

C 1 30350

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 COLUMNS 3-6 ON ALL CARDS)

FILL IN THIS FORM COMPLETELY PLEASE TYPE

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM DD 03 20 15

DATE WELL COMPLETED MM DD YY 2-12-15

Depth of Well 22 280 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" 40-15-0002

OWNER Vienna Gerbhard + Mary WELL SITE ADDRESS 14055 Laurel Rd TOWN Dayton, MD SUBDIVISION 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. Includes handwritten entries: Fill Dirt, Brown Soil, Bin Weathered Rock, Grey Rock.

NUMBER OF UNSUCCESSFUL WELLS:

WELL HYDROFRACTURED YES NO Y N

- 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

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 28.04.04 "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 553 DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. 1 JS D 44

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

GRROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box) YES NO Y N

TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 22 NO. OF POUNDS 1100 GALLONS OF WATER 550 DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 280 ft.

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)

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

SCREEN RECORD screen type or open hole insert appropriate code below

Table with columns: E A C H S C R E E N, SLOT SIZE 1 2 3, DIAMETER OF SCREEN (NEAREST INCH) from to

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

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 YES NO (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) 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 50 51

LATITUDE 39.24125 LONGITUDE 77.00298 (DEFAULT COORD. WGS 84)

NOTES: front XX

B 1 37065

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

555721 please type

40-15-0002 fill in this form completely

Date Received (APA)

01/27/15

OWNER INFORMATION

Vienne Gerhard + Mary 14055 Howard Rd Dayton MD 21036

B 3

LOCATION OF WELL

Howard COUNTY 21 23 SUBDIVISION 42 SECTION 44 46 LOT 48 50 Dayton NEAREST TOWN 52 71

DRILLER INFORMATION

C John Hess MWD 553 Allied Environmental Services P.O. Box 129 Annapolis Junction MD 20701

B 4

SOURCES OF DRILLING WATER

1. Public 2. 3.

14055 Howard Rd STREET ADDRESS 11 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



34 300 37 DISTANCE FROM ROAD

ENTER FT OR MI 38 39

TAX MAP: 0027 BLK: 0006 PARCEL 0001

B 2

WELL INFORMATION

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

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

USE-FOR WATER (CIRCLE APPROPRIATE BOX)

- D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION
F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
I INDUSTRIAL, COMMERCIAL, DEWATERING
P PUBLIC WATER SUPPLY WELL
T TEST, OBSERVATION, MONITORING
O OPEN LOOP GEOTHERMAL
C CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard COUNTY NAME 13 COUNTY NO. A536012 STATE SIGNATURE DATE ISSUED 2/3/15

APPROXIMATE DEPTH OF WELL 280 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary) CABLE REVERSE-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

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)

APPROX. PERMIT NUMBER P G

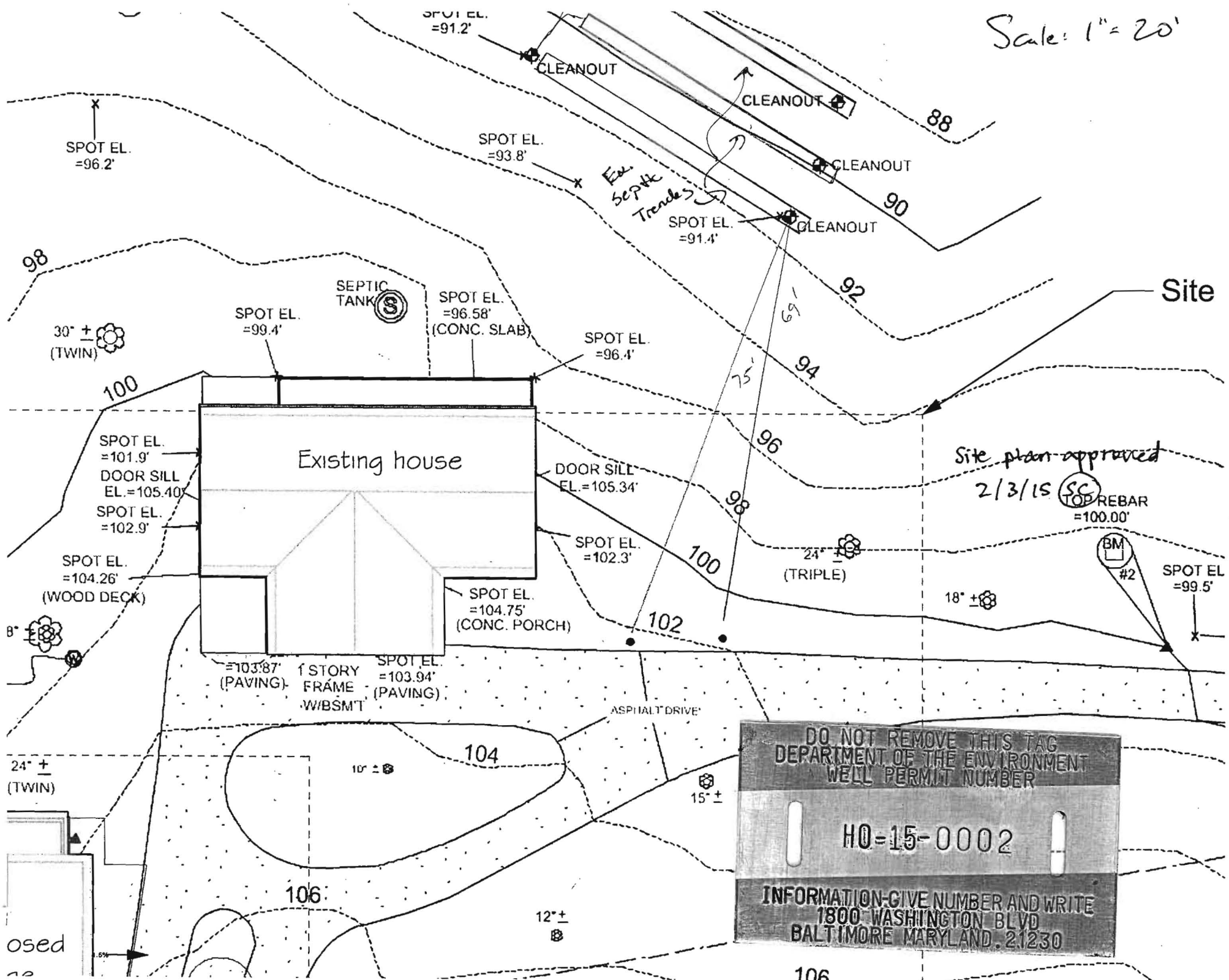
PERMIT No. 40-15-0002

SPECIAL CONDITIONS

NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

Notify health dept at time of granting

Scale: 1" = 20'



DO NOT REMOVE THIS TAG  
 DEPARTMENT OF THE ENVIRONMENT  
 WELL PERMIT NUMBER

**HO-15-0002**

INFORMATION-GIVE NUMBER AND WRITE  
 1800 WASHINGTON BLVD  
 BALTIMORE MARYLAND. 21230

## HOWARD COUNTY GROUTING PROCEDURE

Boreholes will be grouted from the bottom to the top via a tremie pipe and positive displacement pump. Bentonite grout, known as Quik-Grout will be used according to the manufacturer's specifications to achieve a consistency of at least 20% solids (24 gallons potable water/50 lb. sack of grout) and a permeability no more than  $2.5 \text{ E}(-08) \text{ cm/sec}$ . Grouting will be completed immediately after installing the geothermal loop and no later than twenty-four (24) hours after installing the geothermal loop. Open boreholes/annular space will be protected as necessary to prevent the entry of surface water or pollutants.



GRADE

EACH BORE HOLE (TYP.)

MINIMUM

HORIZONTAL BURY  
DEPTH 4 FT

FOR CONT.  
SEE PLANS

HORIZONTAL  
PIPING

BORE DEPTH

TAPE

5 TO 10 FOOT SECTION OF  
REBAR TO GUIDE TUBE  
INTO BORE DURING  
INSTALLATION

ANCHOR FITTING TO  
PREVENT U-TUBE FROM  
SURFACING AFTER  
INSTALLATION

GROUT ENTIRE ANNULAR  
SPACE AND VERTICAL  
U-TUBE WITH (BENTANITE)  
GROUT.

DEPTH MARKINGS IN FEET TO  
INDICATE DEPTH OF INSERTION

TYPICAL VERTICAL U TUBE  
6.0 PINCHES

TYPICAL BORE DIAMETER  
6.0 PINCHES

TYPICAL SOCKET U-BEND

