

C1 59019 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.

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

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM DD YY 11 20 20

DATE WELL COMPLETED 11-3-20 APPROVED 12/7/2020 Depth of Well 300 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-20-0057

OWNER Rasch, Birds + Holly WELL SITE ADDRESS 5116 Durham Rd TOWN Columbia 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. Entries: Sand + Clay (0-107), Hard Gray Rock (107-325). Includes handwritten note: '2 closed loops (1 1/4)'.

GROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box)

TYPE OF GROUTING MATERIAL (Circle one) CEMENT CM BENTONITE CLAY BC NO. OF BAGS 24 NO. OF POUNDS 1200 GALLONS OF WATER 600 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 300

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

DEPTH (nearest ft.) 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

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)

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 LAND SURFACE - below (nearest foot)

NUMBER OF UNSUCCESSFUL WELLS: WELL HYDROFRACTURED YES NO 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

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 SD 237 DRILLER'S SIGNATURE LIC. NO. D

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

LATITUDE 39.22848 LONGITUDE 76.87386 (DEFAULT COORD. WGS 84)

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05-374014

EMERGENCY/TEMP NO. IF ANY

B 1 65076

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

HO-20-0051

1 2 3 6

567972 please type

70 fill in this form completely 79

Date Received (APA)

09/14/20

OWNER INFORMATION

8 MM DD YY 13  
Kasch Niels + Holly  
15 Last Name Owner First Name 34  
5116 Durham Road  
36 Columbia MD 21044  
57 Town 70 State 72 Zip 76

B 3

LOCATION OF WELL

8 COUNTY Howard  
21 Beaverbrook SIO A1  
23 SUBDIVISION  
SECTION 11  
44 46 LOT 48 50  
52 NEAREST TOWN Columbia  
71

DRILLER INFORMATION

Brett Sweeney MS D 237  
Driller's Name License No. 81  
Allied Well Drilling  
Firm Name  
PO Box 129 Annapolis Junction MD 20701  
Address  
Signature Date 09/11/2020

B 4

SOURCES OF DRILLING WATER

1. Public  
2.  
3.

5116 Durham Rd W  
11 STREET ADDRESS 30  
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)  
NORTH  
WEST EAST  
SOUTH  
34 DISTANCE FROM ROAD 37  
ENTER FT OR MI 38 39  
TAX MAP: 0029 BLK: E PARCEL 0318

B 2

WELL INFORMATION

1 2  
APPROX. PUMPING RATE (GAL. PER MIN.) 8 12  
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 13  
COUNTY NAME COUNTY NO.  
STATE SIGNATURE INSERT S →  
DATE ISSUED 10/28/20 Susan Thomas 10/28/21  
43 MM DD YY 48 CO SIGNATURE EXP. DATE

APPROXIMATE DEPTH OF WELL 320 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST INCH

METHOD OF DRILLING (circle one)

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

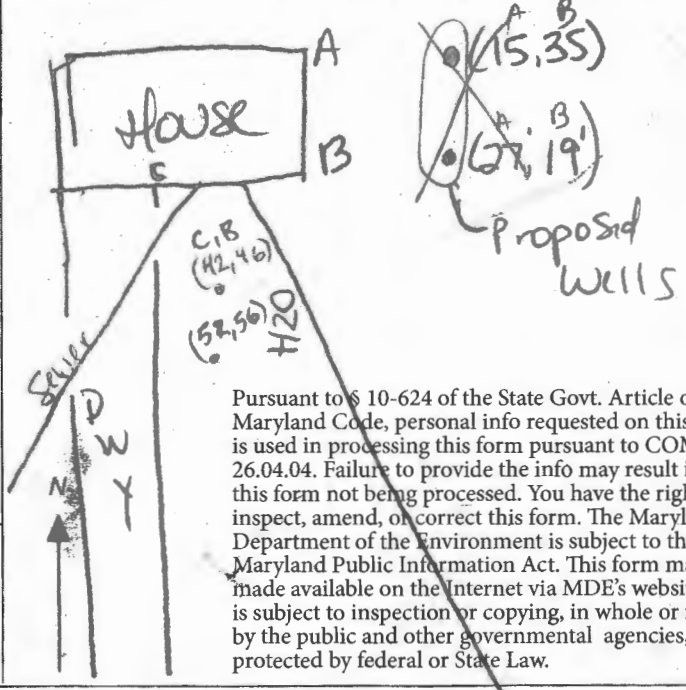
REPLACEMENT OR DEEPEMED WELLS (CIRCLE APPROPRIATE BOX)

THIS WELL WILL NOT REPLACE AN EXISTING WELL  
 THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED  
 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 DEEPEAN 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 G  
PERMIT No. HO-20-0051  
70 71 72 73 74 75 76 77 78 79

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



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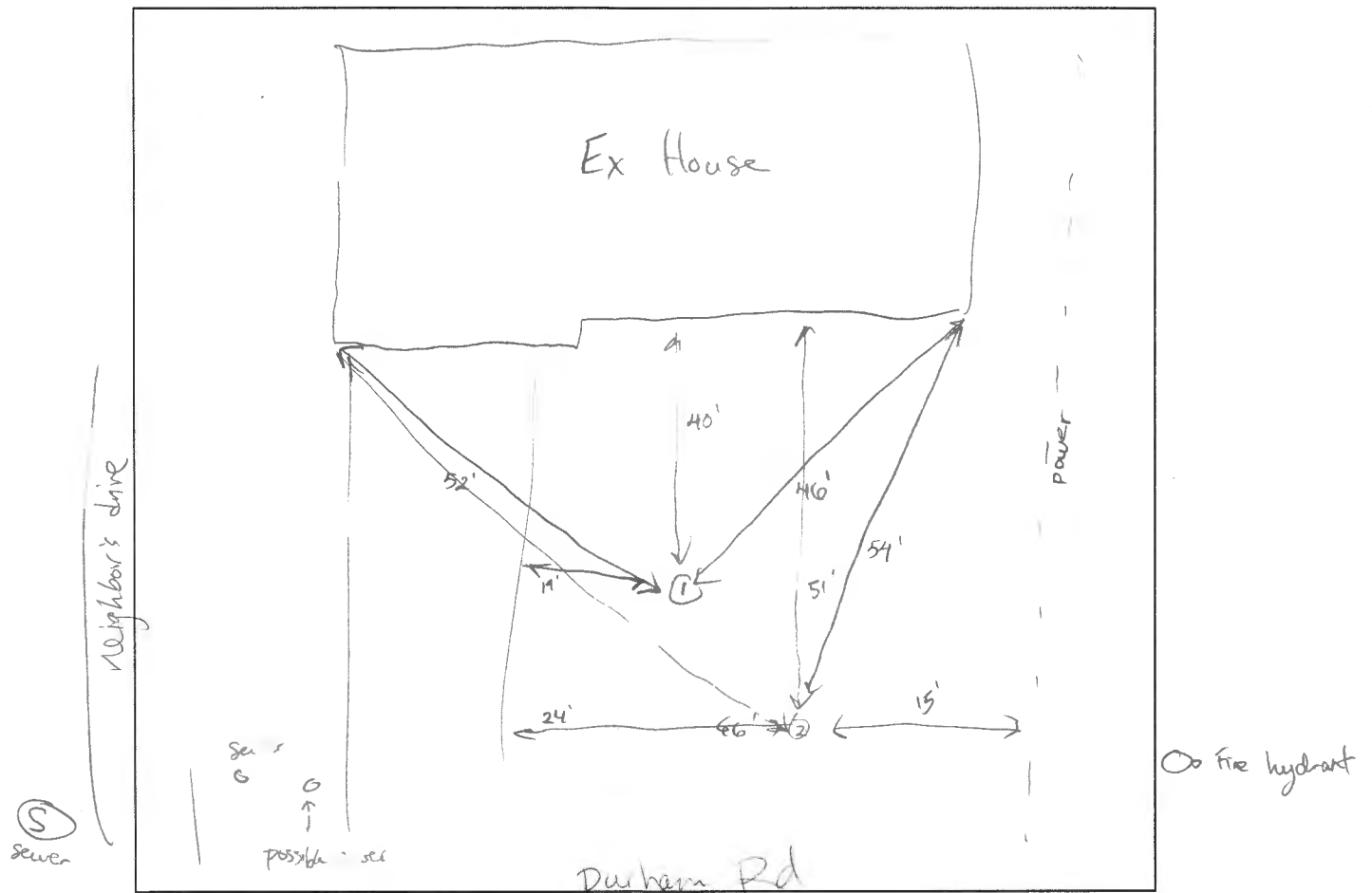
SPECIAL CONDITIONS

NOTE: APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

**SITE INSPECTION SHEET**

OWNER: Holly + Nels Kasch PHONE #: \_\_\_\_\_  
ADDRESS: 5116 Durham Rd CONTRACTOR: Allied  
WELL TAG #: \_\_\_\_\_  
SUBDIVISION: \_\_\_\_\_ LOT: \_\_\_\_\_ COUNTY #: Howard  
PROPOSAL: geothermal

**LOCATION DIAGRAM**



COMMENTS: Sewer line not marked but appears to go along other side of the driveway.

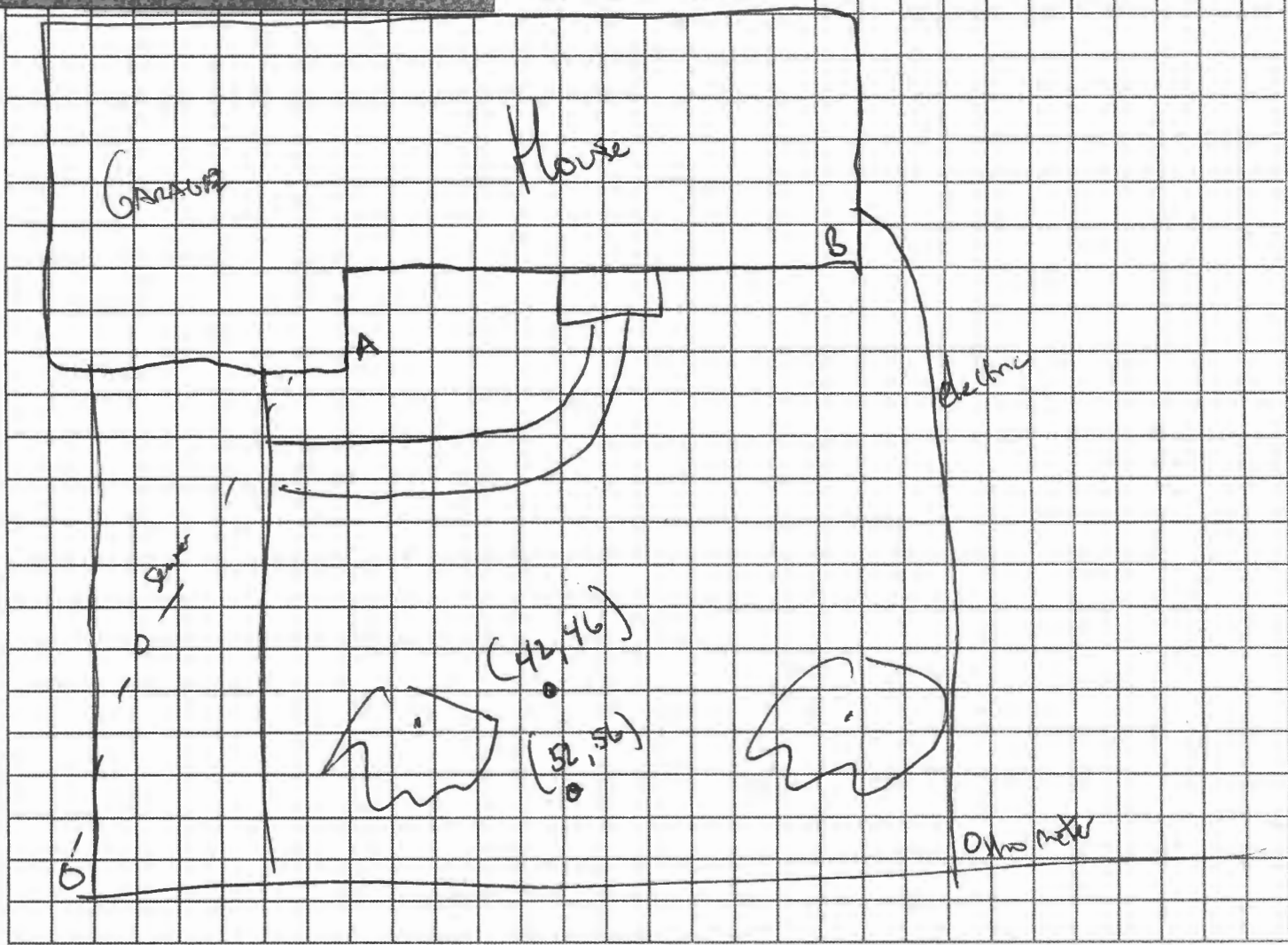
DATE: 10/27/2020 INSPECTOR: Jordan Thomas

DO NOT REMOVE THIS TAG  
 DEPARTMENT OF THE ENVIRONMENT  
 WELL PERMIT NUMBER  
 HO-20-0051  
 INFORMATION - GIVE NUMBER AND WRITE  
 1800 WASHINGTON BLVD  
 BALTIMORE MARYLAND 21230

5116 Durham Rd  
 Approved 10/28/20 (ST)  
 Staked by driller

W. Durham

**Allied**  
 WELL DRILLING  
**SITE PLAN**



Sediment Control Protocol: \_\_\_\_\_

Distance From House: \_\_\_\_\_  
 From Septic: \_\_\_\_\_  
 From Sewer: \_\_\_\_\_  
 From Property Line: \_\_\_\_\_  
 From Street: \_\_\_\_\_

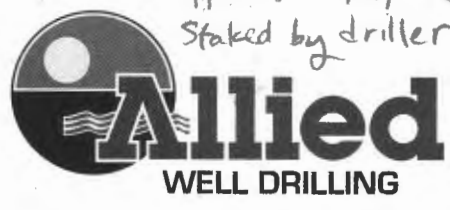
Trees Nearby: \_\_\_\_\_  
 Utility Issues: \_\_\_\_\_  
 Mats Needed: \_\_\_\_\_  
 Access For H/U: \_\_\_\_\_  
 Neighboring Tags: \_\_\_\_\_

Comments: \_\_\_\_\_

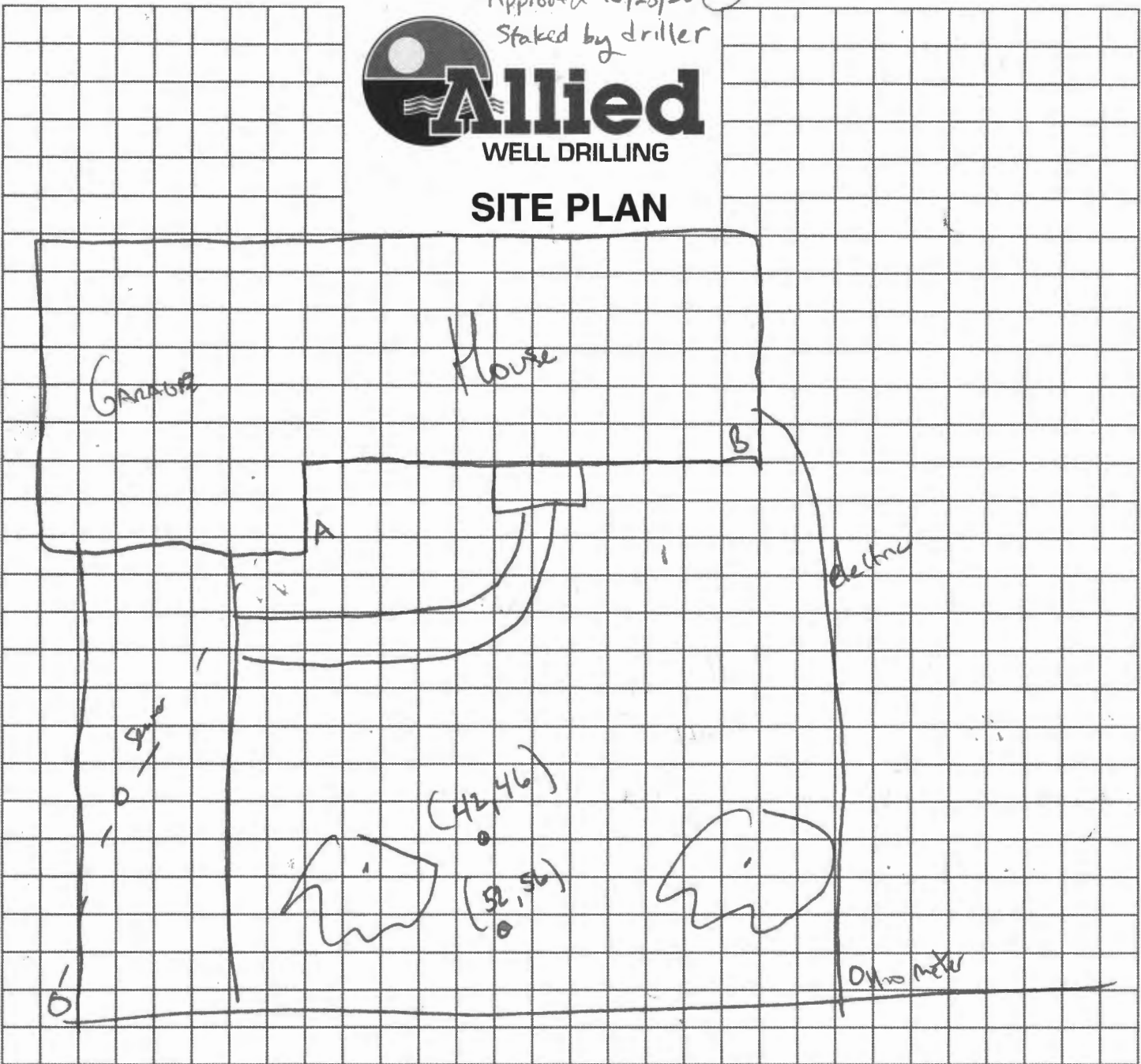
Person Completing Form: \_\_\_\_\_

5116 Durham Rd  
Approved 10/28/20 (ST)  
Staked by driller

W. Durham



### SITE PLAN



Sediment Control Protocol: \_\_\_\_\_

Distance From House: \_\_\_\_\_  
 From Septic: \_\_\_\_\_  
 From Sewer: \_\_\_\_\_  
 From Property Line: \_\_\_\_\_  
 From Street: \_\_\_\_\_

Trees Nearby: \_\_\_\_\_  
 Utility Issues: \_\_\_\_\_  
 Mats Needed: \_\_\_\_\_  
 Access For H/U: \_\_\_\_\_  
 Neighboring Tags: \_\_\_\_\_

Comments: \_\_\_\_\_

Person Completing Form: \_\_\_\_\_

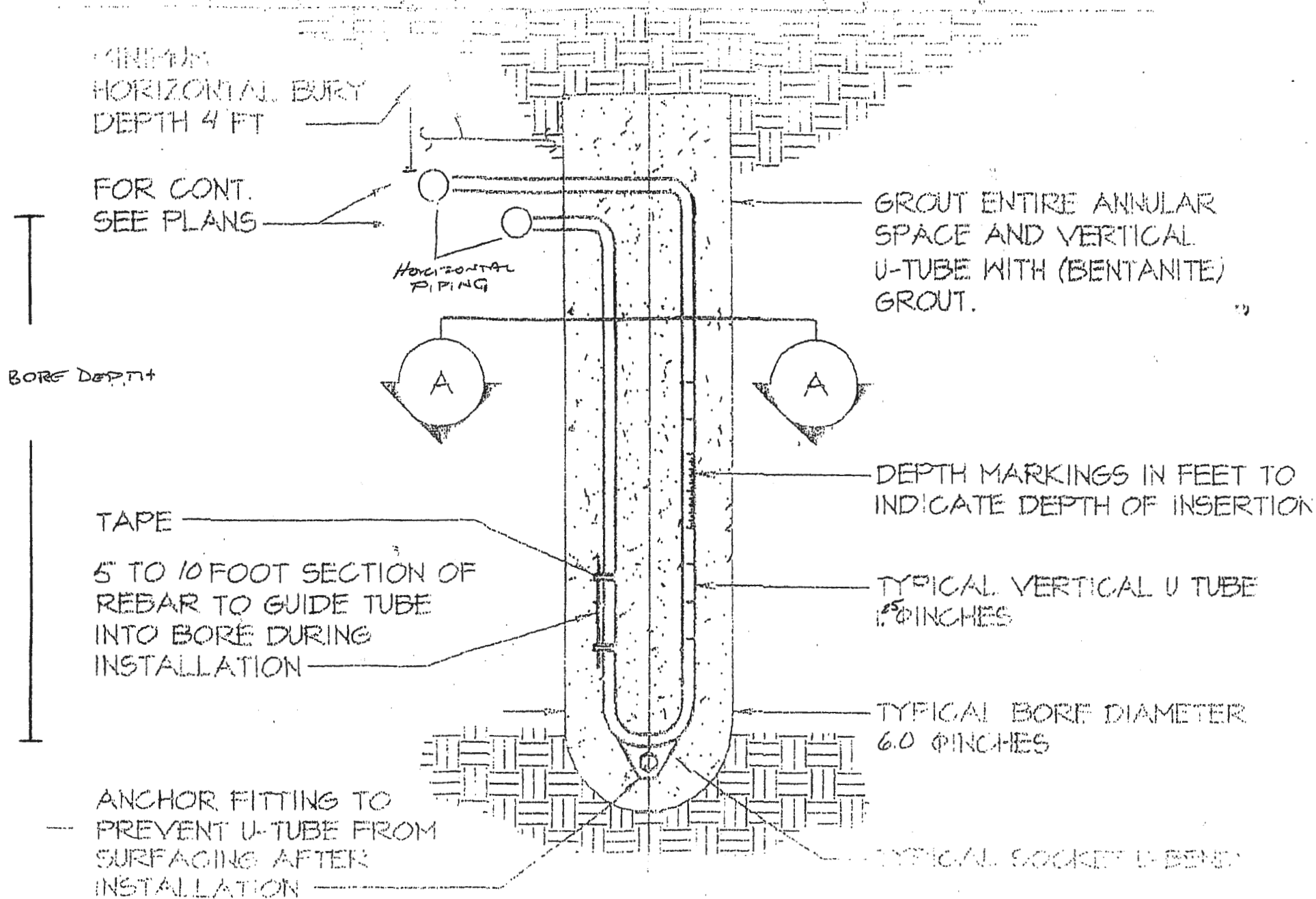
# FILE INQUIRY NOTES

5116 DURHAM RD

DATE	RESULTS OF REVIEW FOR FILE
09/21/2020	RELOCATE <del>DEP</del> WELL SITE FOR APPROVAL
	OR SUBMIT VARIANCE. PHONE CORR. w/ A. CAPELLE. (2)

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 (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-BEND

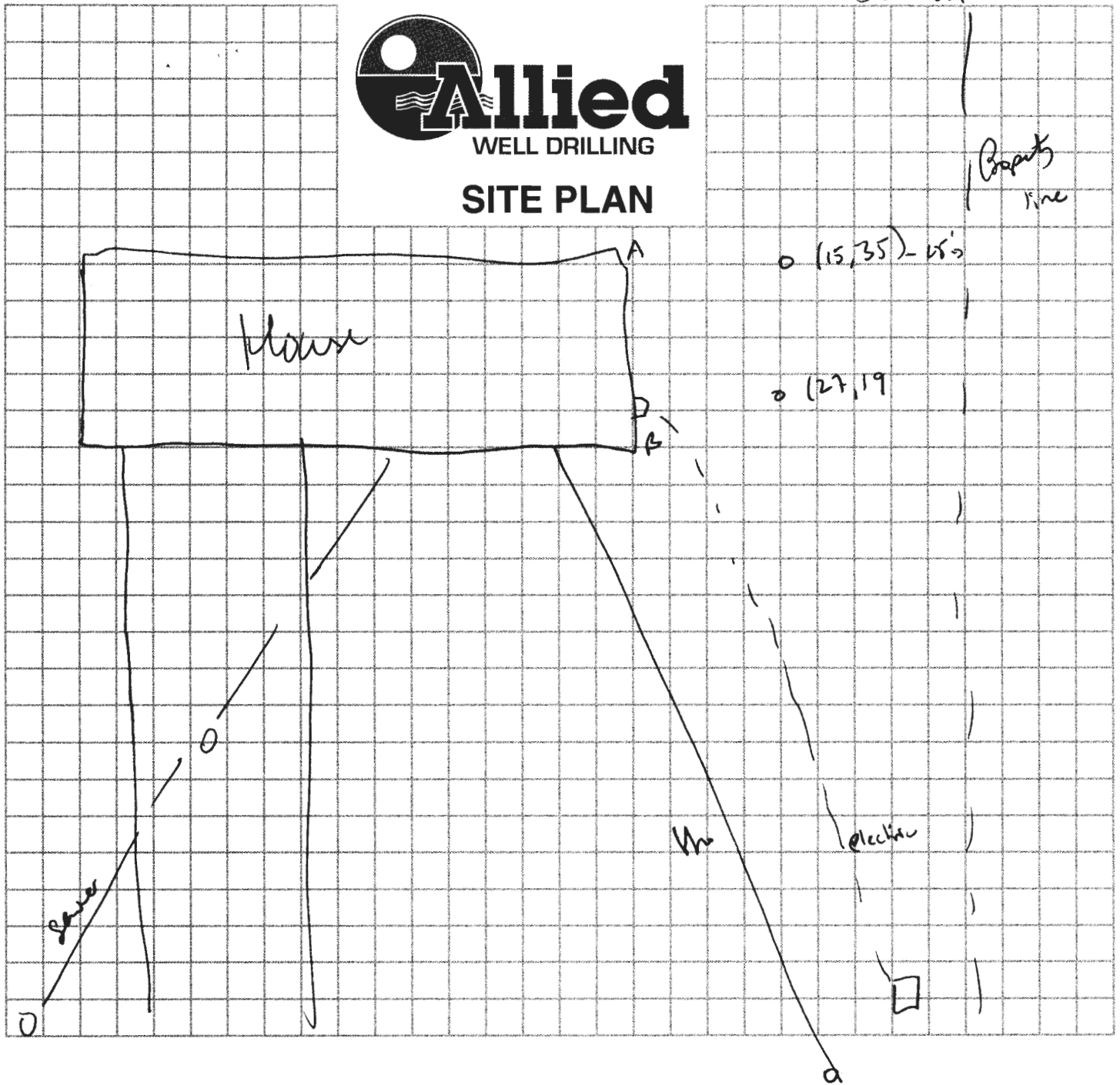
## **HOWARD COUNTY GROUTING PROCEDURE**

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.



**Allied**  
WELL DRILLING  
**SITE PLAN**

Dorhan W



Sediment Control Protocol: \_\_\_\_\_

Distance From House: 15'  
 From Septic: N/A  
 From Sewer: 60'  
 From Property Line: 15'  
 From Street: 75'

Trees Nearby: 10  
 Utility Issues: N/A  
 Mats Needed: Y/N  
 Access For H/U: N/A  
 Neighboring Tags: \_\_\_\_\_

Comments: \_\_\_\_\_

Person Completing Form: \_\_\_\_\_