

C1 52465 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT FILL IN THIS FORM COMPLETELY PLEASE TYPE

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

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 MM DD YY 09 11 17

DATE WELL COMPLETED 05 30 17 Depth of Well 300 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" OK 9/22/17sc HO-17-0038

OWNER Elm Street Development WELL SITE ADDRESS HAVILAND MILL RD TOWN CLARKSVILLE SUBDIVISION M.I.L. CREEK SECTION LOT

WELL LOG Not required for driven wells

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), check if water bearing. Rows include SOIL, Red clay, Tan Rock, Brown Shale, Hard Gray Rock, Hard Green Rock, Hard Gray Rock.

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle appropriate box) YES Y NO N TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 22 NO. OF POUNDS 1650 GALLONS OF WATER 110 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 57 ft.

CASING RECORD

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

OTHER CASING (if used) diameter inch depth (feet) from to

SCREEN RECORD screen type or open hole (insert appropriate code below) ST BR HO PL OT

PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 10.0 METHOD USED TO MEASURE PUMPING RATE Submersible WATER LEVEL (distance from land surface) BEFORE PUMPING 50 ft. WHEN PUMPING 85 ft. TYPE OF PUMP USED (for test) S submersible

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED YES Y NO N

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

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

DRILLERS LIC. NO. 1 M W D 355 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. 1 WRO 113 D

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

DEPTH (nearest ft.)

HO 57 300

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 74 75 76 TELESCOPE CASING LOG INDICATOR OTHER DATA

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) + above 49 - below 49 LAND SURFACE 1 (nearest foot)

LATITUDE 39 18 588 LONGITUDE 76 49 649 (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. 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.

B 1 1938 A

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO - 17 - 0038 fill in this form completely

559843 please type

OWNER INFORMATION: Date Received (APA) 11/6/13, Elm Street Development, 1355 Beverly Rd, Suite 240, McLean VA 22101

LOCATION OF WELL: HOWARD COUNTY, MILL CREEK SUBDIVISION, CLACKSVILLE NEAREST TOWN

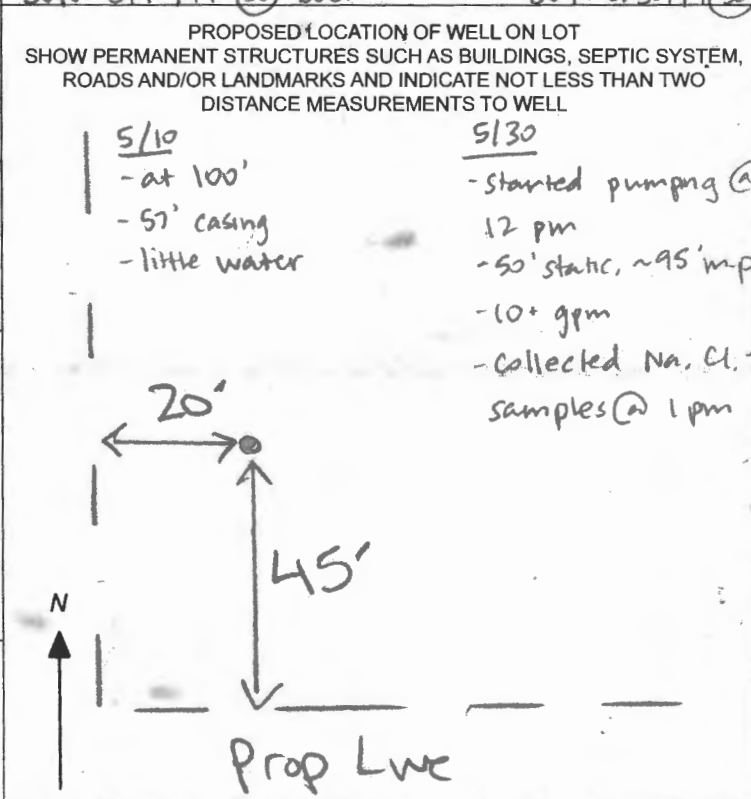
DRILLER INFORMATION: Michael Bartow MWD 355, Bartow Well Drilling, 522 Underwood Lane 21044

SOURCES OF DRILLING WATER: well, HAVILAND MILL R, ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) NORTH, WEST, SOUTH, EAST, DISTANCE FROM ROAD 200 FT, TAX MAP: 39 BLK: 6 PARCEL: 0001

WELL INFORMATION: APPROX. PUMPING RATE 5 GAL. PER MIN., AVERAGE DAILY QUANTITY NEEDED 750 GAL. PER DAY

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL: Howard A546326 13 COUNTY NAME COUNTY NO., STATE SIGNATURE, DATE ISSUED 3/28/17, CO SIGNATURE, EXP. DATE 3/28/18

USE FOR WATER (CIRCLE APPROPRIATE BOX): D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION



APPROXIMATE DEPTH OF WELL 300 FEET, APPROXIMATE DIAMETER OF WELL 6 INCH, NEAREST INCH

METHOD OF DRILLING (circle one): BORED (or Augered), AIR-ROTARY, CABLE, JETTED, AIR-PERCussion, REVERSE-ROTARY, Jetted & DRIVEN, ROTARY (Hydraulic Rotary), Drive-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX): N THIS WELL WILL NOT REPLACE AN EXISTING WELL, Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED, S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS, D THIS WELL WILL DEEPEM AN EXISTING WELL

Not to be filled in by driller (MDE OR COUNTY USE ONLY): APPROP. PERMIT NUMBER HQ 30 L6 G002, PERMIT No. HO - 17 - 0038

SPECIAL CONDITIONS: SEE ATTACHED MEMO (TAS, Sodium Chloride water samples required @ yield)



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: Foote's Well Pumps & Water Treatment, LLC Telephone #: 410 795 5670  
Address: 580 Obrecht Rd  
Sykesville, MD 21784

Must circle one: Licensed Plumber / Licensed Well Driller / Licensed Well Pump Installer

License # and name of individual responsible for the field installation:  
Name (Print): Dana C Foote License# MSD220

\*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: NVP Inc Telephone #: \_\_\_\_\_  
Subdivision: mill creek Lot #: 1 Well Tag #: HO-17-0038 ✓ 07/23/2019  
Site Address: 13304 mill creek ct  
CLARKSVILLE, MD 21029

**Submersible Pump Data**

Make: Boards  
Model #: 7H505922  
Pump Capacity: 7  
Well Yield: 10  
Depth of well encountered at time of pump installation: 300 (feet)

**Pitless Adapter**

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

**Well Cap and Electric Conduit**

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

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 NA

**Piping to house**

Type: 1" poly pipe  
PSI: 200 (160 psi min)  
Depth of supply line: 36" (36" min)

**House Connection**

PVC sleeve to undisturbed soil at wall penetration: YES  
Length of sleeve (5' minimum from foundation): 6'  
Sleeve sealed properly: YES

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

Signature of company representative responsible for installation: Dana C Foote date: 7/12/19

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

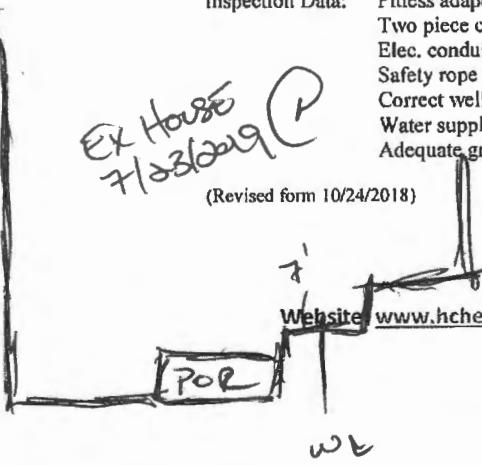
Date Insp. Requested: 07/23/2019 Date Insp. Approved: 07/23/2019 Inspector: \_\_\_\_\_  
Inspection Data: Pitless adapter watertight & water supply line at least 36" below grade ✓ 43" 7/23/2019  
Two piece cap installed and attached to casing securely ✓ 37" 7/23/2019  
Elec. conduit extends at least 18" below grade/attached to cap properly ✓ 20" 7/23/2019  
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 ✓

EX HOUSE  
7/23/2019

(Revised form 10/24/2018)

7/23/2019

COVER CAP ON WELL.  
WELL CAP IS LOOSE



**INTERIM CERTIFICATE OF POTABILITY**

**Expiration Date – MARCH 24, 2019**

September 24, 2019

Homeowner  
13804 Mill Creek Court  
Clarksville, MD 21029

**RE: Mill Creek, Lot 1  
13804 Mill Creek Court  
Building Permit: B19001156  
Well Permit: HO-17-0038**

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 **9/20/2019**. Final approval of the well line connection to the dwelling was granted on **9/24/2019**. The well construction was completed on **5/30/2017**. Water samples were collected on **9/3/2019, 9/9/2019**.

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-17-0038. 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.**

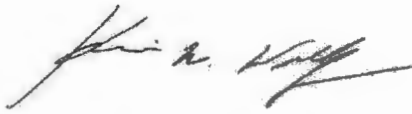
Please contact (410) 313-1773 to schedule a final water sample appointment or contact a Maryland certified water laboratory to schedule a water sample. A list of laboratories certified by the state of Maryland may be found at the following website:  
<http://www.mde.state.md.us/assets/document/WSP-Labs-2010apr16.pdf>

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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 Environments 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

# FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

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

## REPORT OF ANALYSIS

Laboratory ID #: 132568 Account #: 1933  
Reference: Mill Creek Lot 1 Company: Fogles Well Pump & Treatment  
Location: 13804 Mill Creek Court Requested By: Dave Fogle  
Clarksville, MD 21029 Source: Well Water  
Date/ Time Collected: 9/3/2019 1115 Site: Kitchen Sink  
Date/Time Rec'd: 9/3/2019 1320 Treatment: None  
Chlorine ppm: Free: ND Total: ND pH: 6.3  
Collected By: J. Evans 7411JE Well #: HO-17-0038

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Bacteria, Coliform, Total, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223B	9/4/2019 / 1000 / CRS
Bacteria, E. coli, MPN	<1.0	MPN/ 100 ml	<1.0	SM20 9223B	9/4/2019 / 1000 / CRS
Nitrate	5.85	mg/L	10	601	9/4/2019 / 0945 / RER
Turbidity	10.9	NTU	<10	SM20 2130B	9/4/2019 / 0950 / RER
Sand	Present	mg/L	5	Visual/Gravimetric	9/4/2019 / 0950 / RER

Needs Test for Iron/Manganese

### NOTES

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

Reason for Test : Use & Occupancy

Building Permit # : 19001156

Date Reported: 9/4/2019

# FOUNTAIN VALLEY ANALYTICAL LABORATORY, INC.

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

## REPORT OF ANALYSIS

Laboratory ID #: 132690 Account #: 1933  
Reference: Mill Creek Lot 1 Company: Fogles Well Pump & Treatment  
Location: 13804 Mill Creek Court Requested By: Dave Fogle  
Clarksville, MD 21029 Source: Well Water  
Date/ Time Collected: 9/9/2019 1235 Site: Laundry Room Sink  
Date/Time Rec'd: 9/9/2019 1355 Treatment: None  
Chlorine ppm: Free: ND Total: ND pH: 6.2  
Collected By: D. Fogle 8914DF Well #: HO-17-0038

PARAMETERS	RESULTS	UNITS	REFERENCE	METHOD	DATE/TIME/ANALYST
Turbidity	1.84	NTU	<10	SM20 2130B	9/10/2019 / 0920 / RER
Sand	NS	mg/L	5	Visual/Gravimetric	9/10/2019 / 0920 / RER

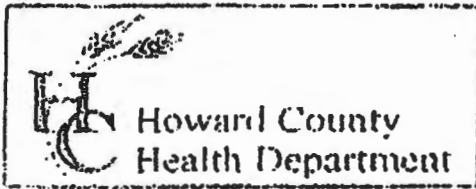
well ran for long periods.

### NOTES

- 1 NS = None Seen (NS indicates less than 5 mg/L)
- 2 NTU = Nephelometric Turbidity Units
- 3 Results less than or within the reference range are considered satisfactory and within potable water limits at the time of sampling.
- 4 Sample collected by client, analyzed as received
- 5 ND:None Detected
- 6 Visual well check: Sealed, vented cap
- 7 pH and Chlorine level tested in lab (pH tested after recommended holding time)

Reason for Test : Use & Occupancy  
Building Permit # : 19001156

Date Reported: 9/10/2019



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:

INDIVIDUAL

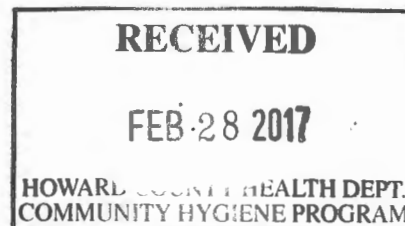
well sites have been staked for mill creek

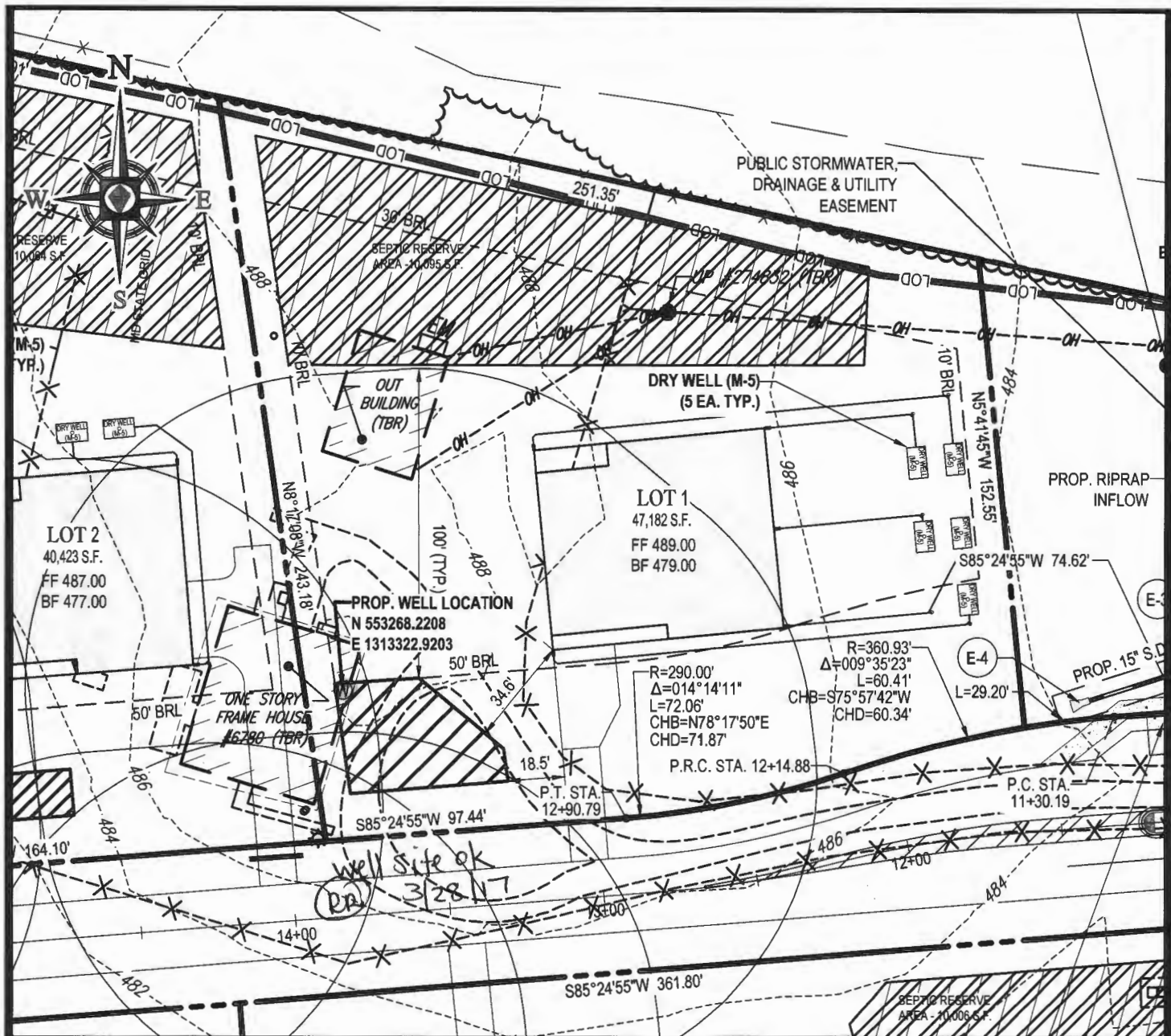
The well site has been staked by Bohler Engineering,  
(professional land surveyor or company employing professional land surveyors)  
on 2/24/17 (date) and does not require a site inspection.

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





**LEGEND**

-  PROPERTY LINE
-  BUILDING RESTRICTION LINE
-  PROPOSED WELL BOX / WELL LOCATION
-  SEPTIC RESERVED AREA

**RECEIVED**

**MAR -2 2017**

**HOWARD COUNTY HEALTH DEPT.  
COMMUNITY HYGIENE PROGRAM**

10-17-0038



PROJECT NAME: **MILL CREEK SUBDIVISION**  
**PROPOSED LOTS 1-23 & NONBUILDABLE PRESERVATION PARCEL A - G**  
 6780 HAVILAND MILL ROAD, CLARKSVILLE, MD

SHEET TITLE: **WELL EXHIBIT - LOT 1**  
 1 OF 1

SCALE: 1" = 50'	DATE: 03-02-17	CAD ID: EX0	PROJECT NUMBER: MD142038
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**BOHLER**  
ENGINEERING

22636 DAVIS DRIVE, SUITE 250 STERLING, VA 20164  
 PHONE: (703) 709-9500 FAX: (703) 709-9501



Bureau of Environmental Health


8930 Stanford Blvd, Columbia, MD 21045  
Main: 410-313-2640 | Fax: 410-313-2648  
TDD 410-313-2323 | Toll Free 1-866-313-6300  
www.hchealth.org

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

LOT 1

**MEMORANDUM**

**TO:** Barlow Well Drilling

**FROM:** Ryan Rappaport, L.E.H.S.   
Well and Septic Program

**DATE:** March 1, 2017

**RE:** **State Water Appropriation and Use Permit for Crawford Property/Mill Creek Subdivision #HO2016G002(01) & Special Conditions**

The State Water Appropriation and Use Permit for the Crawford Property/Mill Creek Subdivision has a requirement regarding well spacing and testing:

*15. The Permittee shall conduct simultaneous yield tests of wells closer than 100 feet apart, if at least one of the wells is on a lot less than one acre in size. The yield testing shall be conducted to ensure that the minimum yield requirements of COMAR 26.04.04.26 are met. In the event that a well that has been tested simultaneously with other wells does not meet minimum yield standards, the Permittee may relocate a well so as to achieve the 100-foot separation distance, deepen or otherwise modify the well to improve its yield or drill a second well to be used in tandem to meet the minimum yield standards during simultaneous testing. All wells shall comply with well construction standards.*

The lots of the Crawford Property/Mill Creek Subdivision that are less than an acre are lots 2, 3, 12, 13 and 18. If a well on one of these lots is within 100' of another well, a simultaneous yield test of both wells will be required.

**SPECIAL CONDITIONS**

- All drilling, grouting and yields must be called into the Health Department for inspection. Call 410-313-1771 for scheduling.
- Since all 23 lots have the well locations staked and not the lot's well boxes it is required that if during the drilling a dry hole is encountered, the Health Department must be notified immediately before any additional drilling is completed on that particular lot.
- The wells on lots 1, 7, 15 and 19 will require TDS, sodium and chloride water samples during the yield test.
- The wells on lots 20 and 21 must be drilled using steel casing that extends to at least 50 feet depth or 10 feet into competent bedrock, whichever is deeper.

Feel free to contact me with any questions at 410-313-1781 or [RRappaport@howardcountymd.gov](mailto:RRappaport@howardcountymd.gov).

Cc: File



Mill Creek  
Lot 1

STATE OF MARYLAND WELL INSPECTION SHEET

DATE: 05/11/2017

COUNTY: Howard 13

WELL TAG #: HQ 17 0038

ONSITE START TIME: 11:05

END OF INSPECTION TIME:

LATITUDE/LONGITUDE: 39.1857 / -76.9965 COPY OF PERMIT ONSITE: Y

WELL DRILLING PERSONNEL: Barlow  
Joseph

GOVERNMENT PERSONNEL: CABANUQ

OTHERS:

CONSTRUCTION 05/10/2017

LOCATION CONSISTENT WITH PLAN: Y N

CHLORINE PRESENT IN MAKE UP WATER: Y N

BIT/STABILIZER SIZE:

PENETRATION RATE:

NOTES:

CASING/SCREEN


LENGTH/SIZE/ASTM# OF CASING SET:

LENGTH/SIZE/ASTM# OF LINER:

SCREEN LENGTH/SLOT SIZE/ASTM#:

DEPTH SET:

NOTES:

GROUTING 05/11/2017 @ 12:00 

TREMIE LENGTH: 30-0' <sup>Barlow</sup> TREMIE DIAMETER: PRODUCT USED: B C BAG WEIGHT:

MAKE UP WATER pH: THERMALLY ENHANCED:  Y N TYPE/WEIGHT OF ADDITIVE:

GALLONS OF WATER USED PER BAG: MUD WEIGHT AT START:

MUD WEIGHT AT END: NUMBER OF BAGS USED:

NOTES: \* Call office for

\* Driller did not have copy of permit onsite.  
Well did have bags protecting annular space.

30' Tremie  
Thermally jammed. 300' casing ~ 12:57 25 bags 5 gal/bag  
cut + grout topped off \* See grout space sheet.

WELL DEVELOPMENT/YIELD/REWORKING

METHODS USED: S SB J OP C DURATION: FINAL STATIC & YIELD:

HYDROFRACTURED: Y N SINGLE OR ZONE PACKER: S Z DEPTH OF PACKER SETS:

TOTAL GALLONS OF WATER USED: ESTIMATED YIELD OF FLOW BACK:

DEVELOPMENT NOTES:

UPPER TERMINAL/PUMP INSTALLATION

GROUT PRESENT IN ANNULAR SPACE: Y N PUMP IDENTIFICATION:

DROP PIPE DESCRIPTION: DEPTH/LOCATION OF CHECK VALVES:

PITLESS, CONDUIT PIPE & WATER SERVICE LINE DEPTH: SAFETY ROPE: Y N

ELECTRICAL CABLE DESCRIPTION: PROPER CAP & STICK UP: Y N

STATIC WATER LEVEL: PUMP SET DEPTH: TAG ON WELL: Y N

GENERAL NOTES



By Quality Grout, LLC

## Technical Data Sheet

### **WELL GROUT™ Pre-Blended Grout**

#### **Description**

Well Grout™ is a special pre-blended cementitious formulation designed for use in grouting boreholes containing ground source heat loops. Well Grout™, when combined with water at the prescribed dosage rate, yields a cohesive grout with excellent workability and grouting annular space in water well, etc..

The use of Well Grout™ guarantees consistent permeability and conductivity over the life of the well. Well Grout™ improves heat transfer efficiency by matching the thermal conductivity of the surrounding soil. It also allows for superior handling capability, batch control and QC/QA on the job site.

#### **Application**

Sealing/grouting of plastic ground source heat loops; sealing / grouting of annular spaces in wells and boreholes; creation of a low permeability, low shrinkage seal to prevent down-hole cross-contamination of aquifers; and to prevent entry of surface water into a borehole and/or well abandonment.

#### **Properties**

##### Well Grout™ Powder

Appearance: Black/gray, free-flowing powder  
Specific gravity: 2.596  
Bulk Density: 2.380  
Particle Size (max): 1.18mm  
Moisture: <0.5%

##### Mixed Well Grout™

Grout density: 40 to 50 lb/ft<sup>3</sup>  
Compressive Strength: Min. 400 psi  
Permeability: 3 x 10<sup>-7</sup>

#### **Recommended Mixing Proportions**

The recommended mix proportions are as follows:

Weight of Well Grout:	75lbs.
Water per 75lb bag:	5 gallons
Yield:	6.75 gallons

#### **Packaging and Availability**

Standard packaging: 75lb. bags, 56 bags per pallet, 40 x 48 pallet, shrink-wrapped.

The product is not susceptible to freezing, but must be protected from exposure to moisture.

Whole Grout Products can be purchased by contacting:

Quality Grout, LLC  
950 Smile Way  
York, PA 17404  
Phone: 717.771.3545

**Disclaimer:** The statements in this bulletin are based upon data which is believed to be reliable, and is offered in good faith to be applied accordingly to the user's best judgment. Since operating conditions at project sites are beyond our control, Quality Grout, LLC will not assume responsibility for the accuracy of this data, or liability which may result from the use of its products.

**Health Hazard Warning:** Prolonged inhalation of dust associated with the unmixed powder described in this data sheet can cause respiratory distress. Avoid creating dust when handling, using or storing. Follow OSHA safety and Health Standards for fugitive dust.

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

March 7, 2018

Homeowner

Clarksville, MD 21029

Dear Homeowner,

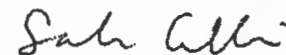
The Health Department received results from the testing for sodium, chloride, and total dissolved solids (TDS) from the well on this lot.

Elevated sodium levels in drinking water may affect individuals on low-salt diets. The action level for sodium is 20 milligrams per liter (mg/L); **sodium from the well measured 7.23 mg/L.**

Chloride and TDS are both considered secondary contaminants, meaning high concentrations may affect taste, color, odor, or corrosive properties of water but present no risk to health. The secondary maximum contaminant level for chloride is 250 mg/L; **chloride from the well measured 12 mg/L.** The secondary maximum contaminant level for TDS is 500 mg/L; **TDS from the well measured 127 mg/L.**

Feel free contact me at the number or email below with any questions regarding the results of water sampling.

Sincerely,



Sarah Collins, L.E.H.S.  
Howard County Health Department  
Well & Septic Program  
[SCollins@howardcountymd.gov](mailto:SCollins@howardcountymd.gov)  
410-313-6287

Cc: Community Hygiene Program  
File

Send Report To: Bert Nixon  
Howard Co. Health Dept.  
Bureau of Environmental Health

State of Maryland  
DHMH - Laboratories Administration  
Division of Environmental Chemistry  
**TRACE METALS LABORATORY**  
1770 Ashland Avenue  
Baltimore, Maryland 21205

  
**E17004693001**  
Received: 05/31/2017  
Metals  
HO-17-0038

9930 Stanford Blvd.  
Columbia, MD 21045

### LABORATORY ANALYSIS REQUEST

Do not write above this line

Please Print

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Sample ID No: HO-17-0038 Site Name: Mill Creek - Lot 1 County: Howard

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

Date Collected: 5/30/2017 Time Collected: \_\_\_\_\_ a.m. 1 p.m. Phone #: 410-313-6287

Sample Preserved By:  Field  ESRL  WMRL  Central Lab  
Preservative Used:  HNO<sub>3</sub> pH: < 2

Sample Type:  Drinking Water  Landfill  Source (Raw Water)  Liquid  
Data Category:  Community  Stream  Distribution (Treated)  Solid  
Code:  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>MS</u>			Potassium (K)	
	Thallium (Tl)			Uranium (U)	
				Vanadium (V)	

Lab Supervisor: \_\_\_\_\_

Date Reported:   /  /  

• Phone: (443) 681-3857 • Fax: (443) 681-4507



State of Maryland  
DHMH-Laboratories Administration  
Division of Environmental Chemistry  
**TRACE METALS LABORATORY**  
1770 Ashland Avenue, Baltimore, Maryland 21205  
Robert Myers, Ph.D., Director



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
8930 STANFORD BLVD  
COLUMBIA, MD 21045

Lab Project No: E17004693 Date Coll.: 05/30/2017 Date Received 05/31/2017 Submitted By: Collins

Field ID: HO-17-0038  
Lab No.: E17004693001

<u>Method</u>	<u>Element</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
EPA 200.7	Sodium	7.23	ppm	06/09/2017

### Comments:

Approved by:     *Sadia Almusaa*    

Approval date:     06/16/2017    

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

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Telephone: (443) 681 - 3853

Fax: (443) 681-4507

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State of Maryland  
DHMH-Laboratories Administration  
Division of Environmental Chemistry  
**INORGANICS ANALYTICAL LABORATORY**  
1770 Ashland Avenue, Baltimore, Maryland 21205  
Robert Myers, Ph.D., Director



## Certificate of Analysis

HOWARD CO ENVIRONMENTAL HLTH  
8930 STANFORD BLVD  
COLUMBIA, MD 21045

Lab Project NoE17004694 Date Coll. 05/30/2017 Date Received 05/31/2017 Submitted By:S. Collins

Field ID: HO-17-0038  
Lab No.: E17004694001

<u>Analyte</u>	<u>Method</u>	<u>Result</u>	<u>Units</u>	<u>Date Analyzed</u>
Chloride	SM 4500-Cl E	12	mg/L	06/05/2017
Total Dissolved Solids	SM 2540C	127	mg/L	06/01/2017

### Comments:

Approved by:

Approval date: 06/13/2017

\*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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