

34103 SEQUENCE NO. (MDE USE ONLY) STATE OF MARYLAND WELL COMPLETION REPORT THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

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

ST/CO USE ONLY DATE Received DATE WELL COMPLETED Depth of Well PERMIT NO. FROM "PERMIT TO DRILL WELL"

MM DD YY MM DD YY 22 300 26 OK 2/25/15 SC HO-74-0110

8 13 15 20 (TO NEAREST FOOT) 28 29 30 31 32 33 34 35 36 37

OWNER LAND Design + Development last name first name TOWN Highland

WELL SITE ADDRESS Philadelphia Mill Rd

SUBDIVISION JACKS LANDINGS SECTION LOT 2

WELL LOG
Not required for driven wells

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

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
Soil	0	5	
Brown shale	5	47	
Med Gray Rock	47	300	✓
		95	✓
14 bags cement = 2.8 bags	50 ft	10 ft	✓
84 gal water = 6 gal water	14 bags cement	bag	✓

GROUTING RECORD (Circle Appropriate Box)

WELL HAS BEEN GROUTED Y N

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

NO. OF BAGS 14 NO. OF POUNDS 1360

GALLONS OF WATER 84

DEPTH OF GROUT SEAL (to nearest foot)
from 0 ft. to 30 ft.

CASING RECORD

caseing types insert appropriate code below

STEEL ST CONCRETE CO
PLASTIC PL OTHER OT

MAIN CASING TYPE DL Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 50

OTHER CASING (if used)

diameter inch depth (feet) from to

SCREEN RECORD

screen type or open hole (insert appropriate code below)

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

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED Y N

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

C 2 DEPTH (nearest ft.)

HO 50 300

1 8 9 11 15 17 21
2 23 24 26 30 32 36
3 38 39 41 45 47 51

SLOT SIZE 1 2 3

DIAMETER OF SCREEN (NEAREST INCH)
56 from 60 to

C 3 PUMPING TEST

HOURS PUMPED (nearest hour) 3

PUMPING RATE (gal. per min.) 5.0

METHOD USED TO MEASURE PUMPING RATE Submersible

WATER LEVEL (distance from land surface)
BEFORE PUMPING 38 ft.
WHEN PUMPING 91 ft.

TYPE OF PUMP USED (for test)
A air P piston T turbine
C centrifugal R rotary O other (describe below)
J jet S submersible

PUMP INSTALLED

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

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. 29

CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35

PUMP HORSE POWER 37 41

PUMP COLUMN LENGTH (nearest ft.) 43 47

CASING HEIGHT (circle appropriate box and enter casing height)
+ above } LAND SURFACE
- below } 1 (nearest foot)

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 D 355

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. 1 MS D 066

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

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

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (E.R.O.S.) W Q

70 72 74 75 76

TELESCOPE CASING LOG INDICATOR OTHER DATA

LATITUDE 39.21679
LONGITUDE 76.97556
(DEFAULT COORD. WGS 84)

NOTES: 76.97556

Prop Line

20'

B 1	28745	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL	STATE PERMIT NUMBER Ho-14-0110
1 2 3 6		554595-A please type		

OWNER INFORMATION

Date Received (APA) 08 22 14

8 MM DD YY 13

15 Last Name Owner First Name 34
LANDY DESIGN DEVELOPMENT

36 Street or RFD 55
5300 DORSEY HALL DRIVE, SUITE 102

57 Town 70 State 72 Zip 76
ELLCOTT CITY MD 21043

B 3 LOCATION OF WELL

8 COUNTY 21
HOWARD

23 SUBDIVISION 42
JACK'S LANDING

SECTION 44 46 LOT 48 50
2

52 NEAREST TOWN 71
HIGHLAND

DRILLER INFORMATION

Driller's Name 76 License No. 81
MICHAEL BARLOW M W D 355

Firm Name
BARLOW WELL DRILLING

Address
522 UNDERWOOD LANE, 21014

Signature Date
[Signature] 8/18/14

B 4 SOURCES OF DRILLING WATER

1. WELL

2.

3.

11 STREET ADDRESS 30
TRIADELPHIA MILL RD

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH
 WEST EAST
 SOUTH

34 500 37 DISTANCE FROM ROAD FT
500

ENTER FT OR MI 38 39
FT

TAX MAP: 34 BLK: _____ PARCEL 414

B 2 WELL INFORMATION

1 2 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12
5

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20
750

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) 517922
COUNTY NAME COUNTY NO.

STATE SIGNATURE _____ INSERT S → 41

DATE ISSUED 10/7/14 [Signature] 10/7/15
43 MM DD YY 48 CO SIGNATURE EXP. DATE

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

39 THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS

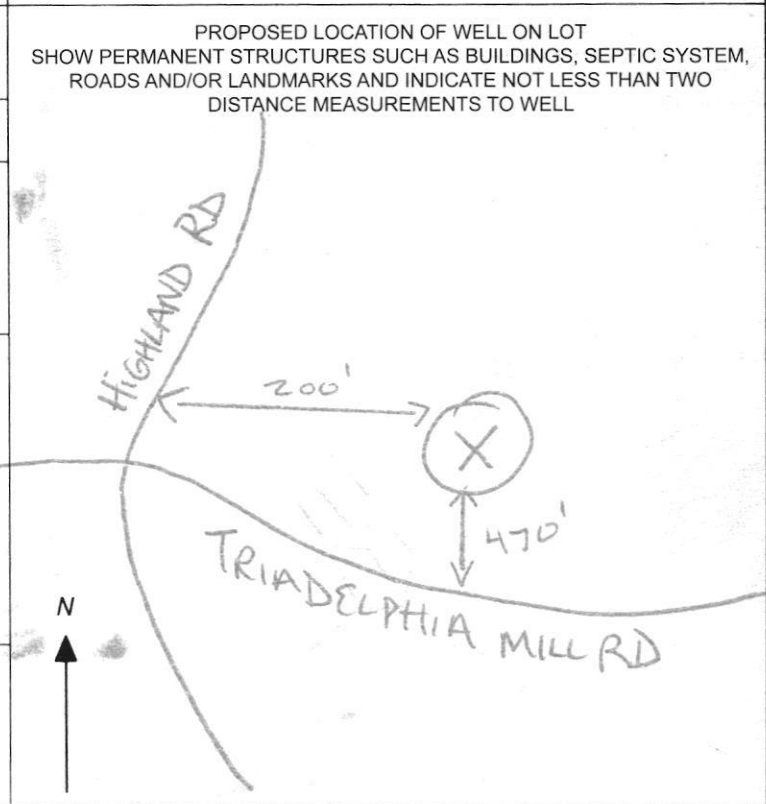
THIS WELL WILL DEEPEM AN EXISTING WELL

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)

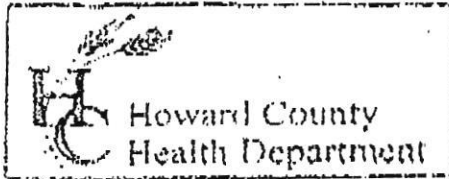
APPROP. PERMIT NUMBER _____ G _____

PERMIT No. Ho-14-0110
70 71 72 73 74 75 76 77 78 79



SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED- VOC testing required @ yield



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

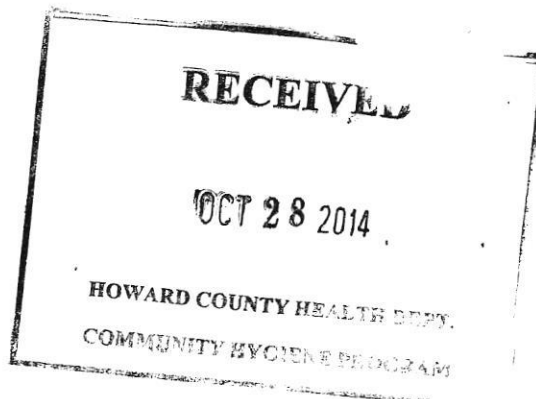
TO ALL INTERESTED PARTIES

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



ENVIRO-CHEM LABORATORIES, INC.



47 Loveton Circle, Suite K • Sparks, Maryland 21152

410-472-1112

FINAL REPORT OF ANALYSIS

Michael Barlow Well Drilling
522 Underwood Lane
Bel Air, MD 21014

Report Date: 07/19/2015
Report Number: 150719114723

LAB#- E040460-01 SAMPLE ID- HO 14-0110 WELL # HO 14-0110
LOCATION- Well Head SAMPLER- 8862MI
DATE SAMPLED- 07/16/2015 TIME SAMPLED- 13:30 Residual Chlorine-
DATE RECEIVED- 07/16/2015 TIME RECEIVED- 14:55
DELIVERED BY- J Williamson RECEIVED BY- Ginny Shelley
COMMENTS-

COMMENTS-

ANALYSIS	METHOD	ANALYSIS DATE/TIME	BY	RESULT	DATA FLAG
Total Metals EPA 200.7 by Enviro-Chem					
*! Sodium	EPA 200.7	07/17/15 11:43	CHK	11.4	mg/L
Wet Chemistry by Enviro-Chem					
\$ Chloride	EPA 300.0	07/17/15 11:22	EJF	38.9	mg/L
\$ Dissolved Solids	SM 2540C	07/16/15 19:50	SES	266	mg/L

Stephen Shelley
Laboratory Director

Certifications

- State of Maryland Certification #192
* - NELAP Certification 68-04873
! - VELAP Certification 460255
\$ - Not a certified Analyte

Analytical Results

Project: Jacks Landing

Project Number: HO 14-0109
Project Manager: Mike Isom

Reported:
02/05/15 11:49

HO 14-0110

5013020-02 (Water)
Sample Date: 01/29/15

Analyte	Result	Units	Reporting		Prepared	Analyzed	Analyst	Notes
			Limit	Dilution				
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS)								
tert-Amyl alcohol (TAA)	ND	ug/L	10.0	1	02/02/15	02/02/15 15:38	WB	
tert-Amyl methyl ether (TAME)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Benzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Bromobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Bromochloromethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Bromodichloromethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Bromoform	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Bromomethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
tert-Butanol (TBA)	ND	ug/L	10.0	1	02/02/15	02/02/15 15:38	WB	
n-Butylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
sec-Butylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
tert-Butylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Carbon tetrachloride	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Chlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Chloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Chloroform	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Chloromethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
2-Chlorotoluene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
4-Chlorotoluene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Dibromochloromethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2-Dibromo-3-chloropropane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Dibromomethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2-Dichlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,3-Dichlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,4-Dichlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Dichlorodifluoromethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1-Dichloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2-Dichloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1-Dichloroethene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
cis-1,2-Dichloroethene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
trans-1,2-Dichloroethene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2-Dichloropropane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,3-Dichloropropane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
2,2-Dichloropropane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1-Dichloropropene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
cis-1,3-Dichloropropene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
trans-1,3-Dichloropropene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	



Will Brewington, Staff Chemist

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Analytical Results

Project: Jacks Landing

Project Number: HO 14-0109
Project Manager: Mike Isom

Reported:
02/05/15 11:49

HO 14-0110

5013020-02 (Water)
Sample Date: 01/29/15

Analyte	Result	Units	Reporting Limit	Dilution	Prepared	Analyzed	Analyst	Notes
VOLATILE ORGANICS BY EPA METHOD 524.2 (GC/MS) (continued)								
Diisopropyl ether (DIPE)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Ethyl tert-butyl ether (ETBE)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Ethylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Hexachlorobutadiene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Isopropylbenzene (Cumene)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
4-Isopropyltoluene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Methyl tert-butyl ether (MTBE)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Methylene chloride	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Naphthalene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
n-Propylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Styrene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Tetrachloroethene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Toluene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1,1-Trichloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,1,2-Trichloroethane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Trichloroethene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Trichlorofluoromethane (Freon 11)	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2,3-Trichloropropane	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Vinyl chloride	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
o-Xylene	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
m- & p-Xylenes	ND	ug/L	0.50	1	02/02/15	02/02/15 15:38	WB	
Surrogate: 4-Bromofluorobenzene		80-120	87 %		02/02/15	02/02/15 15:38		
Surrogate: 1,2-Dichlorobenzene-d4		80-120	111 %		02/02/15	02/02/15 15:38		

Will Brewington, Staff Chemist

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.