

C 1 36190

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

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)

FILL IN THIS FORM COMPLETELY PLEASE TYPE

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM DD

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER Tenbrock, Igeahwa & Ching, Louisia last name first name
WELL SITE ADDRESS 10564 Hunters Way first name
SUBDIVISION Warfields Range S2 SECTION TOWN Laurel M LOT 73

WELL LOG Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), check if water bearing. Includes entries for Top Soil, Brn Soil, Brn Red Soil, Sandstone + Sand, Weathered Rock, Gray Brn Rock, Gray Rock, Gray Rock + Gravel, Gray Rock.

GRROUTING RECORD Form: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (CEMENT CM, BENTONITE CLAY BC), NO. OF BAGS 44, NO. OF POUNDS 1100, DEPTH OF GROUT SEAL from 0 to 400 ft.

CASING RECORD Form: MAIN CASING TYPE (STEEL ST, PLASTIC PL), Nominal diameter top (main) casing (nearest inch) 60, Total depth of main casing (nearest foot) 60.

OTHER CASING (if used) Table with columns: diameter inch, depth (feet) from, to.

SCREEN RECORD Form: screen type or open hole (STEEL ST, BRASS BRONZE BR, PLASTIC PL, OPEN HOLE HO, OTHER OT).

NUMBER OF UNSUCCESSFUL WELLS: 0
WELL HYDROFRACTURED: YES (Y)

- 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. MWD 553
DRILLERS SIGNATURE
LIC. NO. WRO 697
SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

DEPTH (nearest ft.) Table with columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80.

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
TELESCOPE CASING, LOG INDICATOR, OTHER DATA

PUMPING TEST Form: 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, WHEN PUMPING 22 25, TYPE OF PUMP USED (for test) C centrifugal, S submersible.

PUMP INSTALLED Form: 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) 31 36. 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.

LATITUDE 39.15682 #1
LONGITUDE 76.8719
(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 SEQUENCE NO. (MDE USE ONLY) 58743 STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL please type 559844 STATE PERMIT NUMBER HO-15-0368
70 fill in this form completely 79

OWNER INFORMATION
 Date Received (APA) 11/16/16
 8 MM DD YY 13
Tenbrock Eigenhorst + Chiang Luyisa
 15 Last Name Owner First Name 34
10564 Hunters Way
 36 Street or RFD 55
Laurel MD 20723
 57 Town 70 State 72 Zip 76

B 3 LOCATION OF WELL
Howard COUNTY 21
Warfields Range S2 SUBDIVISION 42
 SECTION 44 46 LOT 73 48 50
Laurel NEAREST TOWN 71

DRILLER INFORMATION
C. John Hess MWD SS3
 Driller's Name 76 License No. 81
Allied Environmental Svcs
 Firm Name
PO Box 129 Annapolis Junction MD 20701
 Address
C. John Hess 10/27/16
 Signature Date

B 4 SOURCES OF DRILLING WATER
 1. Public
 2.
 3.
10564 Hunters Way STREET ADDRESS 30
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
 NORTH N
 WEST W EAST E
 SOUTH S
 34 220 37 DISTANCE FROM ROAD FT
 ENTER FT OR MI 38 39
 TAX MAP: 41 BLK: 24 PARCEL 454

B 2 WELL INFORMATION
 1 APPROX. PUMPING RATE (GAL. PER MIN.) 8 12
 2 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 14 20

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 2 loops

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL
Howard COUNTY NAME 13 COUNTY NO.
 STATE SIGNATURE INSERT S → 41
11/28/16 DATE ISSUED
S.L. Clark CO SIGNATURE 11/28/17 EXP. DATE
 43 MM DD YY 48

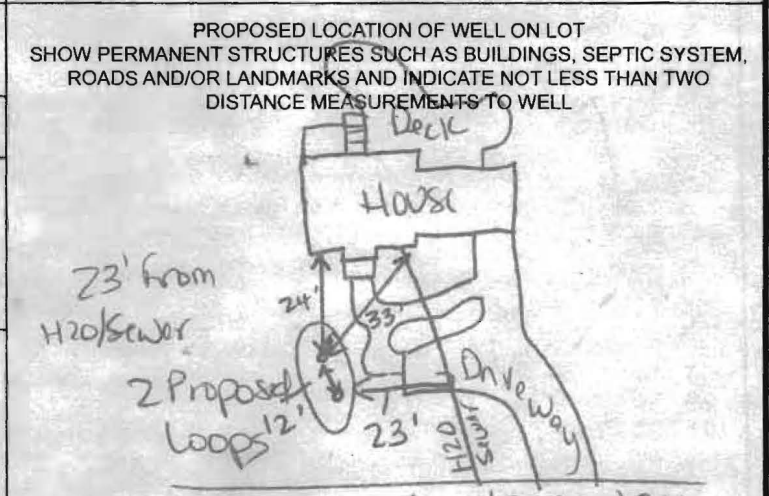
APPROXIMATE DEPTH OF WELL 400 FEET
 24 28

APPROXIMATE DIAMETER OF WELL 6 INCH
 NEAREST

METHOD OF DRILLING (circle one)
 BORED (or Augered) JETTED Jetted & DRIVEN
 AIR-ROTary AIR-PERcussion ROTARY (Hydraulic Rotary)
 CABLE REVerse-ROTary DRive-POINT
 other _____

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-15-0368
 70 71 72 73 74 75 76 77 78 79



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.

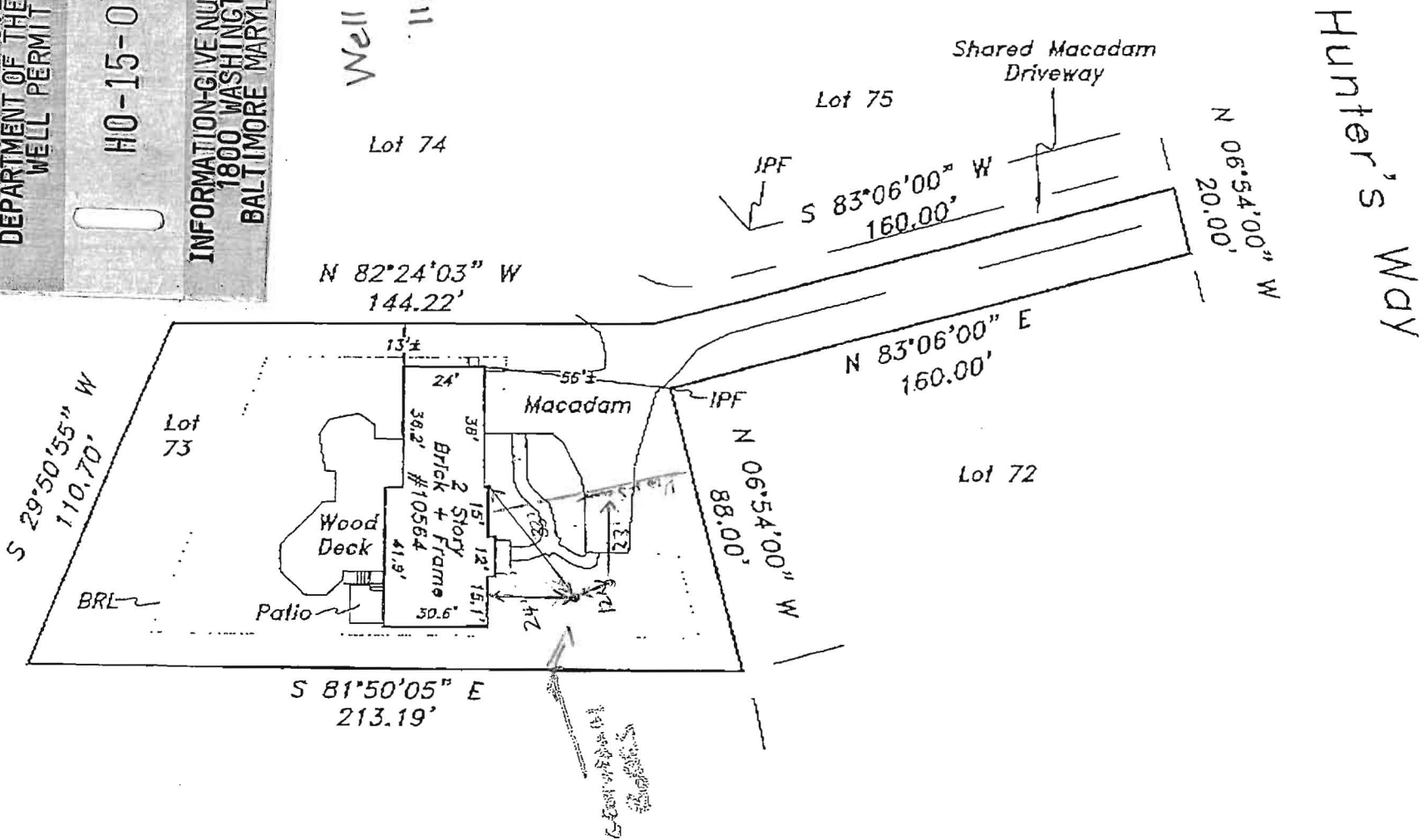
SPECIAL CONDITIONS
 NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED-
Drill cuttings + water must be contained on site - forest COUNTY @ protection area + neighbor @ bottom of hill.

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

H0-15-0368

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

Well sites approved
11/28/16 SC



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 ENTRY
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 FITTINGS TO
PREVENT U-TUBE FROM
SURFACING AFTER
INSTALLATION

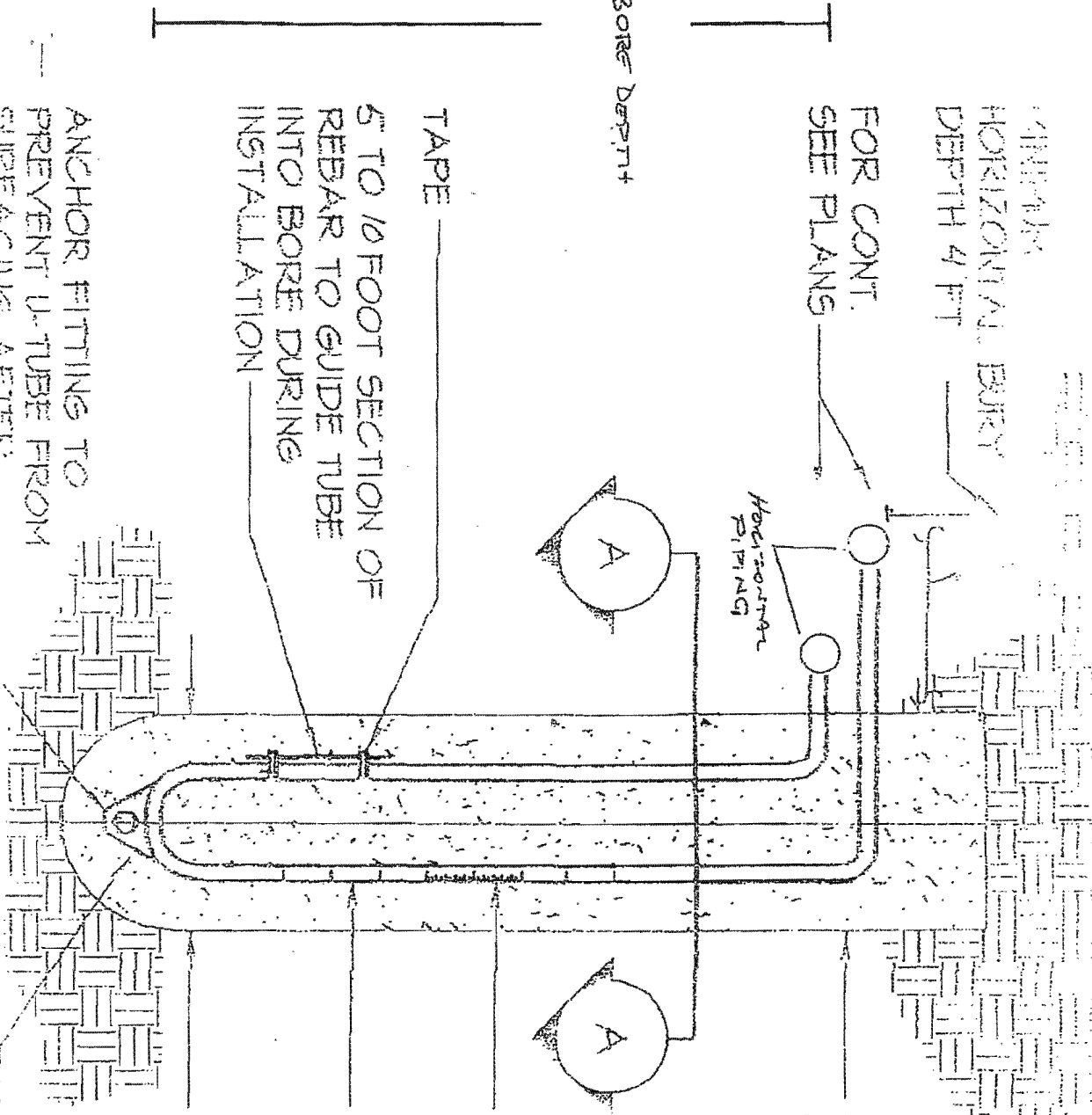
GROUT ENTIRE ANNULAR
SPACE AND VERTICAL
U-TUBE WITH (BENTONITE)
GROUT.

DEPTH MARKINGS IN FEET TO
INDICATE DEPTH OF INSERTION

TYPICAL VERTICAL U-TUBE
1.5 INCHES

TYPICAL BORE DIAMETER
6.0 INCHES

TYPICAL SOCKET U-TUBE



ANCHOR FITTINGS TO
PREVENT U-TUBE FROM
SURFACING AFTER
INSTALLATION