

C1 22832
 1 2 3 6
 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

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

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

ST/CO USE ONLY DATE RECEIVED MM 09 DD 30 YY 13 DATE WELL COMPLETED MM 08 DD 25 YY 13 Depth of Well 22 375 26 (TO NEAREST FOOT) PERMIT NO. FROM "PERMIT TO DRILL WELL" Ho-95-2509

OWNER Pensy Kathleen WELL SITE ADDRESS 3299 Rosemary Lane TOWN West Friendship SUBDIVISION Wildflower Woods 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	7	
Red CLAY	7	23	
Brown shale	23	50	
Med GRAY Rock	50	375	

3 bores x 375 Feet

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 21 NO. OF POUNDS 1050
 GALLONS OF WATER 525
 DEPTH OF GROUT SEAL (to nearest foot) from 0 TOP 52 ft. to 375 BOTTOM 58 ft. (enter 0 if from surface)

CASING RECORD
 casing types insert appropriate code below
 ST STEEL CO CONCRETE
 PL PLASTIC OT OTHER
 MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch)! Total depth of main casing (nearest foot)
 60 61 63 64 66 70

OTHER CASING (if used)
 diameter inch depth (feet) from to
 E A C H C A S I N G

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

NUMBER OF UNSUCCESSFUL WELLS: 0
 WELL HYDROFRACTURED YES NO

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

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

DRILLERS LIC. NO. M D 355
 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)
 LIC. NO. AW D 924

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

C 2 DEPTH (nearest ft.)
 1 2
 E A C H S C R E E N
 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) from _____ to _____
 56 60 68

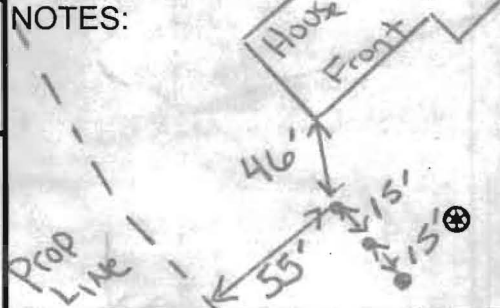
GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68 _____ 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
 T (E.R.O.S.) W Q
 70 _____ 72 _____ 74 75 76
 TELESCOPE CASING LOG INDICATOR OTHER DATA

C 3 **PUMPING TEST**
 HOURS PUMPED (nearest hour) 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 (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 (nearest foot)
 - below } 49 50 51

LATITUDE 39.27936
 LONGITUDE 76.95496
 (DEFAULT COORD. WGS 84)



B 1 23816

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type

STATE PERMIT NUMBER HD - 95 - 2509 fill in this form completely

OWNER INFORMATION Date Received (APA) 04/02/13 Densy Kathleen 6003 Ivy League Catonsville MD 21228

LOCATION OF WELL Howard Wildflower Woods 23 SUBDIVISION SECTION 44 46 LOT 48 50 2 West Friendship 52 NEAREST TOWN

DRILLER INFORMATION Michael Barlow MWD 355 Barlow Well Drilling 522 Underwood Lane 2104 4/1/13

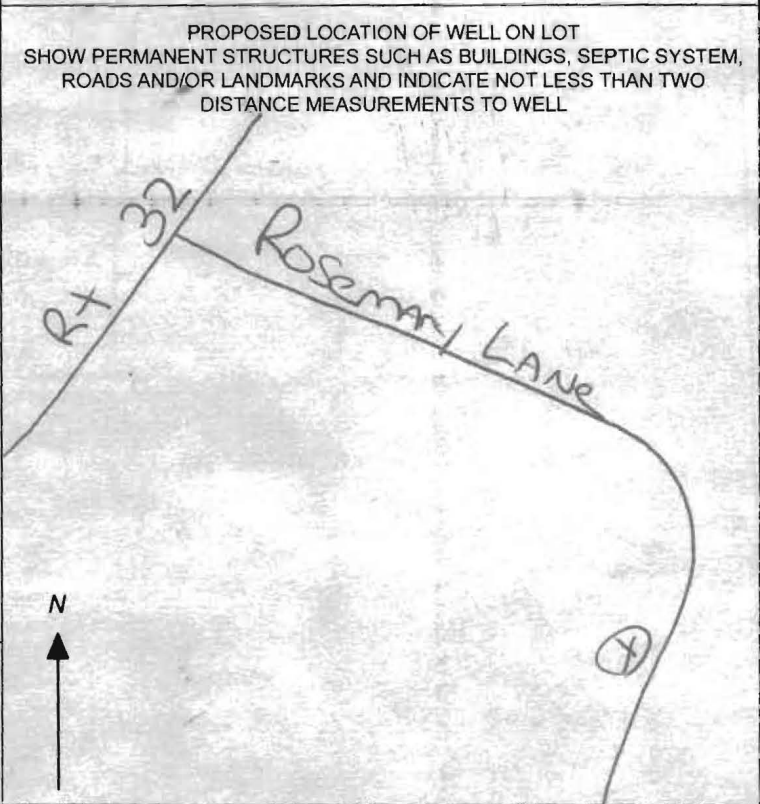
SOURCES OF DRILLING WATER 1. Well 3299 Rosemary Lane 11 STREET ADDRESS 30 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) NORTH [X] WEST SOUTH EAST DISTANCE FROM ROAD 34 200 37 ENTER FT OR MI 38 39 TAX MAP: 22 BLK: 5 PARCEL 271

WELL INFORMATION APPROX. PUMPING RATE (GAL. PER MIN.) 0 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 0

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL Howard A517379 13 COUNTY NAME COUNTY NO. STATE SIGNATURE INSERT S DATE ISSUED 04/23/2013 CO SIGNATURE EXP. DATE 4/23/14

USE FOR WATER (CIRCLE APPROPRIATE BOX) [C] CLOSED LOOP GEOTHERMAL 3 bores x 375

APPROXIMATE DEPTH OF WELL 375 FEET APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST

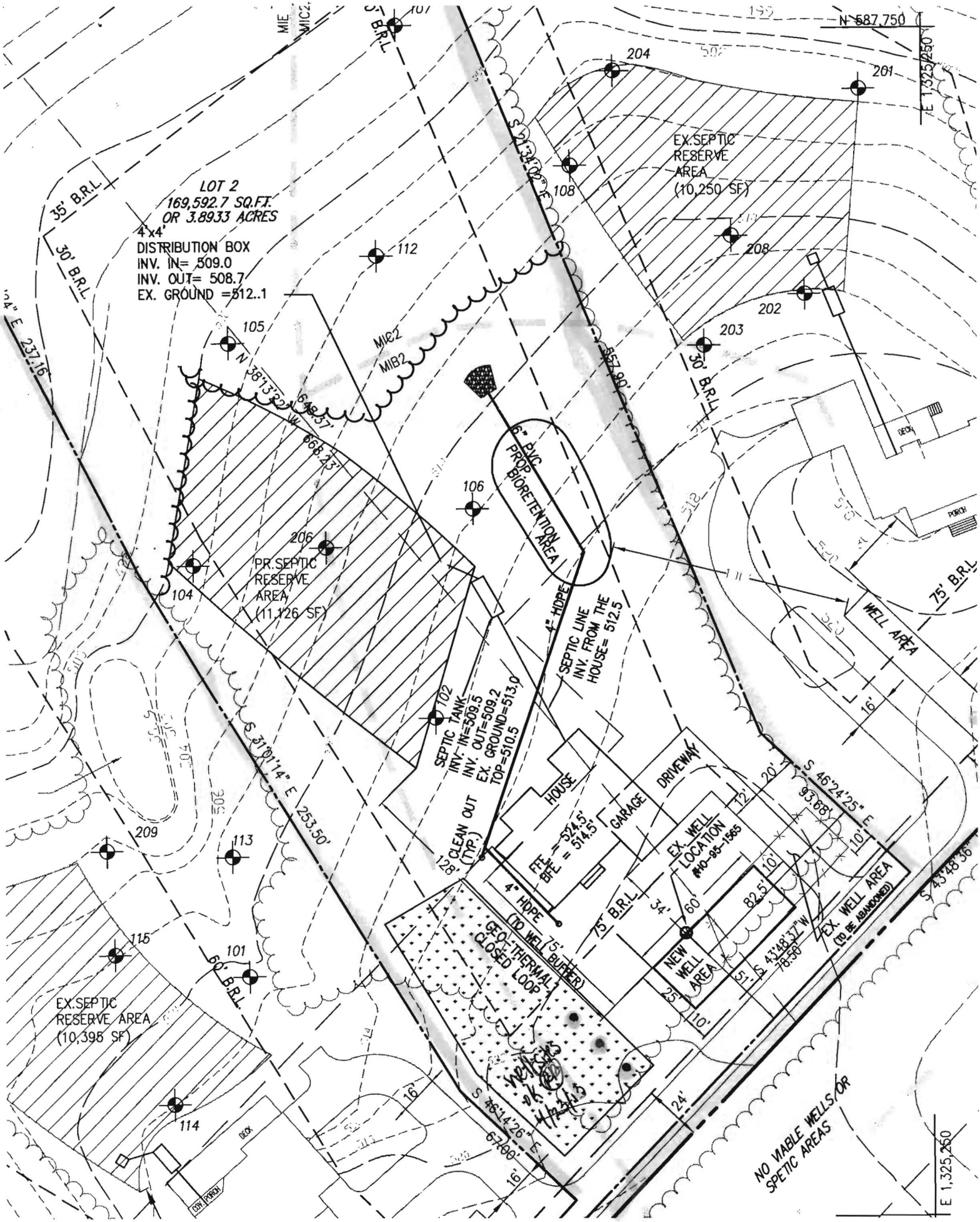


METHOD OF DRILLING (circle one) BORED (or Augered) AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary) JETTED Drive-POINT

REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX) [N] THIS WELL WILL NOT REPLACE 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. HD - 95 - 2509

SPECIAL CONDITIONS Well must be grouted from bottom to top.



LOT 2
 169,592.7 SQ.FT.
 OR 3.8933 ACRES
 4'x4'
 DISTRIBUTION BOX
 INV. IN= 509.0
 INV. OUT= 508.7
 EX. GROUND = 512.1

EX. SEPTIC
 RESERVE
 AREA
 (10,250 SF)

PR. SEPTIC
 RESERVE
 AREA
 (11,126 SF)

SEPTIC TANK
 INV. IN=508.5
 INV. OUT=509.2
 EX. GROUND=513.0
 TOP=510.5

SEPTIC LINE
 INV. FROM THE
 HOUSE= 512.5

EX. SEPTIC
 RESERVE AREA
 (10,398 SF)

GEO-THERMAL
 CLOSED LOOP

EX. WELL
 LOCATION
 #10-85-188

NEW WELL
 AREA

EX. WELL AREA
 (TO BE ABANDONED)

NO MABLE WELLS OR
 SEPTIC AREAS

1" = 50'

• Geobures

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

Howard County Health Department
7178 Columbia Gateway Drive
Columbia, MD 21046
Fax: 410-313-2648

January 2, 2013

Re: 3299 Rosemary Lane, West Friendship, MD

Dear Department of Environment:

Please note unless otherwise specified all geothermal bores installed by our company will be installed as follows:

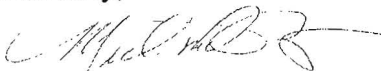
Grout: Bentonite Grout 20% solids minimum
Manufacture(s): Baroid or Wyo-Ben
Will be grouted from the bottom to the top with grout material

Piping: Polyethylene SDR 11 160 PSI as recommended per IGSHPA
Manufacture: EnDot or Charter Plastics or equal, Size 1" or 1 1/4"
IGSHPA Certification Number 12687

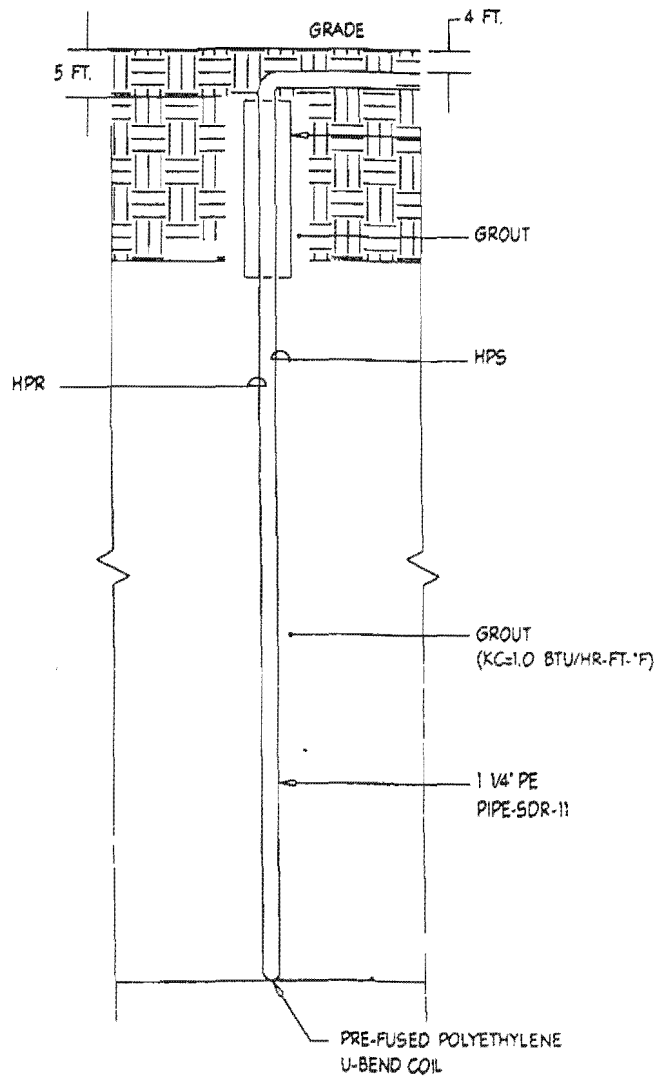
Also attached is a cross section diagram of the bore hole.

We would appreciate your help in getting this permit released as soon as possible so that we can expedite this project. If you have any questions, please do not hesitate to contact me.

Sincerely,



Michael Barlow



4 TYPICAL BORE HOLE DETAIL
 M1.00 NOT TO SCALE