

C1 1205

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 400

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO-95-0622

OWNER: Ritter Barry, STREET OR RFD: 6525 Prestwick Drive, TOWN: Highland, SUBDIVISION: Greenfields, SECTION: , LOT: 8

WELL LOG table with columns for DESCRIPTION, FEET (FROM, TO), and check if water bearing. Includes handwritten entries like 'soft brown', 'hard gray rock', 'med fracture brown rock', 'hard gray rock', and '1 1/4" gas loop'.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL: CEMENT (CM), BENTONITE CLAY (BC), NO. OF BAGS: 33, NO. OF POUNDS: 1650, DEPTH OF GROUT SEAL: 0 to 400 ft.

CASING RECORD: MAIN CASING TYPE: 60, 61, 63, 64, 66, 70. Includes checkboxes for casing types like ST (STEEL), CO (CONCRETE), PL (PLASTIC), OT (OTHER).

OTHER CASING (if used) table with columns for diameter and depth.

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

DEPTH (nearest ft.) table with columns for depth intervals from 1 to 21 feet.

NUMBER OF UNSUCCESSFUL WELLS: 0, WELL HYDROFRACTURED: Y

CIRCLE APPROPRIATE LETTER: A (well abandoned), E (electric log), P (test well converted to production).

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.: MW D 304, DRILLERS SIGNATURE: David Kelly, LIC. NO.: MW D 564

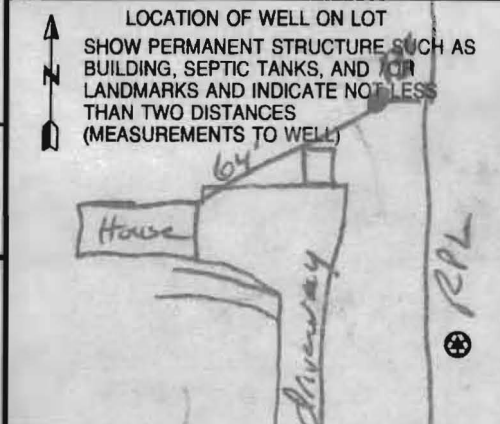
GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL: 56, 60, 68. MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER): T (E.R.O.S.), W Q.

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

TELESCOPE CASING, LOG INDICATOR, OTHER DATA

PUMPING TEST: HOURS PUMPED: 8, PUMPING RATE: 11 gal/min, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL: 17 ft before, 22 ft when pumping, TYPE OF PUMP USED: C (centrifugal), J (jet), S (submersible).

PUMP INSTALLED: DRILLER INSTALLED PUMP: YES, TYPE OF PUMP INSTALLED: 29, CAPACITY: 31 gallons per minute, PUMP HORSE POWER: 37, PUMP COLUMN LENGTH: 43, CASING HEIGHT: 49.



C1 1240

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.

COUNTY NUMBER

ST/CO USE ONLY DATE Received MM DD YY

DATE WELL COMPLETED MM DD YY

Depth of Well 22 400 26 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" H0-95-0622

OWNER Ritten Barry last name first name STREET OR RFD 6525 Redwood Lane TOWN Highland SUBDIVISION Greenfields SECTION LOT 8

WELL LOG Not required for driven wells STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

GROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box) TYPE OF GROUTING MATERIAL (Circle one) CEMENT [CM] BENTONITE CLAY [BC] NO. OF BAGS 36 NO. OF POUNDS 1200 GALLONS OF WATER 720 DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. to 400 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)

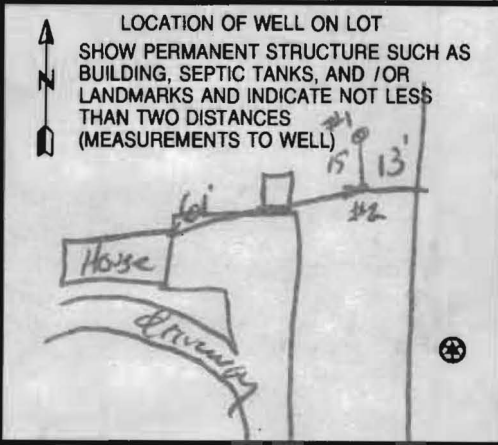
OTHER CASING (if used) diameter inch depth (feet) from to

SCREEN RECORD screen type or open hole insert appropriate code below

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 (nearest foot) [-] below }



NUMBER OF UNSUCCESSFUL WELLS: 0 WELL HYDROFRACTURED [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 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. MW D 304 DRILLER'S SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) LIC. NO. MW D 564 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 TELESCOPE CASING LOG INDICATOR OTHER DATA

C1 1241

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

COUNTY NUMBER

ST/CO USE ONLY DATE RECEIVED MM DD YY

DATE WELL COMPLETED MM DD YY

Depth of Well 22 300 26 (Hole #3 of 4)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HO - 95 - 0622

OWNER: R. Ryan Boring; STREET OR RFD: 6565 Prestwick Rd; TOWN: Highland; SUBDIVISION: Greenfields; SECTION: ; LOT: 8

WELL LOG table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes handwritten entries: soft brown, hard gray rock, brown fractured rock, hard gray rock, fractured gray rock hole collapsing, installed 300' 1 1/4 loop, hooked in series with hole #4.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (CM, BC), NO. OF BAGS (25), NO. OF POUNDS (1750), GALLONS OF WATER (500), DEPTH OF GROUT SEAL (0 to 300 ft).

CASING RECORD: MAIN CASING TYPE (ST), Nominal diameter (6), Total depth (53). Includes checkboxes for steel, concrete, plastic, other.

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

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

NUMBER OF UNSUCCESSFUL WELLS: 0; WELL HYDROFRACTURED: Y

CIRCLE APPROPRIATE LETTER: A, E, P

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; DRILLERS SIGNATURE; LIC. NO.: MWD 564

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

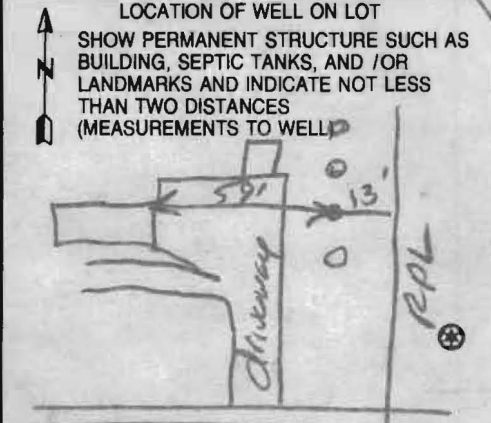
DEPTH (nearest ft.) table with columns 1-21; SLOT SIZE 1-3; DIAMETER OF SCREEN (56, 60)

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL (INSERT F IN BOX 68)

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

PUMPING TEST: HOURS PUMPED (8, 9), PUMPING RATE (11, 15), WATER LEVEL (17, 20), TYPE OF PUMP USED (A, P, T, C, R, O, J, S)

PUMP INSTALLED: DRILLER INSTALLED PUMP (YES/NO), TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O), CAPACITY: GALLONS PER MINUTE (31, 35), PUMP HORSE POWER (37, 41), PUMP COLUMN LENGTH (43, 47), CASING HEIGHT (above/below LAND SURFACE)



C1 1242

SEQUENCE NO. (MDE USE ONLY)

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(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 YY

DATE WELL COMPLETED MM DD YY

Depth of Well

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER STREET OR RFD SUBDIVISION SECTION TOWN LOT

WELL LOG table with columns for DESCRIPTION, FEET (FROM, TO), and check if water bearing. Includes handwritten entries: 'soft brown', 'hard gray rock', 'installed 1 1/4" geo loop', 'hook in series with hole #3'.

GROUTING RECORD: WELL HAS BEEN GROUTED (Y), TYPE OF GROUTING MATERIAL (C, B), CEMENT, BENTONITE CLAY, NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL.

CASING RECORD: casing types insert appropriate code below (ST, CO, PL, OT), MAIN CASING TYPE, Nominal diameter top (main) casing, Total depth of main casing.

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

SCREEN RECORD: screen type or open hole insert appropriate code below (ST, BR, HO, PL, OT)

NUMBER OF UNSUCCESSFUL WELLS: 0, WELL HYDROFRACTURED (Y, N)

CIRCLE APPROPRIATE LETTER: A (abandoned), E (electric log), P (test well converted to production)

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.: MW D304, DRILLERS SIGNATURE, LIC. NO.: MW D564

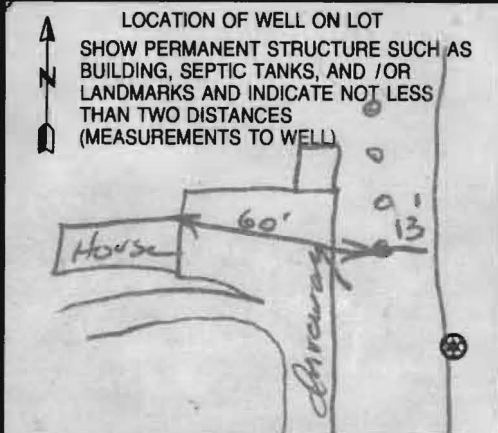
SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

DEPTH (nearest ft.) table with columns 1-2, 8-9, 11, 15-17, 21, 23-24, 26, 30-32, 36, 38-39, 41, 45-47, 51, SLOT SIZE 1-2-3, DIAMETER OF SCREEN (NEAREST INCH) 56-60

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

PUMPING TEST: HOURS PUMPED, PUMPING RATE, METHOD USED TO MEASURE PUMPING RATE, WATER LEVEL (distance from land surface) BEFORE PUMPING, WHEN PUMPING, TYPE OF PUMP USED (for test)

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), PUMP HORSE POWER, PUMP COLUMN LENGTH (nearest ft.), CASING HEIGHT (circle appropriate box and enter casing height), LAND SURFACE (nearest foot)



B 1 1793
1 2 3 6

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND APPLICATION FOR PERMIT TO DRILL WELL

STATE PERMIT NUMBER

MD - 95 - 0622
70 fill in this form completely 79

525 667 please type

Date Received (APA)

OWNER INFORMATION

8 MM DD YY 13

Ritter Barry
6525 Prestwick Road
Highland md 20777

B 3 HOWARD LOCATION OF WELL

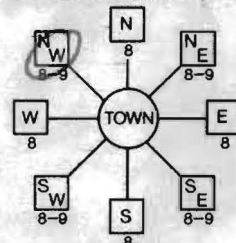
8 COUNTY 21
23 SUBDIVISION 42
SECTION 44 46 LOT 8 48 50
52 NEAREST TOWN 71
MILES FROM TOWN (enter 0 if in town) 1 MI 73 76 77 78

DRILLER INFORMATION

DAVID KELLY M W D 304
James New Drilling Inc
3700 Rush Rd Jarroville MD 21084
David Kelly 11-15-06

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



6525 Prestwick Rd.
ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
34 305 37
DISTANCE FROM ROAD ENTER FT OR MI 38 39
TAX MAP: 34 BLK: 23 PARCEL 400

B 2

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 0
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 holes closed loop

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard A34899/13
COUNTY NAME COUNTY NO.
STATE SIGNATURE INSERT S 41
DATE ISSUED 1/2/07 CO SIGNATURE 1/2/07
43 MM DD YY 48 EXP. DATE
NORTH GRID 496 0 0 0 EAST GRID 813 0 0 0
50 55 57 63

APPROXIMATE DEPTH OF WELL 400 FEET

APPROXIMATE DIAMETER OF WELL 6 NEAREST INCH

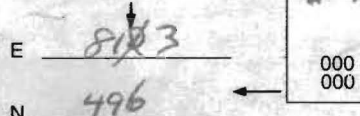
METHOD OF DRILLING (circle one)

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

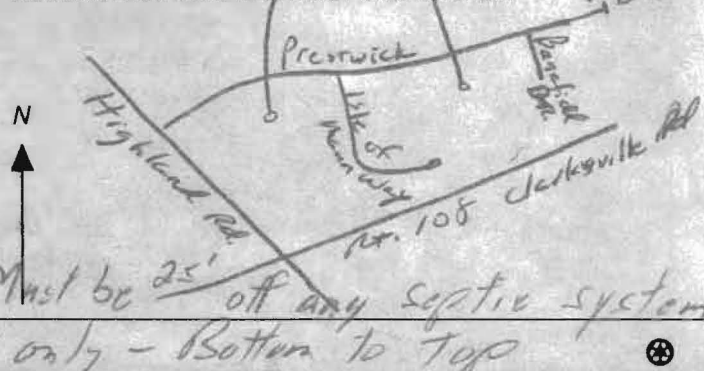
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

WRITE THE BOX NUMBER FROM THE MAP HERE



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



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 DEEPEMED 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)

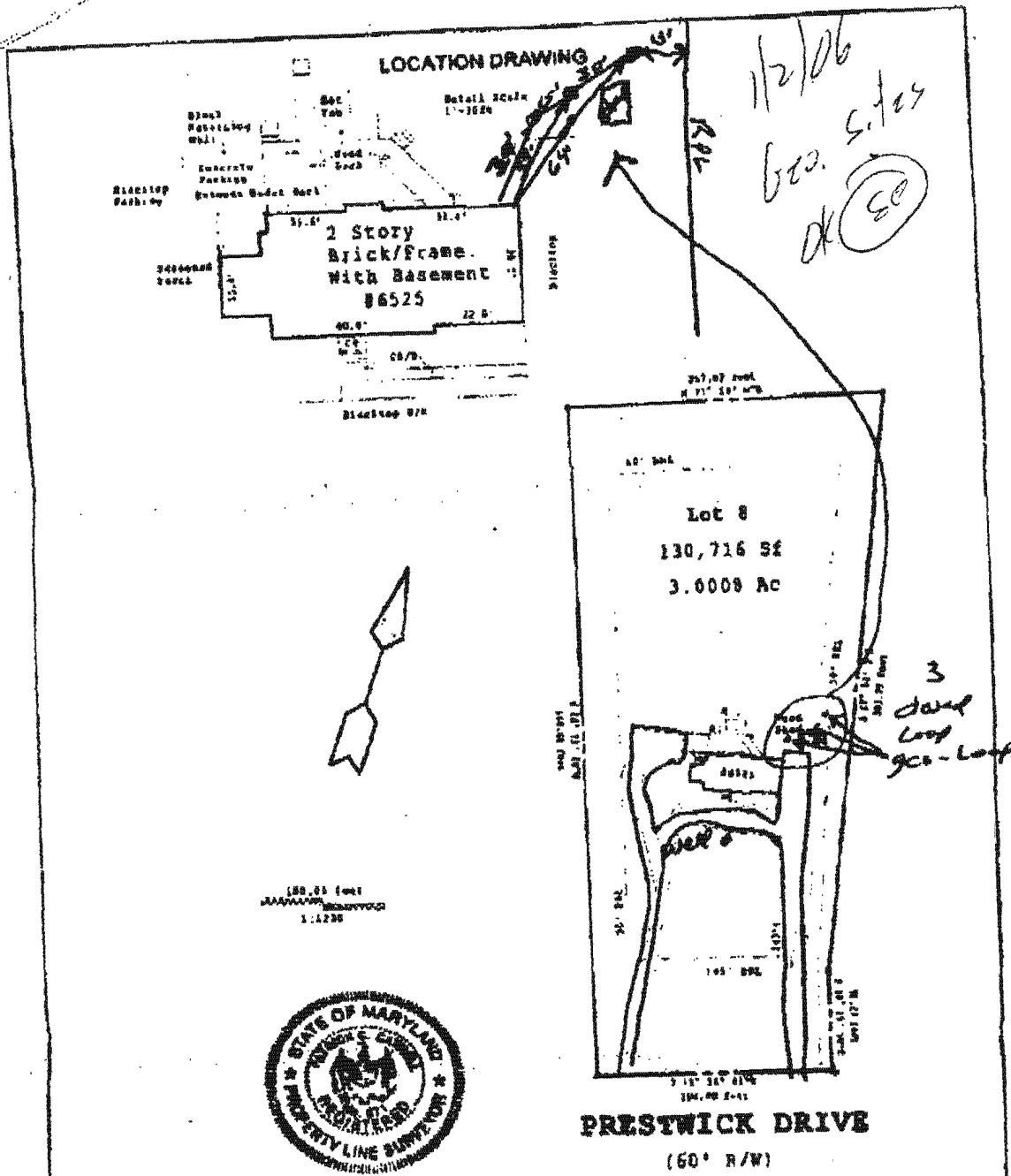
APPROP. PERMIT NUMBER G
PERMIT No. MD - 95 - 0622
70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED

CORR AR Agreed brant only - Bottom to Top

Grand loop 410-836-1706



Note: Location survey measurements are of 5' SUBJECT PROPERTY NOT LOCATED IN A FLOOD PLAIN AREA UNLESS OTHERWISE NOTED
 This plan is to be used only as a reference and is not to be used for any other purpose in connection with construction, transfer, financing or refinancing.
 This plan is not to be relied upon for the establishment or location of fences, garages, buildings, or other existing or future improvements.
 This plan shows the proposed location of property boundary lines, but a field check should be made for the exact location of these or other boundaries or improvements.

THIS IS TO CERTIFY THAT WE HAVE CONDUCTED A LOCATION SURVEY OF THE IMPROVEMENTS AND THAT THEY ARE LOCATED AS SHOWN HEREON
 Signature: [Signature]
 Reg. No. 571

CLS And Associates P.O. Box 160 Upper MD 21766 Office: (410) 442-5117 Fax: (410) 442-5175	Date: 3/8/99 Scale: 1"=100' File: MTC998480	Project: 6525 PRESTWICK DRIVE Highland, Maryland 20777 Howard County Title Deed Liber. 4451, Folio 436 Plat Ref. Lot No. 8, Plat No. 8874 GREENE FIELDS Lot 1 Bldg. 18
	[Additional project details and notes]	

Section Four

Owner: Barry Ritter
6525 Prastwick Rd
Highland Md

NOTE
Contractor: Ground Loop HydrA
Contact: Mike Wilton
410-836-1706

Driller: Jones Well Drilling Inc
Contact: David Kelly
410-557-8123

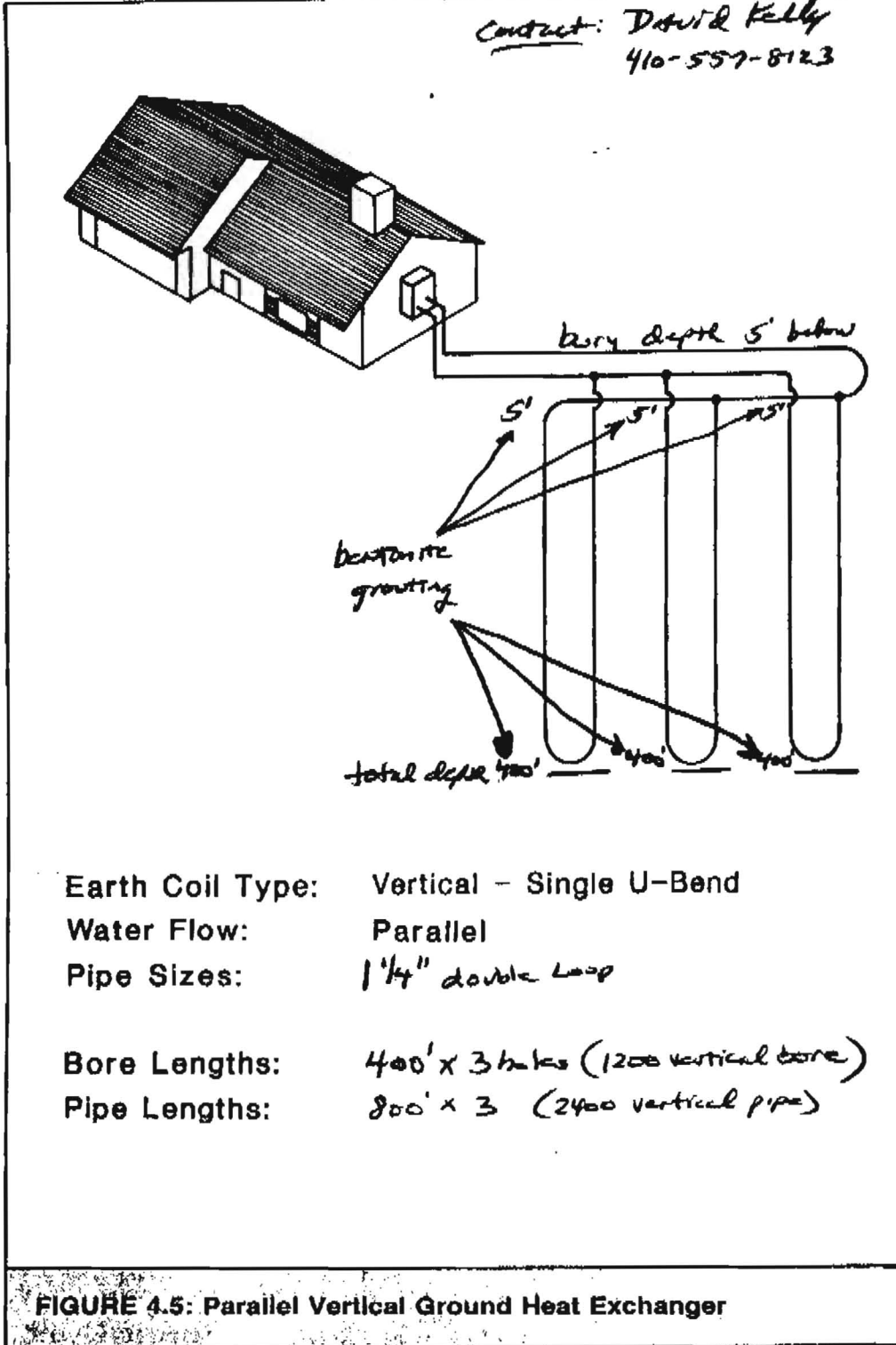


FIGURE 4.5: Parallel Vertical Ground Heat Exchanger