

C 1 9786
 1 2 3 (SEQ. NO.) 6
 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

DATE RECEIVED (WRA USE ONLY)
 DATE WELL COMPLETED 4/14/70

8-13 15 20

STATE OF MARYLAND
 WATER RESOURCES ADMINISTRATION
 TAWES STATE OFFICE BLDG., ANNAPOLIS, MD. 21401
 WELL COMPLETION REPORT

DEPTH OF WELL 160
 22 (NEAREST FOOT) 26

PERMIT NO. FROM "PERMIT TO DRILL WELL"
 4401-73-27010
 26 29 30 31 32 33 34 35 36 37

DRILLERS IDENTIFICATION NO. 42

THIS REPORT MUST BE SUBMITTED WITHIN 30 DAYS AFTER WELL COMPLETION

FILL IN THIS FORM COMPLETELY

COUNTY NUMBER

OWNER HOWARD RESEARCH & DEVELOPMENT
 LAST NAME FIRST NAME
 STREET OR RFD ROUTE BLDG. POST OFFICE COLUMBIA, MD.

WELL LOG

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (USE ADDITIONAL SHEETS IF NECESSARY)	FEET		CHECK IF WATER BEARING
	FROM	TO	
Top Soil	0	2	
Silty	2	10	
SAND STONE	10	30	
MICA	30	50	
SAND STONE	50	70	
MICA	70	160	

WELL DESCRIPTION

GROUTING RECORD

WELL HAS BEEN GROUTED (CIRCLE APPROPRIATE BOX) Y N

TYPE OF GROUTING MATERIAL (CIRCLE BOX) C M B C

CEMENT 45 46 BENTONITE CLAY 45 46

NO. OF BAGS 5 NO. OF POUNDS 500

GALLONS OF WATER 25

DEPTH OF GROUT SEAL (TO NEAREST FOOT)

FROM 0 FT. TO 20 FT.
 (ENTER 0 IF FROM SURFACE)

CASING RECORD

INSERT APPROPRIATE CODE BELOW

STEEL S T C O CONCRETE
 PLASTIC P L O T OTHER

MAIN CASING TYPE S T 6 21
 60 61 63 64 66 70

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

STEEL S T B R H O BRASS OR BRONZE
 PLASTIC P L O T OTHER

C 2

1 2 3 (SEQ. NO.) 6

DEPTH (NEAREST WHOLE FOOT)

EACH SCREEN 1 40 FROM 14 TO 160

2 3 8 9 11 15 17 21

3 23 24 26 30 32 36

38 39 41 45 47 51

SLOTSIZE 1, 2, 3

DIAMETER OF SCREEN 56 60 (NEAREST INCH) FROM TO

GRAVEL PACK

IF WELL DRILLED WAS A FLOWING WELL CIRCLE BOX 68 F

WRA USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (E.R.O.S.) W O

70 72 74 75 76 OTHER DATA AVAILABLE

TELESCOPE CASING LOG INDICATOR

C 3

1 2 3 (SEQ. NO.) 6

PUMPING TEST

HOURS PUMPED (TO NEAREST HOUR) 3

PUMPING RATE (GALLONS PER MINUTE TO NEAREST GALLON) 115

METHOD USED TO MEASURE PUMPING RATE Bucket

WATER LEVEL: (DISTANCE FROM LAND SURFACE)

BEFORE PUMPING 40 (NEAREST FOOT)

WHEN PUMPING 160 (NEAREST FOOT)

TYPE OF PUMP USED (CIRCLE APPROPRIATE BOX) (FOR PUMPING TEST)

AIR A 27 PISTON P 27 TURBINE T 27
 CENTRIFUGAL C 27 ROTARY R 27 OTHER (DESCRIBE BELOW) O 27
 JET J 27 SUBMERSIBLE S 27

PUMP INSTALLED

TYPE OF PUMP (WRITE APPROPRIATE LETTER IN BOX - SEE ABOVE: A, C, J, P, R, S, T, O)

DRILLER WILL INSTALL PUMP (CIRCLE APPROPRIATE BOX) YES Y NO N

CAPACITY: GALLONS PER MINUTE (TO NEAREST GALLON) 31 35

PUMP HORSE POWER 37 41

PUMP COLUMN LENGTH (NEAREST FOOT) 43 47

CASING HEIGHT (CIRCLE APPROPRIATE BOX) AND ENTER CASING HEIGHT

ABOVE + LAND SURFACE (NEAREST FOOT) 50 51
 BELOW -

CIRCLE APPROPRIATE BOXES

A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

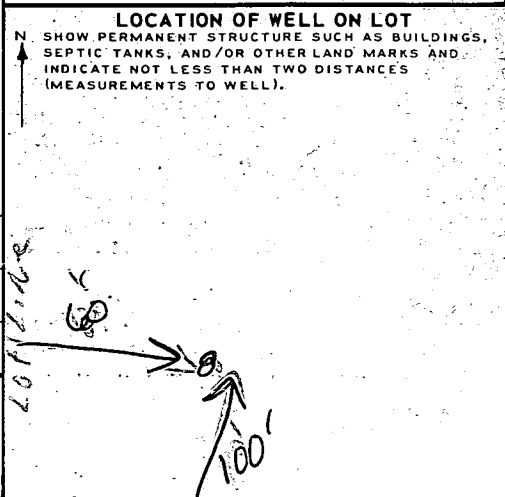
E ELECTRIC LOG OBTAINED

P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT I HAVE COMPLIED WITH ALL CONDITIONS STATED ON THE ABOVE-CAPTIONED "PERMIT TO DRILL WELL", AND THAT INFORMATION CONTAINED IN THIS REPORT IS TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

DRILLERS NAME L. F. EASTERDAY

(PLEASE PRINT) SIGNATURE L. F. Easterday



DRILLER: OBTAIN HEALTH DEPT. APPROVAL AND RETURN ALL PARTS OF THIS FORM INTACT TO THE WATER RESOURCES ADMINISTRATION.

R27:67

NR-131(7-77)

EMERGENCY NO. (If any) -

B 1	SEQUENCE NO. (WRA USE ONLY) 5847	STATE OF MARYLAND WATER RESOURCES ADMINISTRATION TAWES STATE OFFICE BLDG., ANNAPOLIS, MARYLAND 21401 APPLICATION FOR PERMIT TO DRILL WELL	WRA PERMIT NUMBER
1 2 3 (SEQ. NO.) 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)		FILL IN THIS FORM COMPLETELY	

DATE RECEIVED (WRA USE ONLY)

OWNER Howard Research & Dev't Co.

COL 15 LAST NAME FIRST NAME COL. 34

STREET OR RFD Rouse Building E VETICK DEVELOPMENT

COL 36 COL. 55

POST OFFICE Columbia, Md.

COL 57 COL. 76

B 1 CONTINUED DRILLER INFORMATION

1 2 3 (SEQ. NO.) 6

DATE 3/16/78 LICENSE NUMBER 42

77 80

FIRST NAME L. F. Costaday DRILLER LAST NAME

SIGNATURE L. F. Costaday

B 3 LOCATION OF WELL

1 2 3 (SEQ. NO.) 6

COUNTY Howard (DO NOT ABBREVIATE COUNTY NAME) 21

SUBDIVISION Vetick Subdivision 42

SECTION 44 LOT 3 50

NEAREST TOWN Columbia 71

MILES FROM TOWN (ENTER 0 IF IN TOWN) 2 76 77 78

B 2 WELL INFORMATION

1 2 3 (SEQ. NO.) 6

MAXIMUM PUMPING RATE (GALLONS PER MINUTE) 5

8 12

AVERAGE DAILY QUANTITY NEEDED (GALLONS PER DAY) 600

14 20

B 4 DIRECTION FROM TOWN (CIRCLE APPROPRIATE BOX)

1 2 3 (SEQ. NO.) 6

N NORTH E EAST NE NORTHEAST SE SOUTHEAST

S SOUTH W WEST NW NORTHWEST SW SOUTHWEST

8 9 8 9

NEAR WHAT ROAD RT 108

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) N S E W

32 32 32 32

DISTANCE FROM ROAD (ENTER DISTANCE AND CIRCLE APPROPRIATE BOX) 300

34 37 38 39

USE FOR WATER (CIRCLE APPROPRIATE BOX)

HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)

F FARMING, AGRICULTURE, IRRIGATION

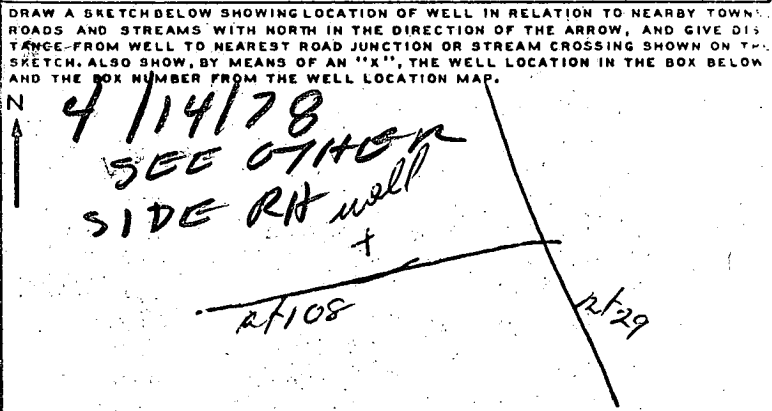
I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOVERNMENT.

M MUNICIPAL WATER SUPPLY

P PRIVATE WATER COMPANY

T TEST

MUST HAVE STATE HEALTH DEPT. APPROVAL



APPROXIMATE DEPTH OF WELL 150 FEET

24 26

APPROXIMATE DIAMETER OF WELL 6 (NEAREST INCH)

METHOD OF DRILLING USED (CIRCLE APPROPRIATE METHOD)

BORED (OR AUGERED) JETTED DRIVEN

AIR-ROTARY AIR-PERCUSSION ROTARY (HYDRAULIC ROTARY)

CABLE REVERSE-ROTARY DRIVE-POINT

OTHER (DESCRIBE)

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

THIS WELL WILL DEEPEM AN EXISTING WELL PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE)

NOT TO BE FILLED IN BY DRILLER (WRA USE ONLY)

APPROPRIATION PERMIT NUMBER 54 ENGINEER REVIEW DISTRICT NO. 63

FORCE 67 WRITE INITIALS IN BOX 68 CONDITIONS 70 71 72 73 74 75 76 77 78 79

BOX NUMBER

E 840

N 510

0/5 5/5

B 4 CONTINUED HEALTH DEPARTMENT APPROVAL

1 2 3 (SEQ. NO.) 6

STATE HEALTH (CIRCLE BOX) 5 COUNTY NAME Howard COUNTY NO. W27693

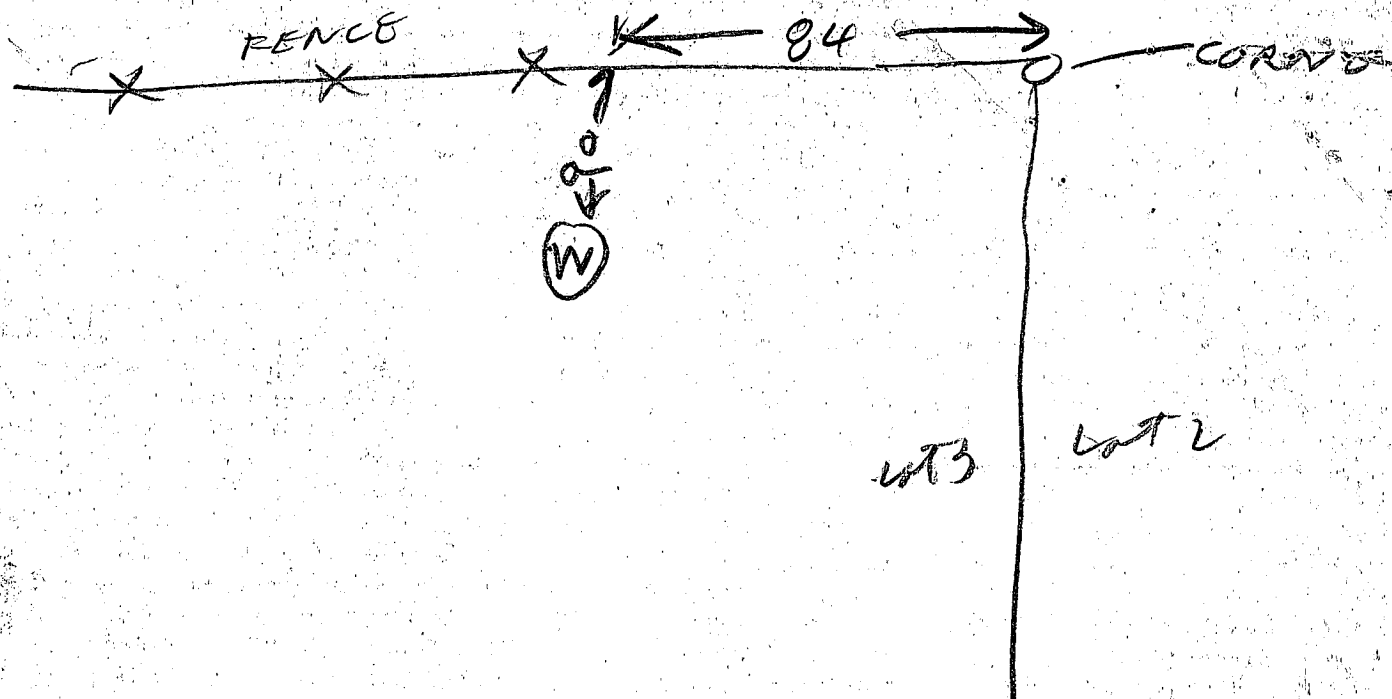
MO. DAY YR. 03 21 78

APPROVED BY Donald W. Monaghan Sanitarian

NORTH COORDINATE 50 51 52 53 54 55

EAST COORDINATE 57 58 59 60 61 62 63

ELEVATION AT WELL HEAD (FEET)



- 4/14/78
- ① 21 FT CASING WITH 1 FT OUT OF GROUND
 - ② 19 1/2 FT OPEN HOLE
 - ③ THIS LOT WAS NOT IDENTIFIED AT TIME OF WELL GROUT SO LOCATION OF WELL COULD BE WRONG
 - ④ 5 BAGS USED
 - ⑤ WELL GROUT OK (R)

4/17/78

MRS SMOOT FOUND TALL PERC TEST INFORMATION ON THIS LOT BUT WE ARE STILL NOT SURE IF LOCATION OF WELL IS CORRECT
R H

B 1 **5847** SEQUENCE NO. (WRA USE ONLY)

1 2 3 (SEQ. NO.) 6
 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WATER RESOURCES ADMINISTRATION
TAWES STATE OFFICE BLDG., ANNAPOLIS, MARYLAND 21401
APPLICATION FOR PERMIT TO DRILL WELL

WRA PERMIT NUMBER
 # **73-2706**
FILL IN THIS FORM COMPLETELY

DATE RECEIVED (WRA USE ONLY)

OWNER Howard ...
 COL 15 LAST NAME FIRST NAME COL. 34

STREET OR RFD ...
 COL 36 COL. 58

POST OFFICE ...
 COL 57 COL. 76

B 1 CONTINUED **DRILLER INFORMATION**

1 2 3 (SEQ. NO.) 6

DATE 3/16/78 **LICENSE NUMBER** 42
 77 80

FIRST NAME ... **DRILLER** ... **LAST NAME** ...

SIGNATURE ...

B 3 **LOCATION OF WELL**

1 2 3 (SEQ. NO.) 6 Howard

COUNTY ... (DO NOT ABBREVIATE COUNTY NAME) 21

SUBDIVISION Vetick Subdivision 42

SECTION ... **LOT** 3 50

NEAREST TOWN Columbia 71

MILES FROM TOWN (ENTER 0 IF IN TOWN) 2 76 77 78

B 2 **WELL INFORMATION**

1 2 3 (SEQ. NO.) 6

MAXIMUM PUMPING RATE (GALLONS PER MINUTE) ... 12

AVERAGE DAILY QUANTITY NEEDED (GALLONS PER DAY) 600 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)

F FARMING, AGRICULTURE, IRRIGATION

B 4 **DIRECTION FROM TOWN (CIRCLE APPROPRIATE BOX)**

1 2 3 (SEQ. NO.) 6

N NORTH **E** EAST **NE** NORTHEAST **SE** SOUTHEAST

S SOUTH **W** WEST **NW** NORTHWEST **SW** SOUTHWEST

NEAR ROAD #108

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) **N** NORTH **S** SOUTH **E** EAST **W** WEST

DISTANCE FROM ROAD (ENTER DISTANCE AND CIRCLE APPROPRIATE BOX) 300 37 38 39

APPROXIMATE DEPTH OF WELL 150 FEET

APPROXIMATE DIAMETER OF WELL 6 (NEAREST INCH)

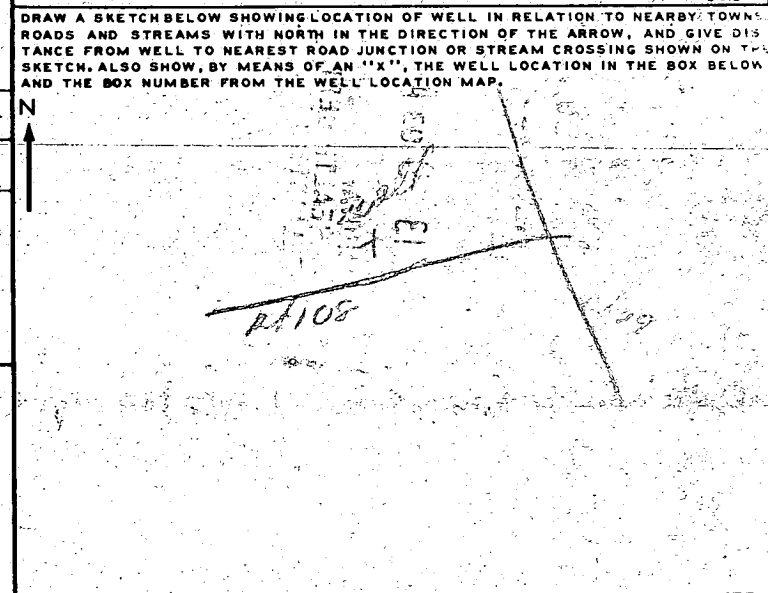
METHOD OF DRILLING USED (CIRCLE APPROPRIATE METHOD)

BORED (OR AUGERED) **JETTED** **DRIVEN**

30-37 **AIR-ROTARY** **AIR-PERCUSSION** **ROTARY (HYDRAULIC ROTARY)**

CABLE **REVERSE-ROTARY** **DRIVE-POINT**

OTHER (DESCRIBE)



REPLACEMENT OR DEEPEINED 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

D THIS WELL WILL DEEPEIN AN EXISTING WELL PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEINED (IF AVAILABLE)

NOT TO BE FILLED IN BY DRILLER (WRA USE ONLY)

APPROPRIATION PERMIT NUMBER 54 **ENGINEER REVIEW DISTRICT NO.** 63

FORCE ... **WRITE INITIALS IN BOX** ... **CONDITIONS** ...

BOX NUMBER 840 510

NORTH COORDINATE ... 50 51 52 53 54 55

EAST COORDINATE ... 57 58 59 60 61 62 63

ELEVATION AT WELL HEAD (FEET) ... 65 66 67 68

B 4 CONTINUED **HEALTH DEPARTMENT APPROVAL**

1 2 3 (SEQ. NO.) 6

STATE HEALTH (CIRCLE BOX) **S** **COUNTY NAME** Howard **COUNTY NO.** 02769

DATE 03/21/78 **APPROVED BY** Donald W. Monaghan, Sanitaria

B 5 SPECIAL CONDITIONS 8-63 (WRA USE ONLY)

1 2 3 (SEQ. NO.) 6