

C1 3443

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"

MM DD 10 13

07 29 10

4x 22 400 26

6/29/11

HO-95-1957

OWNER: Grunwell STREET OR RFD: 111 Willow Green Way TOWN: Merriotsville SUBDIVISION: Woodlands Grant II SECTION: LOT: 7

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries like Soft Brown, Hard Brown, Soft Brown, Hard limestone, Med hard limestone, Hard limestone, Med hard limestone, Hard limestone, Med hard limestone, Hard limestone.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (CM, BC), NO. OF BAGS (24), NO. OF POUNDS (1200), GALLONS OF WATER (504), DEPTH OF GROUT SEAL (0 to 400 ft).

CASING RECORD: MAIN CASING TYPE (ST), Nominal diameter top (main) casing (60 inch), Total depth of main casing (70 feet).

OTHER CASING (if used) table with columns: diameter inch, depth (feet) from, to. Includes entry: ST, 5, 30, 72.

SCREEN RECORD: screen type or open hole (ST), insert appropriate code below.

NUMBER OF UNSUCCESSFUL WELLS: 0, WELL HYDROFRACTURED: Y

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" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT...

DRILLERS LIC. NO.: MWD 304 David Kelly, DRILLERS SIGNATURE, LIC. NO.: AW D 897 Josh Holmes

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

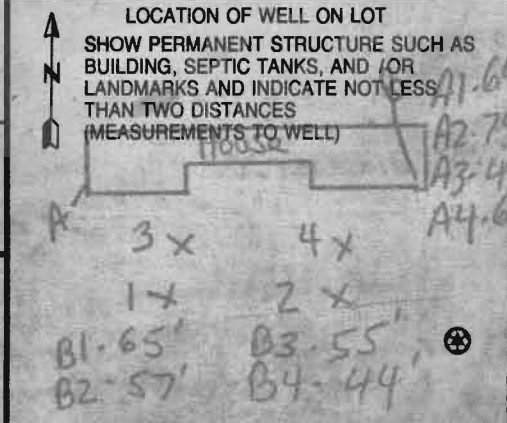
DEPTH (nearest ft.) table with columns: 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, 15, 17, 21, 23, 24, 26, 30, 32, 36, 38, 39, 41, 45, 47, 51. Includes SLOT SIZE 1, 2, 3 and DIAMETER OF SCREEN (56, 60).

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 88

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER) T (E.R.O.S.) W Q, TELESCOPE CASING, LOG INDICATOR, OTHER DATA

PUMPING TEST: HOURS PUMPED (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, J jet, S submersible.

PUMP INSTALLED: DRILLER INSTALLED PUMP (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. CAPACITY: GALLONS PER MINUTE (31, 35), PUMP HORSE POWER (37, 41), PUMP COLUMN LENGTH (43, 47), CASING HEIGHT (circle appropriate box and enter casing height) + above, - below, LAND SURFACE (nearest foot).



B 1 7156
1 2 3 6

SEQUENCE NO.
(MDE USE ONLY)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
533305 please type

STATE PERMIT NUMBER

HO-95-1951
70 fill in this form completely 79

Date Received (APA)
06 23 10
8 MM DD YY 13

OWNER INFORMATION

Grunwell Harry
11159 Willow Green Way
Marriottsville MD
57 Town 70 State 72 Zip 76

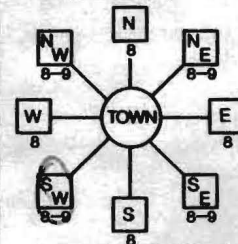
B 3 LOCATION OF WELL

Howard
8 COUNTY 21
Woodfords Grant III
23 SUBDIVISION 42
SECTION 44 46 LOT 7 48 50
Woodstock
52 NEAREST TOWN 71
MILES FROM TOWN (enter 0 if in town) 1 1/2
73 76 77 78

DRILLER INFORMATION

David Kelly M W D 304
Driller's Name 76 License No. 81
Jones Well Drilling, Inc.
Firm Name
3700 Rush Rd. Jarr. MD 21084
Address
David Kelly 622-10
Signature Date

B 4 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



11159 Willow Green Way
11 NEAR WHAT ROAD 30
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
NORTH
WEST 32 EAST
SOUTH
34 37
DISTANCE FROM ROAD
ENTER FT OR MI 38 39
TAX MAP: 10 BLK: 16 PARCEL 326

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 0
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 4-400'

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard (13) P514252B
COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S 41
DATE ISSUED 7/7/2010 Brian Baker 7/7/2011
43 MM DD YY 48 CO SIGNATURE EXP. DATE
NORTH GRID 541 000 EAST GRID 828 000
50 55 57 63

APPROXIMATE DEPTH OF WELL 400 FEET
24 28

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)

- 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 G
PERMIT No. HO-95-1951
70 71 72 73 74 75 76 77 78 79

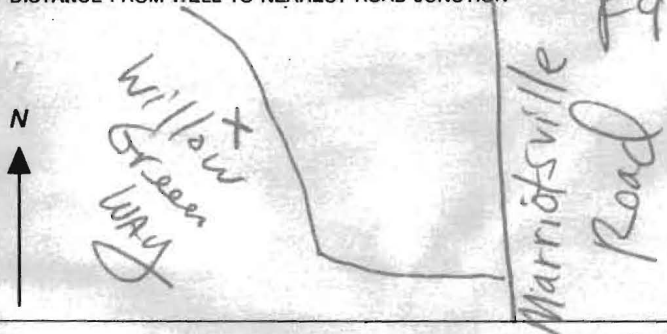
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

- SOURCES OF DRILLING WATER
- 1.
- 2.
- 3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 76°54'00"
N 39°18'45"

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



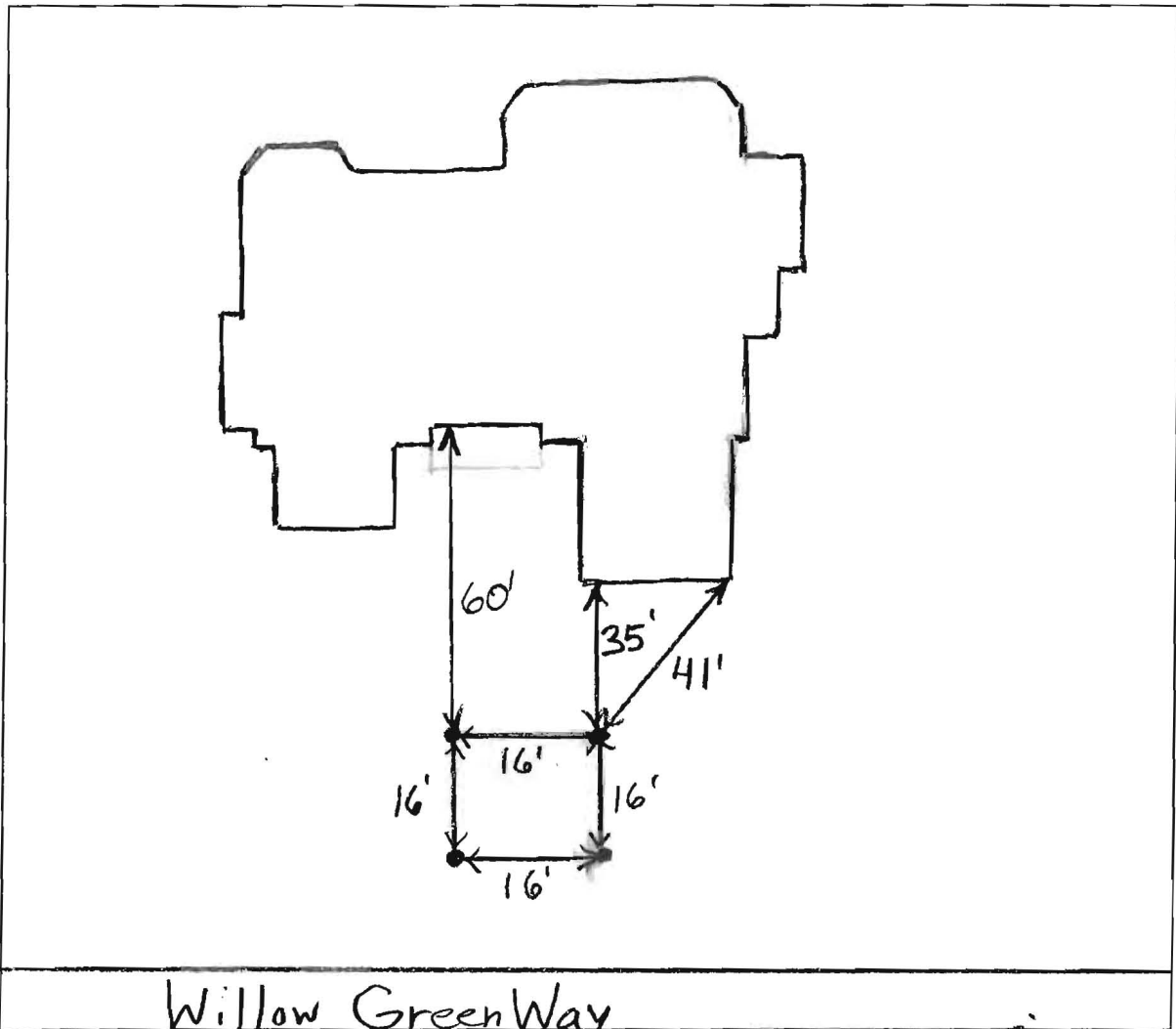
SPECIAL CONDITIONS

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

SITE INSPECTION SHEET

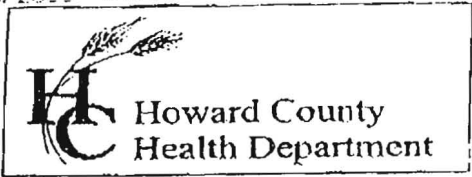
OWNER: Harry Grunwell PHONE #: Tax # 333/652
ADDRESS: 11159 Willow Green Way CONTRACTOR: _____
SUBDIVISION: _____ LOT: _____ WELL TAG #: H0-95-1951
PROPOSAL: 4 Geothermal Bores COUNTY #: P514252B

LOCATION DIAGRAM



COMMENTS: Borehole Locations as Stated on Site

DATE: 7/7/2010 INSPECTOR: B. Baker



7178 Columbia 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

Penny E. Borenstein, M.D., M.P.H., Health Officer

TO ALL INTERESTED PARTIES

When submitting a well permit application for a proposed well for new construction, please indicate one of the following:

Well Site Location:

11159 Willow Green Way
 Subdivision/Property Name Lot# Road Name

The well site has been staked by Driller
 (professional land surveyor or company employing professional land surveyors)
 on June 29, 2010 (date) and does not require a site inspection.

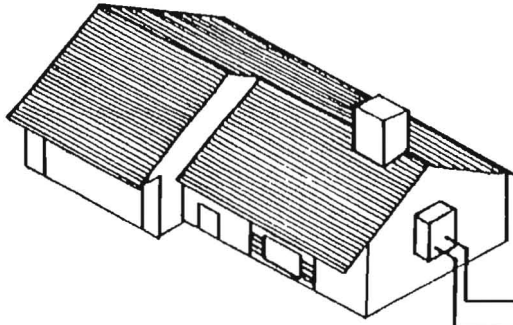
The well driller, builder or property owner will call the Health Department to schedule a time to meet in the field to verify the proposed well site location.

This sheet, along with two copies of an acceptable well site plan, must be attached to the green well permit application.

Revised 3/11/05

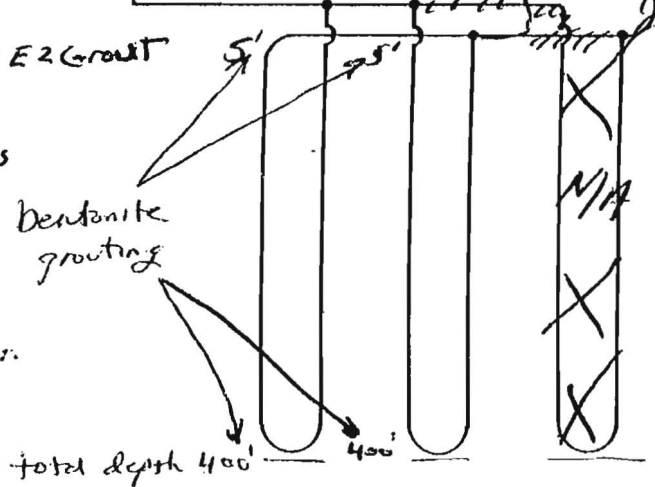
2005 MAR 03 09:02

Driller: Jones Well Drilling Inc.
 contact: David Kelly
 410-692-6981



bury depth 5' below grade

Wyo-Ben bentonite-E2 GROUT
 GROUT (50 lb. bags)
 mixed with 24 gallons
 of water per
 manufacturer specs
 yields 27 gal slurry
 with a 0.42 btu/ft-hr.
 thermal conductivity



Earth Coil Type: Vertical - Single U-Bend
 Water Flow: Parallel
 Pipe Sizes: 1 1/4" double Loop

Bore Lengths: 400' x 2 holes (800' vertical bore)
 Pipe Lengths: 800 x 2 (1600' vertical pipe)

FIGURE 4.5: Parallel Vertical Ground Heat Exchanger