MUNICIPAL DRINKING WATER SUPPLIES

ANNUAL REPORT

NOTE: ANNUAL REPORT MUST BE SUBMITTED ON OR BEFORE APRIL 1.

YEA	AR	20	22	
	_	_		

APPROVAL TO OPERATE NO.: 2004-038542-02
WATER WITHDRAWAL APPROVAL NO: 2014-090989-01
I certify that information provided in this report is a complete and accurate representation of Water System operation.
Offences under the Environment Act: 158 A person who
 (a) knowingly provides false or misleading information pursuant to a requirement under this Act to provide information; (b) provides false or misleading information pursuant to a requirement under this Act to provide information; (c) does not provide information as required pursuant to this Act; (d) hinders or obstructs an inspector or administrator who is exercising powers or carrying out duties, or attempting to do so, pursuant to this Act; (e) knowingly contravenes a term or condition of an approval, an environmental assessment approval, a temporary approval, a certificate of variance or a certificate of qualification;
Name of the person in overall direct responsible charge
[Print Name] JAMES JENNER
Signature
Manager responsible for water system [Print Name
Signature

PART 1 - STANDARD SUBMISSIONS.

MUNICIPALITY OF Annapolis

FACILITY NAME: Margaretsville

WATER UTILITY NAME: Annapolis County Water

Has the Utility submitted following updates for the next year:

Required Submission	Yes	No	N/A Last year submission remains unchanged
Contingency Plan			X
Notification Procedure			X
Monitoring Program (including sampling points location)			X
QA/QC			X
Source Water Protection Plan		X	
Source Water Implementation Schedule		X	2-
Lab Information			X
Operations Manual			X
Staff List and certification			X

PART 2 - WATER TREATMENT PLANT MONITORING

A. WATER TREATMENT

Table 1- Raw water flow

Table 1- Raw water flow				
	Raw water flow (m ³)			
Month	Source			
	Total Monthly Volume (m³)	Max Daily Volume (m ³ /d)		
January	2653	92		
February	2107	98		
March	2138	91		
April	2043	80		
May	2283	80		
Jun	2389	99		
July	2401	110		
August	1621	60		
September	2174	104		
October	1861	181		
November	1125	50		
December	1077	43		
Total for the year	23872			
Maximum month	July			
Average	1989.33			
Water withdraw Approval No 2014-09098901	Withdraw limit140.m3/day.			
Approval to Operate No: 2004-038542-02	Rated design capacity:cu3/	day		

Table 2 - Filtered water turbidity

		Filter 1	rable 2 - Fi		Filter 2		C 1	• 1
Month	Turbidity		Filter to waste	Turbidity		Filter to waste	Comb Turbi	
	How many times exceed Approval	max NTU	max (upon return to production)	How many times exceed Approval	max NTU	max	How many times exceed Approval	max
January	0	.12		0	.08			
February	0	.12		0	.09			
March	0	.09		0	.09			
April	0	.11		0	.08			
May	0	.11		0	.09	P		
Jun	0	.12		0	.11	l		
July	0	.21		0	.18	l		
August	0	.32		0	1.69	P		
September	0	.26		0	.63	P		
October	0	.15		0				
November	0	.80		0	.11	l .		
December		.11_		0	.12	P		

If Approval Limits for Filtration were exceeded provide date when Department was notified:

Action taken: Filter # 2 was off line for the month Oct for cleaning

Table 2 - Well water turbidity

	Well 1		We	11 2	
Month	Turbidity		Turbidity		Comments
	How many times exceed Approval	maximum NTU	How many times exceed Approval	maximum NTU	
January	0	.22	0		
February	0	.24	0		
March	0	.24	0		
April	0	.21	0		
May	0	.21	0		
Jun	0	.59	0	~	
July	0	.34	0		
August	0	2.58	0		
September	0	.34	0		
October	0	.10	0		
November	0	.23	0		
December	0	.21	0		

If exceeded provide dates of occurrence and date when Department was notified.

Action taken:			

	D:	isinfectant residual (mg/l)	CT value
Month	Minimum this month	How many times below Approval limit	Maximum this month	How many times CT _{achieved} was less than CT _{required}
January	1.24	0	2.04	0
February	1.17	0	1.71	0
March	1.21	0	1.67	0
April	1.08	0	1.75	0
May	1.55	0	1.76	0
Jun	1.20	0	1.65	0
July	1.55	0	2.44	0
August	1.21	0	4.64	0
September	1.70	0	2.56	0
October	1.92	0	2.57	0
November	1.68	0	3.14	0
December	1.33	0	2.08	0

If CT requirements were not met provide date of occurrence and date when Department was notified:

		•		٦ ١			
Δ	ct	10	n	 •	10	2 n	٠.

NOTE: CT values must be calculated daily, or minimum operational conditions must be monitored daily and records kept by Approval Holder

MINIMUM OPERATIONAL PARAMETERS TO PROVIDE REQUIRED CT

(CT calculations for "worst case scenario" must be provided to Department) See attached

Total chlorine use this year:kg	Target organism: Giardia Or Viruses
Water level in the tank during peak hourly flow	75%
pH at CT control Point	7.15
Minimum residual at CT control Point	1.08
Temperature at CT control Point	10.4
Peak Daily Flow	181
	,

Table 4 - Bacteriological quality (leaving treatment plant or GUDI well)

		T. 1.	Total	Gia	rdia	Cryptosp	oridium
Month	Total number of samples	E.coll California		if tested N/	'A	if tested N/A	
Month	taken	No. of Present this month	No. of Present this month	No. of Present this month	Total	No. of Present this month	Total
January	5	0	0	0	0	0	0
February	4	0	0	0	0	0	0
March	4	0	0	0	0	0	0
April	4	0	0	0	0	0	0
May	5	0	0	0	0	0	0
Jun	4	0	0	0	0	0	0
July	4	0	0	0	0	0	0
August	5	0	0	0	0	0	0
September	4	0	0	0	0	0	0
October	5	0	0	0	0	0	0
November	4	0	0	0	0	0	0
December	3	0	0	0	0	0	0

If *E.coli* Present provide date of occurrence and date when Department was notified:

If Total Coliforms Present provide date of occurrence and date when Department was notified

Action taken:

Certified Lab: Yarmouth Regional Hospital

Table 5 - Fluoride (if fluoridating)

Month	Min this month (mg/l)	Max this month (mg/l)
January	N/A	
February		
March		
April		
May		
Jun		
July		
August		
September		
October		
November		
December		
If exceeded Approval limits provide d notified:	ate of occurrence and dat	te when Department was
Action taken:		

Table 6 - Aluminum (for facilities using aluminum-based coagulants)

	At Treatmo	ent Facility	Distributio	on System*
Month	Min this month (mg/l)	Max this month (mg/l)	Min this month (mg/l)	Max this month (mg/l)
January	N/A			
February				
March				
April				
May				
Jun				
July				
August				
September				
October				
November	(
December				
If Aluminum exceeded of occurrence and date				
Action taken:	7			
JA				

Table 7- pH

	Raw v	vater inlet	CT Co	ntrol Point
Month	Minimum this month	Maximum this month	Minimum this month	Maximum this month
January	6.92	7.37	6.92	7.37
February	6.77	6.97	6.77	6.97
March	6.97	7.35	6.97	7.35
April	7.16	7.38	7.16	7.38
May	6.85	7.15	6.85	7.15
Jun	7.00	7.17	7.00	7.17
July	7.03	7.13	7.03	7.13
August	7.09	7.43	7.09	7.43
September	7.41	7.60	7.41	7.60
October	7.25	7.50	7.25	7.50
November	7.43	7.93	7.43	7.93
December	7.25	8.03	7.25	8.03

Comments:

Table 8 - Guidelines for Monitoring Public Drinking Water Supplies (Section 33 of Regulations)

Parameter Parameter	Health based guideline (mg/l)	AO [or OG] (mg/l)	Raw mg/l (maximum this year)	Treated mg/l (maximum this year)	Date	Location
Alkalinity	-	-	60	58	July 5	M-Ville
Aluminum	0.1/0.2		.032	.014		
Ammonia	-	-	<.00003	.00003		
Antimony	0.006	-	,.<002	<.002		
Arsenic	0.010	-	<.002	<.002		
Barium	1	-	<.005	<.005		
Boron	5	-	.010	.011		
Cadmium	0.005	-	<.00009	<.00009		
Calcium	-	-	.018	.014		
Chloride	-	≤250	15	19		
Chromium	0.05	-	<.001	<.001		
Colour	-	≤15	<5	<5		
Conductivity	-	-	208	197		
Copper	-	≤1.0	<.001	.002		
Fluoride	1.5	-	<.12	<.12		
Hardness		-	76.2	61.7		
Iron	<u>-</u>	<u><</u> 0.3	<.050	<.050		
Lead	0.010	-	<.0005	<.0005		
Magnesium	-	-	.0076	.0065		
Manganese	-	≤0.05	<.003	<.003		
Nitrate - nitrogen	10	-	4.06	1.67		
pН	-	6.5-8.5	6.94	6.93		
Potassium	-	-	.0016	.0008		
Selenium	0.01	-	<.001	<.001		

Parameter	Health based guideline (mg/l)	AO [or OG] (mg/l)	Raw mg/l (maximum this year)	Treated mg/l (maximum this year)	Date	Location				
Sodium	-	≤200	12	14	July 5	M-Ville				
Sulphate	-	<u><</u> 500	6	5						
Total Dissolved Solids	-	<u><</u> 500	.114	.102						
Total Organic Carbon	-	-	1.5	1.8						
Turbidity	See Approval	-	.8	<.5						
Uranium	0.02	-	<.0002	<.0002						
Zinc	-	<u><</u> 5.0	<.005	<.005						
	OTHER PARAMETERS SAMPLED									
Has any of the parameter	exceeded Gu	idelines	Yes No	X.	•					
If Yes provide date of oc	currence and o	date whe	n Department	was notified:						
Action taken:										
Certified Lab:AGAT										

Table 9 - Raw Water turbidity

Month	Minimum NTU	Maximum NTU
January	.08	.22
February	.08	.24
March	.19	.24
April	.06	.21
May	.12	.21
Jun	.13	.59
July	.21	.34
August	.100	2.58
September	.08	.34
October	.05	.100
November	.12	.23
December	.12	.21

B. WASTE TREATMENT

Table 10 - Waste water discharge

Month	Suspended Limit:		Aluminun		Chlorine Limit:	••••	pH Limit:		Fish toxicity
112021	average mg/l	Max mg/l	average mg/l	Max mg/l	average mg/l	Max mg/l	average mg/l	Max mg/l	
January									
February									
March									
April									
May									
Jun									
July									
August						7			
September									
October				7					
November									
December									

Has any of the parameter exceeded Limits Yes..... No......

If Yes provide date of occurrence and date when Department was notified:

PART 3 - WATER DISTRIBUTION SYSTEM MONITORING

Table 11 - Distribution System Bacteriology and Disinfection Residual

Site : A		Location	: Highway 3	662							
		E.coli Total Coliforms						Free chlorine residual			
Month	Present	Absent	Total number of samples	% Absent	Present	Absent	Total number of samples	% Absent	Min mg/l	Max mg/l	No. below Approval Limits
January	0	5	5	100	0	5	5	100	1.01	1.45	0
February	0	4	4	100	0	4	4	100	.91	1.25	0
March	0	4	4	100	0	4	4	100	.85	1.22	0
April	0	4	4	100	0	4	4	100	.79	1.11	0
May	0	5	5	100	0	5	5	100	.80	1.04	0
Jun	0	4	4	100	0	4	4	100	.37	.89	0
July	0	4	4	100	0	4	4	100	.40	.68	0
August	0	5	5	100	0	5	5	100	.28	1.14	0
September	0	4	4	100	0	4	4	100	.46	1.10	0
October	0	5	5	100	0	5	5	100	.36	1.37	0
November	0	4	4	100	0	4	4	100	.74	1.73	0
December	0	3	3	100	0	3	3	100	.53	1.89	0

If Approval limits exceeded, provide date of occurrence and date when Department was notified:

	Action	taken:
--	--------	--------

Table 11 - Distribution System Bacteriology and Disinfection Residual (continued)

Site : B	Site : B Location: Seaman Street										
	E.coli Total Coliforms Free chlorine residual								esidual		
Month	Present	Absent	Total number of samples	% Absent	Present	Absent	Total number of samples	% Absent	Min mg/l	Max mg/l	No. below 0.2 mg/l
January	0	5	5	100	0	5	5	100	.98	1.46	0
February	0	4	4	100	0	4	4	100	.90	1.33	0
March	0	4	4	100	0	4	4	100	.94	1.43	0
April	0	4	4	100	0	4	4	100	.77	1.10	0
May	0	5	5	100	0	5	5	100	.88	1.10	0
Jun	0	4	4	100	0	4	4	100	.49	.87	0
July	0	4	4	100	0	4	4	100	.28	.64	0
August	0	5	5	100	0	5	5	100	.30	1.33	0
September	0	4	4	100	0	4	4	100	.41	.96	0
October	0	5	5	100	0	5	5	100	.71	1.52	0
November	0	4	4	100	0	4	4	100	.83	1.91	0
December	0	3	3	100	0	3	3	100	.77	1.92	0
Was E.Coli or Total Coliform present in any sample this year Yes No											
If Yes provide date of occurrence and date when Department was notified:											
Action taken:	Action taken:										

Table 12a - Distribution System THM's

	Site A Location: Gorden Rd	Site B Location Seaman st	Site C Location: Highway 362				
Month	THM total	THM total	THM total				
	mg/l	mg/l	mg/l				
January	.016	.032	.030				
February							
March 1st Qt							
April							
May	.028	.040	.050				
Jun 2 nd Qt							
July	.054	.066	.067				
August							
September 3 rd Qt							
October	.048	.068	.036				
November	20						
December 4th Qt	9						
Annual Average	.036	.051	.045				
Limits	0.100 mg/l THM's - Locational running ar	0.100 mg/l THM's - Locational running annual average based on a minimum of four quarterly samples.					
Action taken:							

Table 12b - Distribution System HAA's

Table 120 - Distribution System HAA's							
	Site A Location: Gorden Rd	Site B Location: Seaman st	Site C Location: Highway 362				
Month	HAA (5)	HAA (5)	HAA (5)				
	mg/l	mg/l	mg/l				
January	.021	.034	.032				
February							
March 1st Qt							
April							
May	.040	.046	.047				
Jun 2 nd Qt							
July	.068	.064	.069				
August							
September 3 rd Qt							
October	.023	.033	.019				
November							
December 4 th Qt	20						
Annual Average	.038	.044	.041				
Limits	0.080 mg/l HAA's - Locational running an	nnual average based on a minimum of four quart	erly samples.				
Action taken:							

Table 13 - Distribution System Turbidity

Month	Site A Location: Highway 36		Site B Location: Seaman st		Site C Location:			
Month	min NTU	max NTU	min NTU	max NTU	min NTU	max NTU		
January	.08	.24	.07	.13				
February	.08	.22	.08	.18				
March	.100	.13	.08	.09				
April	.09	.16	.08	.12				
May	.09	.16	.09	.12				
Jun	.09	.13	.08	.11				
July	.100	.19	.08	.18				
August	.110	.33	.15	.29				
September	.08	.16	.07	.15				
October	.09	.17	.08	.13				
November	.08	.23	.08	.13				
December	.09	.18	.10	.53				

If Approval limits were exceeded provide date of occurrence and date when Department was notified:

A -42 4-1		
Action taken:		

Table 14 - Distribution System Lead

Month* (specify date sampled)			Site B Location: 7 lighthouse rd		Site C Location: metering building	
	min mg/l	max mg/l	min mg/l	max mg/l	min mg/l	max mg/l
May					•	
Jun						
July		<.0005		.0032		<.0005
August						
September						
October						

If Approval limits were exceeded provide date of occurrence and date when Department was notified:

* To be sampled during warmest months

Table 15 - Distribution System Corrosion Control Program

M. d			Site B Location: 1 Seaman st		Site C Location: 180 Seaman st	
Month	Parameter 1	Parameter 2Copper	Parameter 1	Parameter 2Copper	Parameter 1	Parameter 2 .Copper
January						
February					,	
March						
April						
May						
Jun						
July	.00738	.378	.0029	.968	.0063	.109
August						
September						
October						
November						
December						
Comments:		60				

Table 16 - Storage tank chlorine residual

		Storage Tank Location		Storage Tank Location			
Month	Min mg/l	Max mg/l	Number of times residual was less than 0.2 mg/l	Min mg/l	Max mg/l	Number of times residual was less than 0.2 mg/l	
January	1.24	2.04	0	na			
February	1.17	1.71	0				
March	1.21	1.67	0				
April	1.08	1.75	0				
May	1.55	1.76	0				
Jun	1.20	1.65	0				
July	1.55	2.44	0		2_		
August	1.21	4.64	0		>		
September	1.70	2.56	0	7			
October	1.92	2.57	0				
November	1.68	3.14	0				
December	1.33	2.08	0				
Action taken:							
		20					

Certified Lab:	5	

SOURCE WATER PROTECTION PLAN ANNUAL UPDATE CHECKLIST

Yearly review of the source water protection (SWP) plan is required. The review should consider questions including, but not limited, those listed below. Every five years, or whenever significant changes to the municipal water system or risks to its source occur, the municipal unit should consider revising the plan. Otherwise, updates may be added to the original source water protection plans in an appropriately identified appendix.

QUESTIONS TO CONSIDER IN ANNUAL UPDATE

How many source water committee meetings have been held in the past year? Have there been any changes to committee membership? None

Have there been any changes made to the committee terms of reference? No

Have changes to the system infrastructure been made (e.g. wells constructed or decommissioned)NO

Have any new risks to the watershed or aquifer area been identified? For example:

- have new land uses which could impact the source water commenced (or existing uses changed or ceased) within the watershed or aquifer area?
- have recreational uses of concern continued, declined or increased with the past year within the watershed or aquifer area? NONE

If new risks have been identified, what risk reduction strategies will be employed? N/A

Have any accidents/emergencies not considered in the contingency plan occurred within the watershed or aquifer area within the past year? NO

Has source water monitoring (differs from regulatory compliance monitoring) been undertaken? Please describe the results. NONE

Has your contingency plan been reviewed and contact information updated? YES

Have any accidents/emergencies not considered in the contingency plan occurred within the watershed or aquifer area within the past year? NO

Provide an updated schedule for the implementation of the SWP plan, including items completed within the last year, items ongoing, or items yet to be completed. Based on consideration of all the above questions, identify if any items need to be added to the implementation plan.

DESCRIPTION OF ANY EMERGENCY AND UPSET CONDITIONS AND CORRECTIVE ACTION

May 25 Just to report that the final turbidity meter was out of water this morning, this caused the turbidity meter to record wrong numbers. The water pump that feeds the Margaretsville water treatment plants Domestic water and Turbidity meter has failed. The GFI plug and Water pump will need to be replaced. The pump is locally sourced and is in the process of being replaced.

This month 95% will be missed due to this. The operator tested the water and it was reading normal .06-.08 ntu. Right now the 95% is at 87.5%. Reported to environment

May 27 MWTP Water pump was replaced this morning. Turbidity is now back on continuous monitoring.

Oct - Hillary PH: 902-223-4219 she is the property owner at 127 Crombie Lane in Margaretsville and she has some concerns about the discoloration of the water. She advised that the issue has been on going from August to Sept, when you fill a pitched the water is a tan color.

Response - called Hillary. This property will be disconnected for the season soon. I mentioned there were no other issues with water discoloration on the street. It's possible that it could be a plumbing issue. I recommended allowing the water to flush through the sill tap of the house for 5-10 minutes and see if it clears. I offered to have a look if it persists.

I would recommend having a flush hydrant installed at the end of this line as there is no way of flushing dirt out. There may be a possibility she is getting slugs of dirty water from the main.

Nov 18 Hey everyone the water main break at 2702 Hwy 362 has been repaired and repaved. Hydrants we're flushed to bleed out air and dirty water. Chlorine and turbidity levels are normal. There was a 2" hike in the side of the pipe likely from the poor bury around the pipe. It was likely due to a rock. We used a 8"x12" stainless wrap to repair leak.

MODIFICATION TO CONTINGENCY PLAN, EMERGENCY NOTIFICATION OR PROCEDURE OR LABORATORY CHANGE:

RECORD OF ANY VIOLATIONS OF APPROVAL AND CORRECTIVE ACTIONS TAKEN:



SUMMARY OF COMPLAINTS RECEIVED AND CORRECTIVE ACTIONS:

.Aug 4 After your call from 1607 Ben Phinney rd of yellow water. Matt and I went to the resident and there was nobody home. We opened the hydrant in front of the home and flushed it for about 5 minutes. It was a bit hazy at first but cleared up relatively quick. I took a turbidity test at the hydrant and again at the Gunite tank which is 4 homes up from this address. I had 0.30 NTU coming out of the plant and around 3.00 NTU at the hydrant which is below our acceptable levels. I also sampled our distribution sample point and nothing is out of the normal there. We have had no other complaint in the past few days. It would seem to be an isolated issue.

REVIEW OF QA/QC PROGRAM TO VALIDATE PLANT INSTRUMENT AND FACILITY LAB:

Here at the county we use all the same on line monitors.

For on line chlorine we use models CL 17. These units are cleaned once a month to insure true readings. We double check all readings 4-5 times week depending on holidays. We check the readings using DR2000 spectrophotometers or DR 2800 spectrophotometers.

Turbidity we use Hach 1720c and 1720e model on line turbidity meters. The units are cleaned once a month. All units are double checked at least 4-5 times a week depending on holidays. The units we use to double check the readings are bench model 2100n turbidity meters. All sites have calibration tubes to calibrate the 2100n.

Ph probes are used.

Operators are required to submit their chlorine counts to the ODRC at least once a week to insure no low chlorine residuals are found.

All month end reports are sent to the ODRC.

Month end reports are then sent to the Municipal operations supervisor.

APPENDIX A: Health-related Guidelines for Canadian Drinking Water Quality (Section 35 of Regulations)

Parameter	Health based guideline (mg/l)	Raw mg/l (maximum this year)	Treated mg/l (maximum this year)	Date	Location
aldicarb	0.009				4
aldrin + dieldrin	0.0007				
aluminum	0.1 or 0.2				
antimony	0.006				
arsenic	0.010				
atrazine + metabolites	0.005				
azinphos-methyl	0.02		Ω		
barium	1				
bendiocarb	0.04				
benzene	0.005	. =			
benzo[a]pyrene	0.00001				
boron	5				
bromate	0.01				
bromoxynil	0.005				
cadmium	0.005				
carbaryl	0.09				
carbofuran	0.09				
carbon tetrachloride	0.005				
chloramines (total)	3.0				
chlorate	1.0				
chlorite	1.0				
chlorpyrifos	0.09				
chromium	0.05				
cyanazine	0.01				
cyanide	0.2				
cyanobacterial toxins (as microcystin-LR) - surface water only	0.0015				

Parameter	Health based guideline (mg/l)	Raw mg/l (maximum this year)	Treated mg/l (maximum this year)	Date	Location
diazinon	0.02				
dicamba	0.12				
1,2-dichlorobenzene	0.2				
1,4-dichlorobenzene	0.005				
1,2-dichloroethane	0.005				
1,1-dichloroethylene	0.014				
dichloromethane	0.05				
2,4-dichlorophenol	0.9				
dichlorophenoxyacetic acid,(2,4-D)	0.1				
diclofop-methyl	0.009				
dimethoate	0.02				
dinoseb	0.01				
diquat	0.07				
diuron	0.15				
fluoride	1.5				
glyphosate	0.28				
Haloacetic Acids (HAAs)	0.080				
lead	0.01				
malathion	0.19				
mercury	0.001				
methoxychlor	0.9				
metolachlor	0.05				
metribuzin	0.08				
monochlorobenzene	0.08				
nitrate - nitrogen	10				
nitrilotriacetic acid (NTA)	0.4				
paraquat (as dichloride)	0.01				
parathion	0.05				
pentachlorophenol	0.06				

Parameter	Health based guideline (mg/l)	Raw mg/l (maximum this year)	Treated mg/l (maximum this year)	Date	Location		
phorate	0.002						
picloram	0.19						
selenium	0.01						
simazine	0.01						
terbufos	0.001						
tetrachloroethylene	0.03						
2,3,4,6-tetrachlorophenol	0.1						
trichloroethylene	0.005						
2,4,6-trichlorophenol	0.005						
trifluralin	0.045						
trihalomethanes (THM's)	0.100						
turbidity	See Approval	•	7				
uranium	0.02						
vinyl chloride	0.002						
Gross alpha	0.5 Bq/L						
Gross beta	1 Bq/L						
Lead 210	0.2 Bq/L						
5							
Has any of the parameter exceede	ed Guidelines	Yes	No				
If Yes provide date of occurrence and date when Department was notified: Action taken:							
Certified Lab: AGAT							

HOVA SCOTIA ELAVIRONINE MIT