

C1 7320

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)

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER STREET OR RFD SUBDIVISION SECTION LOT

WELL LOG

Table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes handwritten entries for soil layers.

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle appropriate box) TYPE OF GROUTING MATERIAL

CASING RECORD casing types insert appropriate code below

MAIN CASING TYPE Nominal diameter top (main) casing

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

SCREEN RECORD screen type or open hole insert appropriate code below

PUMPING TEST

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

PUMP INSTALLED

DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29

NUMBER OF UNSUCCESSFUL WELLS:

WELL HYDROFRACTURED

CIRCLE APPROPRIATE LETTER A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION"

DRILLERS LIC. NO. MND 355

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. MND 559

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

DEPTH (nearest ft.)

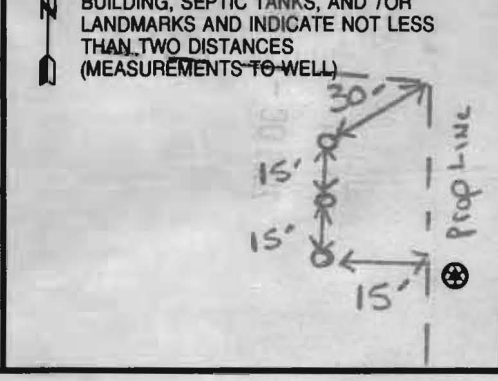
Table with columns: E, A, C, H, S, C, R, E, E, N. Rows for slot size and diameter of screen.

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

TELESCOPE CASING LOG INDICATOR OTHER DATA

LOCATION OF WELL ON LOT



B 1 2089

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

140-95-1773

fill in this form completely

W531026 please type

Date Received (APA)

OWNER INFORMATION

8 MM DD YY 13 CRAWFORD B:11
15 Last Name Owner First Name 34
2227 DAISY ROAD
36 Street or RFD 55
Woodbine MD 21797
57 Town 70 State 72 Zip 76

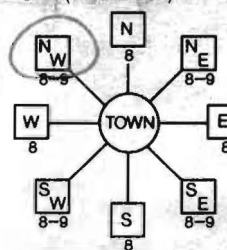
B 3 HOWARD LOCATION OF WELL

8 COUNTY 21
23 SUBDIVISION 42
SECTION 44 46 LOT 48 50
Glenwood
52 NEAREST TOWN 71
MILES FROM TOWN (enter 0 if in town) 3 M 1
73 76 77 78

DRILLER INFORMATION

Michael Barlow MWD 355
Driller's Name 76 License No. 81
Barlow Well Drilling
Firm Name
522 Underwood Lane 21014
Address
Signature Date 5/29/09

B 4 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



2227 DAISY ROAD
11 NEAR WHAT ROAD: 30
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
34 100 37 DISTANCE FROM ROAD
ENTER FT OR MI 38 39
TAX MAP: 14 BLK: 1 PARCEL 215

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
G GEO-THERMAL - (3) x 300'

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard (13)
COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S 41
DATE ISSUED 6/18/07
6/18/07 CO SIGNATURE EXP. DATE
43 MM DD YY 48 NORTH GRID 537 000 EAST GRID 0782 000
50 55 57 63

APPROXIMATE DEPTH OF WELL 300 FEET

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)
37 CABLE REVERSE-ROTary DRIVE-POINT
other

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 DEEPEN 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. 140-95-1773
70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS SEE Attached MEMO.

Completion Reports for each bore!

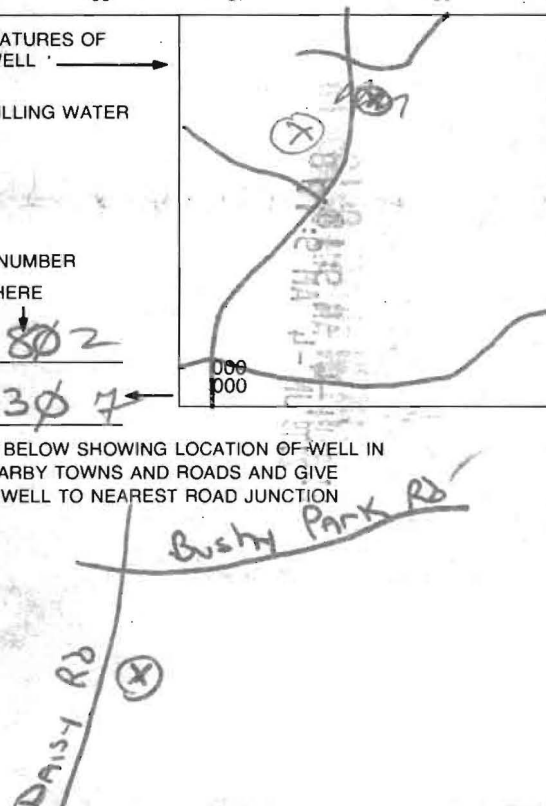
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

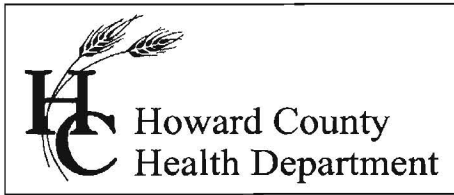
- SOURCES OF DRILLING WATER
1.
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 7802
N 5307

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION





Bureau of Environmental Health
7178 Gateway Drive Columbia, MD 21046
(410) 313-2640 Fax (410) 313-2648
TDD (410) 313-2323 Toll Free 1-866-313-6300
website: www.hchealth.org

Peter L. Beilenson, M.D., M.P.H., Health Officer

Wednesday, June 12, 2009

IMPORTANT

MEMORANDUM - Geothermal Wells

To: Michael Barlow, Barlow Well Drilling
FILE

From: Kevin Wolf, Environmental Sanitarian
Well and Septic Program

Re: **Geothermal Wells**
2227 Daisy Road, *Crawford property*

The well permit application for the above referenced property has been reviewed and the following comments to be addressed before issuance of the permit:

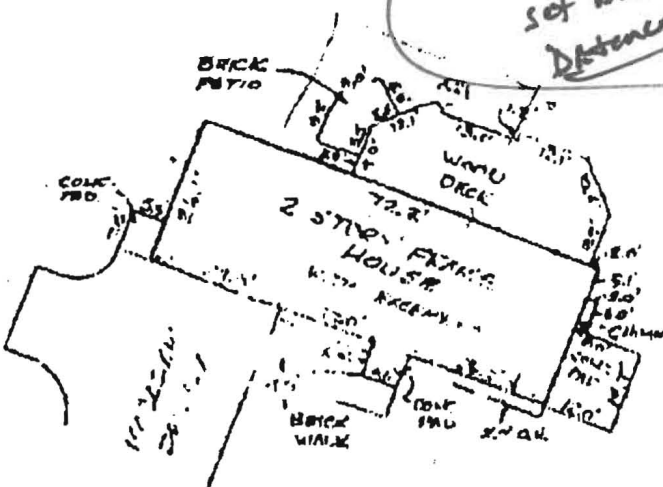
1) The **Site Plan** that shows nominal distances from features on the property to the geobores and indicates other pertinent features and structures on, or to be constructed on, the property needs to have the well shown and approximate location of the septic. Remember, setback distances are 30' from a well and 50' from septic components if bores are up gradient and 100' if down gradient of the septic.

2) A **cross-sectional diagram** of the proposed geothermal well construction. Your statement of the intended grout mix is fine except that the mix needs to be grouted from the bottom to top. Not top to bottom. Please make these changes/additions and re-submit. Once this information has been received, the permit will be released.

Remember, bentonite alone should be mixed at a ratio of 2 lbs or greater per gallon of water. If *thermal-enhanced* grout is to be used, remember to follow manufactures specifications when mixing. Health Department officials can inspect this grout by requesting the well driller to collect a sample of the grout in a bucket. If it the sand settles out within 1 hour, the grout mix is improper. Thermal enhanced bentonite grouts are a mixture of bentonite and quartz sand. The sand stays suspended in the clay for the life of the well. Please refer to the NGWA published article "Guidelines for the Construction of Vertical Boreholes for Closed Loop Heat Pump Systems" (1997)

Any questions please feel free to call me. 410-313-1771

OK.
Must maintain
set back
distances



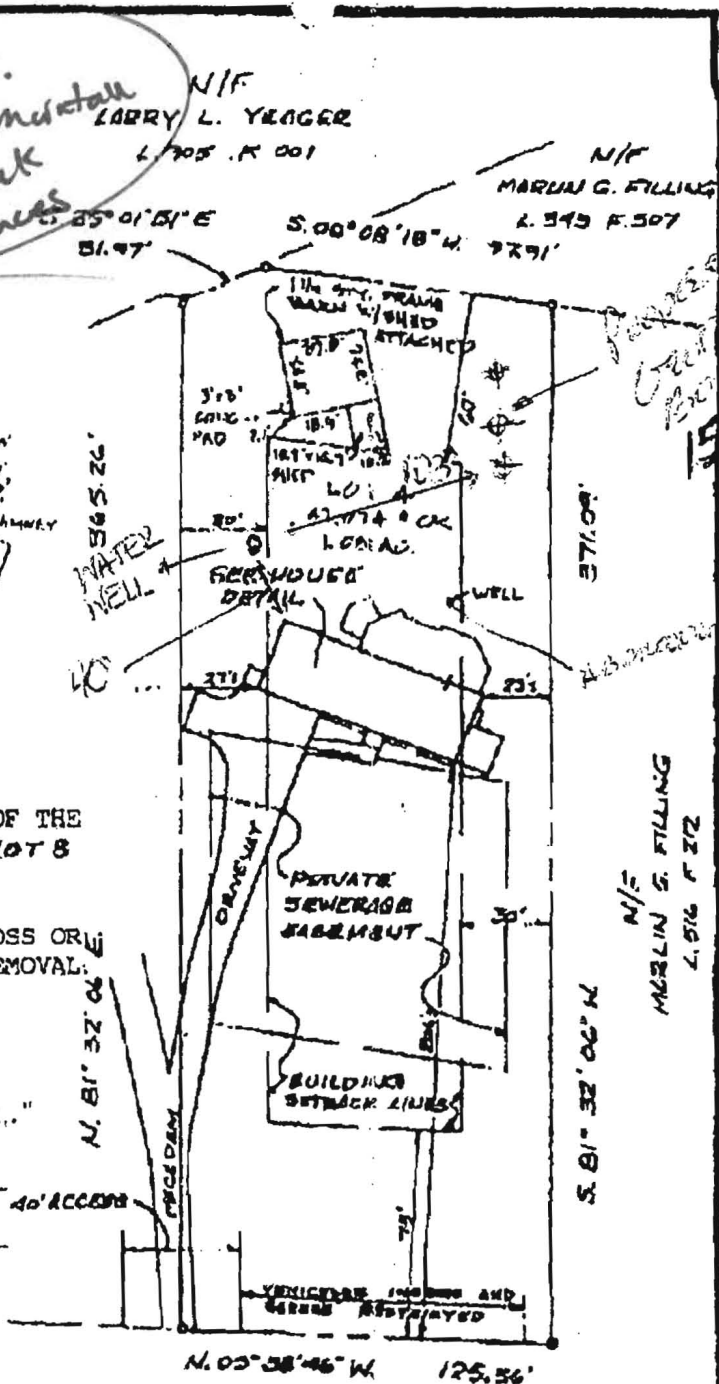
HOUSE DETAIL
1"=30'

WE DO HEREBY CERTIFY THAT WE ARE AWARE OF THE DRIVEWAY ENCROACHMENT AS SHOWN ON THIS LOT 8 SURVEY DATED 5-18-93.

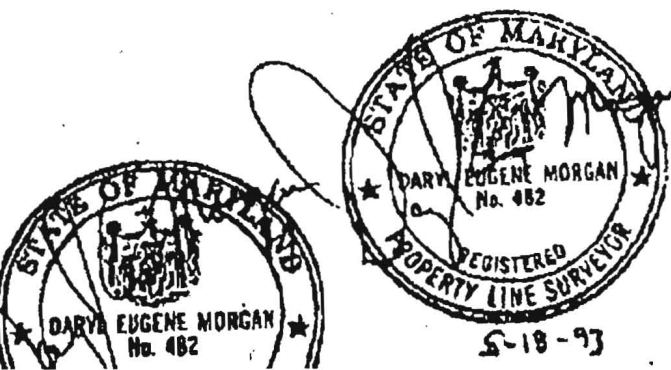
WE WILL ACCEPT RESPONSIBILITY FOR ANY LOSS OR DAMAGE THAT MAY BE INCURRED BY FORCED REMOVAL OF SAME.

NOTE: L. 1453 & 252 CONVEY'S A 20' R/W OVER A PORTION OF THE EXISTING PAVED DRIVEWAY...

SIGN William D. Crawford
DATE 5/24/93



DAISY ROAD



HOUSE LOCATION SURVEY
LOT 4, A RESUBDIVISION OF LOTS 1 AND 2
MARLIN G. FILLING PROPERTY
2227 DAISY ROAD 21797
ELECTION DISTRICT No. 4
HOWARD COUNTY, MARYLAND
SCALE: 1"=60' MAY, 1993



**Providing Quality Systems for Over 20 Years
 Commercial & Residential Water Well Drilling
 Test Borings & Consulting • Geothermal Drilling & Systems
 NGWA & IGSHPA Certified**

June 17, 2009

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

Re: 2227 Daisy Rd, Woodbine, Maryland

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

OK (Kaw)

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



Providing Quality Systems for Over 20 Years
Commercial & Residential Water Well Drilling
Test Borings & Consulting • Geothermal Drilling & Systems
NGWA & IGSHPA Certified

May 29, 2009

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

Re: Mr. Bill Crawford
2227 Daisy Road, Woodbine, Maryland

Dear Mr. Baker:

The following materials will be used in the process of installing the geothermal bores at the above site.

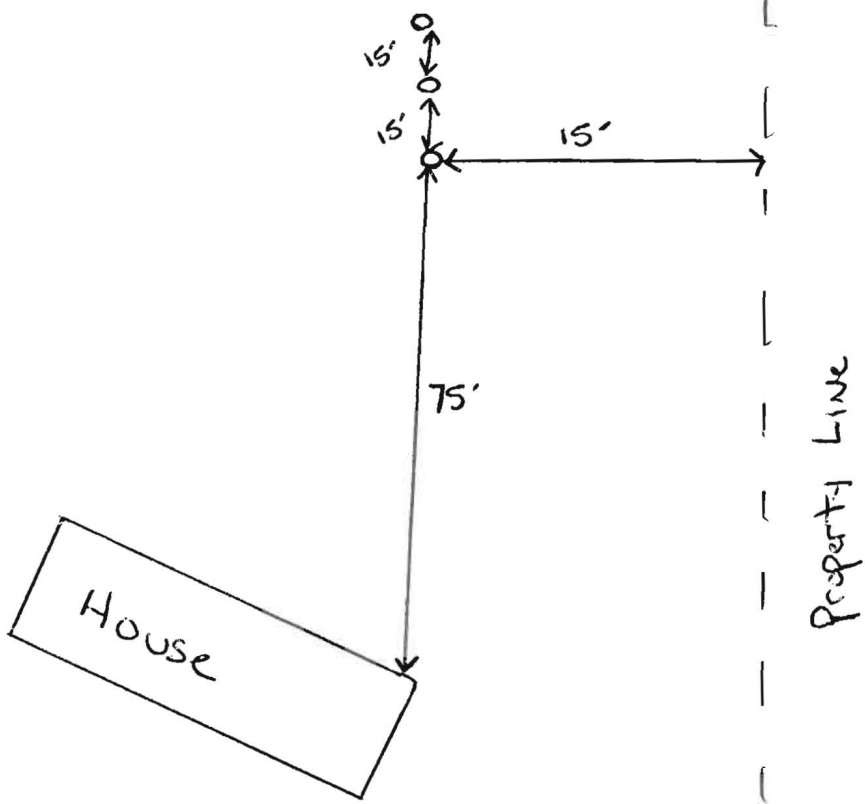
Grout: Bentonite Grout 20% solids minimum
Manufacture(s): Baroid or Wyo-Ben *Wrong*
Will be grouted from the top to the bottom with grout material

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

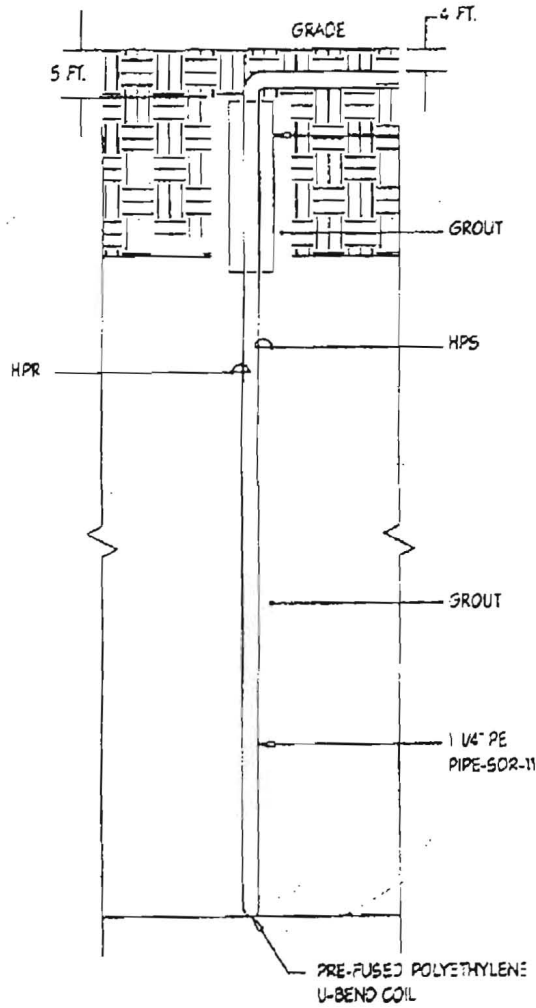
We would appreciate your help in getting this permit released as soon as possible so that we can expedite this project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Michael Barlow



DAISY Rd



OK
KW

4 TYPICAL BORE HOLE DETAIL
M1.00 NOT TO SCALE