            |               |
| Bromodichloromethane        | 0.5       |            | ND            |                                       |           |            |               |
| Bromoform                   | 0.5       |            | ND            |                                       |           |            |               |
| Chloroform                  | 0.5       |            | ND            |                                       |           |            |               |
| Dibromochloromethane        | 0.5       |            | ND            |                                       |           |            |               |
| TOTAL THMs                  |           | 80         | 0.00          |                                       |           |            |               |
| <b>UNREGULATED</b>          |           |            |               |                                       |           |            |               |
| 1,1,1,2-Tetrachloroethane   | 0.5       |            | ND            |                                       |           |            |               |
| 1,1,2,2-Tetrachloroethane   | 0.5       |            | ND            |                                       |           |            |               |
| 1,1-Dichloroethane          | 0.5       |            | ND            |                                       |           |            |               |
| 1,1-Dichloropropane         | 0.5       |            | ND            |                                       |           |            |               |
| 1,2,3-Trichlorobenzene      | 0.5       |            | ND            |                                       |           |            |               |
| 1,2,3-Trichloropropane      | 0.5       |            | ND            |                                       |           |            |               |
| 1,2,4-Trimethylbenzene      | 0.5       |            | ND            |                                       |           |            |               |
| 1,2-Dibromo-3-Chloropropane | 0.5       |            | ND            |                                       |           |            |               |
| 1,2-Dibromoethane           | 0.5       |            | ND            |                                       |           |            |               |
| 1,3,5-Trimethylbenzene      | 0.5       |            | ND            |                                       |           |            |               |
| 1,3-Dichlorobenzene         | 0.5       |            | ND            |                                       |           |            |               |
| 1,3-Dichloropropane         | 0.5       |            | ND            |                                       |           |            |               |
| 2,2-Dichloropropane         | 0.5       |            | ND            |                                       |           |            |               |

**Comments:**

Approved by:

Approval date:

*Sadia Muneer*

04/13/2015

\*All results are in parts per billion (ppb); ND = Less than the detection level; na = not applicable; e = estimate

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Telephone: (410) 767-6648 Fax: (410) 225-2451



(Lot 4)

State of Maryland  
 DHMH-Laboratories Administration  
 Division of Environmental Chemistry  
**TRACE METALS LABORATORY**  
 201 W. Preston Street, Baltimore, Maryland 21201  
 Robert Myers, Ph.D., Director



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lab Project No: E15002962    Date Coll.: 03/23/2015    Date Received: 03/24/2015    Submitted By: Collins

Field ID: HO-14-0112B  
 Lab No.: E15002962002

| <u>Method</u> | <u>Element</u> | <u>Result</u>            | <u>Units</u> | <u>Date Analyzed</u> |
|---------------|----------------|--------------------------|--------------|----------------------|
| EPA 200.7     | Sodium         | 64.08<br>Lot 4<br>well B | ppm          | 03/25/2015           |

**Comments:**


|                                  |                                  |
|----------------------------------|----------------------------------|
| Approved by: <u>Sadia Muneer</u> | Approval date: <u>03/30/2015</u> |
|----------------------------------|----------------------------------|

\*\*The following methods are included in our A2LA Scope of Accreditation: EPA 200.7, EPA 200.8, EPA 245.1.

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Send Report To: Bert Nixon  
**Howard County Health Department**  
**Bureau of Environmental Health**  
**8930 Stanford Blvd.**  
**Columbia, Maryland 21045**

State of Maryland  
 DHMH - Laboratories Administration  
 Division of Environmental Chemistry  
**ENVIRONMENTAL METALS SECTION**  
 201 W. Preston Street, Baltimore, Maryland 21201



**E15002962002**  
 Received: 03/24/2015 EPA 200.7  
 Metals HO-14-0112B

**LABORATORY ANALYSIS REQUEST**  
 Please Print

**Sample ID No:** Ho-14-0112B **Site Name:** Jack's Landing - Lot 4 **County:** Howard

**Sample Source:** Triadelphia Mill Rd. Highland **Collector:** S. Collins  
Street Town or City Name

**Date Collected:** 3 / 23 / 20 15 **Time Collected:** \_\_\_\_\_ a.m. 2:30 p.m. **Phone #:** 410-313-6287

**Sample Preserved By:**  Field  ESRL  Central Lab

**Preservative Used:**  HNO<sub>3</sub> PH < 2.0 P<sub>3</sub> 03-24-15

**Sample Type:**  Drinking Water  Landfill  Source (Raw Water)  Liquid  
 Community  Stream  Distribution (Treated)  Solid  
 Non-Community  Sediment  Other \_\_\_\_\_  
 Private

**Specify Program:**  SDWA  NPDES  CWA  RCRA  Consumer Products  Other \_\_\_\_\_

**Type of Sample Preparation:**  Total Metals  Total Metals TCLP  Dissolved Metals  
(field preparation required)

**Remarks:** Sample taken during yield test

| ✓ | Element        | Results (ppm) | ✓ | Element        | Results (ppm) |
|---|----------------|---------------|---|----------------|---------------|
|   | Antimony (Sb)  |               |   | Copper (Cu)    |               |
|   | Arsenic (As)   |               |   | Lead (Pb)      |               |
|   | Barium (Ba)    |               |   | Silver (Ag)    |               |
|   | Beryllium (Be) |               |   | Zinc (Zn)      |               |
|   | Cadmium (Cd)   |               |   | Aluminum (Al)  |               |
|   | Chromium (Cr)  |               |   | Iron (Fe)      |               |
|   | Mercury (Hg)   |               |   | Manganese (Mn) |               |
|   | Nickel (Ni)    |               |   | Calcium (Ca)   |               |
|   | Selenium (Se)  |               |   | Magnesium (Mg) |               |
| ✓ | Sodium (Na)    | <u>64.1</u>   |   | Potassium (K)  |               |
|   | Thallium (Tl)  |               |   | Uranium (U)    |               |

**Lab Supervisor:** Jadea Muner

**Date Reported:** \_\_\_ / \_\_\_ / \_\_\_





State of Maryland  
 DHMH-Laboratories Administration  
 Division of Environmental Chemistry  
**INORGANICS ANALYTICAL LABORATORY**  
 201 W. Preston Street, Baltimore, Maryland 21201  
 Robert Myers, Ph.D., Director



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lab Project NoE15002963    Date Coll. 03/23/2015    Date Received 03/24/2015    Submitted By:Collins

Field ID: HO-14-0112B  
 Lab No.: E15002963002

| <u>Analyte</u>         | <u>Method</u> | <u>Result</u> | <u>Units</u> | <u>Date Analyzed</u> |
|------------------------|---------------|---------------|--------------|----------------------|
| Chloride               | SM 4500-Cl E  | 237           | mg/L         | 03/27/2015           |
| Total Dissolved Solids | SM 2540C      | 585           | mg/L         | 03/25/2015           |

Lot 4  
 Well B

**Comments:**

|   |                                  |
|---|----------------------------------|
| Approved by: <u><i>Shahin Amini</i></u> | Approval date: <u>03/30/2015</u> |
|---|----------------------------------|

\*The following methods are included in our A2LA Scope of Accreditation: EPA150.1, EPA 353.2, EPA 375.2, SM4500F C, SM 4500-CN G & QCM-CN, QCM-CN.

This document contains confidential health information that is privileged, confidential and exempt from disclosure under law. If you have received this information in error, please call (410) 767-6190 and arrange for return or destruction.

C 1 34133

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

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

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

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER Land Design + Development, WELL SITE ADDRESS Triadelphia Mill Rd, TOWN Highland, SUBDIVISION Jacks Landing, SECTION, LOT 4

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for Soil, Brown Shale, Tan Rock, Brown Shale, Med Gravel Rock, and two dry attempts.

GROUTING RECORD form with fields for YES/NO, TYPE OF GROUTING MATERIAL (CEMENT, BENTONITE CLAY), NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL.

CASING RECORD form with fields for casing types (STEEL, CONCRETE, PLASTIC, OTHER), MAIN CASING TYPE, Nominal diameter, Total depth.

OTHER CASING (if used) form with fields for diameter, depth.

SCREEN RECORD form with fields for screen type (STEEL, BRASS, BRONZE, PLASTIC, OPEN HOLE, OTHER), DEPTH (nearest ft.).

NUMBER OF UNSUCCESSFUL WELLS: 2

WELL HYDROFRACTURED form with YES/NO options and instructions for A, E, P.

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...

DRILLERS LIC. NO. MWD 355, DRILLERS SIGNATURE, LIC. NO. MS D 066, SITE SUPERVISOR

DEPTH (nearest ft.) table with columns 1-21 and rows E, A, C, H, S, C, 3, R, E, E, N. Includes SLOT SIZE and DIAMETER OF SCREEN.

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) form with fields T, W, Q, 70, 72, TELESCOPE CASING, LOG INDICATOR, OTHER DATA.

PUMPING TEST form with fields for HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL, BEFORE PUMPING, WHEN PUMPING, TYPE OF PUMP USED.

PUMP INSTALLED form with fields for DRILLER INSTALLED PUMP, IF DRILLER INSTALLS PUMP, TYPE OF PUMP INSTALLED, CAPACITY, GALLONS PER MINUTE, PUMP HORSE POWER, PUMP COLUMN LENGTH, CASING HEIGHT.

LATITUDE 39.21663, LONGITUDE 76.07617, (DEFAULT COORD. WGS 84), NOTES: 1/2 to 10 Dry Well Area, 160PM well, 100PM well.

B 1 28747 SEQUENCE NO. (MDE USE ONLY) STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL STATE PERMIT NUMBER HO-14-0112  
 1 2 3 6 please type 70 fill in this form completely 79

Date Received (APA) 08 22 14 OWNER INFORMATION  
 8 MM DD YY 13  
LAND DESIGN & DEVELOPMENT  
 15 Last Name Owner First Name 34 102  
5300 DORSEY HALL DRIVE, SUITE  
 36 Street or RFD 55  
Ellicott city MD 21043  
 57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL  
HOWARD COUNTY 21  
JACK'S LANDING 23 SUBDIVISION 42  
 SECTION 4 LOT 4  
 44 46 48 50  
HIGHLAND 52 NEAREST TOWN 71

DRILLER INFORMATION  
MICHAEL BARLOW MWD 355  
 76 Driller's Name License No. 81  
BARLOW WELL DRILLING  
 Firm Name  
522 UNDERWOOD LANE 21014  
 Address  
ML 8/18/14  
 Signature Date

B 4 SOURCES OF DRILLING WATER  
 1. WELL  
 2.  
 3.  
TRIDELPHIA MILL RD 11 STREET ADDRESS 30  
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)  
 NORTH N  
 WEST W 32 EAST E  
 SOUTH S  
 34 500 37 DISTANCE FROM ROAD FT  
 ENTER FT OR MI 38 39  
 TAX MAP: 34 BLK: \_\_\_\_\_ PARCEL 414

B 2 WELL INFORMATION  
 1 2 APPROX. PUMPING RATE (GAL. PER MIN.) 5  
 8 12  
 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 750  
 14 20

NOT TO BE FILLED IN BY DRILLER  
 HEALTH DEPARTMENT APPROVAL  
Howard (13) 517922  
 COUNTY NAME COUNTY NO.  
 STATE SIGNATURE \_\_\_\_\_ INSERT S → 41  
 DATE ISSUED 10/7/14 10/7/15  
 43 MM DD YY 48 CO SIGNATURE EXP. DATE

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

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  
  
 Sodium, chloride, TDS, and VOC samples collected 3/23/15 SC

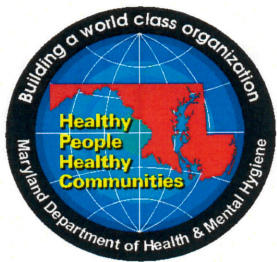
APPROXIMATE DEPTH OF WELL 250 FEET  
 24 28  
 APPROXIMATE DIAMETER OF WELL 6 INCH  
 NEAREST INCH

METHOD OF DRILLING (circle one)  
 BORED (or Augered) JETTED Jetted & DRIVEN  
 30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)  
 37 CABLE REVERSE-ROTary DRIVE-POINT  
 other \_\_\_\_\_

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)  
 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 DEEPEM AN EXISTING WELL  
 39 PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 \_\_\_\_\_ 52

Not to be filled in by driller (MDE OR COUNTY USE ONLY)  
 APPROP. PERMIT NUMBER \_\_\_\_\_ G \_\_\_\_\_  
 PERMIT No. HO-14-0112  
 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS Sodium chlorides + TDS samples needed @ field.  
 NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED.  
 VOC testing required @ field



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lab. No: E15002967005

Method: EPA 524.2 VOCs and THMs

Date Received: 03/24/2015  
 Field ID: 0140112BFB

Date Collected: 03/23/2015  
 Submitted By: Collins

Date Analyzed: 03/30/2015

| <u>Contaminant</u>          | <u>RL</u> | <u>MCL</u> | <u>Result</u> | <u>Contaminant</u>             | <u>RL</u> | <u>MCL</u> | <u>Result</u> |
|-----------------------------|-----------|------------|---------------|--------------------------------|-----------|------------|---------------|
| <b>REGULATED</b>            |           |            |               | 2-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,1-Trichloroethane       | 0.5       | 200        | ND            | 4-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,2-Trichloroethane       | 0.5       | 5          | ND            | Bromobenzene                   | 0.5       |            | ND            |
| 1,1-Dichloroethene          | 0.5       | 7          | ND            | Bromochloromethane             | 0.5       |            | ND            |
| 1,2,4-Trichlorobenzene      | 0.5       | 70         | ND            | Bromomethane                   | 0.5       |            | ND            |
| 1,2-Dichlorobenzene         | 0.5       | 600        | ND            | Chloroethane                   | 0.5       |            | ND            |
| 1,2-Dichloroethane          | 0.5       | 5          | ND            | Chloromethane                  | 0.5       |            | ND            |
| 1,2-Dichloropropane         | 0.5       | 5          | ND            | cis-1,3-Dichloropropene        | 0.5       |            | ND            |
| 1,4-Dichlorobenzene         | 0.5       | 75         | ND            | Dibromomethane                 | 0.5       |            | ND            |
| Benzene                     | 0.5       | 5          | ND            | Dichlorodifluoromethane        | 0.5       |            | ND            |
| Carbon Tetrachloride        | 0.5       | 5          | ND            | Ethyl-tert-Butyl Ether (ETBE)  | 0.5       |            | ND            |
| Chlorobenzene               | 0.5       | 100        | ND            | Hexachlorobutadiene            | 0.5       |            | ND            |
| cis-1,2-Dichloroethene      | 0.5       | 70         | ND            | Isopropylbenzene               | 0.5       |            | ND            |
| Ethylbenzene                | 0.5       | 700        | ND            | Methyl-tert-Butyl Ether (MTBE) | 0.5       |            | ND            |
| m+p-Xylene                  | 1.0       |            | ND            | Naphthalene                    | 0.5       |            | ND            |
| Methylene Chloride          | 0.5       | 5          | ND            | n-Butylbenzene                 | 0.5       |            | ND            |
| o-Xylene                    | 0.5       |            | ND            | n-Propylbenzene                | 0.5       |            | ND            |
| Styrene                     | 0.5       | 100        | ND            | p-Isopropyltoluene             | 0.5       |            | ND            |
| Tetrachloroethene           | 0.5       | 5          | ND            | sec-Butylbenzene               | 0.5       |            | ND            |
| Toluene                     | 0.5       | 1000       | ND            | tert-Amyl Methyl Ether (TAME)  | 0.5       |            | ND            |
| Total Xylenes               | 1.5       | 10000      | ND            | tert-Butylbenzene              | 0.5       |            | ND            |
| trans-1,2-Dichloroethene    | 0.5       | 100        | ND            | trans-1,3-Dichloropropene      | 0.5       |            | ND            |
| Trichloroethene             | 0.5       | 5          | ND            | Trichlorofluoromethane         | 0.5       |            | ND            |
| Vinyl Chloride              | 0.5       | 2          | ND            |                                |           |            |               |
| <b>TRihalOMETHANES</b>      |           |            |               |                                |           |            |               |
| Bromodichloromethane        | 0.5       |            | ND            |                                |           |            |               |
| Bromoform                   | 0.5       |            | ND            |                                |           |            |               |
| Chloroform                  | 0.5       |            | ND            |                                |           |            |               |
| Dibromochloromethane        | 0.5       |            | ND            |                                |           |            |               |
| TOTAL THMs                  |           | 80         | 0.00          |                                |           |            |               |
| <b>UNREGULATED</b>          |           |            |               |                                |           |            |               |
| 1,1,1,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1,2,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloroethane          | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloropropene         | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichlorobenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichloropropane      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,4-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromo-3-Chloropropane | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromoethane           | 0.5       |            | ND            |                                |           |            |               |
| 1,3,5-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichlorobenzene         | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |
| 2,2-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |

**Comments:**

Approved by:

Approval date:

*Sadia Muneer*

04/13/2015

\*All results are in parts per billion (ppb); ND = Less than the detection level; na = not applicable; e = estimate

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Telephone: (410) 767 -6648 Fax: (410) 225-2451



State of Maryland  
DHMH-Laboratories Administration  
Division of Environmental Chemistry  
TRACE METALS LABORATORY  
201 W. Preston Street, Baltimore, Maryland 21201  
Robert Myers, Ph.D., Director

Lot 4



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
8930 STANFORD BLVD  
COLUMBIA, MD 21045

Lab Project No: E15002962 Date Coll.: 03/23/2015 Date Received: 03/24/2015 Submitted By: Collins

Field ID: HO-14-0112A  
Lab No.: E15002962001

| <u>Method</u> | <u>Element</u> | <u>Result</u> | <u>Units</u> | <u>Date Analyzed</u> |
|---------------|----------------|---------------|--------------|----------------------|
| EPA 200.7     | Sodium         | 59.36         | ppm          | 03/25/2015           |

Lot (4) Well A

### Comments:

Approved by: Sadia Muneer


Approval date: 03/30/2015

\*\*The following methods are included in our A2LA Scope of Accreditation: EPA 200.7, EPA 200.8, EPA 245.1.

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Send Report To: Bert Nixon  
**Howard County Health Department**  
**Bureau of Environmental Health**  
**8930 Stanford Blvd.**  
**Columbia, Maryland 21045**

State of Maryland  
 DHMH - Laboratories Administration  
 Division of Environmental Chemistry  
**ENVIRONMENTAL METALS SECTION**  
 201 W. Preston Street, Baltimore, Maryland 21201



**E15002962001**  
 Received: 03/24/2015 EPA 200.7  
 Metals HO-14-0112A

**LABORATORY ANALYSIS REQUEST**

Please Print

Sample ID No: HO-14-0112A Site Name: Jack's Landing - Lot 4 County: Howard

Sample Source: Triadelphia Mill Rd. Highland Collector: S. Collins  
Street Town or City Name

Date Collected: 3 / 23 / 20 15 Time Collected: 2:30 a.m. 2:30 p.m. Phone #: 410-313-6287

Sample Preserved By:  Field  ESRL  Central Lab

Preservative Used:  HNO<sub>3</sub> pH < 2.0 PS-4 03-24-15

Sample Type:  Drinking Water  Landfill  Source (Raw Water)  Liquid  
 Community  Stream  Distribution (Treated)  Solid  
 Non-Community  Sediment  Other \_\_\_\_\_  
 Private

Specify Program:  SDWA  NPDES  CWA  RCRA  Consumer Products  Other \_\_\_\_\_

Type of Sample Preparation:  Total Metals  Total Metals TCLP  Dissolved Metals  
(field preparation required)

Remarks: Sample collected during yield test

| ✓ | Element        | Results (ppm) | ✓ | Element        | Results (ppm) |
|---|----------------|---------------|---|----------------|---------------|
|   | Antimony (Sb)  |               |   | Copper (Cu)    |               |
|   | Arsenic (As)   |               |   | Lead (Pb)      |               |
|   | Barium (Ba)    |               |   | Silver (Ag)    |               |
|   | Beryllium (Be) |               |   | Zinc (Zn)      |               |
|   | Cadmium (Cd)   |               |   | Aluminum (Al)  |               |
|   | Chromium (Cr)  |               |   | Iron (Fe)      |               |
|   | Mercury (Hg)   |               |   | Manganese (Mn) |               |
|   | Nickel (Ni)    |               |   | Calcium (Ca)   |               |
|   | Selenium (Se)  |               |   | Magnesium (Mg) |               |
| ✓ | Sodium (Na)    | <u>59.4</u>   |   | Potassium (K)  |               |
|   | Thallium (Tl)  |               |   | Uranium (U)    |               |

Lab Supervisor: Sadrach...

Date Reported:   /  /  

• Phone: (410) 767 - 6186

• Fax: (410) 333 - 5122





State of Maryland  
DHMH-Laboratories Administration  
Division of Environmental Chemistry  
**INORGANICS ANALYTICAL LABORATORY**  
201 W. Preston Street, Baltimore, Maryland 21201  
Robert Myers, Ph.D., Director



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
8930 STANFORD BLVD  
COLUMBIA, MD 21045

Lab Project NoE15002963 Date Coll. 03/23/2015 Date Received 03/24/2015 Submitted By:Collins

Field ID: HO-14-0112A  
Lab No.: E15002963001

| <u>Analyte</u>         | <u>Method</u> | <u>Result</u> | <u>Units</u> | <u>Date Analyzed</u> |
|------------------------|---------------|---------------|--------------|----------------------|
| Chloride               | SM 4500-Cl E  | 282           | mg/L         | 03/27/2015           |
| Total Dissolved Solids | SM 2540C      | 634           | mg/L         | 03/25/2015           |

lot 4  
well A

### Comments:

Approved by: \_\_\_\_\_

Approval date: 03/30/2015

\*The following methods are included in our A2LA Scope of Accreditation: EPA150.1, EPA 353.2, EPA 375.2, SM4500F C, SM 4500-CN G & QCM-CN, QCM-CN.

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## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lot 4  
 Well A

Lab. No: E15002967001

Method: EPA 524.2 VOCs and THMs

Date Received: 03/24/2015  
 Field ID: 0140112A-1&2

Date Collected: 03/23/2015  
 Submitted By: Collins

Date Analyzed: 03/26/2015

| Contaminant                 | RL  | MCL   | Result | Contaminant                           | RL  | MCL | Result      |
|-----------------------------|-----|-------|--------|---------------------------------------|-----|-----|-------------|
| <b>REGULATED</b>            |     |       |        | 2-Chlorotoluene                       | 0.5 |     | ND          |
| 1,1,1-Trichloroethane       | 0.5 | 200   | ND     | 4-Chlorotoluene                       | 0.5 |     | ND          |
| 1,1,2-Trichloroethane       | 0.5 | 5     | ND     | Bromobenzene                          | 0.5 |     | ND          |
| 1,1-Dichloroethene          | 0.5 | 7     | ND     | Bromochloromethane                    | 0.5 |     | ND          |
| 1,2,4-Trichlorobenzene      | 0.5 | 70    | ND     | Bromomethane                          | 0.5 |     | ND          |
| 1,2-Dichlorobenzene         | 0.5 | 600   | ND     | Chloroethane                          | 0.5 |     | ND          |
| 1,2-Dichloroethane          | 0.5 | 5     | ND     | Chloromethane                         | 0.5 |     | ND          |
| 1,2-Dichloropropane         | 0.5 | 5     | ND     | cis-1,3-Dichloropropene               | 0.5 |     | ND          |
| 1,4-Dichlorobenzene         | 0.5 | 75    | ND     | Dibromomethane                        | 0.5 |     | ND          |
| Benzene                     | 0.5 | 5     | ND     | Dichlorodifluoromethane               | 0.5 |     | ND          |
| Carbon Tetrachloride        | 0.5 | 5     | ND     | Ethyl-tert-Butyl Ether (ETBE)         | 0.5 |     | ND          |
| Chlorobenzene               | 0.5 | 100   | ND     | Hexachlorobutadiene                   | 0.5 |     | ND          |
| cis-1,2-Dichloroethene      | 0.5 | 70    | ND     | Isopropylbenzene                      | 0.5 |     | ND          |
| Ethylbenzene                | 0.5 | 700   | ND     | <b>Methyl-tert-Butyl Ether (MTBE)</b> | 0.5 |     | <b>6.73</b> |
| m+p-Xylene                  | 1.0 |       | ND     | Naphthalene                           | 0.5 |     | ND          |
| Methylene Chloride          | 0.5 | 5     | ND     | n-Butylbenzene                        | 0.5 |     | ND          |
| o-Xylene                    | 0.5 |       | ND     | n-Propylbenzene                       | 0.5 |     | ND          |
| Styrene                     | 0.5 | 100   | ND     | p-Isopropyltoluene                    | 0.5 |     | ND          |
| Tetrachloroethene           | 0.5 | 5     | ND     | sec-Butylbenzene                      | 0.5 |     | ND          |
| Toluene                     | 0.5 | 1000  | ND     | tert-Amyl Methyl Ether (TAME)         | 0.5 |     | 0.93        |
| Total Xylenes               | 1.5 | 10000 | ND     | tert-Butylbenzene                     | 0.5 |     | ND          |
| trans-1,2-Dichloroethene    | 0.5 | 100   | ND     | trans-1,3-Dichloropropene             | 0.5 |     | ND          |
| Trichloroethene             | 0.5 | 5     | ND     | Trichlorofluoromethane                | 0.5 |     | ND          |
| Vinyl Chloride              | 0.5 | 2     | ND     |                                       |     |     |             |
| <b>TRIHALOMETHANES</b>      |     |       |        |                                       |     |     |             |
| Bromodichloromethane        | 0.5 |       | ND     |                                       |     |     |             |
| Bromoform                   | 0.5 |       | ND     |                                       |     |     |             |
| Chloroform                  | 0.5 |       | ND     |                                       |     |     |             |
| Dibromochloromethane        | 0.5 |       | ND     |                                       |     |     |             |
| TOTAL THMs                  |     | 80    | 0.00   |                                       |     |     |             |
| <b>UNREGULATED</b>          |     |       |        |                                       |     |     |             |
| 1,1,1,2-Tetrachloroethane   | 0.5 |       | ND     |                                       |     |     |             |
| 1,1,2,2-Tetrachloroethane   | 0.5 |       | ND     |                                       |     |     |             |
| 1,1-Dichloroethane          | 0.5 |       | ND     |                                       |     |     |             |
| 1,1-Dichloropropane         | 0.5 |       | ND     |                                       |     |     |             |
| 1,2,3-Trichlorobenzene      | 0.5 |       | ND     |                                       |     |     |             |
| 1,2,3-Trichloropropane      | 0.5 |       | ND     |                                       |     |     |             |
| 1,2,4-Trimethylbenzene      | 0.5 |       | ND     |                                       |     |     |             |
| 1,2-Dibromo-3-Chloropropane | 0.5 |       | ND     |                                       |     |     |             |
| 1,2-Dibromoethane           | 0.5 |       | ND     |                                       |     |     |             |
| 1,3,5-Trimethylbenzene      | 0.5 |       | ND     |                                       |     |     |             |
| 1,3-Dichlorobenzene         | 0.5 |       | ND     |                                       |     |     |             |
| 1,3-Dichloropropane         | 0.5 |       | ND     |                                       |     |     |             |
| 2,2-Dichloropropane         | 0.5 |       | ND     |                                       |     |     |             |

**Comments:**

Approved by: Sadia Muneeb Approval date: 04/13/2015

\*All results are in parts per billion ppb; ND = Less than the detection level; na = not applicable; e = estimate

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Telephone: (410) 767-6648 Fax: (410) 225-2451



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
8930 STANFORD BLVD  
COLUMBIA, MD 21045

Lab. No: E15002967002

Method: EPA 524.2 VOCs and THMs

Date Received: 03/24/2015

Date Collected: 03/23/2015

Field ID: 0140112AFB

Submitted By: Collins

Date Analyzed: 03/26/2015

| <u>Contaminant</u>          | <u>RL</u> | <u>MCL</u> | <u>Result</u> | <u>Contaminant</u>             | <u>RL</u> | <u>MCL</u> | <u>Result</u> |
|-----------------------------|-----------|------------|---------------|--------------------------------|-----------|------------|---------------|
| <b>REGULATED</b>            |           |            |               | 2-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,1-Trichloroethane       | 0.5       | 200        | ND            | 4-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,2-Trichloroethane       | 0.5       | 5          | ND            | Bromobenzene                   | 0.5       |            | ND            |
| 1,1-Dichloroethane          | 0.5       | 7          | ND            | Bromochloromethane             | 0.5       |            | ND            |
| 1,2,4-Trichlorobenzene      | 0.5       | 70         | ND            | Bromomethane                   | 0.5       |            | ND            |
| 1,2-Dichlorobenzene         | 0.5       | 600        | ND            | Chloroethane                   | 0.5       |            | ND            |
| 1,2-Dichloroethane          | 0.5       | 5          | ND            | Chloromethane                  | 0.5       |            | ND            |
| 1,2-Dichloropropane         | 0.5       | 5          | ND            | cis-1,3-Dichloropropene        | 0.5       |            | ND            |
| 1,4-Dichlorobenzene         | 0.5       | 75         | ND            | Dibromomethane                 | 0.5       |            | ND            |
| Benzene                     | 0.5       | 5          | ND            | Dichlorodifluoromethane        | 0.5       |            | ND            |
| Carbon Tetrachloride        | 0.5       | 5          | ND            | Ethyl-tert-Butyl Ether (ETBE)  | 0.5       |            | ND            |
| Chlorobenzene               | 0.5       | 100        | ND            | Hexachlorobutadiene            | 0.5       |            | ND            |
| cis-1,2-Dichloroethene      | 0.5       | 70         | ND            | Isopropylbenzene               | 0.5       |            | ND            |
| Ethylbenzene                | 0.5       | 700        | ND            | Methyl-tert-Butyl Ether (MTBE) | 0.5       |            | ND            |
| m+p-Xylene                  | 1.0       |            | ND            | Naphthalene                    | 0.5       |            | ND            |
| Methylene Chloride          | 0.5       | 5          | ND            | n-Butylbenzene                 | 0.5       |            | ND            |
| o-Xylene                    | 0.5       |            | ND            | n-Propylbenzene                | 0.5       |            | ND            |
| Styrene                     | 0.5       | 100        | ND            | p-Isopropyltoluene             | 0.5       |            | ND            |
| Tetrachloroethene           | 0.5       | 5          | ND            | sec-Butylbenzene               | 0.5       |            | ND            |
| Toluene                     | 0.5       | 1000       | ND            | tert-Amyl Methyl Ether (TAME)  | 0.5       |            | ND            |
| Total Xylenes               | 1.5       | 10000      | ND            | tert-Butylbenzene              | 0.5       |            | ND            |
| trans-1,2-Dichloroethene    | 0.5       | 100        | ND            | trans-1,3-Dichloropropene      | 0.5       |            | ND            |
| Trichloroethene             | 0.5       | 5          | ND            | Trichlorofluoromethane         | 0.5       |            | ND            |
| Vinyl Chloride              | 0.5       | 2          | ND            |                                |           |            |               |
| <b>TRihalOMETHANES</b>      |           |            |               |                                |           |            |               |
| Bromodichloromethane        | 0.5       |            | ND            |                                |           |            |               |
| Bromoform                   | 0.5       |            | ND            |                                |           |            |               |
| Chloroform                  | 0.5       |            | ND            |                                |           |            |               |
| Dibromochloromethane        | 0.5       |            | ND            |                                |           |            |               |
| TOTAL THMs                  |           | 80         | 0.00          |                                |           |            |               |
| <b>UNREGULATED</b>          |           |            |               |                                |           |            |               |
| 1,1,1,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1,2,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloroethane          | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloropropene         | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichlorobenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichloropropane      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,4-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromo-3-Chloropropane | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromoethane           | 0.5       |            | ND            |                                |           |            |               |
| 1,3,5-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichlorobenzene         | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |
| 2,2-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |

### Comments:

Approved by:

Approval date:

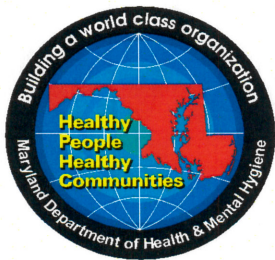
*Sadia Muneer*

04/13/2015

\*All results are in parts per billion ppb; ND = Less than the detection level; na = not applicable; e = estimate

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## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
 8930 STANFORD BLVD  
 COLUMBIA, MD 21045

Lab. No: E15002967003

Method: EPA 524.2 VOCs and THMs

Date Received: 03/24/2015  
 Field ID: 0140112ATB

Date Collected: 03/23/2015  
 Submitted By: Collins

Date Analyzed: 03/26/2015

| <u>Contaminant</u>          | <u>RL</u> | <u>MCL</u> | <u>Result</u> | <u>Contaminant</u>             | <u>RL</u> | <u>MCL</u> | <u>Result</u> |
|-----------------------------|-----------|------------|---------------|--------------------------------|-----------|------------|---------------|
| <b>REGULATED</b>            |           |            |               | 2-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,1-Trichloroethane       | 0.5       | 200        | ND            | 4-Chlorotoluene                | 0.5       |            | ND            |
| 1,1,2-Trichloroethane       | 0.5       | 5          | ND            | Bromobenzene                   | 0.5       |            | ND            |
| 1,1-Dichloroethane          | 0.5       | 7          | ND            | Bromochloromethane             | 0.5       |            | ND            |
| 1,2,4-Trichlorobenzene      | 0.5       | 70         | ND            | Bromomethane                   | 0.5       |            | ND            |
| 1,2-Dichlorobenzene         | 0.5       | 600        | ND            | Chloroethane                   | 0.5       |            | ND            |
| 1,2-Dichloroethane          | 0.5       | 5          | ND            | Chloromethane                  | 0.5       |            | ND            |
| 1,2-Dichloropropane         | 0.5       | 5          | ND            | cis-1,3-Dichloropropene        | 0.5       |            | ND            |
| 1,4-Dichlorobenzene         | 0.5       | 75         | ND            | Dibromomethane                 | 0.5       |            | ND            |
| Benzene                     | 0.5       | 5          | ND            | Dichlorodifluoromethane        | 0.5       |            | ND            |
| Carbon Tetrachloride        | 0.5       | 5          | ND            | Ethyl-tert-Butyl Ether (ETBE)  | 0.5       |            | ND            |
| Chlorobenzene               | 0.5       | 100        | ND            | Hexachlorobutadiene            | 0.5       |            | ND            |
| cis-1,2-Dichloroethene      | 0.5       | 70         | ND            | Isopropylbenzene               | 0.5       |            | ND            |
| Ethylbenzene                | 0.5       | 700        | ND            | Methyl-tert-Butyl Ether (MTBE) | 0.5       |            | ND            |
| m+p-Xylene                  | 1.0       |            | ND            | Naphthalene                    | 0.5       |            | ND            |
| Methylene Chloride          | 0.5       | 5          | ND            | n-Butylbenzene                 | 0.5       |            | ND            |
| o-Xylene                    | 0.5       |            | ND            | n-Propylbenzene                | 0.5       |            | ND            |
| Styrene                     | 0.5       | 100        | ND            | p-Isopropyltoluene             | 0.5       |            | ND            |
| Tetrachloroethene           | 0.5       | 5          | ND            | sec-Butylbenzene               | 0.5       |            | ND            |
| Toluene                     | 0.5       | 1000       | ND            | tert-Amyl Methyl Ether (TAME)  | 0.5       |            | ND            |
| Total Xylenes               | 1.5       | 10000      | ND            | tert-Butylbenzene              | 0.5       |            | ND            |
| trans-1,2-Dichloroethene    | 0.5       | 100        | ND            | trans-1,3-Dichloropropene      | 0.5       |            | ND            |
| Trichloroethene             | 0.5       | 5          | ND            | Trichlorofluoromethane         | 0.5       |            | ND            |
| Vinyl Chloride              | 0.5       | 2          | ND            |                                |           |            |               |
| <b>TRihalOMETHANES</b>      |           |            |               |                                |           |            |               |
| Bromodichloromethane        | 0.5       |            | ND            |                                |           |            |               |
| Bromoform                   | 0.5       |            | ND            |                                |           |            |               |
| Chloroform                  | 0.5       |            | ND            |                                |           |            |               |
| Dibromochloromethane        | 0.5       |            | ND            |                                |           |            |               |
| TOTAL THMs                  |           | 80         | 0.00          |                                |           |            |               |
| <b>UNREGULATED</b>          |           |            |               |                                |           |            |               |
| 1,1,1,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1,2,2-Tetrachloroethane   | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloroethane          | 0.5       |            | ND            |                                |           |            |               |
| 1,1-Dichloropropene         | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichlorobenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,3-Trichloropropane      | 0.5       |            | ND            |                                |           |            |               |
| 1,2,4-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromo-3-Chloropropane | 0.5       |            | ND            |                                |           |            |               |
| 1,2-Dibromoethane           | 0.5       |            | ND            |                                |           |            |               |
| 1,3,5-Trimethylbenzene      | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichlorobenzene         | 0.5       |            | ND            |                                |           |            |               |
| 1,3-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |
| 2,2-Dichloropropane         | 0.5       |            | ND            |                                |           |            |               |

**Comments:**

Approved by: Sadia Muneer Approval date: 04/13/2015

\*All results are in parts per billion ppb; ND = Less than the detection level; na = not applicable; e = estimate

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Send Report To: Bert Nixon  
Howard County Health Department  
Bureau of Environmental Health  
8930 Stanford Blvd.  
Columbia, Maryland 21045

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

ICE SURVEY  
110°C  
OXT  
3/24/15

Lab No. Date Received

Do not write above this line

LABORATORY ANALYSIS REQUEST

Bottle No: SCH0140112A-1 Plant / Site Name: Jack's Landing - Lot 4 County: Howard  
SCH0140112A-2

Sample Source: Triadelphia Mill Rd. Location: 10-14-0112A  
Street Town or City (well no., lab sink, sample tap, etc.)

Sampler ID: 3406SC PWSID: Plant ID:

Collector: S. Collins 410-313-6287  
(include telephone number)

Date Collected: 3/23/200-2015 Time Collected: a.m. 2:30 p.m.

Field Preserved: Yes No Preservative Used: 1:1 HCl+Ascorbic acid Na2SO4 6 mg NH4Cl

Sample Type: Drinking Water Landfill Source (Raw Water) Liquid  
Community Stream Distribution (Treated) Solid  
Non-Community Sediment Water Treatment Plant POE Other  
Private

Specify Program: SDWA NPDES CWA RCRA Consumer Products Other

Test Requested: Trihalomethanes Volatiles Semi-volatiles Haloacetic Acids

FIELD DATA: 7.0 0.0 0.0  
pH Free Cl Total Cl

Field Blank Bottle No.: SCH0140112AF-1  
SCH0140112AF-2  
Trip Blank Bottle No.: SCH0140112AT

Remarks: Run full drinking water scan including MTBE

Laboratory Supervisor: Date Reported: / /

Phone: (410) 767-4388 Fax: (410) 225-9318

Form Revised 12/05  
DHMH 4362 (01/07)

E15002967001  
Received: 03/24/2015 EPA 524.2  
Trace Organics 0140112A-1&2

E15002967002  
Received: 03/24/2015 EPA 524.2  
Trace Organics 0140112AFB

E15002967003  
Received: 03/24/2015 EPA 524.2  
Trace Organics 0140112ATB

MICHAEL BARLOW WELL DRILLING

522 UNDERWOOD LANE

BEL AIR, MD 21015

410-838-6910

Howard County Health Department

April 13, 2015

8930 Stanford Blvd

Columbia, MD 21045

Re: Jacks Landing lot 4

In the course of drilling a well on lot 4 of Jacks Landing, two producing wells were installed, one meeting the 1 gpm requirement and one producing  $\frac{1}{2}$  gpm. The developer would like to have both remain on the site. As a result, we would like to request authorization for the second well to remain as a standby well and have submitted another well application for that purpose.

Michael Barlow

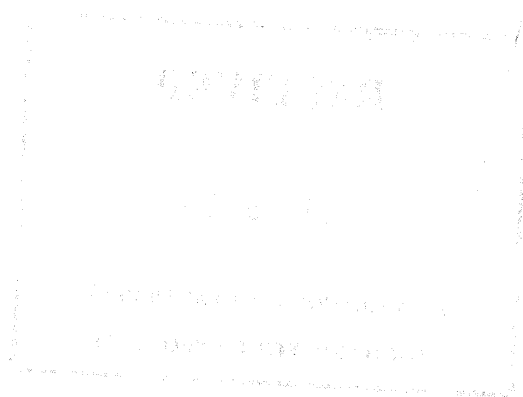
MWD355

**MICHAEL BARLOW WELL DRILLING  
522 UNDERWOOD LANE  
BEL AIR, MD 21014  
410-838-6910**

**Kevin,**

**Enclosed are revised copies of the completions for lots 1,3 & 6 of Jack Landing, completion reports and permits for the standby wells on lots 4 & 7 and a final completion for lot 8. No open holes exist on lot 8. If they establish a new area for that lot we will submit a new permit.**

**Mike Isom**



## Williams, Jeffrey

---

**From:** Jeremiah Reynolds <Jeremiah.Reynolds@timmons.com>  
**Sent:** Friday, June 29, 2018 3:09 PM  
**To:** Williams, Jeffrey; Rob Vogel  
**Subject:** RE: Jacks Landing Lot 4

Jeff,

There does not appear to be a good solution to this problem. There is already a dry well casing north of the existing well HO-14-0112. Even if we put the alternate well up there somewhere, it would squeeze out a good deal of the sewage disposal area on lot 3. We really can't afford to lose area from the SDA on lot 3. There just isn't anywhere else to pick up any useable SDA area on lot 3 without starting a huge domino effect that will most likely involve several other lots. As you know, it was a huge struggle just to get everything to work as it is now.

**Jeremiah Reynolds**

*Designer*

**VOGEL ENGINEERING + TIMMONS GROUP** | [www.timmons.com](http://www.timmons.com)  
3300 North Ridge Road, Suite 110 | Ellicott City, MD 21043  
Office: 410.461.7666 | Fax: 410.461.8961  
<https://www.linkedin.com/company/timmons-group>  
*Your Vision Achieved Through Ours*

To send me files greater than 20MB [click here](#).

---

**From:** Williams, Jeffrey <[jewilliams@howardcountymd.gov](mailto:jewilliams@howardcountymd.gov)>  
**Sent:** Monday, June 25, 2018 2:12 PM  
**To:** Rob Vogel <[Rob.Vogel@timmons.com](mailto:Rob.Vogel@timmons.com)>  
**Cc:** Jeremiah Reynolds <[Jeremiah.Reynolds@timmons.com](mailto:Jeremiah.Reynolds@timmons.com)>  
**Subject:** RE: Jacks Landing Lot 4

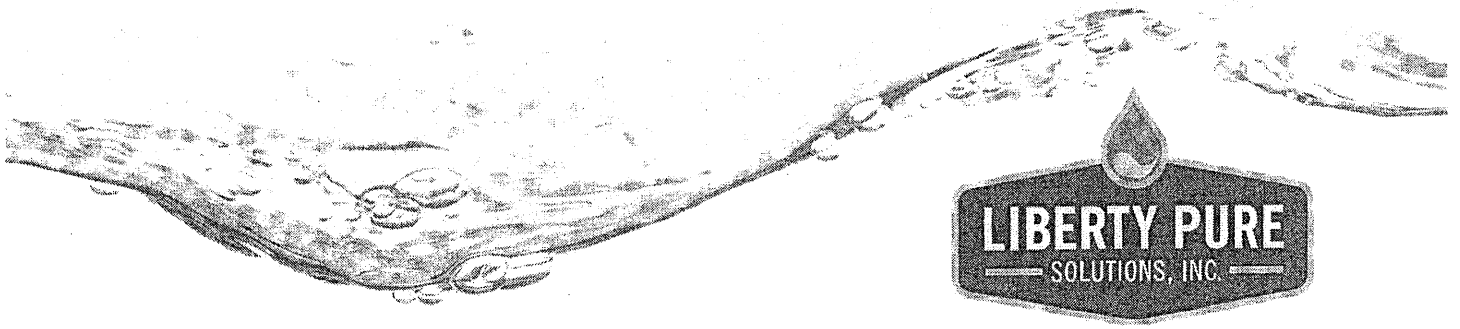
We've reviewed the revised plan for lot 4. We would like for you to try to come up with an alternate well location that doesn't get closer to the front lot line than the existing alternate well location. See if you can revise the SDA for lot 3 to make it work. We are not comfortable approving the location as shown if there is another possibility. Thanks  
Jeff

---

**From:** Rob Vogel [<mailto:Rob.Vogel@timmons.com>]  
**Sent:** Thursday, June 07, 2018 11:54 AM  
**To:** Williams, Jeffrey  
**Cc:** Jeremiah Reynolds  
**Subject:** Jacks Landing Lot 4

Jeff  
Caruso Homes has sited a house different than our plan and the signed perc cert plat. As you can see from the attachment the proposed house would be located over a replacement well location and close to the abandoned original well. Can you please let us know if this is acceptable? Or will this need a new perc cert plat? There are others involved in this and we were out of the loop.  
Thanks Rob

**Robert H. Vogel P.E.,M.ASCE**



### Chloride and sodium removal for Jacks Landing proposed properties

With Liberty Pure Solutions, Inc. equipment installed (ranging on need of property for gpd capacity) Liberty Pure Solutions, Inc. is prepared to guaranty production of potable water in efficient quantity (100-150gpd per person) based on the attached (worst found +20%) water quality testing by independent local state certified laboratory.

The technologies attached may be configured using, sediment filtration UF filtration, softening by ion exchange, Manganese and iron removal by Aeration, filtration, anti-scaleant feed systems, Reverse Osmosis, booster pumps, pH adjustment with pH solution or traditional calcite/Mag/GM media, Ultra Violet light, etc. Each residence may require a different combination based on the metals, minerals, and organics discovered and treated for.

As each well may contain slightly different chemistry and demands, we will custom design, install, service and maintain each system for a fixed price.

We can guarantee that the most additional waste will be the same as 2x the standard demand or a recovery of 50% or a 1:1 ration of product to waste for the water purification process.

We have systems installed handling these issues dating back to 1988, the technology is readily available and serviceable by multiple service companies in the area. The average maintenance for these systems should not exceed \$600/yr.

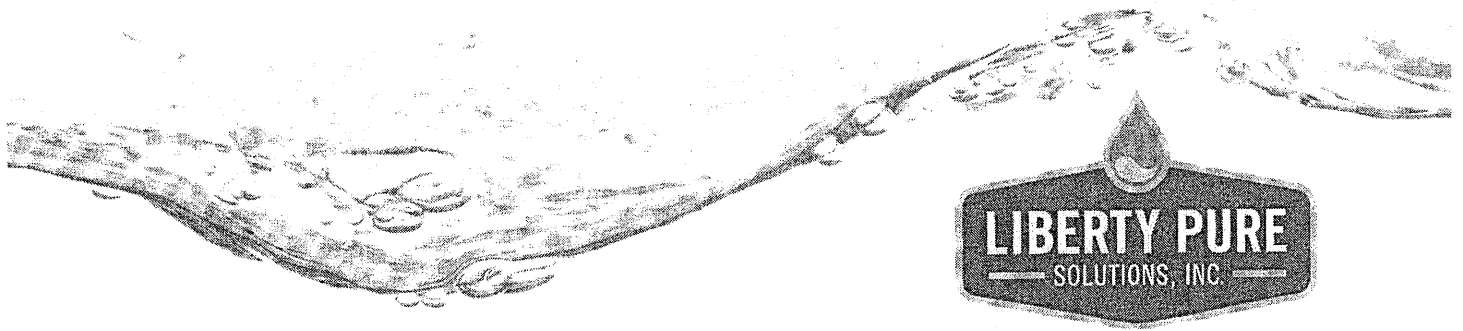
Please review the attachments and call if there are any further questions or performance guarantees needed to move forward

Sincerely,

*Douglas R Workman*

Doug Workman, MWS, CI, WCI119 (MDE) | Applications Engineer  
President  
Liberty Pure Solutions, Inc.

Enclosures water testing, equipment specifications, typical contract



02-29-2016

Howard County Health Department

Regarding property known as Jack's Landing

To whom it may concern:

Liberty Pure Solutions Inc. hereby intends to enter a contract with the developer for said property to accomplish the following:

**Given:**

A minimum of 1gpm well capacity.

Space allocation adequate for storage of potable water, equipment and supplies.

**Guaranty:**

Provide potable water for 4 people on a budget not to exceed \$20k

Provide a system with a maximum product to waste discharge of !!.

Water quality warranty for 12 months (LPSI will upgrade or adjust equipment at no charge for first 12 months (to allow for raw water changes the first 12 months).

Attached please find a complete design and proposal for the well presenting the biggest challenge at this time on said property.

If you have any questions please do not hesitate to call me.

Sincerely,

Douglas R. Workman, Master water Specialist, WCI119

President



2824 Paper Mill Road  
Phoenix, MD 21131  
Local: (410) 527-1024  
Toll Free: 1-800-253-2692  
Fax: (410) 527-1026

November 7, 2018

Dear Mr. Williams:

Per our discussions currently and in 2016 Liberty Pure solutions, Inc. will manufacture and install the following into Jacks Landing Unit 4:

One 1800 gpd turnkey Reverse Osmosis plant with booster pump, adjustment valves and gauges for pre, post, boosted and product water as well as recycled water. This unit will comply with the 1:1 product/waste ratio, and produce up to 1800gpd.

Pretreatment will consist of sediment filtration, pH adjustment, softening and/or anti-scaleant feed system.

Post Treatment will include pH adjustment and UV light following a 300-400gal storage tank with constant pressure system for delivery to the home.

There will also be adequate septic, or separate drain filed provided for discharge.

Current raw water levels for Sodium 275mg/L

Chlorides 658mg/L

TDS 1200mg/L

We guarantee to reduce sodium to <50ppm and Chloride's to <50ppm as required.

We certify that the waste water stream form the RO system will not exceed the product water (1:1 maximum). We also have a softener and Neutralizer that will backwash approximately 1-2 times per week at 80 gal maximum per event.

As I understand you have already received the documents outlining the design plan for our proposed units. If you have any additional questions, please do not hesitate to call us.

Sincerely,

Douglas R. Workman CI, CSR, CWSIII (MD)  
President, Liberty Pure Solutions, Inc.



## Williams, Jeffrey

---

**From:** Kevin Oaster <Kevin.O@libertypure.us>  
**Sent:** Friday, November 09, 2018 8:53 AM  
**To:** Williams, Jeffrey  
**Subject:** RE: 4 Jacks Landing

Yes the number will be under 50 with the R/o system

---

**From:** Williams, Jeffrey [<mailto:jewilliams@howardcountymd.gov>]  
**Sent:** Friday, November 09, 2018 8:20 AM  
**To:** 'Kevin Oaster'  
**Cc:** 'MRED Mail'  
**Subject:** RE: 4 Jacks Landing

Thanks. Did you mean to state that you are guaranteeing the Chlorides reduction to 50 ppm or less? The last letter said 250, which is the EPA secondary standard.  
Jeff

---

**From:** Kevin Oaster [<mailto:Kevin.O@libertypure.us>]  
**Sent:** Wednesday, November 07, 2018 10:03 AM  
**To:** Williams, Jeffrey  
**Cc:** 'MRED Mail'  
**Subject:** 4 Jacks Landing

Good Morning Jeff,

Attached is the letter with the required guarantees and updated water tests results

Kevin Oaster

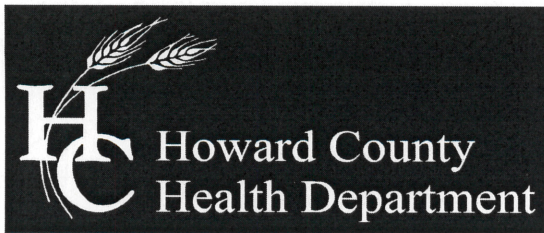


Liberty Pure Solutions Inc.  
2824 Paper Mill Road  
Phoenix, MD 21131  
410-527-1024 | 800-253-2692  
[www.libertypure.us](http://www.libertypure.us)

---

**From:** Shannon Jacobs [<mailto:shannon@libertypure.us>]  
**Sent:** Wednesday, November 07, 2018 10:00 AM  
**To:** [kevin.o@libertypure.us](mailto:kevin.o@libertypure.us)  
**Subject:**





## Bureau of Environmental Health

7178 Columbia Gateway Drive, Columbia, MD 21046-2147

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

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

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### MEMORANDUM

TO: Michael Barlow, MWD 355  
Barlow Well Drilling

FROM: Ryan Rappaport, LEHS   
Well & Septic Program

RE: VOC Testing required of all wells at Jack's Landing Lots 1-8 & Parcel A

DATE: October 20, 2014

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As per the approved and signed Percolation Certification Plan dated February 6, 2014, general note #13: VOC Testing will be required on all wells prior to health signature of final plat. See special condition on each well permit for specific requirements.

## Williams, Jeffrey

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**From:** Williams, Jeffrey  
**Sent:** Monday, June 25, 2018 2:12 PM  
**To:** 'Rob Vogel'  
**Cc:** Jeremiah Reynolds  
**Subject:** RE: Jacks Landing Lot 4

We've reviewed the revised plan for lot 4. We would like for you to try to come up with an alternate well location that doesn't get closer to the front lot line than the existing alternate well location. See if you can revise the SDA for lot 3 to make it work. We are not comfortable approving the location as shown if there is another possibility. Thanks  
Jeff

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**From:** Rob Vogel [<mailto:Rob.Vogel@timmons.com>]  
**Sent:** Thursday, June 07, 2018 11:54 AM  
**To:** Williams, Jeffrey  
**Cc:** Jeremiah Reynolds  
**Subject:** Jacks Landing Lot 4

Jeff  
Caruso Homes has sited a house different than our plan and the signed perc cert plat. As you can see from the attachment the proposed house would be located over a replacement well location and close to the abandoned original well. Can you please let us know if this is acceptable? Or will this need a new perc cert plat? There are others involved in this and we were out of the loop.  
Thanks Rob

**Robert H. Vogel P.E.,M.ASCE**

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