

C1 26189

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 WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

DATE Received MM/DD/YY

DATE WELL COMPLETED MM/DD/YY

Depth of Well (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER, WELL SITE ADDRESS, SUBDIVISION, SECTION, LOT

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes handwritten entries for Soil, Clay, Brown shale, Med Gray Rock, Fractured Rock, Med Gray Rock, and 4 Bores x 375 Feet.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (CM, BC), NO. OF BAGS (20), NO. OF POUNDS (500), GALLONS OF WATER (500), DEPTH OF GROUT SEAL (0 to 375 ft).

CASING RECORD: MAIN CASING TYPE (ST), Nominal diameter top (main) casing (nearest inch) (60-70), Total depth of main casing (nearest foot) (70).

OTHER CASING (if used) table with columns: diameter inch, depth (feet) from, to. Includes handwritten entry for ST 5 120 140.

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

NUMBER OF UNSUCCESSFUL WELLS: 0. WELL HYDROFRACTURED (Y). CIRCLE APPROPRIATE LETTER: A, E, P.

DEPTH (nearest ft.) table with columns: 1-11, 15-17, 21-23, 26-28, 30-32, 36-38, 41-43, 45-47, 51-53. Includes handwritten notes for 20 bags x 20 gal = 400 gal, 52 gal, 375'.

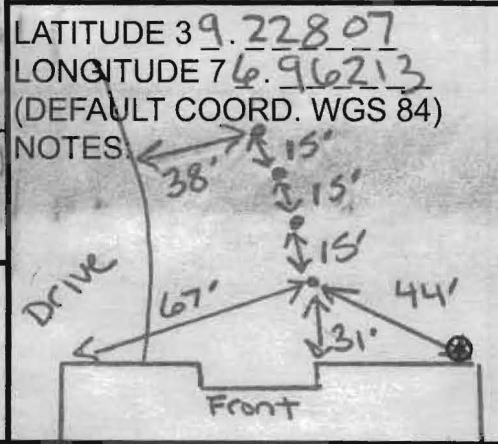
I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO. MW D 355. DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION). LIC. NO. MW D 920. SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee).

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER). GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68. TELESCOPE CASING, LOG INDICATOR, OTHER DATA.

PUMPING TEST: HOURS PUMPED (nearest hour) 8 9. PUMPING RATE (gal. per min.) 11 15. METHOD USED TO MEASURE PUMPING RATE. WATER LEVEL (distance from land surface) BEFORE PUMPING 17 20 ft. WHEN PUMPING 22 25 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 (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, - below. LAND SURFACE (nearest foot) 49 51.



B 1	28786	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL 555270-A please type	STATE PERMIT NUMBER Ho-14-0130 fill in this form completely
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Date Received (APA) 10/15/14

8 MM DD YY 13

15 Last Name: Flack Owner: Robert First Name: Robert

36 12945 Linden church RD Street or RFD

57 Clarksville MD 21029 Town State Zip

B 3 LOCATION OF WELL

8 COUNTY: Howard

23 SUBDIVISION: N/A

SECTION: 44 46 LOT: 48 50

52 NEAREST TOWN: Barton

DRILLER INFORMATION

Driller's Name: Michael Bartow License No. MW D 355

Firm Name: Bartow Well Drilling

Address: 522 Underwood Lane 21014

Signature: [Signature] Date: 9/23/14

B 4 SOURCES OF DRILLING WATER

1. Well

11 STREET ADDRESS: 12945 Linden church RD

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

34 500 37 DISTANCE FROM ROAD

ENTER FT OR MI 38 39

TAX MAP: 28 BLK: 16 PARCEL 155

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14

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 4 Bore x 375'

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard (13) COUNTY NAME COUNTY NO. ?

STATE SIGNATURE: Brian Baker DATE ISSUED: 10/31/2014

43 MM DD YY 48 CO SIGNATURE: Brian Baker EXP. DATE: 10/31/2015

APPROXIMATE DEPTH OF WELL 375 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

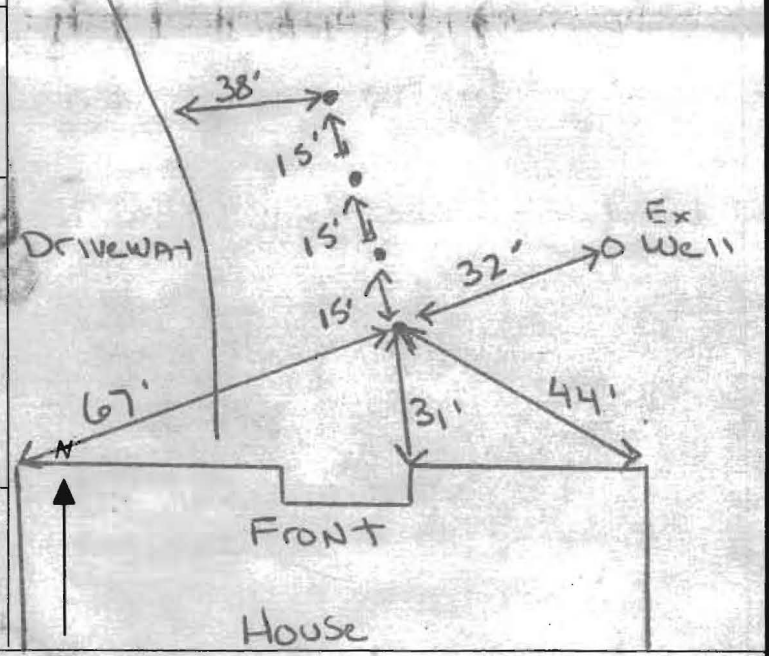
PROPOSED LOCATION OF WELL ON LOT SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM, ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCE MEASUREMENTS TO WELL

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



REPLACEMENT OR DEEPEINED 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 DEEPEIN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEINED (IF AVAILABLE) 41 _____ 52

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

APPROP. PERMIT NUMBER _____ G _____

PERMIT No. Ho-14-0130

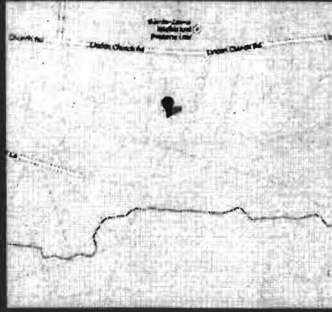
SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

ORDERED BY:



2015 EMMORTON ROAD, SUITE 102
BEL AIR, MARYLAND 21015
P:443-512-8450 F:443-512-8451



PROPERTY ADDRESS: 12945 LINDEN CHURCH ROAD CLARKSVILLE, MARYLAND 21029

SURVEY NUMBER: MD1406.1993

FIELD WORK DATE: 6/30/2014

REVISION HISTORY: (REV.0 7/2/2014)

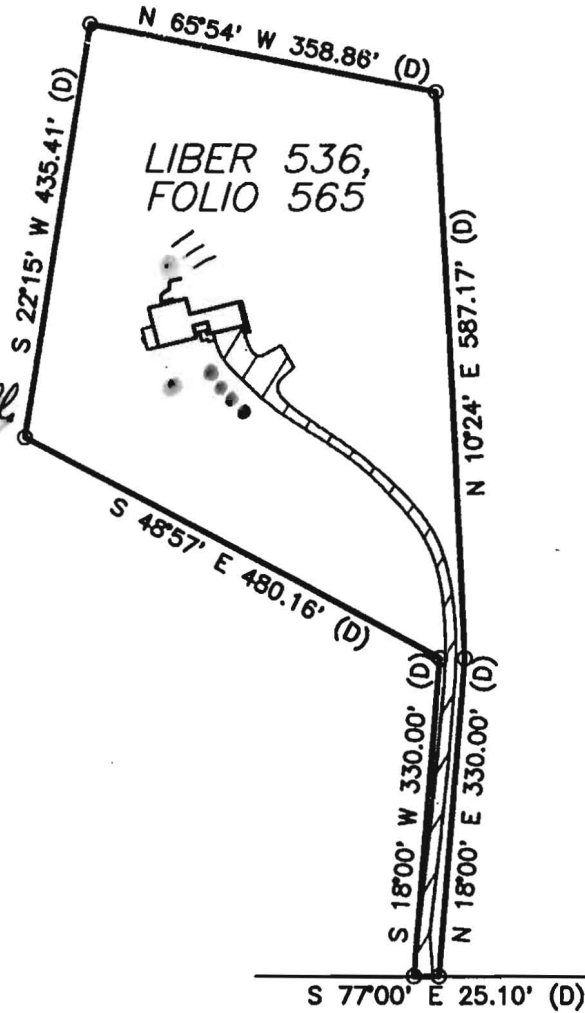
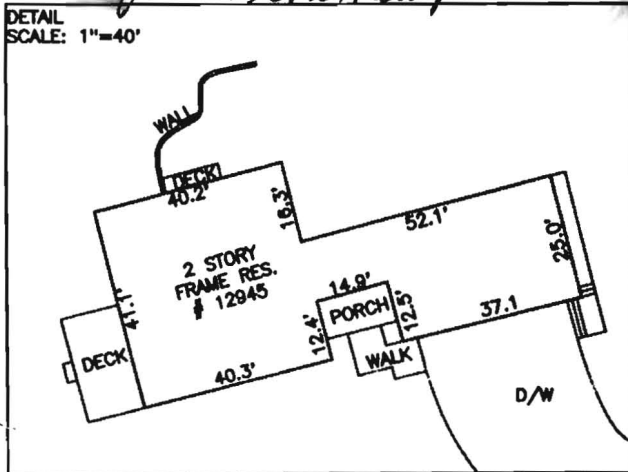
MD1406.1993

LOCATION DRAWING

12945 LINDEN CHURCH ROAD
HOWARD COUNTY, MARYLAND
07-01-2014 SCALE 1"=200'



If geo. borehole is converted to a potable well then keep geo. boreholes 30' from the new potable well.



LINDEN CHURCH ROAD
(30' R/W)



GRAPHIC SCALE (In Feet)
1 inch = 200' ft.

ACCURACY=3±

Ex Water Well

Ex Septic tank

Proposed Geo bores

DRILLER: COMPLETE THIS APPLICATION AND RETURN ALL PARTS OF THIS FORM INTACT TO THE ENVIRONMENTAL AGENCY IN THE COUNTY IN WHICH THE WELL IS TO BE DRILLED. PRESS FIRMLY FOR FOURTH COPY.

EMERGENCY/TEMP NO. IF ANY

B 1	28785	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type 555270	STATE PERMIT NUMBER HO-14-0129 <small>fill in this form completely</small>
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OWNER INFORMATION

Date Received (APA) **10 15 14**
8 MM DD YY 13

FLACK Robert
15 Last Name Owner First Name 34

12945 Linden Church Rd
36 Street or RFD 55

Clarksville MD 21029
57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL

HOWARD
8 COUNTY 21

N/A
23 SUBDIVISION 42

SECTION **44 46** LOT **48 50**

Dayton
52 NEAREST TOWN 71

DRILLER INFORMATION

Michael Bartow MWD 355
Driller's Name 76 License No. 81

Bartow Well Drilling
Firm Name

522 Underwood Lane 21044
Address

[Signature] **9/23/14**
Signature Date

B 4 SOURCES OF DRILLING WATER

1. **Well**

2.

3.

12945 Linden Church Rd
11 STREET ADDRESS 30

ON WHICH SIDE OF ROAD
(CIRCLE APPROPRIATE BOX)

NORTH
 WEST
 EAST
 SOUTH

34 **500** 37
DISTANCE FROM ROAD
ENTER FT OR MI 38 39

TAX MAP: **28** BLK: **16** PARCEL **155**

B 2 WELL INFORMATION

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

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

USE FOR WATER (CIRCLE APPROPRIATE BOX)

DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION

FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)

22 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 **Brian Baker** INSERT S →

DATE ISSUED **10/31/2014** **10/31/2015**
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

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

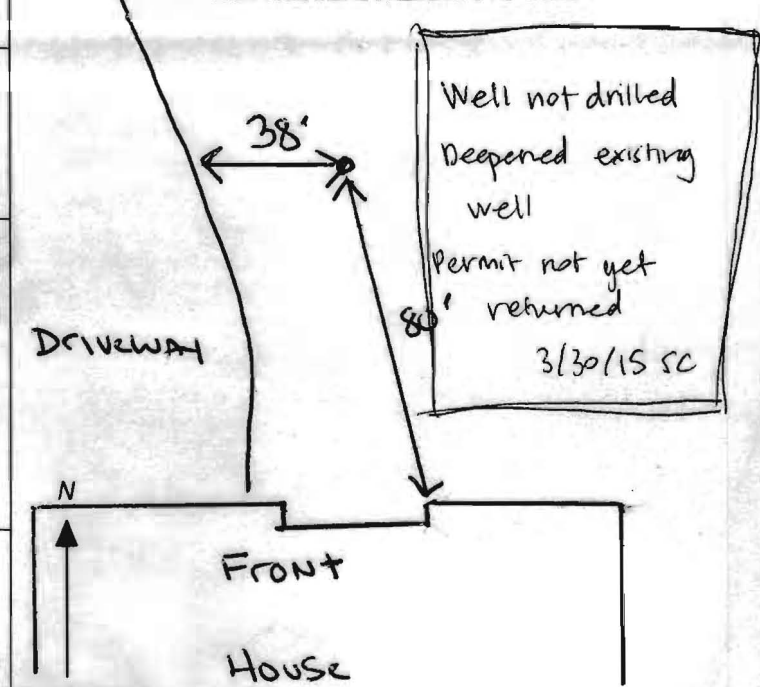
METHOD OF DRILLING (circle one)

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 **HO-73-0884** 52

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

APPROX. PERMIT NUMBER **G**

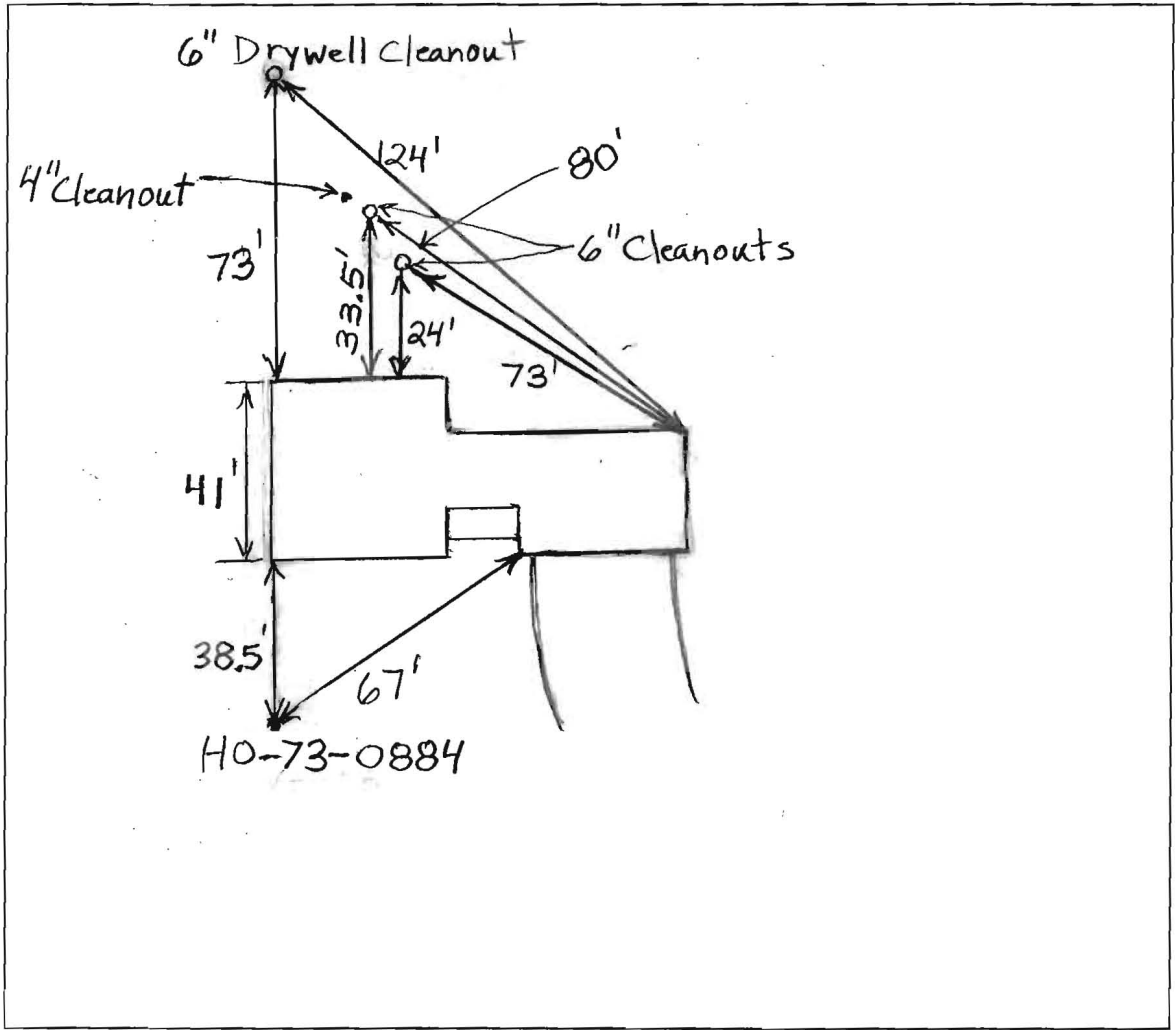
PERMIT No. **HO-14-0129**
70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS

SITE INSPECTION SHEET

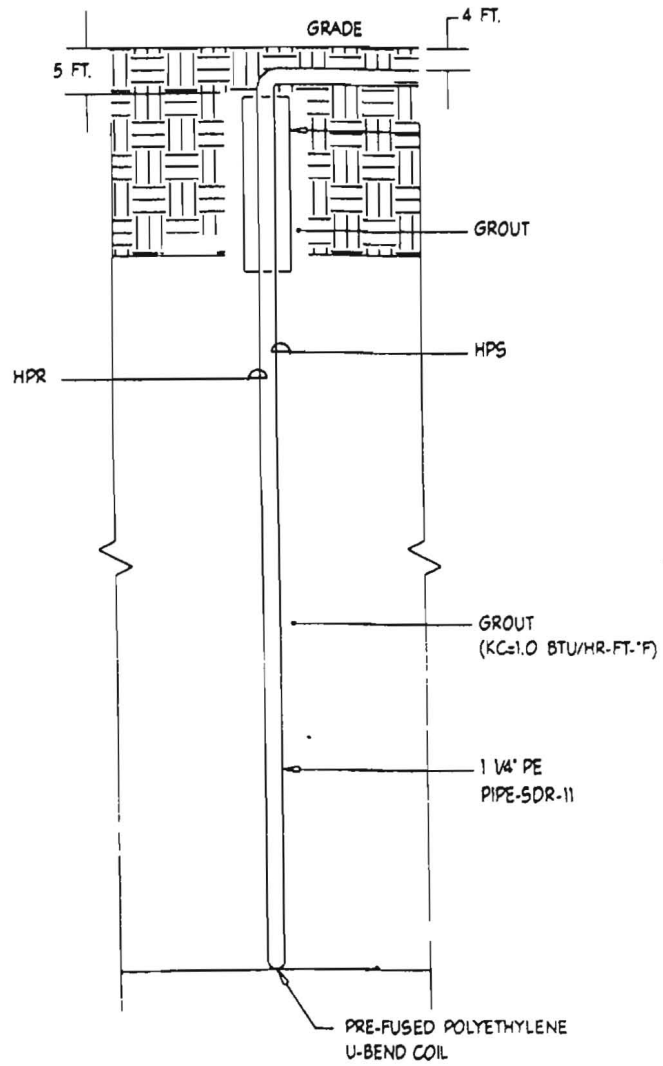
OWNER: Robert Flack PHONE #: _____
ADDRESS: 12945 Linden Church Rd. CONTRACTOR: _____
WELL TAG #: _____
SUBDIVISION: _____ LOT: _____ COUNTY #: _____
PROPOSAL: _____

LOCATION DIAGRAM



COMMENTS: No records found. Site visit made to determine location of well and septic system in relation to proposed boreholes.

DATE: 11/3/2014 INSPECTOR: B. Baker



4 TYPICAL BORE HOLE DETAIL
 M1.00 NOT TO SCALE

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

Howard County Health Dept
8930 Stanford Blvd
Columbia, MD 21046

September 24, 2014

Re: 12945 Linden Church Road

To Whom It May Concern,

Enclosed are two drilling permits for the above property, one geothermal and one water well, along with a site plan. The site plan is 1"=200', but is the only plan the owner could provide. I have indicated the location of his existing well, existing septic and four proposed drilling locations on the site plan. There are no neighboring wells or septic systems within 200 feet of the chosen locations.

Our intent is to begin drilling the geothermal bores first. If we encounter significant water during the construction of any of the geothermal bores, the customer would like us to convert that bore to a producing water well, then convert his existing water well (HO-73-0884, which is a low yielding well) to a geothermal bore by deepening it to a depth of 350 feet, inserting a loop and grouting with bentonite. It would then be utilized with the 3 other new geothermal bores shown on the plan.

On the well permit, I have indicated the geothermal bore furthest from the house as the location of the new well, but depending on our results, any of those four locations may end up as a well. I selected the four locations with that mind and believe that all of them meet the setback requirements for a water well. Please review our plan and confirm that is the case. If you have any questions, please give me a call or email at: misom@mbwd.us

Michael Isom
MDS162

C 1 26190

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.

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

COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER: FLACK last name, Rob first name, WELL SITE ADDRESS: 12945 Linden Church Rd, TOWN: Clarksville, SUBDIVISION, SECTION, LOT

WELL LOG Not required for driven wells STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

GROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS NO. OF POUNDS GALLONS OF WATER DEPTH OF GROUT SEAL

PUMPING TEST HOURS PUMPED (nearest hour) PUMPING RATE (gal. per min.) METHOD USED TO MEASURE PUMPING RATE

DESCRIPTION (Use additional sheets if needed) FEET FROM TO check if water bearing Med 125' well Deepened Existing

CASING RECORD casing types insert appropriate code below MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot)

BEFORE PUMPING WHEN PUMPING TYPE OF PUMP USED (for test) A piston C centrifugal J jet P piston R rotary S submersible T turbine O other

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

PUMP INSTALLED DRILLER INSTALLED PUMP (CIRCLE) (YES or 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) PUMP HORSE POWER PUMP COLUMN LENGTH (nearest ft.) CASING HEIGHT (circle appropriate box and enter casing height) LAND SURFACE (nearest foot)

NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED YES NO CIRCLE APPROPRIATE LETTER A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED E ELECTRIC LOG OBTAINED P TEST WELL CONVERTED TO PRODUCTION WELL

SCREEN RECORD screen type or open hole (insert appropriate code below) ST STEEL BR BRASS PL PLASTIC HO OPEN HOLE OT OTHER

DEPTH (nearest ft.) 300 SLOT SIZE 1 2 3 DIAMETER OF SCREEN (NEAREST INCH) from to

LATITUDE 39.22808 LONGITUDE 76.96200 (DEFAULT COORD. WGS 84) NOTES:

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. MWD 355 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. AWD 920 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 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

