

app 8-14-70 56997A
P 15464

8/13/70

PERMIT

SEWAGE DISPOSAL SYSTEM

A 56997A

MARYLAND STATE DEPARTMENT OF HEALTH

HOWARD COUNTY

ELLICOTT CITY

INDEXED

DISTRICT 4

DATE 8/13/70

04-330528

Herman Sirk

IS PERMITTED TO INSTALL ALTER

ADDRESS Annapolis Rock Road, Woodbine, Md.

PHONE HU 9-4724

A SEWAGE DISPOSAL SYSTEM LOCATED AT

SUBDIVISION

1999 Route 94
ROAD Corner of Florence Rd.
& A. E. Mullinix Rd. LOT

PROPERTY OWNER Donald Warfield

ADDRESS

SPECIFICATIONS

DRAIN FIELD _____ DEPTH _____ FEET, BOTTOM AREA _____ SQ. FT.

SEEPAGE PITS _____ ABSORBENT SIDE-WALL AREA _____ SQ. FT.

SEPTIC TANK CAPACITY _____ GALLONS

FOR GARBAGE GRINDER, INCREASE DISPOSAL AREA 22% & TANK CAPACITY 50%.

OTHER REPAIR - Sanitarian will inspect hole and recommend repair system.

8/13/70 - turned up hole - 42" long - 5" gravel under pipe

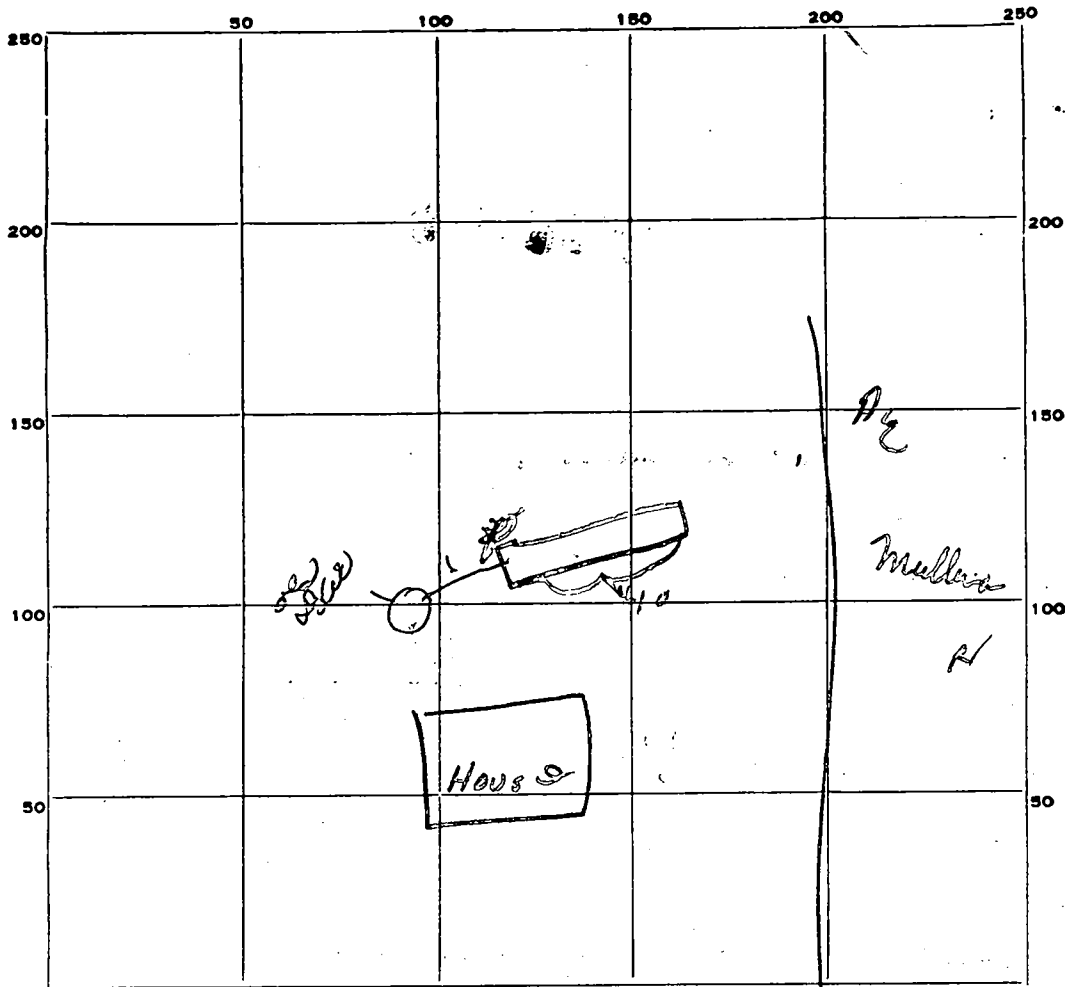
PLANS APPROVED BY Palmer F. Wine

DATE 8/13/70

FILL SEPTIC TANK AND DISTRIBUTION BOX WITH WATER BEFORE CALLING FOR AN INSPECTION. COVER NO WORK UNTIL INSPECTED AND APPROVED.

NEITHER THE HOWARD COUNTY COMMISSIONERS NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM.

56997A
P 56997A



INDICATE NORTH. - NAME ADJOINING ROADWAY AS BASE LINE.

Florence Rd - RT94

PERMIT CARD 02

SEPTIC TANK, LEVEL _____

CLEANOUTS _____

DISTRIBUTION BOX, LEVEL _____

TILE FIELD, DEPTH 8 FT. TRENCH WIDTH 2 FT.

GRAVEL DEPTH 5 ft IN. TOTAL LENGTH 40 FT.

NUMBER OF TRENCHES _____ TOTAL BOTTOM AREA 80

SEEPAGE PITS, INSIDE DIAMETER _____ FT. DEPTH BELOW INLET _____ FT.

ABSORBENT AREA 400 SQ. FT.

REMARKS 8/13/70 - ok to put gravel in trench due

DATE SYSTEM APPROVED 8/24/70

INSPECTOR DW Munnigh

Howard County Health Department

To: 4/4/01

No Building Permits
Are To Be Issued
Until Abandoned Well
Is Sealed.

BB

From: _____

Date: _____

HD-170

B 1 07765

SEQUENCE NO. (DP USE ONLY)

STATE OF MARYLAND PERMIT TO DRILL WELL please print or type

STATE PERMIT NUMBER

110-74-0106 fill in this form completely

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

Date Received (APA)

062894

OWNER INFORMATION

ARPLEGATE WILLIAM

1779 ROUTE 74

WINDOZE MD-1777

DRILLER INFORMATION

Driller's Name: George F. Kistner License No. 80

Firm Name: Kistner, Inc. 21771

Address: George F. Kistner 6-20-74

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) 5

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 500

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL 300 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH

METHOD OF DRILLING (circle one)

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

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
D 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 (OEP USE ONLY)

APPROP. PERMIT NUMBER GAP

FORCE DS PERMIT No. 110-74-0106

SPECIAL CONDITIONS

EXTENDED PUMP TEST; SELECT SAMPLING PARAMETERS

B 3

LOCATION OF WELL

HOWARD

8 COUNTY 21

23 SUBDIVISION 42

SECTION 44 46 LOT 48 50

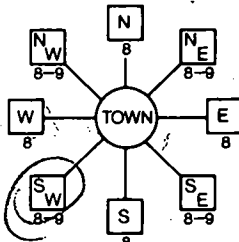
LISPON

52 NEAREST TOWN 71

MILES FROM TOWN (enter 0 if in town) MI

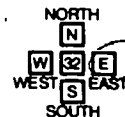
B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



1999 RT 94 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)



120 DISTANCE FROM ROAD

ENTER FT or MI FT

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard W501C4B COUNTY NAME COUNTY NO

STATE SIGNATURE DATE ISSUED 062194

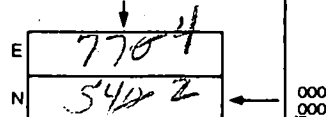
CO-SIGNATURE EXP. DATE 6/21/95

NORTH GRID 542000 EAST GRID 0774000

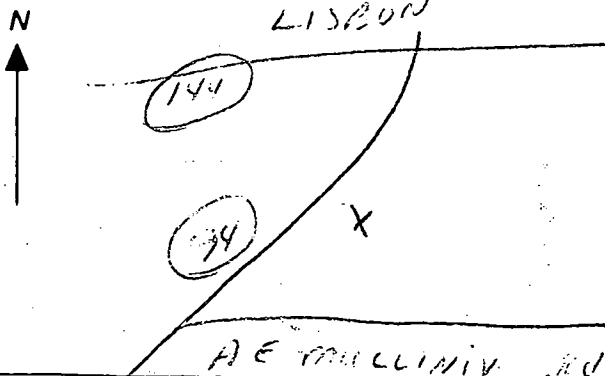
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER wells

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



C1 / 5190

SEQUENCE NO. (DENV 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)

FILL IN THIS FORM COMPLETELY PLEASE PRINT OR TYPE

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED

Depth of Well (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL"

OWNER, STREET OR RFD, SUBDIVISION, SECTION, LOT, TOWN

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

Table with columns: DESCRIPTION (Use additional sheets if needed), FEET (FROM, TO), Check if water bearing. Includes entries for Top Soil, Brown Slate, Tan Slate, etc.

GROUTING RECORD WELL HAS BEEN GROUTED (Circle Appropriate Box) TYPE OF GROUTING MATERIAL CEMENT, BENTONITE CLAY

NO. OF BAGS, NO. OF POUNDS, GALLONS OF WATER, DEPTH OF GROUT SEAL (to nearest foot)

CASING RECORD casing types insert appropriate code below ST CO STEEL CONCRETE PL OT PLASTIC OTHER

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 ST BR HO STEEL BRASS OPEN HOLE PL OT PLASTIC OTHER

DEPTH (nearest ft.) HO 78 200

CIRCLE APPROPRIATE LETTER 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...

DRILLERS IDENT. NO. DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

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

SLOT SIZE 1 2 3 DIAMETER OF SCREEN (NEAREST INCH)

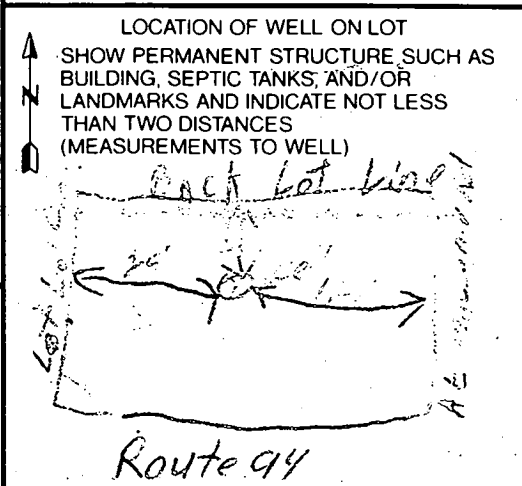
GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

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

C 3

PUMPING TEST HOURS PUMPED (nearest hour) PUMPING RATE (gal. per min. to nearest gal.) METHOD USED TO MEASURE PUMPING RATE WATER LEVEL (distance from land surface) BEFORE PUMPING WHEN PUMPING 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 WILL INSTALL PUMP (CIRCLE) (YES NO) IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX - SEE ABOVE: CAPACITY: GALLONS PER MINUTE (to nearest gallon) PUMP HORSE POWER PUMP COLUMN LENGTH (nearest ft.) CASING HEIGHT (circle appropriate box and enter casing height) above below LAND SURFACE (nearest foot)



6/20/94

JANE

PLEASE BE ALERT TO
INCOMING REPLACEMENT WORK PERMIT

WILLIAM APPEGATE - 1999 ROUTE 94

FROM EASTEROX

SPECIAL TEST REQUIREMENTS BECAUSE
NEAR ANOTHER CONTAMINATED SITE.

SEE BENT.

THANKS

Ⓢ

LABORATORY ESTABLISHMENT
 201 W. Preston St.
 P.O. Box 2322, Baltimore, Maryland 21203
 J. Michael Joseph, D. Ph.D.

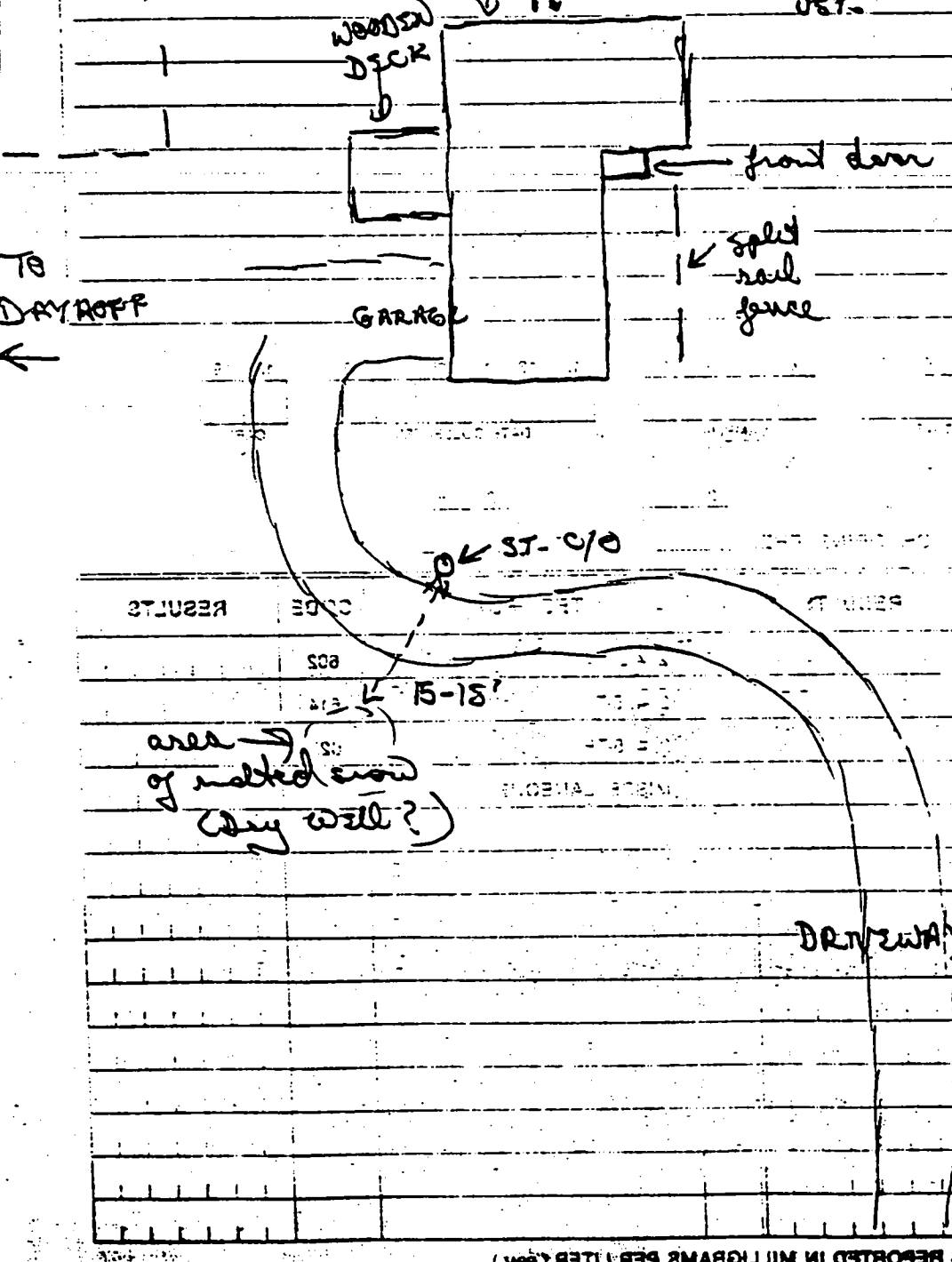
1989 RTE 94

D. WARFIELD

PESTICIDES - DRINKING WATER

property fence

COLLECTOR	88?
SOURCE	OTHER PUBLIC
DISTRIBUTION	OTHER PUBLIC
SAMPLE TYPE	OTHER PUBLIC
REMARKS	looked like c/o, used for test.



NOTE: house = 270'
 from RTE-94
 is across street from
 Mullinix Farm
 However, by 100-125'
 elevation of property
 clearly higher than
 all of Mullinix top

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

CHEMIST

DATE REPORTED

RECEIVED



HOWARD COUNTY HEALTH DEPARTMENT

Diane L. Matuszak, M.D., M.P.H., County Health Officer

August 17, 2000

Gene Mullinix
1999 Woodbine Road
Woodbine, MD 21797

RE: **Well Abandonment**
1999 Woodbine Road

Dear Mr. Mullinix:

File review indicates that a replacement well, with permit #HO-94-1281, was drilled on the above referenced property in October of 1997. A condition of the well drilling permit was that the original well be properly abandoned and sealed. Currently there is no evidence of compliance with this requirement. This abandonment process is important in that it helps to restore the subsurface geologic conditions which existed before the well was drilled, and more importantly, to protect the groundwater resource from potential contamination. This procedure should be completed as soon as possible.

The well abandonment process can best be accomplished by a licensed well driller. They may perform the work without inspection. However, the driller must then file an abandonment report with this office. **If the abandonment is performed by any other party, the materials and procedures must be inspected and approved by a sanitarian from this office before any work is initiated.**

Failure to confirm the proper abandonment of the existing well could result in the issuance of an order to abandon and seal the replacement well in accordance with COMAR 26.04.04.

If you have any questions, or would like to discuss this matter further, please call me directly at (410) 313-2643. Thank you for your attention to this important matter.

Respectfully,

Brian Baker, Sanitarian
Water and Sewerage Program

cc: File

C1 1048 SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND WELL COMPLETION REPORT

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED. COUNTY NUMBER A56997A

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

FILL IN THIS FORM COMPLETELY PLEASE PRINT OR TYPE

ST/CO USE ONLY DATE RECEIVED 10/16/97

DATE WELL COMPLETED 10-10-97

Depth of Well 300 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL" HD-94-1281

OWNER MULLINIX GENE last name first name STREET OR RFD 1999 Route 99 TOWN LISBON SUBDIVISION SECTION LOT

WELL LOG Not required for driven wells

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

Table with columns: DESCRIPTION, FEET (FROM, TO), check if water bearing. Includes entries for top soil, shale, brown slate, gray mica, brown mica, gray mica, quartz, and gray mica.

GROUTING RECORD

WELL HAS BEEN GROUTED (Y) (N) TYPE OF GROUTING MATERIAL (C) (M) (B) (C) NO. OF BAGS 19 NO. OF POUNDS 1700 GALLONS OF WATER 95 DEPTH OF GROUT SEAL (to nearest foot) from 0 to 72 ft.

CASING RECORD

MAIN CASING TYPE S8 Nominal diameter top (main) casing (nearest inch)! 6 Total depth of main casing (nearest foot) 80

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

SCREEN RECORD

screen type or open hole (S) (T) (B) (R) (H) (O) (P) (L) (O) (T) (O) (T) (O) (T)

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED (Y) (N)

CIRCLE APPROPRIATE LETTER 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. 1 MW D 040 DRILLERS SIGNATURE Gene F. Esterday

LIC. NO. 1 MWD 481

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

C2 DEPTH (nearest ft.)

Table with columns: E, A, C, H, S, R, E, N and rows for depth intervals (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, 77-78, 79-80).

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

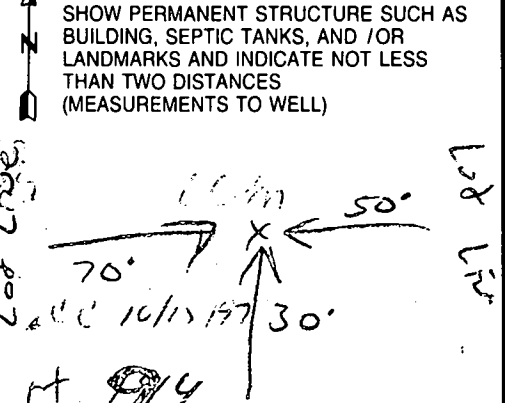
C3 PUMPING TEST

HOURS PUMPED (nearest hour) 3 PUMPING RATE (gal. per min.) 6 METHOD USED TO MEASURE PUMPING RATE Buchot WATER LEVEL (distance from land surface) BEFORE PUMPING 50 ft. WHEN PUMPING 300 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 WILL INSTALL PUMP (YES or NO) (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) (4) above LAND SURFACE () below 2 (nearest foot)

LOCATION OF WELL ON LOT



B 1	3039	SEQUENCE NO. (MDE USE ONLY)	STATE OF MARYLAND PERMIT TO DRILL WELL please print or type	STATE PERMIT NUMBER HO-94-1281 <small>70 fill in this form completely 79</small>
-----	-------------	--------------------------------	---	---

Date Received (APA) **9/15/97**

OWNER INFORMATION **RM 7203**

Mullinix **Gene**

15 Last Name Owner First Name 34

1990 Route 94

36 Street or RFD 55

Woodbine, Md. 21797

57 Town 70 State 72 Zip 76

LOCATION OF WELL **CC#**

8 COUNTY **Howard** 21

23 SUBDIVISION 42

SECTION **44** 46 LOT **48** 50

Lisbon

52 NEAREST TOWN 71

MILES FROM TOWN (enter 0 if in town) **1** M I
73 76 77 78

DRILLER INFORMATION

George F. Easterday **M W D 040**

Driller's Name 76 License No. 81

L. Franklin Easterday, Inc.

Firm Name

9265 Brown Church Rd., MT. Airy, Md. 21771

Address

George F. Easterday **9/17/97**

Signature Date

1999 Rt 94

11 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)

NORTH WEST EAST SOUTH

34 **50** 37

DISTANCE FROM ROAD Ft.

ENTER FT OR MI 38 39

TAX MAP: **7** BLK: **22** PARCEL: **249**

WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) **5**

8 **500** 12

AVERAGE DAILY QUANTITY NEEDED (GAL PER DAY) **500**

14 20

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

Howard **A56997A**

COUNTY NAME COUNTY NO.

STATE SIGNATURE INSERT S

DATE ISSUED **9/17/97** **Kim Mairlo** **9/17/98**

43 MM DD YY 48 CO SIGNATURE EXP. DATE

NORTH GRID **542** 000 EAST GRID **774** 000

50 55 57 63

USE FOR WATER (CIRCLE APPROPRIATE BOX)

HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)

FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)

INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)

PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE APPROVAL)

TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL **300** FEET

24 28

APPROXIMATE DIAMETER OF WELL **6** INCH

NEAREST

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

1. **wells**

2.

3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E **7604**

N **5402**

000 000

Grout done 9/30/97 location OK Km

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 DEEPEINED WELLS (CIRCLE APPROPRIATE BOX)

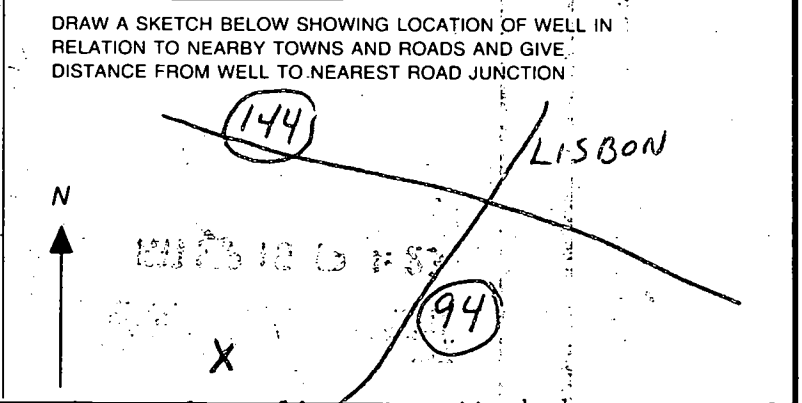
THIS WELL WILL NOT REPLACE AN EXISTING WELL

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 DEEPEIN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEINED (IF AVAILABLE) 41 52



Not to be filled in by driller (MDE OR COUNTY USE ONLY)

APPROP. PERMIT NUMBER **Km** G A P. **HO-94-1281**

54 63

FORCE **Km** WRITE INITIALS IN BOX PERMIT No. **HO-94-1281**

67 68 70 71 72 73 74 75 76 77 78 79

SPECIAL CONDITIONS Regarding notification, construction, and sampling; see attached.

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED.

COUNTY



file

HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

September 26, 1997

L. Franklin Easterday, Inc.
9265 Brown Church Road
Mount Airy, Maryland 21771
Attn: George Easterday

RE: Replacement Well
Well Permit #HO-94-1281
1999 Route 94
Tax Map: 7 Parcel: 249

Dear Mr. Easterday:

The above referenced well construction permit was issued subject to special conditions. It is expected that the following conditions will be met during the construction of the above referenced well:

- Please notify this office 24 hours prior to the start of drilling
- Please see the highlighted areas on the enclosed sheet for specific construction standards

If you anticipate any difficulty in satisfying these conditions, or have any questions please do not hesitate to contact this office at the address below or by calling (410) 313-2640.

Very truly yours,

Kimberly Maiste

Kimberly Maiste, Sanitarian
Water and Sewerage Program

KM:km

cc: file
owner



William Donald Schaefer
 Governor

David A.C. Carroll
 Secretary

MEMORANDUM

TO: Dave Kerr, Regional Consultant
 Individual Septic Systems and Wells Program

FROM: Eric Dougherty, geologist
 Individual Septic Systems and Wells Program *CAD*

SUBJECT: Applegate Property, Route 94 & Mullinix Road, Howard County

DATE: 27 May 1994

On 24 May 1994, I met with Bert Nixon, Director, Community Environmental Health Services, Howard County Health Department, and you to discuss the Applegate Property domestic water well and the possibility of drilling a replacement well. My meeting and field notes are attached.

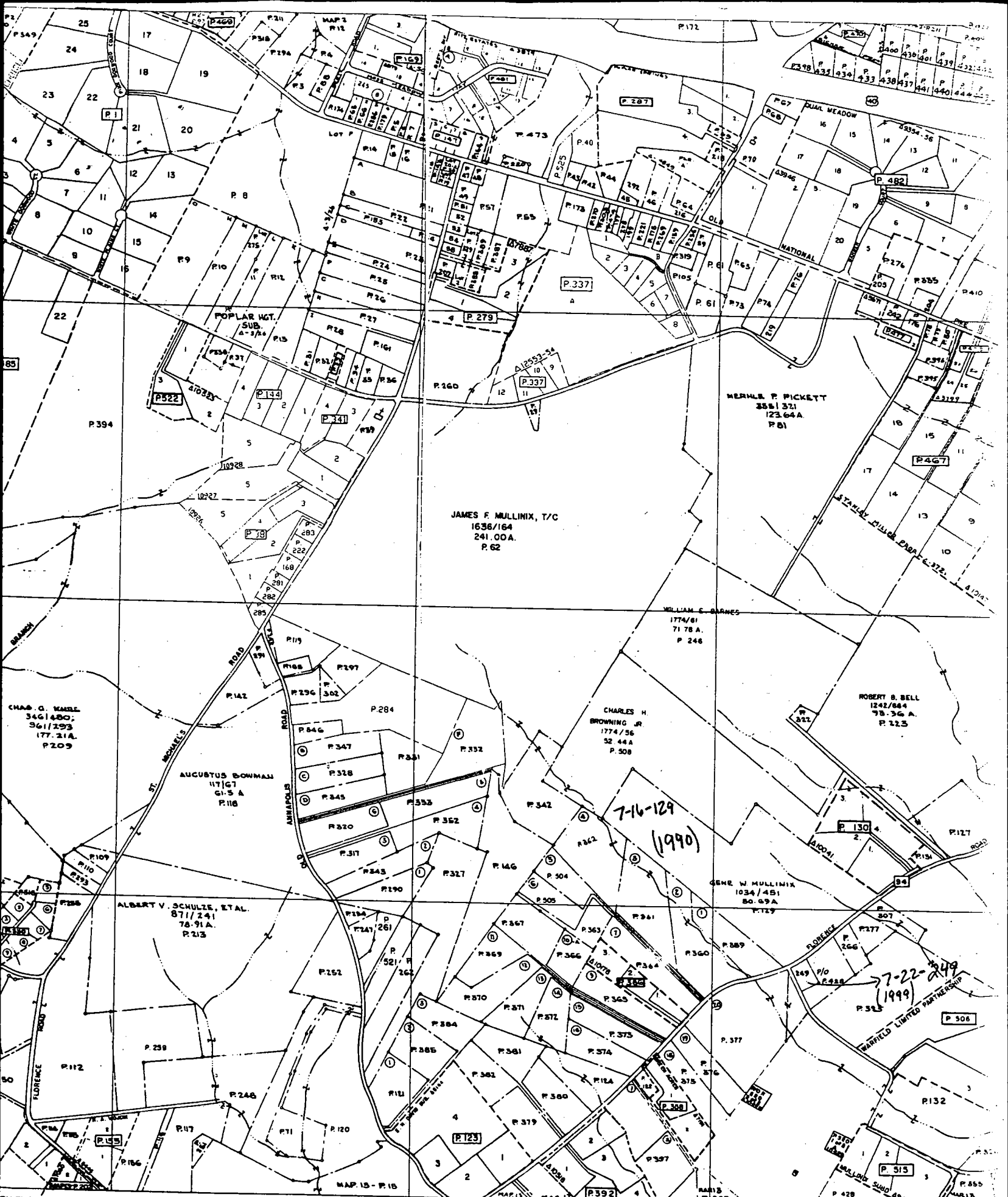
Bert Nixon was interested in receiving guidance in three areas: 1) where on the property could a replacement well be considered; 2) any special well construction requirements; and, 3) acceptable water quality standards for contaminants of concern. My recommendations follow:

1. My recommendation would be to consider siting a replacement well along the north property line (where the pool is) to the back corner of the property.
2. I cannot find any well permit data for Eldred Donald Warfield or combinations thereof, for the period of 1945 to 1980. Therefore, if a permit was obtained, the owners name is not as indicated above. Other well permits for Warfield in the general area of the property range in depth from 58 feet to 102 feet. One well in Daisy to Warfield, drilled in 1973, is 250 feet. Since the actual depth is unknown (reported between 65 to 85 feet) and records are not available, the actual depth will need to be determined.

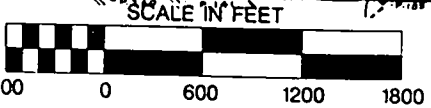
~~My recommendation would be to drill to the depth of the existing well and case off and grout. Then after the grout has set, continue drilling with washed tools until desired depth is reached and add additional casing if needed.~~

3. ~~COMAR 26.04.04.09 Approval of Well for Use as Potable Water Supply states that the water shall meet the maximum contaminant limits of COMAR 26.04.01 therefore the water produced from any replacement well should be sampled for the contaminants of concern and the concentrations should be below the MCLs prior to a certificate of potability being issued. The State lab should be contacted to determine if the lab can analyze the water for the contaminants of concern. If the lab cannot analyze the water, the property owner would have to supply the needed analytical results.~~

If you have any questions, please feel free to contact me at 1-800-633-6101 x3784 or 410-631-3784. Thank you.



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SCALE IN FEET

13

767 770 773

REVISIONS TO: DATE: USER: BY:

767 770 773

BY THE MARYLAND OFFICE OF PLANNING PROPERTY MAPPING SECTION

THE INFORMATION SHOWN HEREON HAS BEEN COMPILED FROM DEED DESCRIPTIONS AND IS NOT AN ACTUAL SURVEY. IT SHOULD NOT BE USED FOR LEGAL DESCRIPTIONS UNLESS THE MAPPING SECTION HAS BEEN ADVISED TO NOTIFY THE PROPERTY MAPPING SECTION. 301 W. PRESTON ST., BALTIMORE, MD 21201

PROPERTY LINE SURVEYOR'S NAME CONTROLLING OFFICE SCALE

HOWARD COUNTY HEALTH DEPARTMENT
Completed Septic System

P 15464 A 56997A

DATE 8/13/70

LOCATION 1999 Route 94

APPLICATION
HOLD ()
APPROVED (✓)
REJECTED ()

LOT _____

APPLICANT _____

INSTALLATION
HOLD ()
APPROVED (✓)

OWNER Donald Wakfield

PERMITTEE Herman Sirk

HD-11 Replacement Well drilled - 6/21/94

APPROVED
DATE 8/14/70

**UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS**

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



PENALTY FOR PRIVATE
USE, \$300

RETURN



Print Sender's name, address, and ZIP Code in the space below.

Bureau of Environmental Health

3525-H Ellicott Mills Drive

Ellicott City, MD 21043

HOWARD COUNTY
HEALTH DEPARTMENT

APR 13 10 50 AM '90

ELICOTT CITY
ENVIRONMENTAL
HEALTH

16

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to:

*Mr. William Applegate
1999 Route 94
Woobine, MD 21797*

4. Article Number

P 489 653 905

Type of Service:

- Registered Insured
 Certified COD
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature — Addressee

X

6. Signature — Agent

X *Applegate*

7. Date of Delivery

3-12-90

8. Addressee's Address (*ONLY if requested and fee paid*)

SEND REPORT TO:

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
3525-N ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043
Invoice No. _____

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Laboratories Administration
201 W. Preston St.
P.O. Box 2355, Baltimore, Maryland 21203
J. Mehsen Joseph, Ph.D., Director

Lab No. / Date Received
A980753 8-25

Do not write above this line

Data Category Code **4F**

PESTICIDES—DRINKING WATER

Bottle Number: HO-Applegate-8 Name: Applegate-replacement well County: Howard

Source of Sample: 1999 Route 94 Street: _____ Town or City: Woodbine Collector: [Signature]
(Include Sanitarian ID Number)

- Private
- Community
- Non-Community

County: **13**

Plant No.

Sampling Station

Date Collected: **10 08 97**

Date & Time are Required for Valid Samples

Time Collected: **9:10 A.M.**

SAMPLE TYPE

- Source (Raw Water)
- Distribution (Treated)
- Water Treatment Plant (P.O.E. to Distribution)

Field Data: **63** pH Chlorine Residual: **0.0** Free **0.0** Total

PRESERVATIVE USED

Iod
(Preservation Information on Back)

Remarks: Please Run Scan For Aldrin, Atrazine, + Metolachlor

METHOD 515.1

DATE EXTRACTED _____
DATE ANALYZED _____

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
	2105	70	2,4-D	
	2031	200	Dalapon	
			2,4-DB	
	2440		Dicamba	
	2041	7.0	Dinoseb	
	2326	1.0	Pentachlorophenol	
	2040	500	Picloram	
	2111		2,4,5-T	
	2110	50	2,4,5-TP (Silvex)	

METHOD 507

DATE EXTRACTED 10-15-97
DATE ANALYZED 10-20-97 LC

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
X	2051	2.0	Alachlor	5.60
X	2050	3.0	Atrazine	13.90
			Butachlor	
	2056		Diazinon	
X	2045		Metolachlor	185.3
			Metribuzin	
			Propachlor	
	2037	1.0	Simazine	

METHOD 508

DATE EXTRACTED _____
DATE ANALYZED _____

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
	2356		Aldrin	
	2959	2.0	Chlordane	
	2057		Chlorpyrifos (Dursban)	
	2070		Dieldrin	
	2005	2.0	Endrin	
	2065	0.4	Heptachlor	
	2067	0.2	Heptachlor Epoxide	
	2274	1.0	Hexachlorobenzene	
	2010	0.2	Lindane	
	2015	40	Methoxychlor	
	2020	3.0	Toxaphene	
	2384	0.5	PCB (Decachlorobiphenyl)	

'—Micrograms per liter
*—Maximum Contaminant Level Regulated Contaminant

Supervisory Chemist [Signature]
Date Reported 10/28/97

ABC 10/28/97



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

June 14, 1995

Mr. & Mrs. William Applegate
1999 Route 94
Woodbine, MD 21797

RE: Request to sample

Dear Mr. & Mrs. Applegate:

To further evaluate the current effectiveness of existing in house treatment due to area herbicide groundwater contamination concerns, the Health Department would like to sample your well water supply. This request is also intended to corroborate more recent sample analyses provided by Ciba Geigy via Mr. Gene Mullinix, as well as Maryland Department of the Environment.

To make the evaluation complete as possible, a sample prior to and following the treatment device is preferable. The post-treatment location should be a point of discharge utilized for consumption (i.e, kitchen or bathroom faucet).

Sampling is currently scheduled for the mornings of July 5th and July 12th (between 8:30 a.m. and 10 a.m.). If you are interested, contact this office at (410) 313-2644 to schedule the date and time for sampling. Ask for Vicki. Should neither of these dates be suitable, an alternate date can be scheduled following confirmation with the laboratory.

If you have any other questions involving the upcoming sampling, contact me at the aforementioned number.

Very truly yours,

Bert Nixon, Director
Community Env. Health Program

BN/vf

cc: Mr. Gene Mullinix
Peggy Smith, MDE, Site Assessment Division

6/6/95

Rec'd t/c from Mr Applegate, who was asking for a letter "guaranteeing" that the ^{water} supply was safe. stated that no real estate agent would touch the property w/out such a letter.

Told Mr Applegate that I could not provide such a guarantee, because current conditions & functioning of treatment system could change with time.

Mr Applegate stated he felt that the Health Dept. & not Mr. Mullinix should be monitoring his water supply - that's he's not paying taxes for Mr Mullinix. He also stated that he never entered into an agreement w/ Mr Mullinix (though the system was installed in Sept 1990).

Told Mr Applegate that I could schedule w/ him a follow up pool treatment sample to verify that the system is currently functioning correctly. If he wanted a letter to that effect I could provide that. Whether this would suffice as a "guarantee" & still be valid 6 months from now I couldn't say.

I did agree with Mr Applegate that copies of the results (not just a letter stating what results were) should also be included w/ letter.

Mr Applegate stated that a new house was being built & this house would be vacated in 90 days. He did not at this time accept my offer to take a follow up sample.

ROLAND H. MULLINIX & SON, INC.

DEALER IN HAY, STRAW & GRAINS

SUPER BLENN FERTILIZER

SUPER-GRO SEEDS

1990 ROUTE 94

WOODBINE, MD. 21797

May 22, 1995

Howard County Environmental Health Dept.
3523 Suite H, Ellicott Mills Drive
Ellicott City, Maryland 21043
Attn: Greg Mellon

This letter is to let you know, that we received the results back from the water monitoring samples taken on March 23, 1995.

The results indicate that all filters are operating properly and maintaining levels under .0. This merits not changing the filters at this time.

We will continue to monitor all systems yearly, and schedule, if needed filter changes.

Thank you,



Gene W. Mullinix

cc: Dayhoff's
Wyants's
Applegates's

These samples not done by H.D. Most likely p/o of ongoing agreement with Mullinix (Ciba-Siggy?) + affected parties

Ciba Crop Protection



May 4, 1995

Ciba-Geigy Corporation
 P.O. Box 18300
 Greensboro, NC 27419-8300
 Telephone: 910 632 6000

Mr. Gene Mullinix
 R. H. Mullinix & Son, Inc.
 1990 Route 94
 Woodbine, MD 21797

Dear Gene:

Here are the results of the water samples taken by you and received in our offices on March 28, 1995.

-- PPB --

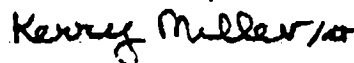
Sample ID	Parent Atrazine	Metolachlor	Cyanazine	Nitrates (ppm)
New Well Lot	2.3	66.0	0.22	32
Applegate (w/filter)	<0.10	8.8	<0.10	29
Applegate (w/out filter)	12.0	105.	1.2	27
Wyant (w/filter)	<0.10	<0.10	<0.10	28
Wyant (w/out filter)	2.5	66.	<0.10	26
Dayhoff (w/filter)	<0.10	<0.10	<0.10	45
Dayhoff (w/out filter)	13.0	88.	0.11	40

We have also analyzed for metabolites of atrazine and they are as follows.

-- PPB --

	Diamino Atrazine	Deisopropyl Atrazine	Deethyl Atrazine
New Well Lot	0.24	<0.10	1.9
Applegate (w/filter)	<0.10	<0.10	<0.10
Applegate (w/out filter)	2.3	<0.10	3.5
Wyant (w/filter)	<0.10	<0.10	<0.10
Wyant (w/out filter)	0.25	<0.10	0.25
Dayhoff (w/filter)	<0.10	<0.10	<0.10
Dayhoff (w/out filter)	1.3	<0.10	2.4

Sincerely,



Kerry Miller
 Regional State Government Relations Manager

0503C3KM (Ltrs./MS) cb(bpt:5/4/95)

cc: M. Boyd

FAXED BY GENE M. ON 6/9/95
 FOLLOWING T/C.

Culligan. (301)797-0311

WATER CONDITIONING
STONER ENTERPRISES INC
501 MARYLAND AVE
HAGERSTOWN MD 21740




FORWARDING AND ADDRESS CORRECTION REQUESTED

FINANCE CHARGE SCHEDULE		FINANCE CHARGE	
OVER	PERIODIC RATE	ANNUAL RATE	PLEASE PAY "NEW BALANCE" BEFORE:
\$ 0	1.50%	18.00%	Jul 10
10	1.50%	18.00%	MIN. Charge: 0.25
Previous Bal ->		0.00	
0614MISC NONTXEL		- 606.00	
0614NT LABOR		- 69.00	
0615AUTO RENTAL		25.00	
0615INSTALL CHG		150.00	
0615 Payment		183.75	
0625AR-ACCOUNT		25.00	
Sales Tax		10.00	
<p>21 JUL 07 1994</p> <p>14851</p> <p>Service 06/25-07/25</p>			
NOTICE		FINANCE CHARGE	
FOR REVERSE SIDE FOR IMPORTANT INFORMATION		0.00	
FINANCE CHARGE		NEW BALANCE 675.00	
FINANCE CHARGE		701.25	
FINANCE CHARGE		0.00	
06/25/1994		ACCOUNT NO 151530	

Apple gates replacement cartridges

Ciba Plant Protection



Ciba-Geigy Corporation
 P.O. Box 18300
 Greensboro, NC 27419-8300
 Telephone 919 632 6000

February 4, 1993

Mr. Gene Mullinix
 1990 Rt. 94
 Woodbine, MD 21797

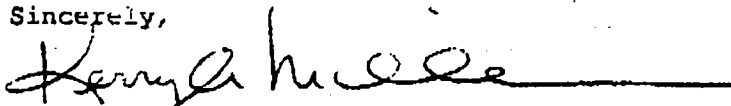
Dear Gene:

Results of water samples taken by you and received by us on December 18, 1992, are as follows:

Sample	- ppb - <u>Atrazine</u>	<u>Metolachlor</u>	ppm <u>Nitrate</u>
Applegate w/out Filter	16.	119.	31
Applegate w/ Filter	< 0.10	0.14	30
Dayhoff w/out Filter	15.	106.	51
Dayhoff w/ Filter	< 0.10	0.13	54
Wyant w/out Filter	4.2	70.	29
Wyant w/ Filter	< 0.10	< 0.10	30

I am glad we could be of assistance.

Sincerely,



Kerry A. Miller
 Environmental Specialist

F4CB0204:KM

RS-WM-045-93, Inventory Number 14229.1

— METABOLITES —

Numeric ID#	Sample Description	RESULTS IN ppb			PARENT ACRAZINE
		G-28273	G-28279	G-30033	
98076	Applegate w/ Filter	<0.10	<0.10	<0.10	0.12
98077	Applegate w/o Filter	2.6	0.92	4.7	12 & 13 *
98078	Wyant w/ Filter	<0.10	<0.10	<0.10	<0.10
98079	Wyant w/o Filter	0.21	<0.10	1.1	1.8
98080	Dayhoff w/ Filter	<0.10	<0.10	<0.10	<0.10
98081	Dayhoff w/o Filter	1.1	0.44	3.6	12 & 12 *
98082	Mullinex Feed Lot	0.94	0.40	2.1	1.4
98083	Mullinex	2.5	0.47	2.3	1.6
-----	Control	<0.10	<0.10	<0.10	<0.10

* These residues were confirmed by injection of a diluted sample (use the first number if only reporting one)

Numeric ID#	Sample Description	RESULTS IN ppb	
		Metolachlor	Cyanazine
98076	Applegate w/ Filter	8.8	<0.10
98077	Applegate w/o Filter	100	1.1
98078	Wyant w/ Filter	<0.10	<0.10
98079	Wyant w/o Filter	59	<0.10
98080	Dayhoff w/ Filter	<0.10	<0.10
98081	Dayhoff w/o Filter	116	0.14
98082	Mullinex Feed Lot	1.7	<0.10
98083	Mullinex	0.87	<0.10
-----	Control	<0.10	<0.10

8/18/84

Had rec'd call from G. Easterday on 8/17 suggesting that this well be used as possible monitoring well for future state/EPA investigation.

Called Mark Cox (MDE 631-4888) & ran scenario by him. He would confer w/ Peggy Smith & check w/ EPA to see if there was an interest.

Called Easterdays - spoke w/ Sarah. Told them to hold off for now on the abandonment, would let them know when I heard from MDE.

9/8/84

Follow up call to Peggy Smith. She mentioned a couple of calls to EPA - she would check again today & get a final answer.

Peggy Smith called back - said EPA was NOT interested in using the well for monitoring purposes.

9/9/84

Spoke w/ Sarah & Easterdays. Told her EPA not interested in well. She said they'd go ahead and abandon well.



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

August 5, 1994

Mr. & Mrs. William Applegate
1999 Route 94
Woodbine, MD. 21797

RE: Water Sample Results

Dear Mr. & Mrs. Applegate:

Enclosed are the test results for pesticide analyses and an evaluation for Nitrate concentration from samples taken on July 21st and July 22nd, 1994.

The pesticide samples were taken to evaluate current contamination levels in the existing well and examine whether the new well would be free of known contaminants. An initial sample was collected from both wells shortly after the pump test was started. This would allow for a baseline comparison of both wells. A follow-up sample of the new well was taken a little more than 24 hours later to examine the potential impact that extended pumping would have on the level(s) of known pesticides.

The Nitrate sample was from the new well and again, was intended to compare previously known elevated levels in the existing well with that of the new well.

The samples from the new well, as well as the sample from the existing well all revealed the presence of Atrazine, Alachlor and Metolachlor. Though levels of Atrazine and Alachlor were lower in the new well, levels of Metolachlor were higher than those detected in the existing well. Both Metolachlor levels in the new well also exceeded the current proposed level of 100 parts per billion (ppb). Additionally, test results for both new well samples were very similar, indicating that pumping had virtually no effect on influencing these levels. Meanwhile, the Atrazine level in the existing well (7.6 ppb) remains above the current maximum contaminant level (MCL) of 3 ppb. This means that appropriate water treatment remains necessary.

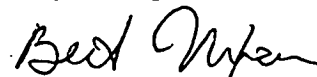
The Nitrate level also remained high - 31 parts per million (ppm). The current MCL for this parameter is 10 ppm. This finding was similar to previous Nitrate sample results of your existing well.

As we discussed in our telephone conversation earlier today, one of these wells (presumably the new one), will have to be abandoned. The abandonment can be performed by the well driller. This office should be notified when this is to occur.

A copy of each test report is enclosed for your records.

If you have further questions regarding this matter, please contact me at 313-2644.

Very Truly Yours,



Bert Nixon, Director
Community Env. Health Program

BN/bn

cc: Eric Dougherty, MDE, Ind. Septic Systems & Wells Program
Dave Kerr, MDE, Regional Consultant
Peggy Smith, MDE, Waste Mgmt., Env. Response & Restoration Program

enclosures

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Laboratories Administration

201 W. Preston St.

P.O. Box 2355, Baltimore, Maryland 21203

J. Mehsen Joseph, Ph.D., Director

09500006 421 8

LAB. NO. _____

PESTICIDES - DRINKING WATER

BOTTLE NUMBER L33 1111A 2-QUART
 SOURCE OF SAMPLE 1999 ROUTE 94
WOODBRIDGE MD COLLECTOR B NIXON (313-2644)
 NAME OF COUNTY HOWARD
 SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE FRONT OUTSIDE FAUCET OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X

REMARKS: SAMPLED FROM FRONT OUTSIDE FAUCET. FAUCET DOES NOT APPEAR TO BE HOOKED UP TO EXISTING TREATMENT IN BASEMENT.
SAMPLE INTENDED TO ESTABLISH COMPARISON BASELINE FOR EXISTING & NEW WELLS. EXISTING WELL W/ PREVIOUS PESTICIDE DETECTION
SAMPLE COLLECTED ≈ 950 pm

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

TRANS. TYPE COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.

20 21 22 23 24 25 26

FIELD PH FIELD RESID. CHLORINE:FREE TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504			2, 4-D	602	
	CHLORDANE	514			2, 4, 5-T	614	
	D D T	523			2, 4, 5-TP	623	
	DIELDRIN	534			TOXAPHENE	634	
	ENDRIN	545		✓	ATRAZINE		0.007.6
	HEPTACHLOR	555		✓	ALACHLOR		0.001.59
	HEPTACHLOR EPOXIDE	565		✓	METOLACHLOR		0.089.3
	LINDANE	574					
	METHOXYCHLOR	582					
	ORGANOPHOSPHATE	592					
	ETHION						
	MALATHION						
	METHYL PARATHION						
	PARATHION						

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED 7-21-94 DATE REPORTED 8-2-94 CHEMIST Berta M-TSIMERMAN

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

7-21
 A950005

LAB. NO. _____

PESTICIDES - DRINKING WATER

BOTTLE NUMBER

EN:1111 2-OUTLINE
 L32

HOWARD
 NAME OF COUNTY

SOURCE OF SAMPLE

1999 ROUTE 94
 WOODBINE MD

COLLECTOR

B NIXON

SAMPLE TYPE:

DISTRIBUTION

SOURCE

PUMP TEST

OTHER (specify)

COMMUNITY

OTHER PUBLIC

PRIVATE

X

REMARKS:

REPLACEMENT WELL (HO-94-0106) WITH LOCATION + WELL CONSTRUCTION INTENDED TO ELIMINATE PREVIOUSLY DETECTED PESTICIDES IN EXISTING WELL

SAMPLE COLLECTED ^{NEAR} START OF EXTENDED WELL PURGE FOR BASELINE LEVELS. PUMP TEST STARTED 8:30 am, SAMPLE TAKEN 9:30 am

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
TRANS TYPE	COUNTY		PLANT NO.				SAMPLING STATION				DATE COLLECTED				CARD NO.			

20	21	22	23	24	25	26
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
FIELD PH			FIELD RESID. CHLORINE:FREE			TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504			2, 4-D	602	
	CHLORDANE	514			2, 4, 5-T	614	
	DDT	523			2, 4, 5-TP	623	
	DIELDRIN	534			TOXAPHENE	634	
	ENDRIN	545		✓	ATRAZINE		0.00, 1.5
	HEPTACHLOR	555		✓	ALACHLOR		0.00, 0.36, 4
	HEPTACHLOR EPOXIDE	565		✓	METOLACHLOR		0.1, 0.9, 3
	LINDANE	574					
	METHOXYCHLOR	582					
	ORGANOPHOSPHATE	592					
	ETHION						
	MALATHION						
	METHYL PARATHION						
	PARATHION						

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED July 21 1994 DATE REPORTED 8-2-1994 CHEMIST Berta M. - TSIMERMAN

Send Report to: B. Nixon

Bureau of Environ. Health

STATE OF MARYLAND

DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Laboratories Administration

201 W. Preston St.

P.O. Box 2355, Baltimore, Maryland 21203

J. Mehsen Joseph, Ph.D., Director

A950007 322 8

3525-H Elliott Mills Dr.

Ellicott City 21043

PESTICIDES - DRINKING WATER

BOTTLE NO. L29 COUNTY HOWARD LAB. NO. _____

SOURCE OF SAMPLE 1999 ROUTE 94 WOODRINE COLLECTOR B NIXON 313-2644

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE PUMP TEST OTHER (specify) _____

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: FOLLOW UP SAMPLE - END OF EXTENDED WELL PURGE
SAMPLE TO SEE IF ANY IMPACT OF USE ON EXISTING
AREA PESTICIDE DETECTION
SAMPLE COLLECTED 9:55 AM
HO 94 0106

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

TRANS TYPE: _____ COUNTY: 13 PLANT NO.: _____ SAMPLING STATION: _____ DATE COLLECTED: 07 22 94 CARD NO.: _____

FIELD pH: 20 21 22 FIELD RESID. CHLORINE: FREE 23 24 TOTAL 25 26

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504			2, 4-D	602	
	CHLORDANE	514			2, 4, 5-T	614	
	D D T	523			2, 4, 5-TP	623	
	DIELDRIN	534			MISCELLANEOUS		
	ENDRIN	545		✓	ATRAZINE		0.00102
	HEPTACHLOR	555		✓	ALACHLOR		0.00023
	HEPTACHLOR EPOXIDE	565		✓	METOLACHLOR		0.1109
	LINDANE	574					
	METHOXYCHLOR	582					
	TOXAPHENE	634					
	ETHION						
	MALATHION						
	METHYL PARATHION						
	PARATHION						

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED 7-22-1994 DATE REPORTED 8-2-94 CHEMIST Berta M. Tsimerkova

0300389 426

WATER ANALYSIS

Do not write above this line.

2S:11MA 1-30A

S
A
M
P
L
E
I
D

Bottle Number HO-APP-1 Name APPLEGATE, WILLIAM County HOWARD County Code 13

Source 1999 ROUTE 94 WOODBINE, MD 21797 Date Category Code 4F

Collected: Date 7/22/94 Time 955 Collector & Phone B NIXON 313-2644 Submitter Code

CHECK (one per box)

Drinking Water <input checked="" type="checkbox"/>	Community Non-community Private Other <input type="checkbox"/>	Source (raw water) Distribution (treated) MCL <input checked="" type="checkbox"/>	Emergency Routine Recheck Special <input checked="" type="checkbox"/>	Federal Project <input type="checkbox"/>
Landfill Stream Other <input type="checkbox"/>				

F
I
E
L
D

Plant No. Sampling Station Preservation: Iced Acid Type of Acid H2SO4

pH 6.4 Chlorine: Free Total Specific Conductance

Notes to Lab/Remarks: HO-94 0106 REPLACEMENT WELL
END OF EXTENDED PURGE OF WELL

CHECK TESTS	TESTS	CODES	ERROR CODE	G/L	RESULTS	DATE ANALYZED	ANALYST INITIALS
	Alkalinity (Total)	00410					
	Alkalinity, Ca CO ₃ Sat.	74023					
	Ammonia - N	00608					
	Chloride	00940					
	Color*	00081					
	Conductance*, spec.	00095					
	Dissolved Solids	70300					
	Hardness	00900					
	Fluoride	00951					
	Nitrite, N	00615					
<input checked="" type="checkbox"/>	Nitrate - Nitrate, N	00630			31.0	7-26-94	BR
	pH*, Ca CO ₃ SAT	70311					
	Sulfate	00945					
	Total Solids	00500					
	Turbidity*	00076					
	Other:						
<p><i>Result phoned to Mr. Nixon on 7/26/94.</i> <i>W.A. Rebecke</i></p>							

Results reported in Units, all others in milligrams per liter (ppm)

Number of Tests Requested 01

Asoka I. Katumuluwa

Section Chief

Date Reported

JUL 28 1994

RECEIVED
HOWARD COUNTY
HEALTH DEPT.

94 AUG - 1 AM 11:25

Partial List of Submitter Codes

<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
1-30	County Codes	53	Chesapeake Bay & Special Projects
41	Individual Septics & Wells Program	59	Standard & Certification Program
42	Water Supply Program	63	Division of Food Control
43	Recreational Sanitation & Migrant Camps, DHMH	64	Engineering & Maintenance, DHMH
44	STP Inspection Division	65	Division of Community Services
45	Hazardous & Solid Waste Admin. (Landfill Samples)	66	Office of Attorney General
46	Pre-Treatment Enforcement Division	67	Dept. of General Services
48	Licensing and Certification, DHMH	77	E.P.A.
52	Water Quality Monitoring Program	91	State Highway Administration
		96	L.U.S.T./U.S.T./CERCLA
		99	Unknown

Codes for Federally Funded Projects (leave box blank if not federal)

<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
S	Safe Drinking Water Act (SDWA)	N	National Pollution Discharge Elimination System (NPDES)
R	Resource Conservation and Recovery Act (RCRA)	M	Miscellaneous (Other)

Partial List of Data Category Codes

<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
1F	Sediment Samples	2F	Innovative Disposal
2A	Industrial Effluents/Compliance	5A	Solid Waste/Landfills
2B	Industrial Grab	5B	Kidney Dialysis
2C	Municipal Compliance	5C	Commercial Bottled Waters
2D	Municipal Grab	5D	Misc. Wastewaters
4A	MCL Surveys	5E	Misc. River/Stream
4B	Routine Monitoring & Other Communities	5F	Misc. Drinking Water
4D	Potable - County Community	5G	Swimming Pools
4E	Potable - Non Community	5H	Marine or Estuarine Natural Bathing Areas
4F	Potable - Private Wells		
4G	Real Estate Trans./Charge Samples		

Partial List of Error Codes

<u>Code</u>	<u>Description</u>	<u>Code</u>	<u>Description</u>
A	Laboratory Accident	J	Wrong sample type
C	Mechanical/Materials failure	RR	No sample received
D	Insufficient Sample	X	Improper preservation
E	Sample past holding time	LL	Mislabeled sample



MDE

MARYLAND DEPARTMENT OF THE ENVIRONMENT

2500 Broening Highway • Baltimore, Maryland 21224
(410) 631-3000

William Donald Schaefer
Governor

David A.C. Carroll
Secretary

MEMORANDUM

TO: Dave Kerr, Regional Consultant
Individual Septic Systems and Wells Program

FROM: Eric Dougherty, geologist
Individual Septic Systems and Wells Program *(CAD)*

SUBJECT: Applegate Property, Route 94 & Mullinix Road, Howard County

DATE: 27 May 1994

On 24 May 1994, I met with Bert Nixon, Director, Community Environmental Health Services, Howard County Health Department, and you to discuss the Applegate Property domestic water well and the possibility of drilling a replacement well. My meeting and field notes are attached.

Bert Nixon was interested in receiving guidance in three areas: 1) where on the property could a replacement well be considered; 2) any special well construction requirements; and, 3) acceptable water quality standards for contaminants of concern. My recommendations follow:

1. My recommendation would be to consider siting a replacement well along the north property line (where the pool is) to the back corner of the property.
2. I cannot find any well permit data for Eldred Donald Warfield or combinations thereof, for the period of 1945 to 1980. Therefore, if a permit was obtained, the owners name is not as indicated above. Other well permits for Warfield in the general area of the property range in depth from 58 feet to 102 feet. One well in Daisy to Warfield, drilled in 1973, is 250 feet. Since the actual depth is unknown (reported between 65 to 85 feet) and records are not available, the actual depth will need to be determined.

My recommendation would be to drill to the depth of the existing well and case off and grout. Then after the grout has set, continue drilling with washed tools, until desired depth is reached and add additional casing if needed.

3. COMAR 26.04.04.09 - Approval of Well for Use as Potable Water Supply - states that the water shall meet the maximum contaminant limits of COMAR 26.04.01, therefore the water produced from any replacement well should be sampled for the contaminants of concern and the concentrations should be below the MCLs prior to a certificate of potability being issued. The State lab should be contacted to determined if the lab can analyze the water for the contaminants of concern. If the lab cannot analyze the water, the property owner would have to supply the needed analytical results.

If you have any questions, please feel free to contact me at 1-800-633-6101 x3784 or 410-631-3784. Thank you.

Howard County

24 May 1994
MULNICK Property Well

WELL STUFF

Computers: DBase administration III+

Inspection:

BERT Nixon, Ho Co

Director, Community Envir Health

- MDE has file Peggy Smith, MDE WAS

- Applegate property - he wants replacement well for existing house

- MULLINX FARM source of pesticide (been determined)

- Atrachlor MCL - 2ppb
- Atrazine MCL - 3ppb
- Metalachlor MCL - HA 100ppb

HISTORY

- on farm small house - daughter lived there - son-in-law worked farm, sampled well through C₁ - C₂ found 2 Bact (Pesticide / NO₃) (pit well)
County did initial sampling, sampled neighbor (4) properties found Pesticides / NO₃
Applegate + 3 others → 2+, 2-; more rounds more houses, 3 total properties affected →

- Dept Ag involved early on (1989-1990 work) regulate pesticides →

= 2 =

24 MAY 94

HOWARD County PESTICIDE WELL CONTAMINATION
Applegate Property - MULLINIX FARM

MULLINIX Farm sort of distribution center } mix ctr.
i. found in 1980 ± had spill - par clean up expected
also spill on rt of

- Ag & direct help } limited } enforcement

- Stopped pesticide work @ site

- UST petroleum tanks on property - pulled leak found

- new well on Mullinix Farm for house to replace
p.t. well

- new well samples - ok (think)

- other properties → 9-10 homes total sampled; Cecelia,
GW Investigator Group, Central Prairie, Marylin
Adams;

- Public Meeting w/ Frank Henderson } home owners, talk of NW
of NPL site etc. - old site where burn
old pesticide boxes of concern

- Manufactures → brought in - GAC units installed in
affected homes } pesticide monitoring

Mullinix Farm /
Applegate Property

= 3 =

24 May 94

December 1993 → USEPA, { WAS CALLED } wanted information
on site - WAS thinking about doing something in
1/2 or two -

- Applegate wants to sell property { move } i.e. wants new
well to possibly miss pesticides / VOC etc.

- Ho Co. concerned about enough room on property, specially
contaminated - called in Dave Kerr

OLD WELL - in basement of house, 65 FT ± TD ?
- loc lot 85 FT TD ?
- house 30 yrs ±
- 1988 VOC - P.D.

- Ho County looking for:

- construction guidance
- water quality stds - acceptance.

[ENFORCEMENTS → other properties appear not affected, but not sure of
relative { potential of easements]

RT 94 { AE Mullinix ^{CP 201} - corner, Woodbine PO.
6.13.94

1999

KT 94 (WOODBINE ROAD)

Applegate Property

1954 owner (new) EIDRED
David Wierfield

Eldred D. Wierfield original owner

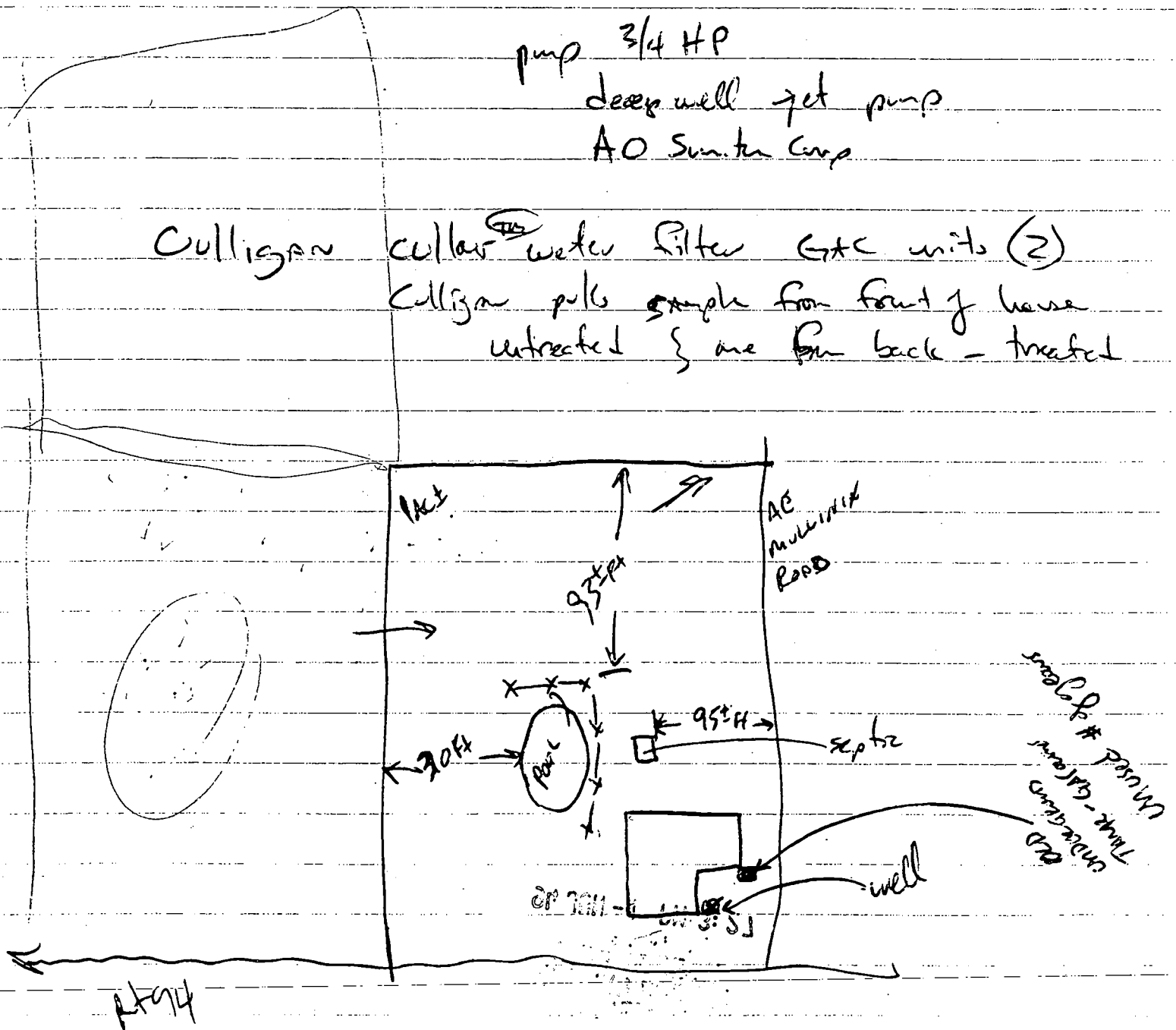
pump 3/4 HP

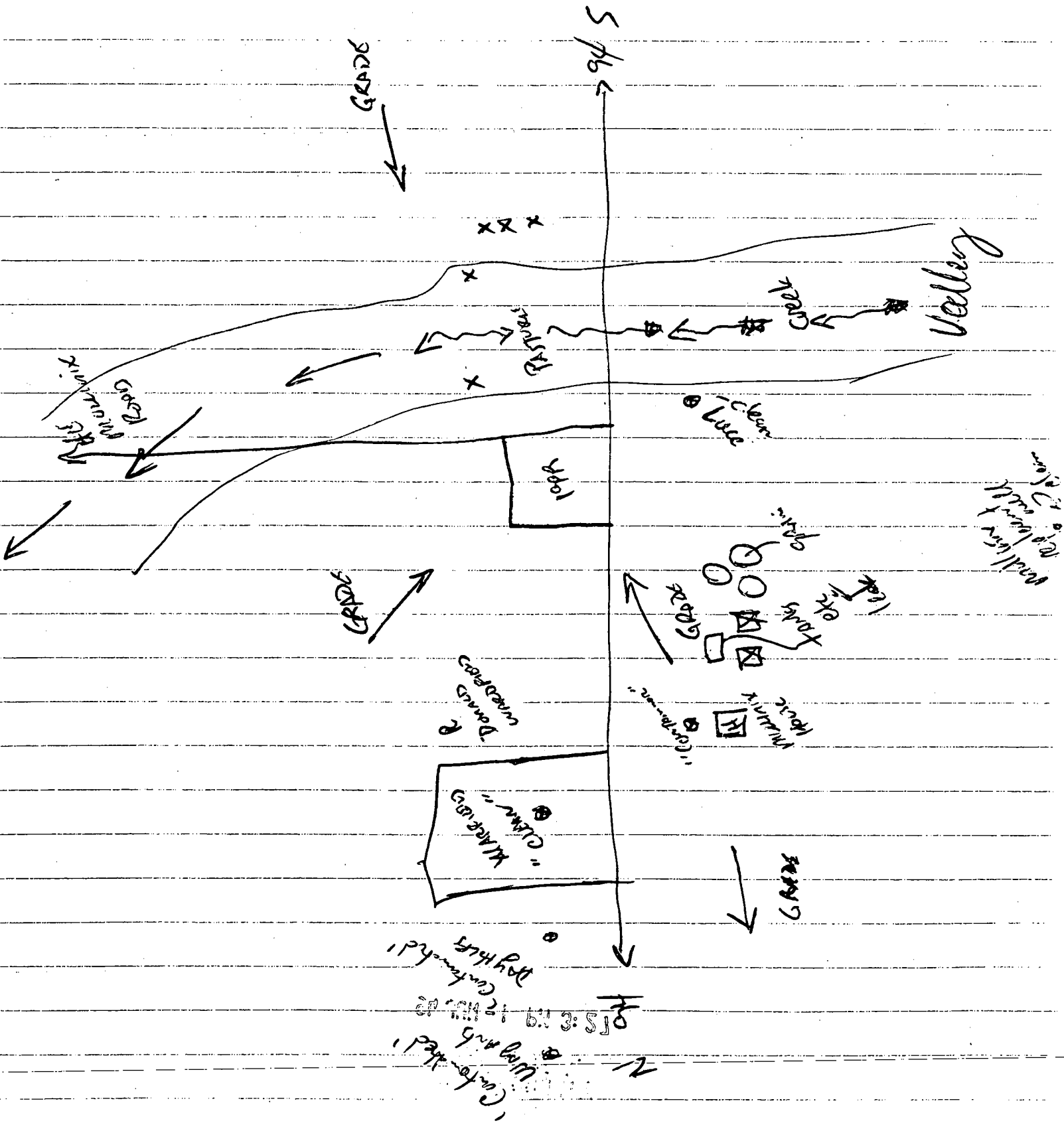
deep well jet pump

AO Sunter Corp

Culligan collar water filter GAC units (2)

Culligan pulls sample from front of house
untreated & one from back - treated





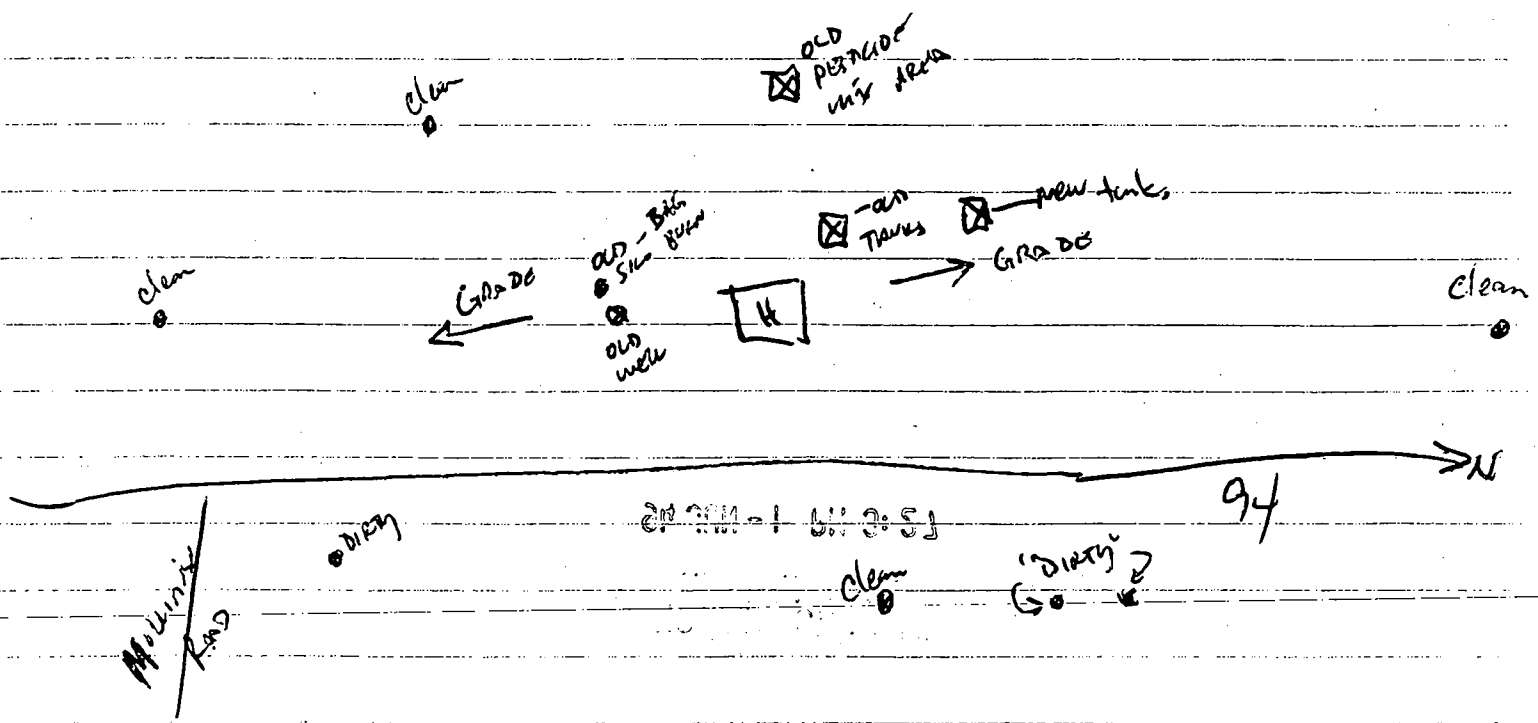
Adequate Well data -

Jan 1992 DATA (Sept 91)

Row: 00.1 ATRazine ppb
0.23 Metoladon ppb
1.9 ALACTOX

Row/ Dec 92 sample

16 ppb ATRazine
119 ppb metoladon



Howard County Health Department

To: _____

		Raw	Med	Treat
9/25/91	Ciba Geigy ?(samples from w/ raw & med)	4.1	11	4.1 AT
		1.9	ND	4.1 AL
		0.23	163	0.12
2/91	? (RAW)	14.3	RT	
		3	AL	
		118	MET	
10/2/90	H.D. (POST)	<.0008		
		<.00008		
		<.0002		

From: _____

Date: _____

HD-170

Sample Date	sampled	Results
6/2/94	by MDE	≈ 6 ppb AT ≈ 1 AL 53 M (RAW WATER)

3/23/95 (Mullinix)

(TREATED WATER)

7/21 + 22/94	H.D.	7/21	7/22
	NEW WELL (RAW)	1.5 AT	1 AT
		0.36 AL	0.3 AL
		109.3 M	110 M
	EXISTING (RAW)	7.6 AT	
		1.5 AL	
	N = 31 ppm	89.3 M	

12/17/92	CISA 6E167	RAW	TREATED
		161 AT	2.1 AT
		129 M	0.14 M

7/8/96

345

Peggy Smith

631-3493

MDE

Wants to talk about

Pesticides

Asking if we knew last time
wells were sampled.

Told her we sampled last
summer - things (levels) appeared
consistent w/ past tests
Not aware of any recent sampling.

HOWARD COUNTY HEALTH DEPARTMENT

Date _____

To: _____

From: _____

- | | |
|--|--|
| <input type="checkbox"/> For your information | <input type="checkbox"/> Please handle |
| <input type="checkbox"/> Please note & file | <input type="checkbox"/> Please circulate |
| <input type="checkbox"/> Please note & return | <input type="checkbox"/> Please distribute |
| <input type="checkbox"/> Please comment | <input type="checkbox"/> Please see me |
| <input type="checkbox"/> Please sign & return | <input type="checkbox"/> As requested |
| <input type="checkbox"/> Please prepare reply for my signature | |
| <input type="checkbox"/> Please answer, sending me copy of your letter | |

REMARKS:

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Laboratories Administration
201 W. Preston St.
P.O. Box 2355, Baltimore, Maryland 21203
J. Mehsen Joseph, Ph.D., Director

LAB. NO. _____

PESTICIDES - DRINKING WATER

BOTTLE NUMBER L32

HOWARD
NAME OF COUNTY

SOURCE OF SAMPLE 1999 ROUTE 94 WOODBINE MD

COLLECTOR B NIXON

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE PUMP TEST OTHER (specify) _____

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X

REMARKS: REPLACEMENT WELL (HO-94-0106) WITH LOCATION & WELL CONSTRUCTION INTENDED TO ELIMINATE PREVIOUSLY DETECTED PESTICIDES IN EXISTING WELL

SAMPLE COLLECTED ^{NEAR} START OF EXTENDED WELL PURGE FOR BASELINE LEVELS. PUMP TEST STARTED 8:30 AM, SAMPLE TAKEN 9:30 AM

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
TRANS COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.

FIELD PH 20 21 22 23 24 25 26
FIELD RESID. CHLORINE:FREE TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	.....		2, 4-D	602	.....
	CHLORDANE	514	.....		2, 4, 5-T	614	.....
	D D T	523	.....		2, 4, 5-TP	623	.....
	DIELDRIN	534	.....		TOXAPHENE	634	.....
	ENDRIN	545	.....	✓	ATRAZINE		.....
	HEPTACHLOR	555	.....	✓	ALACHLOR		.....
	HEPTACHLOR EPOXIDE	565	.....	✓	METOLACHLOR		.....
	LINDANE	574	.....				.....
	METHOXYCHLOR	582	.....				.....
	ORGANOPHOSPHATE	592	.....				.....
	ETHION		.....				.....
	MALATHION		.....				.....
	METHYL PARATHION		.....				.....
	PARATHION		.....				.....

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED _____ CHEMIST _____

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

LAB. NO. _____

PESTICIDES - DRINKING WATER

BOTTLE NUMBER L33
 SOURCE OF SAMPLE 1999 ROUTE 94 WOODBINE MD COLLECTOR B NIXON (313-2644)
 SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE FRONT OUTSIDE FAUCET OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X

HOWARD
 NAME OF COUNTY

REMARKS: SAMPLED FROM FRONT OUTSIDE FAUCET. FAUCET DOES NOT APPEAR TO BE HOOKED UP TO EXISTING TREATMENT IN BASEMENT.
SAMPLE INTENDED TO ESTABLISH COMPARISON BASELINE FOR EXISTING & NEW WELLS. EXISTING WELL W/ PREVIOUS PESTICIDE DETECTION
SAMPLE COLLECTED ≈ 950 AM

1 TRANS TYPE
 2 3 13 COUNTY
 4 5 6 7 PLANT NO.
 8 9 10 11 SAMPLING STATION
 12 13 14 15 16 17 07 21 94 DATE COLLECTED
 18 19 CARD NO.
 20 21 22 FIELD pH
 23 24 FIELD RESID. CHLORINE:FREE
 25 26 TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	.....		2, 4-D	602	.....
	CHLORDANE	514	.....		2, 4, 5-T	614	.....
	D D T	523	.....		2, 4, 5-TP	623	.....
	DIELDRIN	534	.....		TOXAPHENE	634	.....
	ENDRIN	545	.....	✓	ATRAZINE		.....
	HEPTACHLOR	555	.....	✓	ALACHLOR		.....
	HEPTACHLOR EPOXIDE	565	.....	✓	MITOZACHLOR		.....
	LINDANE	574	.....				.....
	METHOXYCHLOR	582	.....				.....
	ORGANOPHOSPHATE	592	.....				.....
	ETHION		.....				.....
	MALATHION		.....				.....
	METHYL PARATHION		.....				.....
	PARATHION		.....				.....

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED _____ CHEMIST _____

TIME ↓	APPOINTMENTS	ACTION RECORD	5 HOURS	A BC <input type="checkbox"/>
6 AM	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12 NOON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 EVE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CHECK ✓
MEMO-RY

Howard County Health Dept.

Don't turn valve off at pump.
Hose belongs to owners - contaminated H₂O has been in it
If need to disconnect, turn off breaker
then disconnect hose for sample.
(Bottom Right breaker in basement)
Come in back door, go to room on left!
Pump has been running since 8:30 A

SUMMARY MONEY / EXPENSES / ETC.

IMPORTANT TODAY

DATE

MON TUE WED THU FRI SAT SUN

TIME ↓

APPOINTMENTS

ACTION RECORD

S HOURS

A
BC CHECK ✓
MEMORY

6 AM

7

8

9

10

11

12 NOON

1

2

3

4

5

6 EVE

7

8

SUMMARY MONEY / EXPENSES / ETC.

SEE TOMORROW'S SCHEDULE

TOTAL



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

August 24, 1995

Mr. & Mrs. William Applegate
1999 Route 94
Woodbine, MD 21797

RE: Water Sample Results

Dear Mr. & Mrs. Applegate:

Back on July 5, 1995, the Health Department collected pre and post-treatment samples for herbicides previously shown to be affecting your well water supply. These samples were collected to provide independent assessment of the existing carbon treatment, as well as ascertain current levels of contamination of the ground water supply.

Results (received by our office on August 24, 1995) revealed the following:

	Pre-Treatment (ppb)*	Post Treatment (ppb)
Atrazine	12.8	<0.4
Alachlor	2.22	<0.6
Metolachlor	98.2	<2.0

*ppb = parts per billion

Test results of the raw water show that at the time of testing, both Atrazine and Alachlor were above their respective maximum contaminant levels (MCL's). For Atrazine, the MCL is 3.0 ppb, while Alachlor is 2.0 ppb. Metalachlor was found at a level just below the 100 ppb benchmark established by the Environmental Protection Agency as protective of human health. Finally, Toxaphene (a compound added to the analysis at your request), was found below the limit of detection for the test method employed.


August 24, 1995

Test results for the post-treatment sample were all below the limit of detection for the test methods employed. Therefore, at the time of testing, the carbon treatment was effective in the removal of these compounds.

A copy of each test report is enclosed for your records.

If you should have any questions, you may contact me at 313-2644 between 8:30 a.m. and 5:00 p.m..

Very truly yours,



Bert Nixon, Director
Community Env. Health Program

BN/vf

cc: Wade Gallagher, Esq.
Gene Mullinix

SEND REPORT TO:

STATE OF MARYLAND
DEPARTMENT OF HEALTH AND MENTAL HYGIENE

Lab No. / Date Received

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
3525-B ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043

Laboratories Administration

201 W. Preston St.

P.O. Box 2355, Baltimore, Maryland 21203

J. Mehsen Joseph, Ph.D., Director

Do not write above this line

Data Category Code

4F

PESTICIDES—DRINKING WATER

Bottle Number: HO-APPEGATE-PRE Name: WM APPEGATE County: HOWARD

Source of Sample: OUTSIDE FRONT - 1999 ROUTE 94, WOODBINE, Md Collector: B. MORTON
Street Town or City (Include Sanitarian ID Number)

- Private
- Community
- Non-Community

County: 13

Plant No. ---

Sampling Station ---

Date Collected: 070595

Date & Time are Required for Valid Samples

Time Collected: 0830

- SAMPLE TYPE**
- Source (Raw Water)
 - Distribution (Treated)
 - Water Treatment Plant (P.O.E. to Distribution)

Field Data:	<u>6.3</u>	Chlorine Residual	<u>0.000</u>
	pH	Free	Total

PRESERVATIVE USED

(Preservation Information on Back)

Remarks:

PRE-SAMPLE - MULLINIX SURVEY

METHOD _____
DATE EXTRACTED _____
DATE ANALYZED _____

METHOD 508
DATE EXTRACTED 7-12-95
DATE ANALYZED 8-3-95

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
	2105	70	2,4-D	
	2031	200	Dalapon	
			2,4-DB	
	2440		Dicamba	
	2041	7.0	Dinoseb	
	2326	1.0	Pentachlorophenol	
	2040	500	Picloram	
	2111		2,4,5-T	
	2110	50	2,4,5-TP (Silvex)	

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
	2356		Aldrin	
	2959	2.0	Chlordane	
	2057		Chlorpyrifos (Dursban)	
	2070		Dieldrin	
	2005	2.0	Endrin	
	2065	0.4	Heptachlor	
	2067	0.2	Heptachlor Epoxide	
	2274	1.0	Hexachlorobenzene	
	2042	50	Hexachlorocyclopentadiene	
	2010	0.2	Lindane	
	2015	40	Methoxychlor	
X	2020	3.0	Toxaphene	<u><1.0</u>
	2384	0.5	PCB (Decachlorobiphenyl)	

METHOD 507
DATE EXTRACTED 7-12-95
DATE ANALYZED 8-11-95

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
X	2051	2.0	Alachlor	<u>2.22</u>
X	2050	3.0	Atrazine	<u>12.8</u>
			Butachlor	
	2056		Diazinon	
X	2045		Metolachlor	<u>98.2</u>
			Metribuzin	
			Propachlor	
	2037	1.0	Simazine	

X	EPA ID	MCL**	CONTAMINANT	RESULTS'
X			<u>CYANAZINE</u>	<u>NA</u>

—Micrograms per liter
—Maximum Contaminant Level
Regulated Contaminant

Supervisory Chemist _____
Date Reported 8-24-95

PHOTOCOPIED FROM VHS TAPE
DATE: 08/24/95
TIME: 03:11 PM
PAGE 02 OF 02

Samples must be preserved as follows:

1. Use a 4 liter glass bottle with a teflon-lined lid.
2. Determine if residual chlorine is present.
3. If residual chlorine is present, add sufficient sodium thiosulfate to the bottle to reduce the chlorine prior to collecting the sample.
4. Add 1 vial of mercuric chloride (2 ml of 20 mg/ml) to the sample.
5. Shake bottle to mix sample and preservatives.
6. Samples must be iced or refrigerated at 4°C during shipping. Coolers and ice must be used. Cold packs are not acceptable.

95 AUG 24 PM 3:11

SEND REPORT TO:

STATE OF MARYLAND

Lab No. / Date Received

HOWARD COUNTY HEALTH DEPARTMENT
BUREAU OF ENVIRONMENTAL HEALTH
3525-B ELLICOTT MILLS DRIVE
ELLICOTT CITY, MD 21043

DEPARTMENT OF HEALTH AND MENTAL HYGIENE
Laboratories Administration
201 W. Preston St.
P.O. Box 2355, Baltimore, Maryland 21203
J. Mehsen Joseph, Ph.D., Director

0960036 3-5 89
Do not write above this line

Invoice No. _____

PESTICIDES—DRINKING WATER

Data Category Code **4F**

Bottle Number: **HO-APPLEGATE** Name: **WM. APPEL GATE** County: **HOWARD**

Source of Sample: **KITCHEN • 1999 ROUTE 94, WOODBINE, Md** Collector: **B. MORTON**
Street Town or City (Include Sanitarian ID Number)

- Private
- Community
- Non-Community

County: **13** Plant No. **---** Sampling Station **---** Date Collected **070595** Date & Time are Required for Valid Samples **0830** Time Collected

SAMPLE TYPE

- Source (Raw Water)
- Distribution (Treated)
- Water Treatment Plant (P.O.E. to Distribution)

Field Data: pH **6.6** Chlorine Residual: Free **0.9** Total **0.0**

PRESERVATIVE USED

(Preservation Information on Back)

Remarks: _____

POST SAMPLE - MULLINIX SURVEY

METHOD _____
DATE EXTRACTED _____
DATE ANALYZED _____

X	EPA ID	MCL**	CONTAMINANT	RESULTS
	2105	70	2,4-D	
	2031	200	Dalapon	
			2,4-DB	
	2440		Dicamba	
	2041	7.0	Dinoseb	
	2326	1.0	Pentachlorophenol	
	2040	500	Picloram	
	2111		2,4,5-T	
	2110	50	2,4,5-TP (Silvex)	

METHOD **508**
DATE EXTRACTED **7-12-95**
DATE ANALYZED **8-3-95**

X	EPA ID	MCL**	CONTAMINANT	RESULTS
	2356		Aldrin	
	2959	2.0	Chlordane	
	2057		Chlorpyrifos (Dursban)	
	2070		Dieldrin	
	2005	2.0	Endrin	
	2065	0.4	Heptachlor	
	2067	0.2	Heptachlor Epoxide	
	2274	1.0	Hexachlorobenzene	
	2042	50	Hexachlorocyclopentadiene	
	2010	0.2	Lindane	
	2015	40	Methoxychlor	
X	2020	3.0	Toxaphene	<1.0
	2384	0.5	PCB (Decachlorobiphenyl)	

METHOD **507**
DATE EXTRACTED **7-12-95**
DATE ANALYZED **8-11-95**

X	EPA ID	MCL**	CONTAMINANT	RESULTS
X	2051	2.0	Alachlor	<0.6
X	2050	3.0	Atrazine	<0.4
			Butachlor	
	2056		Diazinon	
X	2045		Metolachlor	<2.0
			Metribuzin	
			Propachlor	
	2037	1.0	Simazine	

X	EPA ID	MCL**	CONTAMINANT	RESULTS
X			CYANAZINE	NA

*—Micrograms per liter
**—Maximum Contaminant Level Regulated Contaminant

Supervisory Chemist **Jonathan P. Schmitz**
Date Reported **8-24-95**

Samples must be preserved as follows:

1. Use a 4 liter glass bottle with a teflon-lined lid.
2. Determine if residual chlorine is present.
3. If residual chlorine is present, add sufficient sodium thiosulfate to the bottle to reduce the chlorine prior to collecting the sample.
4. Add 1 vial of mercuric chloride (2 ml of 20 mg/ml) to the sample.
5. Shake bottle to mix sample and preservatives.
6. Samples must be iced or refrigerated at 4°C during shipping. Coolers and ice must be used. Cold packs are not acceptable.

55 AUG 24 PM 3:11

X

B 2 Date Received (APA) 062194
OWNER INFORMATION
 15 Last Name 34 Owner First Name
 36 Street or RFD 65
 67 City 70 State 72 26 74

DRILLER INFORMATION
 40
 44 Driller's Name 77 License No. 80
 48 Elton Name
 52 Address
 56 Signature 60 Date 6-20-94

B 2 WELL INFORMATION
 APPROX. PUMPING RATE (GAL. PER MIN.) 5
 AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) 500

USE FOR WATER (CIRCLE APPROPRIATE BOX)
 HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
 FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
 INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
 PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
 TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL 300 FEET

APPROXIMATE DIAMETER OF WELL 6 INCH NEAREST INCH

METHOD OF DRILLING (circle one)
 30 BORED TO AUGURED 37 JETTED 38 Jetted & DRIVEN
 AIR ROTARY AIR-PERCUSSION ROTARY (Hydraulic Rotary)
 CABLE REVERSE ROTARY DRIVE POINT

REPLACEMENT OR DEEPENED 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 DEEPEAN AN EXISTING WELL
 PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEANED (IF AVAILABLE)

Not to be filled in by driller (QEP USE ONLY)
 APPROX. PERMIT NUMBER
 FORCE MAIN PERMITTING

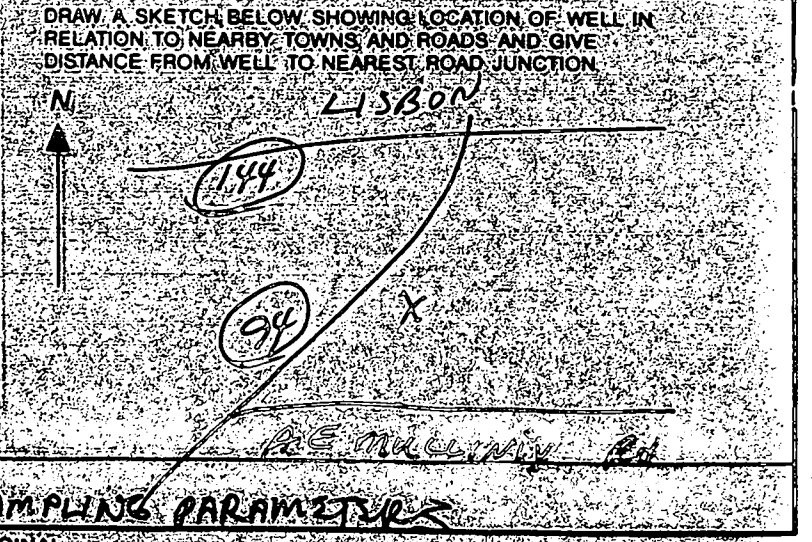
SPECIAL CONDITIONS
 DEEPEANED PUMP TEST, SELECT SAMPLING PARAMETERS

B 3 LOCATION OF WELL
 8 COUNTY 21
 23 SUBDIVISION 42
 SECTION 44 48 LOT 48 50
 62 NEAREST TOWN
 MILES FROM TOWN (enter 0 if in town) 73 76 77 78

B 4 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)
 11 1999 RT 94 NEAR WHAT ROAD 30
 ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
 NORTH
 WEST SOUTH
 DISTANCE FROM ROAD 120 ENTER FT. or MI. RT

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL
 Howard W 50104 B
 COUNTY NAME COUNTY NO.
 STATE SIGNATURE INSERT 3
 DATE ISSUED 062194 SIGNATURE EXP. DATE 6/21/95
 NORTH GRID 542000 EAST GRID 0774000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X
 SOURCES OF DRILLING WATER
 1 wells
 2
 3
 WRITE THE BOX NUMBER FROM THE MAP HERE
 7704
 5402





HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

June 8, 1994

TO: Peggy Smith
MDE Waste Management Admin.

FROM: Bert Nixon *(BN)*
Howard County Env. Health

SUBJECT: Replacement Well for William Applegate Residence

On May 24, 1994, a site visit was performed at the Applegate residence in an effort to determine a possible replacement well site for this property. Mr. Dave Kerr (Regional Consultant for MDE's Individual Septic Systems and Wells Program) along with Mr. Eric Dougherty (Geologist for the same program) accompanied me to the site.

Based upon this visit, a proposed well site was determined. Additionally, Mr. Dougherty has forwarded some recommendations regarding well construction of the replacement well.

Earlier today, I spoke with Mr. Applegate and apprised him of things. Apparently, he has selected a driller (though did not have his name readily available) and based upon final site selection, will likely plan to move ahead. I suggested one last site meeting to verify septic issues and to discuss with the driller, the recommendations for well construction. I anticipate this action to occur soon.

Mr. Applegate is aware that even with our best efforts to provide for a "clean" water supply, drilling this well will not necessarily accomplish this. But I wanted you to know, that by all indications, a replacement well will be drilled. Depending upon the timing of these events, sampling of the new supply will occur during a pump test of this well.

If you have any questions regarding this matter, contact me at 313-2644.

BN/bn

cc: Dave Kerr
Eric Dougherty
Kim Soe

5/24/94 cont'd

particularly since they were planning to sell property.

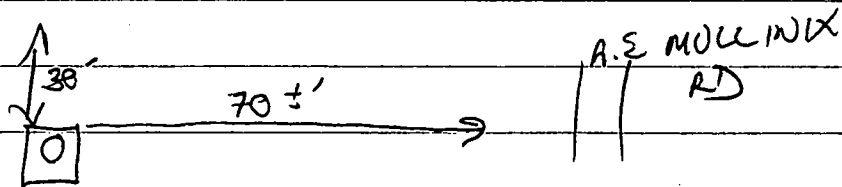
Eric + Dave felt ^{left} rear corner (behind the pool when facing from R+2 S4) may be best spot. Final decision will be based on additional septic info as well as info on adjacent field ^{to proposed new site}. Suppose to hear back from Mrs Applegate. Eric to prepare report w/ recommendations.

6/1/94

rec'd info from Eric D.

6/2

Spoke w/ Bill Applegate. Told me there were 2 trenches off septic tank. Coming off at 90° to tank. This complicates to some extent,



the proposed location of replacement well as ~~is~~ recommended by Eric.

6/7

Spoke briefly w/ Dave Ken @ septic update as provided by Mr Applegate. He will discuss

w/ Eric @ possible change of recommendation

6/8

T/C from Mr. Applegate, reviewed w/ him recommendations by state & problems w/ location given septic. However, was still inclined to choose site as proposed by state. Mr. Applegate has driller (didn't recall name). Told him I should speak w/ driller &/or meet on site to confirm.

6/20

T/C from Sarah Easterday, reviewed general issues w/ her @ new well. Scheduled on site visit at Applegate at 9³⁰ p.m. 6/21

5/5/94

Rec'd call from William Applegate (301) 854 6065
He was contemplating having a new well drilled
on his property in hopes of eliminating the
existing pesticide &/or Nitrate problems.

Per Mr. Applegate, well was 30+ years old &
he thought approx 75' deep. His lot is approx
1 acre in size.

Discussed logistics of siting new well on his
property (distance from septic & existing con-
taminated well) plus concern over introducing
contamination into deeper level aquifer.

Reviewed w/ him my belief that some disclosure
to new owners/potential owners would be needed.
Recommended he discuss w/ legal counsel to
clarify to what extent.

Told Mr Applegate that I would attempt to
contact MDE & find out what (if any) future
plans they have for this (Mullinix) site. I would
let him know those findings.

5/6/94

Called & left message for Peg Smith (Waste
Mgmt) 631-4888 @ Mullinix site/rel. + Env Response
& Rest.

Spoke w/ P. Smith @ status of project. Seems
MDE is planning area sampling on 6/2/94 (9 holes
plus couple of streams).

She expressed similar concerns about drilling a
new well @ introducing contamination into

lower aquifers. She was having a meeting later in the day w/ her boss (Mark Cox) & would discuss matter.

5/10

Mr. Applegate called for update. Have him Psg Smith^{SR} to & referenced concerns if new well is drilled & then have to ~~re~~ abandon if contaminated.

5/24

Dave Kern & Eric Dougherty were briefed on general background & history of Mullinix site & contamination. Met w/ Mrs. ~~Mullinix~~ ^{Applegate}. Eric Dougherty & Dave Kern accompanied.

Well is in basement of house - per Dave & Eric it's a jet pump. 2 chamber carbon filter was in place & operational. A second filter (treatment system) at one time was in use, but had since been disconnected. Not clear what that use was for. Jet pump serves well.

Walked property to evaluate possible replacement site location. Applegates have lived on house since 1979. House built in 1954 by Warfields. Septic c/o located - believed to be for septic tank. Since info on the septic installation likely unavailable, Mrs. Applegate will contact Mr. Warfield for additional info on system.

Also noted was a gas pump dispenser near the driveway. A DST of unknown size was still in the ground. Though not actively used for a # of years, never was officially "pumped out". Recommended that the tank be removed.

VENABLE, BAETJER AND HOWARD

ATTORNEYS AT LAW

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

SUITE 400
2010 CORPORATE RIDGE
MCLEAN, VA 22102-7804
(703) 760-1600
FAX (703) 821-8949

SUITE 1000
1201 NEW YORK AVENUE, N.W.
WASHINGTON, D.C. 20005-3917
(202) 962-4800
FAX (202) 962-8300

BRIGID E. KENNEY

1800 MERCANTILE BANK & TRUST BUILDING
2 HOPKINS PLAZA
BALTIMORE, MARYLAND 21201-2978
(410) 244-7400
FAX (410) 244-7742
TELEX 898032

WRITER'S DIRECT NUMBER IS
(410) 244-7487

SUITE 500
ONE CHURCH STREET
P.O. BOX 1906
ROCKVILLE, MD 20849-1906
(301) 217-5600
FAX (301) 217-5617

210 ALLEGHENY AVENUE
P.O. BOX 5517
TOWSON, MD 21285-5517
(410) 823-4111
FAX (410) 821-0147

11 SOUTH MAIN STREET
P.O. BOX 1776
BEL AIR, MD 21014-7776
BEL AIR (410) 838-8664
BALTIMORE (410) 879-1551
FAX (410) 879-6271

March 17, 1993

Mr. and Mrs. William Applegate
1999 Route 94
Woodbine, Maryland 21797

Dear Mr. and Mrs. Applegate:

As you probably recall, on December 17, 1992, water samples were taken at your home to verify that the carbon filtration units were removing pesticide contaminants from the water. The data demonstrate that the filters are removing the pesticide contaminants and that the levels of pesticides in your drinking water are below the Maximum Contaminant Levels (MCLs) or Health Advisory Levels. The data are reported below.

	parts per billion	
	<u>atrazine</u>	<u>metolachlor</u>
MCL or Health Advisory	3	100
Finished Water	<0.1	0.14
Raw Water	16	119

Ciba Geigy, which analyzed the samples for atrazine and metolachlor, also analyzed them for nitrate. It is not unusual for nitrate to be elevated in farming areas and we know of no reason to suspect that the level of nitrate in your water is related in any way to the Mullinix facility. The level of nitrate (as nitrogen) in your tap water was 30 to 31 parts per million, while the MCL is 10 parts per million.

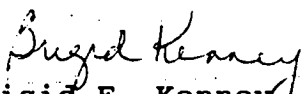
Mr. Mullinix will arrange with Culligan to replace your filter at the appropriate time, which will not be for some

Mr. and Mrs. William Applegate
March 17, 1993
Page 2

time. Should you have any questions, please feel free to call
me or Mr. Mullinix.

Thank you.

Very truly yours,


Brigid E. Kenney

BEK:mtf

3082(13)/BLUENV

cc: Wade J. Gallagher, Esquire
Asst. Attorney General Susan M. Carrier
Mr. Gene Mullinix
Mr. Gregory Mellon

E ✓

VENABLE, BAETJER AND HOWARD
ATTORNEYS AT LAW

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FAX (410) 879-6271

January 29, 1992

Mr. and Mrs. William Applegate
1999 Route 94
Woodbine, Maryland 21797

Dear Mr. and Mrs. Applegate:

As you probably recall, on September 25, 1991, water samples were taken at your home to verify that the carbon filtration units were removing pesticide contaminants from the water. At the same time, the first of the carbon filters was removed, the second filter was moved to the first position, and a new second filter was installed. The data demonstrate that the filters are removing the pesticide contaminants and that the levels of pesticides in your drinking water are below the Maximum Contaminant Levels (MCLs) or Health Advisory Levels. The data are reported below.

	<u>atrazine</u>	parts per billion <u>metolachlor</u>	<u>alachlor</u>
MCL or Health Advisory	3	100	2
Finished Water	<0.1	0.12	<0.1
Between Filters	11	163	ND
Raw Water	<0.1	0.23	1.9

Ciba Geigy analyzed the samples for atrazine and metolachlor, and Monsanto analyzed for alachlor. The data for atrazine and metolachlor are confusing in that the raw water is reported to be cleaner than the water between the filters. Ciba Geigy has suggested that the labels on these two samples may have been switched inadvertently by the sampler.

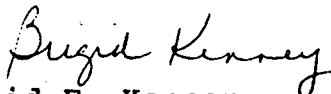
Mr. and Mrs. William Applegate
January 29, 1992
Page 2

Ciba Geigy also analyzed them for nitrate. It is not unusual for nitrate to be elevated in farming areas and we know of no reason to suspect that the level of nitrate in your water is related in any way to the Mullinix facility. The level of nitrate (as nitrogen) in your tap water was 28 parts per million, while the MCL is 10 parts per million. Attached is the text of a notice that public water supply companies send out to their customers when the nitrate level is exceeded. You may wish to consider the information contained in the notice.

Mr. Mullinix will arrange with Culligan to replace your filter at the appropriate time, which will not be for several months. Should you have any questions, please feel free to call me or Mr. Mullinix.

Thank you.

Very truly yours,


Brigid E. Kenney

BEK:mtf

Enclosure

1526(26)/BLUENV

cc: Wade J. Gallagher, Esquire
Assistant Attorney General Susan M. Carrier
Mr. Gene Mullinix
Mr. Gregory Mellon

NOTICE CONCERNING NITRATE

The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best source for information concerning alternate sources of drinking water for infants. EPA has set the drinking water standard at 10 parts per million (ppm) for nitrate to protect against the risk of these adverse effects. EPA has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive, EPA has also established a standard for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to nitrate.



DEPARTMENT OF THE ENVIRONMENT

2500 Broening Highway, Baltimore, Maryland 21224

Area Code 301 • 631-

William Donald Schaefer
Governor

Robert Perciasepe
Secretary

FAX COVER SHEET

Hazardous and Solid Waste Management Administration

Telecopier Number (301) 631-3321

DATE: ~~January~~ 1/27/92

TO: Gregory S. Mellon

DEPARTMENT: Howard Co. Health Dept.

TELECOPIER NUMBER: 310-461-5738

FROM: Tatle DeBlasio

DEPARTMENT: Hazardous & Solid Waste Management
Administration, Department of the Environment

TELEPHONE NUMBER: 301-631-~~3321~~ 3440

NUMBER OF PAGES: 2

*Re: Mullinix Case
Luce
w go to
Appellate
Luce*

01.22.92 04:46 PM *V. B. H. BALTIMORE

P 02

VENABLE, BAETJER AND HOWARD
ATTORNEYS AT LAW

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 TELEX 898038

WRITER'S DIRECT NUMBER IS
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SUITE 800
 ONE CHURCH STREET
 P.O. BOX 1908
 ROCKVILLE, MD 20848-1908
 (301) 217-8600
 FAX (301) 217-8617

210 ALLEGHENY AVENUE
 P.O. BOX 8617
 TOWSON, MD 21286-8617
 (410) 822-4111
 FAX (410) 821-0147

11 SOUTH MAIN STREET
 P.O. BOX 1776
 BEL AIR, MD 21014-7776
 BEL AIR (410) 828-8884
 BALTIMORE (410) 878-1551
 FAX (410) 878-8871

January 22, 1992

VIA TELECOPY

Susan M. Carrier, Esquire
 Assistant Attorney General
 MD Department of the Environment
 2500 Broening Highway
 Baltimore, Maryland 21224

Re: Informing Residents of Results of Sampling

Dear Susan:

You'll recall that on December 20, 1991 I sent you the results of the September sampling of five wells. Enclosed are drafts of letters which I propose to use to notify the residents of the results of that sampling. Please call me promptly with any comments or suggestions you may have; I would like to send the letters soon.

Very truly yours,


 Brigid E. Kenney

BEK:ltm
 Enclosures
 612(102)/BLUENV

NOTICE CONCERNING NITRATE

The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nitrate poses an acute health concern at certain levels of exposure. Nitrate is used in fertilizer and is found in sewage and wastes from human and/or farm animals and generally gets into drinking water from those activities. Excessive levels of nitrate in drinking water have caused serious illness and sometimes death in infants under six months of age. The serious illness in infants is caused because nitrate is converted to nitrite in the body. Nitrite interferes with the oxygen carrying capacity of the child's blood. This is an acute disease in that symptoms can develop rapidly in infants. In most cases, health deteriorates over a period of days. Symptoms include shortness of breath and blueness of the skin. Clearly, expert medical advice should be sought immediately if these symptoms occur. The purpose of this notice is to encourage parents and other responsible parties to provide infants with an alternate source of drinking water. Local and State health authorities are the best source for information concerning alternate sources of drinking water for infants. EPA has set the drinking water standard at 10 parts per million (ppm) for nitrate to protect against the risk of these adverse effects. EPA has also set a drinking water standard for nitrite at 1 ppm. To allow for the fact that the toxicity of nitrate and nitrite are additive, EPA has also established a standard for the sum of nitrate and nitrite at 10 ppm. Drinking water that meets the EPA standard is associated with little to none of this risk and is considered safe with respect to nitrate.

Dear Mr. and Mrs. Wyant:

As you probably recall, on September 25, 1991, water samples were taken at your home to verify that the carbon filtration units were removing pesticide contaminants from the water. At the same time, the first of the carbon filters was removed, the second filter was moved to the first position, and a new second filter was installed. The data demonstrate that the filters are removing the pesticide contaminants and that the levels of pesticides in your drinking water are below the Maximum Contaminant Levels (MCLs) or Health Advisory Levels. In fact, the data suggest that even without the carbon filtration units your water would now be within acceptable levels. In addition, the data show that the capacity of the first filter had not been exhausted, and that it could have remained in service longer. The data are reported below.

	<u>atrazine</u>	parts per billion <u>metolachlor</u>	<u>alachlor</u>
MCL or Health Advisory	3	100	2
Finished Water	<0.1	<0.1	<0.1
Between Filters	<0.1	<0.1	<0.1
Raw Water	1.4	60	0.1

Ciba Geigy, which analyzed the samples for atrazine and metolachlor, also analyzed them for nitrate. It is not unusual for nitrate to be elevated in farming areas and we know of no reason to suspect that the level of nitrate in your water is related in any way to the Mullinix facility. The level of nitrate (as nitrogen) in your tap water was 22 parts per million, while the MCL is 10 parts per million. Attached is the text of a notice that public water supply companies send out to their customers when the nitrate level is exceeded. You may wish to consider the information contained in the notice.

Mr. Mullinix will arrange with Culligan to replace your filter at the appropriate time, which will not be for several months. Should you have any questions, please feel free to call me or Mr. Mullinix.

Thank you.

Very truly yours,

Brigid E. Kenney

BEK:mtf
Enclosure
1526(23)/BLUENV

cc: Assistant Attorney General Susan M. Carrier
Mr. Gene Mullinix

Dear Mr. and Mrs. Applegate:

As you probably recall, on September 25, 1991, water samples were taken at your home to verify that the carbon filtration units were removing pesticide contaminants from the water. At the same time, the first of the carbon filters was removed, the second filter was moved to the first position, and a new second filter was installed. The data demonstrate that the filters are removing the pesticide contaminants and that the levels of pesticides in your drinking water are below the Maximum Contaminant Levels (MCLs) or Health Advisory Levels. The data are reported below.

	parts per billion		
	<u>atrazine</u>	<u>metolachlor</u>	<u>alachlor</u>
MCL or Health Advisory	3	100	2
Finished Water	<0.1	0.12	<0.1
Between Filters	11	163	ND
Raw Water	<0.1	0.23	1.9

*ave
initial
reversed*

Ciba Geigy analyzed the samples for atrazine and metolachlor, and Monsanto analyzed foralachlor. The data for atrazine and metolachlor is confusing in that the raw water is cleaner than the water between the filters. Ciba Geigy has suggested that the labels on these two samples may have been switched inadvertently by the sampler.

Ciba Geigy also analyzed them for nitrate. It is not unusual for nitrate to be elevated in farming areas and we know of no reason to suspect that the level of nitrate in your water is related in any way to the Mullinix facility. The level of nitrate (as nitrogen) in your tap water was 28 parts per million, while the MCL is 10 parts per million. Attached is the text of a notice that public water supply companies send out to their customers when the nitrate level is exceeded. You may wish to consider the information contained in the notice.

Mr. Mullinix will arrange with Culligan to replace your filter at the appropriate time, which will not be for several months. Should you have any questions, please feel free to call me or Mr. Mullinix.

Thank you.

Very truly yours,

Brigid E. Kenney

BEK:mtf

Enclosure

1526(24)/BLUENV

cc: Assistant Attorney General Susan M. Carrier
Mr. Gene Mullinix

01. 22. 82 04:46 PM *V. B. H. BALTIMORE

P06

Dear Mr. and Mrs. Luce:

As you probably recall, on September 25, 1991, a water sample was taken at your home to verify that the levels of pesticides in your water are below the Maximum Contaminant Levels (MCLs) or Health Advisory Levels. We are pleased to advise you that the levels remain below the MCLs and Health Advisories. The data are reported below.

	parts per billion		
	<u>atrazine</u>	<u>metolachlor</u>	<u>alachlor</u>
MCL or Health Advisory	3	100	2
Your Water	1.6	0.54	0.1

Ciba Geigy, which analyzed the samples for atrazine and metolachlor, also analyzed them for nitrate. It is not unusual for nitrate to be elevated in farming areas and we know of no reason to suspect that the level of nitrate in your water is related in any way to the Mullinix facility. The level of nitrate (as nitrogen) in your tap water was 18 parts per million, while the MCL is 10 parts per million. Attached is the text of a notice that public water supply companies send out to their customers when the nitrate level is exceeded. You may wish to consider the information contained in the notice.

Should you have any questions, please feel free to call me or Mr. Mullinix. Thank you.

Very truly yours,

Brigid E. Kenney

BEK:mtf

Enclosure

1526(25)/BLUENV

cc: Assistant Attorney General Susan M. Carrier
Mr. Gene Mullinix



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

Reply to:

July 8, 1991

Mr. William Applegate
1999 Route 94
Woodbine, MD. 21797

Re: Pesticide Sample Results

Dear Mr. Applegate:

Post-filtration resampling of your well water supply was performed June 18, 1991. Testing was conducted to confirm that carbon filtration is still effectively removing pesticides present in your water supply.

Results of this retest indicate that the system is still functioning as all three tested pesticides were below the limit of detection. A copy of the test results is enclosed for your records.

As mentioned at the time of sampling, a letter of intent was forwarded to Mr. James Pittman (M.D.E.) in which Mr. Mullinix agreed to continue the contract with Culligan to service and maintain the water filtration system installed for pesticide/herbicide removal. Further, arrangements for periodic verification that the installed system is properly functioning (presumably through sample analysis) will be made. Therefore, you are referred at this time to the Culligan representative for these specifics.

If you should have any questions you may contact me at 461-9955 between 8:30 a.m. and 4:30 p.m.

Very truly Yours,

Bert Nixon, Director
Technical Services Program

BN/bn

Bureau of Environmental Health

3525-H Ellicott Mills Drive Ellicott City, Maryland 21043-4544
Water and Sewerage, Permits 461-9933 Community Environmental Health 461-9944
Technical Services 461-9955 Director 461-9956 TDD 313-2323

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

8911896 518 5
 LAB. NO.

PESTICIDES - DRINKING WATER

(AS 8)
 BOTTLE NUMBER H-APPLE-1

HOWARD
 NAME OF COUNTY

SOURCE OF SAMPLE KITCHEN SINK COLLECTOR BERT NIXON

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE WELL OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X

REMARKS: WILLIAM APPELGATE
1999 ROUTE 94
WOODRIDGE, MD 21797

TO CONFIRM CARBON FILTER TREATMENT SYSTEM IS STILL
PROPERLY FUNCTIONING, LAST SAMPLE (10/90)
PLEASE SET LAB STANDARDS TO SATISFY DRINKING WATER
PARAMETERS

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 TRANS COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.

FIELD PH 20 21 22 FIELD RESID. CHLORINE:FREE 23 24 TOTAL 25 26

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	.....		2, 4-D	602	.....
	CHLORDANE	514	.....		2, 4, 5-T	614	.....
	D D T	523	.....		2, 4, 5-TP	623	.....
	DIELDRIN	534	.....		TOXAPHENE	634	.....
	ENDRIN	545	.....	X	ATRAZINE		4.00008
	HEPTACHLOR	555	.....	X	ALACHLOR		40.00008
	HEPTACHLOR EPOXIDE	565	.....	X	METOLACHLOR		40.00002
	LINDANE	574	.....			
	METHOXYCHLOR	582	.....			
	ORGANOPHOSPHATE	592	.....			
	ETHION		.....			
	MALATHION		.....			
	METHYL PARATHION		.....			
	PARATHION		.....			

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 7-1-91 CHEMIST K. Woodland

VENABLE, BAETJER AND HOWARD

ATTORNEYS AT LAW

A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

WASHINGTON, D. C.
ALEXANDRIA, VA
ROCKVILLE, MD
TOWSON, MD
BEL AIR, MD

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BALTIMORE, MARYLAND 21201-8978

(301) 244-7400

FAX (301) 244-7449

TELEX 808032

RICHARD W. VENABLE (1938-1982)
EDWIN G. BAETJER (1928-1946)
CHARLES MCH. HOWARD (1875-1848)

WRITERS DIRECT NUMBER 2

ERIC D. KENNEY

(301) 244-7487

February 22, 1991

VIA TELECOPY

Mr. James J. Fittman
Acting Deputy Director
Hazardous and Solid Waste Management Admin.
MD Department of the Environment
2500 Broening Highway
Baltimore, Maryland 21224

Re: Mullinix Farm, 1990 Route 94,
Woodbine, Maryland 21792

Dear Mr. Fittman:

On behalf of Gene and Charlotte Mullinix and myself, let me express our appreciation to you and your staff for the meeting on February 13, 1991. I thought that it was a productive meeting and that we all gained in our understanding of the site and the positions of the various parties. We write now to explain what Mr. Mullinix is willing to commit to do at this time. Please keep in mind that we appreciate that the situation will need to be reevaluated periodically as more data are developed. Mr. Mullinix fully intends to continue the open, cooperative relationship already established with the Maryland Department of the Environment.

First, Mr. Mullinix agrees to continue at his expense a contract with Culligan to service and maintain the water filtration systems at the three homes where he arranged for their installation: Applegate, Wyant and Dayhoff. He will also request that Culligan furnish these families with information regarding the systems and the service and maintenance. Further, he will arrange for periodic verification that the water produced by these water filtration systems is below the applicable proposed Maximum Contaminant Level (or, if there is no proposed MCL, the Health Advisory Level) for the herbicides of concern. We are consulting with Culligan and with others to determine exactly how this verification can be accomplished.

part of letter from
Bridget Kenny

Applegate
1999 Lx #94
Woodbine, MD

10/2/90 pesticide water sample was taken from
the kitchen faucet at 8:45 AM / PCB (bottle # 680)

6/10/91

(854-6065)

Received a call from Mrs Applegate. She was inquiring
as to when our next H₂O sample (post filtration)
time would be. The only post sample taken to date
was last Oct 2. At that time all was fine.

Results from the 2/91 sample were as follows:

Atrazine 14.3 ppb

Alachlor 3 ppb

Metolachlor 118 ppb

} all higher than previous
samples

Told her I would contact the lab & arrange a time
& be back in touch in the next few days.

6/12/91 called pesticide lab - sample OK for early next
week

6/12/91

called & left message on machine for Tues ^(6/18) AM sample

6/18/91 948

Sample for post treatment pesticide taken from kitchen faucet. RD run 5-10 minutes prior to sampling. Examined Culligan system located in basement. It is hooked up in series following a water softener unit (Mrs Applegate believes they use NaCl to add to system).

There are 2 carbon filter tanks w/ midway valve to check for breakthrough of 1st tank. Applegates also have a nitrate device in the basement but currently is not hooked up. They are not currently drinking the water.

She recently spoke to Culligan ind who installed the carbon system. He told her that she should contact them for future sampling needs. I also told her that we had just become aware of an agreement w/ MDE & Mullinix & hopefully can include some of the info when we send RD results. Left her a card if she had any questions.



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

Reply to:

November 19, 1990

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

Post filtration sampling to verify the efficiency of the recently installed Culligan Pesticide Treatment System was performed October 2, 1990. Test results for Altrazine, Metolachlor and Alachlor were all below detection limits and all below existing guidelines or standards for these pesticides. Therefore, the treatment system is currently functioning properly, and the tested water supply is safe for consumption.

A copy of the results is enclosed for your records.

If you should have any questions, you may contact me at 461-9955 between 8:30 a.m. and 4:30 p.m.

Very truly yours,

Bert Nixon, Director
Technical Services Program

BN:vf

cc: Mr. Gene Mullinix
Mr. Bill Nesgood, MDE CERCLA

Bureau of Environmental Health

3525 Ellicott Mills Drive Ellicott City, Maryland 21043-4544

Director 461-9956 Water and Sewerage, Permits 461-9933 Community Environmental Health 461-9944
Technical Services 461-9955

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehseu Joseph, Ph.D., Director

LAB. NO. AG 10522 8-2 81

PESTICIDES - DRINKING WATER

BOTTLE NUMBER 67-80

HOWARD
 NAME OF COUNTY

SOURCE OF SAMPLE KITCHEN FAUCET COLLECTOR ROBERT C. BANES
461-9955

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE _____ OTHER (specify) _____

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: POST TREATMENT SAMPLE FOLLOWING
INSTALLATION OF CULLIGAN SYSTEM
TO REMOVE PESTICIDES FROM PRIVATE
WELL BELONGING TO:
WILLIAM ADDEGATE
1999 ROUTE #94
WOODBINE, MD 21797

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 TRANS COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.

20 21 22 23 24 25 26
 FIELD PH FIELD RESID. CHLORINE:FREE TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	| | | | |		2, 4-D	602	| | | | |
	CHLORDANE	514	| | | | |		2, 4, 5-T	614	| | | | |
	DDT	523	| | | | |		2, 4, 5-TP	623	| | | | |
	DIELDRIN	534	| | | | |		TOXAPHENE	634	| | | | |
	ENDRIN	545	| | | | |	✓	ATRAZINE		4.00008
	HEPTACHLOR	555	| | | | |	✓	METOLACHLOR		4.00002
	HEPTACHLOR EPOXIDE	565	| | | | |	✓	ALACHLOR		40.00008
	LINDANE	574	| | | | |				
	METHOXYCHLOR	582	| | | | |				
	ORGANOPHOSPHATE	592	| | | | |				
	ETHION		| | | | |				
	MALATHION		| | | | |				
	METHYL PARATHION		| | | | |				
	PARATHION		| | | | |				

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 10/9/90 CHEMIST K. Woodland

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

LAB. NO. _____

PESTICIDES - DRINKING WATER

BOTTLE NUMBER G-80

HOWARD
 NAME OF COUNTY

SOURCE OF SAMPLE KITCHEN FAUCET COLLECTOR ROBERT C. BANES
461-9955

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE _____ OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: POST TREATMENT SAMPLE, FOLLOWING
INSTALLATION OF CULLIGAN SYSTEM
TO REMOVE PESTICIDES FROM PRIVATE
WELL BELONGING TO:
WILLIAM APPELEGATE
1999 ROUTE #94
WOODBINE, MD 21797

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 TRANS COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.

20 21 22 23 24 25 26
 FIELD PH FIELD RESID. CHLORINE:FREE TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	.....		2, 4-D	602	.....
	CHLORDANE	514	.....		2, 4, 5-T	614	.....
	DDT	523	.....		2, 4, 5-TP	623	.....
	DIELDRIN	534	.....		TOXAPHENE	634	.....
	ENDRIN	545	.....		<u>✓ ATRAZINE</u>		.....
	HEPTACHLOR	555	.....		<u>✓ METOLACHLOR</u>		.....
	HEPTACHLOR EPOXIDE	565	.....		<u>✓ ALACHLOR</u>		.....
	LINDANE	574	.....				.....
	METHOXYCHLOR	582	.....				.....
	ORGANOPHOSPHATE	592	.....				.....
	ETHION		.....				.....
	MALATHION		.....				.....
	METHYL PARATHION		.....				.....
	PARATHION		.....				.....

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED _____ CHEMIST _____

ROLAND H. MULLINIX & SON, INC.

DEALER IN HAY, STRAW & GRAINS

SUPER BLENN FERTILIZER

SUPER-GRO SEEDS

1990 ROUTE 94

WOODBINE, MD. 21797

September 17, 1990

G.S. Mellon
3525 Ellicott Mills Drive
Ellicott City, Maryland 21043-4544

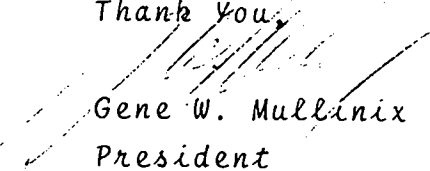
Dear G.S. Mellon,

This letter is to inform your department that we have contracted Culligan Water Systems to install water filtration systems in the homes of Carl Dayhoff, William Applegate, and Donald Wyant.

The instalation of the systems will acur on Monday September 17, 1990. Apon instalation we would like to have your department take water samples to verify Culligan Water Systems is removing all inpuritys from the water as guaranteed. FC

If there are any questions in regards to our request, or there are any problems please feel free to call my office at 442-2292.

Thank You


Gene W. Mullinix
President

cc: Mary Lynn Adams
Burt Nickson
Wade J. Gallagher

9/26/90

called G. Mullinix; secretary verified systems have been installed. Told her we would initiate contacts w/ lab & individuals w/ systems & try to accomplish sampling w/in next 2 weeks.

9/26/90 3:30 pm

Called pesticide lab - left message for M.E. Schuttz
Mary Ellen Schuttz returned call. She indicated next week
(10/11) would be fine since they already have 1 schedule
from Bald Co.

Bill to pick up bottles

I'll be back in touch to give her final days of sampling

9/28/90

Letters drafted @ upcoming sampling. Letters to be hand
delivered due to short notice.

REC'D 9/29/90



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

Reply to:

September 28, 1990

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

This Department was recently notified by Mr. Mullinix that a water treatment system for pesticide removal was installed in your residence. To confirm the effectiveness of this system, a follow-up pesticide sample is planned. We have arranged with the State Lab for this sampling. The lab is in a position to accept and begin analysis of this sample the week of October 1, 1990.

Please contact this Department at 461-9955 as soon as possible to schedule a time for sampling. To ensure that the sample is of treated water, an inside sample will very likely be necessary. Due to the short notice, efforts will be made to accommodate your work schedules. Thank you for your continued cooperation in this matter.

Very truly yours,

Bert Nixon, Director
Technical Services Program

BN:vf

cc: Mr. Gene Mullinix



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

Reply to:

March 6, 1990

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

The Maryland Department of Health and Mental Hygiene's Laboratory Administration was able to analyze the January 10, 1990 samples of your well water at a confidence level below the EPA's Health Advisory Levels. The results are as follows:

EPA's Health Advisory Limit		1/4/89	1/10/90
0.4ppb*	Alachlor	1.4	0.82
100ppb	Metolachlor	97.0	60.2
3.0ppb	Atrazine	11.0	7.1

EPA = U.S. Environmental Protection Agency

* ppb = parts per billion

The most recent test results indicate your well water supply is still unsafe for consumption because the Atrazine and Alachlor concentrations are greater than the Health Advisory Levels. This report only shows the results of the latest test results compared with results from one year previous. The other test results were supplied in earlier correspondence.

Please advise if you are considering the use of a treatment device for these contaminants. You should refer to our past correspondence that addressed treatment devices in your selection.

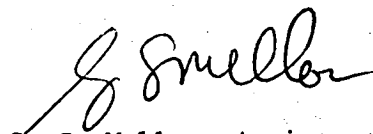
Bureau of Environmental Health

3525 Ellicott Mills Drive Ellicott City, Maryland 21043-4544

Director 461-9956 Water and Sewerage, Permits 461-9933 Community Environmental Health 461-9944
Technical Services 461-9955

If you have any questions, you may contact me at 461-9955 between 8:30 a.m. and 4:30 p.m.

Sincerely,

A handwritten signature in cursive script, appearing to read "G. S. Mellon".

G. S. Mellon, Assistant Director
Bureau of Environmental Health

GSM:vf

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

PESTICIDES - DRINKING WATER

BOTTLE NO. T 51 COUNTY Howard LAB. NO. A900043 310 8

SOURCE OF SAMPLE Applegate 1999 Rk 94 Woodbine COLLECTOR L. Andratny (461-9955)
21797

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE well OTHER (specify) _____

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X

REMARKS: _____

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

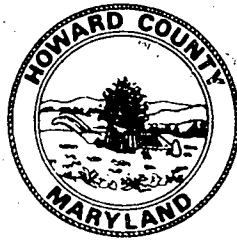
TRANS TYPE: COUNTY: 13 PLANT NO.: SAMPLING STATION: DATE COLLECTED: 011090 CARD NO.:

FIELD pH: 20 21 22 FIELD RESID. CHLORINE: FREE 23 24 TOTAL 25 26

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504	| | | | |		2, 4-D	602	| | | | |
	CHLORDANE	514	| | | | |		2, 4, 5-T	614	| | | | |
	D D T	523	| | | | |		2, 4, 5-TP	623	| | | | |
	DIELDRIN	534	| | | | |		MISCELLANEOUS		| | | | |
	ENDRIN	545	| | | | |	✓	ALACHLOR		0.00082
	HEPTACHLOR	555	| | | | |	✓	ATRAZINE		0.0071
	HEPTACHLOR EPOXIDE	565	| | | | |	✓	METOLACHLOR		0.0602
	LINDANE	574	| | | | |				| | | | |
	METHOXYCHLOR	582	| | | | |				| | | | |
	TOXAPHENE	634	| | | | |				| | | | |
	ETHION		| | | | |				| | | | |
	MALATHION		| | | | |				| | | | |
	METHYL PARATHION		| | | | |				| | | | |
	PARATHION		| | | | |				| | | | |

RESULTS REPORTED IN MILLIGRAMS-PER-LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 1-22-90 CHEMIST K. Woodland



HOWARD COUNTY HEALTH DEPARTMENT

Joyce M. Boyd, M.D., County Health Officer

Reply to:

November 7, 1989

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

The concentrations of all three pesticides found in the September 19, 1989 sample were found to be less than the last time your well water was sampled.

EPA's # Health Advisory Limit	11/16/88	1/4/89	9/19/89
0.4 ppb Alachlor	1.3	1.4	<0.8
100 Metolachlor	94.6	97.0	14.0
3.0 Atrazine	16.9	11.0	<8.0

U.S. Environmental Protection Agency

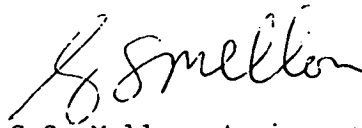
* All results expressed as parts per billion which equal micrograms per liter.

The Metolachlor level is well below the health Advisory Level of 100 ppb's and its concentration is now considered safe. The laboratory was not able to analyze for Alachlor and Atrazine at levels below the Health Advisory's but the results were still below the last sample results. This indicates a decreasing concentration trend.

It is still advised not to consume to water.

If our laboratory is again able to analyze for these pesticides in well water at a level below the Health Advisory's (enclosed), we will contact you for further sampling.

Sincerely,

A handwritten signature in cursive script, appearing to read "G.S. Mellon".

G.S. Mellon, Assistant Director
Bureau of Environmental Health

GSM:vf

If our laboratory is again able to analyze for these pesticides in well water at a level below the Health Advisory's (enclosed), we will contact you for further sampling.

Sincerely,



G.S. Mellon, Assistant Director
Bureau of Environmental Health

GSM:vf

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

PESTICIDES - DRINKING WATER

BOTTLE NO. P 37 COUNTY Howard LAB. NO. A900215

SOURCE OF SAMPLE Applegate 1999 Rte 94 COLLECTOR B Morton
Woodbine, MD

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE outside OTHER (specify) _____
Faucett

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: Follow up sample

1 TRANS TYPE 2 3 COUNTY 13 4 5 6 7 PLANT NO. _____ 8 9 10 11 SAMPLING STATION _____ 12 13 14 15 16 17 DATE COLLECTED 091989 18 19 CARD NO. _____

20 21 22 FIELD PH _____ 23 24 FIELD RESID. CHLORINE: FREE _____ 25 26 TOTAL _____

TEST FOR	CODE	RESULTS	TEST FOR	CODE	RESULTS
ALDRIN	504		2, 4-D	602	
CHLORDANE	514		2, 4, 5-T	614	
D D T	523		2, 4, 5-TP	623	
DIELDRIN	534		MISCELLANEOUS		
ENDRIN	545		✓ ALACHLOR		40.0008
HEPTACHLOR	555		✓ ATRAZINE		< 0.008
HEPTACHLOR EPOXIDE	565		✓ METOLACHLOR		0.0142
LINDANE	574			1/4	0.9
METHOXYCHLOR	582				
TOXAPHENE	634				
ETHION					
MALATHION					
METHYL PARATHION					
PARATHION					

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 10-18-89 CHEMIST K. Woodland

HOWARD COUNTY HEALTH DEPARTMENT

JOYCE M. BOYD, M.D., M.P.H.
COUNTY HEALTH OFFICER



Bureau of Environmental Health
3525 Ellicott Mills Drive
Ellicott City, Maryland 21043

Director - 461-9956
Water & Sewerage, Permits - 461-9933
Community Environmental Health - 461-9944
Technical Services - 461-9955

May 3, 1989

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

I am enclosing the latest publications of the U.S. Environmental Protection Agency that apply to your well water supply.

The pamphlet covers the radon in water issue as it was understood at the time of publication, September 1987. It generally describes the sample collection technique and the radon in water situation. Studies and developments subsequent to the publication date indicate an alternative treatment technique for Radon in water known as aeration. This technique may impact your situation should your well water contain high radon concentrations.

The other handouts cite the evolution of the safe levels designated for those pesticides of interest in your drinking water from U.S. E.P.A. publications dated February 1988 (Alachlor), July 18, 1988 (Alachlor, Atrazine, Metolachlor), August 1988 (Atrazine, Metolachlor), and January 1989 (Alachlor, Atrazine, Metolachlor).

I hope this information is helpful.

Sincerely,

A handwritten signature in cursive script, appearing to read "G. S. Mellon".

G. S. Mellon, Assistant Director
Bureau of Environmental Health

GSM:vf

HOWARD COUNTY HEALTH DEPARTMENT

JOYCE M. BOYD, M.D., M.P.H.
COUNTY HEALTH OFFICER



Bureau of Environmental Health
3525 Ellicott Mills Drive
Ellicott City, Maryland 21043

Director - 461-9956
Water & Sewerage, Permits - 461-9933
Community Environmental Health - 461-9944
Technical Services - 461-9955

April 24, 1989

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

Over the past several months we have been in contact with you in regard to the pesticide contamination of your well water supply by letter, over the phone and possibly in person at the time of sample collection.

The fact is your well water supply exceeds or approaches the levels for long term exposure for Atrazine, Metolachlor and Alachlor. For this reason, we do want to recommend that you seek an alternative water source for drinking and cooking. At this time, bottled water is the recommended alternative.

Another option may be treatment with a Granular Activated Carbon (GAC) filter. It has been recently pointed out that if the well water is, also, contaminated with high concentrations of radon, the GAC filter may concentrate the radiation producing another health hazard. Therefore, it is recommended that before acquiring a GAC filter that the water be tested for radon.

Two sources for the Radon in Water test are:

Kutztown University Kutztown, PA Phone # (215) 683-6443

Radon Laboratories, Inc. Abingdon, MD Phone # (301) 679-6494

If you have any further questions, please contace me at 461-9955 between 8:30 a.m. and 4:30 p.m.

Very truly yours,

A handwritten signature in cursive script, appearing to read "G.S. Mellon".

G.S. Mellon, Assistant Director
Bureau of Environmental Health

**UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS**

11-14-89

SENDER INSTRUCTIONS
Print your name, address, and ZIP Code
in the space below:

- Complete items 1, 2, 3, and 4 on
the reverse.
- Attach to front of article if space
permits, otherwise affix to back of
article.
- Endorse article "Return Receipt
Requested" adjacent to number.



PENALTY FOR PRIVATE
USE: \$300

**RETURN
TO**



Print Sender's name, address, and ZIP Code in the space below.

BUREAU OF ENVIRONMENTAL HEALTH

3525-H ELLICOTT MILLS DRIVE

ELLICOTT CITY, MD 21043

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to:

WILLIAM APPLIGATE
1999 Route 94
Woodbine, MD 21797

4. Article Number

P 923680097

Type of Service:

- Registered Insured
 Certified COD
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X

6. Signature - Agent

X

Gene Appligate

7. Date of Delivery

11/13/89

8. Addressee's Address (*ONLY if requested and fee paid*)

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



PENALTY FOR PRIVATE
USE, \$300

RETURN
TO



Print Sender's name, address, and ZIP Code in the space below.

BUREAU OF ENVIRONMENTAL HEALTH

3525-H Ellicott Mills Drive

Ellicott City, MD 21043

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to:

MR. WILLIAM APPLGATE
1999 Route 94
Woodbine, MD 21797

4. Article Number

P 923 680 060

Type of Service:

- Registered Insured
 Certified COD
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X *Joe Applegate*

6. Signature - Agent

X

7. Date of Delivery

4-28-89

8. Addressee's Address (*ONLY if requested and fee paid*)

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. Show to whom delivered, date, and addressee's address. 2. Restricted Delivery.

3. Article Addressed to:

WILLIAM APPLIGATE
1999 ROUTE 94
WOODBINE, MD 21797

4. Article Number

P 923-680-053

Type of Service:

- Registered Insured
 Certified Mail COD
 Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature - Addressee

X *Will Applegate*

6. Signature - Agent

X

7. Date of Delivery

3-22-89

8. Addressee's Address (*ONLY if requested and fee paid*)

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.



Madison sent
3-20-89



PENALTY FOR PRIVATE
USE. \$300

RETURN
TO



RECEIVED
HOWARD COUNTY
HEALTH DEPT.
ELLCOTT CITY, MD

MAR 23 9 13 AM '89

Print Sender's name, address, and ZIP Code in the space below.

BUREAU OF ENVIRONMENTAL HEALTH

P.O. BOX 476

ELLCOTT CITY, MD 21043

Certified

HOWARD COUNTY HEALTH DEPARTMENT

JOYCE M. BOYD, M.D., M.P.H.
COUNTY HEALTH OFFICER



Bureau of Environmental Health
3525 Ellicott Mills Drive
Ellicott City, Maryland 21043

Director - 461-9956
Water & Sewerage, Permits - 461-9933
Community Environmental Health - 461-9944
Technical Services - 461-9955

March 17, 1989

Mr. William Applegate
1999 Route 94
Woodbine, MD 21797

Dear Mr. Applegate:

We have conducted tests on samples of your well water supply collected on November 16, 1988 and January 4, 1989. The November sample was tested for trace organics (e.g. gasoline) and pesticides. The sample was positive for pesticides and negative for trace organics. The resampling of the supply in January confirmed our earlier positive results for pesticides. The results are as follows:

EPA		11/16/88	1/4/89
.002ppm	Alachlor	0.0013 μ g/l (ppm)	0.0014 ppm
.100ppm	Metolachlor	0.0946 μ g/l (ppm)	0.097 ppm
.002ppm	Atrazine	0.0169 μ g/l (ppm)	0.011 ppm

The health significance of these values is the designation the EPA places on the level of concentration. Both Alachlor and Atrazine have pending regulated limits assigned to their concentration in public water supplies known as Maximum Contaminant Levels (MCL) and both are 0.002 Mg/l (ppm).

This level is calculated and based on the consumption of 2 liters of this water a day for seventy years as well as the availability/performance of treatment systems, the extra expense incurred and the health effects.

In the case of Metolachlor, it has a non-enforceable level which is considered protective of non-carcinogenic adverse health effects over a lifetime exposure.

The literature cites Granular Activated Carbon (GAC) as the most common and successful treatment technique for the three chemicals noted above.

Mr. Applegate
Page 2
March 17, 1989

This office has requested the assistance of the Maryland Department of the Environment's (MDE) Special Groundwater Contamination Division in identifying this situation.

Sincerely,



Gregory S. Mellon, Assistant Director
Bureau of Environmental Health

GSM:vf

enclosure

EPA list 7/1/88
Metolachlor H/A 8/88
copies of test results

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
 Laboratories Administration
 201 W. Preston St.
 P.O. Box 2355, Baltimore, Maryland 21203
 J. Mehsen Joseph, Ph.D., Director

I-10-111

PESTICIDES - DRINKING WATER

BOTTLE NO. R4 COUNTY HOWARD LAB. NO. 8890711 / 3-4 8
 SOURCE OF SAMPLE 1999 RTE 94 WOODBINE MD COLLECTOR B NIXON
 SOURCE OF SAMPLE CAPLEGGATE
 SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE _____ OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: REPEAT SAMPLE, 1ST SAMPLE SHOWED CONTAMINATION
SAMPLED FROM OUTSIDE FAUCET; BY PASSING

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 TRANS. COUNTY PLANT NO. SAMPLING STATION DATE COLLECTED CARD NO.
 13 010489
 20 21 22 23 24 25 26
 FIELD PH FIELD RESID. CHLORINE: FREE TOTAL

TEST FOR	CODE	RESULTS	TEST FOR	CODE	RESULTS
ALDRIN	504		2, 4-D	602	
CHLORDANE	514		2, 4, 5-T	614	
D D T	523		2, 4, 5-TP	623	
DIELDRIN	534		MISCELLANEOUS		
ENDRIN	545		ALACHLOR		0.0014
HEPTACHLOR	555		ATRAZINE		0.011
HEPTACHLOR EPOXIDE	565		METOLACHLOR		0.097
LINDANE	574				
METHOXYCHLOR	582	0.091			
TOXAPHENE	634				
ETHION					
MALATHION					
METHYL PARATHION					
PARATHION					

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 1-10-89 CHEMIST Mary Ellen Schantz

STATE OF MARYLAND
 DEPARTMENT OF HEALTH AND MENTAL HYGIENE
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 J. Mehsen Joseph, Ph.D., Director

PESTICIDES - DRINKING WATER

BOTTLE NO. A21 COUNTY Howard LAB. NO. 1090531 216 8
 SOURCE OF SAMPLE WM. Applegate 1999 Rt. 94 - Woodbine 21797 COLLECTOR SINGER
 SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE _____ OTHER (specify) _____
 COMMUNITY _____ OTHER PUBLIC _____ PRIVATE X
 REMARKS: _____

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
 TRANS COUNTY PLANT NO. SAMPLING DATE COLLECTED CARD
 TYPE NO. STATION NO. NO. NO.
 20 21 22 23 24 25 26
 FIELD FIELD RESID. CHLORINE: FREE TOTAL
 pH

TEST FOR	CODE	RESULTS	TEST FOR	CODE	RESULTS
ALDRIN	504		2, 4-D	602	
CHLORDANE	514		2, 4, 5-T	614	
D D T	523		2, 4, 5-TP	623	
DIELDRIN	534		MISCELLANEOUS		
ENDRIN	545		ATRAZINE	602	0.0769
HEPTACHLOR	555		METHOXYCHLOR		0.0946
HEPTACHLOR EPOXIDE	565		ALACHLOR	602	0.0023
LINDANE	574				
METHOXYCHLOR	582				
TOXAPHENE	634				
ETHION					
MALATHION					
METHYL PARATHION					
PARATHION					

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)
 DATE RECEIVED _____ DATE REPORTED 12-7-88 CHEMIST Manjiv Singh
 DHMH-98 12/87 SUBMITTER COPY 2M

STATE OF MARYLAND
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 J. Mehnen Joseph, Ph.D., Director

Lab No. _____

WATER ANALYSIS

Bottle Number: HAP1999 Name: APPLEGATE County: NORFOLK

Source of Sample: 1999 RTE 94 Street: _____ Town or City: _____ Collector: A NIXON

Sample Type (Circle): Community Source Non-Community Distribution Private MCL Emergency Recheck Routine

Remarks: CHLORINE FRAGRANCE / BYPASS FILTER.

County: 13 Plant No.: _____ Sampling Station: _____ Date Collected: 010489 Time: 12 AM Acid: Iced:

Field Data: pH*: _____ Chlorine Residual: _____ Free: _____ Total: _____ Specific Conductance: _____

✓	ANALYSIS	CODE	RESULTS	✓	ANALYSIS	CODE	RESULTS
✓	pH*	00403	6.8		Arsenic	01002	
✓	Alkalinity (Total)	00410	36		Barium	01007	
✓	pH*, Ca CO ₃ SAT.	70311	76		Cadmium	01027	
	Alkalinity, Ca CO ₃ SAT.	74023	74		Chromium	01034	
	Hardness	00900	305		Lead	01051	
	Ammonia-N	00608			Mercury	71900	
✓	Nitrate-Nitrate N	00630	355		Selenium	01147	
	Nitrite N	00615			Silver	01077	
	MBAS	38260					
✓	Chloride	00940	179		Aluminum	01105	
	Fluoride	00951			Calcium	00916	
	Color*	00081			Copper	01042	
	Turbidity*	00076			Iron	01045	
	Conductance*, SPEC	00095			Magnesium	00927	
	Sulfate	00945			Manganese	01055	
	Total Solids	00500			Nickel	01067	
	Dissolved Solids	70300			Potassium	00937	
				✓	Sodium	00929	492
					Zinc	01092	

*Results reported in units, all others in milligrams per liter (ppm)

Date Received _____ Date Reported FEB 01 1989 Chemist DAVID A. SEVDALIAN

incl pre-draft proposal's

	Dayhoff 11/29	Applegate 11/10	Velisek 7/1/88
2 ppb Atrazine	13	16.9	39.0 ppb
2 ppb Alachlor	0.14	1.4 1.3	6.4
unk Metolachlor	108.4	9.7 94.6	231.0
Methoxychlor		0.0	
Benzene	none	0/11/16	12

1/18/89 Tel call from Jane Applegate 854-6065
 Gave her the results and
 significance of 2 ppb levels
 and the 1000 ft (at this time) sampling
 area and the fact others are affected
 and informed her results are public
 info but we are not publicizing. J.S. will
 be informing her of treatment if possible

FOLLOWING 11/10-11/15/89 SAMPLING

= 2 ~~...~~
level

LUCE

MULLINIX

EIDING-no BTX

	1/10/89	1/30/89		1ST (9/11/88)	2ND (11/11/89)
AL	- (2.0008)	.0004	AL	.0064	.007
MET	- (2.0002)	.0003	MET	.231	.214
ATRA	.0013	.0014	ATRA	.039	.038

	1/10/89	1/30/89
AL	<	<
MET	.004	.002
ATRA	< (0.0024)	.002

← RTE 94 → LISBON

APPELÖFTE

WARFIELD

DAYHOFF

WYANT

	11/10	11/4
AL	.0013	.0014
MET	.0946	.097
ATRA	.0169	.011

	1/10/89	1/30/89
AL	<	.05
MET	.025	.019
ATRA	.0002	.0005

	1/10/89	11-29-88
AL	.0002	.00014
MET	.223	.1084
ATRA	.009	.013

	1/10/89	1/31/89
AL	-	.00008
MET	.092	0.075
ATRA	.004	.0025

MERINGSTAR

	1/10/89	1/30/89
ALA	-	.0001
MET	.018	.014
ATRA	< (0.0024)	.0006

AL = ALAC
MET = MET
ATRA = ATR

PP

SUMMARY SHEET
 FOLLOWING 1/10-11/89 SAMPLING

- = < detectable
 level.

LUCE

AL - (<.00008)
 MET - (<.0002)
 ATRA .0013

MULLINIX

	1 ST (9/1/89)	2 ND (11/1/89)
AL	.0064	.007
MET	.231	.214
ATRA	.039	.038

EIDING

AL -
 MET .004
 ATRA .0004 (-?)

← RTE 94 → LISBON

APPELLOATE

	11/16	1/14
AL	.0013	.0014
MET	.0946	.097
ATRA	.0169	.011

WARFIELD

AL -
 MET .025
 ATRA .0002

DAYHOFF

AL .0002
 MET .223
 ATRA .009

WYANT

AL -
 MET .092
 ATRA .004

MORINGSTAR

ALA -
 MET .018
 ATRA .0004 (-?)

AL = ALACHLOR
 MET = METOLACHLOR
 ATRA = ATRAZINE

LAGOON

BASICALLY CLEAN

11-16 9:00 a.m.

PROPERTY OWNER William J. Applegate DATE OF REQUEST 11 / 09 / 88

TELEPHONE 854-6065 NEW WELL NUMBER _____

DIRECTIONS OR INSTRUCTIONS _____

N-N removal

NAME William J. Applegate
ADDRESS 1999 Rt. 94
Woodbine, Md. 21797

SAMPLE TYPE

REASON FOR REQUEST

- Health Hazard
- U & O
- Real Estate
- Pond or Stream
- Sewage
- Other Survey

- Physician's Advice
- New Residence
- Nitrate Monitoring
- Taste or Odor
- Treatment System Necessity
- Plumbing or Well Repair
- Replacement Well
- Curiosity

SETTLEMENT DATE / /

SEPTIC SYSTEM: Approved Disapproved DATE / /

CONDITION: _____

SUPPLY TYPE: Drilled Well Hand Dug Spring Public

CONDITION: _____

FIRST SAMPLE COLLECTOR Singer TIME 12:15 DATE 11 / 16 / 88

BACTERIA _____, pH _____, Free Cl⁻ _____, Res. Cl⁻ _____, XVOC 116

CHEMICAL _____, LEAD & COPPER _____, NITRATES A17, XPESTICIDE A21

ACTION: Called 1/3/89 w/ results of 1st test, talked w/ M's Applegate cited high Atrazine & request to resample confirm on 1/4/89

RESAMPLE COLLECTOR _____ DATE / /

BACTERIA _____, pH _____, Free Cl⁻ _____, Res. Cl⁻ _____, TIME _____

CHEMICAL _____, Other _____

ACTION: Well in basement (34 yrs old) jet pump, to resample 1/4/89

RESAMPLE COLLECTOR _____ DATE / /

BACTERIA _____, pH _____, Free Cl⁻ _____, Res. Cl⁻ _____, TIME _____

ACTION: _____

RESAMPLE COLLECTOR _____ DATE / /

BACTERIA _____, pH _____, Free Cl⁻ _____, Res. Cl⁻ _____, TIME _____

ACTION: _____

7C14

STATE OF MARYLAND
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 J. Mehseu Joseph, Ph.D., Director

PESTICIDES - DRINKING WATER

HS00215 819 8

BOTTLE NO. P 37 COUNTY Howard LAB. NO. _____

SOURCE OF SAMPLE Applegate 1999 Rte 94 COLLECTOR B. Morton
Wheaton, MD

SAMPLE TYPE: _____ DISTRIBUTION _____ SOURCE outside OTHER _____
Faucett (specify)

COMMUNITY _____ OTHER PUBLIC _____ PRIVATE

REMARKS: Follow-up sample

1 <input type="checkbox"/>	2 3 <input type="checkbox"/> <input type="checkbox"/>	4 5 6 7 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	8 9 10 11 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	12 13 14 15 16 17 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	18 19 <input type="checkbox"/> <input type="checkbox"/>
TRANS TYPE	COUNTY <u>13</u>	PLANT NO.	SAMPLING STATION	DATE COLLECTED <u>091989</u>	CARD NO.

FIELD PH. FIELD RESID. CHLORINE: FREE TOTAL

✓	TEST FOR	CODE	RESULTS	✓	TEST FOR	CODE	RESULTS
	ALDRIN	504			2, 4-D	602	
	CHLORDANE	514			2, 4, 5-T	614	
	D D T	523			2, 4, 5-TP	623	
	DIELDRIN	534			MISCELLANEOUS		
	ENDRIN	545		✓	ALACHLOR		< 0.0008
	HEPTACHLOR	555		✓	ATRAZINE		< 0.008
	HEPTACHLOR EPOXIDE	565		✓	METOLACHLOR		0.0142
	LINDANE	574					
	METHOXYCHLOR	582					
	TOXAPHENE	634					
	ETHION						
	MALATHION						
	METHYL PARATHION						
	PARATHION						

RESULTS REPORTED IN MILLIGRAMS PER LITER (PPM)

DATE RECEIVED _____ DATE REPORTED 10-18-89 CHEMIST K. Woodland

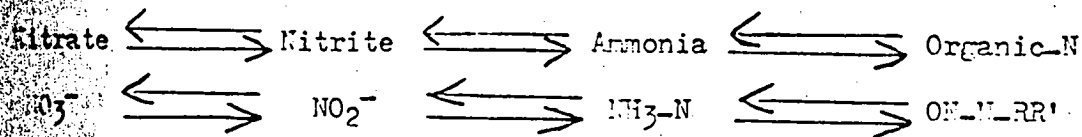
Nitrate (NO_3^-)

Nitrogen is essential for plant growth, but the presence of excessive amounts in water supplies presents a major pollution problem. Nitrogen compounds may enter water as nitrates or be converted to nitrates from agricultural fertilizers, sewage, industrial and packing house wastes, drainage from livestock feeding areas, farm manures and legumes. Nitrates in large amounts (above 10 ppm) can cause "blue babies" (methemoglobinemia) in infants less than six months of age. The nitrate is converted to nitrite by nitrate-reducing flora in the intestinal tract, which in turn interferes with oxygen-carrying capability of the blood. It is an important factor to be considered in livestock production, where, in addition to causing methemoglobinemia, it is responsible for many other symptoms arising from the presence of high levels of nitrates in water supplies. Nitrates in conjunction with phosphate, stimulate the growth of algae with all of the related difficulties associated with excessive algae growth. In boiler waters, sodium nitrate is introduced to control embrittlement.

United States Public Health Service Drinking Water Standards state that 10 ppm nitrate-nitrogen is a limit which should not be exceeded. To the sanitary and industrial engineer, the concentration which is of concern is less than 1 ppm.

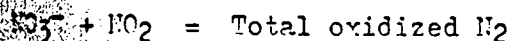
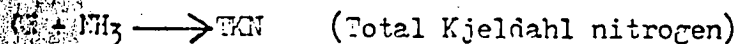
Nitrite (NO_2^-)

Nitrite is an intermediate product in the nitrogen cycle, may occur in trace amounts in natural waters as the result of biological decomposition. Nitrite is a key test in control of aquarium waters. Sodium Nitrite is used as a corrosion inhibitor in cooling water systems. Oxidation and reduction of nitrite occurs in wastewater treatment plants, water distribution systems, and natural waters. It is the etiologic agent of methemoglobinemia. Nitrous acid (nitrite + acid solution) can react with secondary amines to form nitrosamines ($\text{RR}'\text{N}-\text{NO}$) a potent carcinogens.



\rightarrow indicates reduction

\leftarrow indicates oxidation



CN - includes proteins, peptides, nucleic acids, urea, synthetic organic materials.

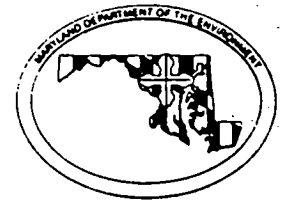


William Donald Schaefer
Governor

STATE OF MARYLAND
Department of the Environment

2500 BROENING HIGHWAY BALTIMORE, MARYLAND 21224

(301) 631-3493



Martin W. Walsh, Jr.
Secretary

March 28, 1989

Mr. Bert Nixon
Howard County Health Department
3525 Ellicott Mills Drive
Ellicott City, Maryland 21043

Dear Mr. Nixon:

As we discussed in our recent phone conversation, enclosed is the fracture trace analysis for the Mullinex farm and vicinity. Generally, fractures in this area are located in topographic lows i.e., streambeds and valleys. The primary trending fractures are 40-45 degrees N.W. to S.E. with a secondary set of fractures trending almost perpendicular to the primary at 40-45 degrees N.E. to S.W. These fractures have been proven in the field and are good indicators of the regional groundwater flow patterns. Of particular interest is a fracture which trends 8 degrees N.E. across the Mullinex property which may explain the high yield of the newly drilled well at the farm.

Please keep me current with any additional sampling and/or investigative work including water level and well casing elevation measurements which may be determined by Roux Consultant as discussed in the February 23, 1989 meeting.

Due to limited personnel and workload, the Groundwater Investigations Division cannot be responsible for conducting an investigation at Mullinex farm. However, if any specific hydrogeological questions arise, please contact Ms. Cintra Fricke or myself at 631-3493.

Sincerely,

Arlene G. Weiner, Chief
Groundwater Investigations Division

AGW/dlf
Enclosure

cc: Joyce M. Boyd, M.D., MPH
Mr. Ronald Nelson
Mr. James J. Pittman

MARYLAND DEPARTMENT OF THE ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION
 1800 Washington Blvd., Baltimore, Maryland 21230 (410) 537-3784

 WATER WELL ABANDONMENT-SEALING REPORT FORM

SUBMIT COPIES OF COMPLETED FORM TO:

- * COUNTY ENVIRONMENT AGENCY (contact MDE, WMA if address needed)
- * WELL OWNER
- * MDE, WATER MANAGEMENT ADMINISTRATION, WELL PROGRAM

DATE WELL ABANDONED: 6/11/07 (month/day/year)

OK
 9/12/16 SC

* PERMIT NUMBER OF ABANDONED WELL (if any) _____

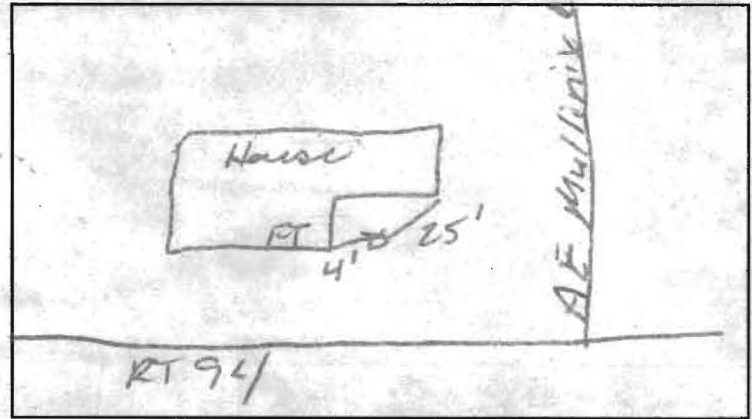
* PERMIT NUMBER OF REPLACEMENT WELL _____

* PERSON ABANDONING WELL: Richard D. Crummitt WELL DRILLERS LICENSE NUMBER: WRO 014

CIRCLE: MWD/MSD/MGD

* OWNER'S NAME: Gene Mullinix

SITE LOCATION MAP



* WELL LOCATION:
 COUNTY: Howard
 NEAREST TOWN: WOODBINE
 TAX MAP _____ BLOCK _____ PARCEL _____
 SUBDIVISION: _____
 SECTION: _____ LOT: _____
 NEAREST ROAD: 1999 ROUTE 94

* TYPE OF WELL BEING ABANDONED:

- DRILLED _____ JETTED
- _____ BORED/AUGERED _____ HAND DUG
- _____ OTHER (specify) _____

* USE CODE:

- DOMESTIC _____ MUNICIPAL/PUBLIC
- _____ IRRIGATION _____ INDUSTRIAL
- _____ TEST/OBSERVATION _____ GEOTHERMAL

* TYPE OF CASING:

- _____ STEEL _____ PLASTIC
- _____ CONCRETE _____ OTHER (specify)
- _____ TARACOTTA

* SIZE OF CASING: 6 INCHES IN DIAMETER

* DEPTH OF WELL: 57 FEET DEEP

* WAS ANY CASING REMOVED? _____ YES _____ NO
 if yes, length removed, in feet: _____

* WAS CASING RIPPED OR PERFORATED? _____ YES _____ NO

LOG OF SEALING MATERIAL

MATERIAL	FEET	
	FROM	TO
Beatonite	51	4
WELL PIT	4	0
VOLUME OF MATERIAL USED		

SIGNATURE-MASTER WELL DRILLER OR SUPERVISING SANITARIAN

LICENSE # 040

MWD/MSD/MGD
 CIRCLE ONE

7-3-07
 DATE