POOR ORIGINAL

# RIVER WATER SAMPLE ANALYSIS January 1980

January 1980						
	U-NAT	Th230	Ra226	Gross Beta - Gamm		
Above mill 1/4 mi. below mill 1/2 mi. below mill 1 mile below 5 miles below 10 miles below	.00004 x 10 <sup>-5</sup> uc/ml .00002 x 10 <sup>-5</sup> uc/ml .00001 x 10 <sup>-5</sup> uc/ml nil nil	.0058 x 10 <sup>-6</sup> uc/ml .0035 x 10 <sup>-6</sup> uc/ml .0083 x 10 <sup>-6</sup> uc/ml .0049 x 10 <sup>-6</sup> uc/ml .0047 x 10 <sup>-6</sup> uc/ml .0029 x 10 <sup>-6</sup> uc/ml	.036 x 10-8 uc/ml .10 x 10-8 uc/ml .06 x 10-8 uc/ml .12 x 10-8 uc/ml .07 x 10-8 uc/ml .16 x 10 uc/ml	same as backgroun same as backgroun same as backgroun same as backgroun same as backgroun		
	Fe	ebruary 1980				
	U-NAT	Th230	Ra226	Gross Beta - Gamm		
Above mill ½ mi. below mill ½ mi. below mill l mile below 5 miles below 10 miles below	nil nil nil nil nil nil	.0051 x 10 <sup>-6</sup> uc/ml .0074 x 10 <sup>-6</sup> uc/ml .0075 x 10 <sup>-6</sup> uc/ml .0056 x 10 <sup>-6</sup> uc/ml .0038 x 10 <sup>-6</sup> uc/ml .0032 x 10 <sup>-6</sup> uc/ml	.028 x 10-8 uc/ml .10 x 10-8 uc/ml .093 x 10-8 uc/ml .049 x 10-8 uc/ml .065 x 10-8 uc/ml .11 x 10-8 uc/ml	same as backgroun same as backgroun same as backgroun same as backgroun same as backgroun		
		March 1980				
	U-NAT	Th230	Ra226	Gross Beta - Gamm		
Above mill % mi. below mill % mi. below mill 1 mile below 5 miles below 10 miles below	.00034 x 10 <sup>-5</sup> uc/ml .00018 x 10 <sup>-5</sup> uc/ml nil nil nil	.0063 x 10 <sup>-6</sup> uc/ml .0037 x 10 <sup>-6</sup> uc/ml .0039 x 10 <sup>-6</sup> uc/ml .0056 x 10 <sup>-6</sup> uc/ml .0028 x 10 <sup>-6</sup> uc/ml .0037 x 10 <sup>-6</sup> uc/ml	.10 x 10 <sup>-8</sup> uc/ml .091 x 10 <sup>-8</sup> uc/ml .14 x 10 <sup>-8</sup> uc/ml .10 x 10 <sup>-8</sup> uc/ml .08 x 10 <sup>-8</sup> uc/ml .06 x 10 <sup>-8</sup> uc/ml	same as backgrour same as backgrour same as backgrour same as backgrour same as backgrour		
		April 1980				
Above mill % mi. below mill % mi. below mill 1 mile below 5 miles below 10 miles below	nil	Th230 .0028 x 10-6 uc/ml .0014 x 10-6 uc/ml .0023 x 10-6 uc/ml .0014 x 10-6 uc/ml .0014 x 10-6 uc/ml .0029 x 10-6 uc/ml .0011 x 10-6 uc/ml	Ra226 .064 x 10 <sup>-8</sup> uc/ml .512 x 10 <sup>-8</sup> uc/ml .27 x 10 <sup>-8</sup> uc/ml .022 x 10 <sup>-8</sup> uc/ml .07 x 10 <sup>-8</sup> uc/ml .067 x 10 <sup>-8</sup> uc/ml	same as background same same same same same same same same		
		May 1980				
Above mill  mi. below mill  mile below  miles below  miles below  miles below		Th230  .0037 x 10 <sup>-6</sup> uc/m1 .0020 x 10 <sup>-6</sup> uc/m1 .0017 x 10 <sup>-6</sup> uc/m1 .0035 x 10 <sup>-6</sup> uc/m1 .0028 x 10 <sup>-6</sup> uc/m1 .0012 x 10 <sup>-6</sup> uc/m1	Ra226 .12 x 10-8 uc/m1 .47 x 10 uc/m1 .068 x 10-8 uc/m1 .058 x 10-8 uc/m1 .62 x 10-8 uc/m1 .059 x 10-8	same as backgrous same same same same same same same sam		
		June 1980				
Above mill % mi. below mill % mi. below mill 1 mile below 5 miles below 10 miles below		Th230 .0035 x 10 <sup>-6</sup> uc/ml .0031 x 10 <sup>-6</sup> uc/ml .0038 x 10 <sup>-6</sup> uc/ml .0044 x 10 <sup>-6</sup> uc/ml .0041 x 10 <sup>-6</sup> uc/ml .0037 x 10 <sup>-6</sup> uc/ml	Ra226 .17 x 10 <sup>-8</sup> uc/ml .32 x 10 <sup>-8</sup> uc/ml .099 x 10 <sup>-8</sup> uc/ml .17 x 10 <sup>-8</sup> uc/ml .14 x 10 <sup>-8</sup> uc/ml .16 x 10 <sup>-8</sup> uc/ml	Gross Beta - Gam same as backgrou same as backgrou same as backgrou same as backgrou same as backgrou same as backgrou		

# Continuous Air Samples 1st Quarter 1980

	<u>U-NAT</u>	Pb-210	$\frac{RN-222}{30 \times 10^{-10} \text{uci/ml}}$
	$2 \times 10^{-12} \text{uci/ml}$	$4 \times 10^{-12} \text{uci/ml}$	30 x 10 <sup>-10</sup> uci/ml
Month		Sample Assays	
Jan. Jan. Jan.	.0046 x 10 <sup>-11</sup> uci/ml .0023 x 10 <sup>-11</sup> uci/ml .00094 x 10 <sup>-11</sup> uci/ml	4.48 x 10 <sup>-14</sup> uci/ml 3.47 x 10 <sup>-14</sup> uci/ml 2.46 x 10 <sup>-14</sup> uci/ml	4.2 + .15 x 10-10uci/ml 2.0 + .13 x 10-10uci/ml 5.8 + .18 x 10-10uci/ml .5522 x 10-10uci/ml
Jan.			
Feb. Feb. Feb.	.0052 x 10-11uci/ml .0029 x 10-11uci/ml .0019 x 10-11uci/ml .0009 x 10-11uci/ml	3.59 x 10-14uci/ml 2.87 x 10-14uci/ml 5.15 x 10-14uci/ml 2.51 x 10-14uci/ml	2.7 \(\frac{+}{+}\) .18 \(\times\) 10\(^{-10}\) uci/ml 4.0 \(\frac{-}{+}\) .18 \(\times\) 10\(^{-10}\) uci/ml 2.9 \(\frac{+}{+}\) .22 \(\times\) 10\(^{-10}\) uci/ml 1.5 \(\frac{-}{-}\) .15 \(\times\) 10\(^{-10}\) uci/ml
March March March March	.0044 x 10 <sup>-11</sup> uci/ml .0032 x 10 <sup>-11</sup> uci/ml .0012 x 10 <sup>-11</sup> uci/ml .0011 x 10 <sup>-11</sup> uci/ml	3.7 x 10 <sup>-14</sup> uci/ml 2.2 x 10 <sup>-14</sup> uci/ml 1.5 x 10 <sup>-14</sup> uci/ml 2.3 x 10 <sup>-14</sup> uci/ml	4.2 \(\frac{\pmathcal{+}}{\pmathcal{+}}\) .13 \(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 1.8 \(\pma\) .20 \(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\) 10\(\pma\)
	Jan. Jan. Jan. Jan. Feb. Feb. Feb. Feb. March March March	Jan0046 x 10 <sup>-11</sup> uci/ml Jan0023 x 10 <sup>-11</sup> uci/ml Jan00094 x 10 <sup>-11</sup> uci/ml Jan00069 x 10 <sup>-11</sup> uci/ml Feb0052 x 10 <sup>-11</sup> uci/ml Feb0029 x 10 <sup>-11</sup> uci/ml Feb0019 x 10 <sup>-11</sup> uci/ml Feb0009 x 10 <sup>-11</sup> uci/ml Feb0009 x 10 <sup>-11</sup> uci/ml	Month       Sample Assays         Jan.       .0046 x 10 <sup>-11</sup> uci/ml       4.48 x 10 <sup>-14</sup> uci/ml         Jan.       .0023 x 10 <sup>-11</sup> uci/ml       3.47 x 10 <sup>-14</sup> uci/ml         Jan.       .00094 x 10 <sup>-11</sup> uci/ml       2.46 x 10 <sup>-14</sup> uci/ml         Jan.       .00069 x 10 <sup>-11</sup> uci/ml       3.58 x 10 <sup>-14</sup> uci/ml         Feb.       .0052 x 10 <sup>-11</sup> uci/ml       3.59 x 10 <sup>-14</sup> uci/ml         Feb.       .0029 x 10 <sup>-11</sup> uci/ml       2.87 x 10 <sup>-14</sup> uci/ml         Feb.       .0019 x 10 <sup>-11</sup> uci/ml       5.15 x 10 <sup>-14</sup> uci/ml         Feb.       .0009 x 10 <sup>-11</sup> uci/ml       5.15 x 10 <sup>-14</sup> uci/ml         2.51 x 10 <sup>-14</sup> uci/ml       2.51 x 10 <sup>-14</sup> uci/ml

Ra-226

Th-230

Location	Sample Assays		
#1 #2 #3	1.64 x 10 <sup>-12</sup> uci/ml .211 x 10 <sup>-12</sup> uci/ml 1.02 x 10 <sup>-12</sup> uci/ml .038 x 10 <sup>-12</sup> uci/ml	.1209 x 10 <sup>-14</sup> uci/ml .13 x 10 <sup>-14</sup> uci/ml .13 x 10 <sup>-14</sup> uci/ml .11 x 10 <sup>-14</sup> uci/ml	
#4	.038 x 10 uci/ml	.11 x 10 "uci/ml	

	lst_Quart	ter <u>1980</u>	
MONITOR WELL	. #1		
Gross Beta &	= .408x10 <sup>-6</sup> uci/ml	504	= 833 ppm
Gamma U NAT	-7	NO <sub>3</sub>	= 37 No <sub>3</sub> /L
Ra 226	= .036x10 uci/ml = .88x10 uci/ml	Fe	= <.1 ppm
	$= .88 \times 10^{-12} \text{ uci/ml}$	Йn	= 3.7 ppm
Th 230 .	$= 0.0 \times 10^{-9} \text{ uci/ml}$	As	= <.01 ppm
Pb 210		. Se	= <.1 ppm
Po 210	= .029 pci/ml	TDS	= 22,023 ppm
K <sup>+</sup>	= 210 ppm		= 29,400 micromhos
Na <sup>+</sup>	= 6300 ppm	Conductivity	
C1	= 3152 ppm	Ph	= 7.4
		Cu	= <.1 ppm
MONITOR WEL	L #2		•••
Gross Beta	&		
Gamma	$= 2.50 \times 10^{-6} \text{ uci/ml}$	SO <sub>4</sub>	= 450 ppm .
U NAT	$= .207 \times 10^{-5} \text{ uci/ml}$	NO <sub>3</sub>	= 24 NO <sub>3</sub> /L
Ra 226	$= 1.31 \times 10^{-8} \text{ uci/ml}$	Fe Fe	= <.1 ppm
Th 230	= .014x10 uci/ml	Mn	-= 4.5 ppm
Pb 210	$= 2.1 \times 10^{-9} \text{ uci/ml}$	As	= < .01 ppm
P1 210	= .021 pci/ml	Se	= <.1 ppm
K <sup>+</sup>	= 100 ppm	TDS	= 5416 ppm
Na <sup>+</sup>	= 970 ppm	Conductivity	= 7200 micromhos
C1"	= 1255 ppm	Ph	= 7.4
		Cu	= < .1 ppm
MONITOR WEI	L #3		
Gross Beta Gamma	& = $2.02 \times 10^{-6} \text{ uci/ml}$	SO <sub>4</sub>	= 397 ppm
U NAT	$= .043 \times 10^{-5} \text{ uci/ml}$	NO <sub>3</sub>	= 4 NO <sub>3</sub> /L
Ra 226	= .50x10 <sup>-8</sup> uci/ml	Fe	=<.1 ppm
Th 230	$= .0044 \times 10^{-12} \text{ uci/ml}$	Mn	= 2.6 ppm
Pb 210	$= 0.0 \times 10^{-9} \text{ uci/ml}$	As	= <.01 ppm
Po 210	= .013 pci/ml	Se	= < .1 ppm
K <sup>+</sup>	= 150 ppm	TDS	= 5563 ppm
Na <sup>+</sup>		Conductivity	= 7400 micromhos
	= 975 ppm	Ph	= 7.4
C1-	= 2457 ppm	rn	<.1 ppm
		Cu	= 1.2 PP

nil = same as background

#### RIVER & MONITOR WELL WATERS

#### RIVER 1 MILE BELOW MILL

Gross Beta & Gammer		SO <sub>4</sub>	= 8 ppm
U-NAT		NO <sub>3</sub>	= 4 NO <sub>3</sub> /L
Ra-226		Fe	= <.1 ppm
Th 230-	=	Mn	= <.1 ppm
Pb 210	= 3.9x10 <sup>-9</sup> uci/ml	As	= <.01 ppm
Po 210	= .00064 pci/ml	Se	= <.1 ppm -
K <sup>+</sup>	= 4 6 ppm	TDS	= 790 ppm
Na <sup>+</sup>	= 135 ppm	Conductivity	= 1050 micromhos
C1-	= 31.91 ppm	Ph	. = 8.0
		Cu	= <.1 ppm

#### RIVER 5 MILES BELOW MILL

Gross Beta	<del>*</del>	SO <sub>4</sub>	= 10 ppm
U-NAT	-	NO <sub>3</sub>	= 4 NO <sub>3</sub> /L
Ra 226	=	Fe	= <.1 ppm
Th-230	-	Mn	= <.1 ppm
Pb 210	$= 0.0 \times 10^{-9} \text{ uci/ml}$	- As	= <.01 ppm
Po 210	= .00064 pci/ml	Se	= <.1 ppm
K <sup>+</sup>	= 4.6 ppm	TDS	= 786 ppm
Na <sup>+</sup>	= 135 ppm	Conductivity	= 1050 micromhos
C1-	= 31.91 ppm	Ph	= 8.0
		Cu	= <.1 ppm

### RIVER 10 MILES BELOW MILL

Gross Beta Garma	÷_	SO <sub>4</sub>	= 20 ppm
UNAT	=	NO <sub>3</sub>	= 4 NO3/L
Ra 226		Fe	= <.1 ppm
T1. 230		Mn	= <.1 ppm
Pb 210	= 3.3x10 <sup>-9</sup> uci/ml	As	= <.01 ppm
Po 210	= .00064 pci/ml	Se	= <.1 ppm
K <sup>+</sup>	= 4.6 ppm	TDS	= 829 ppm
Na <sup>+</sup>	= 135 ppm	Conductivity	= 1100 micromhos
C1-	= 31.91 ppm	Ph	= 8.0
		Cu	= <.1 ppm

#### RIVER ABOVE MILL

Gross-Beta-6		SO <sub>4</sub>	= 12 ppm
		NO <sub>3</sub>	= 4 NO <sub>3</sub> /L
U NAT		Fe	= '<.1 ppm
Ra 226		Mn	= <.1 ppm
Th 230- Pb 210	= 0.0x10 <sup>-9</sup> uci/ml	As	= <.01 ppm
Po 210	= nil	Se	= <.1 ppm
K <sup>+</sup>	= 5.7 ppm	TDS	= 757 ppm
Na <sup>+</sup>	= 135 ppm	Conductivity	= 1000 micromhos
C1-	= 21.28 ppm	Ph	= 7.9
		Cu	= <.1 ppm

# RIVER 1/4 MILE BELOW MILL

Gross Deta d			504	=	2 ppm	
-Gemma			NO3	=	4 NO./L.,	
<del>U-NAT-</del>			Fe	_	<.1 ppm	
	-		Min	. =	<.1 ppm	
<del>Th. 230</del> Pb 210	= 0.0x10 <sup>-9</sup> uci/ml		As	_	<.01 ppm	
Po 210	= .006 pci/ml		Se	_	<.1 ppm	
K+	= 5 ppm		TDS	=	1100 ppm	11/1
Na <sup>+</sup>	= 135 ppm	Conduc	tivity	=	1400 micromhos	
C1	= 21.28 ppm		Ph	=	7.9	
			Cu	=	<.1 ppm	

# RIVER 1/2 MILE BELOW MILL

Carra		S0' <sub>4</sub>	=	20 ppm	
	=	NO <sub>3</sub>	=	4 NO <sub>3</sub> /L	
-U-NAT-		Fe	=	<.1 ppm	
Ra 226		Mn	_	<.1 ppm	
Pb 210	= 3.1x10 <sup>-9</sup> uci/m1	As	=	<.01 ppm	
Po 210	= .0014 pci/ml	Se		<.1 ppm	
K <sup>+</sup>	= 4.6 ppm	TDS	=	806	
Na <sup>+</sup>	= 135 ppm	Conductivity	=	1100 micromhos	
C1	= 31.91 ppm	Ph	=	7.9	
		Cu	=	1.1 ppm	

#### Continuous Air Samples 2nd Quarter 1980

		<u>U-NAT</u>	Pb-210	RN-222
		$2 \times 10^{-12} \text{uci/ml}$	$4 \times 10^{-12} \text{uci/ml}$	$30 \times 10^{-10} \text{uci/ml}$
Location	Month		Sample Assays	
#1	April	.0092 x 10 <sup>-11</sup> uci/ml .0060 x 10 <sup>-11</sup> uci/ml .0022 x 10 <sup>-11</sup> uci/ml .0014 x 10 <sup>-11</sup> uci/ml	5.3 x 10 <sup>-14</sup> uci/ml 2.4 x 10 <sup>-14</sup> uci/ml 2.2 x 10 <sup>-14</sup> uci/ml 2.2 x 10 <sup>-14</sup> uci/ml	3.6 ± .16 x 10-10uci/ml 1.1 ± .20 x 10-10uci/ml 2.4 ± .20 x 10-10uci/ml 7 = .13 x 10 uci/ml
#2	April	.0060 x 10 1 uci/ml	2.4 x 10 14 uci/ml	1.120 x 10 10 uci/ml
#3	April	.0022 x 10 1 uci/ml	2.2 x 10 14 uci/ml	2.4 ± .20 x 10 10 uci/ml
#4	April	.0014 x 10 uci/ml		
#1	May	.0086 x 10-11uci/ml .0034 x 10-11uci/ml .0026 x 10-11uci/ml .0016 x 10-11uci/ml	4.3 x 10 <sup>-14</sup> uci/ml 1.7 x 10 <sup>-14</sup> uci/ml 2.1 x 10 <sup>-14</sup> uci/ml 1.2 x 10 <sup>-14</sup> uci/ml	4.4 \(\frac{\pmathcal{+}}{\pmathcal{+}}\) .18 \(\pma\) 10 \(\frac{-10}{-10}\) uci/ml 1.5 \(\frac{\pmathcal{+}}{\pmathcal{+}}\) .16 \(\pma\) 10 \(\pma\) 10 \(\pma\) uci/ml 1.6 \(\pma\) .22 \(\pma\) 10 \(\pma\) uci/ml
#2	May	.0034 x 10 11 uci/ml	1.7 x 10 14uci/ml	1.5 ± .16 x 10 10 uci/ml
#3	May	.0026 x 10 1 uci/ml	2.1 x 10 14uci/ml	4.5 ± .22 x 10 10 uci/ml
#4	May	.0016 x 10 <sup>-11</sup> uci/ml	1.2 x 10 <sup>-14</sup> uci/ml	1.622 x 10 uci/ml
41				5.1 x 10 <sup>-10</sup> uci/ml 3.1 x 10 <sup>-10</sup> uci/ml 3.6 x 10 <sup>-10</sup> uci/ml 2.0 x 10 <sup>-10</sup> uci/ml
#1	June	032 x 10-12 uci/mi		3.1 x 10 -10 uci/ml
#2 #3	June	016 × 10-12 uci/ml		3.6 x 10 uci/ml
#4	June June	.032 x 10 <sup>-12</sup> uci/ml .029 x 10 <sup>-12</sup> uci/ml .016 x 10 <sup>-12</sup> uci/ml .009 x 10 <sup>-12</sup> uci/ml		2.0 x 10 <sup>-10</sup> uci/ml
24	June	.007 & 20 402733		
		Ra-226	Th-230	
Location		Sample A	ssays	
		10-12	07 10-14	
#1		.00% x 10 <sup>-12</sup> uci/ml .001 x 10 <sup>-12</sup> uci/ml .004 x 10 <sup>-12</sup> uci/ml .001 x 10 uci/ml	.97 x 10 <sup>-14</sup> uci/ml .47 x 10 <sup>-14</sup> uci/ml .47 x 10 <sup>-14</sup> uci/ml .42 x 10 <sup>-14</sup> uci/ml	
#2		.001 x 10-12 uc1/m1	47 x 10-14 uc1/m1	
#3		.004 x 10-12uc1/m1	42 = 10-14 uci/mi	
#4		.001 x 10 uc1/ml	.42 X 10 uc1/m1	

2nd Quarter 1980

	MONITOR	WELL	#1
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Gross Beta & Gamma		1.90 x 10 <sup>-6</sup> uci/ml		SO <sub>4</sub>	= '	856 PPM	
U NAT	-	.031 x 10 5 uci/ml		NO <sub>3</sub>	-	10.35 g NO <sub>3</sub> /1	
Ra 226		1.77 x 10 <sup>-8</sup> uci/ml		Fe	=	<.1 PPM ·	
Th 230	=	.0017 x 10 <sup>-12</sup> uci/ml		Mn	=_	1.65 PPM	
Pb ·210	_			Λs	=	<.01 PPM	_
Po 210	=	.024 pci/ml		Se	=	<.1 PPM	_
K <sup>+</sup>	_	175 PPM		TDS	=	34200 PPM	
Na <sup>+</sup>	=	5500 PPM	Conductiv	rity	=	45,000 micromhos	_
C1	=	4230.38 PPM		Ph	=_	7.3	_
				Cu	=_	(.1 PPM	-
Na <sup>+</sup>	" " " " "	5500 PPM	Conductiv	rity Ph		7.3 (.1 PPM	-

# MONITOR WELL #2

Gross Beta & Gamma	$= 3.53 \times 10^{-6} \text{uci/ml}$ SO <sub>4</sub>	= 434 PPM
U NAT	$= .14 \times 10^{-5} uci/m1$ NO <sub>3</sub>	= 1.37 g NO <sub>3</sub> /1
Ra 226	$= 2.09 \times 10^{-8} \text{uci/ml}$ Fe	= <.1 PPM
Th 230	= .0020 x 10 <sup>-12</sup> uci/ml Mn	= 3.80 PPM
Pb 210	= As	= <.01 PPM
Pl 210	= .0099 pci/mlSe	= <.1 PPM
+	= 120 PPM TDS	= 10486 PPM
Na <sup>+</sup>	= 725 PPM Conductivity	= 14,000 micromhos
Cl-	= 1347.48 PPM Ph	= 7.3
	Cu	_ <.1 PPM

## MONITOR WELL #3

Gross Beta & Gamma	$= 1.30 \times 10^{-6} \text{uci/ml}$	SO.,	-	403 PPN
U NAT	= .042 x 10 <sup>-5</sup> uci/ml	NO <sub>3</sub>	=_	.13 g NO <sub>3</sub> /1
Ra 226	= .62 x 10 <sup>-8</sup> uci/ml	Fe	=	<.1 PPM
Th 230	= .0031 x 10 <sup>-12</sup> uc./ml	Mn	=	1.65 PPM
Pb 210		Λs	=	<.01 PPM
Po 210	0049 pci/ml	Se	=	<.1 PPM
K+	= 120 PPM	TDS		11324 PPM
Na <sup>+</sup>	= 865 PPM	Conductivity	=	15,000 micromas
C1	= 2726.57 PPM	Ph	=_	7.4

Cu = <.1 PPM

## RIVER 1 MILE BELOW MILL

Gross Beta Gamma	& =	SO <sub>4</sub> = 2.00 PPM
U NAT	=	$NO_3 = .0082 \text{ g } NO_3/1$
Ra 226	-	Fe = <.1 PPM
Th 230	=	Mn = <.1 PPM
Pb 210	-	As = <.01 PPM
Po 210	= .0014 pci/ml	Se = <.1 PPM
K <sup>+</sup>	= 3.10 PPM	TDS = 380 PPM
Na <sup>+</sup>	= 4.05 PPM	Conductivity = 500 micrombos
C1	= 88.65 PPM	Ph = 7.9
CI		Cu = <.1 PPM

## RIVER 5 MILES BELOW MILL

Gross Beta & Gamma		SO <sub>4</sub> = 2.64 PPM
U NAT	=	$NO_3 = .0083 \text{ g } NO_3/1$
Ra 226		Fe = <.1 PPM
Th 230	=	Mn = <.1 PPM
Pb 210	=	As = <.01 PPM
Po 210	= .0014 pci/ml	Se = <.1 PPM
K <sup>+</sup>	= 3.10 PPM	TDS = 380 PPM
Na <sup>+</sup>	= 4.05 PPM	Conductivity = 500 micromhos
C1	= 88.65 PPM	Ph = 8.0
-		Cu = <.1 PPM

#### RIVER 10 MILES BELOW MILL

Gross Beta & Gamma	-	SO <sub>4</sub> = 2.23 PPM
U NAT		$NO_3 = .0083 \text{ g } NO_3/1$
Ra 226		Fe = <.1 PPM
Th 230		Mn = <.1 PPM
Pb 210		As = <.01 PPM
Po 210	= .00064 pci/ml	Se = <.1 PPM
K <sup>+</sup>	= 3.10 PPM	TDS = 380 PPM
Na <sup>+</sup>	= 4.05 PPM	Conductivity = 500 micromhos
C1	= 88.65 PPM	Ph = 8.0
0.1	Cappelling Francis	Cu = (.1 PPM

#### RIVER ABOVE MILL

Gross Beta & Gamma				50.4	-	3.85 PPM
U NAT	-			NO <sub>3</sub>	=	.0082 g NO <sub>3</sub> /1
Ra 226	_			Fe	= '	<.1 PPM
Th 230	=			Mn	=	<.1 PPM
Pb 210	12			As	=	<.01 PPM
Po 210	_	.00064 pci/ml '		Se	=	<.1 PPM
K+		3.10 PPM		TDS	=	396 PPM
Na <sup>+</sup>	_	4.05 PPM	Conductiv	ity	=	525 micromhos
C1-		88.65 PPM		Ph	=	8.1
	-			Cu	=	<.1 PPM
					-	

# RIVER 1/4 MILE BELOW MILL

Gross Beta & Gamma		SO <sub>4</sub> =	2.12 PPM
U NAT		NO <sub>3</sub> =	.0083 g NO <sub>3</sub> /1
Ra 226		Fe =	<.1 PPM
Th 230	=	Mh = <	(.1 PPM
Pb 210		As =	(.01 PPM
Po 210	= .0014 pci/ml	Se =	1 PPM
K <sup>+</sup>	= 3.10 PPM	TDS =	420 PPM
Na <sup>+</sup>	= 4.05 PPM	Conductivity =	550 micromhos
CI."	= 88.65 PPM	1 491	7.9
		Cu =	<.1 PPM

## RIVER 1/2 MILE BELOW MILL

Gross Beta Gamma	ξε ==	SO <sub>4</sub> = 2.06 PPM
U NAT		$NO_3 = .0083 \text{ g } NO_3/1$
Ra 226		Fe = <.1 PPM
Th 230	=	Mn = <.1 PPM
Pb 210	=	As = <.01 PPM
Po 210	= .0013 pci/ml	Se = <.1 PPM
K <sup>+</sup>	= 3.10 PPM	TDS = 420 PPM
Na <sup>+</sup>	4.05 PPM	Conductivity = 550 micromhos
C1	= 88.65 PPM	Ph = 8.0
		Cu = <.1 PPM

1/17/80 08:00 speed - 1 mph direction - out of the south 1800 15:00 1/17/80 speed - 1 mph direction - out of the southwest 2100 1/18/80 08:30 speed - 2 mph direction - out of the southeast 1400 1/18/80 15:00 speed - 3 mph direction - out of the southeast 1200 1/19/80 08:30 speed - 2 mph direction - out of the south 1900 1/19/80 15:30 speed - 8 mph direction - out of the west 250° 1/20/80 08:00 speed - 15 mph direction - out of the southeast 1500 1/20/80 15:00 speed - 4½ mph direction - out of the south 1700 1/21/80 08:00 speed - 4% mph direction - out of the south 1500 1/21/80 15:30 speed - 4½ mph direction - out of the south 1500 1/22/80 08:00 speed - 4½ mph direction - out of the south 1800 15:00 1/22/80

speed - 45 mph

direction - out of the south 1800

08:00 1/23/80 speed - 4½ mph direction - out of the south 160° 1/23/80 15:30 speed - 4½ mph direction - out of the south 2000 1/24/80 08:30 speed - 3 mph direction - out of the southwest 2300 1/24/80 15:00 speed - 3 mph direction - out of the east 100° 1/25/80 08:00 speed - 1 mph direction - out of the northwest 330° 1/25/80 15:00 speed - 2½ mph direction - out of the southeast 1200 1/26/80 08:30 speed - 1 mph direction - out of the north 360° 1/26/80 15:30 speed - 2 mph direction - out of the west 2500 1/27/80 08:30 speed - 1 mph direction - out of the southeast 1500 15:30 1/27/80 speed - 14 mph direction - out of the east 900 1/28/80 08:30 speed - 1 mph direction - out of the southeast 140° 1/28/80 15:30 speed - 1 mph direction - out of the east 100° 08:00 1/29/80 speed - 4 mph direction - out of the southwest 2500

\*: ...

08:00 2/1/80 speed - 1 mph direction - out of the southwest 200° 2/1/80 15:00 speed - 14 mph direction - out of the south 180° 2/2/80 08:00 speed - 1 mph direction - out of the south 1800 2/2/80 15:00 speed - 1 mph direction - out of the south 180° 2/3/80 08:00 speed - 1 mph direction - out of the west 270° 2/3/80 15:00 speed - 7 mph direction - out of the east 90° 2/4/80 08:00 speed - 5 mph direction - out of the south 180° 15:00 2/4/80 speed - 4 mph direction - out of the southeast 1200 2/5/80 08:00 speed - 3 mph direction - out of the south 180° 2/5/80 15:00 speed - 3 mph direction - out of the southwest 2100 2/6/80 08:00 speed - 1 mph direction - out of the south 180° 2/6/80 15:00 speed - 3½ mph direction - out of the east 90°

08:00 2/7/80 speed - 15 mph direction - out of the southeast 1500 2/7/80 15:30 speed - 6 mph direction - out of the south 170° 08:30 2/8/80 speed - 7 mph direction - out of the southwest 240° 15:00 2/8/80 speed - 3 mph direction - out of the north 340° 2/9/80 08:00 speed - 9 mph direction - out of the southeast 140° 2/9/80 15:00 speed - 5 mph direction - out of the southeast 170° 2/10/80 08:30 speed - 3 mph direction - out of the west 270° 2/10/80 15:00 speed - 3 mph direction - out of the west 270° 2/11/80 08:00 speed - 3 mph direction - out of the west 270° 2/11/80 15:00 speed - 3 mph direction - out of the west 270° 2/12/80 08:00 speed - 3 mph direction - out of the west 270° 2/12/80 15:00

speed - 3 mph

direction - out of the west 270°

2/13/80 08:00 chart repaired speed - 3 mph direction - out of the west 250°

2/13/80 15:00 chart repaired speed - 2 mph direction - out of the southwest 230°

2/14/80 08:00 speed - 2 mph direction - out of the north 90°

changed chart

3/14/80 08:30 speed - 4 mph direction - out of the southwest 2100 3/14/80 15:00 speed - 1.5 mph direction - out of the west 2900 3/15/80 08:00 speed - 4 mph direction - out of the west 2700 3/15/80 15:00 speed - 7 mph direction - out of the west 3200 3/16/80 08:00 speed - 5 mph direction - out of the north 360° 3/16/80 15:30 speed - 3 mph direction - out of the north 360° 3/17/80 08:30 speed - 2 mph direction - out of the east 1000 3/17/80 15:00 speed - 1 mph direction - out of the east 1100 3/18/80 09:00 speed - 2 mph direction - out of the south 1500 3/18/80 15:00 speed - 2 mph direction - out of the south 180° 3/19/80 08:00 speed - 1 mph direction - out of the east 80° 3/19/80 15:30

speed - 1 mph

direction - out of the east 80°

3/20/80 08:30 speed - 3 mph direction - out of the north 100 3/20/80 15:30 speed - 4.5 mph direction - out of the northeast 500 3/21/80 08:30 speed - 10 mph direction - out of the south 170° 3/21/80 15:30 speed - 7 mph direction - out of the south 170° 3/22/80 08:00 speed - 2 mph direction - out of the southwest 2100 3/22/80 15:30 speed - 2 mph direction - out of the southwest 2100 3/23/80 08:30 speed - 3 mph direction - out of the west 2500 3/23/80 17:00 speed - 3 mph direction - out of the west 260° 3/24/80 08:00 speed - 3 mph direction - out of the north 3500 3/24/80 15:30 speed - 3 mph direction - out of the north 3500 3/25/80 08:30 speed - 3 mph direction - out of the north 3500 3/25/80 15:30

direction - out of the north 3500

speed - 3 mph

13 13

3/26/80 08:30

speed - 3 mph
direction - out of the north 350°

3/26/80 15:30

speed - 3 mph
direction - out of the north 350°

3/27/80 09:00

speed - 3 mph
direction - out of the north 350°

3/27/80 14:30

speed - 3 mph
direction - out of the north 350°

4/11/80 08:00 speed - 8 mph direction - out of the northwest 340° 4/11/80 15:00 speed - 8 mph direction - out of the north 360° 4/12/80 08:00 speed - 2 mph direction - out of the north 360° 4/12/80 15:00 speed - 6 mph direction - out of the north 350° 08:00 4/13/80 speed - 3 mph direction - out of the northeast 30° 4/13/80 15:30 speed - 3 mph direction - out of the south 180° 4/14/80 08:30 speed - 1 mph direction - out of the northeast 600 4/14/80 15:00 speed - 1 mph direction - out of the southeast 150° 4/15/80 08:00 speed - 1 mph direction - out of the east 90° 4/15/80 15:00 speed - 2 mph direction - out of the southeast 130° 4/16/80 08:00 speed - 1 mph direction - out of the southeast 1500 4/16/80 15:30 speed - 3 mph direction - out of the northwest 2000 4/17/80 08:00 speed - 1 mph direction - out of the southeast 150°

15:30

direction - out of the southwest 2500

4/17/80

speed - 2 mph

08:00 4/18/80 speed - 1 mph direction - out of the east 90° 4/18/80 15:30 speed - 2 mph direction - out of the northwest 290° 4/19/80 08:30 speed - 1 mph direction - out of the northeast 50° 4/19/80 15:00 speed - 3 mph direction - out of the northeast 40° 08:00 4/20/80 speed - 1 mph direction - out of the northeast 80° 15:00 4/20/80 speed - 9 mph direction - out of the southeast 150° 08:00 4/21/80 speed - 2 mph direction - out of the south 180° 15:30 4/21/80 speed - 8 mph direction - out of the southeast 150° 08:30 4/22/80 speed - 112 mph direction - out of the northeast 60° 15:00 4/22/80 speed - 16 mph direction - out of the southeast 160° 4/23/80 08:00 speed - 4 mph direction - out of the southwest 140° 15:30 4/23/80 speed - 2 mph direction - out of the northwest 270°

4/24/80 08:00 speed - 1 mph direction - out of the southeast  $150^{\circ}$ 

4/24/80 15:30 speed - 2 mph direction - cut of the southeast  $160^{\circ}$ 

09:00 5/7/80 speed - 3 ph direction - out of the northeast 600 . 15:00 5/7/80 speed - 3 mph direction - out of the north 30° 08:00 5/8/80 speed - 1 mph direction - out of the east 80° 15:30 5/8/80 speed - 1 mph direction - out of the northeast 40° 08:00 5/9/80 speed - 4 mph direction - out of the northeast 40° 5/9/80 15:00 speed - 15 mph direction - out of the southeast 150° 08:00 5/10/80 speed - 5 mph direction - out of the southeast 150° 15:00 5/10/80 speed - 6 mph direction - out of the southeast 150° 5/11/80 08:30 speed - 6 mph direction - out of the southeast 150° 5/11/80 15:30 speed - 6 mph direction - out of the southeast 150° 5/12/80 08:00 speed - 7 mph direction - out of the southeast 150°

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5/12/80 15:00 speed - 4 mph

direction - out of the southwest 240°

5/13/80 08:00 speed - 1 mph

direction - out of the east 90°

5/13/80 15:30 speed - 2 mph direction - out of the northeast  $60^{\circ}$ 

08:00 5/14/80 speed - 1 mph direction - out of the northeast 40° 15:00 5/14/80 speed - 3 mph direction - out of the northeast 50° 5/15/80 08:30 speed - 1 mph direction - out of the northeast 50° 5/15/80 15:00 speed - 8 mph direction - out of the southeast 140° 5/16/80 08:00 speed - 1 mph direction - out of the northeast 600 5/16/80 15:00 speed - 8 mph direction - out of the southeast 150° 5/17/80 08:00 speed - 3 mph direction - out of the southeast 150° 15:30 5/17/80 speed - 4 mph direction - out of the southeast 140° 5/18/80 08:00 speed - 6 mph direction - out of the southeast 110° 5/18/80 15:00 speed - 3 mph direction - out of the northeast 60° 5/19/80 08:00 speed - 1 mph direction - out of the northeast 60° 5/19/80 15:00 speed - 3 mph direction - out of the southeast 140° 5/20/80 08:00 speed - 1 mph direction - out of the southeast 150°

15:00

direction - out of the north 360°

5/20/80 speed - 2 mph

\* \*

6/12/80 08:30

speed - 1 mph direction - out of the east 100°

6/12/80 15:00

speed - 1 mph

\*\*\*

direction - out of the east 90°

6/13/80 08:00

speed - 1 mph

direction - out of the east 80°

6/13/80 15:00

speed - 4 mph

direction - out of the east 90°

6/14/80 08:00

speed - 1 mph

direction - out of the northwest 330°

6/14/80 15:00

speed - 3 mph

direction - out of the southeast 150°

6/15/80 08:00

speed - 1 mph

direction - out of the west 290°

6/15/80 15:00

speed - 15 mph

direction - out of the southeast 150°

6/16/80 08:00

speed - 1 mph

direction - out of the east 90°

6/16/80 15:00

speed - 11 mph

direction - out of the southeast 130°

6/17/80 08:30

speed - 1 mph

direction - out of the northeast 60°

6/17/80 15:00

speed - 5 mph

direction - out of the southeast 150°

6/18/80 09:00

speed - 7 mph

direction - out of the south 180°

6/18/80 15:00

speed - 1 mph

direction - out of the southeast 140°

08:30 6/19/80 speed - 9 mph direction - out of the south 180° 15:30 6/19/80 speed - 4 mph direction - out of the southeast 150° 6/20/80 08:00 speed - 1 mph direction - out of the northeast 50° 6/20/80 15:00 speed - 4 mph direction - out of the southeast 140° 08:30 6/21/80 speed - 3 mph direction - out of the northeast 50° 15:30 6/21/80 speed - 10 mph direction - out of the southeast 150° 6/22/80 08:30 speed - 1 mph direction - out of the northwest 340° 15:00 6/22/80 speed - 1 mph direction - out of the southeast 120° 08:30 6/23/80 speed - 1 mph direction - out of the southeast 120° 15:30 6/23/80 spced - 2 mph direction - out of the south 180° 08:00 6/24/80 speed - 1 mph direction - out of the southeast 130° 15:00 6/24/80 speed - 3 mph direction - out of the southeast 150° 09:00 6/25/80 speed - 8 mph direction - out of the southwest 240° 15:00 6/25/80 speed - 4 mph

direction - out of the north 360°

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